

BROWN DRAIN

Municipality of Dutton Dunwich



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Our Job No. 218191

March 7, 2023

BROWN DRAIN
Municipality of Dutton Dunwich

To the Mayor and Council of
the Municipality of Dutton Dunwich

Mayor and Council:

We are pleased to present our report on the reconstruction of the Brown Municipal Drain serving parts of Lots 9 to 17, Concessions S. of A. and 6 in the Municipality of Dutton Dunwich. The total watershed area contains approximately 604 hectares.

AUTHORIZATION

This report was prepared pursuant to Section 78 of the Drainage Act. Instructions were received from your Municipality with respect to a motion of Council. The work was initiated by a request signed by some of the affected landowners.

HISTORY

The Brown Drain was last reconstructed pursuant to a report by, W. Cnossen P.Eng dated December 15, 1987 and called for the enclosure of the open drain along Wesley Street, and a portion of Luton Street, in total 100m of open drain was enclosed with 1800mm dia. pipe.

Prior to the above report, a report was submitted by A.J. DeVos, P. Eng. dated May 12, 1980, and consisted of the construction of a closed drainage works within the former Village of Dutton to replace the existing open drain. The work called for the installation of approximately 450 lineal meters of 1800mm diameter corrugated steel pipe and the incorporation of approximately 146 lineal meters of existing 1800mm dia. pipe. This work was undertaken because the existing open drain in the village had steep banks and in close proximity to numerous structures, making future maintenance difficult.

Earlier to this, a report was filed by A.J. DeVos, P.Eng., dated January 28, 1976, which called for the cleanout and deepening of the existing open drain from the Mennie Drain through Lots 9 to 13, then through the former Village of Dutton, and Lot 14, Concession A. The total length of work was approximately 4,600 lineal meters.



EXISTING DRAINAGE CONDITIONS

A site meeting held with respect to the project and through later discussions, the owners reported the following:

- that one of the requesting landowners, D. & M. Durham (Roll No. 5-106-20), indicated that the existing drain was no longer functioning properly, with standing water occurring in the drain at most times
- that the landowner, C. Rieger (Roll No. 5-107), indicated that they required a new crossing in their lands as the existing crossing was in a state of disrepair.
- the Drainage Superintendent indicated that the drain had not been cleanout out or brushed since the 1976 report.
- that the landowners, I. & A. McKillop (Roll No. 1-004), requested that a crossing be installed on the drain to allow them to access four acres of land north of the drain
- that the landowners, W. Milton & R. Dippel (Roll No. 1-006), requested that the existing crossing in their lands be relocated and extended to permit more efficient use of larger equipment to use the crossing.
- the landowner, K. McKenzie (Roll No. 1-319-08) requested that the drain through her lands be enclosed so her back yard could be utilized more safely.

A field investigation and survey were completed. Upon reviewing our findings, we note the following:

- that the existing open drain has not been brushed since the last report
- that the existing open drain does require a bottom cleanout, in particular around the village and upstream of this, as evidenced by the standing water in the drain
- that the existing culvert in the lands of W. Milton & R. Dippel (Roll No. 1-006) is in excellent condition, has been installed recently, and therefore can be reused at its new location
- that approximately two-thirds of the length of the 1800mm drain in the former village was inspected and appears to be in good condition the remaining one-third of the drain was not inspected due to high water levels.
- that, during a visual inspection of the 1800mm pipe near the intersection of Wesley Street and Luton Street, large debris was found in the pipe. Further, the pipe branches into two directions without a proper cleanout point nearby.

Preliminary design, cost estimates and assessments were prepared, and an informal public meeting and consultations were held to review the findings and preliminary proposals. Further input and requests were provided by the affected owners at that time and at later dates. Based on the proposed design it was decided to proceed with the report.

DESIGN CONSIDERATIONS

The culverts to be constructed under this report were sized to convey a design storm with a return period of two years in accordance with Table B2.2. of the Guide for Engineers, Publication 852. With respect to the capacity of the channel, no calculations were made to determine the capacity.

We would like to point out that there have been no indications of any adverse soil conditions. It should be noted that no formal soil investigation has been made, with this information being provided by the owners.

The proposed design and report have been generally completed using the "GUIDE FOR ENGINEERS WORKING UNDER THE DRAINAGE ACT IN ONTARIO" OMAFRA Publication 852.

RECOMMENDATIONS

We are therefore recommending the following:

- that the existing Brown Drain be cleaned out and brushed from the Mennie Drain, through Lots 9 to 15, Concession 5 South of A and A, to the easterly limits of the lands of M. Durham (Roll No. 5-108-01), for a total length of 4,797 lineal meters.
- that a new 2000mm diameter farm crossing, in the lands of I. & A. McKillop (Roll No. 1-004), be installed as part of the municipal drain to provide the landowner with access across the drain.
- that the existing farm crossing in the lands of W. Milton & R. Dippel (Roll No. 1-006) be salvaged and reinstalled and extended as part of the municipal drain to provide the landowner with a crossing across the drain
- that the access opening on the 1800mm diameter pipe on Wesley Street, just north of Luton Street, be incorporated as part of the works. This access was constructed in 2021 by the road department.
- That the open drain in the lands of K. McKenzie (Roll No. 1-319-08) be enclosed with a 1800mm dia. pipe for a length of 24m.
- that a new 1600mm diameter farm crossing be installed in the lands of C. Rieger (Roll No. 5-107) as part of the municipal drain to provide the landowner with access across the drain

We have reviewed the existing Schedule of Assessment for the Brown Drain and found it to be out-of-date and unfair due to property splits and changes in land use, the watershed and drainage conditions. There should be an updated separate schedule for the main drain and each branch in order to charge out future repair costs in accordance with the Drainage Act as it now exists. We therefore recommend that the previously enclosure be included as part of this report for future maintenance purposes.



ENVIRONMENTAL CONSIDERATIONS AND MITIGATION MEASURES

There are no significant wetlands or sensitive areas within the affected watershed area or along the route of the drains. The proposed construction of the Brown Drain has been reviewed by the Fish and Fish Habitat Protection Program of the Fisheries and Oceans of Canada (DFO), File No. 22-HCAA-00789.

We are also recommending that the following erosion and sediment control measures be included as part of our reconstruction proposal to help mitigate any potential adverse impacts of the proposed drainage works on water quality and fishery habitat:

- timing of construction is to be only at times of low or no flow
- various sediment basins are to be constructed along the course of the drain at the locations specified on the plan and these basins are to be maintained by the Municipality of Dutton Dunwich
- a temporary flow check of silt fencing is to be installed for the duration of the construction at the bottom end of the ditch cleanout
- a cleanout of the ditch bottom only has been specified so that the existing bank vegetation is not disturbed. However, where the existing banks are unstable, or may become unstable, they are to be re-sloped and seeded as noted on the plans
- some existing washouts along the course of the drain are to be backfilled and protected with quarry stone rip-rap
- quarry stone rock chutes are to be constructed at surface inlet points to reduce erosion from direct surface water access into the ditch
- all work is to be completed from the north and west sides of the ditch where possible. Any natural vegetation, brush, trees, etc. that exist on the unaffected sides of the ditch, especially the south side, should be retained to provide shade and cover
- all new tile drain outlets are to be installed with quarry stone rip-rap protection

It is to be noted that both the existing and newly vegetated banks as well as the existing natural and newly created buffer strips along each side of the ditch are permanent parts of the Brown Municipal Drain and shall not be disturbed or destroyed.

SUMMARY OF PROPOSED WORK

The proposed work consists of approximately 4,797 lineal meters of open ditch cleanout including quarry stone rip-rap bank protection, rock chutes, bank seeding, construction of farm and road culverts, and sediment basins.

SCHEDULES

Four schedules are attached hereto and form part of this report, being Schedule 'A' - Allowances, Schedule 'B' - Cost Estimate, Schedule 'C' - Assessment for Construction, and Schedule 'D' - Assessment for Maintenance.

Schedule 'A' - Allowances. In accordance with Sections 30 of the Drainage Act, allowances are provided for damages to lands and crops along the route of the drain as defined below. In accordance with Section 31 of the Drainage Act, a further allowance is provided for the value of the existing drains incorporated as part of this drainage works, to those lands on which the existing drains are located.

Schedule 'B' - Cost Estimate. This schedule provides for a detailed cost estimate of the proposed work which is in the amount of \$ 373,500.00. This estimate includes engineering and administrative costs associated with this project.

Schedule 'C' - Assessment for Construction. This schedule outlines the distribution of the total estimated cost of construction over the roads and lands which are involved.

Schedule 'D' - Assessment for Maintenance. In accordance with Section 38 of the Drainage Act, this schedule outlines the distribution of future repair and/or maintenance costs for portions of, or the entire drainage works.

Drawing No.'s 1 to 3, Job No. 218191, and specifications form part of this report. They show and describe in detail the location and extent of the work to be done and the lands which are affected.

ALLOWANCES

DAMAGES: Section 30 of the Drainage Act provides for the compensation to landowners along the drain for damages to lands and crops caused by the construction of the drain. The amount granted is based on \$4,647.00/ha. for open ditch work with excavated material levelled adjacent to drain through agricultural lands, and \$25,000.00/ha. though lands in the village. This base rate is multiplied by the hectares derived from the working widths shown on the plans and the applicable lengths.

RIGHT-OF-WAY Section 29 of the Drainage Act provides for an allowance to the owners whose land must be used for the construction, repair, or future maintenance of a drainage works.

For existing open ditches, the right-of-way to provide for the right to enter and restrictions imposed on those lands, is deemed to have already been granted.

Further in accordance with Section 31 of the Drainage Act an allowance has been made for the value of the existing 1800mm dia. pipe in the lands of W.Milton and R. Dipple (Roll No 1-006)

ASSESSMENT DEFINITIONS

In accordance with the Drainage Act, lands that make use of a drainage works are liable for assessment for part of the cost of constructing and maintaining the system. These liabilities are known as benefit, outlet liability and special benefit liability as set out under Sections 22, 23, 24 and 26 of the Act.

BENEFIT as defined in the Drainage Act means the advantages to any lands, roads, buildings or other structures from the construction, improvement, repair, or maintenance of a drainage works such as will result in a higher market value or increased crop production or improved appearance or better control of surface or sub-surface water, or any other advantages relating to the betterment of lands, roads, buildings, or other structures.

OUTLET liability is assessed to lands or roads that may make use of a drainage works as an outlet either directly or indirectly through the medium of any other drainage works or of a swale, ravine, creek, or watercourse.

In addition, a Public Utility or Road Authority shall be assessed for and pay all the increased cost to a drainage works due to the construction and operation of the Public Utility or Road Authority. This may be shown as either benefit or special assessment.

ASSESSMENT

A modified "Todgham Method" was used to calculate the assessments shown on Schedule 'C'- Assessment for Construction. This entailed breaking down the costs of the drain into sections along its route. Special Assessments and Special Benefits were then extracted from each section.

The remainder is then separated into Benefit and Outlet costs. The Benefit cost is distributed to those properties receiving benefit as defined under "Assessment Definitions", with such properties usually being located along or close to the route of the drain. The Outlet Costs are distributed to all properties within the watershed area of that section on an adjusted basis. The areas are adjusted for location along that section, and relative run-off rates. Due to their different relative run-off rates, forested lands have been assessed for outlet at lower rates than cleared lands. Also, roads and residential properties have been assessed for outlet at higher rates than cleared farmlands.

The actual cost of the work involving this report, with the exception of Special Assessments, and Special Benefit Assessments is to be assessed on a pro-rata basis against the lands and roads liable for assessment for benefit, outlet, and for special assessments as shown in detail below and on Schedule 'C' - Assessment for Construction. The Special Assessments shall be levied as noted in the Section "Special Assessment".

As per direction of the Council of the Municipality of Dutton Dunwich we have the assessed the lands within the former Village of Dutton under a block assessment. The block shall be assessed on the same pro-rata basis as above.

SPECIAL ASSESSMENT

In accordance with Section 26 of the Drainage Act, a Special Assessment has been made against the Municipality of Dutton Dunwich being the increased cost to the drainage work for cleaning out their culvert across their road allowance on the Main Drain due to the construction and operation of Lila Street. The Special Assessment shall be made up of the actual cost of this work and both the final and estimated values of the Special Assessment are to be calculated as follows:

Main Drain	Cost of Work	Plus Administration Cost	Plus Interest & Net H.S.T.	Special Assessment
1600mm dia. pipe	\$4,000.00	\$800.00	\$80.00	\$4,920.00

In accordance with Section 26 of the Drainage Act, a Special Assessment has been made against Canadian National Railway being the increased cost to the drainage work for cleaning out their culvert across their right-of-way on the Main Drain. The Special Assessment shall be made up of the actual cost of this work and both the final and estimated values of the Special Assessment are to be calculated as follows:

Main Drain	Cost of Work	Plus Administration Cost	Plus Interest & Net H.S.T.	Special Assessment
2400mm Span	\$5,000.00	\$800.00	\$150.00	\$5,950.00

The above special assessments shall not apply for future maintenance purposes.

If any additional work is required to the drainage works due to the existence of buried utilities such as gas pipelines, communications cables, etc. or if any of the utilities require relocation or repair, then, the extra costs incurred shall be borne by the utility involved in accordance with the provisions of Section 26 of the Drainage Act.

SPECIAL BENEFIT ASSESSMENT

In accordance with Section 24 of the Drainage Act, a Special Benefit Assessment has been made against the K. McKenzie (Roll No. 1-319-08) being the increased cost to the drainage work for installing a culvert in their lands to enclose a portion of the drain on the Main Drain. The Special Benefit Assessment shall be made up of the actual cost of this work and both the final and estimated values of the Special Benefit Assessment are to be calculated as follows:

Drain	Cost of Work	Plus Administration Cost	Plus Interest & Net H.S.T.	Special Assessment
1800mm dia.	\$30,400.00	\$2,500.00	\$820.00	\$33,720.00

GRANTS

In accordance with the provisions of Section 85 of the Drainage Act, a grant **may** be available for assessments against 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 application for this grant upon certification of completion of this drain. The Municipality will then deduct the grant from the assessments prior to collecting the final assessments.

MAINTENANCE

Upon completion of construction, all owners are hereby made aware of Sections 80 and 82 of the Drainage Act which forbid the obstruction of or damage or injury to a municipal drain.

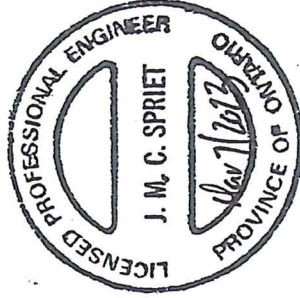
After completion, the entire Brown Drain shall be maintained by the Municipality of Dutton Dunwich at the expense of all upstream lands and roads assessed in Schedule 'D' - Assessment for Maintenance and in the same relative proportions until such time as the assessment is changed under the Drainage Act.

Special Assessments shall **not** be pro-rated for future maintenance purposes. Special Benefit Assessments shall only be pro-rated for future maintenance purposes, if the work assessed for special benefit is part of the maintenance.

The new farm culverts installed under this report, for future maintenance purposes costs shall be levied 50% to the affected owner and the remainder shall be pro-rated over the upstream outlet assessments.

Respectfully submitted,

SPRIET ASSOCIATES LONDON LIMITED



J.M. Spriet, P.Eng.

JMS:



SCHEDULE 'A' - ALLOWANCES

BROWN DRAIN

Municipality of Dutton-Dunwich

In accordance with Sections 30 and 31 of the Drainage Act, we determine the allowances payable to owners entitled thereto as follows:

CONCESSION	LOT	ROLL NUMBER (Owner)	Section 30		Section 31		TOTALS
			Damages	Existing Pipe	Damages	Existing Pipe	
MAIN DRAIN							
A	Pt. 14	5-106-20 (D. & M. Durham)	\$ 1,530.00	\$	\$	\$	1,530.00
A	Pt. 14	5-107 (C. Rieger)	4,660.00				4,660.00
A	Pt. 15	5-108-01 (M. Durham)	2,150.00				2,150.00
5 S. of A	SE½ 9	2-018-40 (M. Ford)	310.00				310.00
5 S. of A	SW½ 10	1-004 (I. & A. Mckillop)	2,250.00				2,250.00
5 S. of A	SE½ 10	1-003 (G. Drummelsmith)	2,130.00				2,130.00
5 S. of A	Pt. N½ 11	1-005 (D. Small)	2,170.00				2,170.00
5 S. of A	S½ 11	1-006 (W. Milton & R. Dippel)	4,030.00		4,200.00		8,230.00
5 S. of A	Pt. 12	1-007 (W. & D. Milton)	3,510.00				3,510.00
5 S. of A	Pt. 12	32-001-001 (W. & L. & D. Milton)	1,530.00				1,530.00
5 S. of A	Pt. 12	32-001-002-01 (Dunwich Township)	100.00				100.00
5 S. of A	Pt. 12	32-001-002 (S. & C. Sabo)	260.00				260.00
5 S. of A	Pt. 13	32-001-282 (M. McConnell & C. Brown)	480.00				480.00
5 S. of A	Pt. 13	32-001-281 (Bell Canada & Property T:	620.00				620.00
5 S. of A	Pt. 13	32-001-282-01 (J. Okolisan & L. Webb	300.00				300.00
5 S. of A	Pt. 13	32-001-319 (R. & A. Macdonald)	1,140.00				1,140.00
5 S. of A	Pt. 13	32-001-389-02 (J. Hadler)	300.00				300.00
5 S. of A	Pt. 13	32-001-389-03 (S. Crawford & K. Millig	300.00				300.00
5 S. of A	Pt. 13	32-001-319-04 (S. Sandercoft & N. Col	200.00				200.00
5 S. of A	Pt. 13	32-001-319-06 (C. Ford)	440.00				440.00
5 S. of A	Pt. 13	32-001-319-08 (K. McKenzie)	340.00				340.00
5 S. of A	Pt. 13	32-001-317-08 (W. Dougherty)	360.00				360.00
5 S. of A	Pt. 13	32-001-317-06 (1010930 Ontario Ltd.)	380.00				380.00
5 S. of A	Pt. 13	32-001-316-05 (1010930 Ontario Ltd.)	420.00				420.00
5 S. of A	Pt. 13	32-001-316-30 (A. & C. Bachmeier)	680.00				680.00
5 S. of A	Pt. 13	32-001-316-06 (1010930 Ontario Ltd.)	380.00				380.00
5 S. of A	Pt. 13	32-001-316-07 (1010930 Ontario Ltd.	360.00				360.00
5 S. of A	Pt. 13	32-001-316-20 (R. & E. Peacock)	880.00				880.00
5 S. of A	Pt. 13	32-001-316-08 (1010930 Ontario Ltd.)	380.00				380.00
5 S. of A	Pt. 13	32-001-316-65 (D. & L. Murray)	480.00				480.00
5 S. of A	Pt. 13	32-001-317-85 (J. & P. Cranmer)	960.00				960.00
5 S. of A	Pt. 13	32-001-316-55 (C. Smith & D. Small)	460.00				460.00
5 S. of A	Pt. 13	32-001-316-75 (R. & B. Trudell)	920.00				920.00
5 S. of A	Pt. 13	32-001-316-45 (R. & B. Myers & B. Sm	480.00				480.00
5 S. of A	Pt. 13	32-001-316-35 (K. & G. Watson)	440.00				440.00
Total Allowances			\$ 36,330.00	\$ 4,200.00	\$	\$	40,530.00
TOTAL ALLOWANCES ON THE MAIN DRAIN							\$ 40,530.00

BROWN DRAIN**Municipality of Dutton-Dunwich**

We have made an estimate of the cost of the proposed work which is outlined in detail as follows:

MAIN DRAIN

Sta 0+000 - Sta 2+397 & Sta 2+629 - 2+676 & Sta 3+600 - 4+797 Clearing and Grubbing of Ditch Banks using mechanical brushing(Approx 3641m)	\$	25,500.00
3641 meters of open ditch cleanup	\$	23,700.00
Seeding ditch banks and buffer strips (Approx 10000sq.m)	\$	3,900.00
Levelling of excavated material	\$	10,900.00
Sta 2+676 - Sta 2+746 & Sta 3+266 - 3+372 & Sta 3+410 - 3+533 & Sta 3+557 - 3+600 Clearing and grubbing of ditch banks using small equipment and hand brushing	\$	19,900.00
342 meters of open ditch cleanup	\$	5,900.00
Seeding ditch banks and buffer strips (Approx 3400sq.m)	\$	900.00
Removal and Hauling of excavated material	\$	5,900.00
Restoration of Lawns and any areas damaged by construction	\$	5,000.00
Sta. 3+287 - Sta. 3+297 Supply and install quarry stone rip rap around bend and reconstruct slope (Approx. 14m ²)	\$	2,800.00
Sta. 2+656 - Sta. 2+670 Clean through existing 2.4m Span Concrete culvert under Entegrus R.O.W.	\$	5,000.00
Sta. 3+533 - Sta. 3+557 Clean through existing 1600mm C.S.P. under Lilia Street	\$	4,000.00
Sta. 0+203 - Sta. 0+225 Supply & delivery of 22m - 2000mm dia, 2.8mm thick, 125mm x 25mm cor. Installation of pipe including supply and installation of bedding and backfill materials and disposal of any unacceptable materials including couplers Supply and installation of quarry stone riprap (Approx. 18m ³ Q.S. required)	\$	22,500.00
Sta. 0+950 - Sta. 0+965 Salvage existing 1800mmdia. C.S.P at Sta. 1+089, and extend with 7m - 1800mm dia, 2.8mm thick, 125mm x 25mm cor. Installation of pipe including supply and installation of bedding and backfill materials and disposal of any unacceptable materials including couplers Supply and installation of quarry stone riprap (Approx. 12m ³ Q.S. required)	\$	9,000.00
	\$	5,400.00
	\$	1,900.00

BROWN DRAIN
Municipality of Dutton-Dunwich

MAIN DRAIN

Sta. 3+373 - Sta. 3+349

Supply & delivery of 24m - 1800mm dia, 2.8mm thick, 125mm x 25mm cor. and 20m of 200mm dia. H.D.P.E. header and tile connections

\$ 19,000.00

Installation of pipe including supply and installation of bedding and backfill materials and disposal of any unacceptable materials including couplers

\$ 9,900.00

Reuse existing quarry stone on site and add additional Approx. 12m³

\$ 1,500.00

Sta. 3+932 - Sta. 3+948

Supply & delivery of 16m - 1600mm dia, 2.8mm thick, 125mm x 25mm cor.

\$ 12,000.00

Installation of pipe including supply and installation of bedding and backfill

\$ 7,400.00

materials and disposal of any unacceptable materials including couplers

\$ 2,100.00

Supply and installation of quarry stone riprap (Approx. 12m³ Q.S. required)

Install Quarry Stone Rip-Rap Around ends of outlet pipes where eroded as directed by engineer or drainage superintendent during construction

\$ 13,900.00

Exposing and locating existing utilities

\$ 3,500.00

Tile connections and contingencies

\$ 17,100.00

Allowances under Sections 30 & 31 of the Drainage Act

\$ 40,530.00

ADMINISTRATION

Interest and Net Harmonized Sales Tax

\$ 8,190.00

Survey, Plan and Final Report

\$ 61,900.00

Expenses

\$ 2,680.00

Supervision and Final Inspection

\$ 8,800.00

TOTAL ESTIMATED COST

\$ 373,500.00

SCHEDULE 'C' -ASSESSMENT FOR CONSTRUCTION

BROWN DRAIN

Municipality of Dutton-Dunwich

Job No. 218191

March 7, 2023

* = Non-agricultural

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	BENEFIT	OUTLET	TOTAL
A	Pt. 11	1.20	3-124 (E. Carroll)	\$	\$	44.00
A	Pt. 11	0.40	3-124-10 (J. Johnson)		44.00	\$ 44.00
A	Pt. 11	3.00	3-125 (J. & L. Berkelmans)		15.00	15.00
A	Pt. 11	0.30	3-126 (C. & N. Hyde)		206.00	206.00
A	Pt. 12-13	2.74	32-002-008 (Chesapeake & Ohio Railway)		20.00	20.00
A	Pt. 12	0.42	32-002-008-01 (Chesapeake & Ohio Railway)		377.00	377.00
A	Pt. 12	0.05	32-002-008-02 (Chesapeake & Ohio Railway)		58.00	58.00
A	Pt. 12	0.45	32-002-008-03 (Chesapeake & Ohio Railway)		7.00	7.00
A	Pt. 14	8.70	5-105-10 (D. Zettler)		61.00	61.00
A	Pt. 14	9.00	5-106-20 (D. & M. Durham)		1,739.00	1,739.00
A	Pt. 14	20.20	5-107 (C. Rieger)	5,110.00	1,795.00	6,905.00
A	Pt. 14	7.65	32-001-256-01 (C. Rieger)	28,335.00	4,894.00	33,229.00
A	Pt. 14	4.05	32-001-255 (2863984 Ontario Inc)		2,989.00	2,989.00
A	Pt. 15	10.10	5-108-01 (M. Durham)	7,180.00	2,200.00	2,200.00
A	Pt. 15 & 16	16.20	5-109 (T. & R. Clark)		2,952.00	10,132.00
A	Pt. 15 & 16	78.10	5-112 (P. McNeil)		3,806.00	3,806.00
A	Pt. 16	2.20	5-112-10 (L. & G. Howell)		21,536.00	21,536.00
A	Pt. 16 & 17	2.80	5-111 (B. & S. Luyks)		652.00	652.00
A	Pt. 17	26.70	5-114 (R. & M. Small)		830.00	830.00
A	Pt. 17	1.60	5-114-01 (A. & S. Soros)		6,932.00	6,932.00
5 S. of A	SE 1/2	9	2-018-40 (M. Ford)	980.00	473.00	473.00
5 S. of A	NW 1/2	10	1-001 (M. Hillis & D. Longo)		3.00	983.00
5 S. of A	NE 1/2	10	1-002 (J. & S. Burdett)		31.00	31.00
5 S. of A	SW 1/2	10	1-004 (I. & A. Mckillop)	27,470.00	313.00	313.00
5 S. of A	SE 1/2	10	1-003 (G. Drummelsmith)	6,700.00	166.00	27,636.00
5 S. of A	Pt. N 1/2	11	1-005 (D. Small)	6,830.00	345.00	7,045.00
5 S. of A	Pt. N 1/2	11	1-005-02 (S. VanTroost)		1,999.00	8,829.00
5 S. of A	S 1/2	11	1-006 (W. Milton & R. Dippel)	24,645.00	23.00	23.00
5 S. of A	N 1/2	11	32-001-001 (W. & L. & D. Milton)	5,970.00	928.00	25,573.00
5 S. of A	Pt. 12	21.40	1-007 (W. & D. Milton)	11,010.00	1,087.00	7,057.00
5 S. of A	Pt. 12	0.50	1-008 (G. Ford)		2,039.00	13,049.00
5 S. of A	Pt. 13	0.40	32-001-038 (S. Lalonde)		17.00	17.00
5 S. of A	Pt. 13	0.61	32-001-038-01 (M. Price & E. Richardson)		45.00	45.00
5 S. of A	Pt. 13	8.60	32-001-038-05 (R. & L. Small)		69.00	69.00
5 S. of A	Pt. 13	0.28	32-001-038-10 (G. & S. Drummelsmith)		771.00	771.00
5 S. of A	Pt. 13	2.00	32-001-237 (J. & A. Vowel & F. Stifel)		32.00	32.00
5 S. of A	Pt. 13	9.05	32-001-322 (Collier Homes Inc)		181.00	181.00
5 S. of A	Pt. 14	8.10	1-014 (H. Prey Farms Ltd.)		1,210.00	1,210.00
5 S. of A	Pt. 14	1.50	1-012-01 (J. & A. Roy)		892.00	892.00
5 S. of A	14 & 15	3.20	1-014-10 (Smith Seven Star Farms Ltd.)		331.00	331.00
					704.00	704.00

SCHEDULE 'C' - ASSESSMENT FOR CONSTRUCTION (cont'd)

BROWN DRAIN
Municipality of Dutton-Dunwich

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	BENEFIT	OUTLET	TOTAL
MAIN DRAIN (cont'd)						
5 S. of A	14 & 15	4.00	1-016 (P. Behr & S. Von Behr)		881.00	881.00
5 S. of A	E½ 15	20.80	1-015 (P. & J. Smith, Smith Seven Star Farms Inc		5,450.00	5,450.00
5 S. of A	SW½ 16	20.20	8-001-20 (P. & J. Smith)		5,984.00	5,984.00
5 S. of A	SE½ 16	20.20	8-001 (E. Johnson & A. Smith)		5,984.00	5,984.00
5 S. of A	16 & 17	49.00	8-003-01 (P. & M. Young)		13,390.00	13,390.00
5 S. of A	16 & 17	15.30	8-002 (R. & D. Drummelsmith)		4,532.00	4,532.00
5 S. of A	SW½ 17	13.80	8-004 (A. & I. McKillop)		4,087.00	4,087.00
5 S. of A	SE½ 17	6.90	8-005 (1010880 Ontario Inc.)		2,045.00	2,045.00
6	14 & 15	0.40	1-030 (Smith Seven Star Farms Inc.)		119.00	119.00
6	E½ 16	0.80	8-017 (Argyle Farms Brookwood Inc. & Argyle Hills Inc.)		237.00	237.00
R.O.W.		5.50	8-164 (Hydro One Networks Inc.)		1,406.00	1,406.00
R.O.W.		3.20	32-002-009 (Canadian National Railway)		1,311.00	1,311.00
R.O.W.		0.91	32-002-009-01 (Entegrus Transmission Inc.)		465.00	465.00
R.O.W.		7.80	8-163 (Chesapeake & Ohio Railway Company)	580.00	3,764.00	4,344.00
R.O.W.		7.70	8-162 (Entegrus Transmission Inc	870.00	3,713.00	4,583.00
BLOCK - Lands		56.20	Lands in the Town of Dutton	33,270.00	25,974.00	59,244.00
				=====	=====	=====
TOTAL ASSESSMENT ON LANDS				\$ 158,950.0	\$ 142,114.00	\$ 301,064.00
				=====	=====	=====
Marsh Line	1.13		Municipality of Dutton-Dunw	\$	315.00	\$ 315.00
Shackleton Line	4.90		Municipality of Dutton-Dunwich		4,722.00	4,722.00
Thompson Line	1.45		Municipality of Dutton-Dunwich		1,394.00	1,394.00
BLOCK - County Roads	7.40		County of Elgin	1,480.00	3,706.00	5,186.00
BLOCK - Mun. Roads	15.90		Municipality of Dutton-Dunwich	8,270.00	7,959.00	16,229.00
				=====	=====	=====
TOTAL ASSESSMENT ON ROADS				\$ 9,750.00	\$ 18,096.00	\$ 27,846.00
				=====	=====	=====
SPECIAL ASSESSMENT			against Canadian National Railway (Roll No 2-009)			
for the cost of cleaning out a 2.4m concrete culvert across their lands.						\$ 5,950.00
SPECIAL ASSESSMENT			against the Municipality of Dutton Dunwich			\$ 4,920.00
for the cost of cleaning out a 1.6m CSP culvert under Lila Street						
SPECIAL BENEFIT ASSESSMENT			against K. McKenzie (Roll No. 1-319-08)			\$ 33,720.00
for the cost of installing 24m-1.8m dia, C.S.P. in their lands						
						=====
TOTAL ASSESSMENT ON THE MAIN DRAIN				\$		\$ 373,500.00

SCHEDULE 'D' - ASSESSMENT FOR MAINTENANCE

BROWN DRAIN

Municipality of Dutton-Dunwich

Job No. 218191

March 7, 2023

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	PERCENTAGE OF MAINTENANCE COST
MAIN DRAIN				
A	Pt. 11	1.20	3-124 (E. Carroll)	0.02 %
A	Pt. 11	0.40	3-124-10 (J. Johnson)	0.01
A	Pt. 11	3.00	3-125 (J. & L. Berkelmans)	0.09
A	Pt. 11	0.30	3-126 (C. & N. Hyde)	0.01
A	Pt.12- 13	2.74	32-002-008 (Chesapeake & Ohio Railway)	0.17
A	Pt. 12	0.42	32-002-008-01 (Chesapeake & Ohio Railway)	0.03
A	Pt. 12	0.05	32-002-008-02 (Chesapeake & Ohio Railway)	0.01
A	Pt. 12	0.45	32-002-008-03 (Chesapeake & Ohio Railway)	0.03
A	Pt. 14	8.70	5-105-10 (D. Zettler)	0.76
A	Pt. 14	9.00	5-106-20 (D. & M. Durham)	1.91
A	Pt. 14	20.20	5-107 (C. Rieger)	5.55
A	Pt. 14	7.65	32-001-256-01 (C. Rieger)	2.43
A	Pt. 14	4.05	32-001-255 (2863984 Ontario Inc)	2.54
A	Pt. 15	10.10	5-108-01 (M. Durham)	2.87
A	Pt.15 & 16	16.20	5-109 (T. & R. Clark)	1.67
A	Pt.15 & 16	78.10	5-112 (P. McNeil)	9.44
A	Pt. 16	2.20	5-112-10 (L. & G. Howell)	0.29
A	Pt.16 & 17	2.80	5-111 (B. & S. Luyks)	0.36
A	Pt. 17	26.70	5-114 (R. & M. Small)	3.04
A	Pt. 17	1.60	5-114-01 (A. & S. Soros)	0.21
5 S. of A	SE½ 9	2.00	2-018-40 (M. Ford)	0.22
5 S. of A	NW ½ 10	4.20	1-001 (M. Hillis & D. Longo)	0.01
5 S. of A	NE½ 10	14.20	1-002 (J. & S. Burdett)	0.14
5 S. of A	SW½ 10	12.10	1-004 (I. & A. Mckillop)	1.62
5 S. of A	SE½ 10	12.10	1-003 (G. Drummelsmith)	1.62
5 S. of A	Pt. N½ 11	37.98	1-005 (D. Small)	2.37
5 S. of A	Pt. N½ 11	0.42	1-005-02 (S. VanTroost)	0.01
5 S. of A	S½ 11	18.20	1-006 (W. Milton & R. Dippel)	3.18
5 S. of A	N½ 11	11.00	32-001-001 (W. & L. & D. Milton)	1.79
5 S. of A	Pt. 12	21.40	1-007 (W. & D. Milton)	3.31
5 S. of A	Pt. 12	0.50	1-008 (G. Ford)	0.01
5 S. of A	Pt. 13	0.40	32-001-038 (S. Lalonde)	0.02
5 S. of A	Pt. 13	0.61	32-001-038-01 (M. Price & E. Richardson)	0.03
5 S. of A	Pt. 13	8.60	32-001-038-05 (R. & L. Small)	0.34
5 S. of A	Pt. 13	0.28	32-001-038-10 (G. & S. Drummelsmith)	0.01
5 S. of A	Pt. 13	2.00	32-001-237 (J. & A. Vowel & F. Stifel)	0.08
5 S. of A	Pt. 13	9.05	32-001-322 (Collier Homes Inc)	0.53
5 S. of A	Pt. 14	8.10	1-014 (H. Prey Farms Ltd.)	0.39
5 S. of A	Pt. 14	1.50	1-012-01 (J. & A. Roy)	0.15
5 S. of A	14 & 15	3.20	1-014-10 (Smith Seven Star Farms Ltd.)	0.31

SCHEDULE 'D' - ASSESSMENT FOR MAINTENANCE (cont'd)

BROWN DRAIN
Municipality of Dutton-Dunwich

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	PERCENTAGE OF MAINTENANCE COST
MAIN DRAIN (cont'd)				
5 S. of A	14 & 15	4.00	1-016 (P. Behr & S. Von Behr)	0.39 %
5 S. of A	E½	20.80	1-015 (P. & J. Smith, Smith Seven Star Farms Inc)	2.39
5 S. of A	SW½	20.20	8-001-20 (P. & J. Smith)	2.62
5 S. of A	SE½	20.20	8-001 (E. Johnson & A. Smith)	2.62
5 S. of A	16 & 17	49.00	8-003-01 (P. & M. Young)	5.87
5 S. of A	16 & 17	15.30	8-002 (R. & D. Drummelsmith)	1.99
5 S. of A	SW½	17	8-004 (A. & I. McKillop)	1.79
5 S. of A	SE½	17	8-005 (1010880 Ontario Inc.)	0.90
6	14 & 15	0.40	1-030 (Smith Seven Star Farms Inc.)	0.05
6	E½	0.80	8-017 (Argyle Farms Brookwood Inc. & Argyle Hills Inc.)	0.10
R.O.W.		5.50	8-164 (Hydro One Networks Inc.)	0.62
R.O.W.		3.20	32-002-009 (Canadian National Railway)	0.57
R.O.W.		0.91	32-002-009-01 (Entegrus Transmission Inc.)	0.20
R.O.W.		7.80	8-163 (Chesapeake & Ohio Railway Company)	1.78
R.O.W.		7.70	8-162 (Entegrus Transmission Inc.)	1.82
BLOCK - Lands		56.20	Lands in the Town of Dutton	18.68
TOTAL ASSESSMENT ON LANDS				
				89.97 %
Marsh Line		1.13	Municipality of Dutton-Dunwich	0.14 %
Shackleton Line		4.90	Municipality of Dutton-Dunwich	2.07
Thompson Line		1.45	Municipality of Dutton-Dunwich	0.61
BLOCK - County Roads		7.40	County of Elgin	1.95
BLOCK - Mun. Road		15.90	Municipality of Dutton-Dunwich	5.26
TOTAL ASSESSMENT ON ROADS				
				10.03 %
TOTAL ASSESSMENT FOR MAINTENANCE OF THE MAIN DRAIN				
				100.00 %

SCHEDULE OF NET ASSESSMENT

BROWN DRAIN

Municipality of Dutton-Dunwich

(FOR INFORMATION PURPOSES ONLY)

Job No. 218191

March 7, 2023

* = Non-agricultural

ROLL NUMBER (OWNER)	TOTAL ASSESSMENT	GRANT	ALLOWANCES	APPROX. NET
* 3-124 (E. Carroll)	\$ 44.00	\$	\$	44.00
* 3-124-10 (J. Johnson)	15.00			15.00
* 3-125 (J. & L. Berkelmans)	206.00			206.00
* 3-126 (C. & N. Hyde)	20.00			20.00
* 32-002-008 (Chesapeake & Ohio Railway)	377.00			377.00
* 32-002-008-01 (Chesapeake & Ohio Railway)	58.00			58.00
* 32-002-008-02 (Chesapeake & Ohio Railway)	7.00			7.00
* 32-002-008-03 (Chesapeake & Ohio Railway)	61.00			61.00
5-105-10 (D. Zettler)	1,739.00	580.00		1,159.00
5-106-20 (D. & M. Durham)	6,905.00	2,302.00	1,530.00	3,073.00
5-107 (C. Rieger)	33,229.00	11,076.00	4,660.00	17,493.00
32-001-256-01 (C. Rieger)	2,989.00	996.00		1,993.00
32-001-255 (2863984 Ontario Inc)	2,200.00	733.00		1,467.00
5-108-01 (M. Durham)	10,132.00	3,377.00	2,150.00	4,605.00
5-109 (T. & R. Clark)	3,806.00	1,269.00		2,537.00
5-112 (P. McNeil)	21,536.00	7,179.00		14,357.00
* 5-112-10 (L. & G. Howell)	652.00			652.00
5-111 (B. & S. Luyks)	830.00	277.00		553.00
5-114 (R. & M. Small)	6,932.00	2,311.00		4,621.00
* 5-114-01 (A. & S. Soros)	473.00			473.00
2-018-40 (M. Ford)	983.00	328.00	310.00	345.00
1-001 (M. Hillis & D. Longo)	31.00	10.00		21.00
1-002 (J. & S. Burdett)	313.00	104.00		209.00
1-004 (I. & A. Mckillop)	27,636.00	9,212.00	2,250.00	16,174.00
1-003 (G. Drummelsmith)	7,045.00	2,348.00	2,130.00	2,567.00
1-005 (D. Small)	8,829.00	2,943.00	2,170.00	3,716.00
1-005-02 (S. VanTroost)	23.00	8.00		15.00
1-006 (W. Milton & R. Dippel)	25,573.00	8,524.00	8,230.00	8,819.00
32-001-001 (W. & L. & D. Milton)	7,057.00	2,352.00	1,530.00	3,175.00
1-007 (W. & D. Milton)	13,049.00	4,350.00	3,510.00	5,189.00
1-008 (G. Ford)	17.00	6.00		11.00
* 32-001-038 (S. Lalonde)	45.00			45.00
* 32-001-038-01 (M. Price & E. Richardson)	69.00			69.00
32-001-038-05 (R. & L. Small)	771.00	257.00		514.00
* 32-001-038-10 (G. & S. Drummelsmith)	32.00			32.00

SCHEDULE OF NET ASSESSMENT (Cont'd)

BROWN DRAIN
Municipality of Dutton-Dunwich

* = Non-agricultural

	ROLL NUMBER (OWNER)	TOTAL ASSESSMENT	GRANT	ALLOWANCES	APPROX. NET
*	32-001-237 (J. & A. Vowel & F. Stifel)	181.00			181.00
	32-001-322 (Collier Homes Inc)	1,210.00	403.00		807.00
	1-014 (H. Prey Farms Ltd.)	892.00	297.00		595.00
*	1-012-01 (J. & A. Roy)	331.00			331.00
	1-014-10 (Smith Seven Star Farms Ltd.)	704.00	235.00		469.00
*	1-016 (P. Behr & S. Von Behr)	881.00			881.00
	1-015 (P. & J. Smith, Smith Seven Star Farms	5,450.00	1,817.00		3,633.00
	8-001-20 (P. & J. Smith)	5,984.00	1,995.00		3,989.00
	8-001 (E. Johnson & A. Smith)	5,984.00	1,995.00		3,989.00
	8-003-01 (P. & M. Young)	13,390.00	4,463.00		8,927.00
	8-002 (R. & D. Drummelsmith)	4,532.00	1,511.00		3,021.00
	8-004 (A. & I. McKillop)	4,087.00	1,362.00		2,725.00
	8-005 (1010880 Ontario Inc.)	2,045.00	682.00		1,363.00
	1-030 (Smith Seven Star Farms Inc.)	119.00	40.00		79.00
	8-017 (Argyle Farms Brookwood Inc. & Argyle Hills Inc.)	237.00	79.00		158.00
	8-164 (Hydro One Networks Inc.)	1,406.00			1,406.00
	32-002-009 (Canadian National Railway)	1,311.00			1,311.00
	32-002-009-01 (Entegrus Transmission Inc.)	465.00			465.00
	8-163 (Chesapeake & Ohio Railway Company)	4,344.00			4,344.00
	8-162 (Entegrus Transmission Inc.) Special Assessment	4,583.00			4,583.00
		5,950.00			5,950.00
*	32-001-319-08 (K. McKenzie)				
*	Special Assessment	33,720.00			33,720.00
*	Lands in the Town of Dutton	59,244.00		12,060.00	47,184.00
	Marsh Line	\$ 315.00	\$	\$	315.00
	Shackleton Line	4,722.00			4,722.00
	Thompson Line	1,394.00			1,394.00
	BLOCK - County Roads	5,186.00			5,186.00
	BLOCK - Mun. Roads	16,229.00			16,229.00
	Special Assessment	4,920.00			4,920.00
TOTALS					
		\$ 373,500.00	\$ 75,421.00	\$ 40,530.00	\$ 257,549.00