

## **BOND DRAIN - BRANCH "B"**

**Municipality of Central Elgin**



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London, Ontario  
May 30, 2022

## **BOND DRAIN - BRANCH "B"**

### **Municipality of Central Elgin**

To the Mayor and Council of  
the Municipality of Central Elgin

Mayor and Council:

We are pleased to present our report on the incorporation of the Branch "B" of the Bond Municipal Drain serving parts of Lots 20 and 21, Concessions 3 and 4 (geographic Yarmouth) in the Municipality of Central Elgin.

### **AUTHORIZATION**

This report was prepared pursuant to Section 4 of the Drainage Act. Instructions were received from your Municipality with respect to a motion of Council. The work was initiated by a petition signed by the Road Authority.

### **DRAINAGE AREA**

The total watershed area as described above contains approximately 5.7 hectares. The area requiring drainage for Branch "B" of the Bond Drain is described as Sparta Line in the east half of Lot 20, Concession 3.

### **HISTORY**

The Bond Drain was originally constructed pursuant to a report submitted by A. J. DeVos., P. Eng. dated June 25, 1969 and consisted of the construction of approximately 826 lineal meters of 150mm to 450mm dia. drain tile and approximately 44 lineal meters of open ditch construction.

### **EXISTING DRAINAGE CONDITIONS**

A site meeting was held on May 26, 2023 with respect to the project and through later discussions, the owners reported the following:

- that the Road Authority for the County of Elgin recently reconstructed Sparta Line and required a legal outlet for a portion of storm sewer on the west end of that reconstruction



**SPRIET ASSOCIATES**  
engineers & architects

### EXISTING DRAINAGE CONDITIONS (cont'd)

- that the landowners in attendance at the meeting had no concerns regarding incorporating this portion of the drain

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

- that the existing 400mm (16") dia. C.S.P. and 375mm (15") dia. P.V.C pipe is of sufficient size and capacity to be incorporated as a Municipal Drain

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 100mm per 24 hrs.

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 400mm CSP and 375mm P.V.C. pipes already installed be incorporated as a Municipal Drain. The drain will commence at the Main Drain of the Bond Drain approximately 25 meters from the outlet in the lands of R. & M. Little (Roll No. 3-101) and travel southerly to Sparta Line (County Road No. 27) to the manhole located in the centre line of the road, for a total length of 50 lineal meters

### SUMMARY OF PROPOSED WORK

The proposed work consists of the incorporation of 50 lineal meters of 375mm (15") to 400mm (16") C.S.P. and P.V.C pipes.

### 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.



## **SCHEDULES (cont'd)**

Schedule 'A' - Allowances. In accordance with Section 29 of the Drainage Act, allowances are provided for right-of-way 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 \$ 5,900.00. This estimate includes engineering and administrative costs associated with this project.

Schedule 'C' - Assessment for Incorporation. 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. 223130, 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**

**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 tile drains where the owners will be able to continue to use the land, the allowance provides for the right to enter upon such lands, and at various times for the purpose of inspecting such drain, removing obstructions, and making repairs. Also, the allowance provides for the restrictions imposed on those lands to protect the right-of-way from obstruction or derogation. The amounts granted for right-of-way on tile drains is based on a percentage of the value of the land designated for future maintenance. Therefore, the amounts granted are based on \$6,670.00/ha. through cropped lands. This value is multiplied by the hectares derived from the width granted for future maintenance and the applicable lengths.

## **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.





## ASSESSMENT DEFINITIONS (cont'd)

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.

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.

We assess the entire cost of this report to County of Elgin. It is to be noted that the cost of this report is not eligible for the Provincial Agricultural Grant.

## 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, Branch “B” of the Bond Drain shall be maintained by the Municipality of Central Elgin 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.



Respectfully submitted,

SPRIET ASSOCIATES LONDON LIMITED

B. Widner, P.Eng.



## SCHEDULE 'A' - ALLOWANCES

**BOND DRAIN - BRANCH "B"****Municipality of Central Elgin**

In accordance with Section 29 of the Drainage Act, we determine the allowances payable to owners entitled thereto as follows:

CONCESSION	LOT	ROLL NUMBER (Owner)	Section 29 Right-of-Way	TOTALS
<b>BRANCH "B"</b>				
4	Pt. 20	3-101 (R. & M. Little)	\$ 210.00	\$ 210.00
Total Allowances			\$ 210.00	\$ 210.00
<b>TOTAL ALLOWANCES ON BRANCH "B"</b>				<b>\$ 210.00</b>

**BOND DRAIN - BRANCH "B"**

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

**BRANCH "B"**

Allowances under Sections 29 of the Drainage Act	\$	210.00
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**ADMINISTRATION**

Interest and Net Harmonized Sales Tax	\$	200.00
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Survey, Plan and Final Report	\$	4,750.00
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Expenses	\$	740.00
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<b>TOTAL ESTIMATED COST</b>	<b>\$</b>	<b><u>5,900.00</u></b>
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## SCHEDULE 'C' - ASSESSMENT FOR INCORPORATION

## BOND DRAIN - BRANCH "B"

## Municipality of Central Elgin

Job No. 223130

May 30, 2023

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**BRANCH "B"**

We assess the entire cost of this report to the County of Elgin (County Road No. 27 Sparta Line) \$ 5,900.00

**TOTAL ASSESSMENT ON BRANCH "B"** \$ 5,900.00



## SCHEDULE 'D' - ASSESSMENT FOR MAINTENANCE

**BOND DRAIN - BRANCH "B"****Municipality of Central Elgin**

Job No. 223130

May 30, 2023

CON.	LOT	HECTARES AFFECTED		ROLL No. (OWNER)	PERCENTAGE OF MAINTENANCE COST
BRANCH "B"					
3	Pt.	20	1.6	3-139 (T. Parkin & T. Clark)	11.1 %
3	Pt.	20	2.1	3-139-01 (W. & L. Sanderson)	14.2
3	Pt.	20	0.3	3-139-02 (W. & L. Sanderson)	2.7
3	Pt. 20 &	21	1.0	3-146 (J. & S. Martyn)	7.0
3	Pt.	21	0.1	3-139-05 (J. & L. Maddigan)	0.9
4		20	0.1	3-101 (R. & M. Little)	10.4
					=====
TOTAL ASSESSMENT ON LANDS					46.3 %
					=====
County Road No. 27		0.5	County of Elgin		53.7 %
					=====
TOTAL ASSESSMENT ON ROADS					53.7 %
					=====
TOTAL ASSESSMENT FOR MAINTENANCE OF BRANCH "B"					100.0 %