

MUNICIPAL DRAINAGE REPORT

REPLACEMENT OF FARM CROSSING OVER THE 2ND CONCESSION BRANCH OF THE ESSELTINE DRAIN

FOR MUCCI FARMS LTD.

Roll No. 290-38700 Part of Lot 10 & 11 Concession 1



RC SPENCER ASSOCIATES INC.
Consulting Engineers

Windsor: 261 Shepherd St. E. - Windsor ON N8X 2K6
Leamington: 18 Talbot St. W. - Leamington ON N8H 1M4
Chatham-Kent: 138 King St. W. Unit 102 - Chatham ON N7M 1E3

File No. 16-568

December 22, 2016

Mayor and Municipal Council
Corporation of the Town of Kingsville
2021 Division Road
Kingsville, Ontario
N9Y 2Y9

Re: 2nd Concession Branch of the Esseltine Drain – Replacement of Farm Crossing for Mucci Farms Ltd.
Roll No. 290-38700 Part Lot 10 & 11 Concession 1
Town of Kingsville
Project No. 16-568

Mayor and Members of Council:

1.0 AUTHORIZATION

In accordance with your instructions, we have prepared the following report that provides for the replacement of a farm crossing in the 2nd Concession Branch of the Esseltine Drain on the property owned by Mucci Farms Ltd. (Roll No. 290-38700) in Part of Lot 10 & 11, Concession 1, in the Town of Kingsville.

The Municipality has issued instructions to carry out the necessary improvements to this drain by the replacement of the existing farm crossing under the provisions of the Drainage Act. Our appointment and the works relating to the construction of the above mentioned farm culvert are in accordance with Section 78 of the “Drainage Act, R.S.O. 1990, Chapter D.17”. Accordingly the firm of RC Spencer Associates Inc. has performed all of the necessary surveys, investigations, etc., and we report thereon as follows.

2.0 CURRENT DRAINAGE REPORT AND HISTORY

The 2nd Concession Branch of the Esseltine Drain is an open ditch with its upper end located at station 1+ 158m west of the eastern limit of Lot 10, Concession 2, E.D. It proceeds easterly, downstream, along the northern side of the original road allowance between Concession 1 and 2, to Station 1+616, where the drain turns southerly. It then proceeds southerly to where the natural water course begins at Station 0+873.

The last report for the 2nd Concession Branch of the Esseltine Drain was prepared by Bruce D. Crozier, P.Eng., dated May 20, 2011. Under the 2011 report improvements were proposed to a

portion of the 2nd Concession Branch of the Esseltine Drain from Stations 1+642 to 1+815. Improvements consisted of constructing a new drain and installing a culvert at Lot 11, Concession 2 E.D. The said report was never adopted and therefore, the proposed improvements were never made.

The governing report for the repair and improvement of the drain was prepared by William J. Settingington, P.Eng., dated December 21, 1976. Under the 1976 report, the entire length of the 2nd Concession Branch of the Esseltine Drain was repaired and improved by brushing and deepening of the drain. Two bridges which were inadequate in size and not in use were removed from the drain and a new 1800mm diameter corrugated steel pipe was installed at station 1+272. This is the bridge that now is in need of maintenance and will be replaced due to unsafe conditions.

3.0 SITE MEETING

After reviewing the drainage information and the previous Engineer's reports on the drain, an on-site meeting was held on November 25, 2016 with the affected landowners, at Mucci Farms Ltd, 1876 Seacliff Drive.

In attendance were:

1. Mr. Lou Zarlenga, P.Eng.
2. Mr. Marvel Hormiz, E.I.T.
3. Mr. Ken Veigh
4. Mr. Bert Mucci
5. Mr. George Dekker
6. Mr. John Henderson
7. Paolino Marcovecchio
8. Garry Johnson
9. Jacob Friesen
10. Henry Friesen
11. John Reimer
12. Wilhelm Dyck
13. Isaak Neufeld
14. Kim Teskey
15. Brenda Taggart
16. Robert Rees
17. Lorie & Len Wybenga
18. Victor Pereira
19. Maria & Silvestre Gontandle
20. Kevin David
21. Philip Hamm
22. Andrew Carruthers
23. Rose Valeri
24. Frank Capelli
25. Mike & Deanna Diab
26. David Lopez
27. George DaSilva

Representing:

RC Spencer Associates Inc.
RC Spencer Associates Inc.
Town of Kingsville
Mucci Farms Ltd.
Mucci Farms Ltd.
Essex Region Conservation Authority
1665 Regent Street
1604 Road 2 East
1567 Road 3 East
1630 Road 2 East
1841 Fairlea Crescent
1639 Fairlea Crescent
1521 Woodfern Avenue
1608 County Road 34
1633 Elgin Street
1575 County Road 34
1676 Regent Street
1679 Road 2 East
1681 Road 2 East
1864 Mayfair Street
1539 Willow Drive
1628 Elgin Street
1833 Union Avenue
1659 Fairlea Crescent
1701 Noah Crescent
1836 Mayfair Street
1691 Noah Crescent

28. Harry Keller	1810 County Road 34
29. Tony Dimenna	1766 Talbot Road
30. John Pinner	1592 County Road 34
31. Armoado Mucci	Branco Subdivision

The Drainage Superintendent, Ken Vegh, made introductions, announced the Engineer on Record and noted that the authorization to proceed with this project is provided under Section 78 of the Drainage Act, to repair, maintain and improve the existing bridge.

The Engineer on record, Lou Zarlenga, P.Eng. provided a brief history of the Drainage Act and summary of procedures under section 78 of the Drainage Act and described the affected drainage area and answered questions as follows:

1. The current report for the 2nd Concession Branch of the Esseltine Drain was prepared in 1976 by William J. Settingington. That is when the existing farm crossing was installed, which makes the existing culvert 40 years old.
2. The existing farm crossing is 24 ft long and is in need of maintenance or replacement. Over time the pipe has severely corroded and is no longer safe for use. Mr. Mucci is in need of access to his adjacent farm lots, so we have been appointed as the engineers to prepare a new culvert design.
3. The next step in the process is for us to prepare a design and a drainage report, which will then be considered by council and give you opportunity for appeal.

Questions and Concerns by Landowners

- a) **Question:** Is the drain going to be cleaned and maintained in the future?

Answer: This on-site meeting is only to address the replacement of the existing bridge on Bert Mucci's farm property. The Esseltine drain report will be coming out in the near future.

- b) **Question:** I live on 1681 Road 2 East, and ever since Mucci had done some excavating on his property, I have had flooding in my backyard. What can I do to fix this?

Answer (Ken Vegh): We will talk more about this after this meeting and I will come to your house and investigate the situation.

- c) **Question:** What year was the existing pipe installed in?

Answer: The existing 24 ft pipe was installed in the 1976 drainage report on the 2nd Concession Branch of the Esseltine Drain, which makes the pipe forty years old.

- d) **Question:** The main purpose for the bridge is so that Mucci can get his transport trucks from his one farm property to the other. He is the only one benefitting from this new culvert. Why should we have to pay anything for the culvert or the maintenance of it.

Answer: The bridge reduces the amount of truck traffic on Seacliff Drive. It also serves as a farm crossing so that Mr. Mucci can access his other farm properties. Bert has a right to have a farm crossing because if it wasn't from people upstream outletting into the drain, it would be non-existent and he would not need a bridge.

- e) **Question:** Why are we responsible for paying for a pipe that is longer than the existing one?

Answer: Ordinarily if a project involves replacement of an existing culvert, we would normally assess the costs involved in constructing this culvert, 50% against the property being provided this access as a "Special Benefit" and 50% against the upstream watershed as "Outlet" assessments. In the case where the property being provided the access would like a longer culvert to accommodate for their needs, the extra costs of the longer culvert will be assessed at 100% as "Special Benefit" against them. In this case Mr. Mucci has offered to pay the full cost of the culvert, however, maintenance will still be assessed in the appropriate proportions.

- f) **Question:** What did the original report say about the replacement of the bridge?

Answer: The report indicated that the bridge would need maintenance or replacement in the vicinity of forty years.

- g) **Question:** Was the bridge part of the municipal drain when it was put in?

Answer: The 1976 drainage report of the 2nd Concession Branch of the Esseltine Drain proposed the existing bridge to be installed and be considered as part of the municipal drain.

- h) **Question:** Why does the bridge need replacement? What is wrong with the existing one?

Answer:

- Bert Mucci: I can keep using the existing bridge in the condition that it is in until it collapses.
- Ken Vegh: I cannot let that happen. It is too high of a risk to have Bert Mucci keep using the existing bridge. In the case of the bridge collapsing serious injuries can occur and it will also cause a blockage in the drain, which can potentially flood the upstream property owners in the watershed.
- Lou Zarlenga: We have inspected the existing bridge and found significant corrosion in the bottom of the pipe. Therefore, the pipe is no longer able to handle weight, in particular, heavy weights of the trucks driving across.
- John Henderson: When the existing pipe was installed forty years ago, it was for the purpose of having access between two farm fields. Whether the farm fields now are being used as greenhouses or not, the access is still needed and it necessary that we replace it because it is no longer safe to use.

- i) **Questions:** How much are we going to be assessed for maintenance? Is it going to be a one time fee or can we pay the fee over a few years.

Answer: Until the report is complete, we are unable to give you the assessment information. Whatever, the maintenance fees are in the future, they will be assessed in the proportions that we will have in our report depending on various factors of every single property. The assessment can be paid as a one time fee or with coordination with the town can be set up as yearly payments between 5 to 10 years.

- j) **Question:** Is the bridge going to be used for transport trucks or 18 wheelers to go across? How can we make sure that the bridge will be designed and built correctly so that maintenance does not occur on a regular bases because of a lack of due diligence from the engineer and the contractor?

Answer:

- Lou Zarlenga: We will design the bridge under highway specifications and will provide a site inspector to be present when the construction of the culvert is being under taken.
- John Henderson: Whenever an engineer designs a bridge, it is designed to withstand the worst case scenario as a safety factor. This is because we do not know in the future if the bridge will be used for cars, trucks, or heavy equipment. Engineers are bound to design structures to the highest quality because of the amount of liability. With that, inspectors are always present to insure the construction is coinciding with the design.

Ken Veigh:

- The Drainage Act is the fairest piece of legislation available. This is because it gives property owners in the watershed the opportunity to appeal every single step of the way.

Lou Zarlenga:

- The next step is to provide a design for the bridge and write up a drainage report. Everyone will have the opportunity to speak or appeal at the council meeting when they consider the report.
- Thanked everyone's presence at the on-site meeting and indicated that the feedback received is appreciated.

4.0 INSPECTION AND SURVEY

Topographic survey data was gathered on the alignment of the 2nd Concession Branch of the Esseltine Drain in the area where the new farm crossing is proposed for installation. The open channel was inspected, as well as, the closest upstream and downstream structures.

5.0 WATERSHED DESCRIPTION

The watershed area upstream of the proposed culvert on the South 7th Concession Drain is irregular in shape and serves a surface drainage area of approximately 225.18 hectares (556.4 acres). The soil type within the watershed area upstream of the culvert site is predominantly Fox Sandy Loam (65%) with the remainder ranging from clay to gravel. The topography of the

watershed area upstream of the culvert is relatively flat and the bottom gradient of the drain at the site is approximately 0.6%.

6.0 EXISTING CONDITIONS

Presently, there is one farm crossing across the 2nd Concession Branch of the Esseltine Drain serving Roll No. 290-38700. It also provides access to the farm property with Roll No. 290-17900. Generally, the open drain at the proposed culvert site is reasonably wide and deep. The average top width is approximately 5.80m (19') and the depth is approximately 1.57m (5'2"). The open drain is in fair to good condition.

7.0 LANDOWNER'S REQUEST

Landowner of Roll No. 290-38700 has requested that an inspection of the existing culvert be held to determine whether maintenance or replacement is needed for the continued use of the crossing. The culvert crossing provides access to the farm properties across the drain. The property owner has requested that the new farm crossing have a driveable top width wide enough to accommodate two truck lanes. The property owner has also requested that reinforced concrete pipe be installed for the new crossing instead of corrugated steel pipe as they prefer that material.

8.0 DESIGN CONSIDERATIONS

The selected hydraulic capacity of the structure must meet the current design standards recommended by the Ministry of Agriculture, Food and Rural Affairs. The Design and Construction Guidelines suggest that an access culvert serving agricultural land, farm operations and residences be designed to freely pass the runoff generated from a 5 to 10 year return period storm. We have applied a 25 year return period storm criterion due to the current and future residential, commercial, and industrial developments.

The design bottom elevations of the new culvert is set approximately 10% of the pipe diameter being approximately 180mm (8") below the by-law grade. This embedment is requested by the conservation authorities to enhance aquatic habitat.

9.0 RECOMMENDATIONS

Based on our detailed investigations, examinations, discussions and review with all affected landowners and the Municipality of Amherstburg, we recommend the construction of a new access culvert as follows:

- a) The installation of a new round, reinforced concrete (RCP) that is structurally and hydraulically adequate and provides a minimum clear driveable top width of 19.0m. The culvert shall consist of a 31m length of 1800mm diameter CSA A257-2, Class 65-D RCP.
- b) The backfill at both ends of the culvert will be sloped and protected with graded erosion stone, for bank stabilization and erosion protection.

- c) That the pipe have an embedment of 180mm below the governing grade line to provide sufficient cover, decrease the obstructions to flow, and increase the passage of aquatic species.
- d) We recommend that the works constructed under this report be herein after considered a part of the 2nd Concession Branch of the Esseltine Drain. We recommend that these works be done and the related costs be assessed under the provisions of The Drainage Act.

10.0 DRAWINGS AND SPECIFICATIONS

As part of this report, we have attached design drawings for the proposed culvert. There is a set of six drawings:

- a) drawing showing the boundary limits of the drainage area;
- b) two sheets showing landowners that are within the drainage area limits;
- c) drawing showing existing conditions of the proposed culvert location site;
- d) drawing showing the proposed location and length of the farm crossing; and
- e) drawing showing longitudinal section and cross-section of the proposed culvert.

Also attached as **Appendix 'B'** are:

- a) **'Special Provisions'** for the culvert construction which set out specifications and construction details for the various aspects of the required works to be conducted under this report;
- b) **'General Specifications for Access Culvert Construction'**;
- c) **'Environmental Protection Special Provisions'**.

Also attached as **Appendix 'C'** is an **'Endangered Species Act Review'** providing pertinent information.

11.0 ALLOWANCES

The construction of the access culvert will be carried out wholly from private property described as Roll No. 290-38700. We have not provided any allowance under Section 29 of the Drainage Act as the culvert will be located within the limits of the existing municipal drain. Also, we have not included any allowance under Section 30 of the Drainage Act for damages to lands and crops (if any) caused by the construction of the access crossing and the operation of equipment as all excess materials will be hauled off-site and no crops are involved. The working area designated in the specifications shall be provided by the landowner, in the future, for the purposes of future maintenance of the culvert crossing.

12.0 ESTIMATE OF COSTS

Our estimate of the total cost of the proposed work, including the cost of the engineer's report and all incidental expenses, is made up as follows:

CONSTRUCTION ITEMS

1. Access Culvert - 1800 mm diameter CSP pipe

a) Remove and dispose of existing brush and trees including stumps.	\$	2,000.00
b) Supply to site 31 metres of 1800 mm diameter reinforced concrete pipe (RCP) CSA A257.2, Class 65D.	\$	47,430.00
c) Supply and install all 20-25mm clear stone material for pipe bedding, being approximately 20 tonnes.	\$	700.00
d) Supply and install all granular 'B' (Type II) bedding and backfill material for pipe installation, being approximately 770 tonnes.	\$	19,200.00
e) Supply and install all granular 'A' material for road base, being approximately 135 tonnes.	\$	4,040.00
f) Supply labour and equipment to excavate for and install specified pipe including all drain excavation, compaction, disposal of surplus material and all drain bank and road restoration and bank seeding & mulching. Supply labour, equipment and materials to redirect all lateral tile drains that outlet into the open drain opposite the new culvert and outlet them into the open drain beyond the limits of the new culvert. Traffic control is also included.	\$	10,780.00
g) Supply and install a total of approximately 48 square metres (29 tonne) of quarried and graded erosion stone 150mm x 230mm protection on the drain banks at both ends of culvert pipe, approximately 300mm in depth including all required excavation, disposal of surplus materials, and placement of Terrafix 270R or equal geotextile non-woven filter fabric.	\$	4,330.00
h) Removal of existing 1800mm diameter CSP and regrading of drain.	\$	3,400.00
i) Supply, install and maintain silt fence for duration of project.	\$	1000.00

SUB TOTAL FOR CONSTRUCTION	\$	92,880.00
H.S.T. ON INCIDENTALS (1.76%)	\$	1,635.00
TOTAL FOR CONSTRUCTION (including H.S.T.)	\$	94,515.00

INCIDENTALS

Survey, report, estimate, specifications, contract administration and inspection	\$	20,000.00
Additional engineering costs for alternative culvert designs	\$	17,000.00
Contingency Allowance (if required)	\$	1,000.00
SUBTOTAL FOR INCIDENTALS	\$	38,000.00
H.S.T. ON INCIDENTALS (1.76%)	\$	670.00
TOTAL FOR INCIDENTALS	\$	38,670.00
TOTAL ESTIMATED COST	\$	133,185.00

The estimate provided in this report was prepared according to current materials and installation prices as of the date of this report. In the event of delays from the time of filing of the report by the Engineer to the time of tendering the work, it is understood that the estimate of cost is subject to inflation. The rate of inflation shall be calculated using the Consumer Price Index applied to the cost of construction from the date of the report to the date of tendering.

13.0 UTILITIES

It may become necessary to temporarily or permanently relocate utilities that may conflict with the construction recommended under this report. In accordance with Section 26 of the Drainage Act, we assess any relocation cost against the public utility having jurisdiction. Under Section 69 of the Drainage Act, the public utility is at liberty to do the work with its own forces, but if it should not exercise this option within a reasonable length of time, the Municipality will arrange to have this work completed and the costs will be charged to the appropriate public utility.

14.0 ASSESSMENT

Under the Drainage Act, assessments against individual properties are normally comprised of three (3) assessment components:

- i. Benefit (*advantages relating to the betterment of lands, roads, buildings, or other structures resulting from the improvement to the drain*).
- ii. Outlet Liability (*part of cost required to provide outlet for lands and roads*).
- iii. Special Benefit (*additional work or feature that may not affect function of the drain*).

In general, if a project involves the replacement of an existing culvert crossing, we would normally assess the costs involved in constructing this culvert, 50% against the property being provided access as a “Special Benefit” and 50% against the upstream watershed as “Outlet” assessments. Where a property owner requests a wider driveable top width than the existing 7m, the additional costs for providing a wider culvert crossing is assessed 100% against the adjoining

property. Where an owner requests upgraded features such as decorative headwalls or more expensive pipe material, the increase in costs is assessed 100% against the adjoining property.

The proposed work involves the replacement of an existing farm crossing. At the on-site meeting held on November 25, 2016, Mr. Bert Mucci offered to pay the full cost for the replacement of this culvert. In this report, the assessment of the cost of replacing this culvert, has been assessed entirely against Roll No. 290-38700 as a “Special Benefit” based upon the owner of Roll No. 290-38700 agreeing to pay 100% of the cost. An additional cost of \$17,000 has also been assessed as a “Special Benefit” to the property with Roll No. 290-38700 for previous engineering work carried out at their request.

15.0 FUTURE MAINTENANCE

After completion, the access culvert installed under this report shall be maintained by the Town of Kingsville using ‘**Schedule A-2**’ included in **Appendix ‘A’**. ‘**Schedule A-2**’ is based upon an arbitrary maintenance cost of \$100,000. The actual maintenance assessments will be determined by pro-rating the actual maintenance costs in the proportions set out in ‘Schedule A-2’. The adjoining property served by the access culvert is assessed 78% of the future maintenance costs. The remaining 22% of the future maintenance costs is assessed against the upstream lands and roads that drain through this culvert as “Outlet” assessments. When determining “Outlet” assessments, factors such as area draining from each property, land use, impervious areas and other factors are considered. “Outlet” assessments are based upon the volume and rate of flow of the water artificially caused to flow into the drainage works from the lands and roads liable for such assessments.

Furthermore, all of the above provisions for the future maintenance of this culvert shall remain as noted above until otherwise determined under the provisions of the ‘Drainage Act RSP 1990 Chapter D. 17’.

16.0 FISHERIES ISSUES

The Federal Fisheries Act requires that no deleterious substances be introduced to fish habitat and that there be no net loss of fish habitat as a result of any undertaking. Any activities that may introduce deleterious substances or result in loss of fish habitat may require a permit from the Minister of Fisheries, Oceans and the Canadian Coast Guard. To reduce administration and time spent evaluating relatively simple projects that have easily predicted impacts that are easily mitigated, the Department of Fisheries and Oceans Canada (DFO) has instituted a self-assessment process. This means that certain activities or activities within certain types of water bodies may be undertaken by the proponent without contacting DFO, provided that appropriate avoidance and mitigation measures are followed.

A self-assessment of the project has been completed. The DFO lists of types of water bodies and activities that do not require review by their office have been reviewed. The project activities and water bodies involved fall within those categories and this project can be self assessed. The Environmental Specifications attached to this report provides appropriate avoidance and mitigation measures for the Contractor to adhere to.

17.0 GRANTS

In accordance with the provisions of Sections 85, 86 and 87 of the Drainage Act, a grant in the amount of 33–1/3 percent of the assessment eligible for a grant may be made in respect to the assessment made under this report upon privately owned lands used for agricultural purposes. The assessments levied against privately owned agricultural land must also satisfy all other eligibility criteria set out in the Agricultural Drainage Infrastructure Program policies. The cost of constructing the replacement of the existing farm crossing is entirely assessed against Roll No. 290-38700. This property is used for agricultural purposes and appears to be eligible under the A.D.I.P. policies. We recommend that application be made to the Ontario Ministry of Agriculture and Food in accordance with Section 88 of the Drainage Act, for this grant, as well as for all other grants for which this work may be eligible.

18.0 DRAINAGE ACT PROCEDURE FOR REPLACEMENT OF FARM CROSSING

The following is a summary of the general procedure the Town will follow to provide for the replacement of an existing bridge/enclosure in the Municipal Drain. As this is only a summary additional details may be obtained from the Town Clerk or Engineer.

- a) Landowner signs a request under Section 78 of the “Drainage Act, R.S.O. 1990, Chapter D.17” requesting the replacement/improvement of an existing bridge.
- b) Council accepts the request and appoints engineer.
- c) Engineer arranges for site meeting with Town Drainage Superintendent and others to discuss project and will take survey of bridge site.
- d) Engineer designs bridge to appropriate standards and prepares drainage report including description of required bridge, breakdown of the construction items and quantities, estimate of cost, specifications and plans and tender documents for construction.
- e) Engineer provides copies of drainage report to the Town. The Town Clerk then sends copies of the report to the bridge owner and others. The Town Clerk then arranges to have the drainage report considered by Town Council at a regular Council meeting.
- f) At the meeting for consideration of the drainage report the Town Council may adopt the report if there are no objections. If adopted the town Clerk prepares a Provisional By-Law for the proposed work and sends copies of the By-Law to affected parties and arranges a second meeting of Council for the Court of Revision.
- g) The Court of Revision is held 20 to 30 days after mailing of the Provisional By-Law and the purpose is to discuss issues of cost assessments. If there are no appeals to the Court of Revision Council may instruct that tenders be called from local Contractors to provide quotations for the bridge construction.
- h) The Town Drainage Superintendent may then request quotations from three or more reliable and insured Contractors having experience with Municipal Drainage and bridge construction.

- i) The Town Drainage Superintendent will arrange for the construction of the bridge with the selected Contractor and will also provide intermittent inspection of the Contractors work. If there are no appeals to the Court of Revision within 21 days of the Courts decision then construction can commence approximately 30 to 35 days after the date of the Court Revision.
- j) Upon completion of construction, the Town Clerk will finalize all applicable costs, submit grant applications to the Ministry of Agriculture, Food and Rural Affairs, if applicable, and the Clerk will then send a final assessment to the landowner.
- k) As described above the Drainage Act requires a minimum waiting period of approximately 60 to 65 days after report adoption before construction can start. The Town realizes that circumstances may arise where the landowner must obtain access to the lands within a shorter time period. In this regard the Town Council may accept a signed Waiver of Appeal Rights from the landowner where the landowner agrees with the conditions of the drainage report and the landowner agrees that he will not appeal the report or assessments. Should Council accept the signed Waiver the Town Drainage Superintendent would be instructed to obtain Contractor quotations soon after the drainage report is adopted and construction can then start as soon as a Contractor is selected.

In this event the Town Clerk must still provide the necessary Provisional By-Laws and still arrange for Court of Revision as per normal Drainage Act procedures.

- l) The Town will not normally permit a landowner to install their own bridge due to the insurance liabilities and an obligation to upstream landowners to safe guard their drainage requirements. Should the landowner request a certain Contractor the Drainage Superintendent may include said Contractor among those Contractors requested to provide a quotation.

All of which is respectfully submitted.

RC SPENCER ASSOCIATES INC.


Lou Zarlenga, P.Eng.



REVIEWED BY


Dennis McCready, P.Eng.



APPENDIX 'A'

SCHEDULES OF ASSESSMENT

**REPLACEMENT OF FARM CROSSING OVER THE
2ND CONCESSION BRANCH OF THE ESSELTINE DRAIN**

FOR MUCCI FARMS LTD

Roll No. 290-38700 Part of Lot 10 & 11, Concession 1

TOWN OF KINGSVILLE

COUNTY OF ESSEX

**SCHEDULE A-1
SCHEDULE OF ASSESSMENT FOR CONSTRUCTION**

**2nd CONCESSION BRANCH OF THE ESSELTINE DRAIN
PROJECT REFERENCE NUMBER 16-568**

A) PRIVATELY OWNED - AGRICULTURAL LANDS (GRANTABLE)										
ENTRY NO.	TAX ROLL NO.	CON. OR PLAN NO.	LOT OR PART OF LOT	ACRES OWNED	ACRES AFFT'D	HECTARES AFFT'D	OWNERS NAME	(SECTION 23) VALUE OF OUTLET LIABILITY	(SECTION 24) VALUE OF SPECIAL BENEFIT	TOTAL ASSESSMENT
1	290-38700	1 E.D.	10 & 11	47.78	34.10	13.800	MUCCI FARMS LTD	\$ -	\$ 133,185.00	\$ 133,185.00
Total Affected Lands					34.10	13.800				
Total Assessment on Privately Owned Agricultural Lands (Grantable)								\$ -	\$ 133,185.00	\$ 133,185.00

TOTAL ASSESSMENT FOR SECTIONS A, B, C & D								\$ -	\$ 133,185.00	\$ 133,185.00
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***NOTE: Assessment Values have been rounded to the nearest whole dollar for presentation purposes.**

2nd Concession Branch of the Esseltine Drain – Replacement of Farm Crossing

**SCHEDULE A-2
SCHEDULE OF MAINTENANCE**

**2nd CONCESSION BRANCH OF THE ESSELTINE DRAIN
PROJECT REFERENCE NUMBER 16-568**

A) MUNICIPAL LANDS										
ENTRY NO.	TAX ROLL NO.	CON. OR PLAN NO.	LOT OR PART OF LOT	ACRES OWNED	ACRES AFFTD	HECTARES AFFTD	OWNERS NAME	(SECTION 23) VALUE OF OUTLET LIABILITY	(SECTION 24) VALUE OF SPECIAL BENEFIT	TOTAL ASSESSMENT
1	ROAD 3 E				5.99	2.424	TOWN OF KINGSVILLE	\$ 443.00	\$ -	\$ 443.00
2	COUNTY ROAD 45				3.47	1.404	COUNTY OF ESSEX	\$ 267.00	\$ -	\$ 267.00
3	COUNTY ROAD 34				8.65	3.501	COUNTY OF ESSEX	\$ 598.00	\$ -	\$ 598.00
4	NEAL STREET				0.23	0.092	TOWN OF KINGSVILLE	\$ 16.00	\$ -	\$ 16.00
5	ELGIN STREET				1.80	0.730	TOWN OF KINGSVILLE	\$ 129.00	\$ -	\$ 129.00
6	LEE ROAD				0.52	0.210	TOWN OF KINGSVILLE	\$ 38.00	\$ -	\$ 38.00
7	PEACH DRIVE				0.86	0.350	TOWN OF KINGSVILLE	\$ 62.00	\$ -	\$ 62.00
8	WOOD FERN AVENUE				1.98	0.800	TOWN OF KINGSVILLE	\$ 137.00	\$ -	\$ 137.00
9	WILLOW DRIVE				0.57	0.230	TOWN OF KINGSVILLE	\$ 39.00	\$ -	\$ 39.00
10	PRINCE STREET				0.50	0.204	TOWN OF KINGSVILLE	\$ 35.00	\$ -	\$ 35.00
11	QUEEN BOULEVARD				2.25	0.910	TOWN OF KINGSVILLE	\$ 155.00	\$ -	\$ 155.00
12	REGENT STREET				1.53	0.620	TOWN OF KINGSVILLE	\$ 106.00	\$ -	\$ 106.00
13	SERVICE ROAD				1.01	0.410	TOWN OF KINGSVILLE	\$ 68.00	\$ -	\$ 68.00
14	FAIRLEA CRESCENT				1.06	0.430	TOWN OF KINGSVILLE	\$ 71.00	\$ -	\$ 71.00
15	MAYFAIR STREET				0.91	0.370	TOWN OF KINGSVILLE	\$ 61.00	\$ -	\$ 61.00
16	NEVAN COURT				0.23	0.094	TOWN OF KINGSVILLE	\$ 15.00	\$ -	\$ 15.00
17	BRANCO DRIVE				0.72	0.290	TOWN OF KINGSVILLE	\$ 46.00	\$ -	\$ 46.00
18	NOAH CRESCENT				0.72	0.290	TOWN OF KINGSVILLE	\$ 48.00	\$ -	\$ 48.00
19	ROAD 2 EAST				3.67	1.485	TOWN OF KINGSVILLE	\$ 235.00	\$ -	\$ 235.00
Total Affected Lands					36.68	14.844				
Total Assessment on Municipal Lands								\$ 2,559.00	\$ -	\$ 2,559.00

B) PRIVATELY OWNED - NON-AGRICULTURAL LANDS										
ENTRY NO.	TAX ROLL NO.	CON. OR PLAN NO.	LOT OR PART OF LOT	ACRES OWNED	ACRES AFFTD	HECTARES AFFTD	OWNERS NAME	(SECTION 23) VALUE OF OUTLET LIABILITY	(SECTION 24) VALUE OF SPECIAL BENEFIT	TOTAL ASSESSMENT
20	440-04300	2 E.D.	9	12.57	3.49	1.412	STERLING ACRE FARMS LIMITED	\$ 129.00	\$ -	\$ 129.00
21	340-05900	3 E.D.	10	65.78	23.00	9.308	SUN-BRITE CANNING LIMITED	\$ 315.00	\$ -	\$ 315.00
22	340-01410	3 E.D.	PS1/2 lot 11	0.52	0.52	0.210	BENJEMIN KNELSEN	\$ 19.00	\$ -	\$ 19.00
23	340-01405	3 E.D.	PS1/2 lot 11	1.25	1.25	0.506	KRISTOPHER JOHN KLASSEN & JENNIFER RUTH ELLWOOD	\$ 46.00	\$ -	\$ 46.00
24	340-01000	3 E.D.	PS1/2 lot 11	0.71	0.71	0.287	ABRAM & HELENA FRIESEN	\$ 26.00	\$ -	\$ 26.00
25	340-00900	3 E.D.	PS1/2 lot 11	0.36	0.36	0.146	SARA KLASSEN	\$ 13.00	\$ -	\$ 13.00
26	340-00800	3 E.D.	PS1/2 lot 11		0.35	0.142	PETER & ELISABETH DYCK	\$ 13.00	\$ -	\$ 13.00
27	340-00700	3 E.D.	PS1/2 lot 11	0.47	0.47	0.190	AGANETHA GIESBRECHT	\$ 17.00	\$ -	\$ 17.00
28	340-00600	3 E.D.	PS1/2 lot 11		0.46	0.186	ANTONIA ALETTA EVERS	\$ 17.00	\$ -	\$ 17.00
29	340-00500	3 E.D.	11	1.08	1.08	0.437	FAIRVIEW CEMETERY	\$ 13.00	\$ -	\$ 13.00
30	300-32800			0.54	0.54	0.219	HARRY O'BRIEN	\$ 20.00	\$ -	\$ 20.00
31	300-32701			0.61	0.61	0.247	JACOB FRIESEN	\$ 23.00	\$ -	\$ 23.00
32	300-32700	2 E.D.	9		0.20	0.081	DONALD GARY & PAMELA NADINE ATKINSON	\$ 7.00	\$ -	\$ 7.00
33	300-32601	2 E.D.	9	0.27	0.27	0.109	CHRISTINE ELIZABETH FRIDAY & ROBERT REES	\$ 10.00	\$ -	\$ 10.00
34	300-32400	2 E.D.	9	0.23	0.23	0.093	ALFREDO DIMENNA	\$ 24.00	\$ -	\$ 24.00
35	300-32102	2 E.D.	9	1.83	1.83	0.741	KENNETH HINCKS IN TRUST	\$ 190.00	\$ -	\$ 190.00
36	300-32100	2 E.D.	9	14.85	14.85	6.010	2435895 ONTARIO LIMITED	\$ 605.00	\$ -	\$ 605.00
37	300-31900	2 E.D.	9	0.40	0.40	0.162	CANADA POST CORPORATION	\$ 15.00	\$ -	\$ 15.00
38	300-31800	2 E.D.	9	0.29	0.29	0.117	TRUDY ALICE WOOD	\$ 11.00	\$ -	\$ 11.00
39	300-31700	2 E.D.	9	0.14	0.14	0.057	HENRY ENNS & ANETHA THIESSEN	\$ 5.00	\$ -	\$ 5.00
40	300-31600	2 E.D.	9	0.44	0.44	0.178	RUTHVEN AUTO TOWING & REPAIRS LTD	\$ 35.00	\$ -	\$ 35.00

2nd Concession Branch of the Esseltine Drain – Replacement of Farm Crossing

B) PRIVATELY OWNED - NON-AGRICULTURAL LANDS										
ENTRY NO.	TAX ROLL NO.	CON. OR PLAN NO.	LOT OR PART OF LOT	ACRES OWNED	ACRES AFF'T'D	HECTARES AFF'T'D	OWNERS NAME	(SECTION 23) VALUE OF OUTLET LIABILITY	(SECTION 24) VALUE OF SPECIAL BENEFIT	TOTAL ASSESSMENT
41	300-31502	2 E.D.	9	0.07	0.07	0.028	THORBOURN WIGLE ESTATE	\$ 1.00	\$ -	\$ 1.00
42	300-31501	2 E.D.	9	0.04	0.04	0.017	THORBOURN WIGLE ESTATE	\$ 4.00	\$ -	\$ 4.00
43	300-31500	2 E.D.	9	0.34	0.34	0.138	TINA SALLOWS & ROGER PARENT	\$ 34.00	\$ -	\$ 34.00
44	300-31400	183	PT LOT 9	0.25	0.25	0.101	ALAN EDWARD & IRENE MARIA FOX	\$ 9.00	\$ -	\$ 9.00
45	300-31300	183	PT LOT 8		0.25	0.101	STEPHEN PATRICK & LESLIE ANN STEPHENSON	\$ 9.00	\$ -	\$ 9.00
46	300-31205	183	PT LTS 8 & 9 CON 2	0.42	0.42	0.170	JOSEPH & LORI BERESH	\$ 16.00	\$ -	\$ 16.00
47	300-31200	183	PT LTS 8 & 9 CON 2	0.39	0.39	0.158	JOHN RICHARD OLIVER & SHARON LOUISE PARENT	\$ 14.00	\$ -	\$ 14.00
48	300-31100	M48	36		0.20	0.081	ALLAN JONATHAN & VIRGINIA ANN CAMPBELL	\$ 7.00	\$ -	\$ 7.00
49	300-31000	M48	35		0.20	0.081	ERIC ALFRED & SUSANNE BERNADETTE TIESSEN	\$ 7.00	\$ -	\$ 7.00
50	300-30900	M48	34	0.21	0.21	0.085	MARY CLAIRE INGRATTA	\$ 8.00	\$ -	\$ 8.00
51	300-30800	M48	33		0.21	0.085	BERNHARD ENNS & MARIA SCHROEDER	\$ 8.00	\$ -	\$ 8.00
52	300-30700	M48	32	0.27	0.27	0.109	MARY-ELIZABETH SCHAUER	\$ 10.00	\$ -	\$ 10.00
53	300-30600	M48	31	0.27	0.27	0.109	RAYMOND GORDON JR & GAIL CAROL ANN FOSTER	\$ 10.00	\$ -	\$ 10.00
54	300-30500	M48	30	0.27	0.27	0.109	MANUEL & ERMILINDA FURTADO	\$ 9.00	\$ -	\$ 9.00
55	300-30400	M48	29		0.21	0.085	JOHAN & SARA HILDEBRANDT	\$ 7.00	\$ -	\$ 7.00
56	300-30300	M48	28		0.21	0.085	MARY ANN BECHARD	\$ 7.00	\$ -	\$ 7.00
57	300-30200	M48	27	0.21	0.21	0.085	FRANK BRAUN & NELINORA KNELSEN GUENTHER	\$ 7.00	\$ -	\$ 7.00
58	300-30100	M48	26		0.21	0.085	HEINRICH & SARA HILDEBRAND	\$ 7.00	\$ -	\$ 7.00
59	300-30000	M48	25		0.17	0.069	JOSE MEDEIROS & MARIA INES FURTADO	\$ 6.00	\$ -	\$ 6.00
60	300-29900	M48	24		0.18	0.073	HEINRICH & MARGARETHA FEHR	\$ 6.00	\$ -	\$ 6.00
61	300-29700	M48	23		0.38	0.154	JOSE VITORINO & TERESA TAVARES MEDEIROS	\$ 13.00	\$ -	\$ 13.00
62	300-29600	M48	22	0.38	0.38	0.154	S MAUREEN RYAN	\$ 13.00	\$ -	\$ 13.00
63	300-29500	M48	21	0.38	0.38	0.154	JOHN & AGNES PEREIRA	\$ 13.00	\$ -	\$ 13.00
64	300-29401	12M48	BLK H	0.02	0.02	0.008	KINGSVILLE TOWN	\$ -	\$ -	\$ -
65	300-29400	M48	20		0.38	0.154	DAVID LINDSAY & JOANNE MILDRED GRAHAM	\$ 13.00	\$ -	\$ 13.00
66	300-29329	M81	6	0.38	0.38	0.154	MARIA DOMENICA CAPUSSI & GIOVANNA DILAUDO	\$ 13.00	\$ -	\$ 13.00
67	300-29328	M81	5	0.38	0.38	0.154	JOHN WALTER & BESSIE JANE UNRAU	\$ 13.00	\$ -	\$ 13.00
68	300-29327	M81	4	0.38	0.38	0.154	VIRGILIO & MARIA PEREIRA	\$ 13.00	\$ -	\$ 13.00
69	300-29326	M81	3	0.38	0.38	0.154	RANDY & MARY THIESSEN	\$ 13.00	\$ -	\$ 13.00
70	300-29325	M81	2	0.38	0.38	0.154	ROBERTO FORTUNA & MARIA JESUS SILVA PIMENTEL	\$ 12.00	\$ -	\$ 12.00
71	300-29324	M81	1		0.43	0.174	STANLEY ANGUS A & SHEILA MARLENE BALTZER	\$ 14.00	\$ -	\$ 14.00
72	300-29323	M105	24		0.35	0.142	GARRY DOUGLAS & DONNA LYNN JOHNSON	\$ 11.00	\$ -	\$ 11.00
73	300-29322	M105	23	0.30	0.30	0.121	ANGELA MARIE SCHNEKENBURGER	\$ 10.00	\$ -	\$ 10.00
74	300-29321	M105	22	0.30	0.30	0.121	JOHN PAUL DOUGLAS & HELEN AFFLECK	\$ 10.00	\$ -	\$ 10.00
75	300-29320	M105	21	0.30	0.30	0.121	ABRAHAM BICKER & SUSANA NEUDORF	\$ 10.00	\$ -	\$ 10.00
76	300-29319	M105	20	0.30	0.30	0.121	NEIL FEHR & TRACY LEE REIMER	\$ 10.00	\$ -	\$ 10.00
77	300-29318	M105	19	0.30	0.30	0.121	VINCENZO & SANTINA MARCOVECCHIO	\$ 10.00	\$ -	\$ 10.00
78	300-29317	M105	18		0.30	0.121	JACOB & AGATHA SAWATZKY	\$ 10.00	\$ -	\$ 10.00
79	300-29316	M105	17		0.31	0.125	ROGER DAVID RUSSELO	\$ 10.00	\$ -	\$ 10.00
80	300-29315	M105	16	0.24	0.24	0.097	JOHN S & BARBARA F BAKER	\$ 8.00	\$ -	\$ 8.00
81	300-29314	M105	15	0.24	0.24	0.097	NICK & ROSINA TOTARO	\$ 8.00	\$ -	\$ 8.00
82	300-29313	M105	14	0.24	0.24	0.097	JOSEPH & ODETTE PEREIRA	\$ 8.00	\$ -	\$ 8.00
83	300-29312	M105	13	0.24	0.24	0.097	ISSAK & AMY NEUFELD	\$ 8.00	\$ -	\$ 8.00
84	300-29311	M105	12		0.42	0.170	DARRELL J & JULIE A SCRATCH	\$ 14.00	\$ -	\$ 14.00
85	300-29310	M105	11		0.41	0.166	PEDRO & MAGARETHA KNELSEN	\$ 14.00	\$ -	\$ 14.00
86	300-29309	M105	10	0.22	0.22	0.089	RUDY & HELEN HEDY SPITSE	\$ 7.00	\$ -	\$ 7.00
87	300-29308	M105	9 & Pt Lot 15		0.28	0.113	TODD & MARTHA JOAN JENNER	\$ 9.00	\$ -	\$ 9.00
88	300-29307	M105	8		0.26	0.105	AARON & MARIA WALL	\$ 9.00	\$ -	\$ 9.00
89	300-29306	M105	7	0.26	0.26	0.105	PETER & JUSTINA BERGEN	\$ 9.00	\$ -	\$ 9.00
90	300-29305	M105	6	0.26	0.26	0.105	KIRSTYN LAUREL FARNSWORTH	\$ 9.00	\$ -	\$ 9.00
91	300-29304	M105	5	0.26	0.26	0.105	FRANK ANTHONY QUATRINI	\$ 9.00	\$ -	\$ 9.00

2nd Concession Branch of the Esseltine Drain – Replacement of Farm Crossing

B) PRIVATELY OWNED - NON-AGRICULTURAL LANDS										
ENTRY NO.	TAX ROLL NO.	CON. OR PLAN NO.	LOT OR PART OF LOT	ACRES OWNED	ACRES AFF'T'D	HECTARES AFF'T'D	OWNERS NAME	(SECTION 23) VALUE OF OUTLET LIABILITY	(SECTION 24) VALUE OF SPECIAL BENEFIT	TOTAL ASSESSMENT
92	300-29303	M105	4		0.27	0.109	MARY MARGARET RUSSELO	\$ 9.00	\$ -	\$ 9.00
93	300-29302	M105	3		0.32	0.130	DAVID ALAN & TAMMIE BARBARA MILLS	\$ 11.00	\$ -	\$ 11.00
94	300-29301	M105	2		0.23	0.093	JACOB GOERTZEN & ANNA GIESBRECHT NEUFELD	\$ 8.00	\$ -	\$ 8.00
95	300-29300	M105	1	0.23	0.23	0.093	PHILIP GERHARD & LYDIA LOUISE HAMM	\$ 8.00	\$ -	\$ 8.00
96	300-29200	M48	19	0.23	0.23	0.093	TRACEY YOUNG	\$ 8.00	\$ -	\$ 8.00
97	300-29100	M48	18	0.23	0.23	0.093	KENNETH ROSS & SUSAN ILENE COSFORD	\$ 8.00	\$ -	\$ 8.00
98	300-29000	M48	17		0.23	0.093	GERARDO & ANNA NEUFELD	\$ 8.00	\$ -	\$ 8.00
99	300-28900	M48	16	0.39	0.39	0.158	VICTOR MANUEL & MARIA NATALIA PEREIRA	\$ 13.00	\$ -	\$ 13.00
100	300-28800	M48	Pt Lot 15		0.36	0.146	CAROLYN WENZLER	\$ 12.00	\$ -	\$ 12.00
101	300-28700	M48	14	0.22	0.22	0.089	MAXIMINO SANTOS & MARIA OLYMPIA MATEUS	\$ 8.00	\$ -	\$ 8.00
102	300-28600	M48	13	0.22	0.22	0.089	JOCHM JOHANNES & JANNY GRIETA VANDENBERG	\$ 8.00	\$ -	\$ 8.00
103	300-28500	M48	12	0.29	0.29	0.117	ARMANDO PALLOTTA	\$ 10.00	\$ -	\$ 10.00
104	300-28400	M48	11	0.29	0.29	0.117	JUAN BOSCHMAN & ANNA FEHR	\$ 10.00	\$ -	\$ 10.00
105	300-28300	M48	10	0.25	0.25	0.101	ABRAM KRAHN PENNER & MARIA DYCK	\$ 9.00	\$ -	\$ 9.00
106	300-28200	M48	9	0.25	0.25	0.101	ISAAC HAMM & HELENA FEHR	\$ 9.00	\$ -	\$ 9.00
107	300-28100	M48	8		0.25	0.101	DAVID CARL & ROSALINA CABRAL	\$ 9.00	\$ -	\$ 9.00
108	300-28000	M48	7		0.22	0.089	JOHN & WILHELMINA VANDERBEEK	\$ 8.00	\$ -	\$ 8.00
109	300-27900	M48	6		0.21	0.085	CHENG HUY & NGOP TAING	\$ 8.00	\$ -	\$ 8.00
110	300-27800	M48	5		0.21	0.085	RANDAL ERLE & NOREEN ANN NASH	\$ 8.00	\$ -	\$ 8.00
111	300-27700	M48	4		0.21	0.085	HARRIS LOWELL BICKFORD & DIANE LOUISE MC KNIGHT	\$ 8.00	\$ -	\$ 8.00
112	300-27600	M48	3		0.21	0.085	ANTONIO & CHARLYNN FAYE MARIE AGOSTA	\$ 8.00	\$ -	\$ 8.00
113	300-27500	M48	2		0.22	0.089	JOE & CONNIE CACILHAS	\$ 8.00	\$ -	\$ 8.00
114	300-27400	M48	1		0.23	0.093	GARY PATRICK & FERNANDA ARLETTA GILLIS	\$ 8.00	\$ -	\$ 8.00
115	300-27300	183	PT LOT 4	0.31	0.31	0.125	GEOFFREY DOUGLAS & DEBRA LYNNE DUNMORE	\$ 11.00	\$ -	\$ 11.00
116	300-27200	183	PT LOT 4	0.31	0.31	0.125	ROBERT ARTHUR SHORTT & DEBRA LYNNE DUNMORE	\$ 11.00	\$ -	\$ 11.00
117	300-27100	183	PT LT 6 PT LT 7		0.34	0.138	DIEDRICH & SARA KNELSEN	\$ 12.00	\$ -	\$ 12.00
118	300-27000	183	PT LOT 6 PT LOT 7	0.16	0.16	0.065	SARA KNELSEN	\$ 6.00	\$ -	\$ 6.00
119	300-26900	183	PT LOT 7		0.21	0.085	ROGER OLIVER JR PARENT	\$ 8.00	\$ -	\$ 8.00
120	300-26800	183	PT LOT 6 / 7	0.29	0.29	0.117	KAREN SUE BROWN	\$ 10.00	\$ -	\$ 10.00
121	300-26700	183	PT LOT 4 / 5	0.31	0.31	0.125	PETER KLASSEN & JUSTINA QUIRING	\$ 11.00	\$ -	\$ 11.00
122	300-26600	183	PT LOT 4	0.31	0.31	0.125	DONALD GREGORY & HEATHER ANN DUNMORE	\$ 11.00	\$ -	\$ 11.00
123	300-26500	183	PT LOT 3		0.38	0.154	LARRY NEIL & ANN JOYCE DUNMORE	\$ 14.00	\$ -	\$ 14.00
124	300-26400	183	PT LOT 3		0.06	0.024	AMANDA KATHLEEN GRAY	\$ 2.00	\$ -	\$ 2.00
125	300-26300	183	PT LOT 3 W/S MAIN	0.17	0.17	0.069	PAUL WAYNE WIGLE & STACY LEE DESCHAMPS	\$ 6.00	\$ -	\$ 6.00
126	300-26200	183	PT LOT 3	0.17	0.17	0.069	EVA STEIN	\$ 6.00	\$ -	\$ 6.00
127	300-26100	183	PT LOT 3		0.16	0.065	MARVIN DAVID & HELENA KLASSEN	\$ 6.00	\$ -	\$ 6.00
128	300-26000	2 E.D.	9		0.53	0.214	UNITED CHURCH OF CANADA	\$ 13.00	\$ -	\$ 13.00
129	300-25900	183	PT LOT 1 / 2		0.10	0.040	UNITED CHURCH OF CANADA	\$ 1.00	\$ -	\$ 1.00
130	300-25800	183	PT LOT 1 / 2	0.20	0.20	0.081	KELLY ANN BLAKE	\$ 7.00	\$ -	\$ 7.00
131	300-25700	183	PT LOTS 1 & 2 W/S	0.28	0.28	0.113	MARCOVECCHIO CONSTRUCTION LTD	\$ 10.00	\$ -	\$ 10.00
132	300-25600	183	PT LOT 2		0.19	0.077	MARCOVECCHIO CONSTRUCTION LTD	\$ 7.00	\$ -	\$ 7.00
133	300-25500	183	PT LOT 1 / 2	0.22	0.22	0.089	MARCOVECCHIO HOLDINGS INC	\$ 8.00	\$ -	\$ 8.00
134	300-25400	2 E.D.	9	0.37	0.37	0.150	ADAM JOSEPH WILHELM & MICHELLE LEE WARMEHOFEN	\$ 13.00	\$ -	\$ 13.00
135	300-25300	2 E.D.	9	0.25	0.25	0.101	ROBERT STEPHEN & ROSE DALE HAINES	\$ 9.00	\$ -	\$ 9.00
136	300-25202	2 E.D.	9	0.19	0.19	0.077	JACOB GIRARD & CHARLOTTE HILLIS	\$ 6.00	\$ -	\$ 6.00
137	300-25200	2 E.D.	9	0.19	0.19	0.077	COREY WILLIAM & TAMMY MICHELLE LECLAIRE	\$ 6.00	\$ -	\$ 6.00
138	300-25100	2 E.D.	9	0.19	0.19	0.077	ONT. ABORIGINAL HOUSING SUPPORT	\$ 6.00	\$ -	\$ 6.00
139	300-25000	2 E.D.	9	0.19	0.19	0.077	MITSUJI YAMAMOTO	\$ 6.00	\$ -	\$ 6.00
140	300-24900	2 E.D.	9	0.19	0.19	0.077	JOHN REID & BARBARA ANN POTTER	\$ 6.00	\$ -	\$ 6.00
141	300-24800	2 E.D.	9	0.19	0.19	0.077	BRIAN EDWIN & DIANE STOCKTON	\$ 6.00	\$ -	\$ 6.00
142	300-24700	2 E.D.	9	0.19	0.19	0.077	DAVID ENNS & MARIA KNELSEN FRIESEN	\$ 6.00	\$ -	\$ 6.00

2nd Concession Branch of the Esseltine Drain – Replacement of Farm Crossing

B) PRIVATELY OWNED - NON-AGRICULTURAL LANDS										
ENTRY NO.	TAX ROLL NO.	CON. OR PLAN NO.	LOT OR PART OF LOT	ACRES OWNED	ACRES AFF'T'D	HECTARES AFF'T'D	OWNERS NAME	(SECTION 23) VALUE OF OUTLET LIABILITY	(SECTION 24) VALUE OF SPECIAL BENEFIT	TOTAL ASSESSMENT
143	300-24600	2 E.D.	9	0.19	0.19	0.077	ROBYN RAE LANGLOIS	\$ 8.00	\$ -	\$ 6.00
144	300-24500	2 E.D.	9		0.28	0.113	ROSEMARY & JOHN V PEDERSEN	\$ 9.00	\$ -	\$ 9.00
145	300-24400	2 E.D.	9		0.28	0.113	ABRAM & ANNA GIESBRECHT	\$ 9.00	\$ -	\$ 9.00
146	300-00030	2 E.D.	9	2.50	0.89	0.360	CONSERVATION AUTHORITY ESSEX	\$ 22.00	\$ -	\$ 22.00
147	290-38800	1 E.D.	10	1.20	1.20	0.486	CAROL ANNE & CATHY LYNN HARRISON	\$ 37.00	\$ -	\$ 37.00
148	290-38706	1 E.D.	10	0.88	0.88	0.356	MICHELE DI VINCENZO & MICHELLE HILL	\$ 27.00	\$ -	\$ 27.00
149	290-38705	1 E.D.	10	0.88	0.88	0.356	CHRISTOPHER KENNETH & MICHELLE RAE WEBSTER	\$ 27.00	\$ -	\$ 27.00
150	290-38704	1 E.D.	10	0.87	0.87	0.352	VICTOR MANUEL & MARIA NATALIA PEREIRA	\$ 27.00	\$ -	\$ 27.00
151	290-38703	1 E.D.	10	0.88	0.88	0.356	MARIA CONCEICOA & SILVESTRE FREITAS GONTARDE	\$ 27.00	\$ -	\$ 27.00
152	290-38702	1 E.D.	10	0.87	0.87	0.352	TONINO INGRATTA	\$ 27.00	\$ -	\$ 27.00
153	290-38701	1 E.D.	10	1.59	1.59	0.643	PETER & MARGARETHA NEUFELD	\$ 49.00	\$ -	\$ 49.00
154	290-38650	2 E.D.	10	0.24	0.24	0.097	STEVEN RONALD & VIKTORIA ANDREEVNA BARTEL	\$ 8.00	\$ -	\$ 8.00
155	290-38630	2 E.D.	10	0.25	0.25	0.101	MARK HAROLD & MARIANNE HOTZ WSTERNOFF	\$ 8.00	\$ -	\$ 8.00
156	290-38620	2 E.D.	10	0.25	0.25	0.101	HEINRICH KROEKER & SUSANA FRIESSEN	\$ 8.00	\$ -	\$ 8.00
157	290-38610	2 E.D.	10	0.22	0.22	0.089	PETER & HELEN ELAINE STRAVATO	\$ 7.00	\$ -	\$ 7.00
158	290-38600	2 E.D.	10	0.22	0.22	0.089	JOHAN & HELENA FEHR	\$ 7.00	\$ -	\$ 7.00
159	290-38500	1601	21		0.91	0.368	BENJAMIN WIEBE & TINA FRIESEN REDECOP	\$ 29.00	\$ -	\$ 29.00
160	290-38400	1601	22	0.18	0.18	0.073	DAVID WALL & ELIZABETH FRIESEN BRAUN	\$ 6.00	\$ -	\$ 6.00
161	290-38300	1601	23	0.18	0.18	0.073	DAVID WALL & ELIZABETH FRIESEN BRAUN	\$ 6.00	\$ -	\$ 6.00
162	290-38200	1601	24	0.18	0.18	0.073	DAVID LOPEZ & JILL ANNETTE GEDDES	\$ 6.00	\$ -	\$ 6.00
163	290-38100	1601	25	0.18	0.18	0.073	CARLOS SANTOS	\$ 6.00	\$ -	\$ 6.00
164	290-38000	1601	26		0.18	0.073	TONINO & GLORIA ELLEN DI MENNA	\$ 6.00	\$ -	\$ 6.00
165	290-37900	1601	27		0.18	0.073	AARON & MARGARETA WALL NEUFELD	\$ 6.00	\$ -	\$ 6.00
166	290-37800	1601	28		0.18	0.073	ABRAM NEUSTAETER FRIESEN & HELENA HIEBERT BOSCHMA	\$ 6.00	\$ -	\$ 6.00
167	290-37700	1601	29	0.18	0.18	0.073	CLIFFORD JOSEPH & DOREEN ELAINE NEUTS	\$ 6.00	\$ -	\$ 6.00
168	290-37600	1601	30		0.18	0.073	KEVIN EARL & LORI JEAN DAVID	\$ 6.00	\$ -	\$ 6.00
169	290-37500	1601	57		0.19	0.077	DALE ANDREW & TANYA KAY DILLEN	\$ 6.00	\$ -	\$ 6.00
170	290-37400	1601	58	0.19	0.19	0.077	JASON WALL	\$ 6.00	\$ -	\$ 6.00
171	290-37300	1601	59	0.18	0.18	0.073	HEINRICH FRIESEN BERGEN	\$ 6.00	\$ -	\$ 6.00
172	290-37200	1601	60	0.18	0.18	0.073	GENARO RODRIGUEZ HERNANDEZ & KIM DENISE DERODRIGU	\$ 6.00	\$ -	\$ 6.00
173	290-37100	1601	61	0.19	0.19	0.077	PETER BLOKKER	\$ 6.00	\$ -	\$ 6.00
174	290-37000	1601	62		0.19	0.077	ELSIE KUBINEC	\$ 6.00	\$ -	\$ 6.00
175	290-36900	1601	63 Pt Lot 64		0.29	0.117	MURRAY HARTFORD	\$ 10.00	\$ -	\$ 10.00
176	290-36800	1601	65 Pt Lot 64	0.28	0.28	0.113	DENNIS LEE & MARY THERESA BROWN	\$ 9.00	\$ -	\$ 9.00
177	290-36700	1601	66	0.18	0.18	0.073	PETER ZACHARIAS & ELIZABETH ZACHARIAS BERGEN	\$ 6.00	\$ -	\$ 6.00
178	290-36600	1601	67	0.19	0.19	0.077	HELENA & VICTOR DUTRA ANDRADE	\$ 6.00	\$ -	\$ 6.00
179	290-36500	1601	68		0.19	0.077	PAOLINO & ELENA MARCOVECCHIO	\$ 6.00	\$ -	\$ 6.00
180	290-36400	1601	31	0.23	0.23	0.093	FREDERICK ALLAN & SANDRA ANN GRANT	\$ 8.00	\$ -	\$ 8.00
181	290-36300	1601	32	0.23	0.23	0.093	LAMBERT ROLIN & LORIE ANNE WYBENGA	\$ 8.00	\$ -	\$ 8.00
182	290-36200	1601	33	0.23	0.23	0.093	CORY ANDREW & HEATHER JENNIFER-ANN LANIGAN	\$ 8.00	\$ -	\$ 8.00
183	290-36100	1601	34	0.23	0.23	0.093	VINCENZO & MARIA MASTRONARDI	\$ 8.00	\$ -	\$ 8.00
184	290-36000	1601	35	0.23	0.23	0.093	VELMA JANE NOVAK	\$ 8.00	\$ -	\$ 8.00
185	290-35900	1601	36	0.23	0.23	0.093	DOMENICO ANTONIO & ANTONIETTA MASSANISSO	\$ 8.00	\$ -	\$ 8.00
186	290-35800	1601	37	0.25	0.25	0.101	EMILLIO MASSANISSO	\$ 9.00	\$ -	\$ 9.00
187	290-35700	1601	BLK C	1.28	1.28	0.518	KINGSVILLE TOWN	\$ 15.00	\$ -	\$ 15.00
188	290-35600	1601	38	0.19	0.19	0.077	ROBERT BRUCE MYLES & KAREN MARIE SCHILLER	\$ 7.00	\$ -	\$ 7.00
189	290-35500	1601	39	0.19	0.19	0.077	ETELVIRO SOARES & FATIMA FERNANDES FREITAS	\$ 7.00	\$ -	\$ 7.00
190	290-35400	1601	40	0.19	0.19	0.077	CHARLES GORDON & DONNA LOUISE GIRTY	\$ 7.00	\$ -	\$ 7.00
191	290-35300	1601	41	0.19	0.19	0.077	JOSEPH MICHAEL & ELIZABETH BERESH	\$ 7.00	\$ -	\$ 7.00
192	290-35200	1601	42	0.19	0.19	0.077	MARIO & THERESA CAPPELLI	\$ 7.00	\$ -	\$ 7.00
193	290-35100	1601	43	0.18	0.18	0.073	LEE FRANCIS & BRENDA GAY MILLER	\$ 6.00	\$ -	\$ 6.00

2nd Concession Branch of the Esseltine Drain – Replacement of Farm Crossing

B) PRIVATELY OWNED - NON-AGRICULTURAL LANDS										
ENTRY NO.	TAX ROLL NO.	CON. OR PLAN NO.	LOT OR PART OF LOT	ACRES OWNED	ACRES AFF'T'D	HECTARES AFF'T'D	OWNERS NAME	(SECTION 23) VALUE OF OUTLET LIABILITY	(SECTION 24) VALUE OF SPECIAL BENEFIT	TOTAL ASSESSMENT
194	290-35000	1601	44		0.19	0.077	GUILLERMO & ELIZABETH WIEBE	\$ 6.00	\$ -	\$ 6.00
195	290-34900	1601	45	0.19	0.19	0.077	MATTHEW JAMES MCRAE	\$ 6.00	\$ -	\$ 6.00
196	290-34800	1601	46	0.19	0.19	0.077	JOSE VICENTE & AGUIDA PACHECO	\$ 6.00	\$ -	\$ 6.00
197	290-34700	1601	47	0.18	0.18	0.073	CYNTHIA DENISE WARE	\$ 6.00	\$ -	\$ 6.00
198	290-34600	1601	48		0.19	0.077	BARBARA GRIEVE	\$ 6.00	\$ -	\$ 6.00
199	290-34500	1601	49		0.18	0.073	KATHARINA & ANNA REIMER	\$ 6.00	\$ -	\$ 6.00
200	290-34400	1601	50		0.18	0.073	DAVID ALVIN & MARY ELIZABETH TOEWS	\$ 6.00	\$ -	\$ 6.00
201	290-34300	1601	51		0.18	0.073	WILHELM & KATAREN DYCK	\$ 6.00	\$ -	\$ 6.00
202	290-34200	1601	52	0.18	0.18	0.073	SHELDON VICTOR WIENS	\$ 6.00	\$ -	\$ 6.00
203	290-34100	1601	53	0.18	0.18	0.073	BERNHARD & ANNA FROESE	\$ 6.00	\$ -	\$ 6.00
204	290-34000	1601	54	0.18	0.18	0.073	RUDOLF & ELIZABETH BAUMANN	\$ 6.00	\$ -	\$ 6.00
205	290-33900	1601	55	0.18	0.18	0.073	FRANK CAPPELLI	\$ 6.00	\$ -	\$ 6.00
206	290-33800	1601	56		0.21	0.085	ANNITA ASSUNTA MATTIA	\$ 7.00	\$ -	\$ 7.00
207	290-33700	1601	20		0.24	0.097	JENNIFER LYNN SMITH	\$ 8.00	\$ -	\$ 8.00
208	290-33600	1601	19	0.22	0.22	0.089	JOHAN FEHR & MARGARETHA FRIESEN	\$ 7.00	\$ -	\$ 7.00
209	290-33500	1601	18	0.22	0.22	0.089	MICHAEL STEVEN & SANDRA ELIZABETH STEIN	\$ 7.00	\$ -	\$ 7.00
210	290-33400	1601	17	0.22	0.22	0.089	WILHELM & KATHARINA HIEBERT	\$ 7.00	\$ -	\$ 7.00
211	290-33300	1601	16	0.22	0.22	0.089	JOHN & ALICE FRIESEN	\$ 7.00	\$ -	\$ 7.00
212	290-33200	1601	15	0.22	0.22	0.089	TREVOR MATTHEW BROWN & SHERI LYN REEKIE	\$ 7.00	\$ -	\$ 7.00
213	290-33100	1601	14	0.22	0.22	0.089	ARTHUR JOHN & HEDWIG TIESSEN	\$ 7.00	\$ -	\$ 7.00
214	290-33000	1601	13	0.21	0.21	0.085	HEINRICH REIMER & MARGARETHA FRIESEN	\$ 7.00	\$ -	\$ 7.00
215	290-32900	1601	12	0.21	0.21	0.085	JEREMY FLOYD & MINDY LEE COLENUTT	\$ 7.00	\$ -	\$ 7.00
216	290-32800	1601	11		0.20	0.081	ANNA MARIA VALERI & ROSE SPIDALIERI	\$ 6.00	\$ -	\$ 6.00
217	290-32700	1601	10	0.18	0.18	0.073	DAVID & JUSTINA FEHR	\$ 6.00	\$ -	\$ 6.00
218	290-32600	1601	9	0.18	0.18	0.073	KENNETH CARLYLE BRUNER	\$ 6.00	\$ -	\$ 6.00
219	290-32500	1601	8	0.18	0.18	0.073	DAVID MARTEN FRIESEN	\$ 6.00	\$ -	\$ 6.00
220	290-32400	1601	7	0.18	0.18	0.073	ABRAM WALL	\$ 6.00	\$ -	\$ 6.00
221	290-32300	1601	6	0.18	0.18	0.073	BENJAMIN & AGATHA BOSCHMAN	\$ 6.00	\$ -	\$ 6.00
222	290-32200	1601	5	0.18	0.18	0.073	RAYMOND MOISE KENNETTE	\$ 6.00	\$ -	\$ 6.00
223	290-32100	1601	4	0.18	0.18	0.073	ABRAM & KATHERINA DYCK	\$ 6.00	\$ -	\$ 6.00
224	290-32000	1601	3	0.18	0.18	0.073	ERCOLINO DI MENNA & VIORICA JEFFERY	\$ 6.00	\$ -	\$ 6.00
225	290-31902	2 E.D.	11	0.51	0.51	0.206	792743 ONTARIO INC	\$ 11.00	\$ -	\$ 11.00
226	290-31900	1601	2		0.18	0.073	JOAO & ISALTINA REGO	\$ 6.00	\$ -	\$ 6.00
227	290-31800	1601	1		0.35	0.142	MILDRED BERYL HALL	\$ 12.00	\$ -	\$ 12.00
228	290-31700	2 E.D.	10		0.68	0.275	EVA HARMS & JACOB HARMS-DYCK	\$ 23.00	\$ -	\$ 23.00
229	290-31600	M182	PT Lots 1 & 2		0.13	0.053	SELMA SUMARAH	\$ 5.00	\$ -	\$ 5.00
230	290-31500	M182	Pt Lot 2		0.60	0.243	JAMES MARTENS FRIESEN	\$ 21.00	\$ -	\$ 21.00
231	290-31400	M182	Pt Lot 2		0.74	0.299	T G & SON MARKETING LTD	\$ 26.00	\$ -	\$ 26.00
232	290-31300	M182	Pt Lot 2		0.36	0.146	BRENDA LEE TAGGART	\$ 13.00	\$ -	\$ 13.00
233	290-31200	M182	Pt Lot 3		0.19	0.077	SARAH ANNE WYBENGA & SCOTT CAMPBELL INGLIS	\$ 7.00	\$ -	\$ 7.00
234	290-31100	M182	Lot 4 PT Lot 3		0.72	0.291	DONALD STEWART & MARGARET JEAN DUNMORE	\$ 26.00	\$ -	\$ 26.00
235	290-31001	M182	Pt Lot 5	0.43	0.36	0.146	PETER & ELIZABETH FRIESEN	\$ 13.00	\$ -	\$ 13.00
236	290-31000	M182	Lot 6 Pt Lot 5		0.44	0.178	ANDREW KROSLAK & ASHLEY CHAUVIN	\$ 16.00	\$ -	\$ 16.00
237	290-30900	M182	Pt Lot 7 Lot 5		0.51	0.206	JOHN & MARIA FONTES	\$ 18.00	\$ -	\$ 18.00
238	290-30700	M182	Lot 15 Pt Lot 14		0.24	0.097	BERNHARD NEUFELD & HELENA DRIEDGER FRIESEN	\$ 9.00	\$ -	\$ 9.00
239	290-30600	M182	Lot 13 Pt Lot 14		0.15	0.061	BRIAN EDWARD & LISA MARLENE GALE	\$ 5.00	\$ -	\$ 5.00
240	290-30500	M182	12		0.27	0.109	JONATHAN GEORGE BADAQA	\$ 10.00	\$ -	\$ 10.00
241	290-30400	M182	11		0.18	0.073	CARLOS MANUEL CORDEIRO	\$ 6.00	\$ -	\$ 6.00
242	290-30300	M182	10		0.20	0.081	PERRY THOMAS & LUCIA FATIMA KENNEY	\$ 7.00	\$ -	\$ 7.00
243	290-30200	M182	9		0.19	0.077	SHAWNA LYNN & MARGARET JEAN MACKENZIE	\$ 7.00	\$ -	\$ 7.00
244	290-30100	M182	8		0.19	0.077	GARY STEWART & SHEILA ANNE DUNMORE	\$ 7.00	\$ -	\$ 7.00

2nd Concession Branch of the Esseltine Drain – Replacement of Farm Crossing

B) PRIVATELY OWNED - NON-AGRICULTURAL LANDS										
ENTRY NO.	TAX ROLL NO.	CON. OR PLAN NO.	LOT OR PART OF LOT	ACRES OWNED	ACRES AFFTD	HECTARES AFFTD	OWNERS NAME	(SECTION 23) VALUE OF OUTLET LIABILITY	(SECTION 24) VALUE OF SPECIAL BENEFIT	TOTAL ASSESSMENT
245	290-30000	M182	7		0.23	0.093	JAMES EDWARD & JUDY JEFFREY	\$ 8.00	\$ -	\$ 8.00
246	290-29900	M182	6		0.25	0.101	PETER & AGANETHA PENNER	\$ 9.00	\$ -	\$ 9.00
247	290-29800	M182	5		0.27	0.109	ANDREW ORR & CAROL ANN CARRUTHERS	\$ 10.00	\$ -	\$ 10.00
248	290-29400	M182	3	1.32	1.32	0.534	TONY & MICHELE ANNETTE DIMENNA	\$ 102.00	\$ -	\$ 102.00
249	290-29200	M182	5 to 6		0.30	0.121	GORDON JACOB & HEATHER MARILYN EPP	\$ 11.00	\$ -	\$ 11.00
250	290-29100	182	8 TO 14 PT	8.56	8.56	3.464	TRUSTEES OF CORNERSTONE CUMMUN	\$ 211.00	\$ -	\$ 211.00
251	290-29000	M182	7	0.20	0.20	0.081	HUMBERTO PAVAO	\$ 7.00	\$ -	\$ 7.00
252	290-28900	M182	6 Pt Lot 5	0.22	0.22	0.089	PASQUALE & JO ANNE ISABELLE MATTIA	\$ 8.00	\$ -	\$ 8.00
253	290-28800	M182	PT LOT 4 / 5	0.19	0.19	0.077	RENZE & MARJORIE ANN POSTMA	\$ 7.00	\$ -	\$ 7.00
254	290-28700	M182	Pt Lot 4	0.15	0.15	0.061	JAMES BISHOP & ADELAIDA LAGANG TAGA-OC	\$ 6.00	\$ -	\$ 6.00
255	290-28600	M182	Pt Lot 3 / 4	0.18	0.18	0.073	ROBERT & GWENDOLYN ULCH	\$ 7.00	\$ -	\$ 7.00
256	290-28500	M182	Pt Lots 2 & 3		0.35	0.142	DWAYNE LARRY & KIM IRENE TESKEY	\$ 13.00	\$ -	\$ 13.00
257	290-28100	2 E.D.	10	0.33	0.33	0.134	JOHN PENNER	\$ 12.00	\$ -	\$ 12.00
258	290-28000	2 E.D.	10	1.40	1.40	0.567	MICHELINA POLICELLA	\$ 52.00	\$ -	\$ 52.00
259	290-27900	2 E.D.	10	1.40	1.40	0.567	MAURINO SOARES & BETTY JEAN FREITAS	\$ 52.00	\$ -	\$ 52.00
260	290-27800	2 E.D.	10	1.91	1.91	0.773	FRANCESCO & MARIA MASTRONARDI	\$ 71.00	\$ -	\$ 71.00
261	290-27710	2 E.D.	10	1.06	1.06	0.429	TONY & LINDA MASTRONARDI	\$ 39.00	\$ -	\$ 39.00
262	290-27600	2 E.D.	10		0.50	0.202	JACOB & ANNA FEHR	\$ 19.00	\$ -	\$ 19.00
263	290-27420	2 E.D.	10	0.35	0.35	0.142	DENNIS & LILLY REIVE	\$ 13.00	\$ -	\$ 13.00
264	290-27410	2 E.D.	10	0.39	0.39	0.158	DENNIS & LILLY REIVE	\$ 14.00	\$ -	\$ 14.00
265	290-27400	2 E.D.	10	0.47	0.47	0.190	MICHAEL JONATHAN DEL CIANCIO	\$ 17.00	\$ -	\$ 17.00
266	290-23500	2 E.D.	11	0.94	0.94	0.380	ABRAM & HELENA PENNER	\$ 35.00	\$ -	\$ 35.00
267	290-23400	2 E.D.	11	0.66	0.66	0.267	ROY WILLIAM HALL	\$ 24.00	\$ -	\$ 24.00
268	290-23201	2 E.D.	11	0.69	0.69	0.279	RICHARD HENRY ENNS	\$ 26.00	\$ -	\$ 26.00
269	290-23200	2 E.D.	11	0.69	0.69	0.279	HARRY GERD & GUGLIELMINA KELLER	\$ 26.00	\$ -	\$ 26.00
270	290-23100	2 E.D.	11	0.73	0.73	0.295	DANIEL FAGUNDE CABRAL	\$ 27.00	\$ -	\$ 27.00
271	290-23000	2 E.D.	11	0.69	0.69	0.279	JEREMY MARTIN CHOBRDA	\$ 26.00	\$ -	\$ 26.00
272	290-22900	2 E.D.	11	0.69	0.69	0.279	NELSON DUTRA & KIMBERLY ELIZABETH ANDRADE	\$ 26.00	\$ -	\$ 26.00
273	290-22800	2 E.D.	11	0.69	0.69	0.279	JOHAN & JUSTINA GIESBRECHT	\$ 26.00	\$ -	\$ 26.00
274	290-22700	2 E.D.	11	0.69	0.69	0.279	ROBERT J PAUL GRAHAM	\$ 26.00	\$ -	\$ 26.00
275	290-22600	2 E.D.	10	0.40	0.40	0.162	JOHAN & ANNA HILDEBRAND	\$ 15.00	\$ -	\$ 15.00
276	290-22500	2 E.D.	10	0.34	0.34	0.138	RICHARD WAYNE & WINNIFRED JEAN NEAL	\$ 13.00	\$ -	\$ 13.00
277	290-22420	2 E.D.	10	1.17	1.17	0.473	TONY & MICHELLE ANNETTE DIMENNA	\$ 43.00	\$ -	\$ 43.00
278	290-22410	2 E.D.	10	1.26	1.26	0.510	DINO & VERA DIMENNA	\$ 47.00	\$ -	\$ 47.00
279	290-22334	12M585	26	0.30	0.30	0.120	DOMENICO MUCCI	\$ 2.00	\$ -	\$ 2.00
280	290-22333	12M585	25	2.01	2.01	0.813	DOMENICO MUCCI	\$ 11.00	\$ -	\$ 11.00
281	290-22332	12M585	23	0.21	0.21	0.084	1552843 ONTARIO LTD	\$ 7.00	\$ -	\$ 7.00
282	290-22331	12M585	22	0.20	0.20	0.082	CHARLIE & NICOLE EVA ABDUL-MASSIH	\$ 7.00	\$ -	\$ 7.00
283	290-22330	12M585	21	0.36	0.36	0.145	DONALD FURTADO & DIANE DASILVA QUADROS	\$ 12.00	\$ -	\$ 12.00
284	290-22329	12M585	20	0.28	0.28	0.112	DAVID THIESSEN & MARIA BARTSCH REIMER	\$ 9.00	\$ -	\$ 9.00
285	290-22328	12M585	19	0.38	0.38	0.156	BRIAN EDWMN & DIANE STOCKTON	\$ 13.00	\$ -	\$ 13.00
286	290-22327	12M585	18	0.20	0.20	0.082	JASON WILSON & MILKA ELENA PIEPER	\$ 7.00	\$ -	\$ 7.00
287	290-22326	12M585	17	0.21	0.21	0.084	LUIS & NELIA MONIZ	\$ 7.00	\$ -	\$ 7.00
288	290-22325	12M585	16	0.22	0.22	0.088	1552843 ONTARIO LTD	\$ 7.00	\$ -	\$ 7.00
289	290-22324	12M585	15	0.20	0.20	0.079	1552843 ONTARIO LTD	\$ 7.00	\$ -	\$ 7.00
290	290-22323	12M585	14	0.20	0.20	0.079	1552843 ONTARIO LTD	\$ 7.00	\$ -	\$ 7.00
291	290-22322	12M585	13	0.21	0.21	0.085	ADAM HERBERT & SANDRA ISABEL PILLON	\$ 7.00	\$ -	\$ 7.00
292	290-22321	12M585	12	0.24	0.24	0.097	1552843 ONTARIO LTD	\$ 8.00	\$ -	\$ 8.00
293	290-22320	12M585	11	0.23	0.23	0.092	1552843 ONTARIO LTD	\$ 8.00	\$ -	\$ 8.00
294	290-22319	12M585	10	0.30	0.30	0.122	1552843 ONTARIO LTD	\$ 10.00	\$ -	\$ 10.00
295	290-22318	12M585	9	0.34	0.34	0.137	SUSY BRANCO TEIXEIRA	\$ 11.00	\$ -	\$ 11.00

2nd Concession Branch of the Esseltine Drain – Replacement of Farm Crossing

B) PRIVATELY OWNED - NON-AGRICULTURAL LANDS										
ENTRY NO.	TAX ROLL NO.	CON. OR PLAN NO.	LOT OR PART OF LOT	ACRES OWNED	ACRES AFFT'D	HECTARES AFFT'D	OWNERS NAME	(SECTION 23) VALUE OF OUTLET LIABILITY	(SECTION 24) VALUE OF SPECIAL BENEFIT	TOTAL ASSESSMENT
296	290-22317	12M585	8	0.34	0.34	0.136	1552843 ONTARIO LTD	\$ 11.00	\$ -	\$ 11.00
297	290-22316	12M585	7	0.30	0.30	0.121	DOMENICO MUCCI	\$ 10.00	\$ -	\$ 10.00
298	290-22315	12M585	6	0.20	0.20	0.080	MICHAEL DIAB & DEANNA ETHEL MATHIES	\$ 6.00	\$ -	\$ 6.00
299	290-22314	12M585	5	0.24	0.24	0.095	LOUIS CARLOS & REBECCA ANNE RODRIGUES	\$ 8.00	\$ -	\$ 8.00
300	290-22313	12M585	4	0.21	0.21	0.085	KEVIN & JENNY MELISSA CARDOSO	\$ 7.00	\$ -	\$ 7.00
301	290-22312	12M585	3	0.20	0.20	0.079	STEPHEN & MICHELLE LYNNE MARCOVECCHIO	\$ 6.00	\$ -	\$ 6.00
302	290-22311	12M585	2	0.20	0.20	0.079	KEITH & SHARON BOEHME	\$ 6.00	\$ -	\$ 6.00
303	290-22310	12M585	1	0.22	0.22	0.088	1552843 ONTARIO LTD.	\$ 7.00	\$ -	\$ 7.00
304	290-22308	2 E.D.	9 & 10	0.25	0.25	0.102	EVA KRAHN	\$ 9.00	\$ -	\$ 9.00
305	290-22305	2 E.D.	10	0.62	0.62	0.251	RUTHVEN MONTESSORI ACAD. INC.	\$ 22.00	\$ -	\$ 22.00
306	290-22200	2 E.D.	11	2.55	2.55	1.032	617812 ONTARIO LIMITED	\$ 198.00	\$ -	\$ 198.00
307	290-22102	2 E.D.	11	0.60	0.60	0.243	792743 ONTARIO INC - FRANCO PORRONE	\$ 21.00	\$ -	\$ 21.00
308	290-22101	2 E.D.	11	0.92	0.92	0.371	FRANCO & CRISTINA PORRONE	\$ 33.00	\$ -	\$ 33.00
309	290-22050	2 E.D.	11	0.56	0.56	0.228	MARY PORRONE	\$ 20.00	\$ -	\$ 20.00
310	290-22025	2 E.D.	11	0.17	0.17	0.069	JOHN GEORGE & MADELEINE MUNRO	\$ 6.00	\$ -	\$ 6.00
311	290-22001	2 E.D.	11	0.17	0.17	0.069	JUAN LOEWEN & ELISABETH DYCK	\$ 6.00	\$ -	\$ 6.00
Total Affected Lands				153.65	62.183					
Total Assessment on Privately Owned Non-Agricultural Lands (Not Grantable)								\$ 5,073.00	\$ -	\$ 5,073.00

C) PRIVATELY OWNED - AGRICULTURAL LANDS (GRANTABLE)										
ENTRY NO.	TAX ROLL NO.	CON. OR PLAN NO.	LOT OR PART OF LOT	ACRES OWNED	ACRES AFFT'D	HECTARES AFFT'D	OWNERS NAME	(SECTION 23) VALUE OF OUTLET LIABILITY	(SECTION 24) VALUE OF SPECIAL BENEFIT	TOTAL ASSESSMENT
312	340-05200	3 E.D.	PW1/2 lot 10	4.45	2.59	1.048	GIOVANNI & ANNA COLASANTI	\$ 32.00	\$ -	\$ 32.00
313	340-05100	3 E.D.	PW1/2 lot 10	4.50	2.92	1.182	PIETRO & ITALIA COLASANTI	\$ 36.00	\$ -	\$ 36.00
314	340-01400	3 E.D.	PS1/2 lot 11	31.25	31.25	12.647	JOHN DAVID & JENNIFER LYNNETTE FITTLER	\$ 435.00	\$ -	\$ 435.00
315	340-01300	3 E.D.	PS1/2 lot 11	18.19	5.00	2.023	JOHN DAVID & JENNIFER LYNNETTE FITTLER	\$ 93.00	\$ -	\$ 93.00
316	340-01200	3 E.D.	PS1/2 lot 11	27.64	14.00	5.666	WALTER RICHARD & MARLENE ELIZABETH ANN HOCH DICK	\$ 122.00	\$ -	\$ 122.00
317	300-32500	2 E.D.	9	43.26	7.12	2.883	617885 ONTARIO LIMITED	\$ 92.00	\$ -	\$ 92.00
318	300-32200	2 E.D.	9	1.89	1.89	0.765	EXCALIBUR PLASTICS LTD	\$ 197.00	\$ -	\$ 197.00
319	290-38700	1 E.D.	10 & 11	47.78	34.10	13.800	MUCCI FARMS LTD	\$ 3,359.00	\$ 78,000.00	\$ 81,359.00
320	290-30800	182	8 Pt Lots 7 / 9	3.30	3.30	1.335	ERCOLE DIMENNA	\$ 276.00	\$ -	\$ 276.00
321	290-28400	2 E.D.	10	3.81	3.81	1.542	DANNY & JOHNNY R VESPA	\$ 66.00	\$ -	\$ 66.00
322	290-28300	2 E.D.	10	2.68	2.68	1.085	GIOVANNI & FRANCA VESPA	\$ 70.00	\$ -	\$ 70.00
323	290-28200	2 E.D.	10	17.60	17.60	7.123	FRANCESCO & MARIA MASTRONARDI	\$ 217.00	\$ -	\$ 217.00
324	290-27700	2 E.D.	10	2.27	2.27	0.919	ISAAK & HELENA NEUFELD	\$ 66.00	\$ -	\$ 66.00
325	290-27500	2 E.D.	10	3.48	3.48	1.408	BERNARD WIEBE & ELIZABETH WIEBE FRIESEN	\$ 314.00	\$ -	\$ 314.00
326	290-27350	2 E.D.	10	3.73	3.73	1.510	MUCCIPAC LTD	\$ 368.00	\$ -	\$ 368.00
327	290-27300	2 E.D.	10 & 11	16.00	16.00	6.475	RUTHVEN INDUSTRIAL PARK CORPORATION	\$ 568.00	\$ -	\$ 568.00
328	290-27210	2 E.D.	10 & 11	33.60	33.60	13.598	RUTHVEN INDUSTRIAL PARK CORPORATION	\$ 415.00	\$ -	\$ 415.00
329	290-27200	2 E.D.	10 & 11	30.06	30.06	12.165	TONY & MICHELE ANNETTE DIMENNA	\$ 371.00	\$ -	\$ 371.00
330	290-27100	2 E.D.	11	35.00	35.00	14.164	CAROLYN JEAN STOCKWELL	\$ 410.00	\$ -	\$ 410.00
331	290-27000	2 E.D.	11	25.53	4.30	1.739	SUN GRO FARMS INC	\$ 27.00	\$ -	\$ 27.00
332	290-23301	2 E.D.	11	3.45	1.74	0.703	971174 ONTARIO LIMITED	\$ 11.00	\$ -	\$ 11.00
333	290-23300	2 E.D.	11	10.94	4.62	1.870	ERIC & CINDY ZIMMER	\$ 128.00	\$ -	\$ 128.00
334	290-22400	2 E.D.	10 & 11	20.78	20.78	8.410	TONY & MICHELE ANNETTE DIMENNA	\$ 854.00	\$ -	\$ 854.00
335	290-22309	2 E.D.	10	21.37	21.37	8.648	DOMENICO MUCCI	\$ 226.00	\$ -	\$ 226.00
336	290-22100	2 E.D.	11	42.44	42.44	17.175	CRISTINA PORRONE	\$ 522.00	\$ -	\$ 522.00
337	290-18200	1 E.D.	11	72.49	23.23	9.401	MUCCI FARMS LTD	\$ 5,102.00	\$ -	\$ 5,102.00
Total Affected Lands				368.88	149.283					
Total Assessment on Privately Owned Agricultural Lands (Grantable)								\$ 14,377.00	\$ 78,000.00	\$ 92,377.00

2nd Concession Branch of the Esseltine Drain – Replacement of Farm Crossing

TOTAL ASSESSMENT FOR SECTIONS A, B, C & D	\$ 22,000.00	\$ 78,000.00	\$ 100,000.00
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SUMMARY FOR TOTAL LANDS AFFECTED		
A) Municipal Lands	36.68 Acres	14.844 Hectares
B) Non-Agricultural Lands	153.65 Acres	62.183 Hectares
C) Agricultural Lands	<u>368.88 Acres</u>	<u>149.283 Hectares</u>
Total Lands Affected:	<u>559.21 Acres</u>	<u>226.310 Hectares</u>
1 Hectare = 2.471 Acres		

*NOTE: Assessment Values have been rounded to the nearest whole dollar for presentation purposes.

APPENDIX ‘B’

SPECIFICATIONS

**REPLACEMENT OF FARM CROSSING OVER THE
2ND CONCESSION BRANCH OF THE ESSELTINE DRAIN**

FOR MUCCI FARMS LTD

Roll No. 290-38700 Part of Lot 10 & 11, Concession 1

TOWN OF KINGSVILLE

COUNTY OF ESSEX

SPECIAL PROVISIONS

1.0 GENERAL SPECIFICATIONS

The General Specifications attached hereto are part of Appendix 'B'. It forms part of this specification and is to be read with these specifications and the Drawings contained in the report. Where there is a difference between the requirements of the Special Provisions and the General Specifications, the Special Provisions shall take precedence.

2.0 DESCRIPTION OF WORK

The accompanying Engineer's report deals with the construction of a replacement farm crossing to serve property Roll No. 290-38700. The work to be carried out under this Contract generally comprises the supply of all materials, equipment and labour required to construct a new corrugated steel pipe culvert with rip-rap end treatment, granular bedding, backfill and road surface. The work also includes the re-routing of all private tile drains that outlet into the open drain, clean-up, restoration, topsoil, seeding and mulching as required, and traffic controls as required.

All work shall be carried out conforming to Ontario Provincial Standard Specifications OPSS 421.

3.0 ACCESS TO THE WORK

Access to the drain shall be from 1876 Seacliff Drive. Through traffic must be maintained at all times along all municipal roads. All required traffic control is as per Section 13.0 in the General Specifications. All construction materials for the drain enclosure are to be placed on the property side of the road side drains. Any damage resulting from the Contractor's access to the drain enclosure sites shall be rectified to pre-existing conditions at the contractor's expense.

4.0 WORKING AREA

The working area at the access culvert site shall be restricted to a radius of 30.0m from the proposed centre line of the new culvert.

Any damages to lands and/or roads from the Contractor's work within the working areas for the drain enclosure site shall be rectified to pre-existing conditions at the Contractor's expense.

5.0 CULVERT CONSTRUCTION

5.1 Location of Access Culvert

In general, the new access culvert shall be installed as shown on the drawings attached to the engineer's report. Prior to installation, the Contractor shall contact the Drainage Superintendent to confirm the exact location for the new culvert. The Drainage Superintendent, in consultation with the property owner, shall establish the exact location for the new culvert in the field.

5.2 Reference specifications

Materials shall be as follows:

Replacement Culvert Pipe Material

All RCP materials shall be CSA A257.2, Class 65-D. The access culvert construction must conform to OPSS 421(Construction) and 1820 (Materials). All circular concrete pipe joints shall have elastomeric gaskets.

Bedding Below Pipe Invert

20-25mm clear stone conforming to OPSS Division 10.

Bedding and Backfill Material for Culvert

Granular ‘B’ (Type II) conforming to OPSS Division 10.

Driveway Surface

Granular ‘A’ made from crushed limestone conforming to OPSS Division 10. Minimum 300mm thickness.

Erosion Stone for Sloping End Protection

All stone to be used for erosion protection shall be 125-250mm clear quarried rock or OPSS 1004, minimum 300mm thickness.

Topsoil

Topsoil conforming to OPSS, 100mm thickness.

Native Material

Select earth material, dry, free from broken concrete, steel, wood and deleterious substances.

Filter Fabric

“Non-Woven” geotextile filter fabric with a minimum strength equal to or greater than Terrafix 270R, Amoco 4546, Mirafi 140NC or approved equivalent.

5.3 Dry Culvert Installation

Suitable dykes shall be constructed in the drain so that the installation of the pipe can be accomplished in the dry. The drain bottom shall be cleaned, prepared, shaped and compacted to suit the new culvert configuration, as shown on the drawings. Granular materials shall be compacted to 100% of their maximum dry density.

Specifications – 2nd Concession Branch of the Esseltine Drain – Replacement Farm of Crossing

5.4 Sloping Stone End Protection

Endwalls shall be constructed of quarry stone rip rap material, as shown on the Drawings. Each endwall shall extend from 1m past the invert of the new culvert to the top of the proposed lane. The endwalls shall be sloped to a minimum of 1 vertical to 2 horizontal unless stated otherwise with a filter fabric underlay surrounding the pipe and spanning across the entire width of the drain, wrapping around the drain banks to align with the ends of the new pipe culvert. The minimum thickness requirement of the erosion stone layer is 300mm with no portion of the filter fabric to be exposed to sunlight.

5.5 Lateral Tile Drains

Should the Contractor encounter any lateral tiles within the proposed culvert limits as shown and also those not shown on the attached drawings, the Contractor shall re-route the outlet tile drain(s) in consultation with the Drainage Superintendent, as required, to accommodate the new culvert. **Tile drain outlets through the wall of the new culvert pipe will not be permitted.** All costs associated with re-routing lateral tile drains (if any) shall be at the Contractor's expense.

**GENERAL SPECIFICATIONS FOR
REPLACEMENT OF FARM CROSSING OVER
THE 2ND CONCESSION BRANCH OF THE ESSELTINE DRAIN
TOWN OF KINGSVILLE
PROJECT REFERENCE 16-568**

1.0 PIPE MATERIAL

The Contractor shall supply and install pipe material as shown on the site plan and detail sheets. Pipe length is also specified for the site.

2.0 WORKING AREA

The Contractor shall restrict his equipment to the road side of the drain and those private lands on the south side of the culvert that are within 30m of the culvert.

3.0 DISPOSAL OF EXCAVATED MATERIAL

The Contractor shall dispose of all surplus excavated material at an approved disposal site at his expense.

4.0 LOCATION AND ELEVATION OF BRIDGES

The required pipe shall be set in the drain to the dimensions shown on the accompanying drawings and the Contractor shall carry out all required excavation to install the pipe and specified rip-rap end treatment.

The centreline location of the new enclosure is to be located at the described location, the stationing being as shown in the current drainage report on this drain and as shown on the accompanying drawings, however, the final position of the bridge may be determined by the Drainage Superintendent in charge.

The invert (inside bottom) bottom of the pipe shall be set according to the elevations shown on the accompanying plans including the embedment of the pipe as required by the Conservation Authority. For the purpose of construction the bench mark indicated on the accompanying plans shall be used to determine the elevation of the proposed enclosure.

5.0 PLACEMENT OF CULVERT

- a) Handling – The Contractor shall carefully unload, handle and place the specified pipe so as not to damage same. Damaged material or pipes distorted from improper installation will not be accepted.
- b) Bedding – The Contractor shall carefully excavate for and install the specified pipe upon 150mm (6”) of 20-25mm clear stone bedding.

Specifications – 2nd Concession Branch of the Esseltine Drain – Replacement Farm of Crossing

- c) Backfill – The Contractor shall provide Granular “B” backfill and a Granular “A” road base to finish grade with a minimum thickness of 300 mm. All granular material is to be compacted to 100% Standard Proctor Density.
- d) Excavation – The Contractor shall perform the excavation, placement of bedding, pipe and backfill in a dry condition and shall provide all required pumps and/or equipment to enable the work to proceed in the dry.

The Contractor shall excavate sufficient material from the drain banks and bottom to permit placement of the pipe and backfill material. The minimum trench width as shown on the drawings, shall be provided from the face of the pipe to the excavated trench wall along each bank to provide working room to compact the backfill material.
- e) Erosion Protection at Pipe Ends – The end protection to each end of the pipe structure shall be as specified in the tender item description and in accordance with the following applicable specifications.
- f) Seeding – All newly excavated portions of the drain bank shall be seeded.

6.0 BRIDGE BACKFILL

After the pipe has been set on the clear stone bedding, the Contractor shall backfill the trench or ditch with Granular “B” (Type II) material, O.P.S.S. Spec. 1010, to the bottom of the Granular ‘A’ driveway surface. The backfill material shall be carefully placed so damage to or movement of the pipe is avoided. Then, a 300mm thick layer of Granular ‘A’ material, O.P.S.S. Spec 1010 shall be constructed. All backfill materials shall be placed in layers not exceeding 300mm (12”) in thickness, loose measurement. Each layer shall be thoroughly compacted in place to a Standard Proctor Density of 100% by means of mechanical compactors. The Contractor shall provide sufficient water to the granular material such that optimum compaction levels are achieved. The equipment used and method of compacting the backfill material shall be to the full satisfaction of the Drainage Superintendent.

7.0 BAGGED CONCRETE HEADWALLS - SINGLE BAG WALL THICKNESS (NOT APPLICABLE TO THIS PROJECT)

Where specified and after the Contractor has set in place the new pipe and partially backfilled same, he shall install new concrete filled jute bag headwalls at each end of the pipe. When constructing the concrete jute bag headwalls, the Contractor shall place the bags so that the completed headwall will have a slope inward from the bottom of the pipe to the top of the finished headwall, the slope of the headwall shall be one unit horizontal to five units vertical. The Contractor shall completely backfill in behind the new concrete jute bag headwalls with granular material, Granular “B” per O.P.S.S. 1010, and the granular material shall be compacted in place with a Standard Proctor Density of 100%. The placing of the jute bag headwalls and the backfilling shall be performed in lifts simultaneously. The granular backfill shall be placed and compacted in lifts not to exceed 300mm (12”) in thickness.

The concrete jute bag headwalls shall be constructed by filling jute bags with concrete. All concrete used to fill the jute bags shall have a minimum compressive strength of 20.7 MPa in 28 days and shall be provided and placed only as a wet mix. Under no circumstances shall the

Specifications – 2nd Concession Branch of the Esseltine Drain – Replacement Farm of Crossing

concrete to be used for filling the jute bags be placed as a dry mix. The jute bags, before being filled with concrete, shall have a dimension of 460mm x 660mm (18" x 26"). The jute bags shall be filled with concrete so that when they are laid flat they will be approximately 100mm (4") thick, 300mm (12") to 380mm (15") wide and 460mm (18") long. The concrete jute bag headwall to be provided at the end of the pipe shall be of single bag wall construction or as specified otherwise. The concrete filled bags shall be laid so that the 460mm (18") dimension is parallel with the longitudinal length of the new pipe. The concrete filled bags shall be laid on a footing of plain concrete being 460mm (18") wide or as otherwise specified, extending for the full length of the wall, and from .3 metres (1.0') below the bottom of the corrugated pipe to the bottom of the culvert pipe. All concrete used for the footing shall have a minimum compressive strength of 20.7 MPa in 28 days. The completed jute bag headwalls shall be securely embedded a minimum of 0.50m (20") into the side slopes of the drain. At the road side of the bridge the Contractor shall flair outwards each headwall approximately 1.5m (5.0') as directed by the Drainage Superintendent.

Upon completion of the jute bag headwall the Contractor shall cap the top row of concrete filled bags with a layer of plain concrete, 150mm (6") thick, and hand trowelled to obtain a pleasing appearance. The concrete cap shall be the same width as the bagged wall and excess concrete will not be allowed to be placed on the cap area. The concrete cap shall not overhang the bagged wall on the driveway side of the wall.

The Contractor shall fill all voids between the concrete filled jute bags and the corrugated steel pipe with concrete, particular care being taken underneath the pipe haunches to fill all voids.

7.1 BAGGED CONCRETE HEADWALLS - DOUBLE BAG WALL THICKNESS (NOT APPLICABLE TO THIS PROJECT)

All above-noted specifications for single bag wall thickness are to be used with the following exceptions:

- a) Dimensions are to be as shown on the accompanying drawings.
- b) The concrete filled bags are to be laid so that the 460mm (18") dimension is perpendicular (at right angles) to the longitudinal length of the new pipe. Therefore the long dimension of the bag will be visible when the headwall is complete.

8.0 GROUTED CONCRETE RIP RAP WALL (NOT APPLICABLE TO THIS PROJECT)

As an alternate to constructing a concrete filled jute bag headwall, the Contractor may construct a grouted concrete rip rap headwall. The specifications for the installation of a concrete filled jute bag headwall shall be followed with the exception that broken sections of concrete may be substituted for the jute bags. The concrete rip rap shall be approximately 460mm (18") square and 100mm (4") thick and shall have two flat parallel sides. The rip rap shall be fully mortared in place using a mixture composed of three parts of clean, sharp sand to one part of Portland Cement.

Specifications – 2nd Concession Branch of the Esseltine Drain – Replacement Farm of Crossing

9.0 PRECAST CONCRETE HEADWALLS (NOT APPLICABLE TO THIS PROJECT)

Where specified as an alternative, the Contractor may supply and install precast concrete headwalls. Said precast headwalls shall be a custom made product, manufactured by Underground Specialties (Windsor) or similar provider.

The precast concrete headwall or precast blocks or modules shall be of the shape, size and dimensions shown on the accompanying plan.

Precast provider to provide stamped engineering drawing for precast headwall and Geotextile restrainers providing vertical plumb headwalls.

Excavation for the headwalls shall be in conformance with O.P.S.S. Section 902.

The supply and placement of concrete shall be in conformance with O.P.S.S. Section 904. All concrete shall have a strength of 33 MPa after 28 days. All concrete shall be air entrained to an air content of $6\% \pm 1.5\%$ by volume for 19mm maximum size of aggregate. Minimum cover for concrete shall be 40mm (1 1/2”).

The supply and placement of reinforcing steel shall be in conformance with O.P.S.S. Section 905. The reinforcing steel shall be grade 400 and shall be of the size and type shown on the drawings.

The Contractor shall place the precast headwall so that it is straight and plumb. The method of backfilling the side slope trenches shall be such that no voids remain under the haunches of the sloping concrete headwall. The Contractor’s method of achieving this shall be approved prior to start of construction.

The Contractor shall provide a sufficient opening in the headwalls so that when the headwalls are set and plumb the corrugated steel pipe may be inserted or adjusted to grade. The void between the corrugated steel pipe and opening in the headwall shall be fully mortared in place using a mixture composed of three parts of clean, sharp sand to one part of Portland Cement.

After the corrugated steel pipe has been set and partially backfilled with Granular “B” per O.P.S.S. 1010 and compacted to 100% Standard Proctor Density, geotextile tie backs to the precast concrete headwalls in accordance to approved stamped headwall and restraining devices.

10.0 QUARRIED ROCK END PROTECTION

Where specified and after the pipe has been set and backfilled, the Contractor shall install quarried rock erosion protection at each end of the pipe.

The granular backfill and quarried rock protection over the ends of the pipe shall be set on a specified slope as shown on the attached site drawings. The top 300mm (12”) in thickness of the backfill over the ends of the pipe shall be quarried rock. The quarried rock shall have a minimum dimension of 100mm (4”) and a maximum dimension of 225mm (9”). Prior to placing quarried rock end protection over the granular material, the Contractor shall lay a non-woven

Specifications – 2nd Concession Branch of the Esseltine Drain – Replacement Farm of Crossing

geotextile filter fabric equal to a “Terrafix 270R” or approved equal. The geotextile filter fabric shall extend from the bottom of the pipe to the top of each side slope of the drain and between both side slopes of the drain. The Contractor shall take extreme care to not damage the geotextile filter fabric when placing the quarried rock on top of the filter fabric. The geotextile filter fabric and quarried rock shall be placed to the complete satisfaction of the Drainage Superintendent.

11.0 ALIGNMENT

The whole of the work shall be done in a neat, thorough and workmanlike manner such that the alignment of the bridge pipe at each location meets the full satisfaction of the drainage superintendent.

12.0 LOCATION OF STRUCTURES, ETC.

The Contractor shall satisfy himself as to the exact location, nature and extent of any existing structure, utility or other object which he may encounter during the course of the work. The Contractor shall indemnify and save harmless the Municipality and the Engineer for any damages which he may cause or sustain during the progress of the work. He shall not hold the Municipality or the Engineer liable for any legal action arising out of any claims brought about by such damage caused by him.

13.0 TRAFFIC CONTROL

The Contractor will be required to control vehicular and pedestrian traffic along roads at all times and shall, at his/her own expense, provide for placing and maintaining such barricades, signs, flags, lights and flag persons as may be required to ensure public safety. The Contractor will be solely responsible for controlling traffic and shall appoint a representative to maintain the signs and warning lights at night, on weekends and holidays and at all other times that work is not in progress. The costs associated with provision of proper signage, barricades, lights and flag persons shall be considered incidental to the works to remove the old bridge and complete the new bridge installation.

During all phases of the project, adjoining public roadways shall remain open to through traffic with at least one lane being open to through traffic at all times.

All traffic control during construction shall be strictly in accordance with the **Occupational Health and Safety Act** and the current version of the **Ontario Traffic Manuals**. Access to the electronic version of the **Ontario Traffic Manual** is available online through the MTO website, free of charge to all users. To access the electronic standards on the Web go to <http://www.mto.gov.on.ca/english/transrd/>, click on "Library Catalogue", under the "Title", enter "Ontario Traffic Manual" as the search. Open the applicable "Manual(s)" by choosing the "Access Key", once open look for the "Attachment", click the PDF file. Users require Adobe Acrobat to view all PDF files.

Contractors are reminded of the requirements of the Occupational Health and Safety Act pertaining to Traffic Protection Plans for workers and Traffic Control Plan for Public Safety.

Specifications – 2nd Concession Branch of the Esseltine Drain – Replacement Farm of Crossing

14.0 PROPERTY BARS AND SURVEY MONUMENTS

The Contractor shall be responsible for marking and protecting all property bars and survey monuments during construction. All missing, disturbed or damaged property bars and survey monuments shall be replaced at the Contractor's expense, by an Ontario Land Surveyor.

15.0 DAMAGE TO TRAVELLED PORTION OF MUNICIPAL ROAD

The Contractor shall be responsible for any damage caused by him to any portion of the municipal road system, especially to the travelled portion. When excavation work is being carried out and the excavation equipment is placed on the travelled portion of a road, the travelled portion shall be protected by having the excavation equipment placed on satisfactory timber planks or timber pads. If any parts of the travelled portion of the road are damaged by the Contractor, the Municipality shall have the right to have the necessary repair work done by its employees and the cost of all labour and materials used to carry out the repair work shall be deducted from the Contractor's contract and credited to the Municipality.

16.0 CONSTRUCTION SAFETY

The Contractor shall comply with all the requirements of the Occupational Health and Safety Act, 2013, and the regulations passed in connection therewith, as administered by the Ontario Ministry of Labour and all subsequent amendments of the said Act.

The Contractor shall exercise all possible precaution against injury to persons or property resulting from his work. The Contractor shall leave no trenches, pits, holes or excavations uncovered, without providing sufficient protection at all times. The Contractor shall install, erect and provide barricades, signs, traffic cones, flashers, lights, plates, warning and other devices, materials and personnel as may be required at his own expense in order to provide for the safe passage and control of traffic and to ensure public safety. All traffic control shall be in accordance with the latest standards of the Ministry of Transportation.

17.0 CERTIFICATE OF CLEARANCE

The Contractor shall be required to submit to the Municipality a Certificate of Good Standing from the Workplace Safety and Insurance Board prior to the commencement of the work and the Contractor shall be required to submit to the Municipality a Certificate of Clearance for the project from the Workplace Safety and Insurance Board before final payment is made to the Contractor.

18.0 MEASUREMENT AND PAYMENT

Payment for the work shall be on a lump sum basis unless otherwise indicated and shall include all the work shown on the accompanying drawings and specifications.

Specifications – 2nd Concession Branch of the Esseltine Drain – Replacement Farm of Crossing

19.0 PROGRESS ORDERS

Monthly progress orders for payment shall be furnished to the Contractor by the Engineer in charge; said orders shall not be for more than 90% of the value of the work done and the materials furnished on the site. The paying of the full 90% does not imply that any portion of the work has been accepted. The remaining 10% shall be paid 45 days after the final acceptance and completion of the work.

20.0 CLEANING UP

The Contractor shall leave the whole of the site of the work in a neat, thorough and workmanlike appearance to the full satisfaction of the Commissioner. He shall haul away any excess earth from the site. He shall haul to the site, at his own expense, sufficient earth to fill any depressions caused by his work. The site shall be left, as closely as possible, in the same condition it was in prior to the commencement of the work.

21.0 MAINTAINING FLOW

The Contractor shall maintain the flow of any drainage works encountered in the progress of the work at no expense to the Owner. The Contractor shall obtain written approval from the Engineer in charge to stop up any drain and if necessary provide pumping equipment, build necessary by-passes, etc. at no expense to the Owner.

22.0 DRAINAGE SUPERINTENDENT

The Drainage Superintendent shall be permitted to make minor variations in the work so long as these variations will result in a more satisfactory project or a more economical one. These variations, however, must not be such as to change the intent of the work performed nor are they to reduce the standard of quality.

23.0 NOTIFICATION OF WORK

Prior to commencing any work of installing any new bridge or removing any existing structures, the Contractor shall inform the Municipal Drainage Superintendent of his intent to commence work at least 48 hours prior to commencing any work. The Owner or Contractor shall endeavor to install and complete the new structure without delay once the work has commenced. If for any reason the work does not proceed continuously then the Owner or Contractor shall notify the Drainage Superintendent in advance of any backfilling operation or headwall construction so that he may schedule inspection of same. The completed work must be done to the satisfaction of the Drainage Superintendent and be approved by him.

24.0 MAINTENANCE

The Contractor shall repair and make good at his expense any damages or faults in the work that may appear within one year after its completion (as evidenced by the final inspection report) as the result of imperfect or defective work done or materials furnished. Nothing herein contained shall be construed as in any way restricting or limiting the liability of the Contractor under the appropriate laws under which the work is being done.

Specifications – 2nd Concession Branch of the Esseltine Drain – Replacement Farm of Crossing

25.0 ONTARIO PROVINCIAL STANDARDS

Ontario Provincial Standard Specifications (OPSS) and Ontario Provincial Standard Drawings (OPSD) shall apply and govern at all times unless otherwise amended or extended in these Specifications or on the Drawing. Access to the electronic version of the Ontario Provincial Standards is available online through the MTO website, free of charge to all users. To access the electronic standards on the Web go to <http://www.mto.gov.on.ca/english/transrd/>. Under the title Technical manuals is a link to the Ontario Provincial Standards. Users require Adobe Acrobat to view all pdf files.

25.0 APPROVALS, PERMITS AND NOTICES

The construction of the works and all operations connected therewith are subject to the approval, inspection, by-laws and regulations of all Municipal, Provincial, Federal and other authorities having jurisdiction in respect to any matters embraced in this Contract. The Contractor shall obtain all approvals and permits and notify the affected authorities when carrying out work in the vicinity of any public utility, power, underground cables, railways, etc.

**SPECIFICATIONS
ENVIRONMENTAL PROTECTION SPECIAL PROVISIONS
TOWN OF KINGSVILLE
PROJECT REFERENCE 16-568**

1.0 GENERAL

These Environmental Protection Special Provisions shall apply and form part of this Contract. All costs associated to confirming with these Special Provisions shall be included in the Tender prices bid.

2.0 FIRES

Fires and burning of rubbish on site will be permitted only with special approval from the Town of Amherstburg.

3.0 DISPOSAL OF WASTES

The Contractor shall not bury rubbish and waste materials on site unless approved by the Engineer and all applicable approving authorities. The site shall be maintained free of accumulated waste and rubbish. All waste materials should be disposed of in a legal manner at a site approved by all local approving authorities and the Engineer.

The Contractor shall not allow deleterious substances, waste or volatile materials such as mineral spirits, or paint thinner, to enter into waterways, storm or sanitary sewers.

The disposal of dredge material where applicable shall be in accordance with the above.

4.0 POLLUTION CONTROL

The Contractor shall maintain under this Contract temporary erosion, sediment and pollution control features installed.

The Contractor shall control emissions from equipment and plant to local authorities emission requirements.

The Contractor shall not cause excessive turbidity when performing in-water work. The Contractor shall not allow any debris, fill or other foreign matter to enter into the waterway. The Contractor shall remove from the waterway, all extraneous materials resulting from in-water work.

The Contractor shall abide by local noise By-Laws for the duration of the Contract.

Spills of deleterious substances into waterways and on land shall be immediately contained by the Contractor and the Contractor shall cleanup in accordance with Provincial regulatory

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requirements. All spills shall be reported to the Ontario Spills Action Centre (1-800-268-6060), local authorities having jurisdiction and the Engineer. To reduce the risk of fuel entering the waterway, refuelling of machinery must take place a safe distance from the waterway. The Contractor shall note that the Engineer or the Owner takes no responsibility for spills, this shall be the sole responsibility of the Contractor.

5.0 WHMIS

The Contractor shall comply with the requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage and disposal of hazardous materials and regarding labelling and the provision of material safety data sheets acceptable to Labour Canada.

6.0 DRAINAGE

The Contractor shall not pump water containing suspended materials into waterways, sewers or drainage systems. The Contractor shall be solely responsible for the control, disposal or runoff of water containing suspended materials or other harmful substances in accordance with these specifications, and local authority requirements. The Contractor shall provide temporary drainage and pumping as necessary to keep excavations and the site free from water.

The Contractor shall install and maintain sediment control devices as indicated on the Contract Drawing and as directed by the Engineer.

7.0 PROTECTION OF VEGETATION

The Contractor shall exercise the utmost caution to ensure that existing trees and plants on-site and on adjacent properties are not damaged or disturbed unless noted otherwise in the Removals Special Provisions of this Contract. The Contractor shall restrict tree removal to areas indicated on the Contract Drawings and/or designated on-site. No trees or shrubs shall be removed without the approval of the Engineer.

8.0 DUST CONTROL

The Contractor will be solely responsible for controlling dust nuisance resulting from his operations, both on the site and within adjacent right-of-ways.

Water and calcium chloride shall be applied to areas on or adjacent to the site as authorized by the Engineer as being necessary and unavoidable for the prevention of dust nuisance or hazard to the public. No payment will be made for dust control unless otherwise specified in the Special Provisions.

9.0 RESTRICTIONS FOR IN-WATER WORKS

The Contractor shall only perform in-water works during times when conditions permit reasonable production rates to be achieved. The Contractor shall be required to adopt good housekeeping practices that minimize disturbance to the site and the adjacent waterway.

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The Contractor shall note that this Project is subject to approval from the Essex Region Conservation Authority and as such, any possible turbidity caused by the construction of shore protection works is of key importance.

The Contractor shall minimize the turbidity (sedimentation) produced by any in-water works construction or operations. The Contractor will be ordered to cease operations if, in the opinion of the Engineer or authorities having jurisdiction, the in-water work is producing unacceptable amounts of turbidity in the waterway. Based on this, the Contractor shall either adjust his operation(s) to produce lower turbidity levels, wait for more favourable conditions before operations will be allowed to continue, or undertake approved mitigating measures (e.g. sediment control, etc.). All costs associated with the above will be the sole responsibility of the Contractor, and no claims for extras or delays will be considered.

10.0 FISH HABITAT

No work shall be undertaken when there is likelihood of adverse effects on fish spawning or fish habitat in downstream waters. The Contractor shall implement the following measures to avoid causing harm to fish and fish habitat:

10.1 Site Selection

Design and plan activities and works in the water body such that loss or disturbance to aquatic habitat is minimized and sensitive spawning habitats are avoided.

Design and construct approaches to the water body such that they are perpendicular to the watercourse to minimize loss or disturbance to riparian vegetation.

Undertake all instream activities in isolation of open or flowing water to maintain the natural flow of water downstream and avoid introducing sediment into the watercourse.

10.2 Standard Practices

Work will not be conducted at times when flows are elevated due to local rain events, storms or seasonal floods. Construct the work 'in the dry' and cut only trees necessary to do the work (no clear-cutting) and as specified in the Construction Specifications. All disturbed areas and all disturbed soils on both banks and within the channel, including spoil, must be stabilized immediately, and upon completion of work returned to a pre-disturbed state or better as soon as conditions allow.

10.3 Timing Windows

For spring spawning fish in southwestern Ontario, The timing window for construction, is July 15 to March 15. This covers all warmwater fish species, which is the type of fish that will be found in essentially all the small watercourses and drains in southwestern Ontario. Do not carry out in-water work and any work affecting fish or fish habitat outside of the timing window without prior authorization from the appropriate authorities for emergency situations affecting public safety.

10.4 Contaminant and Spill Management

Plan activities near water such that materials such as paint, primers, blasting abrasives, rust solvents, degreasers, grout, poured concrete, or other chemicals do not enter the watercourse. All activities should be controlled to prevent the entry of petroleum products, debris, rubble, concrete or other deleterious substances into the water.

Develop a response plan that is to be implemented immediately in the event of a sediment release or spill of a deleterious substance and keep an emergency spill kit on site.

Ensure that building material used in a watercourse has been handled and treated in a manner to prevent the release or leaching of substances into the water that may be deleterious to fish.

10.5 Erosion and Sediment Control

Develop and implement an ‘Erosion and Sediment Control Plan’ for the site that minimizes risk of sedimentation of the water body during all phases of the project. Erosion and sediment control measures should be maintained until all disturbed ground has been permanently stabilized, suspended sediment has resettled to the bed of the water body or settling basin, and runoff water is clear. The plan should, where applicable, include:

- Installation of effective erosion and sediment control measures before starting work to prevent sediment from entering the water body.
- Measures for managing water flowing into the site, as well as, water being pumped/diverted from the site such that sediment is filtered out prior to the water entering a water body. For example, pumping/diversion of water to a vegetation area, construction of a settling basin or other filtration system.
- Site isolation measures (e.g., silt boom or silt curtain) for containing suspended sediment where in-water work is required (e.g., dredging, culvert work). To prevent sediment entry into the Drain, in the event of an unexpected rainfall, silt barriers and/or traps must be placed in the channel during the works and until the site has been stabilized. All sediment and erosion control measures are to be in accordance with related Ontario Provincial Standards. It is incumbent on the proponent and his/her contractors to ensure that sediment and erosion control measures are functioning properly and are maintained/upgraded as required.
- Measures for containing and stabilizing waste material (e.g., dredging spoils, construction waste and materials, uprooted or cut aquatic plants, accumulated debris) above the high water mark of nearby water bodies to prevent re-entry.
- Regular inspection and maintenance of erosion and sediment control measures and structures during the course of construction. Repairs to erosion and sediment control measures and structures if damage occurs. Sediment in the barriers/traps must be removed and stabilized on land to prevent entry of sediment into the water. Removal of non-biodegradable erosion and sediment control materials once the site is stabilized.

10.6 Fish Protection

Ensure that all in-water activities, or associated in-water structures, do not interfere with fish passage, constrict the channel width, or reduce flows.

Retain a qualified professional to ensure applicable permits for relocating fish are obtained and to capture any fish trapped within an isolated/enclosed area at the work site and safely relocate them to an appropriate location in the same waters. Fish may need to be relocated again, should flooding occur on the site.

Screen any water intakes or outlet pipes to prevent entrainment or impingement of fish. Entrainment occurs when a fish is drawn into a water intake and cannot escape. Impingement occurs when an entrapped fish is held in contact with the intake screen and is unable to free itself.

Avoid using explosives in or near water. Use of explosives in or near water produces shock waves that can damage a fish's swim bladder and rupture internal organs. Blasting vibrations may also kill or damage fish eggs or larvae.

10.7 Operation of Machinery

Ensure that machinery arrives on site in a clean condition and is maintained free of fluid leaks, invasive species, and noxious weeds. Wash, refuel, and service machinery and store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering the water.

Whenever possible operate machinery on land above the high water mark, on ice, or from a floating barge in a manner that minimizes disturbance to the banks and bed of the water body.

To cross a municipal drain or watercourse, use the existing crossing structures within the designated working corridors or construct temporary crossing structures approved by the Engineer. Fording will not be permitted unless approved by the Engineer and carried out by the Contractor according to the requirements determined by the Engineer.

10.8 Culvert Work

It is important to apply the relevant mitigation measures outlined above, to ensure that no deleterious materials reach fish habitat and that there are no detrimental impacts to physical fish habitat.

Existing culverts may be repaired, replaced, and removed, and debris may be removed from them, without contacting DFO. Important things to consider are:

- the timing window, which will be July 15 to March 15 for almost 100% of projects;
- that fish passage must not be obstructed;
- that the channel cannot be realigned;
- that culverts are designed for a minimum embedment of 10% below grade;
- that new material placed below the high water mark must be properly stabilized and protected from erosion;
- that the channel must not be narrowed; and

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- that work must be done when there is no flowing water.

It is best to time work when stream flows are at a minimum, but contingency measures should be in place in the event that a heavy rain occurs. Cofferdams or other features should be used above the area of construction and water above it should be pumped into the stream channel downstream of the construction. If the initial dewatering strands fish, they should be captured and placed downstream in the wetted area. It may be necessary to get a permit from MNRF to move the fish.

11.0 ENDANGERED SPECIES ACT

The Municipality is to provide Endangered Species information in accordance with the 2007 Endangered Species Act Agreement between the Municipality and Ministry of Natural Resources (MNR), designated persons employed by the Municipality will be responsible for reviewing habitat maps to determine if further review from the agencies is required.

Prior to the start of any construction activities, the Contractor shall meet with the Municipal Designate to obtain a copy of specific mitigation procedures for dealing with endangered species should they be encountered anytime during construction.

NOTE: The above noted agreement between MNR and various municipalities has lapsed, however environmental information is available from the various municipalities.

APPENDIX 'C'

ENDANGERED SPECIES ACT REVIEW

INFORMATION TO BE PROVIDED BY TOWN DRAINAGE SUPERINTENDENT