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June 16, 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 Improvements (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.

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 Affair's 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 | Poor. Rust and small holes. | Replace |
| 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.

Design

The tile drain has been designed to accommodate a drainage coefficient of 50mm / 24 hours. This is above the grantable coefficient. The increased design standard is being utilized to factor in that there is a larger capacity system upstream of Lakeshore Road. It is therefore noted that under larger storm events there will still be some ponding at Lakeshore Road. The tile design criteria includes a minimum tile depth of 760mm.

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

The County 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 downstream of the Brand Drain outlet shall be incorporated from Station 0+014 to 0+070. The channel shall be deepened in order to accommodate the upstream tile improvements. A Section 32 allowance for insufficient outlet shall be applied to the property with Roll Number 10-316.

2. The Brand Drain shall be twinned from its outlet (Station 0+070) to the Anderson Drain (Station 0+359) with 900mm diameter concrete tile. The 525mm diameter tile from the 1995 Brand Drain improvements shall remain in place as part of the drainage works.

3. The Anderson Drain shall be replaced from the Brand Drain (Station 0+359) to the westerly gravel limit of #5706 Lakeshore Road (Station 1+208) with 750mm diameter concrete tile. The existing 450mm diameter tile under the 1973 report shall be crushed and abandoned as part of the drainage works.

4. The Anderson Drain shall be replaced from the westerly gravel limit of #5706 Lakeshore Road (Station 1+208) to the west side of Lakeshore Road (Station 1+292) with 750mm HDPE pipe. The tile under the gravel entrance shall be removed in its entirety.

5. 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).

6. The existing culverts along the open channel portion of the drainage works shall be specified for their future replacement.

7. A Schedule of Maintenance shall be developed for any future maintenance work on the open channel and tile drain portions of the Brand and Anderson Drains.

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 $467,795.00, 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. Also, assessments may be made against any public utility or road authority, as per Section 26 of the Drainage Act, for any increased cost for the removal or relocation of any of its facilities and plant that may be necessitated by the construction or maintenance of the drainage works. Items outside those identified in this report shall be assessed to the utility or road authority as per Section 26 of the Drainage Act plus a portion of the engineering (25% of the construction cost).

The cost of any fees for permits or approvals or any extra work required by any affected utility or road authority shall be assessed to that organization requiring the permit, approval, or extra work.

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

1. As per Section 26 of the Drainage Act, the roads and utilities have been assessed the increased cost of the drainage works caused by the existence of the works of the public utility or road. These items shall be tendered separately with the actual cost plus the net HST and a portion of the engineering (25% of the construction cost) being assessed to the owner of the utility or road. The special benefit assessments shall be calculated as outlined below:

| Road or Utility | Prior to Construction Costs | Tendered Construction Costs (All to be Multiplied by 1.25 for Engineering and Net HST) |
|---|---|---|
| **Town of Plympton-Wyoming** | | |
| **½ Townsend Line (Town of Plympton-Wyoming)** | | All costs under Townsend Line Crossing except Daylighting and Working Around Utilities / 2 |
| **Watermain (LAWSS)** | $700 | |
| **Telephone Lines** | $700 | Daylight and Work Around Telecom Lines on Townsend Crossing |
| **Fiber Optic** | $700 | |
| **Municipality of Lambton Shores** | | |
| **½ Townsend Line (Town of Plympton-Wyoming)** | | All costs under Townsend Line Crossing except Daylighting and Working Around Utilities / 2 |

| | | |
|---|---|---|
| **Watermain** | $700 | Daylight and Work Around Watermain on Townsend Crossing |
| **Fiber Optic** | $700 | Daylight and Work Around Fiber Optic on Townsend Crossing |

2. The open channel incorporation, and improvements from Station 0+014 to 0+070 have been assessed with 10% applied as a benefit assessment and the remainder of the cost applied as an outlet assessment on upstream lands and roads based on equivalent hectares. The Section 32 allowances have been applied as an outlet assessment on upstream lands and roads based on equivalent hectares

3. The Brand Drain tile improvements have been assessed with 25% of the cost applied as benefit assessment and the remainder of the cost applied as an outlet assessment on upstream lands and roads based on equivalent hectares. The Anderson Drain tile improvements have been assessed with 40% of the cost applied as benefit assessment and the remainder of the cost applied as an outlet assessment on upstream lands and roads based on equivalent hectares. The additional cost to have HDPE pipe through #5706 Lakeshore Road has been assessed as a special benefit to the property. Granular "A" required beyond that specified in this report at #5706 Lakeshore Road shall be assessed to the property. The additional cost to provide a drainage design above the 38mm/24hrs has been separated in the Schedule of Assessment and will not be eligible for grant based on the current Agricultural Drainage Infrastructure Program (ADIP) administrative policies.

4. The engineering for culverts has been assessed with 45% of the cost applied as benefit assessment to abutting property, 15% applied as a benefit assessment to the abutting road, and the remainder of the cost applied as an outlet assessment on upstream lands and roads based on equivalent hectares. All costs associated with Culvert #3 has been assessed as a special benefit assessment to the property as it is a secondary access and will not be eligible for grant.

5. The catch basins have been assessed with 50% applied as a benefit assessment to the upstream property and 50% applied as a benefit assessment to the downstream property.

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.

Where the Engineer is of the opinion that the cost of extending a drainage works to a sufficient outlet would exceed the value of the injury likely to be sustained by the low-lying lands along the course of the drainage works, the Engineer may, pursuant to Section 32 of the Drainage Act, provide compensation to the affected lands for any injury resulting from the drainage works.

Allowances have been made, where appropriate, as per Section 29 of the Drainage Act for right-of-way for the re-sloping that would increase the area occupied by the drain, as per Section 30 of the Drainage Act for damages to lands and crops and as per Section 32 of the Drainage Act for insufficient outlet. Allowances for right of way and for an insufficient outlet are based on a land value of $50,000.00 per hectare (approximately $20,000.00 per acre). Allowances for crop loss are based on $2,000.00 per hectare for the first year and $1,000.00 for the second year ($3,000.00 per hectare total).

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 25m 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 then a single lane.

The working area for the construction and future maintenance of the proposed tile drain shall be restricted to a width of 25m along the length of the drainage works normally centred on the proposed tile drain. Where adjacent a roadway, the working area shall extend 20m from the limits of the roadway.

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. The amounts under Increased Design Standard Benefit and Outlet and the special benefit assessment to the property with Roll Number 30-334 will not be eligible for grant based on the current ADIP Policies.

Maintenance

The Anderson Drain tile drain (downstream of Lakeshore Road), culverts and open channel shall be maintained and repaired with the specifications and drawings contained in this Engineer's Report. The Anderson Drain tile portion upstream of the west side of Lakeshore Road shall be maintained and repaired in accordance with the specifications and drawings contained in the Engineer's Report dated January 31, 1973. The Brand Drain open channel and tile drain downstream of the Anderson Drain shall be maintained and repaired with the specifications and drawings contained in this Engineer's Report.

The Brand Drain open channel (Station 0+014 to 0+070) shall be maintained and repaired with 10% assessed to the property with Roll Number 10-316 and the remainder to upstream lands and roads based on equivalent hectares contained in the Schedule of Assessment. The Brand Drain tile drain (525mm dia. and 900mm dia. from Station 0+070 to 0+359) shall be maintained and repaired with 25% assessed to the property with Roll Number 10-316 and the remainder to upstream lands and roads based on equivalent hectares contained in the Schedule of Assessment.

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 Townsend Line crossing 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** | 45% | 15% | 40% |

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.

Anderson and Brand Drain Improvements
Town of Plympton-Wyoming
June 16, 2026

## ALLOWANCES

Allowances have been made as per Sections 29, 30 & 32 of the Drainage Act for Right of Way, damages to lands and crops and insufficient outlet.

| Conc. | Lot or part | Roll No. | Owner | Section 29 ($) | Section 30 ($) | Section 32 ($) | Total ($) |
|---|---|---|---|---|---|---|---|
| WOLR | N 1/2 Lot 83 | 10-316 | M. Schoeley | 1,700 | 2,970 | 12,000 | 16,670 |
| | S 1/2 Lot 83 | 10-317 | M. Schoeley | - | 1,590 | - | 1,590 |
| FLH | Pt. Lot 50 | 30-555-81 | JN Ventures Limited | - | 750 | - | 750 |
| | Lot 50 | 30-555-70 | JN Ventures Limited | - | 4,050 | - | 4,050 |
| | Pt. Lot 50 | 30-550 | M-A. Pellegrino | 200 | - | - | 200 |
| 15 | W 1/4 Lot 22 | 30-332 | P. Courtney | 500 | - | - | 500 |
| | E 3/4 Lot 22 & N. Pt Lot 23 | 30-334 | N. Vanderheyden | 5,900 | - | - | 5,900 |
| | E 1/2 Lot 23 | 30-336 | N. Vanderheyden | 2,400 | - | - | 2,400 |
| | W 1/4 Lot 24 | 30-337 | N. Vanderheyden | 1,100 | - | - | 1,100 |
| | E 3/4 Lot 24 | 30-337-01 | C. Campbell | 3,600 | - | - | 3,600 |
| | W 1/4 Lot 25 | 30-338 | J. Campbell | 1,500 | - | - | 1,500 |
| | E 3/4 Lot 25 | 30-339 | M. Jennings | - | - | - | - |
| | | | TOTAL ALLOWANCES | $16,900 | $9,360 | $12,000 | $38,260 |

**ESTIMATE OF COST**

| Item Description (Supply and Install New) | Quantity | Unit | Unit Cost ($) | Total ($) |
|---|---|---|---|---|
| Pre-Construction Meeting | 1 | LS | 400 | 400 |
| Brushing and Tree Removal | 1 | LS | 1,500 | 1,500 |
| General Restoration/Seeding of Disturbed Areas | 1 | LS | 1,500 | 1,500 |
| Silt Fence | 1 | LS | 200 | 200 |
| **Tile Works** | | | | |
| Traffic Control | 1 | LS | 2,000 | 2,000 |
| Locate Existing Municipal Drain (Station 0+070 to 0+359) | 289 | m | 3 | 867 |
| Locate and Abandon Existing Municipal Drain (Station 0+359 to 0+622 and 0+635 to 1+208) | 836 | m | 4 | 3,344 |
| Locate and Remove Existing Municipal Drain (Station 1+208 to 1+292) | 84 | m | 15 | 1,260 |
| Strip and Level Topsoil and Gravel for Tile Drain (Station 0+070 to 0+622 and 0+635 to 1+292) | 1209 | m | 6 | 7,254 |
| 6m of 900mmø HDPE Pipe c/w Rodent Grate | 1 | LS | 3,000 | 3,000 |
| Rip Rap at Tile Outlet (Station 0+070) | 30 | tonne | 120 | 3,600 |
| 600mmx600mmx2400mm Concrete Blocks at Outlet to Provide Energy Dissipation | 2 | each | 450 | 900 |
| 900mmø Concrete Tile | 283 | m | 240 | 67,920 |
| 750mmø Concrete Tile | 836 | m | 150 | 125,400 |
| 750mmø HDPE Pipe c/w Bedding | 84 | m | 270 | 22,680 |
| Granular "A" for Backfill and Restoration at #5706 Lakeshore Road | 50 | tonne | 40 | 2,000 |
| 750mmx750mmx750mmø HDPE Tee Y 45° at Station 1+292 | 1 | LS | 3,000 | 3,000 |
| Removal of Existing 450mmø HDPE Pipe from Exist DICB #4 to Main | 6 | m | 20 | 120 |
| Connect Proposed 750mmø HDPE Pipe to Existing DICB #4 | 1 | LS | 400 | 400 |
| 750mmø HDPE Pipe from Existing CB #4 to Proposed Tee Y 45° | 6 | m | 270 | 1,620 |
| 750mmø HDPE 45° Elbow | 1 | LS | 1,200 | 1,200 |
| Connect Existing 450mmø Pipe to Proposed 750x750x450mm Tee Y 45° c/w Reducer | 1 | LS | 1,200 | 1,200 |
| JB #1 (900mm x 1200mm) | 1 | LS | 3,500 | 3,500 |

| Item Description (Supply and Install New) | Quantity | Unit | Unit Cost ($) | Total ($) |
|---|---|---|---|---|
| Connect Existing 525mm dia. from west to JB #1 | 1 | LS | 1,000 | 1,000 |
| Connect Existing 450mm dia. from east to JB #1 | 1 | LS | 800 | 800 |
| Catch Basin #2 (900mm x 1200mm) | 1 | LS | 3,500 | 3,500 |
| Catch Basin #3 (900mm x 1200mm) | 1 | LS | 3,500 | 3,500 |
| Locate and Connect Existing Field Tile | 50 | ea | 150 | 7,500 |
| Townsend Line Crossing | | | | |
| Locate and Work Around Fiber Optic | 1 | LS | 1,500 | 1,500 |
| Locate and Work Around Water Line | 1 | LS | 1,000 | 1,000 |
| Locate and Work Around Telecom Lines | 1 | LS | 1,000 | 1,000 |
| Remove Existing Tile and Culvert | 1 | LS | 1,500 | 1,500 |
| 750mmø HDPE Pipe c/w Bedding (Open Cut) | 13 | m | 390 | 5,070 |
| 525mmø HDPE Pipe | 12 | m | 300 | 3,600 |
| Supply and Install Granular "A" | 100 | tonne | 40 | 4,000 |
| Rip Rap End Wall | 15 | tonne | 120 | 1,800 |
| Supply and Install HL4 Asphalt | 8 | tonne | 350 | 2,800 |
| Supply and Install HL3 Asphalt | 8 | tonne | 400 | 3,200 |
| Restoration/Ditch Grading | 1 | LS | 400 | 400 |
| **Open Channel Works** | | | | |
| Excavation of Open Channel, Trucking and Straw Matting and Seeding of Side Slopes (Station 0+014 to 0+070) | 56 | m | 70 | 3,920 |
| Contingency | | | | 15,090 |

| | |
|---|---|
| Sub Total | 316,045 |
| Allowances | 38,260 |
| Engineering | 71,000 |
| Daylighting and Surveying Utilities | 3,500 |
| Future Culvert Design | 9,000 |
| Estimate for Tendering, Inspection and Contract Administration | 22,000 |
| SCRCA Fee | 570 |
| **Total Estimate excluding HST** | **460,375** |
| Non-Recoverable HST (1.76%) | 7,420 |
| **Total Estimate** | **$ 467,795** |

## SCHEDULE OF ASSESSMENT

| Conc. | Lot or Part | Affected Hectares | Roll No. | Owner | Increased Design Standard Benefit (Non-Grantable)($) | Increased Design Standard Outlet (Non-Grantable)($) | Special Benefit ($) | Benefit ($) | Outlet ($) | Total ($) | Equivalent Hectares |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Town of Plympton Wyoming** | | | | | | | | | | | |
| **Public Lands** | | | | | | | | | | | |
| | 1/2 of Townsend Line | 2.95 | | County of Lambton | | 1,006 | - | 5,153 | 18,338 | 24,497 | 11.80 |
| | 1/2 Townsend Line | 0.79 | | Town of Plympton-Wyoming | | 269 | 16,415 | 8,992 | 4,385 | 30,061 | 3.16 |
| | Lakeshore Road | 0.55 | | County of Lambton | | 188 | - | 1,500 | 3,052 | 4,740 | 2.20 |
| | Elmsley Road | 0.25 | | Town of Plympton-Wyoming | | 64 | | - | 1,040 | 1,104 | 0.75 |
| | Uttoxeter Road | 0.75 | | Town of Plympton-Wyoming | | 256 | - | 1,500 | 4,943 | 6,699 | 3.00 |
| | | | | | - | 1,783 | 16,415 | 17,145 | 31,758 | 67,101 | |
| **Utilities** | | | | | | | | | | | |
| | Watermain | | | LAWSS | | - | 700 | - | - | 700 | |
| | Telephone Lines | | | Eastlink | | - | 2,045 | - | - | 2,045 | |
| | Fibre Optic | | | Execulink | | - | 700 | - | - | 700 | |
| | | | | | - | - | 3,445 | - | - | 3,445 | |
| **Agricultural Lands** | | | | | | | | | | | |
| FLH | Pt. Lot 48 & 49 | 0.00 | 30-544 | S. Kerrigan | | - | - | - | - | - | - |
| | Pt. Lot 50 | 2.02 | 30-555-81 | JN Ventures Limited | 660 | 258 | 12,769 | 10,447 | 4,204 | 28,338 | 3.03 |
| | Lot 50 | 4.05 | 30-555-70 | JN Ventures Limited | 2,415 | 335 | | 40,578 | 5,465 | 48,793 | 4.05 |
| 15 | W 1/4 Lot 22 | 1.62 | 30-332 | P. Courtney | | 138 | | 335 | 2,256 | 2,729 | 1.62 |
| | E 3/4 Lot 22 & N. Pt Lot 23 | 26.91 | 30-334 | N. Vanderheyden | | 2,294 | 1,500 | 4,705 | 38,173 | 46,672 | 26.91 |
| | Pt. Lot 23 | 1.37 | 30-335-03 | T. Rintoul | | 58 | | - | 1,008 | 1,066 | 0.69 |
| | Pt. Lot 23 | 1.67 | 30-335-02 | K. Dunlop | | 71 | | - | 1,229 | 1,300 | 0.84 |
| | E 1/2 Lot 23 | 12.14 | 30-336 | N. Vanderheyden | | 993 | | 2,271 | 17,470 | 20,734 | 11.65 |
| | W 1/4 Lot 24 | 6.07 | 30-337 | N. Vanderheyden | | 517 | | 727 | 9,269 | 10,513 | 6.07 |
| | E 3/4 Lot 24 | 14.57 | 30-337-01 | C. Campbell | | 1,118 | | 3,140 | 20,983 | 25,241 | 13.11 |
| | W 1/4 Lot 25 | 9.71 | 30-338 | J. Campbell | | 828 | | 1,057 | 16,409 | 18,294 | 9.71 |
| | E 3/4 Lot 25 | 6.07 | 30-339 | M. Jennings | | 517 | | - | 10,515 | 11,032 | 6.07 |
| | | | | | 3,075 | 7,127 | 14,269 | 63,260 | 126,981 | 214,712 | |

| Conc. | Lot or Part | Affected Hectares | Roll No. | Owner | Increased Design Standard Benefit (Non-Grantable)($) | Increased Design Standard Outlet (Non-Grantable)($) | Special Benefit ($) | Benefit ($) | Outlet ($) | Total ($) | Equivalent Hectares |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Non Agricultural Lands** | | | | | | | | | | | |
| FLH | Pt. Lot 50 | 0.53 | 30-550 | M-A. Pellegrino | | 68 | - | 4,973 | 1,107 | 6,148 | 0.80 |
| | Pt. Lot 50 | 0.77 | 30-544-01 | D. Foster | | 98 | | 3,317 | 1,609 | 5,024 | 1.16 |
| 15 | Pt. Lot 23 | 2.30 | 30-335-01 | C. Nerdahl | | 98 | | - | 1,692 | 1,790 | 1.15 |
| | | | | | - | 264 | - | 8,290 | 4,408 | 12,962 | |
| | | | | Total Public Lands | 67,101 | | | | | | |
| | | | | Total Utilities | 3,445 | | | | | | |
| | | | | Total Agricultural Lands | 214,712 | | | | | | |
| | | | | Total Non Agricultural Lands | 12,962 | | | | | | |
| | | | | Total Assessment Town of Plympton-Wyoming | $298,220 | | | | | | |
| **Municipality of Lambton Shores** | | | | | | | | | | | |
| **Public Lands** | | | | | | | | | | | |
| 1/2 of Townsend Line | | 2.95 | | County of Lambton | | 1,006 | - | 103 | 16,536 | 17,645 | 11.80 |
| 1/2 of Townsend Line | | 0.79 | | Municipality of Lambton Shores | | 269 | 16,415 | 2,356 | 4,385 | 23,425 | 3.16 |
| Lakeshore Road | | 2.76 | | County of Lambton | | 198 | | - | 3,804 | 4,002 | 11.04 |
| | | | | | - | 1,473 | 16,415 | 2,459 | 24,725 | 45,072 | |
| **Utilities** | | | | | | | | | | | |
| Watermain | | | | Municipality of Lambton Shores | | - | 2,045 | - | - | 2,045 | |
| Fiber Optic | | | | Execulink | | - | 2,727 | - | - | 2,727 | |
| | | | | | - | - | 4,772 | - | - | 4,772 | |

| Conc. | Lot or Part | Affected Hectares | Roll No. | Owner | Increased Design Standard Benefit (Non-Grantable)($) | Increased Design Standard Outlet (Non-Grantable)($) | Special Benefit ($) | Benefit ($) | Outlet ($) | Total ($) | Equivalent Hectares |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Agricultural Lands** | | | | | | | | | | | |
| WOLR | S 1/2 Lot 81 | 6.80 | 10-292 | J. Ford | | 61 | | - | 1,172 | 1,233 | 3.40 |
| | Lot 82 | 16.69 | 10-312 | S. Werner | | 261 | | - | 5,003 | 5,264 | 14.52 |
| | N 1/2 Lot 83 | 20.45 | 10-316 | M. Schoeley | 2,112 | 289 | | 30,386 | 6,061 | 38,848 | 20.45 |
| | S 1/2 Lot 83 | 5.40 | 10-317 | M. Schoeley | 1,272 | 116 | | 21,009 | 2,136 | 24,533 | 5.40 |
| EOLR | S 1/2 Lot 80 | 24.69 | 10-105 | Kaumanns Farms Ltd | | 443 | | - | 8,508 | 8,951 | 24.69 |
| | Lot 81 | 62.67 | 10-106 | Kaumanns Farms Ltd | | 1,125 | | 704 | 21,596 | 23,425 | 62.67 |
| | Lot 82 | 40.89 | 10-107 | J. Ford | | 734 | | 1,911 | 14,090 | 16,735 | 40.89 |
| SB | Lot 46 | Cut - Off | 10-035 | Kaumanns Farms Ltd | | - | | 30 | - | 30 | - |
| | Lot 47 | Cut - Off | 10-036 | C. Campbell | | - | | 272 | - | 272 | - |
| | | | | | 3,384 | 3,029 | - | 54,312 | 58,566 | 119,291 | |
| **Non Agricultural Lands** | | | | | | | | | | | |
| WOLR | Pt. Lot 83 | 0.81 | 10-314 | K. Scott | | 22 | | - | 418 | 440 | 1.22 |
| | **Total Area (Ha)** | **279.99** | | | - | 22 | - | - | 418 | 440 | |

| | |
|---|---|
| Total Public Lands | 45,072 |
| Total Utilities | 4,772 |
| Total Agricultural Lands | 119,291 |
| Total Non Agricultural Lands | 440 |

| | |
|---|---|
| Total Assessment Municipality of Lambton Shores | $169,575 |
| Total Assessment Town of Plympton-Wyoming | $298,220 |
| Total Assessment | $467,795 |

**ESTIMATED NET ASSESSMENT**

Net assessment subject to OMAFRA ADIP Policy and actual construction costs.

| Conc. | Lot or Part | Affected Hectares | Roll No. | Owner | Total Assessment ($) | Estimated Grant ($) | Allowances ($) | Estimated Net Assessment ($) |
|---|---|---|---|---|---|---|---|---|
| **Town of Plympton Wyoming** | | | | | | | | |
| **Public Lands** | | | | | | | | |
| 1/2 of Townsend Line | | 2.95 | | County of Lambton | 24,497 | | | 24,497 |
| 1/2 Townsend Line | | 0.79 | | Town of Plympton-Wyoming | 30,061 | | | 30,061 |
| Lakeshore Road | | 0.55 | | County of Lambton | 4,740 | | | 4,740 |
| Elmsley Road | | 0.25 | | Town of Plympton-Wyoming | 1,104 | | | 1,104 |
| Uttoxetter Road | | 0.75 | | Town of Plympton-Wyoming | 6,699 | | | 6,699 |
| **Utilities** | | | | | | | | |
| Watermain | | | | LAWSS | 700 | | | 700 |
| Telephone Lines | | | | Eastlink | 2,045 | | | 2,045 |
| Fibre Optic | | | | Execulink | 700 | | | 700 |
| **Agricultural Lands** | | | | | | | | |
| FLH | Pt. Lot 48 & 49 | 0.00 | 30-544 | S. Kerrigan | - | - | | - |
| | Pt. Lot 50 | 2.02 | 30-555-81 | JN Ventures Limited | 28,338 | 9,140 | 750 | 18,448 |
| | Lot 50 | 4.05 | 30-555-70 | JN Ventures Limited | 48,793 | 15,348 | 4,050 | 29,395 |
| 15 | W 1/4 Lot 22 | 1.62 | 30-332 | P. Courtney | 2,729 | 864 | 500 | 1,365 |
| | E 3/4 Lot 22 & N. Pt Lot 23 | 26.91 | 30-334 | N. Vanderheyden | 46,672 | 14,793 | 5,900 | 25,979 |
| | Pt. Lot 23 | 1.37 | 30-335-03 | T. Rintoul | 1,066 | 336 | | 730 |
| | Pt. Lot 23 | 1.67 | 30-335-02 | K. Dunlop | 1,300 | 410 | | 890 |
| | E 1/2 Lot 23 | 12.14 | 30-336 | N. Vanderheyden | 20,734 | 6,580 | 2,400 | 11,754 |
| | W 1/4 Lot 24 | 6.07 | 30-337 | N. Vanderheyden | 10,513 | 3,332 | 1,100 | 6,081 |
| | E 3/4 Lot 24 | 14.57 | 30-337-01 | C. Campbell | 25,241 | 8,041 | 3,600 | 13,600 |
| | W 1/4 Lot 25 | 9.71 | 30-338 | J. Campbell | 18,294 | 5,822 | 1,500 | 10,972 |
| | E 3/4 Lot 25 | 6.07 | 30-339 | M. Jennings | 11,032 | 3,505 | - | 7,527 |

| Conc. | Lot or Part | Affected Hectares | Roll No. | Owner | Total Assessment ($) | Estimated Grant ($) | Allowances ($) | Estimated Net Assessment ($) |
|---|---|---|---|---|---|---|---|---|
| **Non Agricultural Lands** | | | | | | | | |
| FLH | Pt. Lot 50 | 0.53 | 30-550 | M-A. Pellegrino | 6,148 | | 200 | 5,948 |
| | Pt. Lot 50 | 0.77 | 30-544-01 | D. Foster | 5,024 | | | 5,024 |
| 15 | Pt. Lot 23 | 2.30 | 30-335-01 | C. Nerdahl | 1,790 | | | 1,790 |
| **Municipality of Lambton Shores** | | | | | | | | |
| **Public Lands** | | | | | | | | |
| 1/2 of Townsend Line | | 2.95 | | County of Lambton | 17,645 | | | 17,645 |
| 1/2 of Townsend Line | | 0.79 | | Municipality of Lambton Shores | 23,425 | | | 23,425 |
| Lakeshore Road | | 2.76 | | County of Lambton | 4,002 | | | 4,002 |
| **Utilities** | | | | | | | | |
| Watermain | | | | Municipality of Lambton Shores | 2,045 | | | 2,045 |
| Fiber Optic | | | | Execulink | 2,727 | | | 2,727 |
| **Agricultural Lands** | | | | | | | | |
| WOLR | S 1/2 Lot 81 | 6.80 | 10-292 | J. Ford | 1,233 | 391 | | 842 |
| | Lot 82 | 16.69 | 10-312 | S. Werner | 5,264 | 1,668 | | 3,596 |
| | N 1/2 Lot 83 | 20.45 | 10-316 | M. Schoeley | 38,848 | 12,149 | 16,670 | 10,029 |
| | S 1/2 Lot 83 | 5.40 | 10-317 | M. Schoeley | 24,533 | 7,715 | 1,590 | 15,228 |
| EOLR | S 1/2 Lot 80 | 24.69 | 10-105 | Kaumanns Farms Ltd | 8,951 | 2,836 | | 6,115 |
| | Lot 81 | 62.67 | 10-106 | Kaumanns Farms Ltd | 23,425 | 7,433 | | 15,992 |
| | Lot 82 | 40.89 | 10-107 | J. Ford | 16,735 | 5,334 | | 11,401 |
| SB | Lot 46 | Cut - Off | 10-035 | Kaumanns Farms Ltd | 30 | 10 | | 20 |
| | Lot 47 | Cut - Off | 10-036 | C. Campbell | 272 | 91 | | 181 |
| **Non Agricultural Lands** | | | | | | | | |
| WOLR | Pt. Lot 83 | 0.81 | 10-314 | K. Scott | 440 | | | 440 |
| | | | | | 467,795 | 105,798 | 38,260 | 323,737 |

**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 ($) |
|---|---|---|---|---|---|---|---|
| **Town of Plympton Wyoming** | | | | | | | |
| **Public Lands** | | | | | | | |
| 1/2 of Townsend Line | | 2.95 | | County of Lambton | 150 | 60 | 210 |
| 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 | - | 22 | 22 |
| | | | | | 150 | 82 | 232 |
| **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 | 11 | - | 11 |
| | E 3/4 Lot 22 & N. Pt Lot | 26.91 | 30-334 | N. Vanderheyden | 133 | 28 | 161 |
| | Pt. Lot 23 | 1.37 | 30-335-03 | T. Rintoul | - | 2 | 2 |
| | Pt. Lot 23 | 1.67 | 30-335-02 | K. Dunlop | - | 2 | 2 |
| | E 1/2 Lot 23 | 12.14 | 30-336 | N. Vanderheyden | 53 | 36 | 89 |
| | W 1/4 Lot 24 | 6.07 | 30-337 | N. Vanderheyden | 24 | 24 | 48 |
| | E 3/4 Lot 24 | 14.57 | 30-337-01 | C. Campbell | 82 | 77 | 159 |
| | W 1/4 Lot 25 | 9.71 | 30-338 | J. Campbell | 35 | 86 | 121 |
| | E 3/4 Lot 25 | 6.07 | 30-339 | M. Jennings | - | 62 | 62 |
| | | | | | 338 | 317 | 655 |

| 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 | 13 | - | 13 |
| | Pt. Lot 50 | 0.77 | 30-544-01 | D. Foster | - | 1 | 1 |
| 15 | Pt. Lot 23 | 2.30 | 30-335-01 | C. Nerdahl | - | 3 | 3 |
| | | | | | 13 | 4 | 17 |
| | | | | Total Public Lands | 232 | | |
| | | | | Total Agricultural Lands | 655 | | |
| | | | | Total Non Agricultural Lands | 17 | | |
| | | | | Total Assessment Town of Plympton-Wyoming | $904 | | |
| **Municipality of Lambton Shores** | | | | | | | |
| **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 ($) |
|---|---|---|---|---|---|---|---|
| **Town of Plympton Wyoming** | | | | | | | |
| **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 | | |
| **Municipality of Lambton Shores** | | | | | | | |
| **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 Improvements
Town of Plympton-Wyoming
June 16, 2026

# SPECIFICATION OF WORK

## 1. Location

The location of the proposed and future work outlined in this specification is in Lot 83, West of Lake Road in the Municipality of Lambton Shores and in Lot 22 to 25, Concession 15 and Lot 50 to 51, Concession Fronting Lake Huron in the Town of Plympton-Wyoming.

## 2. Scope of Work

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

- Open Channel Improvements
- Tile Drain Twinning and Replacement
- Culvert Replacements

## 3. General

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

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**

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**

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. Pre-Construction Meeting

There is a requirement for a pre-construction meeting to be held prior to any construction taking place. The meeting will be scheduled by the Contractor. Contact information will be provided to the Contractor by the Engineer. The affected Landowners, Engineer, County of Lambton and the Town of Plympton-Wyoming shall be invited. The Contractor shall notify all parties at least one week prior to wanting to hold a pre-construction meeting.

## 8. Benchmarks

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.

## 9. Traffic Control

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.

## 10. 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 25m 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 then a single lane.

The working area for the construction and future maintenance of the proposed tile drain shall be restricted to a width of 25m along the length of the drainage works normally centred on the proposed tile drain. Where adjacent a roadway, the working area shall extend 20m from the limits of the roadway.

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.

**11. Removals**

The culverts, tile drain and any native backfill material, when required, shall be removed. For the drain removal at #5706 Lakeshore Road native backfill may be re-used at the discretion of the Contract Administrator. All other 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.

**12. Brushing and Tree Removal**

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.

**13. Excavation of Open Channel**

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 then 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.

**14. 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.

**15. 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 ¾" 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 ¾" 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.

**16. Culvert Maintenance**

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.

**17. Locate Existing Drain**

The existing tile drain shall be exposed at the discretion of the Contract Administrator and Contractor in order to adequately determine the proposed alignment. The existing municipal drain shall remain in place between Stations 0+070 and 0+359, shall be abandoned and crushed between Stations 0+359 and 1+208 (excluding the road) and removed under Townsend Line and from Station 1+208 and 1+292.

**18. Strip and Place Topsoil and Gravel**

The Contractor shall strip the topsoil and gravel for a width of 6m normally centered on the proposed tile drain. The topsoil and gravel shall be stockpiled at the edge of the working allowance for the duration of the tile installation. Once the tile is installed, the Contractor shall level the topsoil and gravel over the drain.

**19. Installation of Tile**

The Contractor shall supply, install, and backfill the specified sizes of tile and pipe to the depths and grades as shown on the drawings.

Concrete tile shall conform to ASTM C412, 2000D. Tile shall have a circular interior and exterior shape.

Clear stone bedding to the spring line shall be included as part of the item for 900mm diameter concrete tile.

HDPE shall be CSA Approved smooth wall gasketed pipe with bell and spigot joints (320 kPa) and shall include clear stone bedding to the spring line under gravel driveways and accesses. For the Townsend Line the road crossing specification shall be used.

It is intended that the proposed tile drain run south/west of the existing drain.

The trenching and laying of the concrete tile shall be done by wheel machine. An excavator must be used in areas of soil instability, unless approved by the Engineer. All tile joints shall be wrapped with a minimum 300mm width of Mirafi P150 (or approved equal) filter fabric. The filter fabric shall be overlapped by 450mm at the top of the tile. The tile shall be laid in straight lines or on smooth gradual curves with a minimum radius or 25m.

Where approved by the Engineer (or specified) concrete tile may be laid in tighter curves by saw cutting joints. The maximum deflection of one concrete tile joint shall be 22 degrees. Turns of greater than 22 degrees shall require the use of manufactured bends (PE smooth wall).

Laser control shall be used to ensure proper grades. The grades calculated on the Profile are to the invert of the tile and pipe with allowances to be made by the Contractor for the wall thickness of the tile and pipe. The depths shown and figured are from ground level to the invert of the pipe along the line of the proposed drain. Should an error appear in the figured depth at any station or stations, the grade shall be made to correspond with that shown on the Profile without extra charge.

Wheel Machine

A wheel machine shall be used to excavate the trench to allow for a round bottom. Prior to backfilling, the tile shall be covered manually to a depth of approx. 100mm over the pipe to ensure that the tile and pipe are not displaced by large clumps of earth. The trench shall be backfilled with excavated material free of stones, broken tile or other deleterious material. All stones larger than 100mm in diameter evident immediately after construction shall be picked up by the Contractor and disposed offsite. The Landowners are responsible for stones after that. The material shall be left windrowed over the trench to allow for settlement.

Excavator

When concrete tile is installed with an excavator, the tile must be installed as per the manufacturer's recommendations **complete with bedding to the spring line**. Prior to backfilling, the tile shall be covered manually to a depth of approx. 100mm over the pipe to ensure that the tile and pipe are not displaced by large clumps of earth. The trench shall be backfilled with excavated material free of stones, broken tile or other deleterious material. All stones larger than 100mm in diameter evident immediately after construction shall be picked up by the Contractor and disposed offsite. The Landowners are responsible for stones after that. The material shall be left windrowed over the trench to allow for settlement.

If the land level must be lowered in order to carry out trenching operations, then it is up to the Contractor to determine if it is necessary and include any extra cost involved. They shall first strip the topsoil to its full depth and stockpile it along one side of the working width and then grade the area to allow the trenching to be carried out. All excavated material shall be windrowed on the side opposite the trench that the topsoil is stockpiled. After trenching and backfilling operations are complete, the topsoil shall be spread to its original depth.

All areas disturbed by construction shall be left in a condition suitable for cultivation.

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

The Landowners are also asked to minimize farm equipment over the trench or along the length of the trench for 1 year after construction in order to protect the tile.

This item shall include a final levelling just prior to the 1-year maintenance period, if required at the discretion of the Contract Administrator, to ensure that the fields are left in a condition that is suitable for cultivation.

Future replacements shall conform to these specifications.

**20. Townsend Line Crossing**

Where High Density Polyethylene Pipe is specified, the Contractor shall supply, install, and backfill the HPDE smooth wall gasketed pipe with bell and spigot joints (320 KPa) or approved equivalent under road crossings. Future culvert replacements shall be to the same specifications.

The proposed culvert and tile shall be installed in the same general location as the existing, unless otherwise stated on the drawings or in the specification.

The bottom of the excavation shall extend 150mm below the bottom of the tile with any over excavation backfilled with ¾" clear stone material. When the tile has been installed to the proper grade and depth, the excavation shall be backfilled with ¾" clear stone from the bottom of the

excavation to 300mm above the proposed tile. The clear stone shall be considered 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. Within the roadway, and for a distance of 2m either side, the pipe shall be backfilled from 300mm above the tile with OPS Granular "A". Outside of this excavated material may be used. If asphalt is specified, the asphalt shall be HL4 and HL3 at depths to match the existing thickness with a minimum of 50mm for each.

The ditches shall be graded to ensure the surface water is collected to the catch basins on all road crossings.

The Contractor shall be responsible for maintenance of the pipes for a period of one year after their installation. This will include repairing any settlement areas on the travel surface with granular "A" or HL3.

**21. Catch Basins**

| Structure | Station | Type (mm) | Inlet Elev. (m) | Outlet Pipe Elev. (m) | Inlet Pipe Elev. (m) |
|---|---|---|---|---|---|
| CB #2 | 0+622 | 900x1200 | 197.40 | 195.33 (N)<br>750 | 195.36 (S)<br>750 |
| CB #3 | 0+635 | 900x1200 | 197.44 | 195.40 (N)<br>750 | 195.43 (E)<br>750 |

The catch basins shall be square precast concrete structures as noted above and shall have a birdcage type grate. The ditch inlet catch basins shall have a 2:1 sloped top. The direction in the inlet elevation column denotes the direction the low side of the ditch inlet catch basins shall face. The catch basins shall be located with the backside at the property line and at the locations identified on the Plans. When specified the catch basins shall have a berm constructed on the downstream property. The top of the berm shall be 0.60m above the inlet elevation. The berm shall have a 2:1 front slope and 5:1 back slope with a 1m wide top. The height and back slopes can be increased under the direction of the Drainage Superintendent in order to reduce erosion and facilitate farming. Care shall be taken to ensure this does not negatively impact upstream lands. The berms shall be constructed using excess materials on site. If more material is required it shall be supplied at the expense of the drainage works.

The catch basins shall be made with the top sections separate from the base sections in order to allow riser sections to be installed or removed as necessary (i.e. the base section shall not extend for more than 150mm above the top of the highest opening in the base section). The wall thickness of all structures shall be 115mm and each shall have a 300mm sump. Birdcage grates shall be manufactured with a bar spacing no larger than 50mm.

The catch basins shall be set at the final elevations as directed by the Contract Administrator. The catch basins shall be set on a layer of clear stone. The clear stone shall be extended up to the spring line of the inlet and outlet pipe connections.

The tile at the connection to the catch basins shall be concreted on both the inside and outside prior to backfilling. Any pipe or tile shall not protrude more than 50mm inside the wall.

The Contract Administrator may change a birdcage type grate on a catch basin to a concrete lid or sloped birdcage grate at the request of a Landowner.

**22. Junction Boxes**

The junction boxes shall be installed to the elevations and in the locations shown on the drawings as follows:

| Structure | Station | Type (mm) | Top Elev. (m) | Outlet Pipe Elev. (m) | Inlet Pipe Elev. (m) |
|---|---|---|---|---|---|
| JB #1 | 0+359 | 900x1200 | 195.75 | 194.44 (W) / 194.48 (N)<br>900 / 525 | 194.47 (S) / 194.50 (E)<br>750 / 450 |

The junction boxes shall be square precast concrete structures as noted above.

The Contractor shall verify the elevations of the existing tiles at proposed JB #1 prior to any tile installation and shall notify the Contract Administrator immediately of any discrepancies.

The junction boxes shall be made with the top sections separate from the base sections in order to allow riser sections to be installed or removed as necessary (i.e. the base section shall not extend for more than 150mm above the top of the highest opening in the base section). The wall thickness of all structures shall be 115mm and each shall have a 300mm sump. The top of junction boxes shall be set a minimum of 600mm below grade to accommodate farm tillage practices.

The junction boxes shall be set on a layer of clear stone. The clear stone shall be extended up to the top of the inlet and outlet pipe connections

The tile at the connection to the junction boxes shall be concreted on both the inside and outside prior to backfilling. Any pipe or tile shall not protrude more than 50mm inside the wall.

The Drainage Superintendent may change a concrete lid on a junction box to a birdcage type grate creating a catch basin at the request of a Landowner.

**23. Outlet Pipe**

The outlet works for the drain shall consist of 6m of HDPE smooth wall pipe as shown on the profile (320 kPa) with a manufactured rodent rotating grate. It shall be installed at the outlet to the open channel.

**24. Subsurface Drainage**

All existing subsurface drains encountered during construction of the open channel or tile drain shall be reconnected or extended to the tile drain or 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.

It is recommended that clear stone be used under the connections at the tile drain. For larger tiles they shall be connected with HDPE pipe, this shall include the extension of the existing mains to the catch basins or junction boxes as denoted in the tender table. The 525mm dia. concrete tile shall be extended with 525mm dia. HDPE pipe and shall be connected to the north side of JB #1 with a manufactured elbow.

**25. Rip Rap (Outlet Works)**

Erosion protection made up of rip rap and filter fabric shall be installed in the locations determined by the Contract Administrator and at the proposed tile outlet. Generally, the rip rap shall be installed where the toe is eroding at bends and at tile outlets 150mm diameter or greater.

All rip rap 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. After grading, a layer of filter fabric (Terrafix 270 R or approved equal) is to be placed with any joints overlapped a minimum of 600mm. Rip rap shall then be placed with the smaller pieces placed in the gaps and voids to give it a uniform appearance. At the discretion of the Engineer or Drainage Superintendent, concrete blocks shall be installed in addition to the rip rap at the outlet to reduce the velocity of the water into the receiving ravine.

**26. Seeding/Restoration**

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 then 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.

The gravel entrance at #5706 Lakeshore Road shall be restored with existing materials and additional Granular "A" at the tendered unit price. Granular "A" beyond that specified in this report shall be assessed to the property.

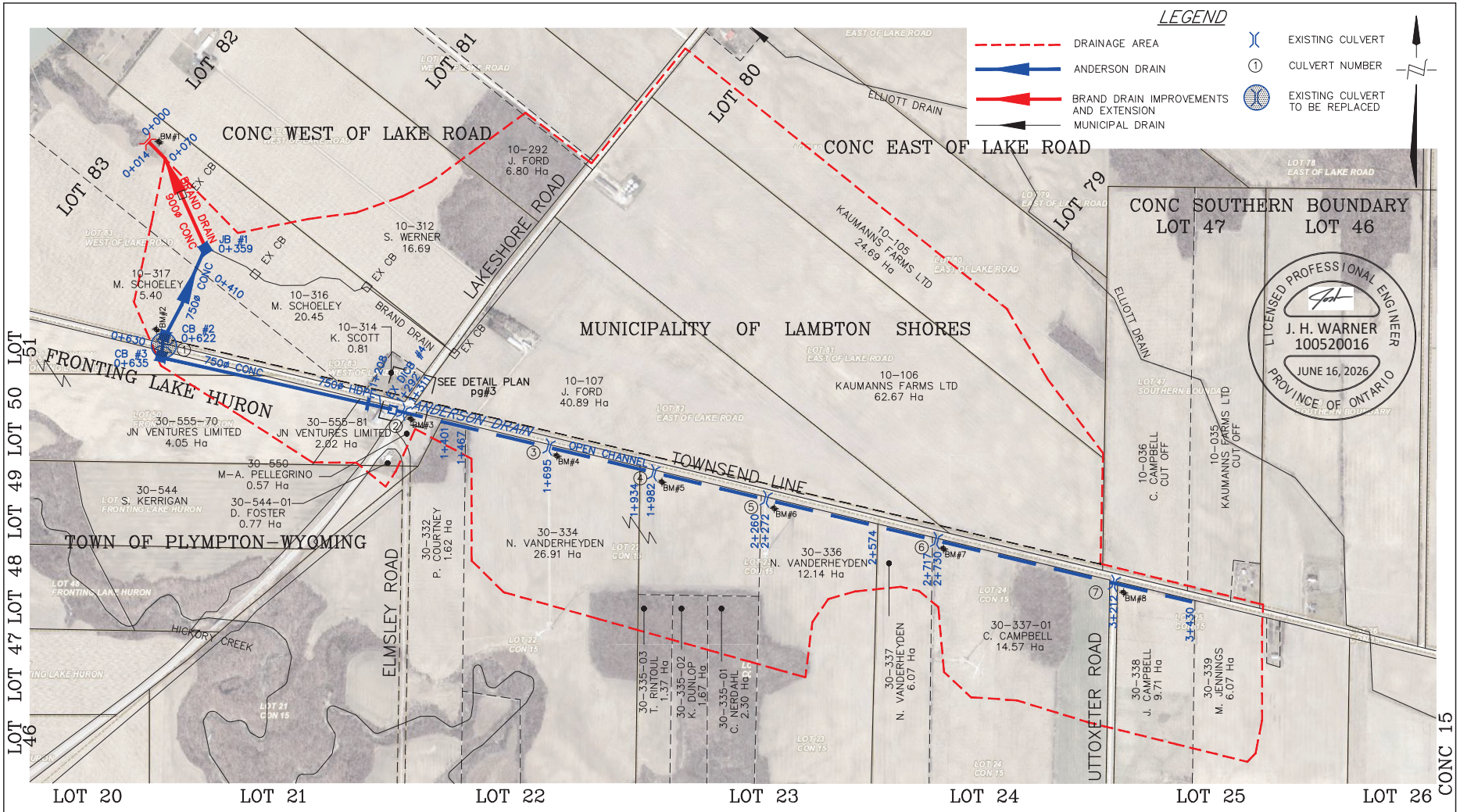
**27. Environmental Considerations**

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.




Dobbin Engineering Inc.

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 | J. WARNER |
| CHECKED | B. VAN RUITENBURG |
| DRAWN | C. SAUNDERS |

| NO. | REVISIONS | DATE | BY |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| 1 | FINAL REPORT | JUNE 16, 2026 | CS |

SCALE 1:10,000
0 80 160 240m

# TOWN of PLYMPTON - WYOMING

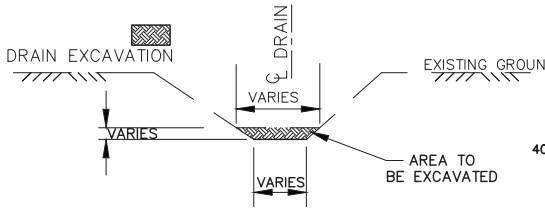
## ANDERSON DRAIN PLAN

1 OF 7

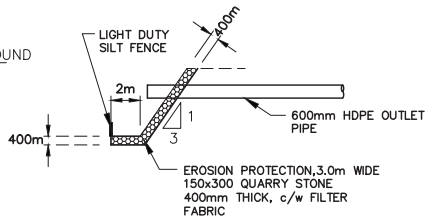
Last Updated: June 16, 2026

## GENERAL NOTES

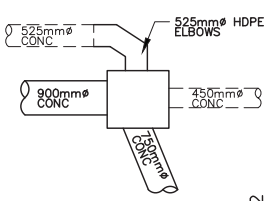
1. BENCHMARK No. 1 ELEV. 194.12
   TOP OF EAST END OF EXISTING 1800ø CSP AT STATION 0+007
   BENCHMARK No. 2 ELEV. 198.00
   TOP OF NORTH END OF EXISTING 600ø CSP CROSSING TOWNSEND LINE AT ST. 0+630
2. UPPER NUMBERS ARE DEPTH FROM GROUND TO INVERT OF PROPOSED TILE
3. LOWER NUMBERS ARE DEPTH OF PROPOSED DRAIN EXCAVATION



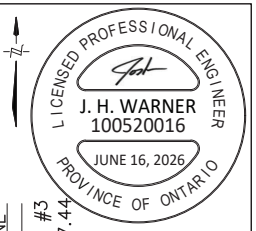

TYPICAL DRAIN CROSS SECTION
STATION 0+014 TO 0+070
NTS

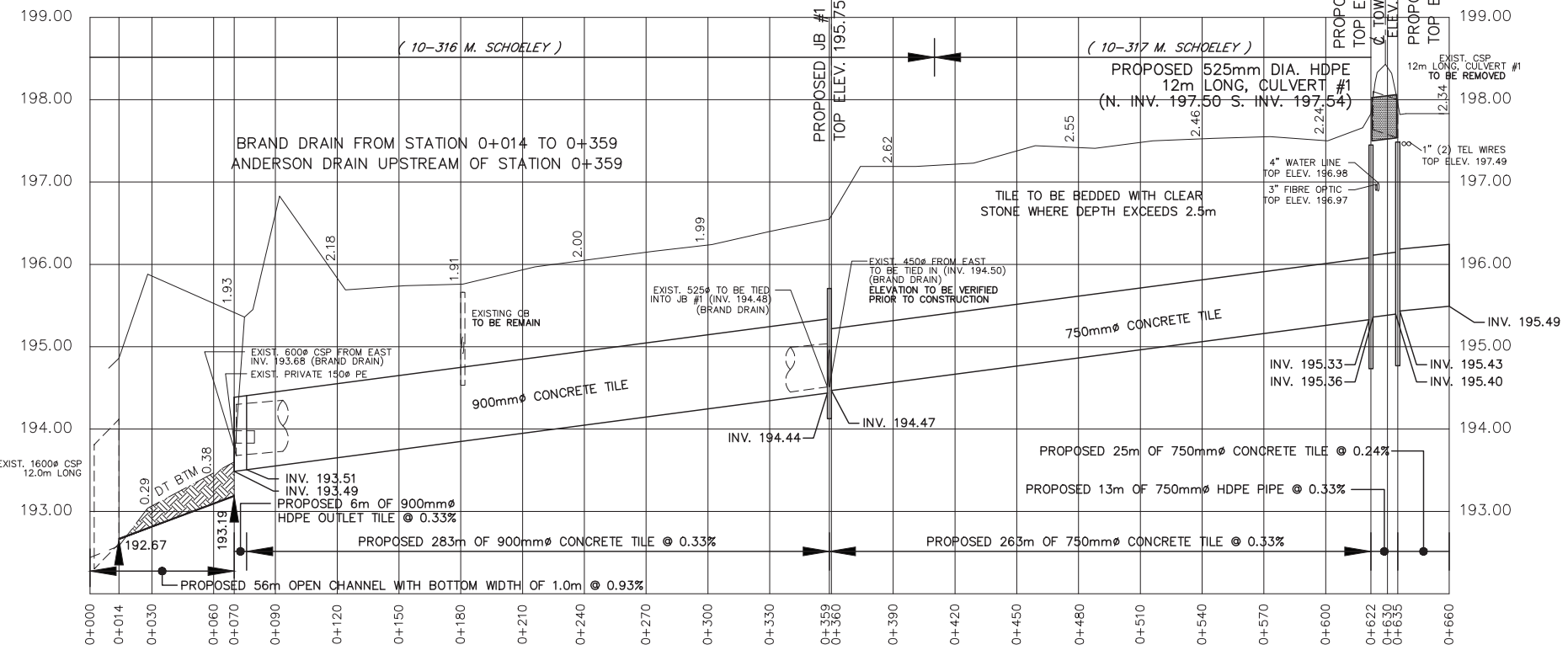



OUTLET DETAIL
NTS




JUNCTION BOX#1 DETAIL
NTS





Dobbin Engineering Inc.
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Petrolia Ontario, N0N 1R0
Phone: (519) 882-0032 Fax: (519) 882-2233


DRAWING NAME: Anderson and Brand Drain Profile 1
PROJECT No. 2024-1634

| APPROVED | NO. | REVISIONS | DATE | BY |
|---|---|---|---|---|
| J. WARNER | | | | |
| 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 AND BRAND DRAIN PROFILE

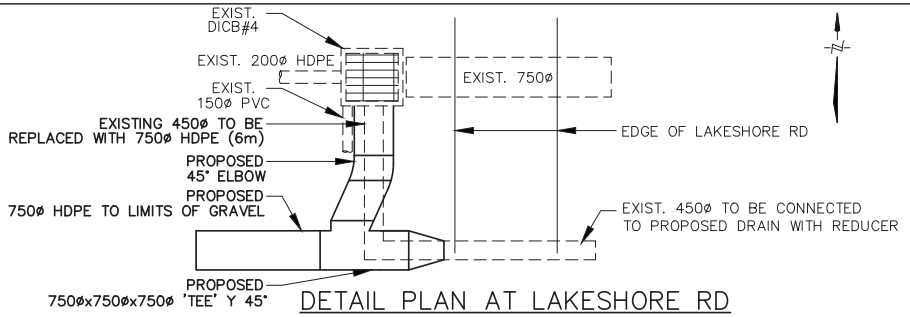


Last Updated: June 16, 2026

## GENERAL NOTES

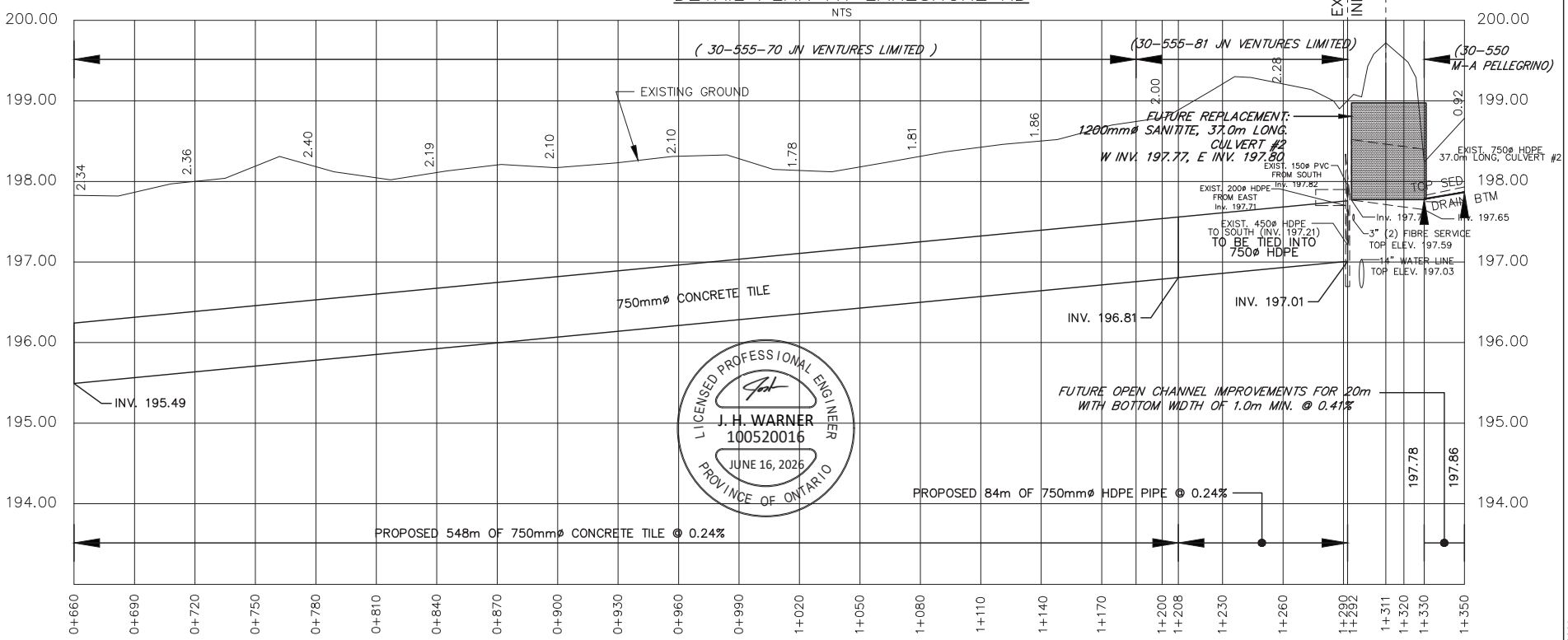
1. BENCHMARK No. 3 ELEV. 197.77
   WEST INVERT OF EXISTING
   750ø HDPE CROSSING LAKESHORE RD
   AT ST. 1+311

2. UPPER NUMBERS ARE DEPTH FROM:
   GROUND TO INVERT OF PROPOSED TILE
   FROM STATION 0+660 TO 1+291 OR
   GROUND TO PROPOSED DRAIN BOTTOM
   FROM STATION 1+330 TO 1+350




DETAIL PLAN AT LAKESHORE RD

NTS




LICENSED PROFESSIONAL ENGINEER
J. H. WARNER
100520016
JUNE 16, 2026
PROVINCE OF ONTARIO

Dobbin Engineering Inc.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Phone: (519) 882-0032 Fax: (519) 882-2233


DRAWING NAME: Anderson Drain Profile 2

PROJECT No. 2024-1634

| APPROVED | NO. | REVISIONS | DATE | BY |
|---|---|---|---|---|
| J. WARNER | | | | |
| 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

3
OF 7

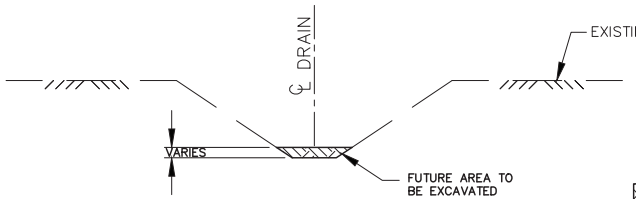
Last Updated: June 16, 2026

## GENERAL NOTES

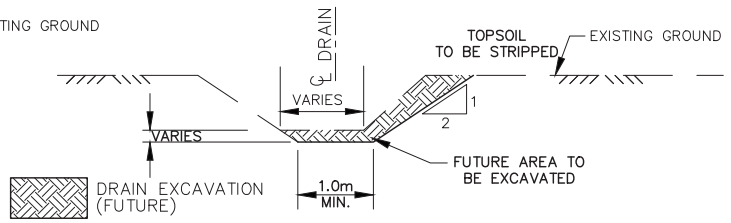
1. BENCHMARK No. 4 ELEV. 200.15
   TOP OF EAST END OF EXISTING
   1000ø CSP CROSSING ACCESS
   AT ST. 1+695

   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

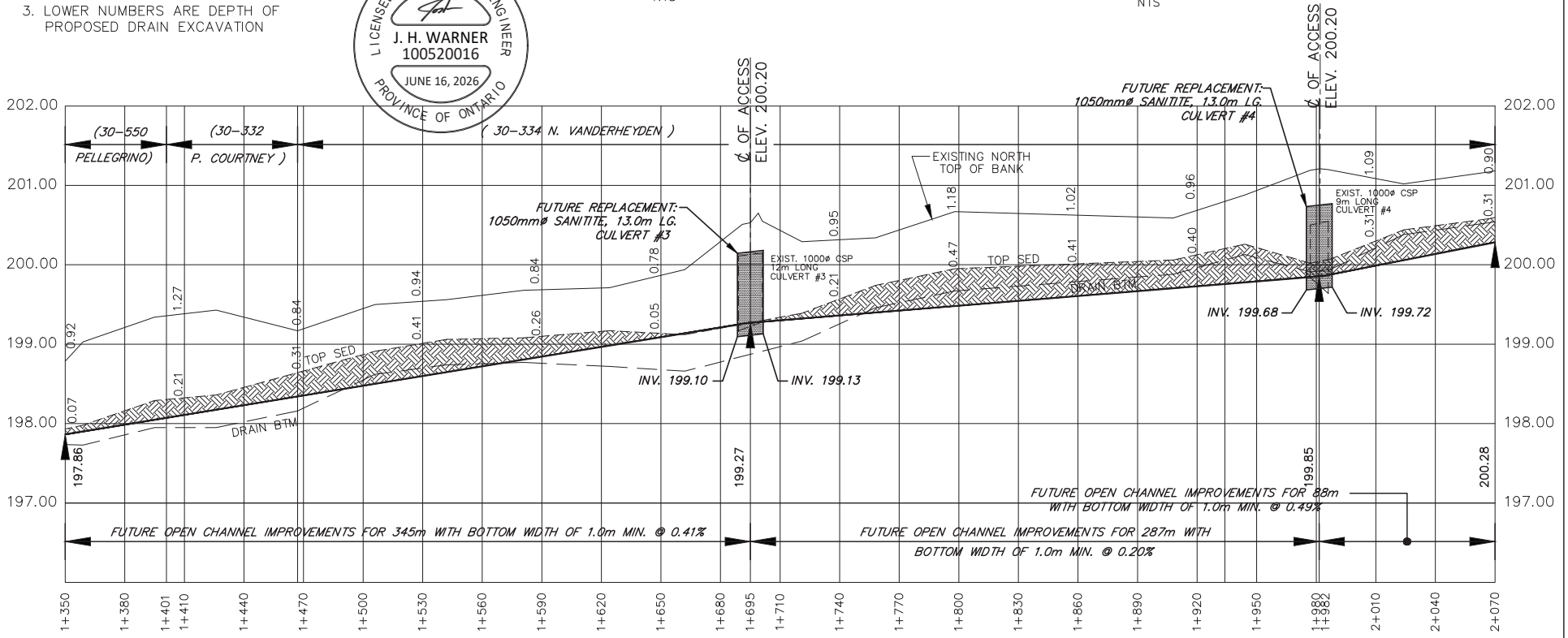



TYPICAL DRAIN CROSS SECTION
STATION 1+330 TO 1+401
NTS




TYPICAL DRAIN CROSS SECTION
STATION 1+401 TO 3+430
NTS



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DRAWING NAME: Anderson Drain Profile 3
PROJECT No. 2024–1634

| APPROVED | NO. | REVISIONS | DATE | BY |
|---|---|---|---|---|
| J. WARNER | | | | |
| 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

4
OF 7

Last Updated: June 16, 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

LICENSED PROFESSIONAL ENGINEER
J. H. WARNER
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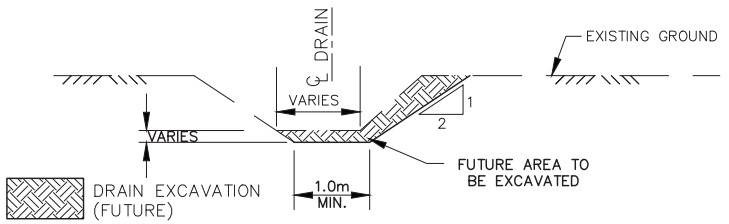
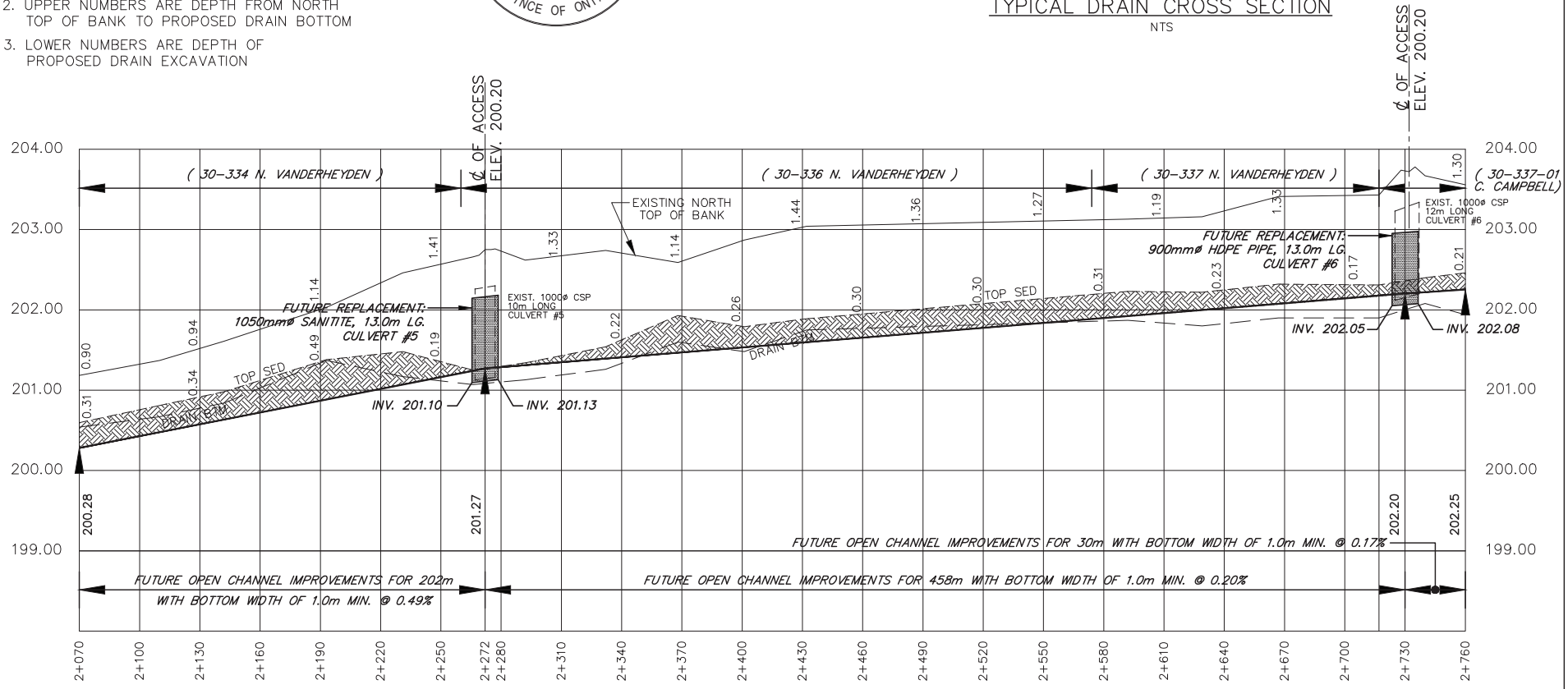
JUNE 16, 2026
PROVINCE OF ONTARIO




TYPICAL DRAIN CROSS SECTION
NTS





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DRAWING NAME: Anderson Drain Profile 4
PROJECT No. 2024-1634

| APPROVED | NO. | REVISIONS | DATE | BY |
|---|---|---|---|---|
| J. WARNER | | | | |
| 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

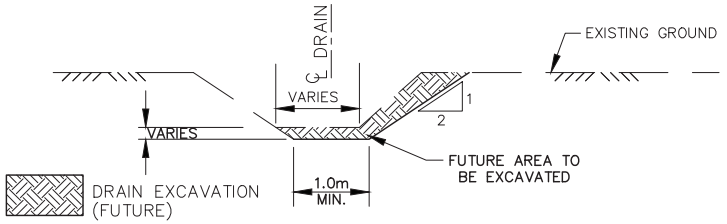


Last Updated: June 16, 2026

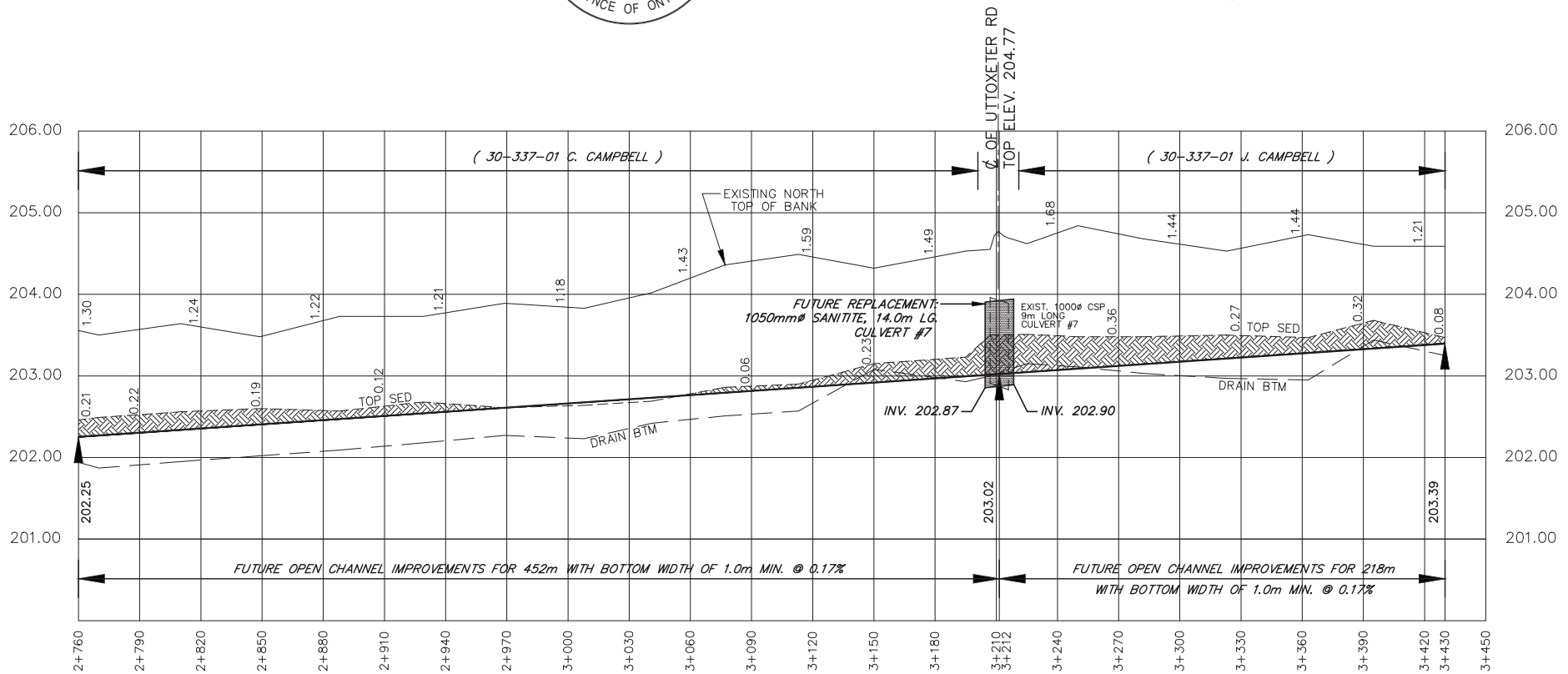
## GENERAL NOTES

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

LICENSED PROFESSIONAL ENGINEER
J. H. WARNER
100520016
JUNE 16, 2026
PROVINCE OF ONTARIO




TYPICAL DRAIN CROSS SECTION
NTS





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DRAWING NAME: Anderson Drain Profile 5
PROJECT No. 2024-1634

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

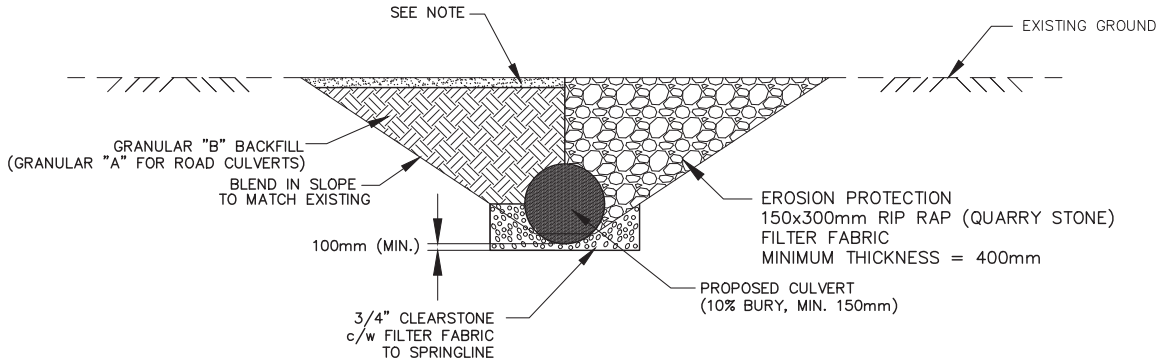
SCALE: 1:2,000
0 20 40 60m

# TOWN of PLYMPTON-WYOMING

## ANDERSON DRAIN
## PROFILE

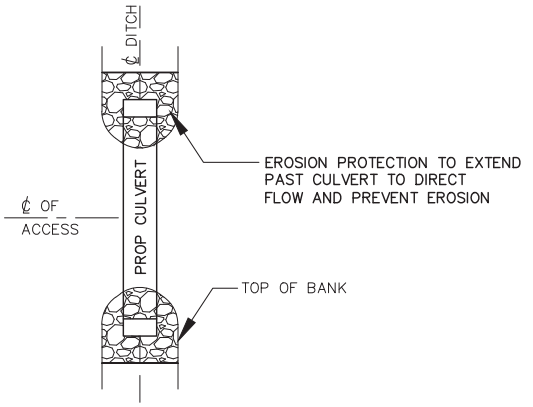
6
OF 7

Last Updated: June 16, 2026



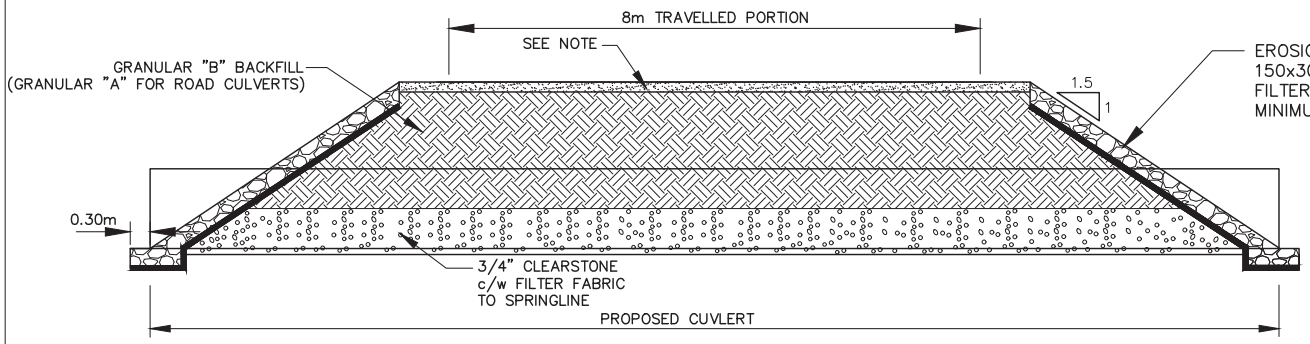

## TYPICAL CUVLERT END SECTION

NTS




## TYPICAL CUVLERT PLAN

NTS




## TYPICAL CROSS-SECTION

NTS

NOTE:
ALL GRANULARS COMPACTED
TO 98% MODIFIED PROCTOR DENSITY

LICENSED PROFESSIONAL ENGINEER
J. H. WARNER
100520016
JUNE 16, 2026
PROVINCE OF ONTARIO

**NOTE:**

FOR ACCESS CULVERTS:
–150mm 100% CRUSHED GRANULAR 'A'

FOR ROAD CROSSING CULVERTS:
– GRAVEL ROADS: GRANULAR "A"
– ASPHALT ROADS: HL4 AND HL3 TO MATCH EXISTING (MINIMUM 50mm)

Dobbin Engineering Inc.
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DRAWING NAME:
Anderson Drain Culvert Details

PROJECT No.
2024-1634

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

# TOWN of PLYMPTON - WYOMING

## ANDERSON DRAIN

## TYPICAL CULVERT DETAILS



Last Updated: June 16, 2026