

July 30, 2026

The Mayor and Council
The Town of Plympton-Wyoming
546 Niagara Street
Wyoming, Ontario
N0N 1T0

Gentlemen and Mesdames:

Re: Anderson and Brand Drain (2026)

In accordance with your instructions, R. Dobbin Engineering has undertaken an examination with regards to improving the Anderson Drain in the Town of Plympton-Wyoming.

This is a Reconsidered Report based on a July 8th, 2026 Meeting to Consider.

Authorization under the Drainage Act

This is an Engineer's Report that has been prepared under Section 78 of the Drainage Act. R. Dobbin Engineering Inc. was appointed by council on May 29th, 2024.

Section 78 of the Drainage Act states that, where, for the better use, maintenance or repair of any drainage works constructed under a bylaw passed under this Act, or of lands or roads, it is considered expedient to change the course of the drainage works, or to make a new outlet for the whole or any part of the drainage works, or to construct a tile drain under the bed of the whole or any part of the drainage works as ancillary thereto, or to construct, reconstruct or extend embankments, walls, dykes, dams, reservoirs, bridges, pumping stations, or other protective works as ancillary to the drainage works, or to otherwise improve, extend to an outlet or alter the drainage works or to cover the whole or any part of it, or to consolidate two or more drainage works, the Council whose duty it is to maintain and repair the drainage works or any part thereof may, without a petition required under Section 4 but on the report of an Engineer appointed by it, undertake and complete the drainage works as set forth in such report.

Existing Drainage

The Anderson Drain (450mm dia. tile) outlets into the Brand Drain (525mm dia. tile) in Lot 83, Concession West of Lake Road in the Municipality of Lambton Shores. The Anderson Drain continues southerly to the south side of Townsend Line. The Anderson Drain then continues easterly along the south side of Townsend Line to the east limit of the W ¼ of Lot

25, Concession 15. The Anderson Drain is a combination tile and open channel drain upstream of the west end of Lakeshore Road.

The Anderson Drain was originally constructed in 1916. The drain contained a 6” to 12” Tile and small surface ditch.

Under an Engineer’s Report dated October 28, 1942, the open channel was cleaned in Lot 83, Concession West of Lake Huron.

Under an Engineer’s Report dated May 22, 1954, the existing tile drain below the existing ditch was repaired and the open channel was moved off and increased in size.

Under an Engineer’s Report dated January 31, 1973, a tile drain was installed, south of the relocated drain, from the upstream end of the drain to the original junction with the Brand Drain. (200 to 450mm dia. tile). At this time the open channel outlet of the Brand Drain was deepened to provide 1 foot of freeboard.

Under an Engineer’s Report dated August 18, 1995, the Brand Drain was enclosed downstream of Lakeshore Road with 400mm to 525mm dia. tile. The drain at that time was designed for 12mm/24 hours (1/2” coefficient).

Drain Classification

The Brand and Anderson Drains are currently Not Rated according to the Department of Fisheries and Oceans (DFO) classification as presented by the Ontario Ministry of Agriculture, Food and Rural Affairs’ Agricultural Information Atlas.

Approvals

The drain will require approval from the St. Clair Region Conservation Authority and the Department of Fisheries and Oceans. Construction cannot commence without necessary approvals.

On-Site Meeting

A site meeting for this drain was held on July 31, 2024. The following were present:

- Josh Warner (R. Dobbin Engineering)
- Elizabeth Cummings (Drainage Superintendent and Engineering Coordinator, Town of Plympton-Wyoming)
- Ryan Griffin (Drainage Superintendent, Municipality of Lambton Shores)
- John Ford (Landowner)
- Thomas Ford (Landowner)
- Peter Courtney (Landowner)
- Norio Vanderheyden (Landowner)

- M. Schoeley (Landowner)
- Megan Foster-Pellegrino (Landowner)
- John Van Gorp (Landowner)
- Donna Foster (Landowner)
- Caleb Campbell (Landowner)
- Hilmar Kaumanns (Landowner)

The following is a brief summary of the meeting:

- General discussion of the Drainage Act and Landowners rights under the Drainage Act.
- It was outlined that Landowners were looking for tile improvements downstream of Lakeshore Road and open channel improvements upstream of Lakeshore Road.
- It was outlined that tile improvements on the Anderson Drain would result in replacement or twinning of the bottom end of the Brand Drain as it was only designed to the 12mm/24hrs coefficient in 1995 (the current grantable coefficient is 38mm/24hrs).
- Landowners on the Brand Drain expressed concerns with the capacity of their entire system. It was outlined that should a Landowner wish for improvements to be investigated on the Brand Drain, outside of the bottom end, then a request would need to be submitted to the Municipality of Lambton Shores.
 - There was no request received by the Municipality of Lambton Shores.
- No adverse soil conditions were noted at the meeting.

Existing Conditions

Below is a summary of the condition of the existing culverts:

Culvert Number	Roll Number / Owner	Existing Culvert	Condition	Recommendation
1	Townsend Line (Town of Plympton-Wyoming and Municipality of Lambton Shores)	500mm dia. CSP. 12m Long	Rust and small holes.	Leave
2	Lakeshore Road (County of Lambton)	750mm dia. HDPE. 37m Long	Good.	Leave and Specify for Future Replacement
3*	30-334 (N. Vanderheyden)	1000mm dia. CSP. 13m Long	Good	Leave and Specify for Future Replacement
4	30-334 (N. Vanderheyden)	1000mm dia. CSP. 9m Long	Unknown. Under Water.	Investigate after Channel is Cleaned. Specify for Future Replacement in Report
5	30-336 (N. Vanderheyden)	1000mm dia. CSP. 10m Long	Hole near top from installation. Outside drivable width. Otherwise, Good.	Leave and Specify for Future Replacement

6	30-337-01 (C. Campbell)	1000mm dia. CSP. 12m Long	Good	Leave and Specify for Future Replacement
7	Uttoxeter Road (Town of Plympton-Wyoming)	1000mm dia. CSP. 9m Long	Unknown. Under Water.	Investigate after Channel is Cleaned. Specify for Future Replacement in Report

* denotes a secondary access culvert.

The tile drain portion of the Anderson Drain downstream of Lakeshore Road is sized to handle 12mm/24hrs. With an open channel and tile draining into only a tile drain there is significant restrictions on the capacity of the system which will cause ponding on both the east and west side of Lakeshore Road. The open channel is out of repair and requires significant improvements.

Draft Report #1

A draft report dated July 14, 2025 was circulated to all the Landowners and a meeting was held on August 8, 2025. The report proposed the twinning of the lower end of the Brand Drain, a cleanout downstream of the Brand Drain, tile replacement of the Anderson Drain downstream of Lakeshore Road and an open channel cleanout upstream of Lakeshore Road. The total estimated cost of the project was \$593,649.

The following were present at the meeting:

- Josh Warner (R. Dobbin Engineering)
- Ryan Tamming (Drainage Coordinator, Town of Plympton-Wyoming)
- John VanKlaveren (Council Representative, Town of Plympton Wyoming)
- Ryan Griffin (Drainage Superintendent, Municipality of Lambton Shores)
- Hilmar Kaumanns (Landowner)
- John Ford (Landowner)
- Paul Campbell (Landowner)
- Norio Vanderheyden (Landowner)
- John Van Gorp (Landowner)
- W. & M. Schoeley (Landowner)
- Chris Schoeley (Landowner)
- Peter Courtney (Landowner)

The following is a brief summary of the meeting:

- Landowners were generally concerned regarding the cost of the project.
- The owner of the property with Roll Number 10-316 was concerned with erosion at the outlet.
- Landowners did not want any open channel work completed on the drain upstream of Lakeshore Road.

- Landowners wished to explore the option of outletting southerly from Lakeshore Road.
 - R. Dobbin Engineering discussed that although shorter, this would involve obstacles in terms of approvals as water will now be draining to a different watershed and will affect flood elevations on the receiving watercourse. R. Dobbin Engineering noted that there would be significant erosion concerns as it is a very large drop to the watercourse to the south (approximately 15m). R. Dobbin Engineering also noted that this would leave an old tile downstream of Lakeshore Road.

Discussion-Re-Routing Drain

Conservation Authority Comments

Following the draft report meeting, R. Dobbin Engineering reached out to the Conservation Authority to determine what would be required in order to receive a permit for re-routing the drainage works to the south at Lakeshore Road. The Conservation Authority outlined that they do not generally support water being diverted from other catchment areas, and if the work is to proceed as proposed they would need to see hydrology reports showing there is no significant impact to Hickory Creek or to the Cedar Point, Dolmage & Rawlings Rd Wetland Complex, which is at the outlet of the Brand Drain. As the proposal will divert water away from a wetland, the Conservation Authority outlined that a qualified professional hydrogeologist will require a Wetland Environmental Impact Study (EIS) be submitted to assess the impact of a proposed development with respect to the hydrological function of the wetland. An Environmental Impact Study must demonstrate that the proposal will not have a negative impact on the hydrological functions for which the area.

The EIS must:

- 1) Review the proposed works;
- 2) Identify and assess the potential negative effects to the wetland;
- 3) Recommend appropriate mitigation measures to avoid negative impact to the hydrologic function of the wetland;
 - a. Hydrologic function of the wetland includes the following:
 - i. Erosion control
 1. Storage capacity, loss of vegetation, reduction in water levels
 - b. Contribution to groundwater discharge
 - c. Contribution to groundwater recharge
 - d. Maintenance of local water balance
 - e. Water budget
 - f. Conveyance and flood attenuation function
 - g. Contribution to living things

The Conservation Authority outlined that if it is shown that the proposed development will cause impacts to the hydrology of the wetland, that cannot be mitigated, the development will not be approved by SCRCA staff.

An estimate of \$58,000 was received in order to perform the required wetland investigation work.

Design and Drawings

The alternative to outlet the Anderson Drain southerly was investigated with a survey, and preliminary drawings and estimate. Due to the preliminary nature of the investigation and amount of leaf cover at the time of the survey the lower end topographic information was developed utilizing LiDAR which relies on pulsed laser light to provide ground elevations. When looking at outletting down the large drop to Hickory Creek multiple options were considered. The main options were a bore, polyethylene tile, and a drop structure (manhole). Polyethylene Tile only comes in sizes up to 375mm dia. Therefore, multiple runs would need to be installed down the slope and would not be a cost-effective solution. A drop structure was not feasible as the availability and cost of equipment to operate on such a large slope eliminated this as an option. The bore would likely be the most cost-effective solution while controlling any erosion concerns. The bore however was not cost-effective adjacent the roadway as the long slope (approximately 200m) would require the drain to be directionally drilled and would result in very high costs. Therefore, the option of paralleling the north limit of the bush and then heading southerly to Hickory Creek with a shorter bore length was the option that was included in a draft report as Option 2.

Draft Report #2

A draft report dated October 27, 2025 was circulated to all the Landowners and a meeting was held on November 25, 2025. The report updated the proposal of improvements to the Brand and Anderson Drains with the removal of the open channel improvements east of Lakeshore Road (Option 1) and included a detailed estimate for the proposal to re-route the drain to the south along Lakeshore Road to Hickory Creek (Option 2).

The following were present at the meeting:

- Josh Warner (R. Dobbin Engineering)
- Ryan Tamming (Drainage Coordinator, Town of Plympton-Wyoming)
- John VanKlaveren (Council Representative, Town of Plympton Wyoming)
- Jason DeHaan (Landowner)
- Brad Zantingh (Landowner)
- John Van Gorp (Landowner)
- Werner Schoeley (Landowner)
- Margarete Schoeley (Landowner)
- Chris Schoeley (Landowner)

- Norio Vanderheyden (Landowner)
- Hilmar Kaumanns (Landowner)
- Caleb Campbell (Landowner)
- Paul Campbell (Landowner)
- Steve Kerrigan (Landowner)
- Donna Foster (Landowner)

The details of each option and the recommended option were outlined at the meeting by R. Dobbin Engineering as outlined below:

Option 1

Option 1 was the same as the original draft report dated July 14, 2025 which had the twinning of the lower end of the Brand Drain, a cleanout downstream of the Brand Drain, and the tile replacement of the Anderson Drain downstream of Lakeshore Road, but excluded the open channel cleanout upstream of Lakeshore Road. The total estimated cost of this option was \$455,795. With this option there was approximately \$38,000 applied as a special benefit assessment to roads and utilities for the Townsend Line crossing. Therefore, the amount assessed to lands and roads, less the Townsend Line crossing, was \$417,795.

Option 2

Option 2 was the re-routing of the tile drain at Lakeshore Road to the south. The proposal included a bore at the outlet to Hickory Creek, and the studies required by the Conservation Authority to ensure there is no negative impact to the wetland at the Brand Drain outlet and the floodplain of Hickory Creek. The total estimated cost of this option was \$436,152.

Recommended Option

For the following reasons, Option 1 was our recommended option and Option 2 was not further investigated:

- Factoring in that the Townsend Line crossing is assessed to utilities and the road authority the amount assessed to all other lands and roads is less with Option 1.
- Approval from the Conservation Authority is not guaranteed for Option 2. There could be a large investment in engineering and studies for an approval that may not be granted. Also, the cost of offsetting the anticipated negative impacts to flooding of Hickory Creek and the wetland at the lower end of the Brand Drain are unknown.
- Option 1 replaces and improves aging infrastructure downstream of Lakeshore Road.

Below is a summary of the comments at the meeting:

- Landowners were again concerned by the cost of the project.
- Landowners requested maintenance of the open channel portion of the Anderson Drain near Lakeshore Road and of the Brand Drain. It was further requested that a meeting

be held in June following completion of the maintenance work to determine whether any drainage issues remained following the work.

- R. Dobbin Engineering advised that the proposed maintenance work will not resolve the underlying drainage issue, as the existing 450mm (18 in.) diameter tile and open channel system outlets into a 450mm (18 in.) diameter tile on the west side of Lakeshore Road, which provides insufficient outlet capacity for the upstream drainage system.
- Landowners were concerned with the ravine at the outlet of the drain as there is already significant erosion occurring.
 - R. Dobbin Engineering agreed to walk the outlet with the Landowner following the meeting in June.

Site Meeting (June 11, 2026)

As discussed as part of the November 25, 2025 meeting, a site meeting was scheduled for June 11, 2026 to discuss the maintenance work and next steps.

The following were present at the meeting:

- Josh Warner (R. Dobbin Engineering)
- Ryan Tamming (Drainage Coordinator, Town of Plympton-Wyoming)
- Ryan Griffin (Drainage Superintendent, Municipality of Lambton Shores)
- Donna Foster (Landowner)
- Werner Schoeley (Landowner)
- Margarete Schoeley (Landowner)
- Chris Schoeley (Landowner)
- Hilmar Kaumanns (Landowner)
- M. Pellegrino (Landowner)
- Steve Kerrigan (Landowner)
- Caleb Campbell (Landowner)
- Paul Campbell (Landowner)
- Jason DeHaan (Landowner)
- Brad Zantingh (Landowner)

Below is a summary of the meeting:

- R. Dobbin Engineering summarized the discussions and meetings held to date and noted that the next step would likely be to bring the report before Council to determine how they wish to proceed.
- Landowners were concerned with the ravine and increased water flow as a result of the proposed improvements.
 - Following the meeting, R. Dobbin Engineering inspected the ravine with the Landowner. The ravine is deeply incised and exhibits significant erosion. Due

to the considerable costs that would be incurred to repair the ravine and provide long-term erosion control measures, should this report be adopted, Section 32 allowances for an insufficient outlet have been provided in lieu of recommending these works.

- A Landowner stated that Hickory Creek is currently over capacity and the adjacent lands flood under large storm events.
- Landowners were made aware that the Brand Drain open channel had been brushed and cleaned and the Anderson Drain open channel immediately east of Lakeshore Road had been brushed.
- All landowners present indicated that the maintenance work completed on the drain had adequately addressed their concerns and that they did not wish to proceed with any of the improvements proposed in this report or previous reports.
 - R. Dobbin Engineering explained that the Council appointment requires the drainage system to be investigated and that any identified capacity restrictions be addressed through a report prepared under the Drainage Act. R. Dobbin Engineering further advised that, in its opinion, a bottleneck exists at Lakeshore Road that restricts the capacity of the drainage system. It was also explained that, should Council decide not to proceed with the project, the engineering costs incurred to date would still need to be assessed in accordance with the Drainage Act.

Meeting to Consider the Report (July 8th, 2026)

A report dated June 16th, 2026 was submitted and a Meeting to Consider the report was held on July 8th, 2026. The report proposed the replacement of the existing tile drain downstream of Lakeshore Road with a 750mm dia. tile to the Brand Drain. It then proposed twinning the existing Brand Drain with a 900mm dia. concrete tile and incorporating improvements to the existing open channel downstream of the Brand Drain. Based on the landowners' request not to proceed with the proposed improvements to the drainage works, Council adopted the following resolution directing the Engineer to amend the report to reflect the revised scope of work:

- **That the Section 78 report by R. Dobbin Engineering Inc. dated June 16, 2026, known as the Anderson and Brand Drain Improvements (2026), be referred to the Engineer for modifications that would reduce the scope to only include future maintenance, specifications of open channel, and culverts upstream of Lakeshore Road.**

Design

The access culverts have been designed to provide outlet for a 1 in 5-year storm event.

The County's Road culvert has been designed to provide outlet for a 1 in 100-year storm event.

The Town's Road culverts have been designed to provide outlet for a 1 in 50-year storm event.

Recommendations

It is therefore recommended that the following work be carried out:

1. The open channel that previously formed part of the Anderson Drain downstream of Lakeshore Road shall be abandoned.
2. The report shall include a profile and specifications for future maintenance of the Anderson Drain open channel from Lakeshore Road (Station 1+320) to its top end (Station 3+430).
3. The existing culverts along the open channel portion of the drainage works shall be specified for future replacement.
4. A Schedule of Maintenance shall be developed for any future maintenance work on the open channel and tile drain portion of the Anderson Drain.
5. The Engineering and other fees incurred to date shall be assessed out to the drainage works.

Estimate of Cost

It is recommended that the work be carried out in accordance with the accompanying Specification of Work and Profile that forms part of this Report. There has been prepared an Estimate of Cost in the amount of \$72,560.00, including preparation of the report, attending the Meeting to Consider the Report, attending the Court of Revision and estimates for tendering, construction inspection, permitting and contract administration. Appearances before appeal bodies have not been included in the cost estimate.

A Plan has been prepared showing the location of the work and the approximate drainage area. A Profile is included showing the depths and grades of the proposed work.

Assessment

As per Section 21 of the Drainage Act, the Engineer in his report shall assess for benefit and outlet for each parcel of land and road liable for assessment.

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 a drainage works as an outlet, or for which, when the drainage works is 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 rate of flow of the water artificially caused to flow into the drainage works from the lands and roads liable for such assessments. (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 work and therefore liable for the cost thereof will be prepared as per the Drainage Act.

The proposed work has generally been assessed in the following manner, including all estimated fees, taxes and disbursements:

1. Pursuant to Section 26 of the *Drainage Act*, the utilities have been assessed the engineering costs associated with the originally proposed daylighting works as a benefit assessment. In accordance with Section 26, the engineering costs associated with Culvert #1, Culvert #2 and Culvert #7 have also been assessed to the road authority as a benefit assessment.
2. The engineering costs associated with the remaining culverts has been assessed with 30% allocated as a benefit assessment to the abutting properties, 40% allocated as a benefit assessment to the abutting road authority, and the remaining 30% allocated as an outlet assessment to the upstream lands and roads based on equivalent hectares. The engineering costs associated with Culvert #3 have been assessed entirely as a benefit assessment to the benefiting property, as it provides a secondary access and is therefore not eligible for grant.
3. After deducting the engineering costs associated with the culverts and daylighting works, the requesting properties have been assessed 10% of the remaining engineering costs incurred as part of the project. The balance of the remaining engineering costs has been allocated with 60% applied to the tile portion of the Anderson and Brand Drains downstream of Lakeshore Road and 40% applied to the open channel portion of the Anderson Drain upstream of Lakeshore Road.
4. The engineering costs associated with the originally proposed Brand Drain tile improvements have been assessed with 25% allocated as a benefit assessment and the remaining 75% allocated as an outlet assessment to the upstream lands and roads based on equivalent hectares. The engineering costs associated with the originally proposed Anderson Drain tile improvements have been assessed with 40% allocated as a benefit assessment and the remaining 60% allocated as an outlet assessment to the upstream lands and roads based on equivalent hectares.

5. The engineering costs associated with the updated Anderson Drain open channel profile and maintenance schedule have been assessed with 20% allocated as a benefit assessment to the abutting properties, 50% allocated as a benefit assessment to the abutting road authority, 10% allocated as a cut-off benefit assessment to the properties north of Townsend Line, and the remaining 20% allocated as an outlet assessment to the upstream lands and roads based on equivalent hectares.

Unless otherwise noted above, all final costs included in the cost estimate of this report shall be pro-rated based on the Schedule of Assessment. Any additional costs shall be assessed in a manner as determined by the Engineer.

If a Landowner intends to sell their property they shall disclose this project to any potential purchasers.

Allowances

Under Section 29 of the Drainage Act, the Engineer in their 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.

Under Section 30 of the Drainage Act, the Engineer shall determine the amount to be paid to persons entitled thereto 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.

As there is no work proposed as part of this report there have not been any allowances provided.

Access and Working Area

Access to the drain shall be from Townsend Line or Lakeshore Road, using existing culverts and laneways, and then along the length of the drainage works. Access shall generally be restricted to a width of 6m.

The working area for construction and future maintenance of the open channel shall generally be done from the south (field) side of the channel except across finished lawns. Across finished lawns the excavation shall generally be done from the north (road) side with the excavated material being trucked off site. The working area shall extend 20m from the top of bank on the side the excavation is taking place and 5m from the top of bank on the opposite side. Where the excavation is taking place from the road side the working area shall be reduced to no more than a single lane.

The working area at each culvert to be replaced, maintained, or repaired either under this report or in the future shall extend 10 metres on either side of the culvert within the same property or road.

Restrictions

No trees and shrubs shall be planted nor shall permanent structures be erected within 10 metres of the proposed drain without prior written permission of Council.

Attention is also drawn to Sections 80 and 82 of the Drainage Act, which refer to the removal of obstructions in a drain and damage caused to a drain.

Agricultural Grant

If available, it is recommended that application for subsidy be made for eligible agricultural properties. Any assessments against non-agricultural properties are shown separately in the Schedule of Assessment. It is unknown if the costs incurred as part of this project will be eligible for grant.

Maintenance

The Anderson Drain tile drain shall be maintained and repaired with the specifications and drawings contained in the Engineer's Report dated January 31, 1973. The Anderson Drain open channel shall be maintained and repaired with the specifications and drawings contained in this Engineer's Report.

The Anderson Drain open channel and tile drain shall be maintained and repaired in same relative portions as contained in the applicable Schedule of Maintenance contained in this Engineer's Report. The Lakeshore Road, Townsend and Uttoxeter crossings shall be maintained and repaired at the expense of the road authority.

The access culverts shall be maintained and repaired with a culvert length required to provide an 8m top width. With the culverts included in the specifications, including rip rap end walls, they shall be assessed in the following manner:

Culvert Number	Benefiting Lands	Road Authority	Upstream Properties Based on Equivalent Hectares as Contained in Schedule of Assessment
1, 2, 7		100% to Road Authority, except Utility Costs	
3	100%		
4, 5, 6	30%	40%	30%

If any owner requests an additional length of culvert beyond that required to have an 8m top width or an asphalt travel surface the extra cost shall be borne by the Landowner making the request including the future maintenance and repair. The location of the 8m top width shall be determined by the Drainage Superintendent and shall generally be in the primary access location.

The additional costs as a result of a road or utility shall be assessed to the owner of the road or utility as per Section 26 of the Drainage Act.

A secondary access on a property shall be constructed, maintained and repaired with 100% of the cost assessed to the benefitting property.

Yours truly,



Josh Warner, P. Eng.
R. Dobbin Engineering Inc.



ESTIMATE OF COST

<u>Item Description (Supply and Install New)</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost (\$)</u>	<u>Total (\$)</u>
Daylighting and Surveying Utilities	1	LS	3,500	3,500
Preperation of New Schedules of Maintenance	1	LS	5,000	5,000
Engineering for Preperation of Section 78 Improvement Project	1	LS	60,840	60,840
Non-Recoverable HST (1.76%)	1	LS	1,220	1,220
Interest Estimate	1	LS	2,000	<u>2,000</u>
				72,560

SCHEDULE OF ASSESSMENT

Conc.	Lot or Part	Affected Hectares	Roll No.	Owner	Benefit (\$)	Outlet (\$)	Total (\$)	Equivalent Hectares
<u>Town of Plympton Wyoming</u>								
Public Lands								
	1/2 of Townsend Line	2.95		County of Lambton	11,615	2,240	13,855	11.80
	1/2 Townsend Line	0.79		Town of Plympton-Wyoming	2,349	406	2,755	3.16
	Lakeshore Road	0.55		County of Lambton	1,500	283	1,783	2.20
	Elmsley Road	0.25		Town of Plympton-Wyoming	-	96	96	0.75
	Uttoxetter Road	0.75		Town of Plympton-Wyoming	1,500	688	2,188	3.00
					16,964	3,713	20,677	
Utilities								
	Watermain			LAWSS	700	-	700	
	Telephone Lines			Eastlink	700	-	700	
	Fibre Optic			Execulink	700	-	700	
					2,100	-	2,100	
Agricultural Lands								
FLH	Pt. Lot 48 & 49	0.00	30-544	S. Kerrigan	-	-	-	-
	Pt. Lot 50	2.02	30-555-81	JN Ventures Limited	2,081	389	2,470	3.03
	Lot 50	4.05	30-555-70	JN Ventures Limited	2,980	504	3,484	4.05
15	W 1/4 Lot 22	1.62	30-332	P. Courtney	126	212	338	1.62
	E 3/4 Lot 22 & N. Pt Lot 23	26.91	30-334	N. Vanderheyden	4,235	3,749	7,984	26.91
	Pt. Lot 23	1.37	30-335-03	T. Rintoul	-	110	110	0.69
	Pt. Lot 23	1.67	30-335-02	K. Dunlop	-	134	134	0.84
	E 1/2 Lot 23	12.14	30-336	N. Vanderheyden	1,818	2,027	3,845	11.65
	W 1/4 Lot 24	6.07	30-337	N. Vanderheyden	1,041	1,112	2,153	6.07
	E 3/4 Lot 24	14.57	30-337-01	C. Campbell	1,378	2,803	4,181	13.11
	W 1/4 Lot 25	9.71	30-338	J. Campbell	398	2,363	2,761	9.71
	E 3/4 Lot 25	6.07	30-339	M. Jennings	-	1,561	1,561	6.07
					14,057	14,964	29,021	

Conc.	Lot or Part	Affected Hectares	Roll No.	Owner	Benefit (\$)	Outlet (\$)	Total (\$)	Equivalent Hectares
Non Agricultural Lands								
FLH	Pt. Lot 50	0.53	30-550	M-A. Pellegrino	2,811	104	2,915	0.80
	Pt. Lot 50	0.77	30-544-01	D. Foster	2,626	151	2,777	1.16
15	Pt. Lot 23	2.30	30-335-01	C. Nerdahl	-	185	185	1.15
					5,437	440	5,877	
				Total Public Lands	20,677			
				Total Utilities	2,100			
				Total Agricultural Lands	29,021			
				Total Non Agricultural Lands	5,877			
				Total Assessment Town of Plympton-Wyoming	57,675			
<u>Municipality of Lambton Shores</u>								
Public Lands								
	1/2 of Townsend Line	2.95		County of Lambton	204	1,640	1,844	11.80
	1/2 of Townsend Line	0.79		Municipality of Lambton Shores	1,700	406	2,106	3.16
	Lakeshore Road	2.76		County of Lambton	-	196	196	11.04
					1,904	2,242	4,146	
Utilities								
	Watermain			Municipality of Lambton Shores	700	-	700	
	Fiber Optic			Execulink	700	-	700	
					1,400	-	1,400	

Conc.	Lot or Part	Affected Hectares	Roll No.	Owner	Benefit (\$)	Outlet (\$)	Total (\$)	Equivalent Hectares
Agricultural Lands								
WOLR	S 1/2 Lot 81	6.80	10-292	J. Ford	-	60	60	3.40
	Lot 82	16.69	10-312	S. Werner	-	257	257	14.52
	N 1/2 Lot 83	20.45	10-316	M. Schoeley	2,288	295	2,583	20.45
	S 1/2 Lot 83	5.40	10-317	M. Schoeley	2,094	127	2,221	5.40
EOLR	S 1/2 Lot 80	24.69	10-105	Kaumanns Farms Ltd	-	438	438	24.69
	Lot 81	62.67	10-106	Kaumanns Farms Ltd	464	1,111	1,575	62.67
	Lot 82	40.89	10-107	J. Ford	1,259	725	1,984	40.89
SB	Lot 46	Cut - Off	10-035	Kaumanns Farms Ltd	20	-	20	-
	Lot 47	Cut - Off	10-036	C. Campbell	179	-	179	-
					6,304	3,013	9,317	
Non Agricultural Lands								
WOLR	Pt. Lot 83	0.81	10-314	K. Scott	-	22	22	1.22
Total Area (Ha)		279.99				-	22	22
Total Public Lands					4,146			
Total Utilities					1,400			
Total Agricultural Lands					9,317			
Total Non Agricultural Lands					22			
Total Assessment Municipality of Lambton Shores					14,885			
Total Assessment Town of Plympton-Wyoming					57,675			
Total Assessment					72,560			

Anderson Drain
Town of Plympton-Wyoming
July 30, 2026

1 of 2

SCHEDULE OF MAINTENANCE NO. 1

To Maintain the Open Channel Portion of the Anderson Drain (Station 1+330 to 3+430)

Conc.	Lot or Part	Affected Hectares	Roll No.	Owner	Benefit (\$)	Outlet (\$)	Total (\$)
<u>Town of Plympton Wyoming</u>							
Public Lands							
	1/2 of Townsend Line	2.95		County of Lambton	400	39	439
	1/2 Townsend Line	0.00		Town of Plympton-Wyoming	-	-	-
	Lakeshore Road	0.00		County of Lambton	-	-	-
	Elmsley Road	0.00		Town of Plympton-Wyoming	-	-	-
	Uttoxetter Road	0.75		Town of Plympton-Wyoming	-	14	14
					400	53	453
Agricultural Lands							
FLH	Pt. Lot 50	0.00	30-555-81	JN Ventures Limited	-	-	-
	Lot 50	0.00	30-555-70	JN Ventures Limited	-	-	-
15	W 1/4 Lot 22	1.62	30-332	P. Courtney	8	-	8
	E 3/4 Lot 22 & N. Pt Lot	26.91	30-334	N. Vanderheyden	95	19	114
	Pt. Lot 23	1.37	30-335-03	T. Rintoul	-	1	1
	Pt. Lot 23	1.67	30-335-02	K. Dunlop	-	1	1
	E 1/2 Lot 23	12.14	30-336	N. Vanderheyden	38	23	61
	W 1/4 Lot 24	6.07	30-337	N. Vanderheyden	17	15	32
	E 3/4 Lot 24	14.57	30-337-01	C. Campbell	58	49	107
	W 1/4 Lot 25	9.71	30-338	J. Campbell	25	54	79
	E 3/4 Lot 25	6.07	30-339	M. Jennings	-	39	39
					241	201	442

Conc.	Lot or Part	Affected Hectares	Roll No.	Owner	Benefit (\$)	Outlet (\$)	Total (\$)
Non Agricultural Lands							
FLH	Pt. Lot 50	0.53	30-550	M-A. Pellegrino	6	-	6
	Pt. Lot 50	0.77	30-544-01	D. Foster	-	1	1
15	Pt. Lot 23	2.30	30-335-01	C. Nerdahl	-	2	2
					6	3	9
				Total Public Lands	453		
				Total Agricultural Lands	442		
				Total Non Agricultural Lands	9		
				Total Assessment Town of Plympton-Wyoming	\$904		
<u>Municipality of Lambton Shores</u>							
Agricultural Lands							
WOLR	S 1/2 Lot 81	0.00	10-292	J. Ford	-	-	-
	Lot 82	0.00	10-312	S. Werner	-	-	-
	N 1/2 Lot 83	0.00	10-316	M. Schoeley	-	-	-
	S 1/2 Lot 83	0.00	10-317	M. Schoeley	-	-	-
EOLR	S 1/2 Lot 80	0.00	10-105	Kaumanns Farms Ltd	-	-	-
	Lot 81	Cut - Off	10-106	Kaumanns Farms Ltd	23	-	23
	Lot 82	Cut - Off	10-107	J. Ford	63	-	63
SB	Lot 46	Cut - Off	10-035	Kaumanns Farms Ltd	1	-	1
	Lot 47	Cut - Off	10-036	C. Campbell	9	-	9
					96	-	96
				Total Agricultural Lands	96		
				Total Assessment Municipality of Lambton Shores	\$96		
				Total Assessment Town of Plympton-Wyoming	\$904		
				Total Assessment	\$1,000		

SCHEDULE OF MAINTENANCE NO. 2

To Maintain the Tile Drain portion of the Anderson Drain (Station 0+359 to 1+292 and upstream to 3+430 through 1973 Report)

Conc.	Lot or Part	Affected Hectares	Roll No.	Owner	Benefit (\$)	Outlet (\$)	Total (\$)
<u>Town of Plympton Wyoming</u>							
Public Lands							
	1/2 of Townsend Line	2.95		County of Lambton	-	78	78
	1/2 Townsend Line	0.79		Town of Plympton-Wyoming	9	5	14
	Lakeshore Road	0.55		County of Lambton	-	3	3
	Elmsley Road	0.25		Town of Plympton-Wyoming	-	1	1
	Uttoxetter Road	0.75		Town of Plympton-Wyoming	-	28	28
					9	115	124
Agricultural Lands							
FLH	Pt. Lot 50	2.02	30-555-81	JN Ventures Limited	15	5	20
	Lot 50	4.05	30-555-70	JN Ventures Limited	54	6	60
15	W 1/4 Lot 22	1.62	30-332	P. Courtney	9	3	12
	E 3/4 Lot 22 & N. Pt Lot	26.91	30-334	N. Vanderheyden	105	68	173
	Pt. Lot 23	1.37	30-335-03	T. Rintoul	-	3	3
	Pt. Lot 23	1.67	30-335-02	K. Dunlop	-	3	3
	E 1/2 Lot 23	12.14	30-336	N. Vanderheyden	42	54	96
	W 1/4 Lot 24	6.07	30-337	N. Vanderheyden	19	34	53
	E 3/4 Lot 24	14.57	30-337-01	C. Campbell	65	99	164
	W 1/4 Lot 25	9.71	30-338	J. Campbell	28	104	132
	E 3/4 Lot 25	6.07	30-339	M. Jennings	-	74	74
					337	453	790

Conc.	Lot or Part	Affected Hectares	Roll No.	Owner	Benefit (\$)	Outlet (\$)	Total (\$)
Non Agricultural Lands							
FLH	Pt. Lot 50	0.53	30-550	M-A. Pellegrino	16	1	17
	Pt. Lot 50	0.77	30-544-01	D. Foster	4	2	6
15	Pt. Lot 23	2.30	30-335-01	C. Nerdahl	-	5	5
					20	8	28
Total Public Lands					124		
Total Agricultural Lands					790		
Total Non Agricultural Lands					28		
Total Assessment Town of Plympton-Wyoming					\$942		
<u>Municipality of Lambton Shores</u>							
Public Lands							
	1/2 of Townsend Line	2.95		County of Lambton	-	18	18
	1/2 of Townsend Line	0.79		Municipality of Lambton Shores	-	5	5
	Lakeshore Road	0.00		County of Lambton	-	-	-
					-	23	23
Agricultural Lands							
WOLR	S 1/2 Lot 81	0.00	10-292	J. Ford	-	-	-
	Lot 82	0.00	10-312	S. Werner	-	-	-
	N 1/2 Lot 83	20.45	10-316	M. Schoeley	7	-	7
	S 1/2 Lot 83	5.40	10-317	M. Schoeley	27	1	28
EOLR	S 1/2 Lot 80	0.00	10-105	Kaumanns Farms Ltd	-	-	-
	Lot 81	0.00	10-106	Kaumanns Farms Ltd	-	-	-
	Lot 82	0.00	10-107	J. Ford	-	-	-
SB	Lot 46	0.00	10-035	Kaumanns Farms Ltd	-	-	-
	Lot 47	0.00	10-036	C. Campbell	-	-	-
					34	1	35
Total Public Lands					23		
Total Agricultural Lands					35		
Total Assessment Municipality of Lambton Shores					\$58		
Total Assessment Town of Plympton-Wyoming					\$942		
Total Assessment					\$1,000		

Anderson and Brand Drain
Town of Plympton-Wyoming
July 30, 2026

SPECIFICATION OF WORK

1. Location (Future)

The location of the proposed and future work outlined in this specification is in Lot 22 to 25, Concession 15 in the Town of Plympton-Wyoming.

2. Scope of Work (Future)

The work to be included in this specification includes, but is not limited to, the following:

- Future Open Channel Improvements
- Future Culvert Replacements

3. General (Future)

Each tenderer must inspect the site prior to submitting their tender and satisfy themselves by personal examination as to the local conditions that may be encountered during this project. The Contractor shall make allowance in their tender for any difficulties which they may encounter. Quantities or any information supplied by the Engineer is not guaranteed and is for reference only.

All work and materials shall be to the satisfaction of the Contract Administrator who may vary these specifications as to minor details but in no way decrease the proposed capacity of the drain.

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 and Standard Drawings.

The quantities are estimates only. The actual quantities shall be determined at the time of construction by the Contract Administrator and shall be paid at the established unit prices.

Any equivalents shall be approved in writing by the Contract Administrator prior to ordering.

4. Health and Safety (Future)

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 for traffic control as per the Ontario Traffic Manual Book 7 – Temporary Conditions (latest revision) when working on public road allowances. A copy of a traffic control plan shall be submitted to the Engineer, Drainage Superintendent and 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.

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 the issuance of a stop work order or even termination of the contract.

They shall also ensure that only competent workers are employed onsite and that appropriate training and certification is supplied to all employees.

The Contractor shall submit their traffic control plan within 10 working days of notice of award. Road closures will not be permitted on this project without the approval of the Town of Plympton-Wyoming.

5. Workplace Safety and Insurance Board (Future)

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

6. Utilities (Future)

The Contractor is responsible for organizing locates and exposing all the utilities along the length of the drainage works. If any utilities interfere with the proposed drainage works in a manner not shown on the accompanying Estimate of Cost or profile the Contractor shall notify the Contract Administrator.

The Contractor is responsible for coordinating the replacement of additional utilities with the utility company if they interfere with the proposed drain. All costs for the utility to replace their services will be outside of this report and shall be borne by the utility as per Section 26 of the Drainage Act.

All additional costs to work around and organize replacement of the utilities not included in the estimate shall be tracked separately and the cost plus a portion of the engineering (25% of the cost) shall be borne by that utility.

7. Benchmarks (Future)

The benchmarks are based on geodetic elevations. Elevations are available at the locations outlined in this report. Where these elevations are on existing structures to be replaced, they shall be transferred by the Contractor prior to the removal.

8. Traffic Control (Future)

Access and driveways to private properties shall not be obstructed longer than the minimum time necessary for the work and shall be reinstated as soon as possible all to the satisfaction of the Engineer. The Contractor shall schedule any obstruction of existing driveways and accesses with the owners at least two full working days in advance. The Traffic Plan must be approved by the Town and County of Lambton prior to the commencement of any road closures.

- a) The Contractor shall supply, erect and maintain all detour signs and special signs necessary for detours to divert traffic from the area under construction as directed by the Contract Administrator. All this work shall be at the Contractor's expense.
- b) The Contractor shall be responsible for supplying, erecting and maintaining all signs, supports, barricades, flashers, cones, etc. in the construction area and at the boundaries of the work as part of the above detours, all to the satisfaction of the Contract Administrator. All this work shall be done by the Contractor at their own expense.
- c) The Contractor shall not be allowed to proceed with construction activities unless proper signage and flagmen are present. Flagging procedures, signage and detours shall conform to the recommendations of Book 7, Temporary Conditions, Ontario Traffic Manual, issued by the Ministry of Transportation. Conformance shall be enforced by the Ministry of Labour Inspector.

9. Access and Working Area (Future)

Access to the drain shall be from Townsend Line or Lakeshore Road, using existing culverts and laneways, and then along the length of the drainage works. Access shall generally be restricted to a width of 6m.

The working area for construction and future maintenance of the open channel shall generally be done from the south (field) side of the channel except across finished lawns. Across finished lawns the excavation shall generally be done from the north (road) side with the excavated material being trucked off site. The working area shall extend 20m from the top of bank on the side the excavation is taking place and 5m from the top of bank on the opposite side. Where the excavation is taking place from the road side the working area shall be reduced to no more than a single lane.

The working area at each culvert to be replaced, maintained, or repaired either under this report or in the future shall extend 10 metres on either side of the culvert within the same property or road.

10. Removals (Future)

The culverts, tile drain and any native backfill material, when required, shall be removed. All culverts excess backfill and concrete rubble shall be disposed offsite at the expense of the Contractor. Any broken concrete or rip rap (concrete bags) from the existing structures shall be disposed offsite at the expense of the Contractor unless determined re-usable by the Contract Administrator.

The Contractor shall work around the existing fences and signs if they are able to. If the existing fences and signs are required to be removed, they shall be removed and re-installed in the same location with the existing materials. All work in connection with fences and signs shall be carried out in a careful manner so they are replaced in as good a condition as the existing materials permit.

11. Brushing and Tree Removal (Future)

For construction and future maintenance all brush, stumps, trees, woody vegetation, etc. within the working area, the drain bottom, along the bank where the work is taking place and on the opposite side where impeding the flow of the drain, as determined by the Contract Administrator, shall be removed.

A mechanical grinder attached to an excavator shall be used for the removal of brush and trees. Any brush and trees too large to grind shall be close cut. The Contractor shall stockpile the trees and brush in a single pile on the property in which they were removed or dispose of the trees and brush offsite. The Contractor is responsible for the burning of the trees and brush. The Contractor is responsible for obtaining all necessary permits for any disposal sites. Burning of the trees and brush is subject to local bylaws and guidelines of the Ministry of the Environment Conservation and Parks.

Certain trees may be left in place at the direction of the Contract Administrator. Trees may be limbed and piled for firewood, instead of burned, at the request of a Landowner.

12. Excavation of Open Channel (Future)

For construction and future maintenance, the open channel shall be excavated and maintained to the depths and grades as per the profile and drawings contained in this Engineers Report. The channel shall be excavated to the proper depth using a laser or similar approved device with a labourer onsite to ensure correctness of grade and to confirm location of tile ends.

The excavated material shall generally be cast on the side it is being excavated from, except across finished lawns. In these areas the excavated material shall be trucked.

Excavated material shall be cast at least 1.5 metres clear of the bank. Excavated material shall not be placed in low runs or swales outletting surface water to the channel. The excavated material shall be levelled to a maximum depth of 150mm and left in a condition suitable for cultivation. This shall include the removal of any rocks larger than 10cm in diameter and any debris/wood that could damage or plug farm equipment. Leveling shall occur when the material

is dry enough to do so as determined by the Contract Administrator. All high spots above grade shall be removed. The sediment shall be removed leaving a rounded bottom with the intent not to undercut the existing side slopes. All material unfit for placing on farmlands, as determined by the Contract Administrator, shall be disposed of offsite at the expense of the Contractor.

The Contractor shall excavate a 2:1 slope where specified. If the location of the existing tile portion of the Anderson Drain upstream of Lakeshore Road does not allow for such resloping, at the discretion of the Contract Administrator, the side slopes may be reduced. All areas to be re-sloped shall have the adjacent working area stripped of topsoil. Once the excavated material is levelled the topsoil shall be placed on top in a condition suitable for cultivation. The drain banks shall not be resloped under maintenance unless deemed necessary by the Drainage Superintendent.

Items that include levelling will be paid at 80% of the unit price prior to levelling. Once the material is levelled the remainder of the item will be paid.

13. Cleaning Out Culverts (Future)

The culverts shall be cleaned out with a method determined by the Contractor. The Contractor shall ensure the footings are not undermined on the culverts.

The excavated material from the road culverts shall be disposed offsite.

The excavated material from the access culverts shall be levelled in the adjacent field.

14. Installation of Culverts (Future)

The Contractor is required to notify the Landowner forty-eight (48) hours prior to the removal of a culvert.

The minimum cover is not always adequate during construction and it is the Contractors responsibility to provide additional cover to avoid damage to the pipe.

The high-density polyethylene (HDPE) smooth wall pipe (320 kPa) shall be CSA Approved with bell and spigot joints.

Sanitite Pipe shall be SaniTite HP with 320kPa and bell and spigot joints or approved equivalent. The exposed ends of the SaniTite culverts shall be wrapped in filter cloth to prevent UV damage.

The culverts designated to be replaced in the future under this report shall be examined after any cleanout of the open channel as to its condition. If it is found to be in disrepair (i.e. there are holes corroded in the bottom or sides) it shall be replaced as per these specifications.

The culverts shall be installed generally in the same location or as approved by the Contract Administrator. The culverts shall be installed with the invert 10% (minimum 150mm) below the

original channel bottom elevation unless otherwise shown in order to achieve the minimum cover.

All culverts shall have rip rap end walls. The access culverts shall be assessed, as per the report, to provide an 8m access width. If an owner requests a longer culvert than that required to achieve an 8m top width, please refer to the report. All culvert lengths are based on utilizing rip rap end walls.

The pipes that shall be extended upstream or downstream of the proposed culvert shall be done with non-perforated HDPE agricultural tubing with a manufactured coupling, elbow and rodent grate.

Access Culverts:

The bottom of the excavation shall be excavated to a minimum of 100mm below the proposed invert. When the pipe has been installed to the proper grade and depth, the excavation shall be backfilled with $\frac{3}{4}$ " clear stone and wrapped in filter fabric from the bottom of the excavation to the spring line of the pipe, this shall be considered the bedding. 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 access culverts shall be backfilled from the spring line or bottom to within 150mm of finished grade with granular "B" Type II. The top 150mm shall be backfilled with OPS granular "A" material to finished grade. If asphalt is proposed, the asphalt shall be HL4 and shall match the existing thickness. In these cases, the granular "A" shall occupy 150mm below the proposed asphalt. Excavated material shall be utilized to build up the adjacent access laneways to blend with the required cover height. Granular "A" shall be utilized, at the discretion of the Contract Administrator, in the vicinity of the proposed culverts in order to provide a suitable finished surface.

Road Culverts:

Where there is asphalt, the asphalt shall be sawcut and milled for a thickness of 45mm and 0.30m past the joint. The milled surface shall be tack coated as per OPSS.

The bottom of the excavation shall be excavated to a minimum of 100mm below the proposed invert. When the pipe has been installed to the proper grade and depth, the excavation shall be backfilled with $\frac{3}{4}$ " clear stone and wrapped in filter fabric from the bottom of the excavation to the spring line of the pipe, this shall be considered the bedding. The bedding material shall not be native material. 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 pipe shall be backfilled above the clear stone with OPS Granular "A".

Asphalt Road: The asphalt shall be HL4 and HL3 at depths to match the existing thickness with a minimum thickness of 50mm for each.

Gravel Road: The top 200mm shall be OPS Granular "A", and shall be mechanically compacted to 100% modified standard proctor density.

Rip rap end walls shall consist of 150mm x 300mm quarry stone or approved equal. The area to receive the rip rap shall be graded to a depth of 400mm below finished grade. Filter fabric (Mirafi P150 or approved equal) shall then be placed with any joints overlapped a minimum 600mm. The quarry stone shall then be placed with the smaller pieces placed in the gaps and voids to give it a uniform appearance.

15. Culvert Maintenance (Future)

The Contractor shall be responsible for maintenance of the access culverts for a period of one year after their installation. This will include repairing any settlement areas on the travel surface with Granular “A” and/or asphalt, topsoil and seed.

16. Subsurface Drainage (Future)

All existing subsurface drains encountered during construction shall be reconnected or extended to the open channel unless otherwise noted on the drawings or as directed by the Contract Administrator.

A suitable length of equivalent sized PE agricultural tubing shall be used to connect the drain to the open channel. Manufactured fittings shall connect the PE tile to the existing drain. The connections shall be carefully backfilled to ensure there is adequate support under the pipe and large clumps of clay do not displace the tile.

Tile outlets larger than 150mm in diameter, or as determined by the Contract Administrator at the time of construction, require erosion protection and rodent grates. The erosion protection made up of rip rap and filter fabric shall be installed on the embankment slope from 0.3m above the tile obvert to the channel bottom. The erosion protection shall be 1.0m wide.

17. Seeding/Restoration (Future)

All side slopes disturbed by construction shall be restored with double straw matting and seed. The double straw matting shall be installed according to the manufacturer’s specifications. The straw matting and seed shall be installed no longer than 2 days after the disturbance of the side slope in that area. The working areas within the bush shall be restored with seed.

All other areas disturbed by construction shall be restored to their pre-construction condition, which may include topsoil and seed. 50mm of screened topsoil and seed shall be installed at all disturbed areas within the road allowances.

If the seed has not germinated, at the discretion of the Contract Administrator, prior to the one-year maintenance period, 50mm of topsoil and seed shall be placed on the disturbed areas. This shall be paid on a time and material basis.

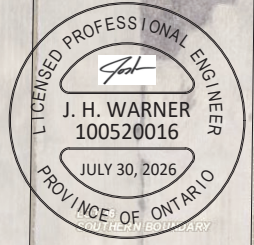
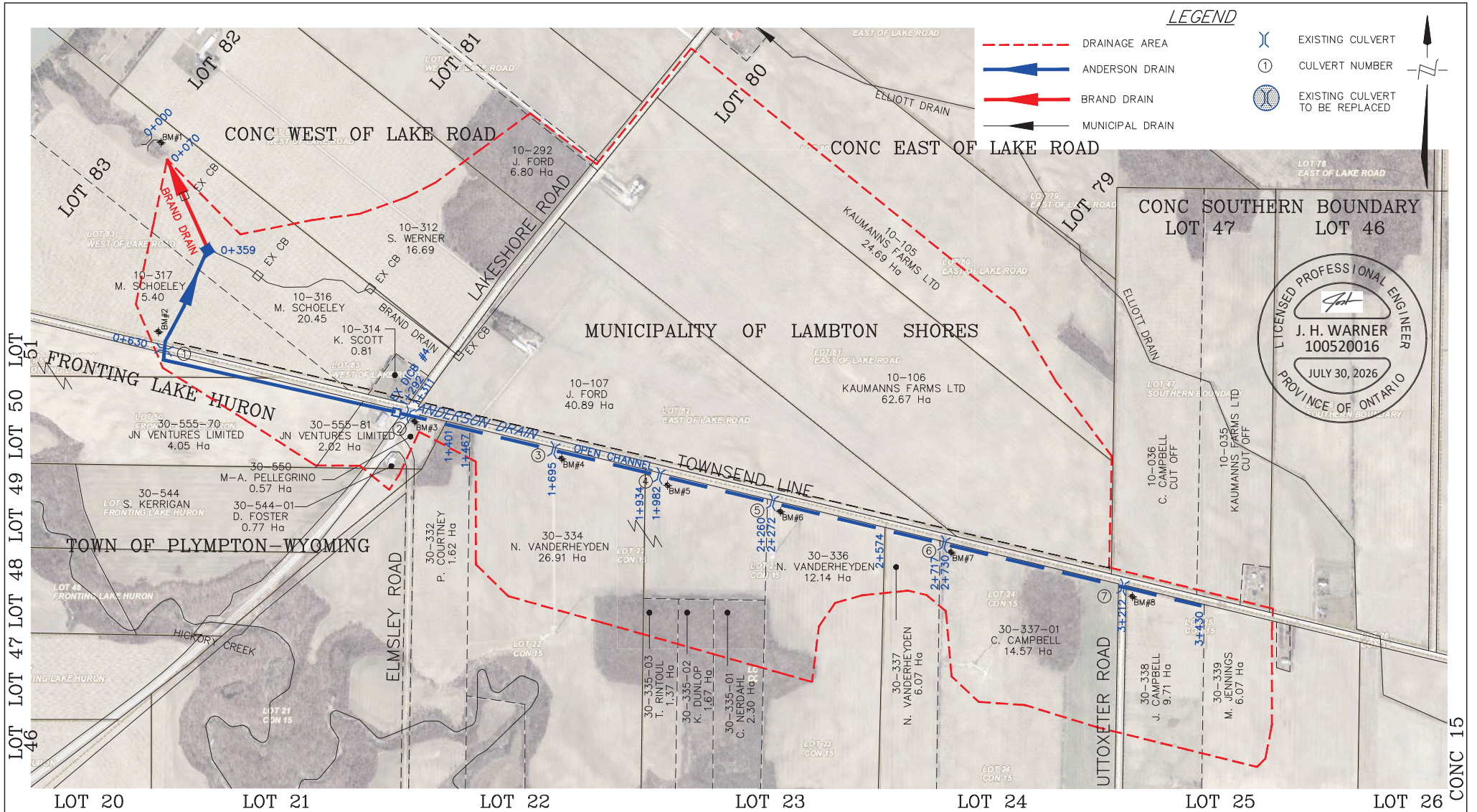
18. Environmental Considerations (Future)

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

- Operate machinery in a manner that minimizes disturbance to the banks of the watercourse.
- Erosion and sediment control measures must be installed prior to construction to prevent sediment from entering the water body.
- Material shall not be placed in areas regulated by the Conservation Authority or Ministry of Natural Resources.
- All granular and erosion control materials shall be stockpiled a minimum of 3.0m from the top of the bank or excavation. Material shall not be placed in surface water runs or open inlets that enter the channel.
- 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 and all surface water runs and open inlets that enter the drain.
- When possible, all construction within the open channel shall be carried out during periods of low flow or in dry conditions.
- The Contractor shall conduct regular inspections and maintain erosion and sediment control measures and structures during the course of construction.
- The Contractor shall repair erosion and sediment control measures and structures if damage occurs.
- The Contractor shall remove non-biodegradable erosion and sediment control materials once site is stabilized.
- Remove all construction materials from site upon project completion.

Light duty silt fences shall be installed down-gradient of the work for the duration of construction.

The light duty silt fencing shall be supplied and installed in accordance with OPSS 577 and OPSD 219.110. The light duty silt fencing shall be removed once construction is complete.



4218 Oil Heritage Road
Petrolia Ontario, N0N 1R0
Phone: (519) 882-0032 Fax: (519) 882-2233

DRAWING NAME:
Anderson Drain Plan

PROJECT No.
2024-1634

APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER	1	RECONSIDERED	JULY 30, 2026	CS
CHECKED	1	FINAL REPORT	JUNE 16, 2026	CS
B. VAN RUITENBURG				
DRAWN				
C. SAUNDERS				

SCALE 1:10,000
0 80 160 240m

TOWN of PLYMPTON - WYOMING
ANDERSON DRAIN
PLAN

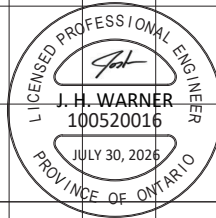
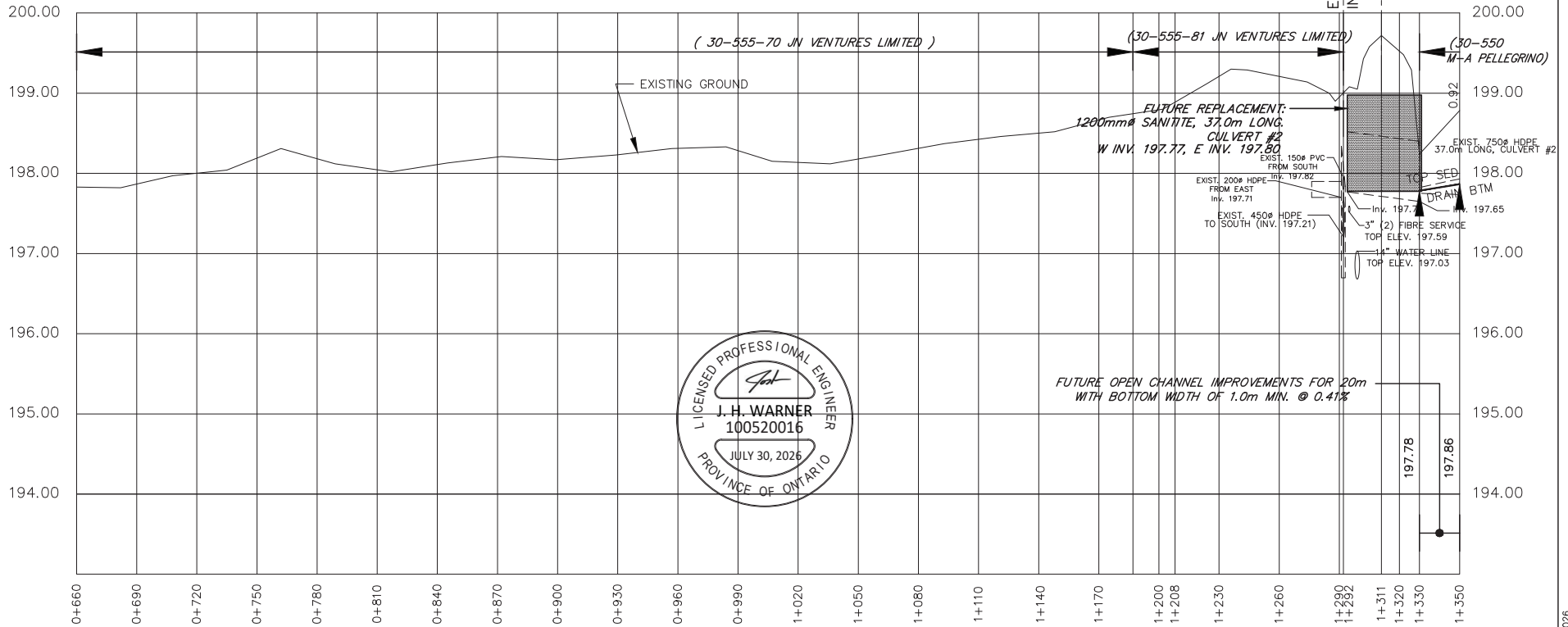
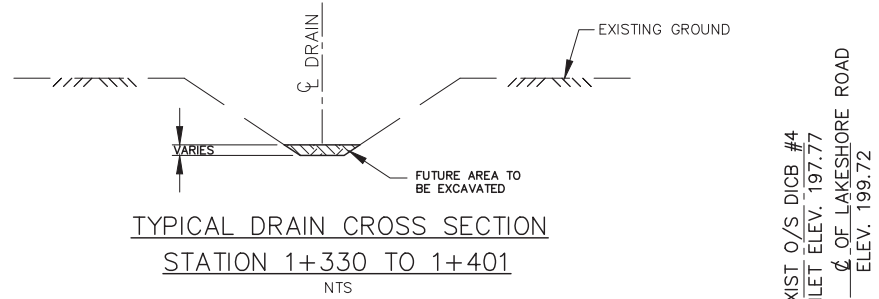
1
OF 6

Last Updated: July 30, 2026

GENERAL NOTES

- BENCHMARK No. 1 ELEV. 194.12
TOP OF EAST END OF EXISTING
1800Ø CSP AT STATION 0+007
- BENCHMARK No. 2 ELEV. 198.00
TOP OF NORTH END OF EXISTING
600Ø CSP CROSSING TOWNSEND LINE
AT ST. 0+630
- BENCHMARK No. 3 ELEV. 197.77
WEST INVERT OF EXISTING
750Ø HDPE CROSSING LAKESHORE RD
AT ST. 1+311

- UPPER NUMBERS ARE DEPTH FROM
GROUND TO PROPOSED DRAIN BOTTOM
FROM STATION 1+330 TO 1+350



4218 Oil Heritage Road
Petrolia Ontario, N0N 1R0
Phone: (519) 882-0032 Fax: (519) 882-2233

DRAWING NAME:
Anderson Drain Profile 1

PROJECT No.
2024-1634

APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER	2	RECONSIDERED	JULY 30, 2026	CS
CHECKED	1	FINAL REPORT	JUNE 16, 2026	CS
B. VAN RUITENBURG				
DRAWN				
C. SAUNDERS				

SCALE: 1:2,000
0 20 40 60m

TOWN of PLYMPTON-WYOMING ANDERSON DRAIN PROFILE

2
OF 6

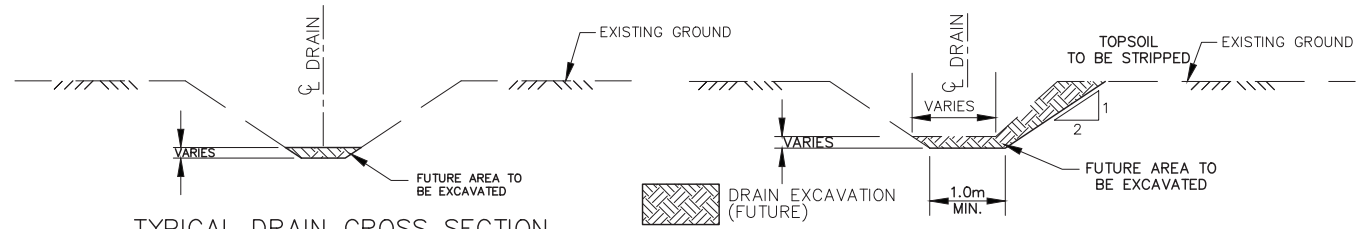
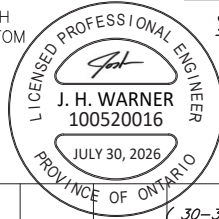
Last Updated: July 30, 2026

GENERAL NOTES

1. BENCHMARK No. 4 ELEV. 200.15
TOP OF EAST END OF EXISTING
1000Ø CSP CROSSING ACCESS
AT ST. 1+695

BENCHMARK No. 5 ELEV. 200.55
TOP OF EAST END OF EXISTING
1000Ø CSP CROSSING ACCESS
AT ST. 1+982

2. UPPER NUMBERS ARE DEPTH FROM NORTH
TOP OF BANK TO PROPOSED DRAIN BOTTOM
3. LOWER NUMBERS ARE DEPTH OF
PROPOSED DRAIN EXCAVATION



TYPICAL DRAIN CROSS SECTION

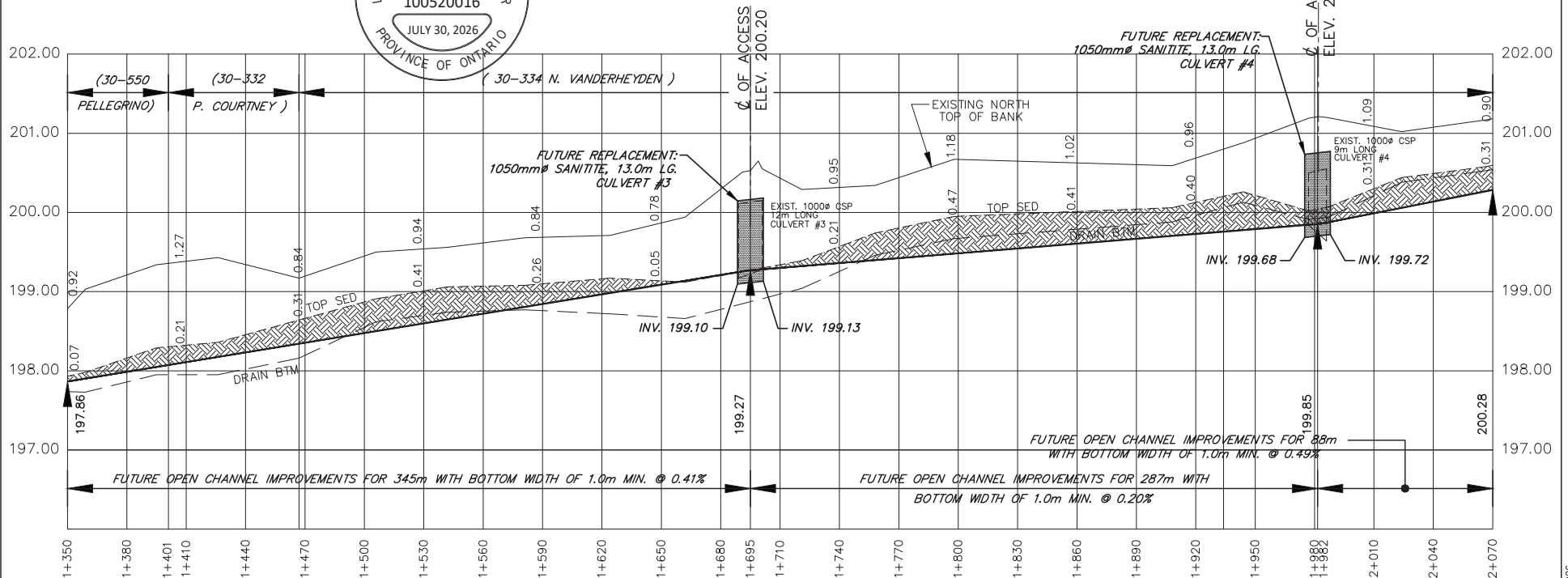
STATION 1+330 TO 1+401

NTS

TYPICAL DRAIN CROSS SECTION

STATION 1+401 TO 3+430

NTS



4218 Oil Heritage Road
Petrolia Ontario, N0N 1R0
Phone: (519) 882-0032 Fax: (519) 882-2233

DRAWING NAME:
Anderson Drain Profile 2

PROJECT No.
2024-1634

NO.	REVISIONS	DATE	BY
1	APPROVED		J. WARNER
2	CHECKED		B. VAN RUITENBURG
3	DRAWN		C. SAUNDERS
4	SCALE: 1:2,000		
5	0 20 40 60m		

TOWN of PLYMPTON-WYOMING
ANDERSON DRAIN
PROFILE

3
OF 6

Last Updated: July 30, 2026

GENERAL NOTES

1. BENCHMARK No. 6 ELEV. 202.30

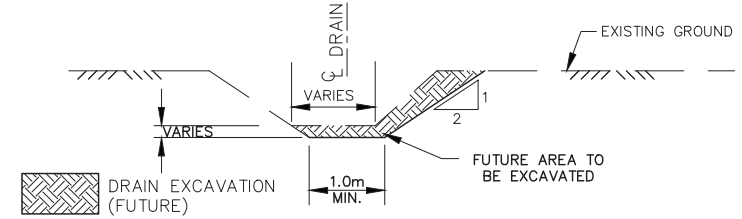
TOP OF EAST END OF EXISTING
1000Ø CSP CROSSING ACCESS
AT ST. 2+272

BENCHMARK No. 7 ELEV. 203.34

TOP OF EAST END OF EXISTING
1000Ø CSP CROSSING ACCESS
AT ST. 2+730

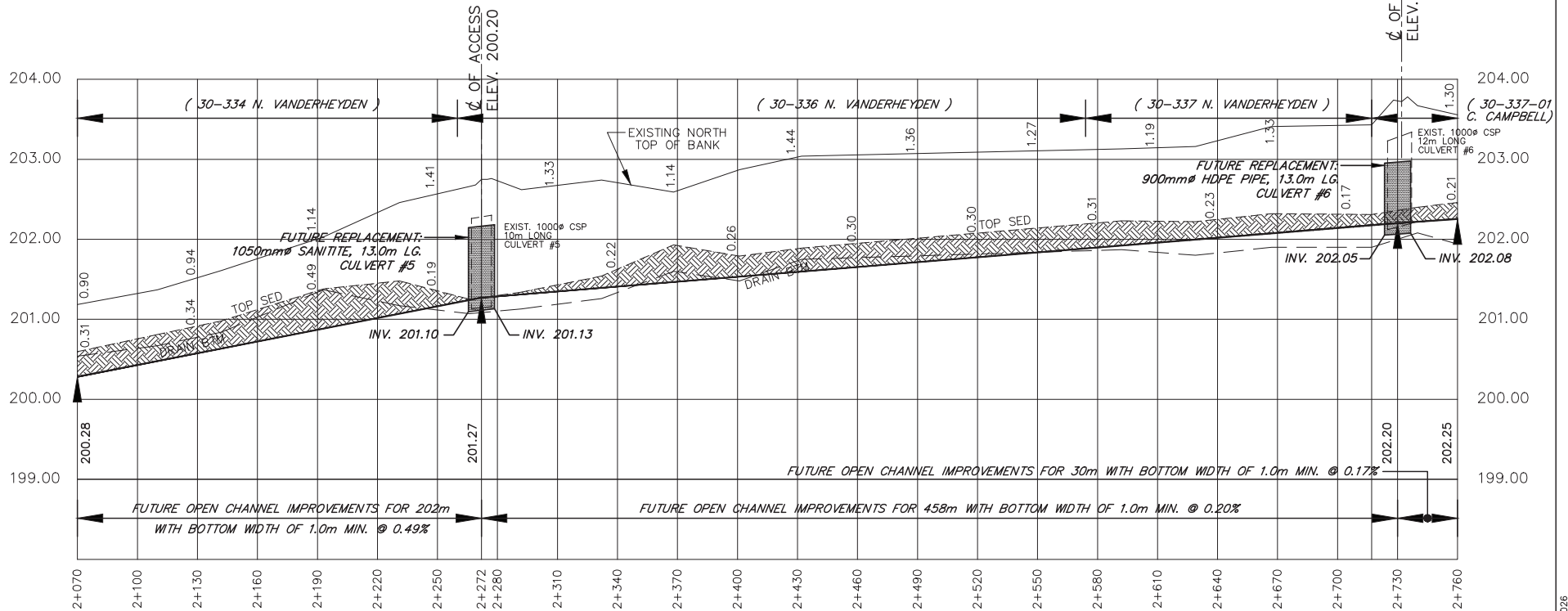
2. UPPER NUMBERS ARE DEPTH FROM NORTH
TOP OF BANK TO PROPOSED DRAIN BOTTOM

3. LOWER NUMBERS ARE DEPTH OF
PROPOSED DRAIN EXCAVATION



TYPICAL DRAIN CROSS SECTION

NTS



4218 Oil Heritage Road
Petroliia Ontario, N0N 1R0
Phone: (519) 882-0032 Fax: (519) 882-2233

DRAWING NAME:
Anderson Drain Profile 3

PROJECT No.
2024-1634

NO.	REVISIONS	DATE	BY
2	RECONSIDERED	JULY 30, 2026	CS
1	FINAL REPORT	JUNE 16, 2026	CS
SCALE: 1:2,000			
0 20 40 60m			
DRAWN C. SAUNDERS			
APPROVED J. WARNER			
CHECKED B. VAN RUITENBURG			

TOWN of PLYMPTON-WYOMING

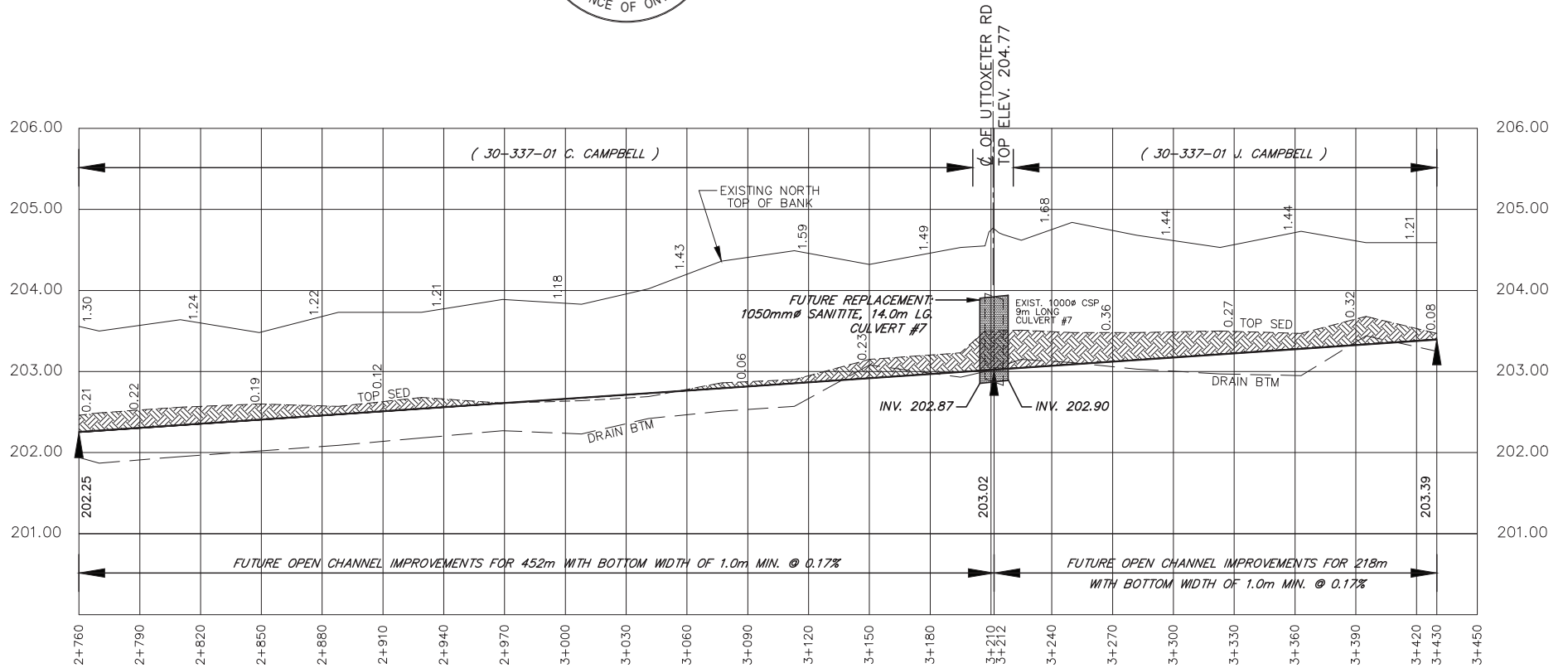
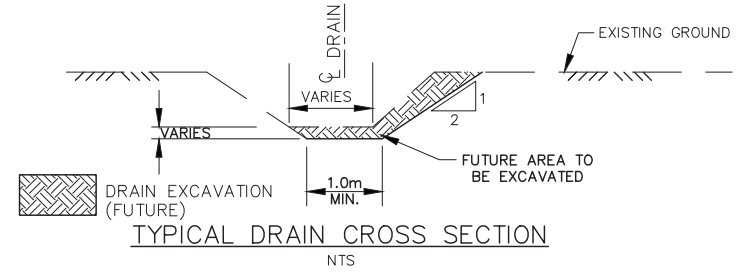
ANDERSON DRAIN
PROFILE

4
OF 6

Last Updated: July 30, 2026

GENERAL NOTES

- BENCHMARK No. 8 ELEV. 203.89
TOP OF EAST END OF EXISTING
1000Ø CSP CROSSING UTTOXETER RD
AT ST. 3+212
- UPPER NUMBERS ARE DEPTH FROM NORTH
TOP OF BANK TO PROPOSED DRAIN BOTTOM
- LOWER NUMBERS ARE DEPTH OF
PROPOSED DRAIN EXCAVATION



4218 Oil Heritage Road
Petrolia Ontario, N0N 1R0
Phone: (519) 882-0032 Fax: (519) 882-2233

DRAWING NAME:
Anderson Drain Profile 4

PROJECT No.
2024-1634

APPROVED
J. WARNER

CHECKED
B. VAN RUITENBURG

DRAWN
C. SAUNDERS

NO.	REVISIONS	DATE	BY
2	RECONSIDERED	JULY 30, 2026	CS
1	FINAL REPORT	JUNE 16, 2026	CS

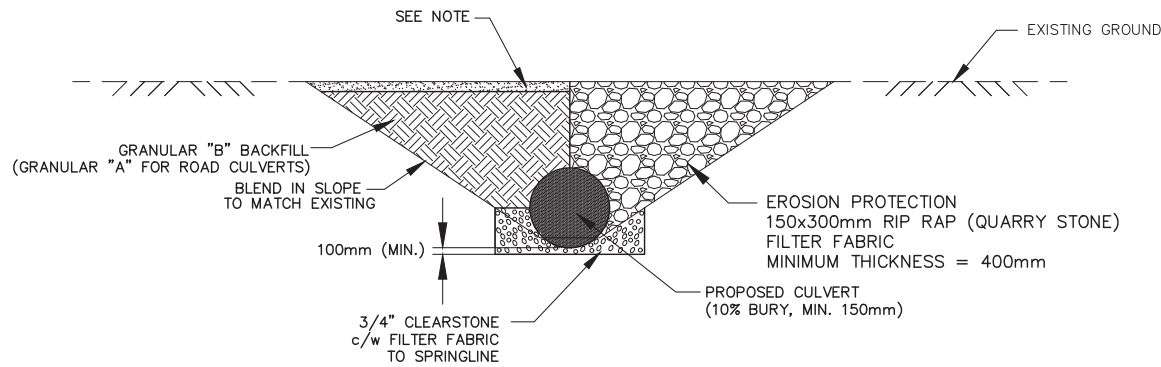
SCALE: 1:2,000
0 20 40 60m

TOWN of PLYMPTON-WYOMING

ANDERSON DRAIN PROFILE

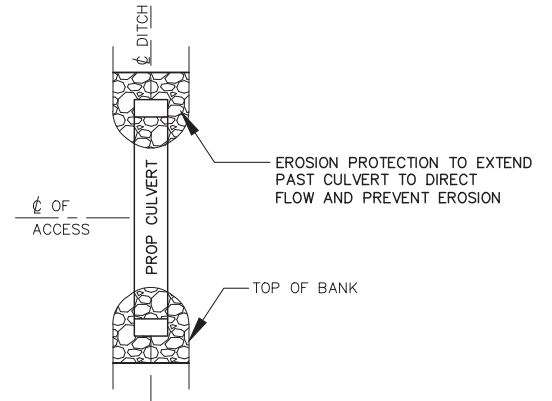
5
OF 6

Last Updated: July 30, 2026



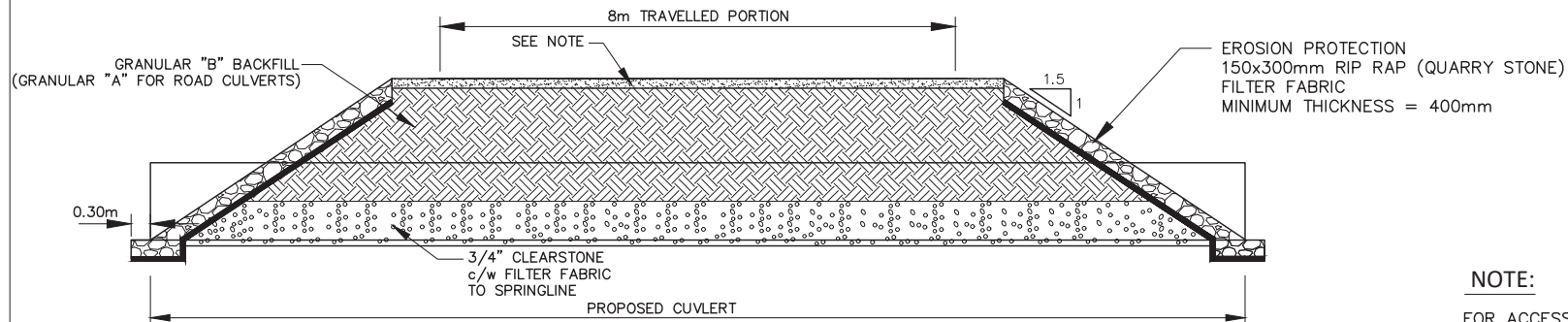
TYPICAL CUVLERT END SECTION

NTS



TYPICAL CUVLERT PLAN

NTS



TYPICAL CROSS-SECTION

NTS

NOTE:
ALL GRANULARS COMPACTED
TO 98% MODIFIED PROCTOR DENSITY

NOTE:

- FOR ACCESS CUVLERTS:
- 150mm 100% CRUSHED GRANULAR 'A'
- FOR ROAD CROSSING CUVLERTS:
- GRAVEL ROADS: GRANULAR "A"
- ASPHALT ROADS: HL4 AND HL3 TO MATCH EXISTING (MINIMUM 50mm)



DRAWING NAME:
Anderson Drain Culvert Details

4218 Oil Heritage Road
Petrolia Ontario, N0N 1R0
Phone: (519) 882-0032 Fax: (519) 882-2233

PROJECT No.
2024-1634

APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER	2	RECONSIDERED	JULY 30, 2026	CS
CHECKED B. VAN RUITENBURG	1	FINAL REPORT	JUNE 16, 2026	CS
DRAWN C. SAUNDERS	NOT TO SCALE TYPICAL CULV. DETAIL			

TOWN of PLYMPTON - WYOMING
ANDERSON DRAIN
TYPICAL CULVERT DETAILS

6
OF 6

Last Updated: July 30, 2026