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August 12, 2025

The Mayor and Council
Municipality of North Middlesex
229 Parkhill Main Street
Parkhill, ON
N0M 2K0

Gentlemen and Mesdames:

Re: Jansen-McLean Drain Branch “C”

In accordance with your instructions, R. Dobbin Engineering has undertaken an examination with regards to improvements on the Jansen-McLean Drain Branch “C” in the Municipality of North Middlesex.

Authorization under the Drainage Act

This Engineers Report that has been prepared under Section 78 of the Drainage Act as per a request from an affected Landowner.

Under Section 78 of the Drainage Act, Council may undertake and complete the maintenance or repair of any drainage works constructed under a bylaw passed under this Act or its predecessor. Section 78 is to be used where 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 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 Conditions

The Jansen-McLean Drain Branch “C” consists of a tile drain beginning on the north side of Elginfield Road crossing the property with Roll Number 000-040-011-01 and outlets into the existing Jansen-McLean Main Drain on property with Roll Number 000-040-011.

The last Engineer's Report on the Jansen-McLean Main Drain and Branches is dated May 12, 1953. Under this report the Main Drain, Branch "A", Branch "B" and Branch "C" were constructed.

The Jansen-McLean Drain Branch "C" has been re-routed on the property with Roll Number 000-040-011-01 in order to facilitate development of the property.

On-Site Meeting

A site meeting was held on December 4th, 2024.

The following were present at the meeting:

- Josh Warner (R. Dobbin Engineering)
- Joanne Sadler (Municipality of North Middlesex)
- Kristyn Wilson (Municipality of North Middlesex)

No Landowners were in attendance at the meeting. Les Drury (owner of the property with Roll Number 000-040-011) was called to outline that the drain has already been re-routed south of this property and that Branch "C" from the re-route to the Main Drain will be proposed to be replaced under the report.

Draft Report

A draft report dated July 16, 2025 was circulated to all the Landowners and a meeting was held on August 7, 2025.

The following were present at the meeting:

- Josh Warner (R. Dobbin Engineering)
- Joanne Sadler (Drainage Superintendent, Municipality of North Middlesex)
- Kristyn Wilson (Drainage Clerk, Municipality of North Middlesex)
- Yaser AlQayem (Landowner)

The following is a brief summary of the meeting:

- There was discussion around assessments, the timeline for construction and access.
- No major concerns with the report were brought forward.

Les Drury (owner of the property with Roll Number 000-040-011) was called following the meeting and no concerns were brought forward.

Design

The proposed drain and re-route has been designed to accommodate a drainage coefficient of 38mm / 24 hours. Tile design criteria includes a minimum tile depth of 760mm.

Recommendations

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

1. The re-route of the Jansen-McLean Drain Branch "C" on the property with Roll Number 000-040-011-01 shall be incorporated.
2. The Jansen-McLean Drain Branch "C" shall be replaced from the Jansen-McLean Main Drain to the Existing Manhole at Station 0+040.
3. The previous Jansen-McLean Drain Branch "C" shall be abandoned in its entirety.

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 \$48,320, including engineering of the report, attending the Meeting to Consider the Report, attending the Court of Revision, and an estimate for tendering, contract administration and inspection. 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 their 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.

The cost of any approvals, permits or any extra work, beyond that specified in this Report that is required by any utility, government ministry or organization (federal or provincial), or road authority shall be assessed to that organization requiring the permit, approval, or extra work.

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

1. The theoretical cost to replace the 1953 Jansen-McLean Drain Branch "C" has been assessed with 50% applied as a benefit assessment and the remainder applied as an outlet assessment to upstream lands and roads based on equivalent hectares.
2. The remaining cost of the drainage works has been assessed to the property with Roll Number 000-040-011-01 as a special benefit assessment.

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.

Allowances

Under Section 29 of the Drainage Act, the Engineer in his report shall estimate and allow in money to the Owner of any land that it is necessary to use for the construction or improvement of a drainage works or for the disposal of material removed from drainage works. This shall be considered an allowance for right-of-way.

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.

Under Section 31 of the Drainage Act, the Engineer shall determine the amount to be paid for an existing drain that was not constructed on requisition or petition under this Act or any predecessor of this Act. The drain may be incorporated in whole or in part in a drainage works, the engineer in the report shall estimate and allow in money to the owner of such

drain or part the value to the drainage works of such drain or part and shall include such sum in the estimates of the cost of the construction, improvement, repair or maintenance of the drainage works.

Allowances for right of way 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). Allowances under Section 31 of the Drainage Act have been paid for the existing pipe that was installed as part of the re-route.

Access and Working Area

Access to the work site for construction and future maintenance shall be from Elginfield Road and along the length of the drainage works or through the property with Roll Number 000-040-011 at the discretion of the Engineer or Drainage Superintendent. Access shall be restricted to a width of 6m.

The working area for the construction and future maintenance of the 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 buildings and sheds exist, this working area shall be reduced to account for them.

Restrictions

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.

Maintenance

Upon completion of the work, the Jansen-McLean Drain Branch "C" shall be repaired and maintained as per the specifications and drawings contained in this Engineer's Report. Maintenance and repair of the drain shall be assessed in the same proportions as contained in the Schedule of Assessment, less any special benefit assessments, as contained in this Engineer's Report unless otherwise altered under provisions of the Drainage Act. Any increased costs to maintain the drain through the property with Roll Number 000-040-011-01, such as granular backfill and asphalt, shall be assessed to the property.

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.

Yours truly,

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

Jansen-McLean Drain Branch "C"
Municipality of North Middlesex
August 12, 2025

ALLOWANCES

Allowances have been made as per Sections 29, 30 & 31 of the Drainage Act.

Conc.	Lot or part	Roll No.	Owner	Section 29 (\$)	Section 30 (\$)	Section 31 (\$)	Total (\$)
5 ECR	Pt. Lot 17	000-040-011-01	Parkhill Meats Limited	500	100	21,000	21,600
	Lot 17	000-040-011	J. & J. Drury	-	1,000	-	1,000
TOTAL ALLOWANCES				\$500	\$1,100	\$21,000	\$22,600

Estimate of Cost

<u>Item Description (Supply and Install New)</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost (\$)</u>	<u>Total (\$)</u>
Pre-Construction Meeting	1	LS	200	200
Locate and Abandon Existing Drain (Station 0+000 to 0+040) and Verify Elevations at Station 0+000 and 0+040	1	LS	500	500
Remove Existing 6m of 250mmø PVC (Station 0+034 to 0+040)	1	LS	200	200
Strip and Place Topsoil	40	m	4	160
Connect to Existing 350mmø Tile at Station 0+000	1	LS	200	200
Supply and Install 250mmø HDPE Pipe	40	m	150	6,000
Locate and Connect Existing Tiles	4	each	120	480
Restoration	1	LS	500	500
Contingency				<u>830</u>
Sub Total				9,070
Allowances				22,600
Engineering and Inspection for Work Completed As Part of Drain Re-Routing				8,800
Engineering				4,460
Estimate for Tendering, and Additional Inspection and Contract Administration				2,500
ABCA Fee				<u>450</u>
Total Estimate excluding HST				47,880
Non-Recoverable HST (1.76%)				<u>440</u>
Total Estimate				\$ 48,320

SCHEDULE OF ASSESSMENT

Conc.	Lot or Part	Affected Hectares	Roll No.	Owner	Special Benefit (\$)	Benefit (\$)	Outlet (\$)	Total (\$)
Public Lands								
	Elginfield Road	0.24		County of Middlesex		-	5,629	5,629
						-	5,629	5,629
Non Agricultural Lands								
5 ECR	Pt. Lot 17	1.63	000-040-011-01	Parkhill Meats Limited	13,460	11,620	11,801	36,881
					13,460	11,620	11,801	36,881
Agricultural Lands								
5 ECR	Lot 17	1.00	000-040-011	J. & J. Drury		5,810	-	5,810
						5,810	-	5,810
				Total Public Lands	5,629			
				Total Non Agricultural Lands	36,881			
				Total Agricultural Lands	5,810			
				Total Assessment	\$48,320			

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 (\$)
Public Lands								
	Elginfield Road	0.24		County of Middlesex	5,629			5,629
Non Agricultural Lands								
5 ECR	Pt. Lot 17	1.63	000-040-011-01	Parkhill Meats Limited	36,881		21,600	15,281
Agricultural Lands								
5 ECR	Lot 17	1.00	000-040-011	J. & J. Drury	5,810	1,937	1,000	2,873
					48,320	1,937	22,600	23,783

Jansen-McLean Drain Branch “C”
Municipality of North Middlesex
August 12, 2025

SPECIFICATION OF WORK

1. Location

The proposed improvements to the Jansen-McLean Drain Branch “C” are located in Lot 17, Concession 5 East of Centre Road in The Municipality of North Middlesex.

2. Scope of Work

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

- Supply and installation of HDPE Pipe from Station 0+000 to 0+040. The drain from Station 0+040 to 0+168 has already been completed.
- Future supply and installation of manhole and catch basin structures.

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 Drainage Superintendent and Engineer who may vary these specifications as to minor details but in no way decrease the proposed capacity of the drain.

All excess material shall be disposed offsite at the expense of the Contractor.

4. Plans and Specifications

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

5. 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.

When applicable the Contractor shall be responsible for traffic control as per the Ontario Traffic Manual Book 7 – Temporary Conditions (latest revision).

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 non-compliance 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.

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

6. Utilities

The Contractor is responsible for organizing locates and exposing all the utilities along the length of the drainage works. The utilities shall be located prior to the installation of any tile. 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 Drainage Superintendent and Engineer.

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 (20% 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 shall be scheduled by the Contractor. The Landowners, Engineer, and the Municipality of North-Middlesex shall be notified of the pre-construction meeting at least 48 hours prior.

8. Benchmarks

The benchmarks are based on geodetic elevations. Elevations are available at the locations shown on the Plan and Profile drawing. 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 with the owners at least two full working days in advance. Roads must be kept open to local traffic and all obstructions and diversions of traffic must be approved by the Engineer or Drainage Superintendent and Roads Superintendent at least two (2) full working days in advance.

- 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 Road Superintendent or Engineer. 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 Engineer or Drainage Superintendent. 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 work site for construction and future maintenance shall be from Elginfield Road and along the length of the drainage works or through the property with Roll Number 000-040-011 at the discretion of the Engineer or Drainage Superintendent. Access shall be restricted to a width of 6m.

The working area for the construction and future maintenance of the 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 buildings and sheds exist, this working area shall be reduced to account for them.

11. Removals

The existing 6m of 250mm dia. PVC tile shall be removed in its entirety and shall be disposed offsite at the expense of the Contractor.

12. Locate and Abandon Existing Drain and Verify Elevations

The existing tile drain shall be exposed at the discretion of the Drainage Superintendent or Engineer and Contractor in order to adequately determine the proposed alignment. The existing municipal drain shall be abandoned and crushed. The Contractor shall verify the inverts at Stations 0+000 and 0+040 as part of this item and report these elevations back to the Engineer. The grade between these stations shall be adjusted to match the elevations and distances in the field.

13. Brushing and Tree Removal (Future, if Required)

All brush, trees, woody vegetation, stumps etc. shall be removed for a width of 10 metres along the tile drain. They shall be removed in their entirety including stumps.

A mechanical grinder attached to an excavator 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 Drainage Superintendent.

14. Strip and Place Topsoil

The Contractor shall strip the topsoil for a width of 6m normally centered on the proposed drain between Stations 0+000 and 0+040. The topsoil 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 over the drain to their pre-construction condition.

15. Installation of Tile

The storm main shall be HDPE Boss 2000 (320kPa) with bell and spigot joints.

The pipe shall be bedded with clear stone from 150mm below the invert to 300mm above the top of the pipe within the property with Roll Number 000-040-011-01. Granular backfill and asphalt shall match the existing at the discretion of the Drainage

Superintendent. Through the property with Roll Number 000-040-011 the pipe shall be bedded with clear stone to the spring line of the pipe. Above this native material may be used.

It is intended that the tile be installed east of the existing tile.

All areas disturbed by construction, except the material windrowed over the trench, shall be left in a condition suitable for cultivation.

16. Catch Basins / Manholes (Future)

Structure	Station	Type (mm)	Grate Elev. (m)	Outlet Pipe Elev. (m)	Inlet Pipe Elev. (m)
MH #1	0+040	1200 Dia.	235.69	234.34 (N) 250	234.35 (SE) 250
MH #2	0+076	1200 Dia.	236.67	234.64 (NW) 250	234.68 (S) 250
MH #3	0+149	1200 Dia.	236.69	235.08 (N) 250	235.10 (SW) 250
CB #4	0+168	600x600	236.09	235.27 (NE) 250	-

The unit price shall include supply and installation of precast concrete catch basins per OPSD-705.010 and manholes as per OPSD-701.010 complete with precast adjustment units, and frame and grates per OPSD-400.02.

The catch basins shall be set at the final elevations as directed by the Drainage Superintendent. 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.

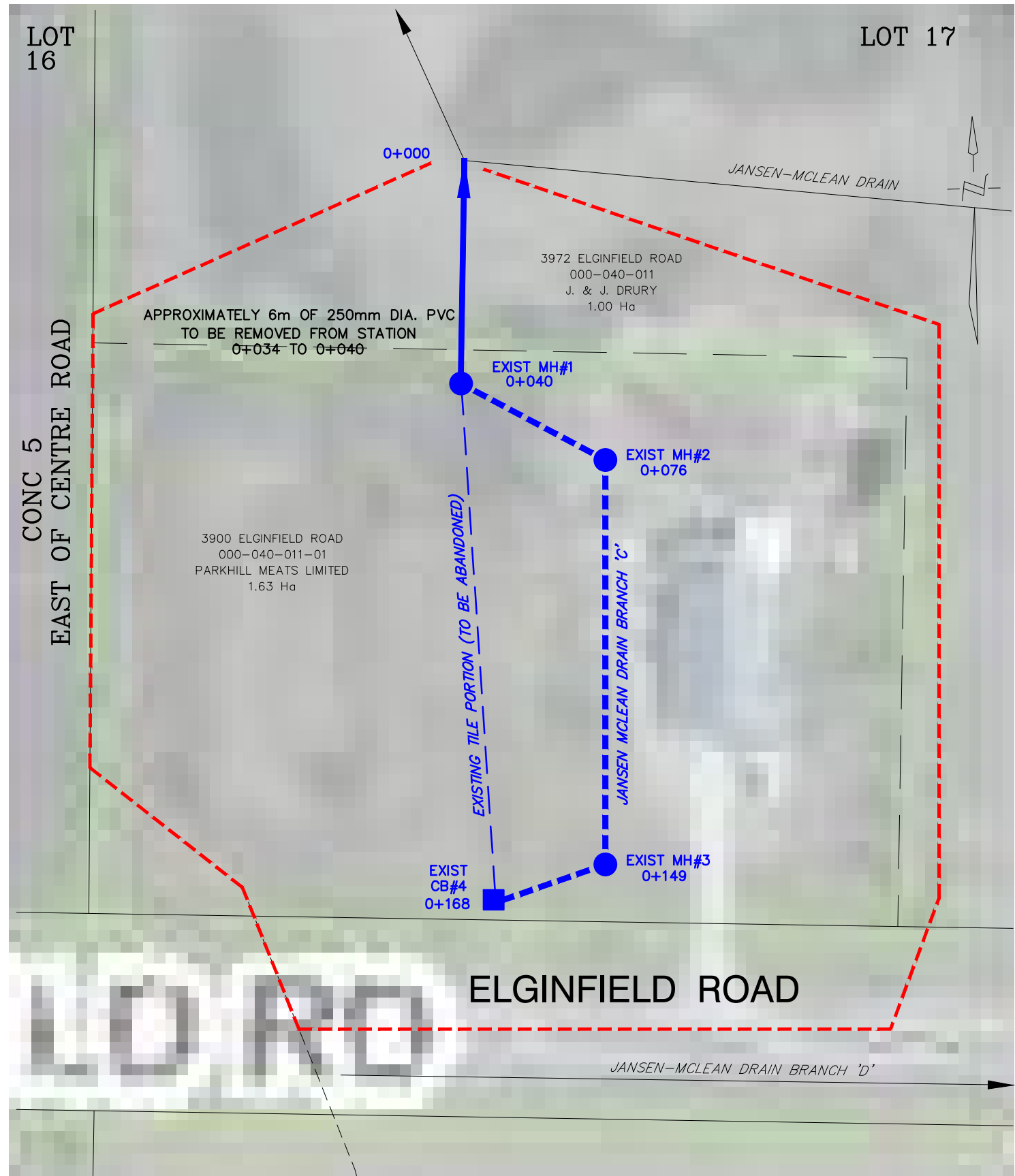
17. Seeding/Restoration

All areas disturbed by construction shall be returned to their pre-construction state. The road right of way and all other previous grassed areas where disturbed by construction, shall be topped with 100mm of screened topsoil and grass seed following construction.

18. Environmental Considerations

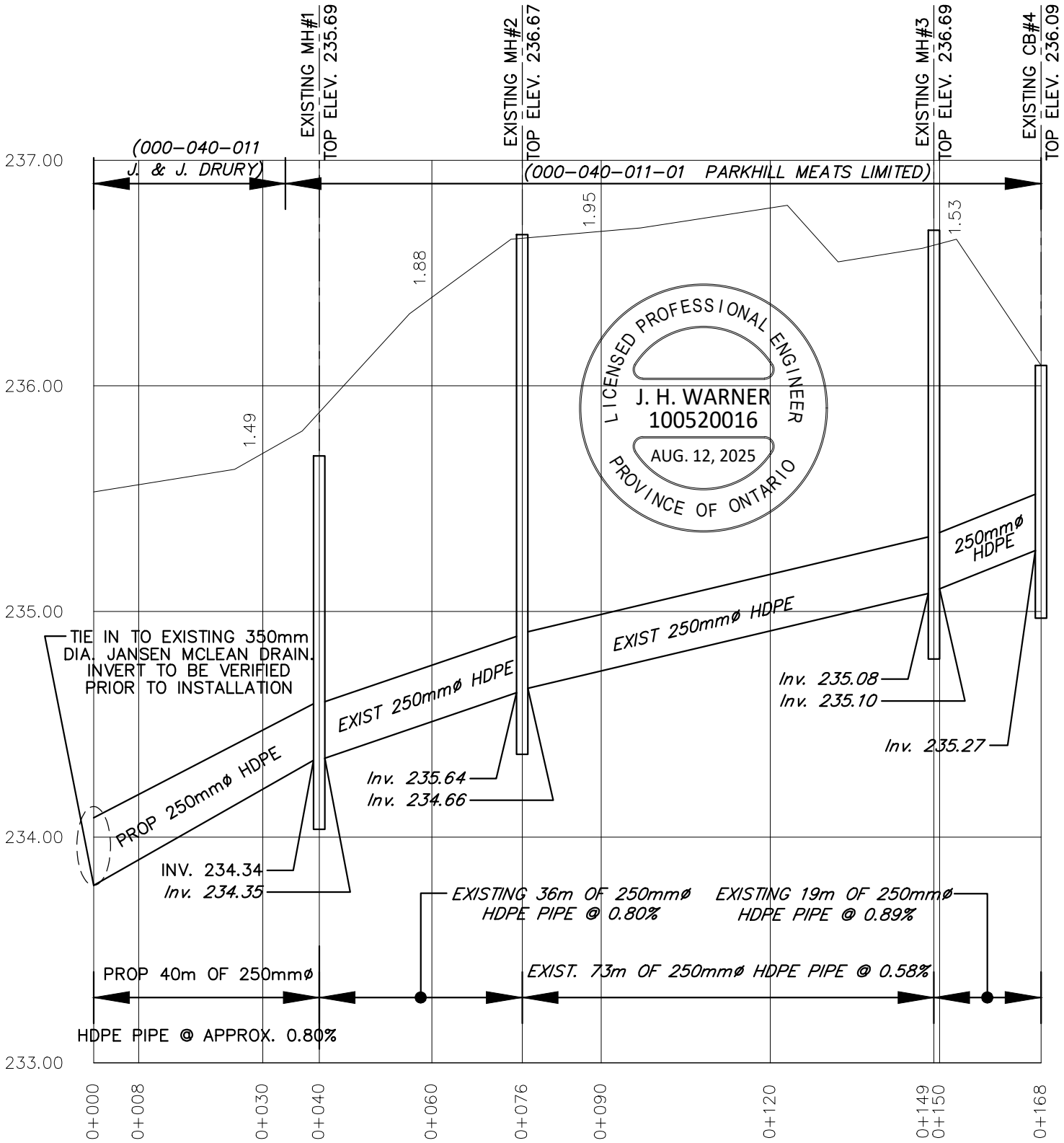
The Contractor shall take care to adhere to the following considerations.

- 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 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.



GENERAL NOTES

1. BENCHMARK No.1 ELEV. 235.69
TOP OF MANHOLE #1
2. NUMBERS ARE DEPTH FROM EXISTING
GROUND TO INVERT OF TILE.



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Petrolia Ontario, N0N 1R0
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APPROVED
J. WARNER

CHECKED
B. VAN RUITENBURG

DRAWN
C. SAUNDERS

NO.	REVISIONS	DATE	BY
1	FINAL REPORT	AUG. 12, 2025	CS

SCALE 1: 1000

0 10 20 30m

MUNICIPALITY of NORTH MIDDLESEX
JANSEN - McLEAN DRAIN BRANCH 'C'
PLAN & PROFILE

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OF 1

Last Updated: June 25, 2025