



Kelly Municipal Drain

October 16, 2026

Prepared for:



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Kitchener, Ontario
October 16, 2026

To the Mayor and Members of Council:

**Re: Kelly Municipal Drain
Municipality of Morris-Turnberry
Our Reference No. MT-008**

Headway Engineering is pleased to provide its report for the **Kelly Municipal Drain** in the Municipality of Morris-Turnberry.

The preparation of this report was authorized by resolution of the Council of the Municipality of Morris-Turnberry on August 12, 2025, per Section 78 of the Drainage Act.

The report recommends installing one new farm crossing on the H J Sieber Farms Limited property at Lot 8, Concession 9, Morris Ward. The proposed crossing consists of twin 2,400mm diameter corrugated steel pipes with associated erosion protection.

A summary of the assessments for this project is as follows:

Municipal Lands	\$2,926
Privately Owned Non-Agricultural	\$902
Privately Owned Agricultural – Grantable	\$124,272
Total Estimated Assessments	\$128,100

Yours truly,



Stephen Brickman, P.Eng.
Project Engineer and Manager



Adam Hall
Project Coordinator
HEADWAY ENGINEERING
SB/ah





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SPECIFICATIONS FOR THE CONSTRUCTION OF MUNICIPAL DRAINAGE WORKS

1.0 INTRODUCTION AND LOCATION

The Council of the Municipality of Morris-Turnberry has appointed Headway Engineering to investigate a request for improvements under Section 78 of the Drainage Act. The project services parts of the following lots and concessions:

- Lots 1 to 14, Concession 7,
- Lots 1 to 15, Concession 8, and
- Lots 8 to 13, Concession 9 in the former Township of Morris, Municipality of Morris-Turnberry
- Lots 40 to 42, Concession 5,
- Lot 42, Concession 4 in the former Township of Wawanosh, Township of North Huron.

The Drainage Area comprises approximately 1,772 hectares, and land uses within the watershed include agriculture, bush lands, residential and roads.

The attached plans, profiles and details; Drawings 1 to 4, show the location and extent of the proposed work and the affected lands.

2.0 PROJECT AUTHORIZATION

Authority to prepare this report was obtained by a resolution of the Council of the Municipality of Morris-Turnberry at its August 12, 2025, meeting to appoint Headway Engineering to prepare an Engineer's Report under Section 78 of the Drainage Act.

3.0 DRAINAGE HISTORY

3.1 Kelly Drain (1949)

The Kelly Drain was originally constructed under the authority of a report prepared by S. W. Archibald P. Eng dated March 23, 1949. Construction works included deepening the existing ditch commencing from the Blyth Creek in Lot 8, Concession 9 and extending upstream to the lot line between Lot 6 and Lot 7, Concession 7, Municipality of Morris-Turnberry (Morris Ward).

4.0 PUBLIC MEETINGS AND ENGAGEMENTS

4.1 On-Site Meeting

Per Section 9(1) of the Drainage Act, an on-site meeting was held on December 11, 2025, to address the request for improvement. A preliminary plan showing the watershed was distributed in advance. The information supplied was based on data made available to the public by the Province of Ontario.

4.2 Stakeholder Meeting

A Public Information Meeting was held on July 29, 2026. The information supplied included details of the proposed farm crossing.



This meeting provided a review of the design of the proposed works, the estimated costs of the project, and the proposed assessments.

4.3 Public Information Mailout

Following the meeting, a package containing the design details and assessments was mailed to every property within the watershed. Headway Engineering requested that landowners submit any questions or concerns by August 21, 2026. No comments or concerns were received.

5.0 FINDINGS

Based on the information collected during field investigations, surveys, public engagements, and review of documentation, the following summarizes Headway Engineering's findings:

5.1 Watershed Condition (Hydrology):

- The watershed was established through the analysis of previous engineers' reports for the Kelly Drain as well as surrounding systems, field investigations, surveys, and data analysis of LIDAR derived digital data (2022). The drainage area comprises approximately 1,772 hectares.
- Land uses within the watershed are as follows with approximate proportions:
 - Agricultural: 86.2%
 - Bush, Wetland, or Ponds: 12.7%
 - Roads: 0.9%
 - Residential: 0.20%
- The Ontario Ministry of Agriculture, Food and Agribusiness's Agricultural Information Atlas describes the soil types within the watershed and along the routes of the drain as loam.

5.2 Existing Drainage System:

- The Kelly Drain outlets into Blyth Creek in Lot 8, Concession 9, and extends upstream to the lot line between Lots 6 and 7, Concession 7, in Morris Ward.
- The municipal drain divides the H J Sieber Farms Ltd. property, and a crossing is required.

5.3 Outlet:

- No construction works are proposed in Blyth Creek.

5.4 Other noted observations:

- In approximately 2025, maintenance activities were carried out on a portion of the existing Kelly Drain.
- The existing farm crossing on the H J Sieber Farms Ltd. property (Roll No. 9-008-00) is not of adequate size, depth or condition for today's standards of drainage and farming.



5.5 Environmental Requirements:

- The DFO classification of the existing Kelly Drain is a Class 'D' drain, according to the Ontario Ministry of Agriculture, Food and Agribusiness's (OMAFRA's) Information Atlas. Class 'D' drains contain fish species that are sensitive to construction activities.
- The Maitland Valley Conservation Authority (MVCA) has indicated that a permit to alter a watercourse is required.

6.0 DESIGN CONSIDERATIONS

The farm culvert on the H J Sieber Farms Ltd. property (Roll No. 9-008-00) is designed to convey flows from a minimum 1:5-year rainfall event. The crossing provides a minimum driving width of 8 m.

7.0 ENVIRONMENTAL CONSIDERATIONS AND PERMITTING

7.1 Department of Fisheries and Oceans (DFO)

The work location is classified as Class D on the Department of Fisheries and Oceans municipal drain classification layer in the Ontario Ministry of Agriculture, Food and Agribusiness Agricultural Information Atlas. A Request for Review was submitted on May 1, 2026. The report and contract documents will incorporate the applicable timing window and any mitigation measures identified through the DFO review.

7.2 Ministry of the Environment, Conservation and Parks (MECP)

Headway Engineering completed a review of the Natural Heritage Information Centre mapping for Species at Risk in Ontario. Provincial Species at Risk requiring special consideration were not found in the working area.

7.3 Maitland Valley Conservation Authority (MVCA)

The MVCA has been included on the circulation list for this report and has been notified of all public engagements. A design submission was filed with the MVCA on August 18, 2026, which included design drawings and a discussion of the proposal. The MVCA has stated that a Permit to Alter a Watercourse is required.

8.0 RECOMMENDATIONS

Headway Engineering recommends that one farm crossing consisting of two 2,400mm diameter corrugated steel pipes be installed at Station 0+540 on the H J Sieber Farms Ltd. property.

9.0 SUMMARY OF PROPOSED WORKS

The proposed work consists of:

1. The removal of one existing crossing,
2. The installation of one farm crossing consisting of two pipes.

10.0 WORKING AREA AND ACCESS

Access to the working area shall be as shown on the attached set of plans.



In addition to access, the working areas consist of the proposed crossing footprint and the existing crossing footprint to be removed, each with a 20m buffer.

11.0 SCHEDULES

Three schedules are attached and form part of this report.

11.1 Schedule A – Schedule of Allowances

Following Section 30 of the Drainage Act, allowances are provided to Landowners for Damages to Lands and Crops. Schedule A contains a table of the applicable allowances to Landowners.

11.2 Schedule B – Schedule of Estimated Construction Costs

An itemized cost estimate of the proposed construction work is included in detail in Schedule B.

11.3 Schedule C – Schedule of Assessment for Construction

Schedule C provides details of the distribution of the total estimated costs of the construction of the municipal drainage system.

12.0 ALLOWANCES

Per Section 30 of the Drainage Act, Allowances payable to Landowners are described below.

12.1 Allowances for Damages to Lands and Crops (Section 30)

Allowances for Damages to Lands and Crops under Section 30 of the Drainage Act, are primarily calculated to compensate Landowners for crop losses, and land damages due to the construction and operation of the drain, including access to the working area.

Area values used for calculating allowances for agricultural Damages are \$6,000/Ha.

Allowances payable to Landowners are shown in Schedule A.

Total Allowances, under Section 30 of the Drainage Act are \$3,300

Allowances will be deducted from the total assessments in accordance with Section 62(3) of the Drainage Act.

13.0 ESTIMATED CONSTRUCTION COSTS

Headway Engineering has made an estimate of the cost of the proposed construction work. A detailed description of the estimated construction costs can be found in Schedule B of this report.

Part A – Kelly Drain	\$ 76,800
Part B – Provisional Items	\$ 6,000
Total Estimated Construction Costs	\$ 82,800

14.0 SUMMARY OF ESTIMATED PROJECT COSTS

The total estimated project costs are as follows:



Allowances under Section 30 of the Drainage Act (Refer to Schedule A)	\$ 3,300
Total Estimated Construction Costs (Refer to Schedule B)	\$ 82,800
Public engagements, survey, design and drafting, preparation of preliminary cost estimates and assessments, preparation of final drainage report, consideration of report	\$ 26,400
Environmental Agency Consultations and Approvals	\$ 1,000
Tendering support, supervision, and inspection of construction, contract administration, as-recorded drawing preparation, final cost calculations and grant application preparation.	\$ 7,500
Contingencies, Interest and net H.S.T.	\$ 7,100
TOTAL ESTIMATED PROJECT COSTS KELLY MUNICIPAL DRAIN	\$ 128,100

The estimated cost of the work in the Municipality of Morris-Turnberry is \$128,100.

The above costs are estimates only. The final costs of construction, engineering and administration cannot be determined until the project is completed.

The above cost estimate does not include costs associated with defending the drainage report should appeals be filed with the Court of Revision, Drainage Tribunal and/or Drainage Referee. Should additional costs be incurred, unless otherwise directed, the additional costs would be distributed in a pro-rata fashion over the assessments contained in Schedule C and as may be varied under the Drainage Act.

15.0 ASSESSMENT

Headway Engineering assesses the cost of this work against the Lands and Roads as shown in Schedule C - Assessment for Construction.

Assessments were determined using the principles included in the 'Drainage Assessment Revisited' paper prepared by E.P. Dries and H.H. Todgham. These principles of assessment are recognized to be fair and equitable for determining cost distributions among those affected.

15.1 Outlet Liability (Section 23)

Outlet Liability is distributed to all properties within the watershed area on an adjusted area basis. The areas are adjusted to accurately reflect equivalent run-off rates relative to other lands and roads within the watershed. Due to development, roads have been assessed higher Outlet Liability rates relative to agricultural lands.

15.2 Special Benefit (Section 24)

The Special Benefit instrument of assessment was used to separate the benefit portion of the new farm crossing from the remaining costs of the drainage works.



16.0 GRANT ELIGIBILITY

The Province provides grants towards assessment to eligible properties for drainage improvements which meet the specified criteria. The provision of these grants for activities under the Drainage Act is called the *Agricultural Drainage Infrastructure Program* (ADIP).

A grant may be available for assessments to privately owned parcels of land which are used for agricultural purposes and eligible for the Farm Property Class Tax rate. Section 88 of the Drainage Act directs the Municipality to make an application for this grant upon certification of completion. The Municipality will then deduct the grant from the assessments.

17.0 MAINTENANCE

Upon completion, the new farm crossing at Sta. 0+540 on the H J Sieber Farms Ltd. property (Roll No. 9-008-00) shall be maintained by the Municipality of Morris-Turnberry. Maintenance costs for this crossing shall be borne by all assessed lands and roads, in accordance with total assessments outlined in Schedule 'C' – Schedule of Estimated Assessment for Construction, and in the same relative proportions unless altered under the Drainage Act.

The maintenance provisions of previous reports shall continue to apply to the remainder of the Kelly Municipal Drain.



Schedule A

Allowances

Schedule of Allowances

Kelly Municipal Drain

Property Details				Drainage Act Allowances	
Part			Roll	Damages	
Lot	Concession	Landowner	Number	(Sec. 30)	Total Allowances
8	9	H J Sieber Farms Ltd.	9-008-00	\$ 3,300.00	\$ 3,300.00
Total Allowances					
Kelly Municipal Drain				\$ 3,300.00	\$ 3,300.00



Schedule B

Estimated Construction Costs

Schedule of Estimated Construction Costs

An estimate of the cost of the proposed work has been completed, which is outlined in detail as follows.

Part A - Kelly Drain

	Description	Estimated Quantity	\$/Unit	Total
1)	Remove existing crossing at Sta. 0+789	I.s.		\$ 2,000.00
2)	Supply 2400mm diameter CSP with 125mm x 25mm corrugations, 2.8mm thickness, type II aluminized coating	28 m	\$ 1,600.00	\$ 44,800.00
	Installation of 2-2400mm diameter CSP pipe complete with quarry stone rip-rap protection and geotextile filter material (75m ²) (Sta. 0+540)	I.s.		\$ 30,000.00
Total Estimated Construction Costs				
Part A - Kelly Drain				\$ 76,800.00

Part B - Provisional Items

A Provisional Item is an item that may or may not be required as a part of the Contract. The decision as to whether a Provisional Item will form part of the Contract will be at the discretion of the engineer at time of construction. Payment for Provisional Items will only be made for work authorized in writing by the Engineer. Payment for work performed under a Provisional Item shall be based on the Unit Price bid in the Scope of Work below.

	Description	Estimated Quantity	\$/Unit	Total
1)	Quarry Stone Rip Rap	50 t	\$ 120.00	\$ 6,000.00
Total Estimated Construction Costs				
Part B - Provisional Items				\$ 6,000.00

Summary of Estimated Construction Costs

Part A - Kelly Drain	\$ 76,800.00
Part B - Provisional Items	\$ 6,000.00
Total Estimated Construction Costs	\$ 82,800.00



Schedule C

Estimated Assessment for Construction

Schedule of Assessment for Construction
Kelly Municipal Drain

Kelly Municipal Drain	Property Details					Estimated Assessments			For Information		
	Part Lot	Concession	Landowner	Roll Number	Approx. Ha. Affected	Outlet Liability (Sec. 23)	Special Benefit (Sec. 24)	Total Assessment	Less Gov't Grant	Less Allowances	Net Estimated Expense
	Municipality of Morris-Turnberry										
	1	7	Dale Whitfield & Sharon East	7-001-00	16.52	\$ 570		\$ 570	\$ 190	\$ -	\$ 380
	1	7	H J Sieber Farms Ltd.	7-033-00	38.57	\$ 1,350		\$ 1,350	\$ 450	\$ -	\$ 900
	Pt 1	7	Ann Aschwanden	7-033-10	0.75	\$ 28		\$ 28	*	\$ -	\$ 28
	2	7	Larry & Linda Fear	7-002-00	19.69	\$ 494		\$ 494	\$ 165	\$ -	\$ 329
	2	7	David Craig	7-034-00	47.33	\$ 1,339		\$ 1,339	\$ 446	\$ -	\$ 893
	3	7	Fear Family Farms Ltd.	7-003-00	6.39	\$ 148		\$ 148	\$ 49	\$ -	\$ 99
	Pt 3	7	John Coultres	7-034-01	34.87	\$ 609		\$ 609	*	\$ -	\$ 609
	4	7	H J Sieber Farms Ltd.	7-035-00	27.64	\$ 209		\$ 209	\$ 70	\$ -	\$ 139
	5	7	Frank & Doris Sanders	7-005-00	2.61	\$ 13		\$ 13	\$ 4	\$ -	\$ 9
	5	7	Frank & Doris Sanders	7-036-00	15.93	\$ 537		\$ 537	\$ 179	\$ -	\$ 358
	Pt 5	7	Terrance & Michelle Schiestel	7-036-05	1.62	\$ 70		\$ 70	\$ 23	\$ -	\$ 47
	Pt 6	7	John Sanders & Megan Austin	7-005-10	31.91	\$ 677		\$ 677	\$ 226	\$ -	\$ 451
	6	7	Lisa-Marie Kelly & Gregory Cullen	7-037-00	38.44	\$ 1,334		\$ 1,334	\$ 445	\$ -	\$ 889
	Pt 6	7	Jacob Wall & Nancy Hildebrandt	7-037-05	0.42	\$ 18		\$ 18	*	\$ -	\$ 18
	7	7	Rammeloo Farms Ltd.	7-006-00	40.53	\$ 1,517		\$ 1,517	\$ 506	\$ -	\$ 1,011
	7	7	Rammeloo Farms Ltd.	7-038-00	40.88	\$ 1,087		\$ 1,087	\$ 362	\$ -	\$ 725
	8	7	Rammeloo Farms Ltd.	7-007-00	31.48	\$ 983		\$ 983	\$ 328	\$ -	\$ 655
	8	7	Cantelon Farms Ltd.	7-040-00	81.16	\$ 2,571		\$ 2,571	\$ 857	\$ -	\$ 1,714
	10	7	William & Jennifer Rapson	7-008-00	17.67	\$ 586		\$ 586	\$ 195	\$ -	\$ 391
	10	7	Cantelon Farms Ltd.	7-041-00	40.96	\$ 1,437		\$ 1,437	\$ 479	\$ -	\$ 958
	11	7	Arma Farms Ltd.	7-042-00	39.93	\$ 1,129		\$ 1,129	\$ 376	\$ -	\$ 753
	12	7	Roma Nicholson Estate	7-012-00	2.71	\$ 83		\$ 83	\$ 28	\$ -	\$ 55
	12	7	Ralph Haverkamp	7-043-00	60.58	\$ 2,041		\$ 2,041	\$ 680	\$ -	\$ 1,361
	Pt 12	7	Roman Catholic Episcopal Corp. of the Diocese of London in Ontario	7-043-01	0.40	\$ 9		\$ 9	*	\$ -	\$ 9
	13	7	Ralph & Tonya Haverkamp	7-044-00	23.37	\$ 812		\$ 812	\$ 271	\$ -	\$ 541
	13	7	Ralph Haverkamp	7-044-05	1.45	\$ 51		\$ 51	\$ 17	\$ -	\$ 34
	14	7	Ralph Haverkamp & RJ Steel Inc.	7-045-00	9.18	\$ 322		\$ 322	\$ 107	\$ -	\$ 215
	1	8	Par-Chier Farms Ltd.	8-001-00	65.36	\$ 2,165		\$ 2,165	\$ 722	\$ -	\$ 1,443
	1	8	Bellara Poultry Inc.	8-034-00	1.18	\$ 4		\$ 4	\$ 1	\$ -	\$ 3
	2	8	Marilyn Craig	8-036-00	9.43	\$ 286		\$ 286	\$ 95	\$ -	\$ 191
	3	8	David Craig	8-003-00	39.20	\$ 1,351		\$ 1,351	\$ 450	\$ -	\$ 901
	3	8	780699 Ontario Ltd.	8-037-00	25.60	\$ 799		\$ 799	\$ 266	\$ -	\$ 533
	4	8	H J Sieber Farms Ltd.	8-004-00	39.82	\$ 1,382		\$ 1,382	\$ 461	\$ -	\$ 921
	4	8	John & Krista Nesbit	8-038-00	17.63	\$ 586		\$ 586	\$ 195	\$ -	\$ 391
	5	8	H J Sieber Farms Ltd.	8-005-00	41.13	\$ 1,275		\$ 1,275	\$ 425	\$ -	\$ 850

Kelly Municipal Drain	Property Details					Estimated Assessments			For Information		
	Part Lot	Concession	Landowner	Roll Number	Approx. Ha. Affected	Outlet Liability (Sec. 23)	Special Benefit (Sec. 24)	Total Assessment	Less Gov't Grant	Less Allowances	Net Estimated Expense
	5	8	H J Sieber Farms Ltd.	8-039-00	8.37	\$ 273		\$ 273	\$ 91	\$ -	\$ 182
	6	8	H J Sieber Farms Ltd.	8-006-00	80.51	\$ 2,791		\$ 2,791	\$ 930	\$ -	\$ 1,861
	6	8	Tony Roetcisoender	8-007-00	0.82	\$ 58		\$ 58	*	\$ -	\$ 58
	6	8	H J Sieber Farms Ltd.	8-040-00	15.43	\$ 348		\$ 348	\$ 116	\$ -	\$ 232
	7	8	Raymond & Kathryn McNichol	8-041-00	16.86	\$ 494		\$ 494	\$ 165	\$ -	\$ 329
	8	8	Danian Farms Inc.	8-011-00	95.75	\$ 3,064		\$ 3,064	\$ 1,021	\$ -	\$ 2,043
	8	8	Gerthea Dairy Farms Inc.	8-042-00	35.18	\$ 1,117		\$ 1,117	\$ 372	\$ -	\$ 745
	Pt 8	8	Barry Macdonald	8-042-05	2.02	\$ 69		\$ 69	\$ 23	\$ -	\$ 46
	9	8	Gary & Sandra Nicholson	8-043-00	40.32	\$ 1,240		\$ 1,240	\$ 413	\$ -	\$ 827
	10	8	Daniel & Gillian Egli	8-012-00	20.04	\$ 698		\$ 698	\$ 233	\$ -	\$ 465
	10	8	Boris & Melody Wallace	8-044-00	40.21	\$ 1,420		\$ 1,420	\$ 473	\$ -	\$ 947
	10	8	Harold Laffin	8-046-00	0.20	\$ 9		\$ 9	*	\$ -	\$ 9
	11	8	Arma Farms Ltd.	8-013-00	41.02	\$ 1,425		\$ 1,425	\$ 475	\$ -	\$ 950
	11	8	Ralph Haverkamp	8-047-00	35.17	\$ 1,160		\$ 1,160	\$ 387	\$ -	\$ 773
	12	8	Swiss Valley Farms Ltd.	8-014-00	28.49	\$ 900		\$ 900	\$ 300	\$ -	\$ 600
	12	8	Raymond, Kathryn, Michael, Krista, Brian & Kara McNichol	8-048-00	10.73	\$ 295		\$ 295	\$ 98	\$ -	\$ 197
	Pt 12	8	Scott & Yanina De Ryter	8-048-10	1.62	\$ 64		\$ 64	*	\$ -	\$ 64
	13	8	SL Cantelon Farms Ltd.	8-015-00	35.95	\$ 1,247		\$ 1,247	\$ 416	\$ -	\$ 831
	14	8	SL Cantelon Farms Ltd.	8-016-00	16.86	\$ 597		\$ 597	\$ 199	\$ -	\$ 398
	14	8	Monoway Farms Ltd.	8-017-01	45.30	\$ 1,475		\$ 1,475	\$ 492	\$ -	\$ 983
	14	8	Donald & Janet Nicholson	8-050-00	1.43	\$ 7		\$ 7	\$ 2	\$ -	\$ 5
	15	8	Ronald & Michelle McNichol	8-051-00	2.01	\$ 62		\$ 62	\$ 21	\$ -	\$ 41
	8	9	H J Sieber Farms Ltd.	9-008-00	5.24	\$ 183	\$ 70,455	\$ 70,638	\$ 23,546	\$ 3,300	\$ 43,792
	9	9	Marilyn Craig	9-009-00	26.32	\$ 899		\$ 899	\$ 300	\$ -	\$ 599
	10	9	Albert & Betty Siertsema	9-010-00	34.66	\$ 1,082		\$ 1,082	\$ 361	\$ -	\$ 721
	11	9	Albert & Betty Siertsema	9-011-00	18.57	\$ 650		\$ 650	\$ 217	\$ -	\$ 433
	12	9	Raymond & Kathryn McNichol	9-012-00	18.16	\$ 691		\$ 691	\$ 230	\$ -	\$ 461
	13	9	McNichol Farms Inc.	9-013-00	5.98	\$ 247		\$ 247	\$ 82	\$ -	\$ 165
	Total Assessments on Lands (Municipality of Morris-Turnberry)					\$ 50,437	\$ 70,455	\$ 120,892	\$ 40,031	\$ 3,300	\$ 77,561
	County Road 4 / London Road		Huron County		7.99	\$ 634		\$ 634			\$ 634
	Cranbrook Road		Municipality of Morris-Turnberry		0.24	\$ 13		\$ 13			\$ 13
	Elevator Line		Municipality of Morris-Turnberry		2.64	\$ 173		\$ 173			\$ 173
	Martin Line		Municipality of Morris-Turnberry		8.31	\$ 675		\$ 675			\$ 675
	Moncrieff Road		Municipality of Morris-Turnberry		3.66	\$ 305		\$ 305			\$ 305
	St. Michael's Road		Municipality of Morris-Turnberry		11.57	\$ 973		\$ 973			\$ 973
	Unopened Road Allowance		Municipality of Morris-Turnberry		2.32	\$ 51		\$ 51			\$ 51
	Total Assessments on Roads (Municipality of Morris-Turnberry)					\$ 2,824	\$ -	\$ 2,824			\$ 2,824
	Total Assessments on Lands and Roads (Municipality of Morris-Turnberry)					\$ 53,261	\$ 70,455	\$ 123,716	\$ 40,031	\$ 3,300	\$ 80,385

Kelly Municipal Drain	Property Details					Estimated Assessments			For Information		
	Part Lot	Concession	Landowner	Roll Number	Approx. Ha. Affected	Outlet Liability (Sec. 23)	Special Benefit (Sec. 24)	Total Assessment	Less Gov't Grant	Less Allowances	Net Estimated Expense
	Township of North Huron										
	42	4	Karl & Sandra Whitfield	4-032-00	21.12	\$ 757		\$ 757	\$ 252	\$ -	\$ 505
	40	5	Flynn Farms Ltd.	5-028-00	0.24	\$ 8		\$ 8	\$ 3	\$ -	\$ 5
	41	5	Rolling Lands Farms Ltd.	5-030-00	9.82	\$ 219		\$ 219	\$ 73	\$ -	\$ 146
	41	5	Eric & Muriel Taylor	5-031-00	15.46	\$ 539		\$ 539	\$ 180	\$ -	\$ 359
	42	5	Sigma Farms Ltd.	5-032-00	18.31	\$ 637		\$ 637	\$ 212	\$ -	\$ 425
	Pt 42	5	James & Sylvia Parish	5-032-05	1.91	\$ 68		\$ 68	*	\$ -	\$ 68
	42	5	Swiss Valley Farms Ltd.	5-032-15	19.90	\$ 695		\$ 695	\$ 232	\$ -	\$ 463
						\$ 863		\$ 863	\$ 288	\$ -	\$ 575
						\$ 457		\$ 457	\$ 152	\$ -	\$ 305
						\$ 29		\$ 29	*	\$ -	\$ 29
						\$ 10		\$ 10	*	\$ -	\$ 10
Total Assessments on Lands (Township of North Huron)						\$ 4,282		\$ 4,282	\$ 1,392	\$ -	\$ 2,890
Westfield Road					Township of North Huron	1.17	\$ 102	\$ 102			\$ 102
Total Assessments on Roads (Township of North Huron)						\$ 102		\$ 102	\$ -		\$ 102
Total Assessments on Lands and Roads (Township of North Huron)						\$ 4,384		\$ 4,384	\$ 1,392		\$ 2,992
Kelly Municipal Drain						\$ 57,645	\$ 70,455	\$ 128,100	\$ 41,423	\$ 3,300	\$ 83,377

- Notes: 1. '*' Denotes Lands not eligible for ADIP Grants.
2. The Net Estimated Expense is the Total Assessment less gov't grants and allowances (if applicable).
3. The Special Benefit Assessment (Sec. 24) is used to separate the benefit portion of crossings from other benefit assessments.



Specifications for the Construction of Municipal Drainage Works

DIVISION A – General Conditions

DIVISION B – Specifications for Open Drains

DIVISION H – Special Provisions



DIVISION A
General Conditions



DIVISION A

General Conditions



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DIVISION A – GENERAL CONDITIONS

A.1. Scope

The work to be done under this contract consists of supplying all labour, equipment and materials to construct the drainage work as outlined in the Scope of Work, Drawings, General Conditions and other Specifications.

A.2. Examinations of Site, Drawings, and Specifications

The Tenderer must examine the premises and site to compare them with the Drawings and Specifications in order to satisfy himself of the existing conditions and extent of the work to be done before submission of his Tender. No allowance shall subsequently be made on behalf of the Contractor by reason of any error on his part. Any estimates of quantities shown or indicated on the Drawings, or elsewhere are provided for the convenience of the Tenderer. Any use made of these quantities by the Tenderer in calculating his Tender shall be done at his own risk. The Tenderer for his own protection should check these quantities for accuracy.

The standard specifications (Divisions B through G) shall be considered complementary and where a project is controlled under one of the Divisions, the remaining Divisions will apply for miscellaneous works.

In case of any inconsistency or conflict between the Drawings and Specifications, the following order of precedence shall apply:

- Direction of the Engineer
- Special Provisions (Division H)
- Scope of Work
- Contract Drawings
- Standard Specifications (Divisions B through G)
- General Conditions (Division A)

A.3. Payment

Progress payments equal to 87±% of the value of work completed and materials incorporated in the work will be made to the Contractor monthly. An additional ten per cent (10±%) will be paid 60 days after the final acceptance by the Engineer, and three per cent (3±%) of the Contract price may be reserved by the Municipality as a maintenance holdback for a one (1) year period from the date of the Completion Certificate. A greater percentage of the Contract price may be reserved by the Municipality for the same one (1) year period if in the opinion of the Engineer, particular conditions of the Contract requires such greater holdback.

After the completion of the work, any part of this reserve may be used to correct defects developed within that time from faulty workmanship and materials, provided that notice shall first be given to the Contractor and that he may promptly make good such defects.

A.4. Contractor's Liability Insurance



Prior to commencement of any work, the Contractor shall file with the Municipality evidence of compliance with all Municipality insurance requirements (Liability Insurance, WSIB, etc.) for no less than the minimum amounts as stated in the Purchasing Procedures of the Municipality. All insurance coverage shall remain in force for the entire contract period including the warranty period which expires one year after the date of the Completion Certificate.

The following are to be named as co-insured:

- Successful Contractor
- Sub-Contractor
- Municipality
- Headway Engineering

A.5. Losses Due to Acts of Nature, Etc.

All damage, loss, expense and delay incurred or experienced by the Contractor in the performance of the work, by reason of unanticipated difficulties, bad weather, strikes, acts of nature, or other mischances shall be borne by the Contractor and shall not be the subject of a claim for additional compensation.

A.6. Commencement and Completion of Work

The work must commence as specified in the Form of Tender and Agreement. If conditions are unsuitable due to poor weather, the Contractor may be required, at the discretion of the Engineer to postpone or halt work until conditions become acceptable and shall not be subject of a claim for additional compensation.

The Contractor shall give the Engineer a minimum of 48 hours notice before commencement of work. The Contractor shall then arrange a meeting to be held on the site with Contractor, Engineer, and affected Landowners to review in detail the construction scheduling and other details of the work.

If the Contractor leaves the job site for a period of time after initiation of work, he shall give the Engineer and the Municipality a minimum of 24 hours notice prior to returning to the project. If any work is commenced without notice to the Engineer, the Contractor shall be fully responsible for all such work undertaken prior to such notification.

The work must proceed in such a manner as to ensure its completion at the earliest possible date and within the time limit set out in the Form of Tender and Agreement.

A.7. Working Area and Access

Where any part of the drain is on a road allowance, the road allowance shall be the working area. For all other areas, the working area available to the Contractor to construct the drain is specified in the Special Provisions (Division H).

Should the specified widths become inadequate due to unusual conditions, the Contractor shall notify the Engineer immediately. Where the Contractor exceeds the specified working widths without authorization, he shall be held responsible for the costs of all additional damages.



If access off an adjacent road allowance is not possible, each Landowner on whose property the drainage works is to be constructed, shall designate access to and from the working area. The Contractor shall not enter any other lands without permission of the Landowner and he shall compensate the Landowner for damage caused by such entry.

A.8. Sub-Contractors

The Contractor shall not sublet the whole or part of this Contract without the approval of the Engineer.

A.9. Permits, Notices, Laws and Rules

The Contractor shall obtain and pay for all necessary permits or licenses required for the execution of the work (but this shall not include MTO encroachment permits, County Road permits permanent easement or rights of servitude). The Contractor shall give all necessary notices and pay for all fees required by law and comply with all laws, ordinances, rules and regulations relating to the work and to the preservation of the public's health and safety.

A.10. Railways, Highways, and Utilities

A minimum of 72 hours' notice to the Railway or Highways, exclusive of Saturdays, Sundays, and Statutory Holidays, is required by the Contractor prior to any work activities on or affecting the applicable property. In the case of affected Utilities, a minimum of 48 hours' notice to the utility owner is required.

A.11. Errors and Unusual Conditions

The Contractor shall notify the Engineer immediately of any error or unusual conditions which may be found. Any attempt by the Contractor to correct the error on his own shall be done at his own risk. Any additional cost incurred by the Contractor to remedy the wrong decision on his part shall be borne by the Contractor. The Engineer shall make the alterations necessary to correct errors or to adjust for unusual conditions during which time it will be the Contractor's responsibility to keep his men and equipment gainfully employed elsewhere on the project.

The Contract amount shall be adjusted in accordance with a fair evaluation of the work added or deleted.

A.12. Alterations and Additions

The Engineer shall have the power to make alterations in the work shown or described in the Drawings and Specifications and the Contractor shall proceed to make such changes without causing delay. In every such case, the price agreed to be paid for the work under the Contract shall be increased or decreased as the case may require according to a fair and reasonable evaluation of the work added or deleted. The valuation shall be determined as a result of negotiations between the Contractor and the Engineer, but in all cases the Engineer shall maintain the final responsibility for the decision. Such alterations and variations shall in no way render the Contract void. No claims for a variation or alteration in the increased or decreased price shall be valid unless done in pursuance of an order from the Engineer and notice of such claims made in writing before commencement of such work. In no such case shall the Contractor commence work which he considers to be extra before receiving the Engineer's approval.



A.13. Supervision

The Contractor shall give the work his constant supervision and shall keep a competent foreman in charge at the site.

A.14. Field Meetings

At the discretion of the Engineer, a field meeting with the Contractor or his representative, the Engineer and with those others that the Engineer deems to be affected, shall be held at the location and time specified by the Engineer.

A.15. Periodic and Final Inspections

Periodic inspections by the Engineer will be made during the performance of the work. If ordered by the Engineer, the Contractor shall expose the drain as needed to facilitate inspection by the Engineer.

Final inspection by the Engineer will be made within twenty (20) days after he has received notice from the Contractor that the work is complete.

A.16. Acceptance By the Municipality

Before any work shall be accepted by the Municipality, the Contractor shall correct all deficiencies identified by the Engineer and the Contractor shall leave the site neat and presentable.

A.17. Warranty

The Contractor shall repair and make good any damages or faults in the drain that may appear within one (1) year after its completion (as dated on the Completion Certificate) as the result of the imperfect or defective work done or materials furnished if certified by the Engineer as being due to one or both of these causes; but nothing herein contained shall be construed as in any way restricting or limiting the liability of the Contractor under the laws of the Country, Province or Locality in which the work is being done. Neither the Completion Certificate nor any payment there under, nor any provision in the Contract Documents shall relieve the Contractor from his responsibility.

A.18. Termination of Contract By The Municipality

If the Contractor should be adjudged bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he should refuse or fail to supply enough properly skilled workmen or proper materials after having received seven (7) days notice in writing from the Engineer to supply additional workmen or materials to commence or complete the works, or if he should fail to make prompt payment to Sub-Contractors, or for material, or labour, or persistently disregards laws, ordinances, or the instruction of the Engineer, or otherwise be guilty of a substantial violation of the provisions of the Contract, then the Municipality, upon the certificate of the Engineer that sufficient cause exists to justify such action, may without prejudice to any other right or remedy, by giving the Contractor written notice, terminate the employment of the Contractor and take possession of the premises, and of all materials, tools and appliances thereon, and may finish the work by whatever method the Engineer may deem expedient but without delay or expense. In such a case, the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the Contract price will exceed the expense



of finishing the work including compensation to the Engineer for his additional services and including the other damages of every name and nature, such excess shall be paid by the Contractor. If such expense will exceed such unpaid balance, the Contractor shall pay the difference to the Municipality. The expense incurred by the Municipality, as herein provided, shall be certified by the Engineer.

If the Contract is terminated by the Municipality due to the Contractor's failure to properly commence the works, the Contractor shall forfeit the certified cheque bid deposit and furthermore shall pay to the Municipality an amount to cover the increased costs, if any, associated with a new Tender for the Contract being terminated.

If any unpaid balance and the certified cheque do not match the monies owed by the Contractor upon termination of the Contract, the Municipality may also charge such expense against any money which may thereafter be due to the Contractor from the Municipality.

A.19. Tests

The cost for the testing of materials supplied to the job by the Contractor shall be borne by the Contractor. The Engineer reserves the right to subject any lengths of any tile or pipe to a competent testing laboratory to ensure the adequacy of the tile or pipe. If any tile supplied by the Contractor is determined to be inadequate to meet the applicable A.S.T.M. standards, the Contractor shall bear full responsibility to remove and/or replace all such inadequate tile in the Contract with tile capable of meeting the A.S.T.M. Standards.

A.20. Pollution

The Contractor shall keep their equipment in good repair. The Contractor shall refuel or repair equipment away from open water.

If polluted material from construction materials or equipment is caused to flow into the drain, the Contractor shall immediately notify the Ministry of the Environment, and proceed with the Ministry's protocols in place to address the situation.

A.21. Species and Risk

If a Contractor encounters a known Species at Risk as designated by the MNR or DFO, the Contractor shall notify the Engineer immediately and follow the Ministry's guidelines to deal with the species.

A.22. Road Crossings

This specification applies to all road crossings (Municipality, County, Regional, or Highway) where no specific detail is provided on the drawings or in the standard specifications. This specification in no way limits the Road Authority's regulations governing the construction of drains on their Road Allowance.

A.22.1. Road Occupancy Permit

Where applicable, the Contractor must submit an application for a road occupancy permit to the Road Authority and allow a minimum of five (5) working days for its review and issuance.

A.22.2. Road Closure Request and Construction Notification



The Contractor shall submit written notification of construction and request for road closure (if applicable) to the Road Authority and the Engineer for review and approval a minimum of five (5) working days prior to proceeding with any work on the road allowance. The Contractor shall be responsible for notifying all applicable emergency services, schools, etc. of the road closure or construction taking place.

A.22.3. Traffic Control

The Contractor shall supply flagmen, and warning signs and ensure that detour routes are adequately signed in accordance with no less than the minimum standards as set out in the Ontario Traffic Manual's Book 7.

A.22.4. Weather

No construction shall take place during inclement weather or periods of poor visibility.

A.22.5. Equipment

No construction material and/or equipment is to be left within three (3) metres of the travelled portion of the road overnight or during periods of inclement weather.

If not stated on the drawings, the road crossing shall be constructed by open cut method. Backfill from the top of the cover material over the subsurface pipe or culvert to the under side of the road base shall be Granular "B". The backfill shall be placed in lifts not exceeding 300mm in thickness and each lift shall be thoroughly compacted to 98% Standard Proctor. Granular "B" road base for County Roads and Highways shall be placed to a 450mm thickness and Granular "A" shall be placed to a thickness of 200mm. Granular road base materials shall be thoroughly compacted to 100% Standard Proctor.

Where the road surface is paved, the Contractor shall be responsible for placing HL-8 Hot Mix Asphalt patch at a thickness of 50mm or of the same thickness as the existing pavement structure. The asphalt patch shall be flush with the existing roadway on each side and without overlap.

Excavated material from the trench beyond 1.25 metres from the travelled portion or beyond the outside edge of the gravel shoulder may be used as backfill in the trench in the case of covered drains. The material shall be compacted in lifts not exceeding 300mm.

A.23. Laneways

All pipes crossing laneways shall be backfilled with material that is clean, free of foreign material or frozen particles and readily tamped or compacted in place unless otherwise specified. Laneway culverts on open ditch projects shall be backfilled with material that is not easily erodible. All backfill material shall be thoroughly compacted as directed by the Engineer.

Culverts shall be bedded with a minimum of 300mm of granular material. Granular material shall be placed simultaneously on each side of the culvert in lifts not exceeding 150mm in thickness and compacted to 95% Standard Proctor Density. Culverts shall be installed a minimum of 10% of the culvert diameter below design grade with a minimum of 450mm of cover over the pipe unless otherwise noted on the Drawings.



The backfill over culverts and subsurface pipes at all existing laneways that have granular surfaces on open ditch and closed drainage projects shall be surfaced with a minimum of 300mm of Granular “B” material and 150mm of Granular “A” material. All backfill shall be thoroughly compacted as directed by the Engineer. All granular material shall be placed to the full width of the travelled portion.

Any settling of backfilled material shall be repaired by or at the expense of the Contractor during the warranty period of the project and as soon as required.

A.24. Fences

No earth is to be placed against fences and all fences removed by the Contractor shall be replaced by him in as good a condition as found. Where practical the Contractor shall take down existing fences in good condition at the nearest anchor post and roll it back rather than cutting the fence and attempting to patch it. The replacement of the fences shall be done to the satisfaction of the Engineer. Any fences found in such poor condition where the fence is not salvageable, shall be noted and verified with the Engineer prior to commencement of work.

Fences damaged beyond repair by the Contractor’s negligence shall be replaced with new materials, similar to those materials of the existing fence, at the Contractor’s expense. The replacement of the fences shall be done to the satisfaction of the Landowner and the Engineer.

Any fences paralleling an open ditch that are not line fences that hinder the proper working of the excavating machinery, shall be removed and rebuilt by the Landowner at his own expense.

The Contractor shall not leave fences open when he is not at work in the immediate vicinity.

A.25. Livestock

The Contractor shall provide each landowner with 48 hours notice prior to removing any fences along fields which could possibly contain livestock. Thereafter, the Landowner shall be responsible to keep all livestock clear of the construction areas until further notified. The Contractor shall be held responsible for loss or injury to livestock or damage caused by livestock where the Contractor failed to notify the Landowner, or through negligence or carelessness on the part of the Contractor.

A.26. Standing Crops

The Contractor shall be responsible for damages to standing crops which are ready to be harvested or salvaged along the course of the drain and access routes if the Contractor has failed to notify the Landowners 48 hours prior to commencement of the work on that portion of the drain.

A.27. Surplus Gravel

If as a result of any work, gravel or crushed stone is required and not all the gravel or crushed stone is used, the Contractor shall haul away such surplus material.

A.28. Iron Bars

The Contractor is responsible for the cost of an Ontario Land Surveyor to replace any iron bars that are altered or destroyed during the course of the construction.



A.29. Rip-Rap

Rip-rap shall be quarry stone rip-rap material and shall be the sizes specified in the Special Provisions. Broken concrete shall not be used as rip-rap unless otherwise specified.

A.30. Clearing, Grubbing and Brushing

This specification applies to all brushing where no specific detail is provided on the drawings or in the Special Provisions.

The Contractor shall clear, brush and stump trees from within the working area that interfere with the installation of the drainage system.

All trees, limbs and brush less than 150mm in diameter shall be mulched. Trees greater than 150mm in diameter shall be cut and neatly stacked in piles designated by the Landowners.

A.31. Restoration of Lawns

This specification applies to all lawn restoration where no specific detail is provided on the drawings or in the Special Provisions and no allowance for damages has been provided under Section 30 of the Drainage Act RSO 1990 to the affected property.

The Contractor shall supply “high quality grass seed” and the seed shall be broadcast by means of an approved mechanical spreader. All areas on which seed is to be placed shall be loose at the time of broadcast to a depth of 25mm. Seed and fertilizer shall be spread in accordance with the supplier’s recommendations unless otherwise directed by the Engineer. Thereafter it will be the responsibility of the Landowner to maintain the area in a manner so as to promote growth

END OF DIVISION



DIVISION B

Specifications for Open Drains



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DIVISION B – SPECIFICATIONS FOR OPEN DRAINS

B.1. Alignment

The drain shall be constructed in a straight line and shall follow the course of the present drain or water run unless noted on the drawings. Where there are unnecessary bends or irregularities on the existing course of the drain, the Contractor shall contact the Engineer before commencing work to verify the manner in which such irregularities or bends may be removed from the drain. All curves shall be made with a minimum radius of fifteen (15) metres from the centre line of the drain.

B.2. Profile

The Profile Drawing shows the depth of cuts from the top of the bank to the final invert of the ditch in metres and decimals of a metre, and also the approximate depth of excavated material from the bottom of the existing ditch to the final invert of the ditch. These cuts are established for the convenience of the Contractor; however, bench marks (established along the course of the drain) will govern the final elevation of the drain. The location and elevation of the bench marks are given on the Profile Drawing. Accurate grade control must be maintained by the Contractor during ditch excavation.

B.3. Excavation

The bottom width and the side slopes of the ditch shall be those shown on the drawings. If the channel cross-section is not specified it shall be a one metre bottom width with 1.5(h):1(v) side slopes. At locations along the drain where the cross section dimensions change, there shall be a transitional length of not less than 10:1 (five metre length to 0.5 metre width differential). Where the width of the bottom of the existing ditch is sufficient to construct the design width, then construction shall proceed without disturbing the existing banks.

Where existing side slopes become unstable, the Contractor shall immediately notify the Engineer. Alternative methods of construction and/or methods of protection will then be determined prior to continuing work.

Where an existing drain is being relocated or where a new drain is being constructed, the Contractor shall strip the topsoil for the full width of the drain, including the location of the spoil pile. Upon completion of levelling, the topsoil shall be spread to an even depth across the full width of the spoil.

An approved hydraulic excavator shall be used to carry out the excavation of the open ditch unless otherwise directed by the Engineer.

B.4. Excavated Material

Excavated material shall be placed on the low side of the drain or opposite trees and fences. The Contractor shall contact all Landowners before proceeding with the work to verify the location to place and level the excavated material.

No excavated material shall be placed in tributary drains, depressions, or low areas which direct water behind the spoil bank. The excavated material shall be placed and levelled to a maximum



depth of 200 mm, unless instructed otherwise and commence a minimum of one (1) metre from the top of the bank. The edge of the spoil bank away from the ditch shall be feathered down to the existing ground; the edge of the spoil bank nearest the ditch shall have a maximum slope of 2(h):1(v). The material shall be levelled such that it may be cultivated with ordinary farm equipment without causing undue hardship to the farm machinery and farm personnel. No excavated material shall cover any logs, brush, etc. of any kind.

Any stones or boulders which exceed 300mm in diameter shall be removed and disposed of in a location specified by the Landowner.

Where it is necessary to straighten any unnecessary bends or irregularities in the alignment of the ditch or to relocate any portion or all of an existing ditch, the excavated material from the new cut shall be used for backfilling the original ditch. Regardless of the distance between the new ditch and the old ditch, no extra compensation will be allowed for this work and must be included in the Contractor's lump sum price for the open work.

B.5. Excavation at Existing Bridge and Culvert Sites

The Contractor shall excavate the drain to the full specified depth under all bridges and to the full width of the structure. Temporary bridges may be carefully removed and left on the bank of the drain but shall be replaced by the Contractor when the excavation is complete. Permanent bridges must, if at all possible, be left intact. All necessary care and precautions shall be taken to protect the structure. The Contractor shall notify the Landowner if excavation will expose the footings or otherwise compromise the structural integrity of the structure.

The Contractor shall clean through all pipe culverts to the grade and width specified on the profile.

B.6. Pipe Culverts

All pipe culverts shall be installed in accordance with the standard detail drawings. If couplers are required, five corrugation couplers shall be used for up to and including 1200mm diameter pipes and 10 corrugation couplers for greater than 1200mm diameter pipes.

When an existing crossing is being replaced, the Contractor may backfill the new culvert with the existing native material that is free of large rocks and stones. The Contractor is responsible for any damage to a culvert pipe that is a result of rocks or stones in the backfill.

B.7. Rip-Rap Protection For Culverts

Quarry stone rip-rap shall be used as end treatment for new culverts and placed on geotextile filter material (Mirafi 160N or approved equal). The rip-rap shall be adequately keyed in along the bottom of the slope, and shall extend to the top of the pipe or as directed on the drawings. The maximum slope for rip-rap shall be 1(h):1(v) or as directed by the Engineer.

The Contractor shall be responsible for any defects or damages that may develop in the rip-rap or the earth behind the rip-rap that the Engineer deems to have been fully or partially caused by faulty workmanship or materials.



B.8. Clearing, Grubbing and Mulching

Prior to excavation, all trees, scrub, fallen timber and debris shall be removed from the side slopes of the ditch and for such a distance on the working side so as to eliminate any interference with the construction of the drain or the spreading of the spoil. The side slopes shall be neatly cut and cleared flush with the slope whether or not they are affected directly by the excavation. With the exception of large stumps causing damage to the drain, the side slopes shall not be grubbed. All other cleared areas shall be grubbed and the stumps put into piles for disposal by the Landowner.

All trees or limbs 150mm or larger, that is necessary to remove, shall be cut, trimmed and neatly stacked in the working width for the use or disposal by the Landowner. Brush and limbs less than 150mm in diameter shall be mulched. Clearing, grubbing and mulching shall be carried out as a separate operation from the excavation of the ditch, and shall not be completed simultaneously at the same location.

B.9. Tributary Tile Outlets

All tile outlets in existing ditches shall be marked by the Landowner prior to excavation. The Contractor shall guard against damaging the outlets of tributary drains. Any tile drain outlets that were marked or noted on the drawings and are subsequently damaged by the Contractor shall be repaired by the Contractor at his expense. The Landowner shall be responsible for repairs to damaged tile outlets that were not marked.

B.10. Seeding

The side slopes where disturbed shall be seeded using an approved grass seed mixture. The grass seed shall be applied the same day as the excavation of the open ditch.

Grass seed shall be fresh, clean and new crop seed, meeting the requirements of the MTO and composed of the following varieties mixed in the proportion by weight as follows:

- 55% Creeping Red Fescue
- 40% Perennial Rye Grass
- 5% White Clover

Grass seed shall be applied at the rate of 100 kg/ha.

B.11. Hydro Seeding

The areas specified in the contract document shall be hydro seeded and mulched upon completion of construction in accordance with O.P.S.S. 572.

B.12. Hand Seeding

Placement of the seed shall be of means of an approved mechanical spreader.

B.13. Completion



At the time of completion and final inspection, all work in the Contract shall have the full dimensions and cross-sections specified without any allowance for caving of banks or sediment in the ditch bottom.

END OF DIVISION



SPECIAL PROVISIONS

Kelly Municipal Drain



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Special Provisions means special directions containing requirements particular to the work not adequately provided for by the standard or supplemental specifications. Special provisions shall take precedence and govern any standard or supplemental specification.

1. General

The Contractor shall organize and hold a preconstruction meeting with the Engineer and the Drainage Superintendent prior to the start of construction. The Contractor shall notify and invite all Landowners and all applicable road authorities on whose property where works are proposed.

The Contractor shall notify the Landowner, the Drainage Superintendent and the Engineer one week prior to construction.

The Contractor shall check and verify all dimensions and elevations and report any discrepancies to the Engineer prior to proceeding with the work.

The Contractor must maintain access to all driveways as well as maintain access for all emergency vehicles at all times during construction.

The Contractor should make their own independent interpretation of the subsurface information as it may affect their proposed construction means and methods, equipment selection, scheduling, pricing and the like.

All objects or obstructions within the construction working area such as signs, mailboxes, fences, property ornamentals, etc., that interfere with the installation of the drain shall be removed and re-erected in the same location or another location satisfactory to the Landowner. Any damages to such objects by the Contractor shall be repaired, replaced, installed and paid for by the Contractor at the discretion of the Engineer.

The Contractor shall be responsible for all settlement within the warranty period.

2. Utilities

All utilities shall be located and uncovered in the affected areas by the Contractor prior to construction.

The locations and elevations of all utilities shown on the drawings are approximate locations. Actual locations and elevations of all utilities must be verified by the Contractor prior to construction.

The Contractor shall arrange to have a representative of the utility owner on site during construction if it is a requirement by the utility owner.

The Contractor shall contact the Engineer if the Contractor discovers a conflict or discrepancy between the design as detailed on the attached set of plans and the utility locates.

3. Working Area and Access

Access to the working areas shall be from Moncrieff Road, as shown on the plans.

In addition to access, the working areas consist of the proposed crossing footprint and the existing crossing footprint to be removed, each with a 20m buffer.



4. Rip-Rap

All stone rip-rap material used shall be quarry stone 150mm to 300mm dia. and placed to a depth of 450mm.

All rip-rap material shall be placed on geo-textile filter material (Mirafi 180N or equivalent).

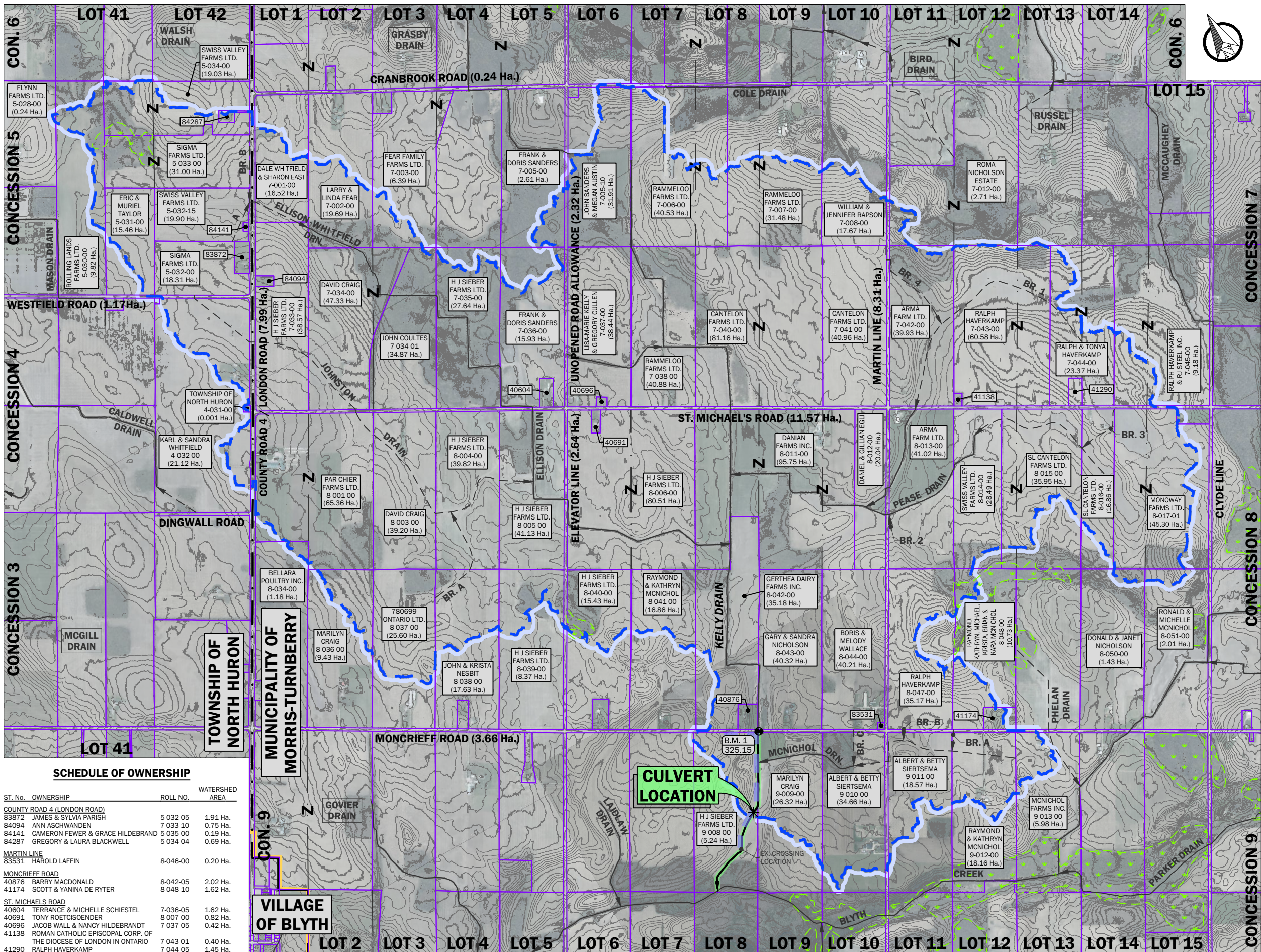
5. Culvert Installation

The Contractor shall install the culvert in accordance with the details included in the drawing set.

6. Erosion and Sediment Control

The Contractor shall provide adequate erosion and sediment control for the duration of construction including monitoring and maintenance of the control measures put in place. The Contractor shall inspect the erosion and sediment control measures regularly, and specifically before predicted rainfall events, and after rainfall events.

END OF DIVISION



MUNICIPALITY OF MORRIS-TURNBERRY

MORRIS WARD

KELLY MUNICIPAL DRAIN

WATERSHED PLAN

NOTES:

1. THIS MAP WAS CREATED USING COUNTY OF HURON GEOGRAPHIC INFORMATION SYSTEM DIGITAL DATA. THIS MAP IS A SECONDARY PRODUCT WHICH HAS NOT BEEN VERIFIED BY THE COUNTY OF HURON.

2. THE CONTOURS WERE CREATED USING LIDAR DERIVED DIGITAL DATA (2022) FROM LAND INFORMATION ONTARIO.

LEGEND

LOT/CONCESSION LINE
URBAN BOUNDARY
TOWNSHIP BOUNDARY
PROPERTY LINE
MAJOR WATERSHED BOUNDARY
MINOR WATERSHED BOUNDARY
WETLAND LIMIT

BENCHMARK LOCATION

B.M. 1
123.45

BENCHMARK No.
BENCHMARK ELEVATION

EXISTING FEATURES:

DRAIN NAME
DRAIN NAME
DRAIN NAME

OPEN DRAIN WITH CROSSING AND FLOW DIRECTION
CLOSED DRAIN WITH CATCH BASIN, MANHOLE AND FLOW DIRECTION
OVERLAND FLOW PATH

PROPOSED FEATURES:

DRAIN NAME

OPEN DRAIN WITH CROSSING AND FLOW DIRECTION

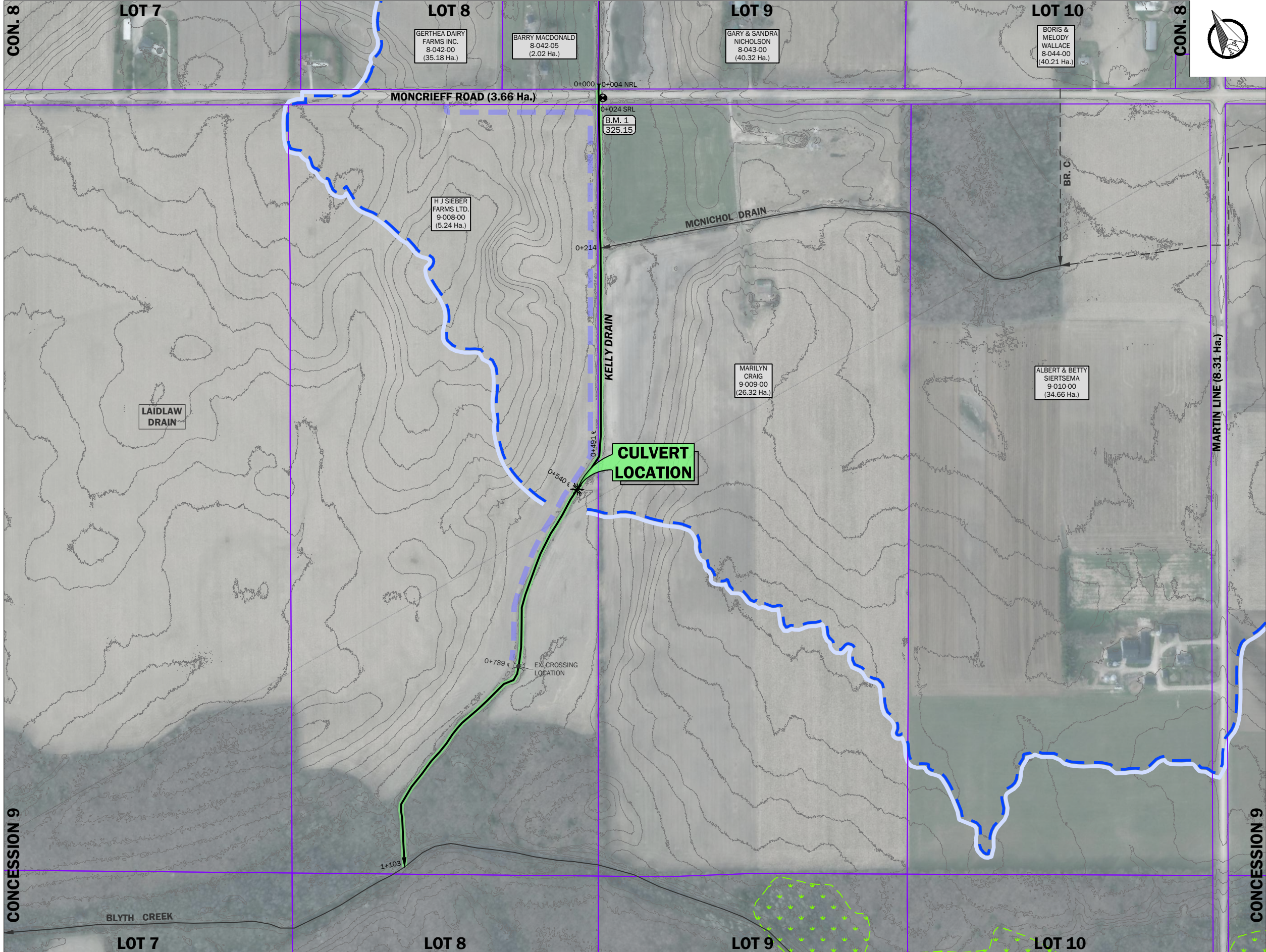
Oct 16, 2023
S.G.R. BRIDGMAN
100150920
PROV. OF ONTARIO

No.	REVISION	DATE (YY-MM-DD)
3	REPORT SUBMISSION	26-10-16
2	PUBLIC INFORMATION MEETING	26-07-29
1	ON-SITE MEETING	25-12-11

Headway Engineering

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DRAWING
R.U.	A.H.	S.B.	1 OF 4
DATE: 2026-10-16		REFERENCE No. MT-008	

SCHEDULE OF OWNERSHIP			
ST. No.	OWNERSHIP	ROLL NO.	WATERSHED AREA
COUNTY ROAD 4 (LONDON ROAD)			
83872	JAMES & SYLVIA PARISH	5-032-05	1.91 Ha.
84094	ANN ASCHWANDEN	7-033-10	0.75 Ha.
84141	CAMERON FEWER & GRACE HILDEBRAND	5-035-00	0.19 Ha.
84287	GREGORY & LAURA BLACKWELL	5-034-04	0.69 Ha.
MARTIN LINE			
83531	HAROLD LAFFIN	8-046-00	0.20 Ha.
MONCRIEFF ROAD			
40876	BARRY MACDONALD	8-042-05	2.02 Ha.
41174	SCOTT & YANINA DE RYTER	8-048-10	1.62 Ha.
ST. MICHAELS ROAD			
40604	TERRANCE & MICHELLE SCHIEL	7-036-05	1.62 Ha.
40691	TONY ROETISOENDER	8-007-00	0.82 Ha.
40696	JACOB WALL & NANCY HILDEBRANDT	7-037-05	0.42 Ha.
41138	ROMAN CATHOLIC EPISCOPAL CORP. OF THE DIOCESE OF LONDON IN ONTARIO	7-043-01	0.40 Ha.
41290	RALPH HAVERKAMP	7-044-05	1.45 Ha.





MUNICIPALITY OF
MORRIS-TURNBERRY

MORRIS WARD

KELLY MUNICIPAL DRAIN

WORK AREA PLAN

NOTES:

1. THIS MAP WAS CREATED USING COUNTY OF HURON GEOGRAPHIC INFORMATION SYSTEM DIGITAL DATA. THIS MAP IS A SECONDARY PRODUCT WHICH HAS NOT BEEN VERIFIED BY THE COUNTY OF HURON.

2. THE CONTOURS WERE CREATED USING LIDAR DERIVED DIGITAL DATA (2022) FROM LAND INFORMATION ONTARIO.

LEGEND

LOT/CONCESSION LINE

PROPERTY LINE

MAJOR WATERSHED BOUNDARY

MINOR WATERSHED BOUNDARY

WETLAND LIMIT

CONSTRUCTION/MAINTENANCE ACCESS

BENCHMARK LOCATION

B.M. 1

123.45

JOHN & JANE SMITH

12-345

(12.3 Ha.)

LANDOWNER NAME(S)

ASSESSMENT ROLL No. (ABBREVIATED)

AREA WITHIN WATERSHED

EXISTING FEATURES:

DRAIN NAME

OPEN DRAIN WITH CROSSING AND FLOW DIRECTION

DRAIN NAME

CLOSED DRAIN WITH CATCH BASIN, MANHOLE AND FLOW DIRECTION

OVERLAND FLOW PATH

PROPOSED FEATURES:

DRAIN NAME

OPEN DRAIN WITH CROSSING AND FLOW DIRECTION

Oct 16, 2023

S.G.R. BRIDGMAN

100150920

PROVINCE OF ONTARIO

3

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1

ON-SITE MEETING

25-12-11

No.

REVISION

DATE (YY-MM-DD)

Headway

Engineering

DRAWN BY:

DESIGNED BY:

CHECKED BY:

DRAWING

R.U.

A.H.

S.B.

2 OF 4

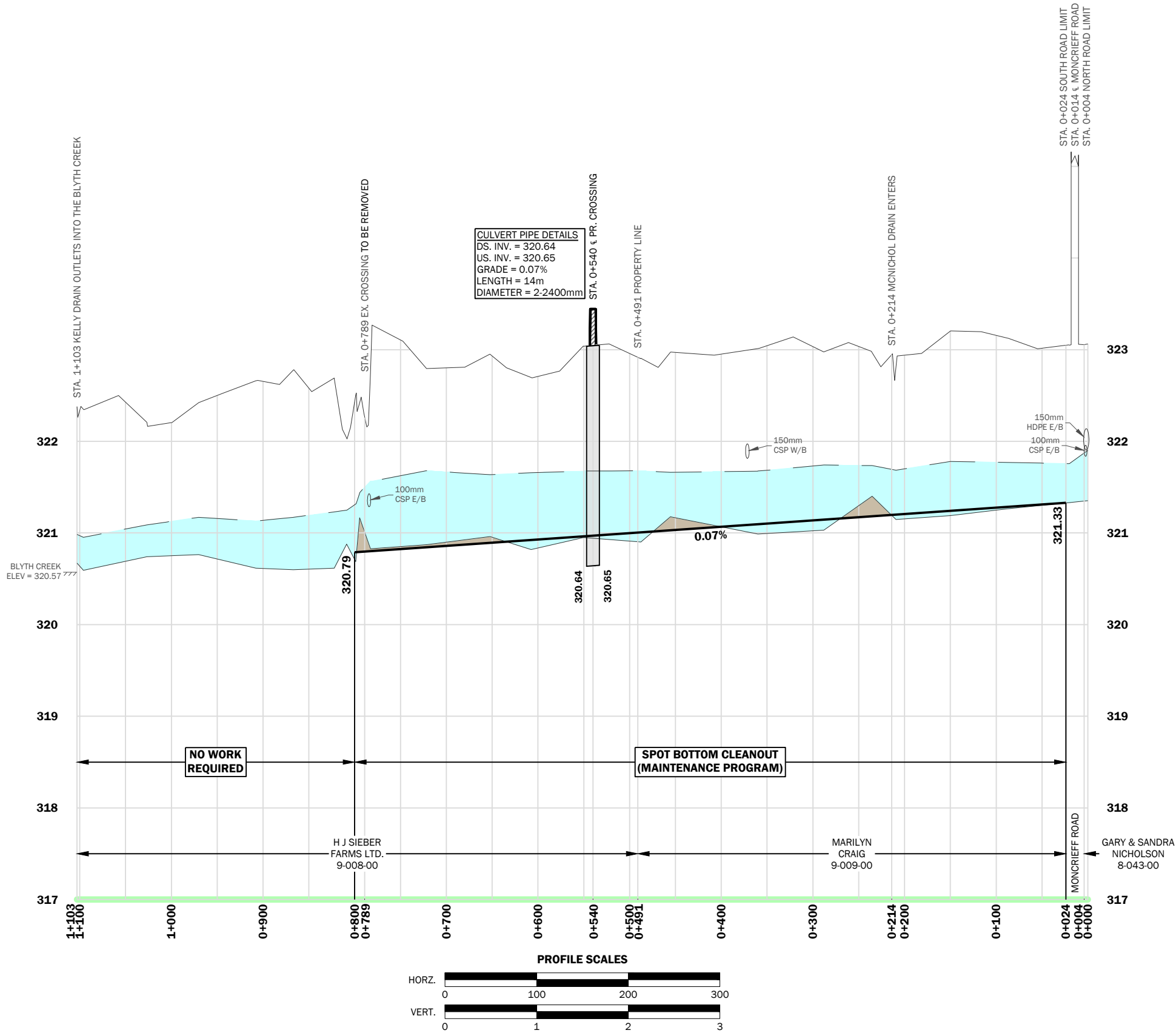
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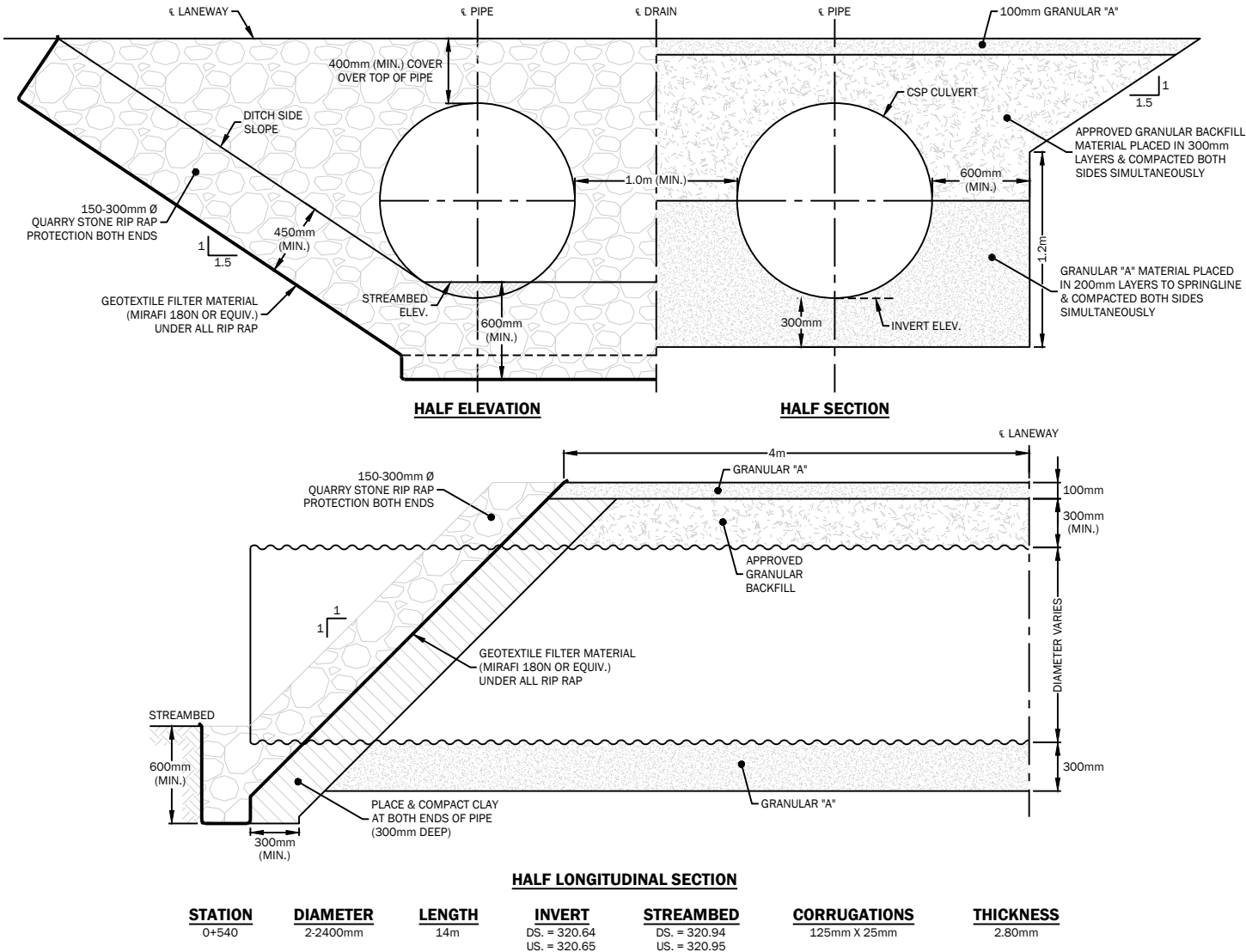
PLAN SCALE



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TYPICAL FARM CROSSING CULVERT DETAIL
N.T.S.



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DRAWN BY: R.U.	DESIGNED BY: A.H.	CHECKED BY: S.B.	DRAWING 4 OF 4
DATE: 2026-10-16		REFERENCE No. MT-008	