



Section 65(3): Changes in Assessment for the McDonald Drain

Z.D.S. Farms
The Town of Kingsville

October 25, 2016

Project No. 16-006

October 25, 2016

The Town of Kingsville
2021 Division Road North
Kingsville, Ontario
N9Y 2Y2

Mayor Santos and Members of Council

Subject: McDonald Drain
Changes in Assessment - Z.D.S. Farms Greenhouse Expansion, Roll No. 660-01600
In the Municipality of Leamington
Our File Reference 16-006

1.0 Authorization

Pursuant to Section 65(3) of The Drainage Act, 1990 (the Act), Chapter D.17, as amended 2010, the Town of Kingsville appointed the firm of Baird AE to prepare a report for the Value of Benefit and Outlet Liability adjustments for an increase in flow volumes due to greenhouse development for the lands described below. The subject lands are located within the Municipality of Leamington, however, the receiving drain is located within the Town of Kingsville. Therefore, the Town of Kingsville has appointed the Engineer to prepare this Section 65(3) report.

Civil Address	Roll Number	Owner
115 County Road 18, Leamington	660-01600	Z.D.S. Farms Ltd.

This appointment considers “the nature or extent of the use of a drainage works by land assessed for the drainage works is subsequently altered” which is in accordance with Section 65(3) of the Act.

2.0 Purpose of the Report and Current Drainage Report

Z.D.S. Farms Ltd. has previously constructed greenhouses on lands with Roll No. 660-01600 and is proposing to construct additional greenhouses on said lands. The existing development has increased flow volumes entering the McDonald Drain. The proposed development will again increase the flow volumes entering the drain. The current drainage report on file for the McDonald Drain is dated May 28, 1965, prepared by C.G.R. Armstrong, P.Eng. A Maintenance Schedule of Assessment dated February 4, 2008 was prepared by Nick J. Peralta, P.Eng.

We find that the affected lands, located within Concession 4, South Part Lot 1, were previously assessed into the current report.

3.0 Existing Drainage Conditions

We have established the land area affected by this report and have prepared plans, Appendix A, illustrating the boundaries of the affected lands.

Under a stormwater management report dated December 17, 2001 prepared by Bruce D. Crozier, P.Eng, it was determined that the allowable release rate for the site was to be a maximum of 186.89 L/sec. The outlet from the pond was constructed using two 300 mm diameter corrugated steel pipes, both with 0.15 mm diameter orifice plates, which satisfies the outlet flow restrictions.

Through a review of the current drainage report, we have determined the area which is assessed into the McDonald Drain:

Roll No.	Hectares Owned	Hectares Affected
660-01600	3.642	3.642

4.0 Allowable Release Rates and Stormwater Management

Storm water management reports must be prepared for any proposed greenhouse development taking the allowable release rate into consideration. Each report shall be submitted to the Town for review and approval as well as to regulatory authorities prior to any work being undertaken.

The proposed storm water management plan will show that storm water management practices are to be utilized for the new and existing greenhouse development. This plan will also illustrate that no additional flow restrictions are required as the existing 300 mm diameter corrugated steel pipes, both with 0.15 mm diameter orifice plates, provide sufficient outlet restriction; therefore, these flows will have no adverse effect on the capacity of the McDonald Drain.

Calculations have been undertaken to determine the capacity of the McDonald Drain and whether this capacity is sufficient to accept the increased flow from the existing and proposed greenhouse developments. The calculated capacity of the McDonald Drain at the proposed outlet is 6,190.05 L/s.

According to our calculations, the maximum allowable release rate for the post development lands is 186.89 L/s. The flow generated by the upstream affected lands, as per the 2008 Peralta report, at the proposed outlet point is 353.80 L/s. By summing the proposed release rate and the current flow through the drain, we have determined that the total flow through the McDonald Drain at the proposed outlet point would be 540.69 L/s leaving the drain with a remaining capacity equalling 5,649.31 L/s.

Therefore, we have determined that the McDonald Drain has sufficient capacity to accept the increased flow volume from the existing and proposed 2.416 hectare greenhouse development (total lot area = 3.642 ha). Providing that the proposed stormwater management plan limits outflow from the existing and proposed developments to the existing flow rate from the existing stormwater management facility as described in the storm water management reports dated December 17, 2001 and March 7, 2016, we would recommend that the greenhouse development be allowed to proceed.

5.0 Assessment for Increased Flow Volumes

Should the Town be prepared to approve the increased flow volumes from the lands owned by Z.D.S. Farms Ltd., Roll No. 660-01600, into the McDonald Drain, the Town may appoint an Engineer to update the assessments with said work being charged entirely to the owners of the affected lands in accordance with Section 65. (3) of the Act.

The increased Value of Benefit and Outlet charges shall be based on the increased flow volumes from the already assessed portions.

6.0 Assessment Adjustments for Increased Total Flow Volumes

We would recommend that the affected parcels owned by Z.D.S. Farms Ltd. should have the Value of Benefit, Value of Outlet and Total Assessment amounts adjusted to reflect the increased total flow volume that has resulted from the proposed greenhouse development.

Based on the proposed areas of greenhouse construction and impermeable areas that are to be constructed, we would recommend that the following changes be made to the Maintenance Schedule of Assessment dated February 4, 2008 for the McDonald Drain:

Description	Original				Updated			
	Affected Area (ha)	Value of Benefit (\$)	Value of Outlet (\$)	Total Value (\$)	Affected Area (ha)	Updated Value of Benefit (\$)	Updated Value of Outlet (\$)	Updated Total Value (\$)
Z.D.S. Farms Ltd.	3.642	160	183	343	3.642	334	357	691
Total Assessment –Municipality of Leamington		234	298	532		408	472	880
Total Assessment		6,798	13,202	20,000		6,972	13,376	20,348

In accordance with Section 65. (3) of the Act, we would recommend that the values in the February 4, 2008 Schedule of Assessment be amended as shown above for the affected parcel.

We would further recommend that any future maintenance work be assessed on a pro-rata basis in accordance with the current Schedule of Assessment and the information presented above.

7.0 Summary and Recommendations

We have determined that the increased flow volumes for lands owned by Z.D.S. Farms Ltd., Roll No. 660-01600, due to the proposed greenhouse development, will not adversely affect the McDonald Drain if the release rate is limited to the 1:2 year pre-development runoff as will be stated in the proposed storm water management report.

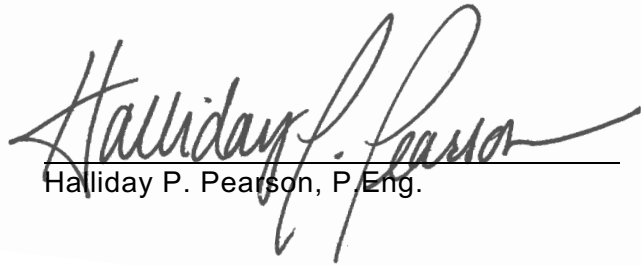
The post-development assessment coefficient to be utilized for greenhouse developments shall be 1.5 times that of agricultural lands.

We have determined the updated Values of Benefit and Outlet to be paid by lands owned by Z.D.S. Farms Ltd., Roll No. 660-01600. These amended values represent the increase in flow volume from the proposed development site.

Based on the above information, we would recommend that the Town of Kingsville assess 100.0% of the costs associated with preparation of this report to lands owned by Z.D.S. Farms Ltd., Roll No. 660-01600.

All of which is respectfully submitted.

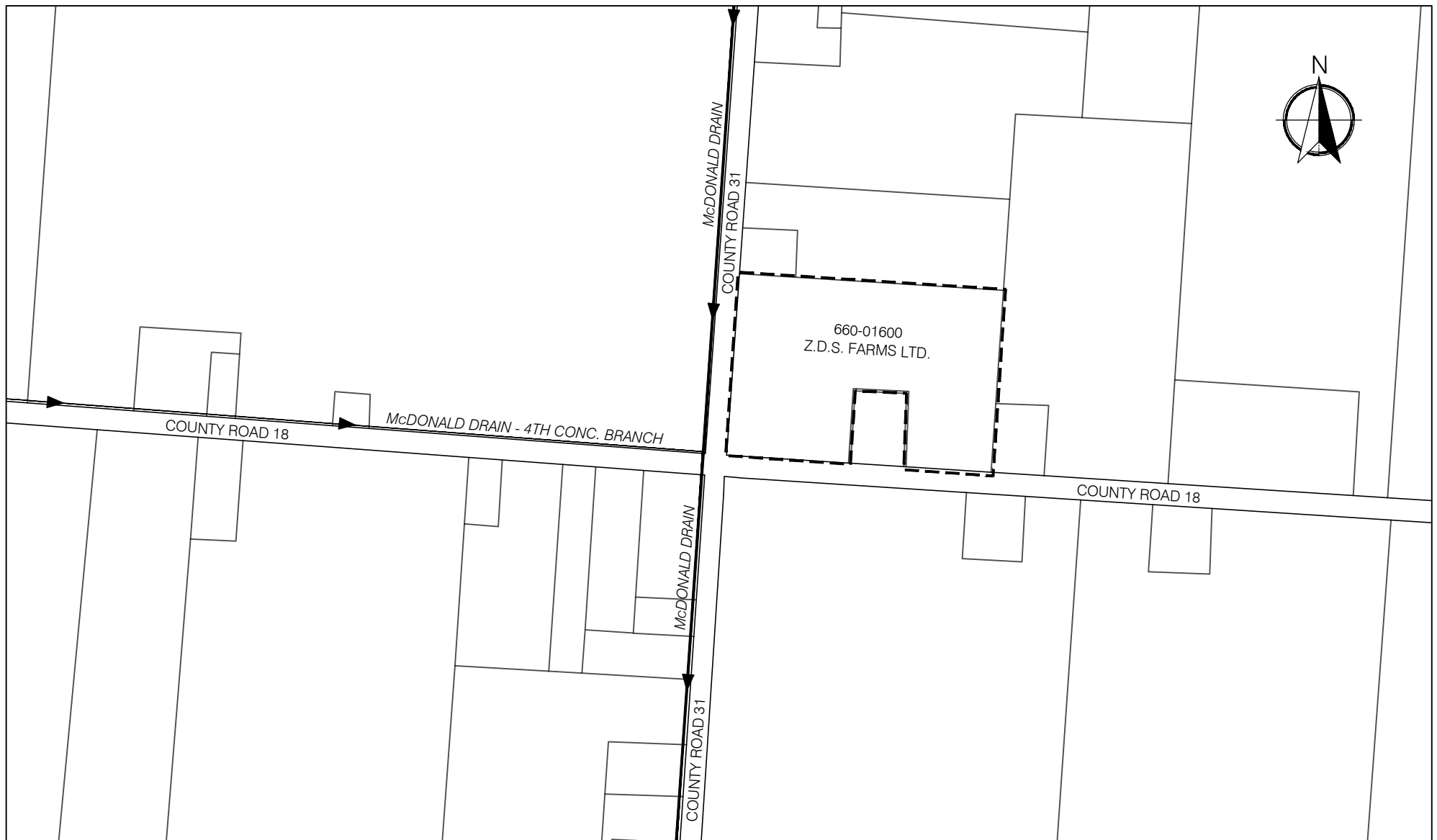
BAIRD AE
102-27 PRINCESS STREET
LEAMINGTON, ONTARIO
N8H 2X8



Halliday P. Pearson, P. Eng.



APPENDIX A



27 PRINCESS STREET, SUITE #102
LEAMINGTON, ONTARIO
N8H 2X8

1000 - 267 PELISSIER STREET,
WINDSOR, ONTARIO
N9A 4K4

PROJECT TITLE:

SECTION 65 - McDONALD DRAIN

115 COUNTY ROAD 18, LEAMINGTON ON

SHEET TITLE:

DRAINAGE PLAN

SCALE:

N.T.S.

DATE:

OCT. 25, 2016

SHEET No. :

1 OF 1

PROJECT No. :

16-006