

**WRIGHT DRAIN**  
**Municipality of West Elgin**



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London, Ontario  
March 7, 2022

## **WRIGHT DRAIN**

### **Municipality of West Elgin**

To the Mayor and Council of  
the Municipality of West Elgin

Mayor and Council:

We are pleased to present our report on the reconstruction of parts of the Wright Municipal Drain serving parts of Lot B, Concession 10 and Lots A and B, Concession 11 (geographic Alborough) in the Municipality of West Elgin. The total watershed area contains approximately 111 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 one of the affected landowners.

### **HISTORY**

The Wright Drain was last reconstructed pursuant to a report submitted by H.H. Todgham, P. Eng., dated June 16, 1955, and consisted of approximately 2,100 lineal meters of open ditch reconstruction.

### **EXISTING DRAINAGE CONDITIONS**

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

- that the landowner, 571419 Ontario Ltd. (Roll No. 40-002), inquired as to the possibility of enclosing the open drain through a portion of their lands to improve the workability of them

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

- that the existing open drain contains an upstream watershed area of manageable size to permit an enclosure



### EXISTING DRAINAGE CONDITIONS (cont'd)

- that the enclosure would require the replacement of the road crossing under Silver Clay Line
- that the enclosure would greatly improve the workability of the lands requesting it

Preliminary design, cost estimates and assessments were prepared, and an informal public meeting was 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 Drainage Coefficient method contained in the "DRAINAGE GUIDE FOR ONTARIO", Publication 29 by the Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA) is typically used to design municipal drains. The Drainage Coefficient defines a depth of water that can be removed in a 24-hour period and is expressed in millimetres per 24 hours. The coefficient used to design this drain with respect to capacity was 38mm.

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.

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 Wright Drain - Open Portion be enclosed commencing at the Silver Clay Line and head north-westerly through the lands of 571419 Ontario Ltd. (Roll No. 40-002), with its head at the wooded area in those lands for a total length of approximately 434 lineal meters
- that the road crossing under Silver Clay Line be replaced with a new crossing with the proposed works and the work be constructed using open cut
- that catchbasins be installed at Silver Clay Line and the upstream end of the works to alleviate surface flow and allow the open portion at the top end to remain functioning.



## 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 Wright Drain includes quarry stone outlet protection and surface inlets which greatly help reduce the overland surface flows and any subsequent erosion. A temporary flow check of silt fencing is to be installed in the ditch downstream of the tile outlet for the duration of the construction.

We have reviewed the proposed work with the Department of Fisheries and Oceans (File No. 23-HCAA-00010) and they recommend the following mitigation measure be followed in their letter of advice, the existing open drain is to be isolated prior to any backfilling by installing sediment and erosion controls at the bottom end of the work on the drain.

The proposal was also reviewed with the L.T.V.C.A. and they indicated the project was within their parameters and would issue a permit when it was required.

## SUMMARY OF PROPOSED WORK

The proposed work consists of approximately 434 lineal meters of 600mm (24") diameter pipe, including related appurtenances.

## 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 Section 30 of the Drainage Act, allowances are provided for damages to lands and crops along the route of the drain as defined below.

Schedule 'B' - Cost Estimate. This schedule provides for a detailed cost estimate of the proposed work which is in the amount of \$ 138,000.00. 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.1 Job No. 223032, 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 \$3,613.00/ha. for closed drain installed with wheel machine. 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. Under this report no allowance for right-of-way has been given as the area gained by the enclosing of the open drain is deemed sufficient and transferable to the closed drain.

## 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 D- Assessment for Maintenance. This entailed breaking down the costs of the drain into sections along its route. Special Assessments 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.



## ASSESSMENT (cont'd)

The actual cost of the work involving this report, with the exception of Special Assessments, is to be assessed on a pro-rata basis against the lands and roads liable for assessment for benefit, outlet, and for special assessment 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".

## SPECIAL ASSESSMENT

In accordance with Section 26 of the Drainage Act, a Special Assessment has been made against the Municipality of West Elgin being the increased cost to the drainage work for installing a new surface and sub-surface crossing across their road allowance on the Main Drain due to the construction and operation of Silver Clay Line. 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:

Drain	Cost of Work	Less Equivalent Drain Cost (Fixed)	Plus Administration Cost	Plus Interest & Net H.S.T.	Special Assessment
600mm dia. Sub-Surface 750mm dia. Surface	\$14,200.00	\$5000.00	\$3,400.00	\$320.00	\$12,920.00

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.

## 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 Wright Drain, enclosed in this report, shall be maintained by the Municipality of West Elgin at the expense of all the 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.



Respectfully submitted,

SPRIET ASSOCIATES LONDON LIMITED

*J.M. Spriet*  
J.M. Spriet, P.Eng.



**SPRIET ASSOCIATES**  
engineers & architects

## SCHEDULE 'A' - ALLOWANCES

## WRIGHT DRAIN

## Municipality of West Elgin

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

CONCESSION	LOT	ROLL NUMBER (Owner)	Section 30 Damages	TOTALS
<b>MAIN DRAIN</b>				
11	A & B	40-002 (571419 Ontario Ltd. c/o M. Miller)	\$ 2,220.00	\$ 2,220.00
12	A	40-041 (P.Donkers)	470.00	\$ 470.00
Total Allowances			\$ 2,690.00	\$ 2,690.00
<b>TOTAL ALLOWANCES ON THE MAIN DRAIN</b>				<b>\$ 2,690.00</b>
<b>TOTAL ALLOWANCES ON THE WRIGHT DRAIN</b>				<b>\$ 2,690.00</b>

**WRIGHT DRAIN****Municipality of West Elgin**

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

**MAIN DRAIN**

Open Ditch Cleanout, including levelling (Approx. 68m)	\$ 1,000.00
Quarry stone rip-rap protection around pipe and end of ditch and installation of rodent gate, (Approximately 8m <sup>3</sup> quarry stone req'd)	
Supply	\$ 300.00
Installation	\$ 900.00
Installation of the following pipe, including supply and installation of geotextile around tile joints where required	
412 meters of 600mm dia. pipe	\$ 14,400.00
Supply of the above listed pipe	\$ 55,600.00
Backfilling and regrading of existing open ditch using on-site materials from ditch banks	\$ 13,000.00
22 meters of 600mm dia., H.D.P.E. Sewer pipe (subsurface)	
16 meters of 750mm dia., H.D.P.E. pipe (surface)	
Supply	\$ 6,600.00
Installation under Silver Clay Line by open cut	\$ 7,600.00
Supply and install one 900mm x 1200mm on-line ditch inlet catchbasins, and one 900mm x 1200mm side inlet catchbasin including grates, berms, ditching, wyes and any required prefab fittings and removal of existing	\$ 6,000.00
Exposing and locating existing tile drains and utilities	\$ 700.00
Tile connections and contingencies	\$ 5,000.00
Allowances under Section 30 of the Drainage Act	\$ 2,690.00

**ADMINISTRATION**

Interest and Net Harmonized Sales Tax	\$ 3,250.00
Survey, Plan and Final Report	\$ 16,800.00
Expenses	\$ 910.00
Supervision and Final Inspection	\$ 3,250.00
<b>TOTAL ESTIMATED COST</b>	<b>\$ 138,000.00</b>



## SCHEDULE 'C' - ASSESSMENT FOR CONSTRUCTION

## WRIGHT DRAIN

## Municipality of West Elgin

Job No. 223032

March 7, 2023

\* = *Non-agricultural*

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	BENEFIT	OUTLET	TOTAL
<b>MAIN DRAIN</b>						
11	A & B	24.4	40-002 (571419 Ontario Ltd. c/o M. Miller)	\$ 125,080.00	\$	\$ 125,080.00
TOTAL ASSESSMENT ON LANDS				\$ 125,080.00	\$	\$ 125,080.00

**SPECIAL ASSESSMENT** against the Municipality of West Elgin for the increased cost of installing  
 600mm dia. subsurface Sewer Pipe and a 750mm dia. Surface culvert across Silver Clay Line \$ 12,920.00

**TOTAL ASSESSMENT ON THE MAIN DRAIN** **\$ 138,000.00**

## SCHEDULE 'D' - ASSESSMENT FOR MAINTENANCE

## WRIGHT DRAIN

## Municipality of West Elgin

Job No. 223032

March 7, 2023

CON.	LOT	HECTARES AFFECTED	ROLL No. (OWNER)	PERCENTAGE OF MAINTENANCE COST
<b>MAIN DRAIN Sta. 0+000- Sta. 0+434</b>				
10	B	37.2	30-130 (A. Sacher)	24.0 %
10	Pt. B	0.8	30-130-02 (R. & F. Tonello)	0.5
11	A	11.6	40-001 (R. & A. Devries Farms Ltd.)	6.0
11	B	24.4	40-002 (571419 Ontario Ltd. c/o M. Miller)	43.3
11	B	34.3	40-003 (A. Sacher)	19.9
11	B	0.5	40-003-03 (A. Sacher)	0.3
				=====
TOTAL ASSESSMENT ON LANDS				94.0 %
				=====
Thompson Line		1.4	Municipality of West Elgin	3.2 %
Silver Clay Line		0.3	Municipality of West Elgin	2.8
				=====
TOTAL ASSESSMENT ON ROADS				6.0 %
				=====
<b>TOTAL ASSESSMENT FOR MAINTENANCE ON THE MAIN DRAIN</b>				<b><u>100.0 %</u></b>

# SCHEDULE OF NET ASSESSMENT

## WRIGHT DRAIN

### Municipality of West Elgin

(FOR INFORMATION PURPOSES ONLY)

Job No. 223032

March 7, 2023

\* = Non-agricultural

ROLL NUMBER (OWNER)	TOTAL ASSESSMENT	GRANT	ALLOWANCES	APPROX. NET
40-002 (571419 Ontario Ltd. c/o M. Miller)	\$ 125,080.00	\$	\$ 2,220.00	\$ 122,860.00
40-041 (P.Donkers)			470.00	-470.00
Silver Clay Line Special Assessment	\$ 12,920.00			\$ 12,920.00
<b>TOTALS</b>	<b>\$ 138,000.00</b>	<b>\$</b>	<b>\$ 2,690.00</b>	<b>\$ 135,310.00</b>