

August 7, 2024

The Mayor and Council  
The Town of Tecumseh  
917 Lesperance Road  
Tecumseh, Ontario  
N8N 1W9

Gentlemen and Mesdames:

**Re: North 12<sup>th</sup> Concession Drain (DRAFT)**

In accordance with your instructions, R. Dobbin Engineering has undertaken an examination with regards to improving the North 12<sup>th</sup> Concession Drain in the Town of Tecumseh.

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 9, 2023.

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 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 North 12<sup>th</sup> Concession Drain outlets into the West Townline Drain in Lot 14, Concession 12 on the east side of Concession Road 12 (unopened portion). It continues

across Concession Road 12 and heads southerly along the west side of Concession Road 12 to the north side of North Talbot Road (County Road 46).

Under an Engineer's Report dated July 29<sup>th</sup>, 1958 the drain was moved off the road, and new culverts were installed.

Under an Engineer's Report dated November 27<sup>th</sup>, 1980 a culvert was removed, a culvert was moved and lengthened and the drain was cleaned.

Under an Engineer's Report dated January 27, 1998 two culverts were replaced and the drain was cleaned.

### Drain Classification

The North 12<sup>th</sup> Concession Drain is currently classified as a "Class F" drain. The West Townline Drain is currently classified as a Class C drain. This is according to the Department of Fisheries and Oceans (DFO) classification as presented by the Ontario Ministry of Agriculture, Food and Rural Affairs Agricultural Information Atlas.

Class "F" drains are intermittent or ephemeral (dry for more than two consecutive months).

The drain will require approval from the Essex Region Conservation Authority (ERCA) and the Department of Fisheries and Oceans. Construction cannot commence without necessary approvals.

A draft copy of the report was sent to the Essex Region Conservation Authority on January 8, 2024. On January 16, 2024 their office responded that they were generally supportive of the proposed design. The Town of Tecumseh will be responsible for providing the ERCA with a final report in order to obtain their approval.

### Site Meeting

A site meeting for this drain was held on May 24<sup>th</sup>, 2023. The following were present:

- Josh Warner (R. Dobbin Engineering)
- Alessia Mussio (Drainage Superintendent, Town of Tecumseh)
- Mark Fishleigh (Field Service Engineer, County of Essex)
- Samantha Merret (Landowner at #4955 12th Concession Road)

The following is a brief summary of the meeting:

- General discussion of the Drainage Act and Landowners rights under the Drainage Act.
- Landowners were made aware that there has been a request for improvements on the 12<sup>th</sup> Concession Drain for a culvert replacement.
- Landowners mentioned that they would like to proceed with the culvert replacement on their property as soon as possible.
- Josh Warner stated that the Town’s policy is to incorporate buffer strips into Engineer’s Report.
- Remaining culverts on the drain to be investigated for replacement. Future specifications to be developed for culverts not being replaced.
- Town requested an updated profile for the drain.

Discussion

Following the site meeting, the culvert at #4955 12<sup>th</sup> Concession Road was determined to need immediate replacement. Therefore, an Emergency Designation under Section 124 was received in order to have this completed prior to the finalization of the Engineer’s Report. The application and approval from the Minister are included in Appendix A of this report.

Existing Conditions

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

<b>Culvert Number / Station</b>	<b>Location</b>	<b>Existing Culvert Size</b>	<b>Last Report Replacement Date</b>	<b>Condition</b>	<b>Recommendation</b>
1 (0+008)	Unopened portion of 12th Concession Road north of 401	1200mm dia. CSP	1998	Poor – Bottom Rotted	Replace
2 (0+154)	374451000002200	1200mm dia. CSP	1958	Poor – Rusted, Holes	Replace
3 (0+471)	374451000002200	1200mm dia. CSP	1980- Reinstalled and Lengthened	Poor – Rusted and holes in original length	Replace
4 (0+804)	MTO	Concrete Box Culvert	Unknown	Okay	Leave

5 (0+894)	374451000000100	1050mm dia. CSP	1958. Has been replaced since.	Poor-Rust throughout. Small holes found.	Replace
6 (0+922)	374451000000150	1050mm dia. CSP	1958	Poor – Rust below spring line. Some holes found.	Replace
7 (1+026)	374451000000200	1050mm dia. Sanitite	2022	Good	Leave
8 (1+303)	374451000000201	1050mm dia. CSP	1958	Poor – Rusted, Holes	Replace
9 (1+529)	374451000000300	900mm dia. CSP	Unknown	Poor – Rust, but no holes found. Poor joint with soiling coming in.	Replace
10 (1+717)	374451000000300	1000mm dia. CSP	1958	Poor – Rusted, Holes	Replace
11 (2+228)	374450000001250	900mm dia. CSP	1998	Ok - Rust below spring line but no holes found (could not see bottom)	Leave
12 (2+573)	374451000000400	900mm dia. CSP	1958	Ok - Rust below spring line but no holes found (could not see bottom)	Leave
13 (2+826)	374451000000500	900mm dia. CSP	1958	Poor – Rusted, Holes, Bottom Rotted, Dented in Center	Replace

Generally, the drain had water laying in the channel and culverts. This made it difficult to inspect the bottom of many of the culverts. All culverts shall be inspected by the Drainage Superintendent after any cleanout to determine if they should be replaced.

An effort was made to contact all Landowners on the drain prior to sending out the draft reports for the Public Information Centre (PIC). This included sending out calling cards to the residences that we were unable to contact. Landowners that we were unable to contact or did not respond to the calling cards were never communicated with directly. The following is a brief summary of the Landowner comments regarding their culverts (NAC=Not Able to Contact):

<b>Culvert Number / Station</b>	<b>Location</b>	<b>Travel Surface</b>	<b>Proposed Top Width</b>	<b>Location on Property</b>
1 (0+008)	Unopened portion of 12th Concession Road north of 401	Gravel	7m	Keep Existing
2 (0+154)	374451000002200	Grass	NAC. 6m	NAC. Maintain Existing
*3 (0+471)	374451000002200	Gravel	NAC. 6m	NAC. Maintain Existing
4 (0+804)	MTO	Asphalt	Maintain Existing	Keep Existing
5 (0+894)	374451000000100	Gravel	NAC. 6m	NAC. Maintain Existing
6 (0+922)	374451000000150	Gravel	NAC. 6m	NAC. Maintain Existing
7 (1+026)	374451000000200	Gravel	6m	Held North Limit of Culvert for Emergency Replacement
8 (1+303)	374451000000201	Gravel	NAC. 6m	NAC. Maintain Existing
*9 (1+529)	374451000000300	Gravel	NAC. 6m	NAC. Maintain Existing
10 (1+717)	374451000000300	Asphalt	NAC. 6m	NAC. Maintain Existing
11 (2+228)	374450000001250	Asphalt	Maintain Existing. 9m	Maintain Existing
12 (2+573)	374451000000400	Gravel	Maintain Existing. 9m	NAC. Maintain Existing
13 (2+826)	374451000000500	Grass	NAC. 6m	NAC. Maintain Existing

\*Denotes culverts deemed to be secondary access culverts.

Accesses will be restored with 150mm of Granular “A” as part of the project costs, any costs for other surfaces will be assessed back to the Landowner as a special benefit assessment.

Design

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

### Recommendations

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

1. Culverts No. 1, 2, 3, 5, 6, 8, 9, 10 and 13 shall be replaced. The emergency replacement of Culvert No. 7 shall be incorporated under this report. Future specifications shall be developed for the replacement of Culverts No. 4, 11 and 12.
2. A 1.5m buffer strip shall be established along the west bank of the drain.
3. Future specifications shall be developed for maintenance and repair of the channel.

### 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 \$393,415.00, including engineering 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 (20% 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. The additional cost to daylight and work around utilities has been assessed to the utility company as per Section 26 of the Drainage Act.
2. The replacement and engineering cost of Culvert No. 1 and No. 4, respectively, has been assessed to the road authority as per Section 26 of the Drainage Act.
3. The cost of asphalt driveways has been assessed to the benefitting property as a special benefit assessment.
4. The culverts have generally been assessed based on the average culvert cost to provide a 6m access width. This base culvert has been assessed with 50% of the cost applied as benefit assessment to the abutting property and the remainder assessed as an outlet assessment to upstream lands and roads based on equivalent hectares. Any culvert requested to be longer has been assessed with the extra length as a benefit assessment to the Landowner. The cost to have a second access culvert on a single property has been assessed as a special benefit to the Landowner. The cost of a secondary access will not be eligible for grant based on the current Agricultural Drainage Infrastructure Program (ADIP) policy.
5. The incorporation and installation of a buffer strip has been assessed with 10% of the cost applied as a benefit assessment to the abutting road authority, 45% applied as

benefit assessment to the abutting property, and the remainder of the cost assessed as an outlet assessment to upstream lands and roads based on equivalent hectares.

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. Compensation under Section 29 of the Drain Act has been provided to lands where the buffer strip is proposed.

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.

Allowances have been made, where appropriate, as per Section 29 of the Drainage Act for right-of-way and as per Section 30 of the Drainage Act for damages to lands and crops. Allowances for right of way are based on a land value of \$30,000.00 per hectare (\$12,140.00 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 work site for construction and future maintenance shall be from 12<sup>th</sup> Concession Road. Access shall be restricted to a width of 6m and shall generally be along the edge of the drainage works.

The working area at each culvert shall extend 10 metres from the bank on both sides and for 10 metres along the channel on either side of the culvert.

The working area for the construction and future maintenance of the channel shall be restricted to a width of 12m from the top of bank that the working is taking place from. The excavation shall generally be done from the west (field) side of the channel except across finished lawns. Across finished lawns the excavation shall generally be done from the east (road) side with the excavated material being trucked and disposed off site.



Restrictions

No trees and shrubs shall be planted nor shall permanent structures be erected within 12 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.

Maintenance

The open channel shall be maintained and repaired in the same relative portions as contained in the channel portion of the enclosed Schedule of Assessment less any special benefit assessments. Maintenance shall be done in accordance with the enclosed specifications and profiles unless otherwise altered under provisions of the Drainage Act. For future maintenance and repair of the open channel, the excavated material across finished lawns shall be trucked and disposed offsite by the Contractor. The cost of trucking across finished lawns less the equivalent cost of levelling, shall be assessed to the individual property. Agricultural properties that wish to have the excavated material trucked will be assessed the cost of trucking less the cost of levelling. The cost of levelling will form part of the drain maintenance cost.

The buffer strips are to extend 1.5 metres from the top of the bank on the west side of the channel. If the buffer strip extends less than this due to encroaching cropping practices, the buffer strip shall be maintained with 100% of the cost assessed to the property. Otherwise, the buffer strip shall be maintained and repaired in the same relative portions as contained in the channel portion of the enclosed Schedule of Assessment less any special benefit assessments.

The culverts shall be maintained and repaired as follows:

<b>Culvert Number</b>	<b>Abutting Property (Benefit)</b>	<b>Road Authority</b>	<b>Upstream Based on Equivalent Hectares as Contained in SofA (Outlet)</b>
2, 5, 6, 7, 8, 10 & 13	50%		50%

<b>Culvert Number</b>	<b>Abutting Property (Benefit)</b>	<b>Road Authority</b>	<b>Upstream Based on Equivalent Hectares as Contained in SofA (Outlet)</b>
11 & 12	60%		40%
1 & 4		100%	
3 & 9	100%		

If an owner requests an additional length of culvert beyond the top width achieved by the lengths shown on the profile with rip rap end walls 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 top width shall be determined by the Drainage Superintendent and shall generally be in the primary access location and shall include any headwalls.

Each property is allowed one access culvert for each municipal drain with any second culvert on the property maintained and repaired 100% by the owner.

The drain shall be maintained as per the specifications and grades as shown on the Profile contained in this Engineer's Report.

Any additional cost as a result of a utility shall be assessed to that utility as per Section 26 of the Drainage Act.

Yours truly,

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

North 12th Concession Drain  
 Town of Tecumseh  
 August 7, 2024

**ALLOWANCES**

Allowances have been made as per Sections 29 and 30 of the Drainage Act for right of way and for damages to lands and crops.

Conc.	Lot or part	Roll No.	Owner	Section 29	Section 30	Total
11	Pt. Lot 9	374451000000500	W. & M. O'Neil	2,100	350	2,450
	E 1/2 Lot 10	374451000000400	Edward Chittle Farm Ltd	2,040	240	2,280
	Pt. E 1/2 Lot 10	374451000000410	P. & M. Boretski	210	30	240
	E 1/2 Lot 11	374451000000300	A. & E. Sirizzotti	2,250	470	2,720
	Pt. Lot 12	374451000000201	K. Wallis	1,140	240	1,380
	Pt. Lot 12	374451000000200	C. Colenutt & S. Merrett	230	130	360
	Pt. Lot 12	374451000000150	W. & D. O'Neil	350	140	490
	Pt. Lot 12	374451000000100	C. McGuire	230	130	360
	Pt. Lot 13 & Pt. Lot 14	374451000002200	W. & E. O'Neil	2,830	540	3,370
TOTAL ALLOWANCES				\$11,380	\$2,270	\$13,650

**Estimate of Cost**

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total</u>
Pre-Construction Meeting	1	LS	400	400
Benchmark Loop	1	LS	800	800
Traffic Control	1	LS	3,000	3,000
Brushing	1	LS	2,000	2,000
<b>Culvert No.1</b>				
Removal of existing structure	1.0	LS	1,000	1,000
Supply & install 1200mm dia. Sanitite c/w Bedding	14.0	m	1,300	18,200
Place backfill	1.0	LS	1,200	1,200
Supply & install Granular 'A'	35.0	tonne	35	1,225
Supply & install rip rap endwalls	40.0	tonne	110	4,400
Provisional: Supply additional Granular "B" Type II and dispose of unsuitable material	80.0	tonne	50	4,000
<b>Culvert No.2</b>				
Removal of existing structure and excavated material	1.0	LS	2,000	2,000
Supply & install 1200mm dia. Sanitite c/w Bedding	12.0	m	1,300	15,600
Supply and install Granular 'B' Type II	100.0	tonne	35	3,500
Supply & install Granular 'A'	30.0	tonne	40	1,200
Supply & install rip rap endwalls	30.0	tonne	110	3,300
<b>Culvert No.3</b>				
Removal of existing structure and excavated material	1.0	LS	2,000	2,000
Supply & install 1200mm dia. Sanitite c/w Bedding	12.0	m	1,300	15,600
Supply and install Granular 'B' Type II	100.0	tonne	35	3,500
Supply & install Granular 'A'	30.0	tonne	40	1,200
Supply & install rip rap endwalls	30.0	tonne	110	3,300
<b>Culvert No.5</b>				
Removal of existing structure and excavated material	1.0	LS	2,000	2,000
Supply & install 1050mm dia. Sanitite c/w Bedding	12.0	m	1,200	14,400
Supply and install Granular 'B' Type II	100.0	tonne	35	3,500
Supply & install Granular 'A'	30.0	tonne	40	1,200
Supply & install rip rap endwalls	30.0	tonne	110	3,300

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total</u>
Culvert No.6				
Removal of existing structure and excavated material	1.0	LS	2,000	2,000
Supply & install 1050mm dia. Sanitite c/w Bedding	12.0	m	1,200	14,400
Supply and install Granular 'B' Type II	100.0	tonne	35	3,500
Supply & install Granular 'A'	30.0	tonne	40	1,200
Supply & install rip rap endwalls	30.0	tonne	110	3,300
Completed Construction Cost for Emergency Designation: Replacement of Culvert No. 7	1.0	LS	14,000	14,000
Culvert No.8				
Removal of existing structure and excavated material	1.0	LS	2,000	2,000
Supply & install 1050mm dia. Sanitite c/w Bedding	12.0	m	1,200	14,400
Supply and install Granular 'B' Type II	110.0	tonne	35	3,850
Supply & install Granular 'A'	30.0	tonne	40	1,200
Supply & install rip rap endwalls	30.0	tonne	110	3,300
Locate and Work Around Telecom	1.0	LS	500	500
Culvert No.9				
Removal of existing structure and excavated material	1.0	LS	2,000	2,000
Supply & install 900mm dia. HDPE c/w Bedding	12.0	m	1,100	13,200
Supply and install Granular 'B' Type II	140.0	tonne	35	4,900
Supply & install Granular 'A'	30.0	tonne	40	1,200
Supply & install rip rap endwalls	30.0	tonne	110	3,300
Culvert No.10				
Removal of existing structure and excavated material	1.0	LS	2,000	2,000
Supply & install 900mm dia. HDPE c/w Bedding	13.0	m	1,100	14,300
Supply and install Granular 'B' Type II	160.0	tonne	35	5,600
Supply & install Granular 'A'	30.0	tonne	40	1,200
Supply & install rip rap endwalls	30.0	tonne	110	3,300
Supply and Install HL3 Asphalt	35.0	sq.m	100	3,500
Locate and Work Around Telecom	1.0	LS	500	500
Culvert No.13				
Removal of existing structure and excavated material	1.0	LS	2,000	2,000
Supply & install 900mm dia. HDPE c/w Bedding	12.0	m	1,100	13,200
Supply and install Granular 'B' Type II	120.0	tonne	35	4,200
Supply & install Granular 'A'	30.0	tonne	40	1,200
Supply & install rip rap endwalls	30.0	tonne	110	3,300
Restoration / Seeding	1.0	LS	8,000	8,000
Buffer Strip	4370	m <sup>2</sup>	5	21,850
Enviornmental Considerations including Silt Fence	1.0	LS	500	500
Contingency				11,000
				<u>295,725</u>
				13,650
				48,090
				3,600
				4,000
				21,000
				800
				<u>386,865</u>
				6,550
				<u>\$393,415</u>

**SCHEDULE OF ASSESSMENT**

Conc.	Lot or Part	Hectares Owned	Affected Hecatares	Roll No.	Owner	Culverts			Channel			Total	Equivalent Ha
						Special Benefit (\$)	Benefit (\$)	Outlet (\$)	Special Benefit (\$)	Benefit (\$)	Outlet (\$)		
<b>Municipal Lands</b>													
	King's Highway 401		2.80		Ministry of Transportation		1,200	1,135		432	285	3,052	2.52
	Pt. Lot 13		0.08	374451000002210	Ministry of Transportation		-	32		-	8	40	0.07
	Pt. Lot 12		0.07	374451000001400	Ministry of Transportation		-	28		-	7	35	0.06
	North Talbot Road (CR 46)		0.92		County of Essex		-	4,714		-	793	5,507	0.83
	12th Concession Road		5.24		Town of Tecumseh		42,989	8,628		3,757	1,844	57,218	4.72
					<b>Total Municipal Lands</b>		-	44,189	14,537	-	4,189	2,937	65,852
<b>Non-Agricultural Lands</b>													
11	Pt. E 1/2 Lot 10	0.51	0.51	374451000000410	P. & M. Boretski		600	646		106	89	1,441	0.20
	E 1/2 Lot 11	27.60	6.07	374451000000300	A. & E. Sirizzotti	37,972	16,713	4,631		3,440	379	63,135	1.82
	Pt. Lot 12	0.48	0.48	374451000000200	C. Colenutt & S. Merrett		16,713	313		117	27	17,170	0.19
12	Pt. Lot 9	11.68	11.68	374450000001800	O. & A. Rizzo		-	19,951		-	3,358	23,309	3.50
	Pt. Lot 9	16.24	3.23	374450000001700	E. Lys & M. Kawala-Lys & O. Vanes		-	7,356		-	1,238	8,594	1.29
	Pt. Lot 9	0.78	0.78	374450000001805	A. & L. Mitchell		-	1,008		-	237	1,245	0.31
	Pt. Lot 9	0.78	0.78	374450000001810	M. & J. Barkey		-	1,008		-	237	1,245	0.31
	Pt. Lot 10	0.36	0.36	374450000001900	P. & L. Eyraud		-	465		-	81	546	0.14
	Pt. Lot 10	1.12	1.12	374450000001350	A. & J. Mifflin		-	1,419		-	251	1,670	0.45
	Pt. Lot 10	0.40	0.40	374450000002000	P. & C. Eyraud		-	570		-	101	671	0.18
	Pt. Lot 11	0.50	0.50	374450000001105	M. Ciellza		-	703		-	81	784	0.23
	Pt. Lot 11	0.40	0.40	374450000002500	D. McGuire & E. Bondy		-	563		-	51	614	0.18
	Pt. Lot 11 & Pt. Lot 12	27.58	8.09	374450000000500	2829555 Ontario Inc		-	5,464		-	519	5,983	2.43
					<b>Total Non-Agricultural Lands</b>	37,972	34,026	44,097		-	3,663	6,649	126,407

Conc.	Lot or Part	Hectares Owned	Affected Hectares	Roll No.	Owner	Culverts			Channel			Total	Equivalent Ha
						Special Benefit (\$)	Benefit (\$)	Outlet (\$)	Special Benefit (\$)	Benefit (\$)	Outlet (\$)		
<b>Agricultural Lands (Eligible for Available Grants)</b>													
11	Pt. Lot 9	12.20	8.09	374451000000500	W. & M. O'Neil		16,713	10,831		3,205	1,843	32,592	2.43
	E 1/2 Lot 10	27.37	17.47	374451000000400	Edward Chittle Farm Ltd		600	16,490		3,113	2,326	22,529	5.24
	Pt. Lot 12	17.08	12.14	374451000000201	K. Wallis		16,713	7,073		1,734	523	26,043	3.64
	Pt. Lot 12	10.12	5.59	374451000000150	W. & D. O'Neil		16,713	2,507		527	207	19,954	1.68
	Pt. Lot 12	3.46	1.21	374451000000100	C. McGuire		16,713	164		343	41	17,261	0.36
	Pt. Lot 13 & Pt. Lot 14	40.96	18.10	374451000002200	W. & E. O'Neil	35,752	16,713	1,957		3,889	-	58,311	5.43
12	Pt. Lot 10	28.12	6.20	374450000001300	R. Eyraud & E. Ayers		-	5,889		-	1,043	6,932	1.86
	Pt. Lot 10	14.28	5.26	374450000001200	L. Daniher		-	4,933		-	793	5,726	1.58
	Pt. Lot 11	20.79	6.38	374450000001100	D. & D. McGuire		-	5,984		-	544	6,528	1.91
Total Agricultural Lands						35,752	84,165	55,828	-	12,811	7,320	195,876	
<b>Utilities</b>													
	Telecom Utility				Bell			3,280	-	-	-	3,280	
	Gas Utility				Enbridge Gas			-	-	2,000	-	2,000	
Total - Utilities						-	3,280	-	2,000	-	-	5,280	
Total - Utilities							5,280						
Total Municipal Lands							65,852						
Total Non-Agricultural Lands							126,407						
Total Agricultural Lands							195,876						
Total Assessment							\$393,415						
												Channel Assessment Less Special Benefit:	37,569.00

**ESTIMED 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 (\$)
<b>Municipal Lands</b>								
	King's Highway 401	2.80		Ministry of Transportation	3,052			3,052
	Pt. Lot 13	0.08	374451000002210	Ministry of Transportation	40			40
	Pt. Lot 12	0.07	374451000001400	Ministry of Transportation	35			35
	North Talbot Road (CR 46)	0.92		County of Essex	5,507			5,507
	12th Concession Road	5.24		Town of Tecumseh	57,218			57,218
<b>Non-Agricultural Lands</b>								
11	Pt. E 1/2 Lot 10	0.51	374451000000410	P. & M. Boretski	1,441		240	1,201
	E 1/2 Lot 11	6.07	374451000000300	A. & E. Sirizzotti	63,135		2,720	60,415
	Pt. Lot 12	0.48	374451000000200	C. Colenutt & S. Merrett	17,170		360	16,810
12	Pt. Lot 9	11.68	374450000001800	O. & A. Rizzo	23,309			23,309
	Pt. Lot 9	3.23	374450000001700	E. Lys & M. Kawala-Lys & O. Vanes	8,594			8,594
	Pt. Lot 9	0.78	374450000001805	A. & L. Mitchell	1,245			1,245
	Pt. Lot 9	0.78	374450000001810	M. & J. Barkey	1,245			1,245
	Pt. Lot 10	0.36	374450000001900	P. & L. Eyraud	546			546
	Pt. Lot 10	1.12	374450000001350	A. & J. Mifflin	1,670			1,670
	Pt. Lot 10	0.40	374450000002000	P. & C. Eyraud	671			671
	Pt. Lot 11	0.50	374450000001105	M. Ciellza	784			784
	Pt. Lot 11	0.40	374450000002500	D. McGuire & E. Bondy	614			614
	Pt. Lot 11 & Pt. Lot 12	8.09	374450000000500	2829555 Ontario Inc	5,983			5,983
<b>Agricultural Lands (Eligible for Available Grants)</b>								
11	Pt. Lot 9	8.09	374451000000500	W. & M. O'Neil	32,592	10,864	2,450	19,278
	E 1/2 Lot 10	17.47	374451000000400	Edward Chittle Farm Ltd	22,529	7,510	2,280	12,739
	Pt. Lot 12	12.14	374451000000201	K. Wallis	26,043	8,681	1,380	15,982
	Pt. Lot 12	5.59	374451000000150	W. & D. O'Neil	19,954	6,651	490	12,813
	Pt. Lot 12	1.21	374451000000100	C. McGuire	17,261	5,754	360	11,147
	Pt. Lot 13 & Pt. Lot 14	18.10	374451000002200	W. & E. O'Neil	58,311	7,520	3,370	47,421
12	Pt. Lot 10	6.20	374450000001300	R. Eyraud & E. Ayers	6,932	2,311		4,621
	Pt. Lot 10	5.26	374450000001200	L. Daniher	5,726	1,909		3,817
	Pt. Lot 11	6.38	374450000001100	D. & D. McGuire	6,528	2,176		4,352
<b>Utilities</b>								
	Telecom Utility			Bell	3,280			3,280
	Gas Utility			Enbridge Gas	2,000			2,000
<b>Total</b>					<b>393,415</b>	<b>53,376</b>	<b>13,650</b>	<b>326,389</b>



North 12<sup>th</sup> Concession Drain  
Town of Tecumseh  
August 7, 2024

## **SPECIFICATION OF WORK**

### **1. Location**

The location of the proposed and future work outlined in this specification is along the length of the North 12<sup>th</sup> Concession Drain in Lot 9 to 14, Concession 11 in the Town of Tecumseh.

### **2. Scope of Work**

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

- Future open channel maintenance
- Establishment and maintenance of a 1.5m buffer strip
- 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 Drainage Superintendent 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.

All equivalents shall be requested to the Contract Administrator in writing prior to ordering any material.

Estimated quantities have been included in the Estimate of Cost in this Engineer's Report. If the items are tendered as lump sum items, the quantities in the estimate shall not form the basis for payment. It is up to the Contractor to determine the quantities that will be required for each item when bidding.

All property bars and survey monuments are to be flagged and protected by the Contractor. Any disturbed, damaged or removed bars and monuments shall be the responsibility of the Contractor to have an OLS reinstate the same.

#### **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.

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.

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 Tecumseh.

#### **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 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 will be scheduled by the Contractor. Contact information will be provided to the Contractor by the Engineer. The affected Landowners, Engineer, County of Essex, MTO and the Town of Tecumseh 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 shown on the Plan and Profile drawings. Where these elevations are on existing structures to be replaced, they shall be transferred by the Contractor prior to the removal.

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

## **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. Should the access to a residential property extend beyond 24 hours, the Contractor shall be responsible for providing a walking access across the drain to that property. The

Traffic Plan must be approved by the Town prior to the commencement of any construction.

- 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 Drainage 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 12<sup>th</sup> Concession Road. Access shall be restricted to a width of 6m and shall generally be along the edge of the drainage works.

The working area at each culvert shall extend 10 metres from the bank on both sides and for 10 metres along the channel on either side of the culvert.

The working area for the construction and future maintenance of the channel shall be restricted to a width of 12m from the top of bank that the working is taking place from. The excavation shall generally be done from the west (field) side of the channel except across finished lawns. Across finished lawns the excavation shall generally be done from the east (road) side with the excavated material being trucked off site

## **11. Removals**

The culverts and any native backfill material, when required, shall be removed in their entirety. The culvert, backfill and the concrete rubble shall be disposed offsite at the expense of the Contractor. Native backfill shall not be reused in the culvert installation

unless determined re-usable by the Contract Administrator. 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.

Where the culverts are not being replaced the Contractor shall restore the channel in these sections to match the adjacent side slopes and shall restore them with straw matting and seed.

## **12. Brushing and Tree Removal**

For construction and future maintenance of the drain, all brush, stumps, trees, 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 Drainage Superintendent or Engineer, 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. Where brush and trees are removed within a bush section of the drain the trees and brush shall be disposed of within the bush at the limits of the working area. The Contractor is responsible for the burning of the trees and brush not in the bush sections. 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 or Engineer. Trees may be limbed and piled for firewood, instead of burned, at the request of a Landowner.

The Contractor is required to submit a Burn Permit Application to the Fire Department including detailed information on the burn process, extinguishing method, map of burn piles as well as a signature from the landowner acknowledging burning will occur on their property. The Contractor shall in no way be guaranteed to burn except with the explicit permission from the Fire Department. Please refer to By-Law 2021-50 for more information.

### **13. Excavation of Open Channel and Levelling (Future)**

For construction and future maintenance, the open channel shall be excavated and maintained to the depths and grades as per the profile and drawings as 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 where it shall be trucked off site at the expense of the Contractor. All 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 out letting surface water to the channel. The excavated material shall be levelled to a maximum depth of 150mm and left in a condition suitable for cultivation. This shall include the removal of any rocks larger than 10cm in diameter and any debris/wood that could damage or plug farm equipment. Leveling shall occur when the material is dry enough to do so as determined by the Contract Administrator. All high spots above grade shall be removed. The sediment shall be removed leaving a rounded bottom with the intent not to undercut the existing side slopes. All material unfit for placing on farmlands shall be disposed of offsite by the Contractor.

At the discretion of the Drainage Superintendent or request of the Landowner, the excavated material may be trucked. The additional cost for trucking shall be assessed to the individual property and will not be eligible for grant.

It is R. Dobbin Engineering's opinion that the drainage improvements for this project are exempt from Section 8 of O.Reg 406/19 as per Schedule 2, Item 3.6 of the Regulation.

### **14. Rip Rap (Future)**

Rip rap shall be made up of 150mm to 300mm quarry stone or approved equal. The area to receive the rip rap shall first be graded to allow the placement of the rip rap to a depth of 400mm below finished grade. After grading, a layer of filter fabric (Mirafi P150 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. The filter cloth shall be cut and trimmed so that none is visible above the level of the rip rap.

## **15. Installation of Culverts**

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

Sanitite Pipe shall be SaniTite HP Dual Wall Pipe with 320kPa and bell and spigot joints or approved equivalent. HDPE shall be CSA approved 320 kPa with bell and spigot joints or approved equivalent.

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. It is the Contractors responsibility to ensure that the minimum cover is achieved when backfilling the culverts.

All culverts may have concrete block or rip rap end walls. The lengths on the drawings are based on utilized rip rap end walls. If block end walls are used the lengths shall be reduced accordingly. The access culverts shall be assessed, as per the report, to provide an 6m access width. If an owner requests a longer culvert than that required to achieve an 6m top width, please refer to the report.

Any tile outlets extended as a result of a culvert shall be extended at the landowner's expense. 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. The pipe shall be bedded with  $\frac{3}{4}$ " clear stone. When the pipe has been installed to the proper grade and depth, the excavation shall be backfilled with  $\frac{3}{4}$ " clear stone and wrapped in filter fabric from the bottom of the excavation to the spring line of the pipe. 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 to within 150mm of finished grade with Granular "B" Type II. The top 150mm shall be backfilled with compacted 100% crushed Granular "A"

material to finished grade. If asphalt is proposed, the asphalt shall be HL3 and shall match the existing thickness. In these cases, the compacted Granular “A” shall occupy 150mm below the proposed asphalt.

If rip rap end walls are used, they 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. The culvert lengths contained in the profile are based on utilizing rip rap end walls.

If concrete block end walls are used, they shall consist of concrete blocks with dimensions of approx. 600mm x 600mm x 1200mm, 600mm x 600mm x 2400mm or 300mm x 600mm x 1200mm as required. 600mm x 600mm x 2400mm concrete blocks will be paid at twice the unit price established per block, all others will be at a unit of 1. The top of the culvert shall govern block elevation. The correct block shall be set with the top of the block equal to the top of the culvert. 2400mm wide concrete blocks shall be used as the top block on arch and larger round pipes in order to span between the culvert top and the supporting block. The blocks shall be set at each end of the culvert so that each row of blocks will be offset approx. 100mm from the row below. The bottom row shall consist of one block placed parallel to the culvert. The blocks shall be imbedded a minimum of 300mm into each bank and shall extend into the drain bottom to match the pipe invert or below. Erosion protection shall be placed on the banks next to the end walls. The erosion protection shall consist of 150mm x 300mm quarry stone over filter fabric (Mirafi P150 or approved equal). It shall extend 500mm upstream or downstream and from top of bank to top of bank at each end wall.

The blocks shall be placed over a layer of filter fabric (Mirafi P150 or approved equal). The culvert shall be backfilled in conjunction with the placement of the blocks. The gaps between the culvert and the blocks shall be filled with concrete cinder blocks/bricks and mortar to give the end wall a finished appearance.

It is the Contractor's responsibility to ensure that adequate cover is obtained prior to crossing the culvert in accordance with the manufacturer's recommendations.

## **16. Maintenance**

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



If the Contractor cannot perform the work. The Town will hold the money against the tender or collect it from the tenderer.

### **17. Subsurface Drainage**

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

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 Drainage Superintendent or Engineer 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 outlet to the channel bottom. The erosion protection shall be 1.0m wide. Rip rap shall be made up of 150mm to 300mm quarry stone or approved equal. The area to receive the rip rap shall first be graded to allow the placement of the rip below finished grade. After grading, a layer of filter fabric (Mirafi P270 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.

### **18. Buffer Strip**

A grassed buffer strip shall be incorporated into the drainage works. The buffer strip shall extend 1.5 metres from the top of the bank on the west side. The seed mixture shall be as specified in the Seeding/Restoration specification.

### **19. Seeding/Restoration**

The side slopes of the channel, road right of way, buffer strip, finished lawns, and all areas disturbed by construction, shall be topped with 100mm of topsoil and hydroseeded in the spring or fall following construction. The time of application shall be approved by the Drainage Superintendent or Engineer.

Hydraulic seed and mulch in accordance with OPSS 804. Seed mixture, fertilizer and application rates are as follows:

- Primary seed (85 kg/ha.) consisting of 50% red fescue, 40% perennial rye-grass and 5% white clover.
- Nurse crop consisting of Italian (annual) rye-grass at 25% of total weight.
- Fertilizer (300 kg/ha.) consisting of 8-32-16.
- Hydraulic mulch (2,999 kg/ha.) type “B” and water (52,700 litres/ha.).

The above mixture shall apply unless otherwise approved by the Drainage Superintendent or Engineer.

It is the Contractor's responsibility to ensure that the grass is grown and established. If areas require to be re-hydroseeded, at the discretion of the Drainage Superintendent or Engineer, it shall be done at the expense of the Contractor.

## **20. 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 fencing 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 805 and OPSD 219.110. The light duty silt fencing shall be removed once the disturbed area has been re-vegetated.

**APPENDIX A**  
Emergency Designation Request and Approval



4218 Oil Heritage Road, P.O. Box 1928  
Petrolia, Ontario, N0N 1R0  
Phone: (519) 882-0032 Fax: (519) 882-2233  
www.dobbineng.com

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June 7, 2023

The Honourable Lisa Thompson  
Minister of Agriculture, Food and Rural Affairs  
Public Archives Building  
77 Grenville St., 11th Floor  
Toronto, Ontario  
M7A 1B3

**Re: Emergency Designation Request for Culvert Replacement on the North 12<sup>th</sup> Concession Drain – #4955 12<sup>th</sup> Concession Road, Town of Tecumseh**

We are requesting an Emergency Designation under section 124 of the Drainage Act, R.S.O., 1990, to perform a culvert replacement on the North 12<sup>th</sup> Concession Drain (a municipal drainage works), at #4955 12<sup>th</sup> Concession Road in the Town of Tecumseh.

On May 9<sup>th</sup>, 2023, R. Dobbin Engineering was appointed under section 78 of the Drainage Act to investigate and make the necessary improvements to the North 12<sup>th</sup> Concession Drain. On May 24<sup>th</sup>, 2023 a site meeting was held and the Landowner expressed concern with the condition of the current culvert. After investigation of the culvert on June 7<sup>th</sup>, 2023 it was determined that the culvert must be replaced as soon as possible as shown in the Appendix on this report. The culvert has no bottom, is seeing further deterioration and presents a safety hazard in its current state. The work cannot be done under maintenance as the previous reports for the North 12<sup>th</sup> Concession Drain do not provide a means of assessing the work that is required.

Because of the time required to complete the report, obtain approvals and proceed through the Drainage Act process, the Town will be unable to complete the Drainage Act process in time.

In summary, I am asking your Ministry for approval for Emergency Designation to replace the existing culvert servicing #4955 12<sup>th</sup> Concession Road. As this matter is of urgency to the general public, we would appreciate your earliest reply. Thank you and should you require any further information regarding this matter, please do not hesitate to contact the undersigned.

Yours truly,

A handwritten signature in black ink that reads 'Josh'.

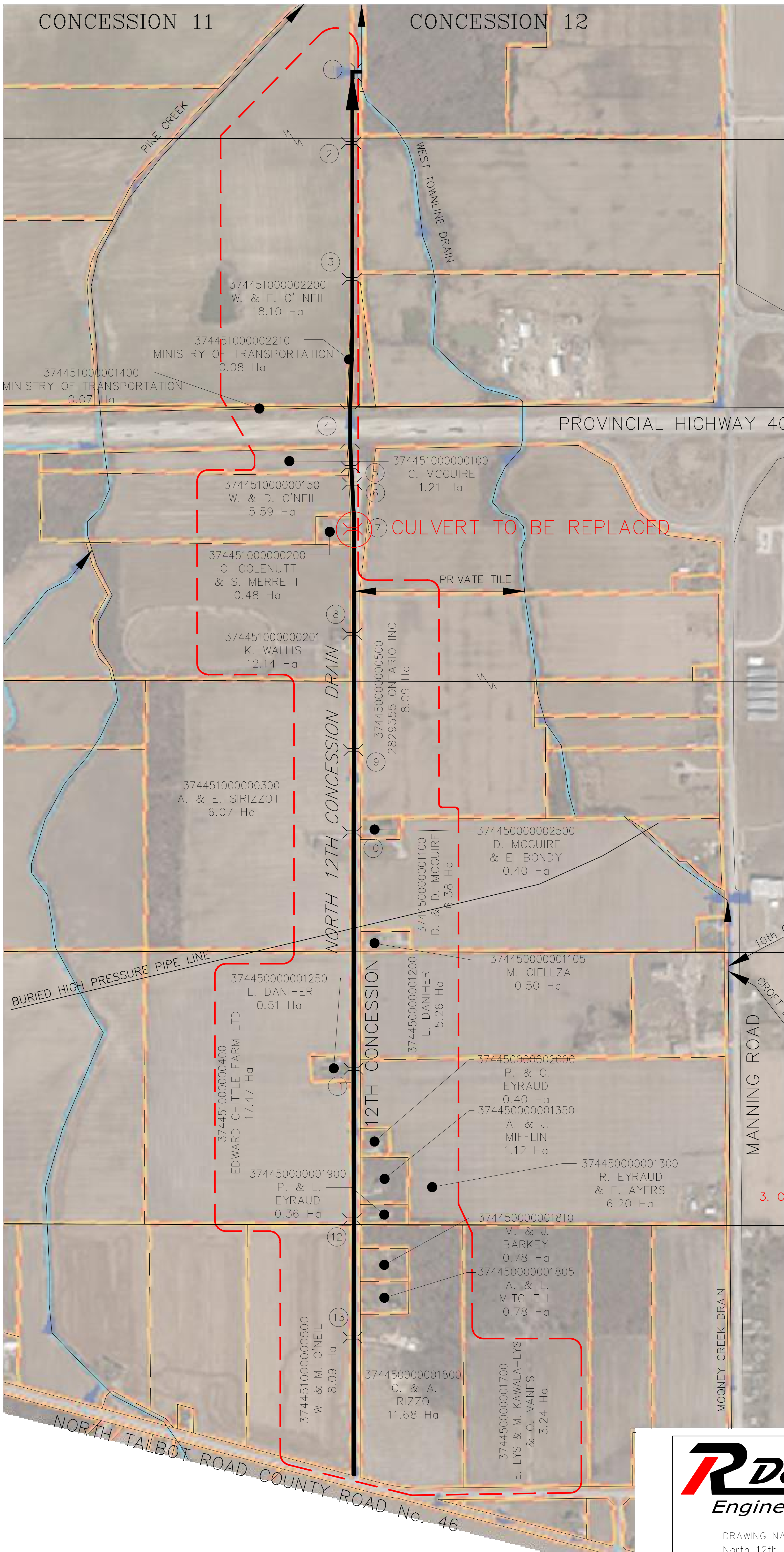
Josh Warner, P. Eng.  
Drainage Engineer

Appendix: Photos of the pipe and Culvert Location Plan

cc. Tim Brook, Drainage Coordinator, Ministry of Agriculture and Food and Rural Affairs  
Alessia Mussio, Drainage Superintendent, Town of Tecumseh

Appendix





LOT 14

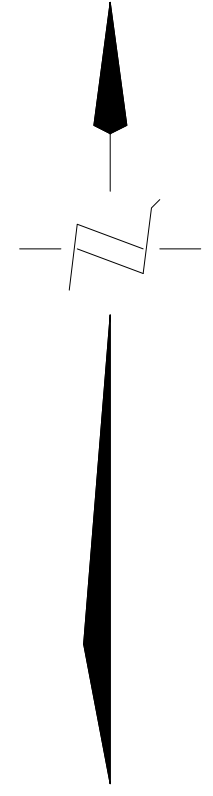
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LOT 12

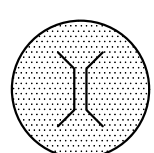
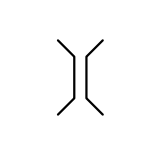
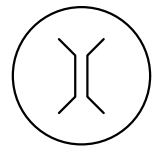
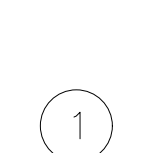
LOT 11

LOT 10

LOT 9

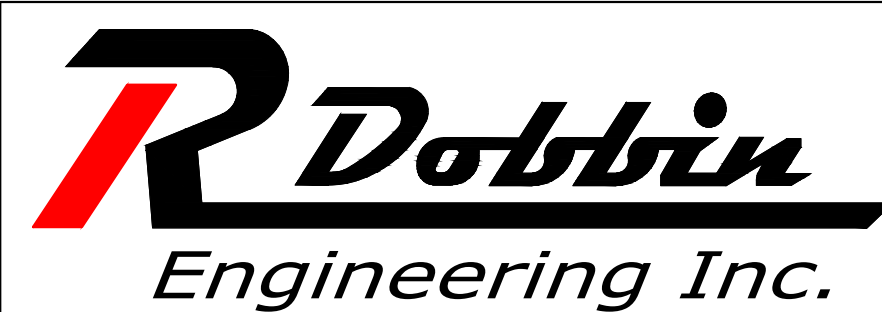


LEGEND

-  CULVERT TO BE REPLACED
-  EXISTING CULVERT
-  PROPOSED NEW CULVERT
-  CULVERT NUMBER

CULVERTS

- 1. Pipe Replaced: 1200mm CSP, 1998
- 2. Pipe Installed: 1050mm CSP, 1958
- 3. Culvert Reinstalled and Lengthened: 1200mm CSP, 1980
- 5. Pipe Installed: 1050mm CSP, 1958
- 6 or 7. Pipe Installed: 1050mm CSP, 1958
- 8. Pipe Installed: 1050mm CSP, 1958
- 9 or 10. Pipe Installed: 900mm CSP, 1958
- 11. Pipe Replaced: 900mm CSP, 1998
- 12. Pipe Installed: 900mm CSP, 1958
- 13. Pipe Installed: 900mm CSP, 1958



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

DRAWING NAME:  
North 12th Concession Drain Plan

PROJECT No.  
2023-15xx

APPROVED J. WARNER	SCALE 1:10,000	PLAN		
CHECKED B. VAN RUITENBURG		NO.	REVISIONS	DATE
DRAWN C. SAUNDERS	1	FINAL REPORT	MAY 2023	CS

**TOWN of TECUMSEH**  
**NORTH 12TH CONCESSION DRAIN**  
**PLAN**

**1**  
**OF 1**

Last Updated: May 11, 2023



Ministry of Agriculture,  
Food and Rural Affairs

Office of the Minister

77 Grenville Street, 11th Floor  
Toronto, Ontario M7A 1B3  
Tel: 416-326-3074  
www.ontario.ca/OMAFRA

Ministère de l'Agriculture, de  
l'Alimentation et des Affaires rurales

Bureau du ministre

77, rue Grenville, 11<sup>e</sup> étage  
Toronto (Ontario) M7A 1B3  
Tél. : 416 326-3074  
www.ontario.ca/MAARO



June 13, 2023

Josh Warner, P. Eng  
Drainage Engineer  
R. Dobbin Engineering Inc.  
josh@dobbineng.com

Dear Mr. Warner:

Thank you for your letter dated June 7, 2023, requesting an emergency designation under Section 124 of the [Drainage Act](#) for a culvert replacement on the North 12th Concession Drain servicing #4955 12th Concession Road in the Town of Tecumseh.

Your letter and the accompanying photographs demonstrate that the access culvert has no bottom, is further deteriorating and presents a safety hazard in its current state. You indicate that you have inspected the culvert and determined that the culvert has failed throughout and is unsafe to cross. As the culvert is the only access to the property, the culvert needs to be replaced as soon as possible.

You also indicate that a request was made to the municipality to replace the culvert by the owner. However, the drainage reports do not provide for culvert replacements and therefore, this culvert cannot be replaced under maintenance.

You indicate that R. Dobbin Engineering Inc. has been appointed as the Drainage Engineer, to investigate and make the necessary improvement on the North 12th Concession Drain servicing #4955 12th Concession Road in the Town of Tecumseh recommending the full replacement of the crossing in accordance with Section 78 of the Drainage Act.

After considering this information, I hereby designate the replacement of a culvert on the North 12th Concession Drain servicing #4955 12th Concession Road in the Town of Tecumseh to be an emergency within the meaning of Section 124 of the Drainage Act.

.../2

This designation is granted on the condition that the replacement is made under the supervision of R. Dobbin Engineering Inc., appointed by council under Section 78 of the Drainage Act. Any additional drain improvements will need to progress through the normal *Drainage Act* process. Since the total project cost is unknown at this time, all involved property owners must be given an opportunity to appeal their share of the project cost to the appeal bodies established under the act.

Please note that this emergency designation does not exempt you and your municipality from any approvals that may be required from other agencies including the local conservation authority and Fisheries and Oceans Canada.

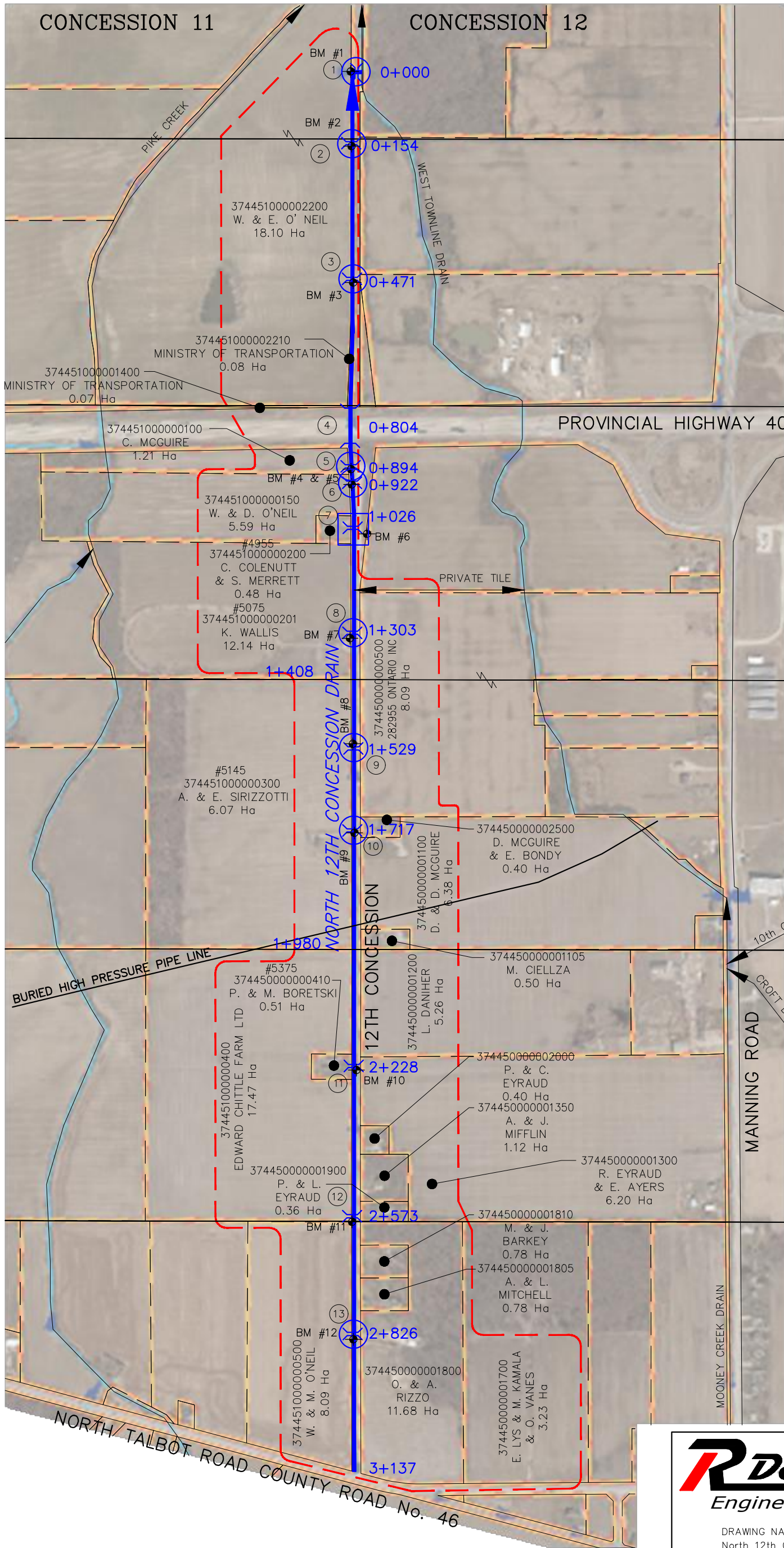
Sincerely,

A handwritten signature in blue ink that reads "Lisa M. Thompson". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Lisa M. Thompson  
Minister of Agriculture, Food and Rural Affairs

**Did you know about the Farmers' Wellness Initiative?**

- Your mental health is important! If you're a farmer or a member of a farm family and in need of mental health support, please call 1-866-267-6255 and arrange to speak with a professional today.
- For additional resources visit: <https://farmerwellnessinitiative.ca/>.



LOT 14

LOT 13

LOT 12






LOT 11

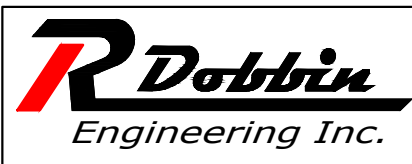
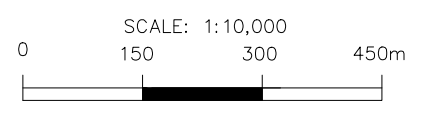
LOT 10

LOT 9



**LEGEND**

-  CULVERT TO BE REPLACED
-  EXISTING CULVERT
-  CULVERT REPLACED UNDER EMERGENCY DESIGNATION
-  CULVERT NUMBER
-  DRAINAGE AREA



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

DRAWING NAME:  
North 12th Concession Drain Plan

PROJECT No.  
2023-1513

APPROVED J. WARNER	SCALE 1:10,000		PLAN	
CHECKED B. VAN RUITENBURG	NO.	REVISIONS	DATE	BY
DRAWN C. SAUNDERS	1	FINAL REPORT	AUG. 7, 2024	CS

# TOWN of TECUMSEH

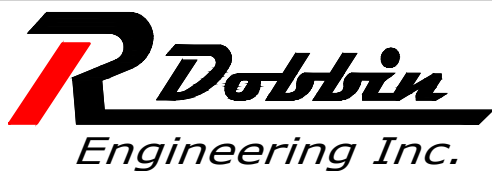
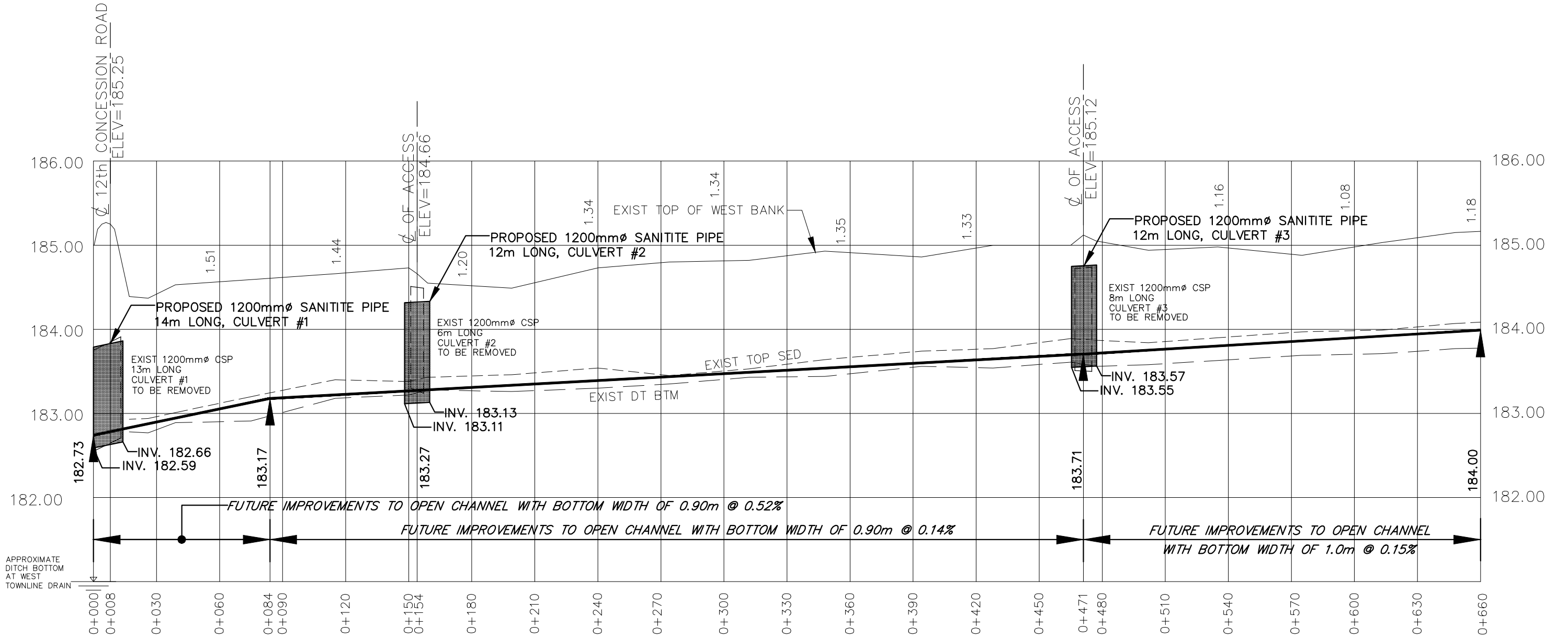
## NORTH 12TH CONCESSION DRAIN PLAN

1  
OF 14

Last Updated: August 7, 2024

# GENERAL NOTES

- BENCHMARK No.1 ELEV. 183.91  
TOP OF WEST END OF EXISTING  
1200mm $\phi$  CSP, STATION 0+008
- BENCHMARK No.2 ELEV. 184.49  
TOP OF SOUTH END OF EXISTING  
1200mm $\phi$  CSP, STATION 0+154
- BENCHMARK No.3 ELEV. 184.74  
TOP OF SOUTH END OF EXISTING  
1200mm $\phi$  CSP, STATION 0+471



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

DRAWING NAME:  
North 12th Concession Drain Profile 1

PROJECT No.  
2023-1513

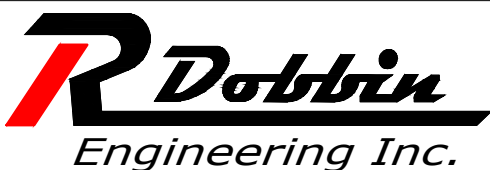
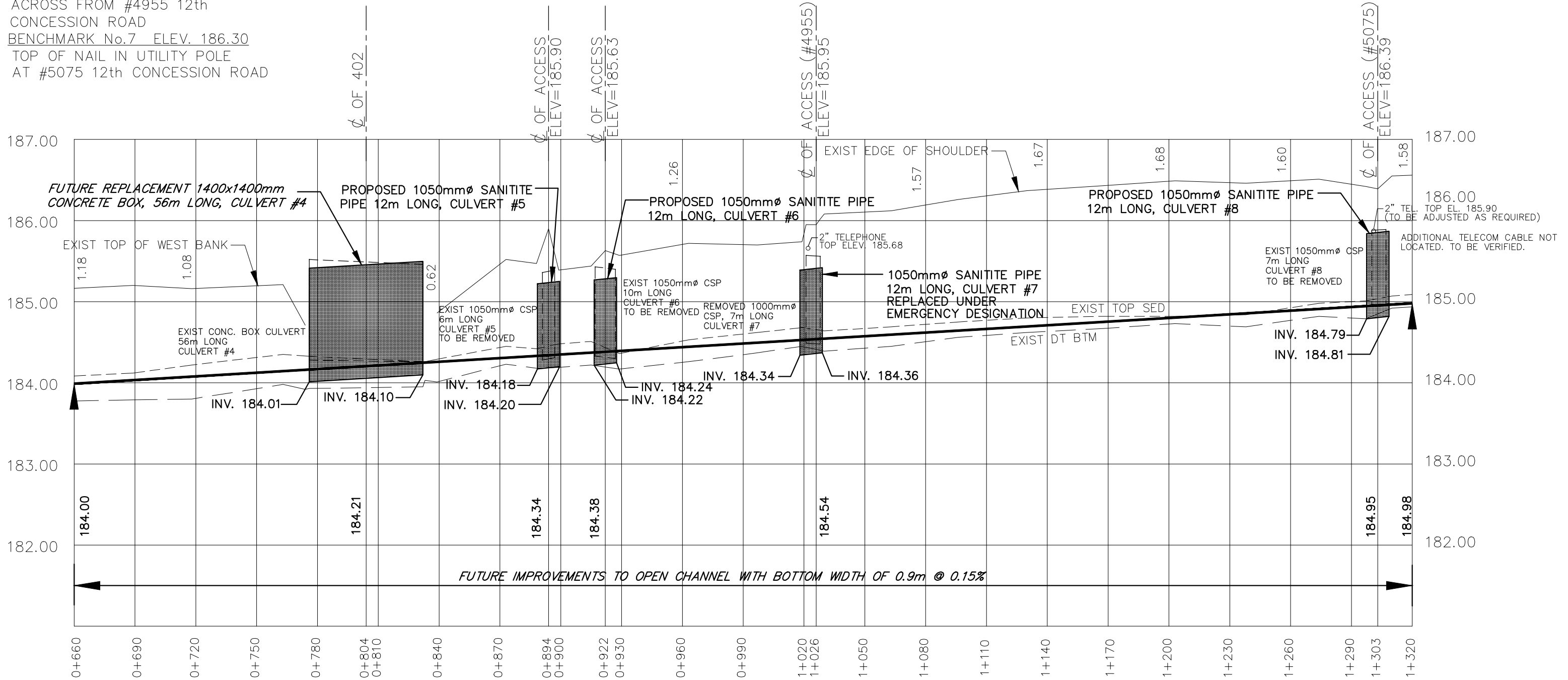
APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER				
CHECKED	1	FINAL REPORT	AUG. 7, 2024	JW
B. VAN RUITENBURG				
DRAWN	SCALE: 1:2,000			
J. WARNER	0 20 40 60m			

## TOWN of TECUMSEH NORTH 12TH CONCESSION DRAIN PROFILE

2  
OF 14

# GENERAL NOTES

- BENCHMARK No.4 ELEV. 185.39  
TOP OF SOUTH END OF EXISTING 1050mm $\phi$  CSP, STATION 0+894
- BENCHMARK No.5 ELEV. 185.40  
TOP OF SOUTH END OF EXISTING 1050mm $\phi$  CSP, STATION 0+922
- BENCHMARK No.6 ELEV. 186.05  
TOP OF NAIL IN UTILITY POLE ACROSS FROM #4955 12th CONCESSION ROAD
- BENCHMARK No.7 ELEV. 186.30  
TOP OF NAIL IN UTILITY POLE AT #5075 12th CONCESSION ROAD



4218 Oil Heritage Road  
Petrolia Ontario, N0N 1R0  
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DRAWING NAME:  
North 12th Concession Drain Profile 2

PROJECT No.  
2023-1513

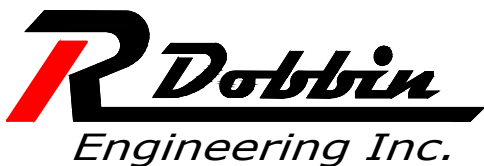
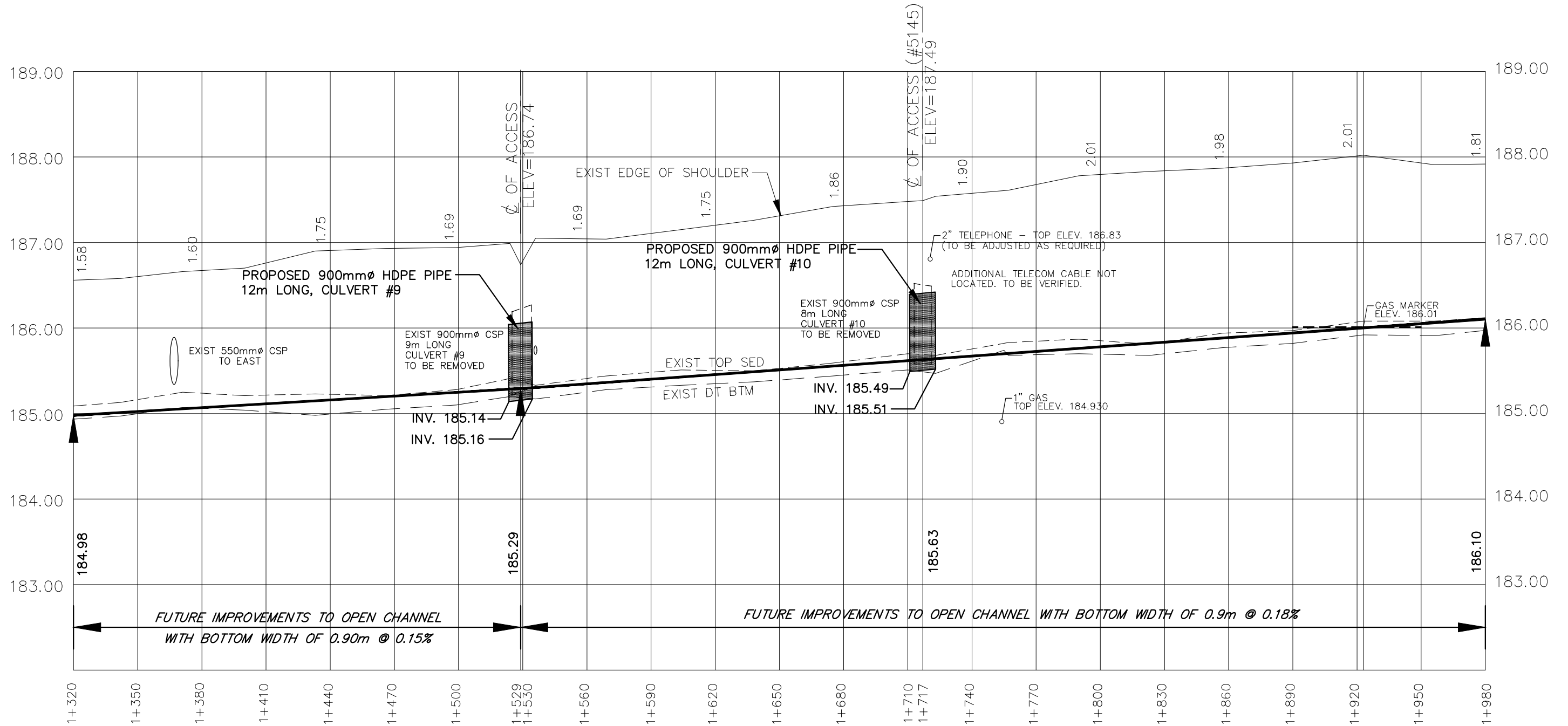
APPROVED J. WARNER	NO.	REVISIONS	DATE	BY
CHECKED B. VAN RUITENBURG	1	FINAL REPORT	AUG. 7, 2024	JW
DRAWN J. WARNER	SCALE: 1:2,000 0 20 40 60m			

## TOWN of TECUMSEH NORTH 12TH CONCESSION DRAIN PROFILE

3  
OF 14

# GENERAL NOTES

- BENCHMARK No.8 ELEV. 186.19  
TOP OF NORTH END OF EXISTING  
900mm $\phi$  CSP, STATION 1+529  
BENCHMARK No.9 ELEV. 186.49  
TOP OF SOUTH END OF EXISTING  
900mm $\phi$  CSP, STATION 1+717
- UPPER NUMBERS ARE DEPTH FROM  
EAST EDGE OF SHOULDER TO BOTTOM OF NEW  
CHANNEL.



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DRAWING NAME:  
North 12th Concession Drain Profile 3

PROJECT No.  
2023-1513

APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER				
CHECKED	1	FINAL REPORT	AUG. 7, 2024	JW
B. VAN RUITENBURG				
DRAWN	SCALE: 1:2,000			
J. WARNER	0 20 40 60m			

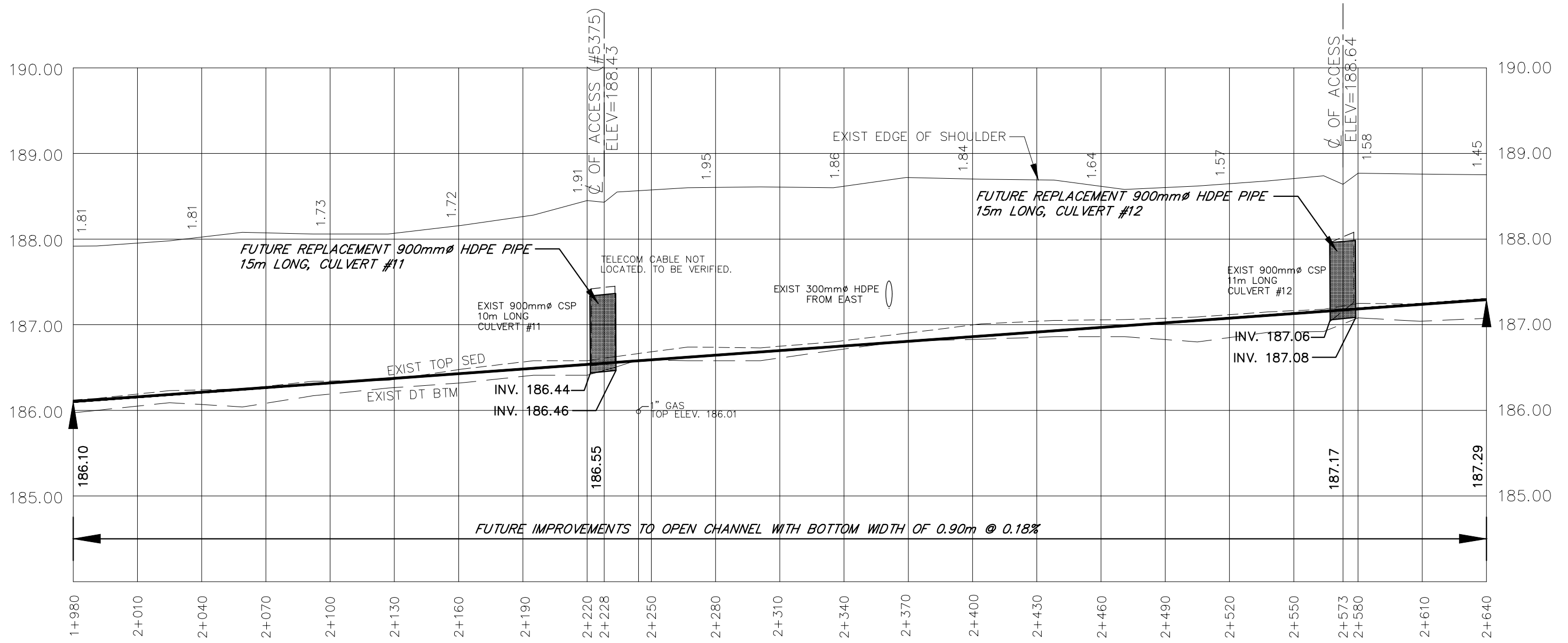
## TOWN of TECUMSEH NORTH 12TH CONCESSION DRAIN PROFILE

4  
OF 14

# GENERAL NOTES

- BENCHMARK No.10 ELEV. 187.45  
TOP OF SOUTH END OF EXISTING  
900mm $\phi$  CSP, STATION 2+228
- BENCHMARK No.11 ELEV. 188.08  
TOP OF SOUTH END OF EXISTING  
900mm $\phi$  CSP, STATION 2+573

UPPER NUMBERS ARE DEPTH FROM  
EAST EDGE OF SHOULDER TO BOTTOM OF NEW  
CHANNEL.



4218 Oil Heritage Road  
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Phone: (519) 882-0032 Fax: (519) 882-2233

DRAWING NAME: North 12th Concession Drain Profile 4  
PROJECT No. 2023-1513

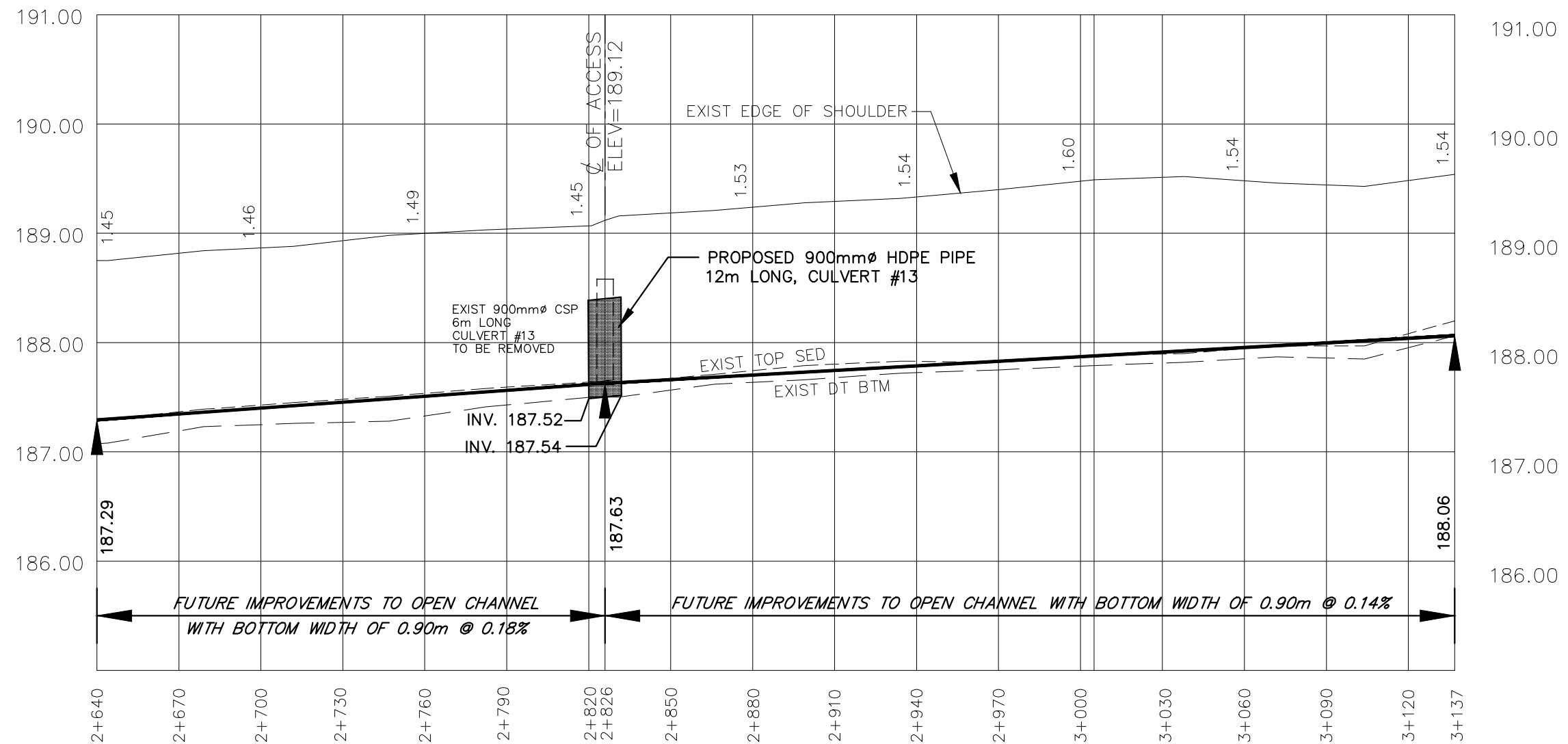
APPROVED	J. WARNER	NO.	REVISIONS	DATE	BY
CHECKED	B. VAN RUITENBURG	1	FINAL REPORT	AUG. 7, 2024	JW
DRAWN	J. WARNER	SCALE: 1:2,000			

## TOWN of TECUMSEH NORTH 12TH CONCESSION DRAIN PROFILE

Last Updated: July 09, 2024

# GENERAL NOTES

- BENCHMARK No.12 ELEV. 188.58  
TOP OF SOUTH END OF EXISTING  
900mmØ CSP, STATION 2+826
- UPPER NUMBERS ARE DEPTH FROM  
EAST EDGE OF SHOULDER TO BOTTOM OF NEW  
CHANNEL.



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

DRAWING NAME:  
North 12th Concession Drain Profile 5

PROJECT No.  
2023-1513

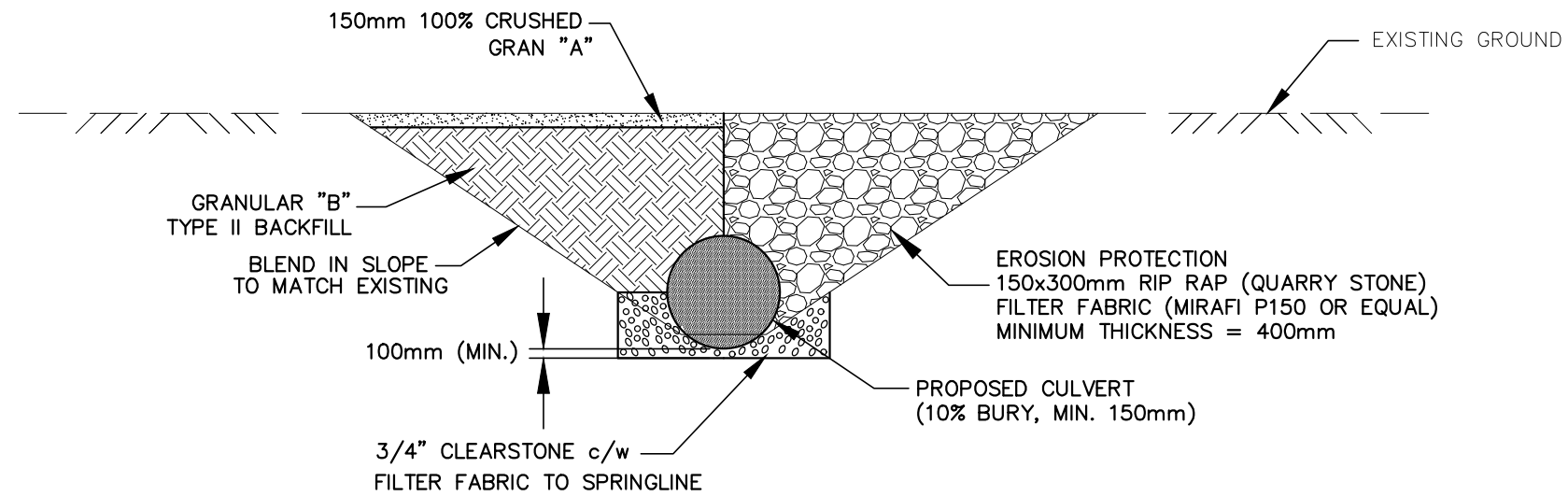
APPROVED J. WARNER	NO.	REVISIONS	DATE	BY
CHECKED B. VAN RUITENBURG	1	FINAL REPORT	AUG. 7, 2024	JW
DRAWN J. WARNER	SCALE: 1:2,000 0 20 40 60m			

# TOWN of TECUMSEH

## NORTH 12TH CONCESSION DRAIN

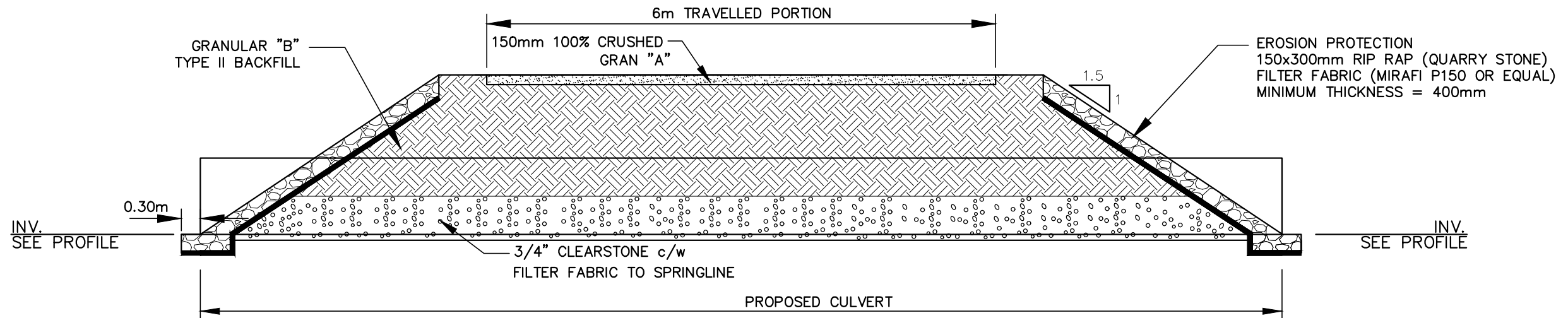
### PROFILE





**TYPICAL CULVERT END SECTION**

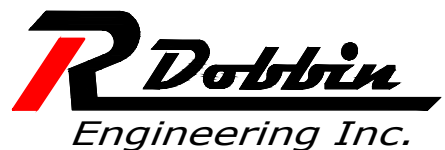
NTS



**TYPICAL CROSS-SECTION**

NTS

**NOTE:**  
ALL GRANULARS COMPACTED  
TO 98% MODIFIED PROCTOR DENSITY



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DRAWING NAME:  
North 12th Concession Drain Culvert Detail

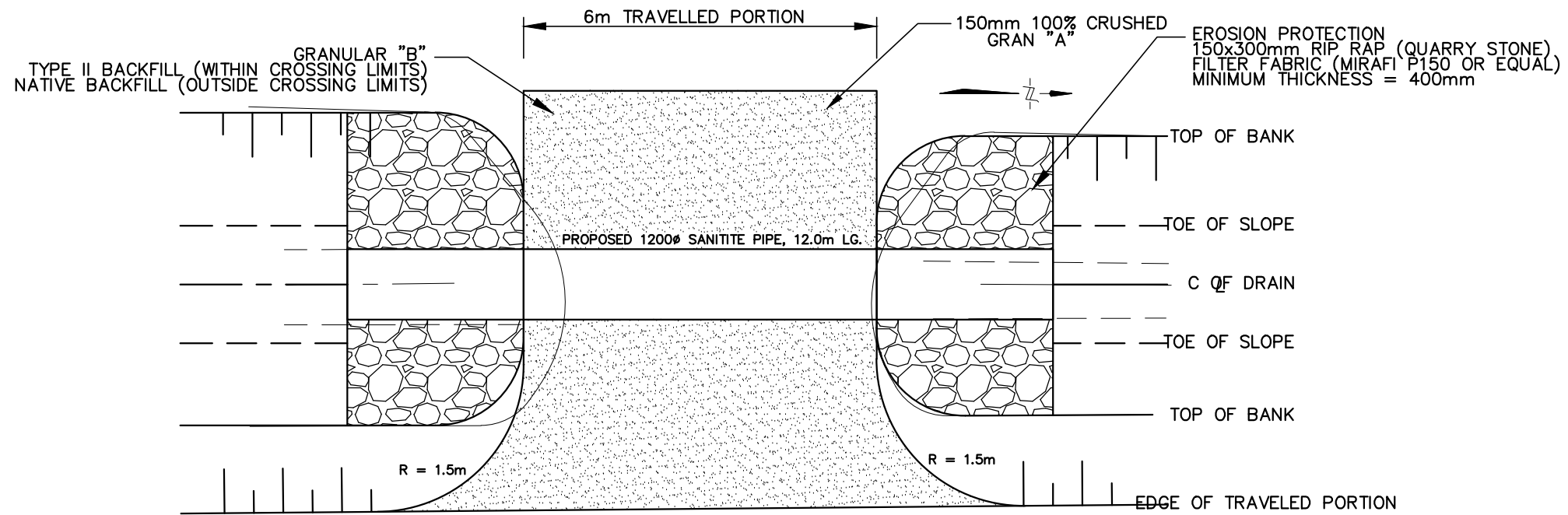
PROJECT No.  
2023-1513

APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER				
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B. VAN RUITENBURG				
DRAWN	SCALE 1: 75			
J. WARNER				

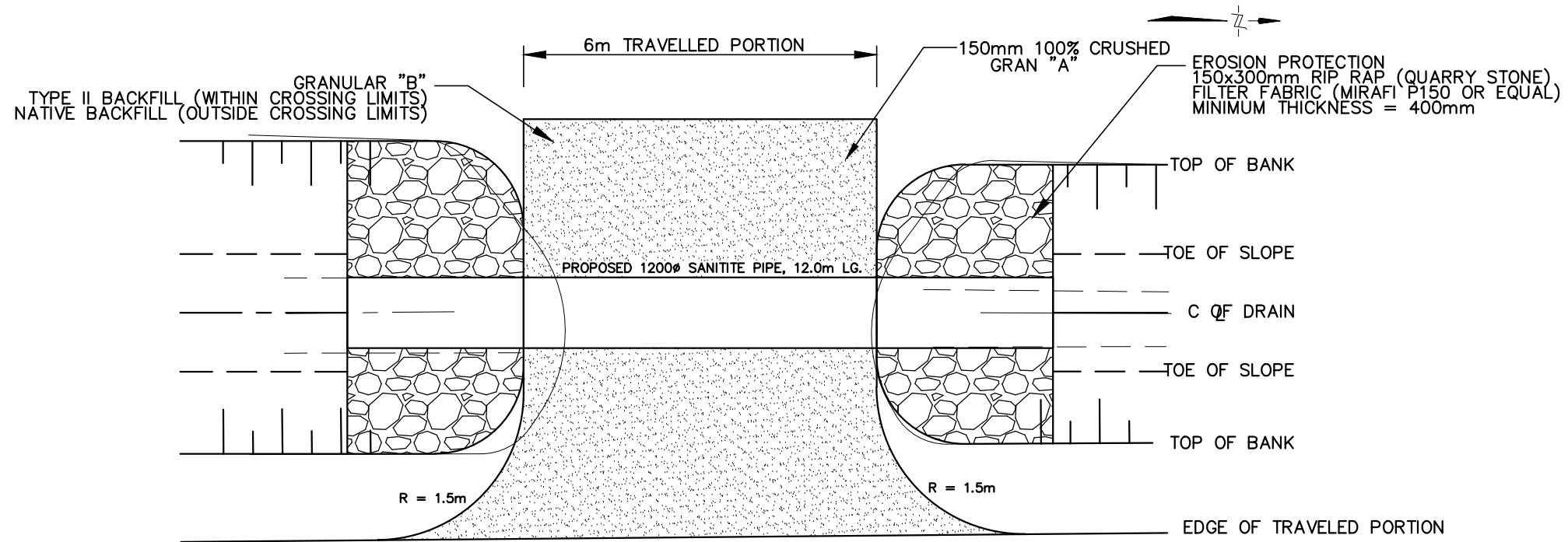
**TOWN of TECUMSEH**  
**NORTH 12TH CONCESSION DRAIN**  
**TYPICAL ACCESS CULVERT DETAIL**

**7**  
**OF 14**

Last Updated: July 09, 2024



CULVERT #2 PLAN



CULVERT #3 PLAN



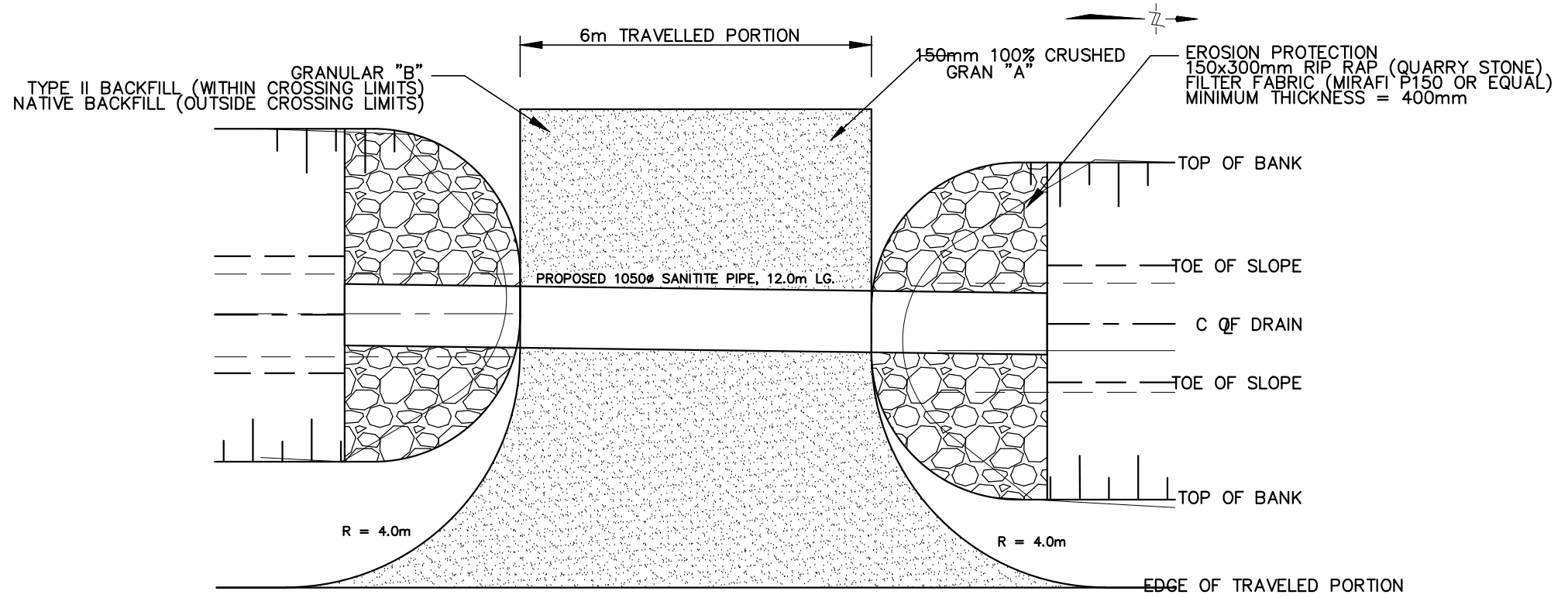
4218 Oil Heritage Road  
 Petrolia Ontario, N0N 1R0  
 Phone: (519) 882-0032 Fax: (519) 882-2233

DRAWING NAME:  
 North 12th Concession Drain Culvert Plans 1

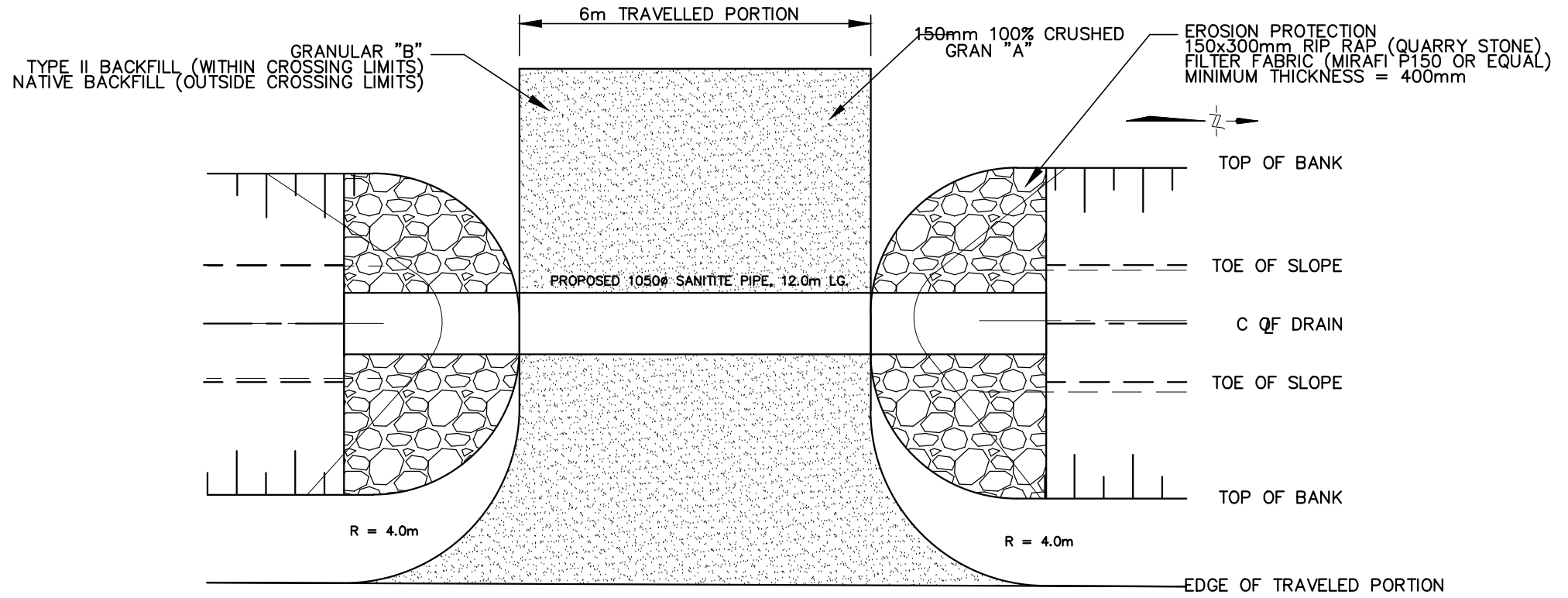
PROJECT No.  
 2023-1513

APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER				
CHECKED	1	FINAL REPORT	AUG. 7, 2024	CS
B. VAN RUITENBURG				
DRAWN	SCALE: 1:100			
C. SAUNDERS	0 1 2 3m			

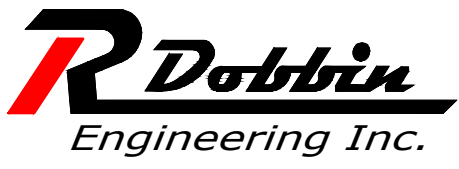
TOWN of TECUMSEH  
 NORTH 12TH CONCESSION DRAIN  
 CULVERT PLANS



**CULVERT #5**



**CULVERT #6 PLAN**



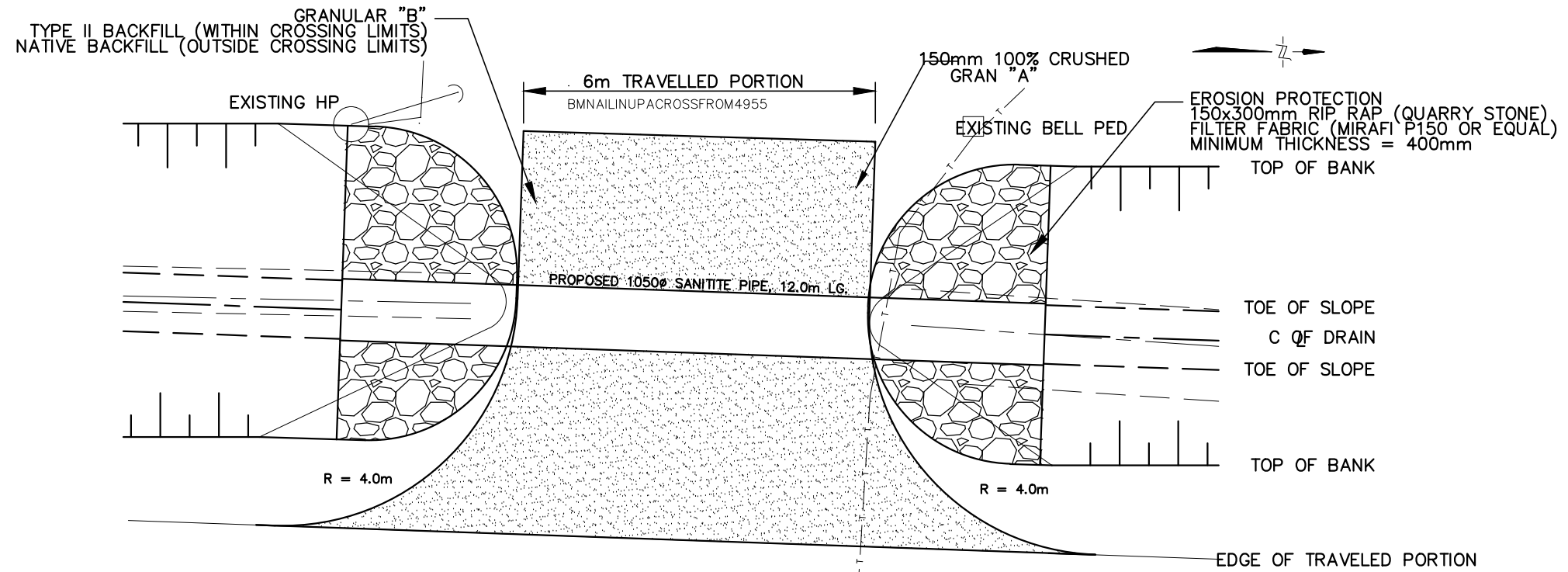
4218 Oil Heritage Road  
Petrolia Ontario, N0N 1R0  
Phone: (519) 882-0032 Fax: (519) 882-2233

APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER				
CHECKED	1	FINAL REPORT	AUG. 7, 2024	CS
B. VAN RUITENBURG				
DRAWN				
C. SAUNDERS				

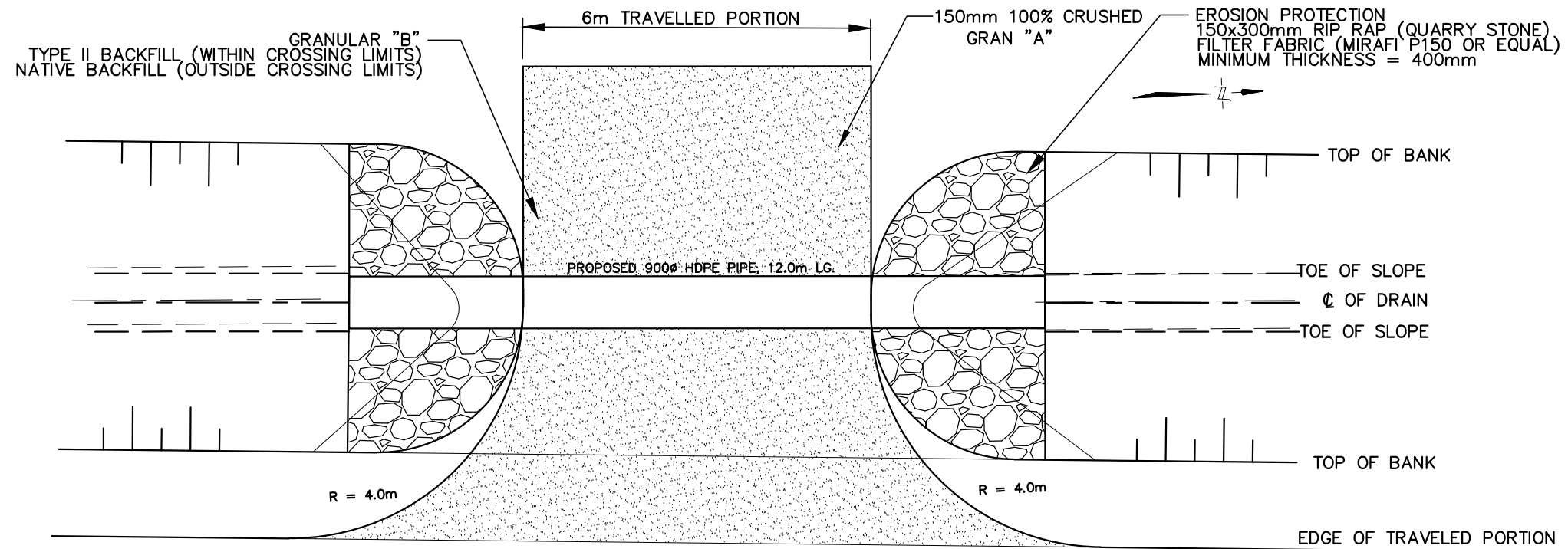
SCALE: 1:100

0 1 2 3m

**TOWN of TECUMSEH**  
**NORTH 12TH CONCESSION DRAIN**  
**CULVERT PLANS**



CULVERT #8 PLAN



CULVERT #9 PLAN



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

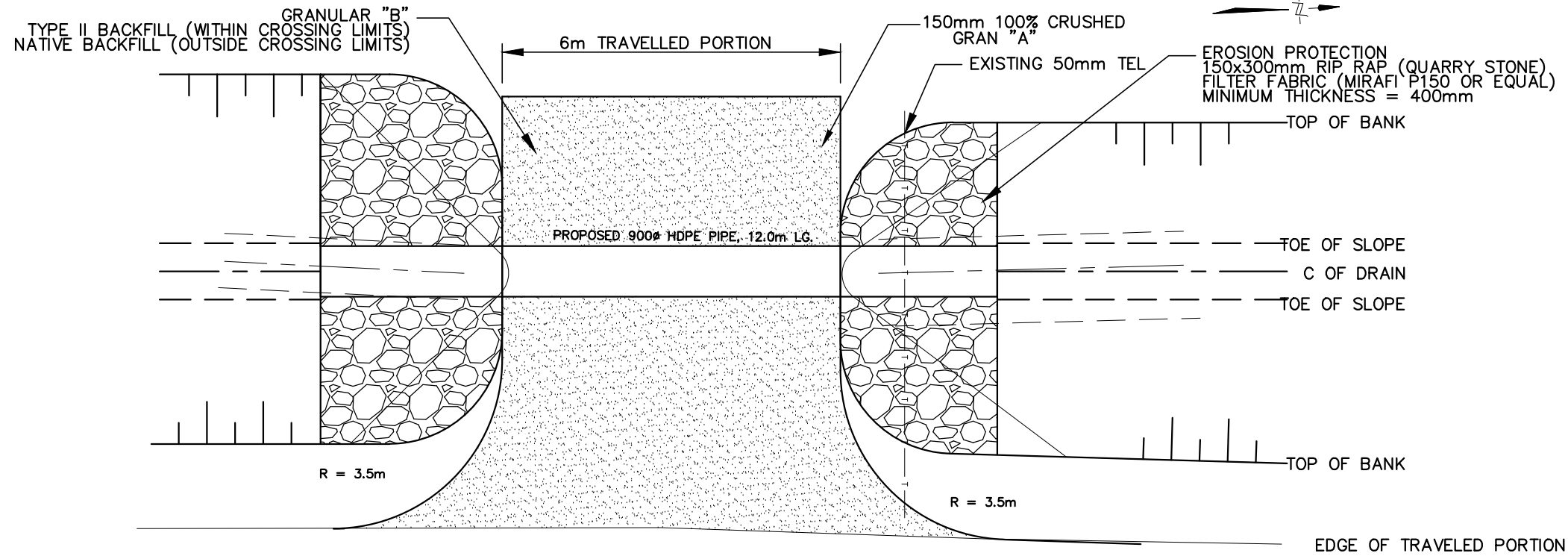
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 North 12th Concession Drain Culvert Plans 3

PROJECT No.  
 2023-1513

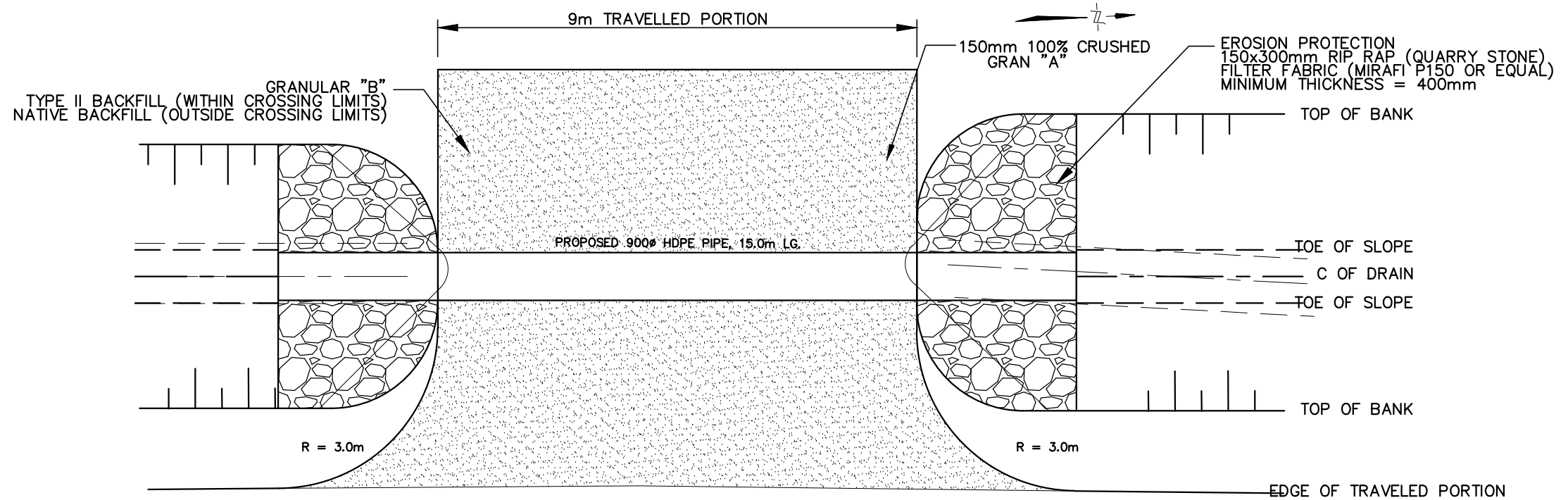
APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER				
CHECKED	1	FINAL REPORT	AUG. 7, 2024	CS
B. VAN RUITENBURG				
DRAWN				
C. SAUNDERS				

SCALE: 1:100  
 0 1 2 3m

TOWN of TECUMSEH  
 NORTH 12TH CONCESSION DRAIN  
 CULVERT PLANS



CULVERT #10 PLAN



CULVERT #11 PLAN



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

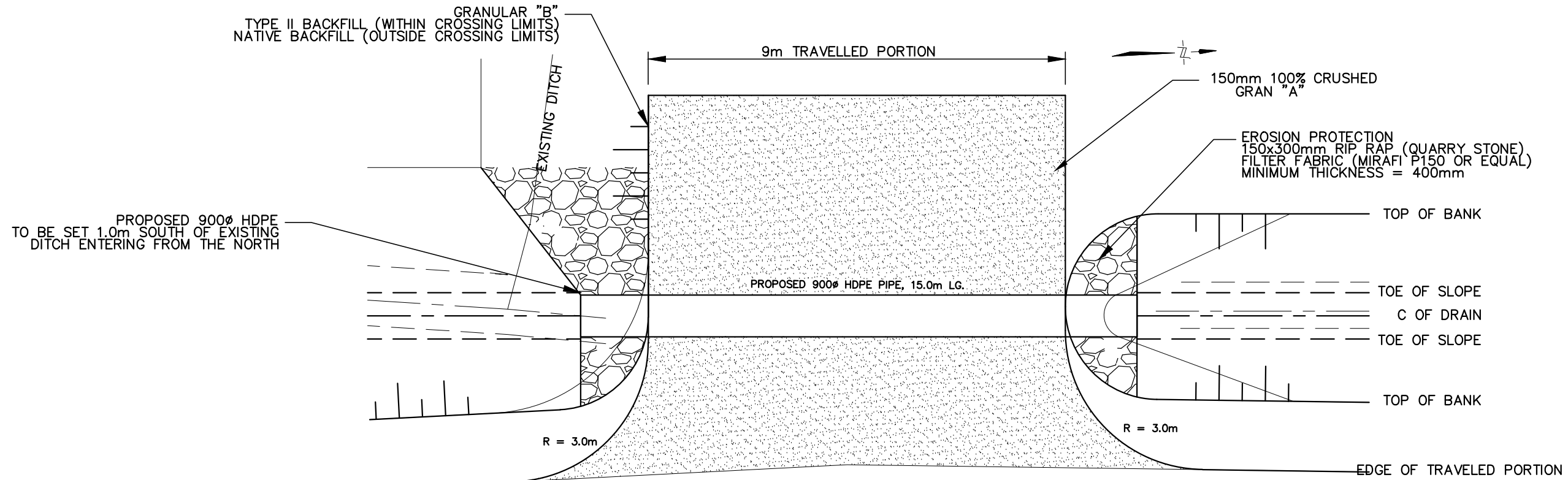
DRAWING NAME:  
 North 12th Concession Drain Culvert Plans 4

PROJECT No.  
 2023-1513

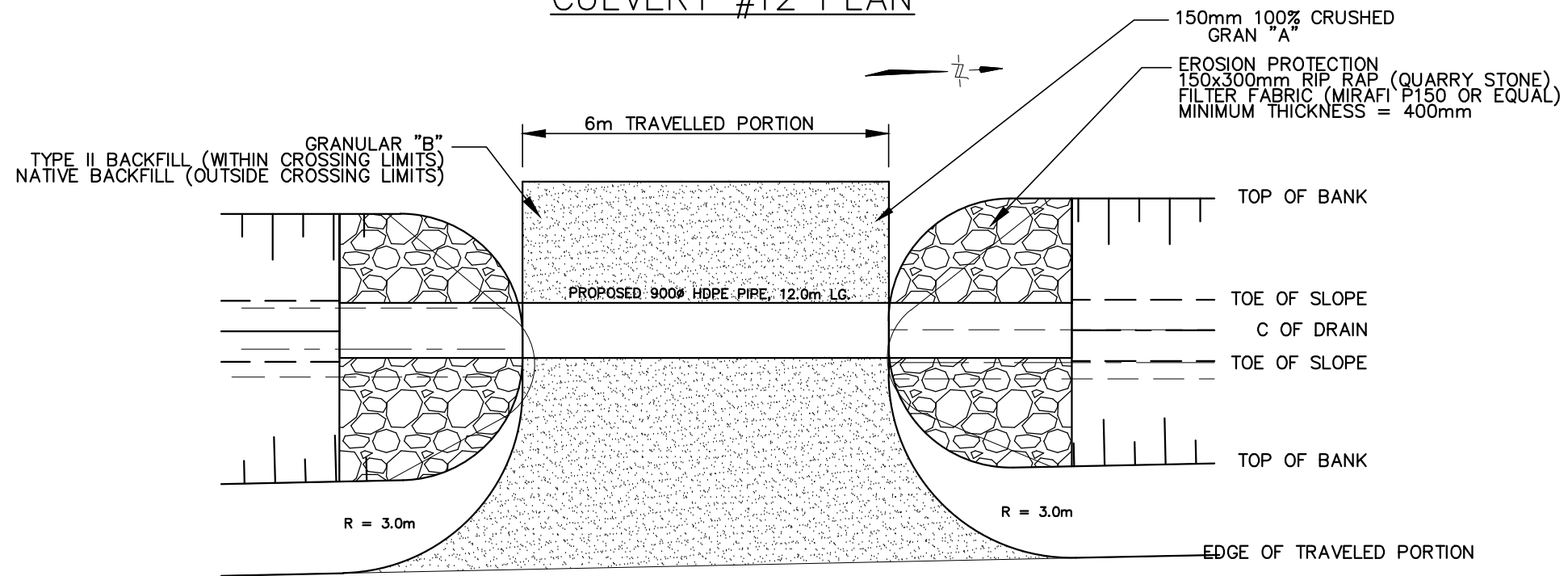
APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER				
CHECKED	1	FINAL REPORT	AUG. 7, 2024	CS
B. VAN RUITENBURG				
DRAWN				
C. SAUNDERS				

SCALE: 1:100  
 0 1 2 3m

TOWN of TECUMSEH  
 NORTH 12TH CONCESSION DRAIN  
 CULVERT PLANS



CULVERT #12 PLAN



CULVERT #13 PLAN



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

DRAWING NAME:  
North 12th Concession Drain Culvert Plans 5

PROJECT No.  
2023-1513

APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER				
CHECKED	1	FINAL REPORT	AUG. 7, 2024	CS
B. VAN RUITENBURG				
DRAWN				
C. SAUNDERS				

SCALE: 1:100

TOWN of TECUMSEH  
NORTH 12TH CONCESSION DRAIN  
CULVERT PLANS

TABLE – ACCESS BRIDGE DESIGN INFORMATION	FUTURE REPLACEMENT			PROPOSED REPLACEMENT									
	DESCRIPTION	CULVERT No.4	CULVERT No.11	CULVERT No.12	CULVERT No.1	CULVERT No.2	CULVERT No.3	CULVERT No.5	CULVERT No.6	CULVERT No.7	CULVERT No.8	CULVERT No.9	CULVERT No.10
BRIDGE $\phi$ LOCATION (STATION)	0+804	2+228	2+573	0+008	0+154	0+471	0+894	0+922	1+026	1+303	1+529	1+717	2+826
BRIDGE TYPE	ROAD	DRIVEWAY	FARM	ROAD	FARM	FARM	FARM	FARM	DRIVEWAY	DRIVEWAY	FARM	DRIVEWAY	FARM
PIPE INVERT ELEV. U/S SIDE	184.10	186.46	187.08	182.66	183.13	183.57	184.20	184.24	184.36	184.81	185.16	185.51	187.54
PIPE INVERT ELEV. D/S SIDE	184.01	186.44	187.06	182.59	183.11	183.55	184.18	184.22	184.34	184.79	185.14	185.49	185.52
TOP OF $\phi$ DRIVEWAY SURFACE ELEV.	KEEP EXISTING	188.43	188.64	185.25	184.66	185.12	185.90	185.63	185.95	186.39	186.74	187.49	189.12
DRAIN BOTTOM (DESIGN) (AT CENTRELINE OF CULVERT)	184.21	186.55	187.17	182.78	183.27	183.71	184.34	184.38	184.54	184.95	185.29	185.63	187.63
MIN. TOP WIDTH OF DRIVEWAY	KEEP EXISTING	9.0m	9.0m	6.0m	6.0m	6.0m	6.0m	6.0m	6.0m	6.0m	6.0m	6.0m	6.0m
MIN. CULVERT GRADE (%)	0.16	0.13	0.13	0.50	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
CULVERT MATERIAL	CONCRETE	HDPE	HDPE	SANITITE	SANITITE	SANITITE	SANITITE	SANITITE	SANITITE	SANITITE	SANITITE	HDPE	HDPE
CULVERT LENGTH	56.0m	15.0m	15.0m	14.0m	12.0m	12.0m	12.0m	12.0m	12.0m	12.0m	12.0m	12.0m	12.0m
CULVERT STRENGTH		320kPa	320kPa	320kPa	320kPa	320kPa	320kPa	320kPa	320kPa	320kPa	320kPa	320kPa	320kPa
PIPE SIZE	1400mm X 1400mm	900mm $\phi$	900mm $\phi$	1200mm $\phi$	1200mm $\phi$	1200mm $\phi$	1050mm $\phi$	1050mm $\phi$	1050mm $\phi$	1050mm $\phi$	900mm $\phi$	900mm $\phi$	900mm $\phi$
CULVERT ENDWALL TYPE		RIP RAP	RIP RAP	RIP RAP	RIP RAP	RIP RAP	RIP RAP	RIP RAP	RIP RAP	RIP RAP	RIP RAP	RIP RAP	RIP RAP



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Phone: (519) 882-0032 Fax: (519) 882-2233

DRAWING NAME:  
North 12th Concession Drain Culvert Plans 1

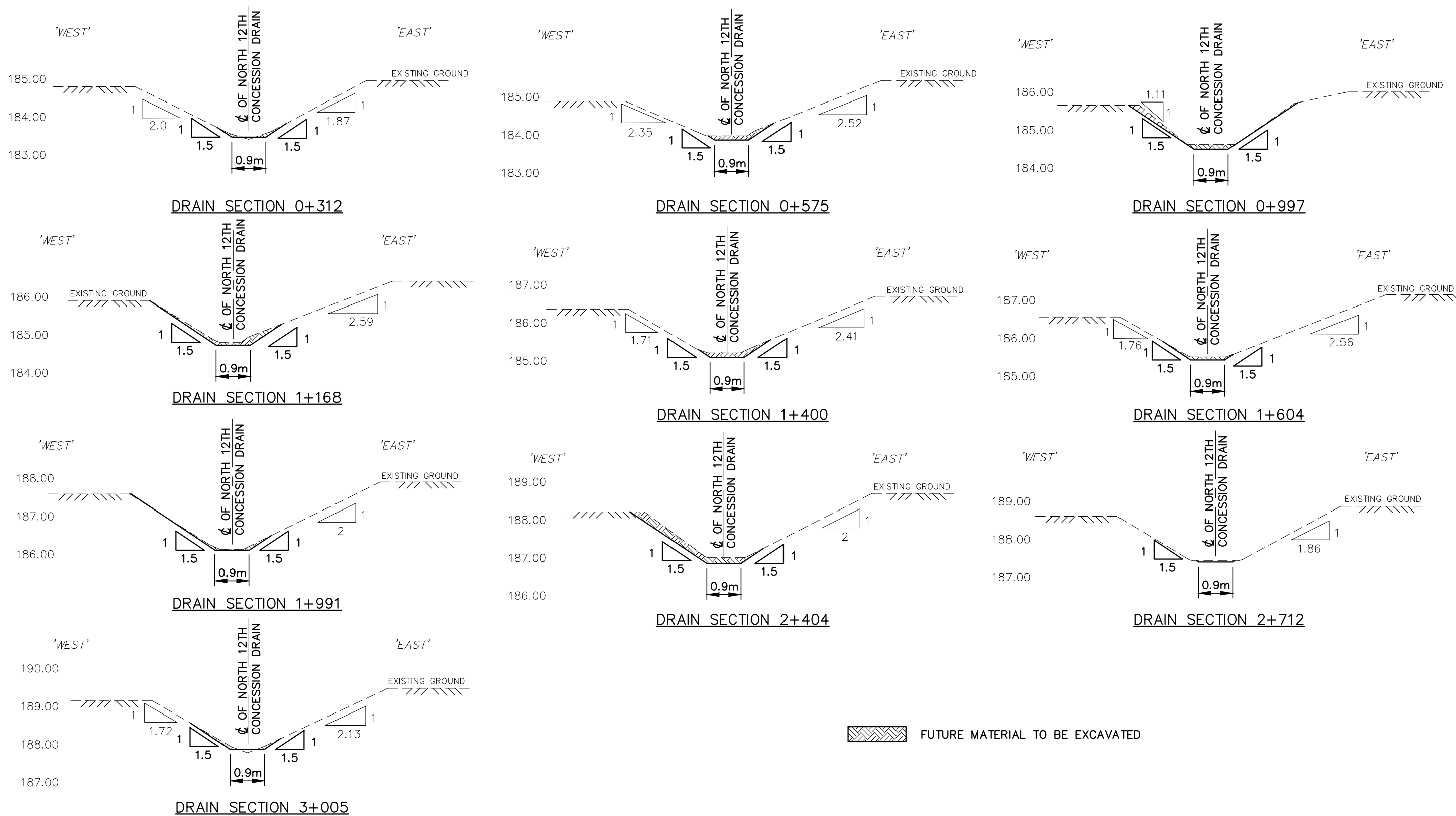
PROJECT No.  
2023-1513

APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER				
CHECKED	1	FINAL REPORT	AUG. 7, 2024	CS
B. VAN RUITENBURG				
DRAWN				
C. SAUNDERS				

SCALE: 1:100

**TOWN of TECUMSEH**  
**NORTH 12TH CONCESSION DRAIN**  
**CULVERT PLANS**

**13**  
**OF 14**



 FUTURE MATERIAL TO BE EXCAVATED

***R Dobbin***  
Engineering Inc.

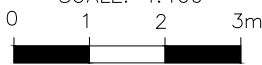
4218 Oil Heritage Road  
Petrolia Ontario, N0N 1R0  
Phone: (519) 882-0032 Fax: (519) 882-2233

DRAWING NAME: North 12th Concession Drain Typical Sections  
PROJECT No. 2023-1513

APPROVED	NO.	REVISIONS	DATE	BY
J. WARNER				
CHECKED	1	FINAL REPORT	AUG. 7, 2024	CS
B. VAN RUITENBURG				
DRAWN				
C. SAUNDERS				

SCALE: 1:100

0 1 2 3m



**TOWN of TECUMSEH**  
**NORTH 12TH CONCESSION DRAIN**  
**TYPICAL SECTIONS**