SNYDER BRANCH DRAIN

Replacement Bridge for MN 10901 10th Concession Road

Geographic Township of Colchester North

TOWN OF ESSEX
33 Talbot Street South
ESSEX, Ontario N8M 1A8
519-776-7336

Rood Engineering Inc.
Consulting Engineers
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Project REI2023D014
2025-04-04

Rood Engineering Inc.

Consulting Engineers

April 4th, 2025

Mayor and Municipal Council
Corporation of the Town of Essex
33 Talbot Street South
Essex, Ontario
N8M 1A8

Mayor Bondy and Members of Council:

SNYDER BRANCH DRAIN
(Replacement Bridge for MN 10901 10th Concession Road)
Geographic Twp. of Colchester North
Project REI2023D014
Town of Essex, County of Essex

I. INTRODUCTION

In accordance with the instructions received from you by letter of August 8th, 2023, from your Director Legal and Legislative Services/Clerk, Joe Malandruccolo, we have prepared the following report that provides for the construction of a replacement access bridge in the Snyder Branch Drain. This proposed bridge replacement is intended to provide a safer farm access for the agricultural lands owned by Gerald & Maria Czajkowski, in Part of Lot 19, Concession 9, in the Geographic Township of Colchester North. The Snyder Branch Drain is an open drain with a number of access bridges. The drain was constructed pursuant to the Drainage Act. A plan showing the Snyder Branch Drain alignment, as well as the general location of the above-mentioned bridge, is included herein as part of the report.

Our appointment and the works related to the construction of the above-mentioned access bridge in the Snyder Branch Drain, proposed under this report, is in accordance with Section 78 of the "Drainage Act, R.S.O. 1990, Chapter D.17 as amended 2021". We have performed all of the necessary survey, investigations, etcetera for the proposed bridge, as well as the Snyder Branch Drain, and we report thereon as follows.

II. BACKGROUND

From our review of the information provided from the Town's drainage files we have established the following reports that we utilized as reference for carrying out this project:

1)	May 13th, 1966	Snyder Branch Drain – Repair and Improvement	C.G.R. Armstrong, P.Eng.

2)	October 27th, 1976	Snyder Branch Drain – Bridge for E1/2 Lot 19, Concession 9	Maurice Armstrong, P.Eng.
3)	November 11th, 1991	Snyder Branch Drain – Gosfield North Assessment Update	Lou Zarlenga, P.Eng.
4)	May 23rd, 2023	Elford Creek Drain – Updated Maintenance Schedule	Gerard Rood, P.Eng.
5)	July 19th, 2024	7th Concession Drain	Antonio Peralta, P.Eng.

The 1966 report by C.G.R. Armstrong, P.Eng. provided for general repairs and improvements to the entire length of the drain and has the latest profile for the grading of the drain.

We also referred to the other reports noted to help in establishing the watershed. We have utilized the plans within the Armstrong report to establish the size parameters for the drain and the details to be used in establishing the replacement bridge culvert installation. We have also used this report to establish the drain profile grades, and to assist us in establishing the design grade for the subject farm access bridge installation. The Schedule of Assessment in the latest drainage report was used as a guide to establish the upstream watershed area and flows to be used in the design of the bridge.

III. PRELIMINARY EXAMINATION AND ON-SITE MEETING

After reviewing all of the available drainage information and documentation provided by the Drainage Superintendent, we arranged with Town staff to schedule an on-site meeting for October 12th, 2023. The following people were in attendance at said meeting: Donita Osborne, Bill Jamieson, Connie & Jerry Czajkowski, Paul Salden, Daniel Choquette, Gordon Olafson, Josette Eugeni, Gerald Czajkowski, Ted Gibbs, Ron Galos, Tanya Tuzlova (Town of Essex Drainage Clerk), Lindsay Dean (Town of Essex Drainage Superintendent), David Montigny (Rood Engineering), Preston Knight (Rood Engineering), and Gerard Rood (Rood Engineering).

Details of the proposed bridge work were reviewed. It was confirmed that the replacement bridge should be located at the position of the existing bridge to align with the grass access from the north. Ms. Dean noted that the failing bridge needs to be replaced pursuant to Section 78 of the Drainage Act. There have been requests for drain maintenance from owners and there is a downstream beaver dam problem. This is a joint project between Essex and Kingsville. Ms. Dean advised that a maintenance schedule should be prepared as part of this project to allow for fair collection of cost for the maintenance works.

Mr. Czajkowski advised us that the lands require a replacement bridge to better access the existing agricultural lands that are south of the drain with the existing bridge being up to 1m (3’)

below high-water levels. The existing bridge is too low and seriously deteriorated with steel beams and wooden plank deck. The old structure will be abandoned and removed, and the drain bank will be stabilized as part of the work.

We advised the owner that the minimum standard top width for an access bridge is 6.10 metres (20 ft.) and that the bridge centreline location will need to be established with him. He was also advised that because the bridge is a replacement bridge, the cost of the new replacement access bridge construction, as well as all the cost for the preparation of the Engineer's Report would be shared by the abutting owner and upstream lands and roads. Any cost for additional top width will be borne by the owner. It was established that the owner prefers a minimum top width that will result in approximately a 6.1 metre (20') top width to allow for the current large agricultural equipment to more easily access the farm. We went on to discuss precast concrete blocks for the installation, like those on other newer bridges, were expected to be an economical end treatment, but the Engineer would contact the owner if necessary to advise if there was any change to this. Mr. Czajkowski confirmed where the new bridge centreline should be located, approximately in line with the existing bridge in the drain near the south limit of the grassed access area.

The overall drainage report procedure, future maintenance processes and grant eligibility were generally reviewed with the owners. They were also advised that the works will be subject to the approval of the Department of Fisheries and Oceans (D.F.O.), the Ministry of Natural Resources and Forestry (M.N.R.F.), Ministry of Environment Conservation and Parks (M.E.C.P.) and the Essex Region Conservation Authority (E.R.C.A.). We further discussed bridge maintenance, sizing, and material of the proposed bridge, suggesting that an aluminized corrugated steel pipe arch might be employed or a concrete box bridge similar to bridges on the Elford Creek Drain to the south.

The owners were advised that phone contact numbers would be included on the notice of meetings, and they can contact the Drainage Superintendent at Kingsville or at Essex or the Drainage Engineer if they have any questions on the project.

IV. FIELD SURVEY AND INVESTIGATIONS

Following the on-site meeting we arranged for our survey staff to attend at the site and perform a topographic survey, including taking the necessary levels and details to establish the design parameters for the installation of this replacement access bridge.

A benchmark was looped from previous work carried out on the drain and was utilized in establishing a site benchmark near the location of the bridge. We surveyed the drain both upstream and downstream of the proposed replacement access bridge and picked up the existing concrete bridges elevations in order to establish a design grade profile for the installation of the replacement bridge. We also took cross-sections of the Snyder Branch Drain at the general location of the proposed replacement bridge, as necessary for us to complete our design calculations, estimates and specifications.

The Town made initial submissions to the Essex Region Conservation Authority (E.R.C.A) regarding their requirements for the installation of the new replacement bridge to be constructed in the Drain. A response from the Conservation Authority was received via email on July 26th, 2023. E.R.C.A. stated that the portion of the Drain is located within a regulated area administered by E.R.C.A. Accordingly, a permit or approval will be required by E.R.C.A. for the construction of the new replacement bridge in the portion of the Drain and the replacement bridge cannot have any impact on the 1:100-year floodline elevations along that portion of the drain.

Former Ministry of Natural Resources & Forestry (M.N.R.F.) agreements are replaced with new legislation provisions under Ontario Regulation 242/08, Section 23.9 administered by the Ministry of Environment, Conservation and Parks (M.E.C.P.), which allows repairs, maintenance and improvements to be conducted by the Municipality within existing municipal drains. These works are exempt from Sections 9 and 10 of the Endangered Species Act provided that the rules in the regulations are followed by the Municipality and their contractor. When eligible, the new regulations allow Municipalities to give notice to M.N.R.F. by registering their drainage activities through an online registry system. Department of Fisheries and Oceans (D.F.O.) mapping was also checked for any concerns and mitigation requirements.

For the purposes of establishing the watershed area upstream of the proposed replacement bridge, and determining the bridge size required, we investigated and reviewed the past drainage reports on the Drain including the report for the Elford Creek Drain that the Snyder Branch Drain outlets into.

V. FINDINGS AND RECOMMENDATIONS

Prior to the preparation of our report, we reviewed the details of the new bridge installation including the end treatment options based on the regulatory restrictions and the cost estimates that we were to review.

Based on our detailed survey, investigations, examinations, and discussions with the affected property owner, we would recommend that a new access bridge be constructed in the Snyder Branch Drain at the location and to the general parameters as established in our design drawings attached herein.

During the course of our investigations, this drainage project was discussed and reviewed with E.R.C.A., to deal with any Authority issues and comments related to this Municipal drain. To prevent flooding and adverse impacts upstream, the new structure needs to provide an equivalent level of service to the adjacent structures. Therefore, based on this, we have made provisions to use a precast concrete box culvert as set out below, similar to the structure a short distance upstream. This new structure will not cause adverse impacts to adjacent lands upstream and downstream and retain the functionality of the drain. The top of the bridge box culvert and headwalls are set as low as possible and allows for severe storm events to have flow over the structure when necessary. The Snyder Branch Drain is located within the Regulated Area and is

under the jurisdiction of the E.R.C.A., and therefore all work has to comply with the current mitigation provisions of the E.R.C.A. Details of these mitigation measures are included in the Specifications and **Appendix "REI-A"** forming part of this report.

As part of our investigations, a D.F.O. self screening assessment of the project was carried out. The mapping indicated no species at risk or critical habitat for the area of the bridge work. In the interest of fish habitat and migration, D.F.O. requires that the invert of any new bridge be embedded below the design or existing bottom of the drain a minimum of 10% of the bridge opening height to ensure a continued path for fish migration through the access bridge. The D.F.O. Species at Risk screening maps confirm that there are no Species at Risk Fish or Mussels identified in this area. Should any species be encountered, details of required mitigation measures are included in the Specifications and **Appendix "REI-A"** forming part of this report. We arranged with the Town for a D.F.O. review of the project since the downstream Elford Creek Drain is rated as an "E" drain and any requirements provided from D.F.O. will be included in the Appendix for the tender and construction. The requirements provided by D.F.O. include following timing window for in water works, limiting impacts on riparian vegetation, restoring stream geomorphology, providing erosion and sediment control plans, avoid wet, windy and rainy periods for the work schedule, monitor the watercourse for any sedimentation during the works, have a response plan to avoid any spill of deleterious substances, protect against spreading invasive species by coming and leaving with equipment cleaned and dried. All of these requirements will be included in the Specifications and Appendices of the drainage report.

As is now required under the new Endangered Species Act, 2007 Provincial Legislation administered by the Ministry of Environment, Conservation & Parks (M.E.C.P.), we have reviewed the former M.N.R.F. agreement with the Town. The M.N.R.F. mapping has basically confirmed that there are no foreseen impacts to natural heritage features or endangered or threatened species on this project; therefore, a permit or agreement under the E.S.A. 2007 is not necessary at this time. Because turtles and snakes are mobile and snakes are indicated as sensitive in the area, we have included herein a copy of the M.N.R.F. mitigation requirements for them in **Appendix "REI-B"**. The N.H.I.C. mapping has also indicated sensitive species and a list is included in this appendix and the Contractor will need to monitor the site and carry out any mitigation steps that are necessary.

Providing mitigation requirements are implemented it was concluded that present wildlife Species at Risk will be protected from negative impacts and will not contravene with Section 9 (species protection) or Section 10 (habitat protection) of the Endangered Species Act, 2007. Based on this information we find that the Town can proceed with the eligible new replacement bridge construction in the drain as they are exempt under Sections 9 and 10 of the Act, provided that they follow the rules within Ontario Regulation 242/08. To address these requirements the Town has established comprehensive mitigation measures as well as species identification guides for reference. Copies of the measures and guides are available for viewing by any interested parties at the Town office.

Since all of the work will be carried out at the existing driveway and vacant land and is primarily from within the driveway area and limits of the drain, and because full restoration will be

provided, we find that there is no requirement for damages or allowances pursuant to Sections 29 and 30 of the Drainage Act.

Based on all of the above, we recommend that a new replacement access bridge be constructed in the Snyder Branch Drain to serve the agricultural lands of Czajkowski, in accordance with this report, the attached specifications and the accompanying drawings, and that all works associated with same be carried out in accordance with Section 78 of the "Drainage Act, R.S.O. 1990, Chapter D.17 as amended 2021".

VI. ESTIMATE OF COST

Our estimate of the total cost of this work including all incidental expenses is the sum of **ONE HUNDRED TWO THOUSAND DOLLARS ($102,000.00),** made up as follows:

CONSTRUCTION

Item 1)	Provide all labour, equipment and material to construct a new access bridge consisting of 7.32 metres (24.0 ft.) of 2400mm span by 1500mm high reinforced concrete box culvert in accordance with the CHBDC CAN CSA S6-06, including precast concrete block end treatments, granular bedding and backfill, granular approaches, tile diversions, excavation, compaction, rock protection along endwalls, removal of existing structure including loading, hauling and disposal; cleanup and restoration, complete.	Lump Sum	$	76,600.00
	Estimated Net H.S.T. (1.76%)		$	1,348.00
	TOTAL FOR CONSTRUCTION		**$**	**77,948.00**

INCIDENTALS

1)	Report, Estimate, and Specifications	$	4,500.00
2)	Survey, Assistants, Expenses, Drawings, Duplication Cost of Report and Drawings, Consideration Meeting, etc.	$	10,400.00
3)	Estimated Cost of Preparing Tender Documents	$	1,000.00
4)	Estimated Cost of Construction Supervision and Inspection (based on 3 days)	$	2,400.00

5) Estimated Net H.S.T. on Items Above (1.76%)	$	348.00
6) Estimated Cost of E.R.C.A. permit	$	800.00
7) Estimated Contingency Allowance	$	3,104.00
TOTAL FOR INCIDENTALS	**$**	**22,552.00**
MAINTENANCE SCHEDULE OF ASSESSMENT PREPARATION	**$**	**1,500.00**
TOTAL FOR CONSTRUCTION (brought forward)	**$**	**77,948.00**
TOTAL ESTIMATE	**$**	**102,000.00**

VII. DRAWINGS AND SPECIFICATIONS

As part of this report, we have attached design drawings for the construction of this replacement access bridge. The design drawings show the subject bridge location and the details of the new replacement access bridge installation. The design drawings are attached to the back of this report and are labelled **Appendix "REI-E"**.

Also attached, we have prepared Specifications which set out the required construction details for the proposed bridge installation, which also includes Standard Specifications within **Appendix "REI-C".**

VIII. SCHEDULE OF ASSESSMENT

We would recommend that all of the costs associated with the construction of this replacement access bridge, and the preparation of this Engineer's report, be assessed against the agricultural lands of Czajkowski, in Part of Lot 19, Concession 9, and all upstream affected lands and roads in the Town of Essex and Town of Kingsville. A "Schedule of Assessment" has been prepared and included herein to indicate the lands and roads assessed for this replacement access bridge installation. The watershed plans are in **Appendix "REI-D"** and the bridge detail plans are in **Appendix "REI-E"**. As discussed at the on-site meeting, we have also prepared a "Maintenance Schedule of Assessment" as attached for the future maintenance of any part of the Snyder Branch Drain open portions. The actual cost of future maintenance to the open drain shall be assessed by pro-rating the values included in the attached "Maintenance Schedule of Assessment".

It has been clearly established that this replacement access bridge is being provided to serve as the access from the north side to the south side of an existing agricultural farm parcel. Pursuant to the current Agricultural Drainage Infrastructure Program (A.D.I.P.) Policies that are in place, it is anticipated that these lands and upstream lands designated as Farm Property Tax Class will be eligible for a grant from the Ontario Ministry of Agriculture and Food Affairs (O.M.A.F.A.) in the amount of 1/3 of their total assessment for this project. Since the preparation of the "Maintenance Schedule of Assessment" was a very minor cost of the overall engineering costs at less than 25% for the drainage report preparation, the costs for same shall also be eligible for the grants from O.M.A.F.A. in accordance with Section 2.(e) of the "Agricultural Drainage Infrastructure Program: Administrative Policies". The cost of the "Maintenance Schedule of Assessment" preparation shall be assessed pro-rata to the values shown in the attached "Maintenance Schedule of Assessment".

Where a bridge structure has increased top width beyond the standard 6.10 metre (20.0 ft.) top width, all of the increased costs resulting from same are assessed 100% to the Owner, and since the Owner has requested the standard top width there is no extra cost to the parcel served by the access bridge replacement as provided for in the cost sharing set out in the attached Schedule of Assessment. Should the Owner desire a wider bridge in the future, the extra cost for providing the additional top width shall be established in the tender cost as a separate item and this extra cost shall be assessed 100% to the Owner.

IX. FUTURE MAINTENANCE

We recommend that the bridge structure as identified herein, be maintained in the future as part of the drainage works. We would also recommend that the bridge, for which the maintenance costs are to be shared with the upstream lands and roads within the watershed, be maintained by the Town and that said maintenance would include works to the bridge culvert, bedding, backfill and end treatment. Should concrete, asphalt, or other decorative driveway surfaces over these bridge culverts require removal as part of the maintenance works, these surfaces shall also be repaired or replaced as part of the works. Likewise, if any fencing, gate, decorative walls, guardrails, or other special features exist that will be impacted by the maintenance work, they are also to be removed and restored or replaced as part of the bridge maintenance work. However, the cost of the supply and installation of any surface materials other than Granular "A" material and the cost of removal and restoration or replacement, if necessary, of any special features, shall be totally assessed to the benefiting adjoining Owner(s) served by said access bridge.

After the completion of all of the works included within this report, the access bridge within the Snyder Branch Drain shall be maintained in the future by the Town of Essex. Furthermore, if any maintenance work is required to this access bridge in the future, we recommend that 32.7% of the future actual maintenance costs shall be assessed as a Benefit against the abutting property (Parcel 390-05000) being served by the access bridge, which is currently owned by Maria & Gerald Czajkowski, in Part of Lot 19, Concession 9, and the remaining balance of 67.3% be assessed pro-rata against the upstream lands and roads based on their Outlet Liability

assessment in the attached "Schedule of Assessment". This sharing reflects that the owner has not requested a bridge any wider than the standard 6.1 metre (20 feet) top width that is normally shared between the owner and upstream affected lands and roads. As discussed at the on-site meeting, we have also prepared a "Maintenance Schedule of Assessment" as attached for the future maintenance of any part of the Snyder Branch Drain open portions. The actual cost of future maintenance to the open drain shall be assessed by pro-rating the values included in the attached "Maintenance Schedule of Assessment".

The above provisions for the future maintenance of this replacement access bridge, being constructed under this report, and for the future maintenance of the open drain shall remain as aforesaid until otherwise determined under the provisions of the "Drainage Act, R.S.O. 1990, Chapter D.17 as amended 2021".

All of which is respectfully submitted.

***R**ood **E**ngineering **I**nc.*

Gerard Rood

Gerard Rood, P.Eng.

tm
att.

ROOD ENGINEERING INC.
Consulting Engineers
9 Nelson Street
LEAMINGTON, Ontario N8H 1G6

SCHEDULE OF ASSESSMENT
SNYDER BRANCH DRAIN
(Bridge Replacement for MN 10901 10th Concession Road)
(Including 7th Concession Drain Watershed)
TOWN OF ESSEX

3. MUNICIPAL LANDS:

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
		County Road 23		2.10	0.851	County of Essex	$ -	$ 271.00	$ -	$ 271.00
		Total on Municipal Lands.....					**$ -**	**$ 271.00**	**$ -**	**$ 271.00**

4. PRIVATELY OWNED - NON-AGRICULTURAL LANDS:

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	9	20	1.590	3.26	1.319	Gordon & Donita Osborne	$ -	$ 138.00	$ -	$ 138.00
	9	20	1.578	3.23	1.307	Christopher & Heather Escobar	$ -	$ 136.00	$ -	$ 136.00
	9	20	1.647	3.40	1.376	Henrique & Alexia Ribafeita	$ -	$ 136.00	$ -	$ 136.00
	9	20	1.740	3.63	1.469	Walter & Sharon Hayes	$ -	$ 145.00	$ -	$ 145.00
	9	20	1.813	3.81	1.542	Tamara & Kenneth Whitney	$ -	$ 152.00	$ -	$ 152.00
	9	20	1.853	3.91	1.582	Kimberly Panzer	$ -	$ 147.00	$ -	$ 147.00
	9	20	1.886	3.99	1.615	Michael & Lauren Cowan	$ -	$ 150.00	$ -	$ 150.00
	9	20	1.967	4.19	1.696	Tony Deyle	$ -	$ 157.00	$ -	$ 157.00
	9	20	2.072	4.45	1.801	Gord & Judy Tennant	$ -	$ 157.00	$ -	$ 157.00
	9	20	2.185	4.73	1.914	Patrick McCormick	$ -	$ 167.00	$ -	$ 167.00
	9	20	2.323	5.07	2.052	Earl McCormick	$ -	$ 179.00	$ -	$ 179.00
	9	20	2.465	5.42	2.193	Darlene Mckay	$ -	$ 178.00	$ -	$ 178.00
	9	20	2.618	5.80	2.347	Francise Ewing & CIBC Mortgage	$ -	$ 191.00	$ -	$ 191.00
	9	20	2.505	5.52	2.234	David Bastien Jr.	$ -	$ 181.00	$ -	$ 181.00
	9	21	0.813	2.01	0.813	James Taylor	$ -	$ 104.00	$ -	$ 104.00
	9	21	1.578	3.90	1.578	Adam & Jeslyn Davies	$ -	$ 165.00	$ -	$ 165.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	9	21	0.376	0.93	0.376	Ralph & Lillian Hammer	$ -	$ 65.00	$ -	$ 65.00
	9	21	0.117	0.29	0.117	Gregory Hammer	$ -	$ 27.00	$ -	$ 27.00
	Total on Privately Owned - Non-Agricultural Lands.....						**$ -**	**$ 2,575.00**	**$ -**	**$ 2,575.00**

5. PRIVATELY OWNED - AGRICULTURAL LANDS (grantable):

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	9	19	19.813	21.00	8.499	Dennis Zawadski	$ -	$ 493.00	$ -	$ 493.00
	9	19	12.586	11.50	4.654	Monica & Cyril Poisson	$ -	$ 270.00	$ -	$ 270.00
	9	21	20.449	25.27	10.225	Gerald & Maria Czajkowski	$ -	$ 593.00	$ 33,354.00	$ 33,947.00
	9	21	20.692	51.13	20.692	Gordon & Pauline Olafson	$ -	$ 1,200.00	$ -	$ 1,200.00
	9	21	39.667	98.02	39.668	Bradley & Anne Anger	$ -	$ 2,301.00	$ -	$ 2,301.00
	9	21	30.101	49.00	19.830	Darrin Banwell & Lauren Howard	$ -	$ 1,150.00	$ -	$ 1,150.00
	9	21	19.595	48.42	19.595	Brenda & Bradley Anger	$ -	$ 1,137.00	$ -	$ 1,137.00
	9	21	20.117	45.71	18.499	John & Gregory Hammer	$ -	$ 1,073.00	$ -	$ 1,073.00
	Total on Privately Owned - Agricultural Lands (grantable).....						**$ -**	**$ 8,217.00**	**$ 33,354.00**	**$ 41,571.00**
	TOTAL ESSEX ASSESSMENT		419.69	169.84			**$ -**	**$ 11,063.00**	**$ 33,354.00**	**$ 44,417.00**

TOWN OF KINGSVILLE

2. ONTARIO LANDS:

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
		Highway No. 3		24.37	9.864	Ministry of Transportation	$ -	$ 2,687.00	$ -	$ 2,687.00
	Total on Ontario Lands.....						**$ -**	**$ 2,687.00**	**$ -**	**$ 2,687.00**

3. MUNICIPAL LANDS:

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
		County Road 34		3.23	1.307	County of Essex	$ -	$ 356.00	$ -	$ 356.00
		County Road 27		37.36	15.120	County of Essex	$ -	$ 4,119.00	$ -	$ 4,119.00
		County Road 23		3.52	1.425	County of Essex	$ -	$ 388.00	$ -	$ 388.00
		South Talbot Road		13.34	5.400	Town of Kingsville	$ -	$ 1,471.00	$ -	$ 1,471.00
		Road 7 West		4.97	2.010	Town of Kingsville	$ -	$ 548.00	$ -	$ 548.00
		Marsh Sideroad		5.46	2.211	Town of Kingsville	$ -	$ 602.00	$ -	$ 602.00
		McCain Sideroad		0.62	0.251	Town of Kingsville	$ -	$ 68.00	$ -	$ 68.00
		Clark Street		1.72	0.696	Town of Kingsville	$ -	$ 190.00	$ -	$ 190.00
		William Street		1.93	0.781	Town of Kingsville	$ -	$ 213.00	$ -	$ 213.00
		Lyle Street		1.19	0.482	Town of Kingsville	$ -	$ 131.00	$ -	$ 131.00
		Francis Street		2.12	0.859	Town of Kingsville	$ -	$ 234.00	$ -	$ 234.00
		Veriena Boulevard		1.53	0.618	Town of Kingsville	$ -	$ 168.00	$ -	$ 168.00
		Dianne Street		0.76	0.306	Town of Kingsville	$ -	$ 83.00	$ -	$ 83.00
		Sara Street		0.33	0.135	Town of Kingsville	$ -	$ 37.00	$ -	$ 37.00
		Joaney Lane		1.71	0.694	Town of Kingsville	$ -	$ 189.00	$ -	$ 189.00
		Total on Municipal Lands.....					**$ -**	**$ 8,797.00**	**$ -**	**$ 8,797.00**
4. PRIVATELY OWNED - NON-AGRICULTURAL LANDS:										
	6	1	0.231	0.57	0.231	Richard & Donna Valenciuk	$ -	$ 39.00	$ -	$ 39.00
	6	2	0.478	1.18	0.478	John & Nancy Stitzinger	$ -	$ 69.00	$ -	$ 69.00
	6	2	0.433	1.07	0.433	Paul & Corinne Molle	$ -	$ 62.00	$ -	$ 62.00
	6	2	0.249	0.62	0.249	Joseph & Christine Parent	$ -	$ 41.00	$ -	$ 41.00
	6	2	0.282	0.70	0.282	Mark Hall & Melissa Weldon	$ -	$ 46.00	$ -	$ 46.00
	6	4	0.405	1.00	0.405	Shelley Moody	$ -	$ 60.00	$ -	$ 60.00
	6	4	0.661	1.63	0.661	Amber Norman & Trevor Maheux	$ -	$ 82.00	$ -	$ 82.00
	6	6	0.372	0.92	0.372	Henry & Megan Lumley	$ -	$ 55.00	$ -	$ 55.00
	6	6	0.449	1.11	0.449	Arthur Brown	$ -	$ 65.00	$ -	$ 65.00
	6	8	0.162	0.40	0.162	Donna Merritt	$ -	$ 30.00	$ -	$ 30.00
	7	8	0.797	1.97	0.797	Curtis Ferguson & Tina Rose	$ -	$ 91.00	$ -	$ 91.00
	7	7	0.453	1.12	0.453	Tyler Menard & Elizabeth Jeffrey	$ -	$ 65.00	$ -	$ 65.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	7	6	0.271	0.67	0.271	Dorothy Davison	$ -	$ 44.00	$ -	$ 44.00
	7	6	0.510	1.26	0.510	Phillip Keele & Quina Bartoli	$ -	$ 68.00	$ -	$ 68.00
	7	6	0.615	1.52	0.615	David & Debbie Alexander	$ -	$ 79.00	$ -	$ 79.00
	7	6	0.405	1.00	0.405	Benjamin & Kaitlyn Watson	$ -	$ 60.00	$ -	$ 60.00
	7	5	0.486	1.20	0.486	Kari Barnett	$ -	$ 70.00	$ -	$ 70.00
	7	4	0.494	1.22	0.494	Jennifer & Michael Dinchik	$ -	$ 66.00	$ -	$ 66.00
	7	3	0.190	0.47	0.190	Dawne Grado	$ -	$ 34.00	$ -	$ 34.00
	7	3	1.000	2.47	1.000	Daniel & Nina Lavin	$ -	$ 109.00	$ -	$ 109.00
	7	3	0.370	0.91	0.370	Nina Civitarese & Daniel Bouliane	$ -	$ 55.00	$ -	$ 55.00
	7	2	2.019	4.99	2.019	Douglas & Andrea Pisciotto	$ -	$ 160.00	$ -	$ 160.00
	7	2	0.231	0.57	0.231	Ruth Battersby	$ -	$ 39.00	$ -	$ 39.00
	7	2	0.138	0.34	0.138	Dale & Betty Steed	$ -	$ 27.00	$ -	$ 27.00
	7	1	0.405	1.00	0.405	Michael & Constance Mulholland	$ -	$ 60.00	$ -	$ 60.00
	7	7	0.405	1.00	0.405	Kevin Darmon	$ -	$ 60.00	$ -	$ 60.00
	7	7	0.931	2.30	0.931	James & Diane Ferguson	$ -	$ 101.00	$ -	$ 101.00
	STR	269	2.724	6.73	2.724	Gary & Laurie Taveirne	$ -	$ 189.00	$ -	$ 189.00
	STR	267	0.368	0.91	0.368	John & Diane Bachtold	$ -	$ 55.00	$ -	$ 55.00
	STR	267	0.231	0.57	0.231	Diane Bachtold & Alysa Gould	$ -	$ 39.00	$ -	$ 39.00
	STR	268	0.348	0.86	0.348	Barbara VanGrinsven	$ -	$ 53.00	$ -	$ 53.00
	STR	268	0.417	1.03	0.417	Andrea Nikita	$ -	$ 60.00	$ -	$ 60.00
	STR	269	0.085	0.21	0.085	Neil Arner	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.069	0.17	0.069	David Krahn	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.069	0.17	0.069	Terry Ramsay & Amy Wiper	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.081	0.20	0.081	Heidi & Paul Harnish	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.134	0.33	0.134	Cameron & Grace Fast	$ -	$ 26.00	$ -	$ 26.00
	STR	269	0.138	0.34	0.138	Antonio & Sheila Lopetrone	$ -	$ 27.00	$ -	$ 27.00
	STR	269	0.077	0.19	0.077	Trevor & Kari Smith	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.069	0.17	0.069	Steven & Mckenzee Chortos	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.069	0.17	0.069	Jason Clark & Amanda Middleton	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.085	0.21	0.085	Michael & Tina O'Connor	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.085	0.21	0.085	Eric & Amanda Noel	$ -	$ 19.00	$ -	$ 19.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	STR	269	0.067	0.17	0.067	Wilhelm & Jessica Loewen	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.085	0.21	0.085	Carlos Correa & Gloria Arango	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.073	0.18	0.073	Benjamin & Melissa Fischer	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.069	0.17	0.069	Brian & Sharon Birch	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.113	0.28	0.113	Alexander & Jamesina Keeney	$ -	$ 23.00	$ -	$ 23.00
	STR	269	0.105	0.26	0.105	David & Toni Curtis	$ -	$ 22.00	$ -	$ 22.00
	STR	269	0.125	0.31	0.125	Nancy Garraway & John Etue	$ -	$ 25.00	$ -	$ 25.00
	STR	269	0.065	0.16	0.065	Al Langstaff	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.069	0.17	0.069	Maninder Brar & Prabjheet Kaur	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.085	0.21	0.085	Virgina Deman & The Canada Trust	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.073	0.18	0.073	Connie Bilton	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.069	0.17	0.069	Michael & Rita Beaule	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.069	0.17	0.069	Keith Cullin	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.089	0.22	0.089	Brian Mitchell & Jane Harley	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.105	0.26	0.105	Mario & Sonia Mendes	$ -	$ 22.00	$ -	$ 22.00
	STR	269	0.113	0.28	0.113	Fredy & Corin Menjivar	$ -	$ 23.00	$ -	$ 23.00
	STR	269	0.089	0.22	0.089	Douglas Dalpe	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.069	0.17	0.069	Santina Viselli & Megan Manchester	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.069	0.17	0.069	Irene Stewart	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.073	0.18	0.073	Joseph & Lindsay Iatonna	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.067	0.17	0.067	Christopher South & Maegan Ferranti	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.067	0.17	0.067	Justin & Sarah Snelgrove	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.081	0.20	0.081	Crystal Hudon & Michael Bondy	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.089	0.22	0.089	Tyler & Patricia Driedger	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.061	0.15	0.061	Edward & Brenda Ryall	$ -	$ 15.00	$ -	$ 15.00
	STR	269	0.063	0.16	0.063	James & Nicole Bradley	$ -	$ 15.00	$ -	$ 15.00
	STR	269	0.085	0.21	0.085	Kevin Anderson & Michele Lowe	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.081	0.20	0.081	Roger Desramaux & Megan Watson	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.083	0.20	0.083	Bker & Zelia Abdulkader	$ -	$ 18.00	$ -	$ 18.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	STR	269	0.077	0.19	0.077	Peter Millar & Jaclyn Garant	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.051	0.12	0.051	Cottam Solar Limited	$ -	$ 13.00	$ -	$ 13.00
	STR	269	0.077	0.19	0.077	Cottam Solar Limited	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.084	0.21	0.084	Cottam Solar Limited	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.084	0.21	0.084	Cottam Solar Limited	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.078	0.19	0.078	Cottam Solar Limited	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.073	0.18	0.073	Cottam Solar Limited	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.026	0.06	0.026	Cottam Solar Limited	$ -	$ 7.00	$ -	$ 7.00
	STR	269	0.087	0.22	0.087	Cottam Solar Limited	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.122	0.30	0.122	Cottam Solar Limited	$ -	$ 24.00	$ -	$ 24.00
	STR	269	0.075	0.19	0.075	Cottam Solar Limited	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.085	0.21	0.085	Cottam Solar Limited	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.124	0.31	0.124	Cottam Solar Limited	$ -	$ 25.00	$ -	$ 25.00
	STR	269	0.139	0.34	0.139	Cottam Solar Limited	$ -	$ 27.00	$ -	$ 27.00
	STR	269	0.108	0.27	0.108	Cottam Solar Limited	$ -	$ 22.00	$ -	$ 22.00
	STR	269	0.087	0.21	0.087	Cottam Solar Limited	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.099	0.25	0.099	Cottam Solar Limited	$ -	$ 21.00	$ -	$ 21.00
	STR	269	0.083	0.20	0.083	Cottam Solar Limited	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.072	0.18	0.072	Cottam Solar Limited	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.072	0.18	0.072	Cottam Solar Limited	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.072	0.18	0.072	Cottam Solar Limited	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.077	0.19	0.077	Cottam Solar Limited	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.077	0.19	0.077	Cottam Solar Limited	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.081	0.20	0.081	Christian Fairey & Hailee Mathies	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.072	0.18	0.072	Mary Chapman & Wayne Roy	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.072	0.18	0.072	Amy & Robert Purdy	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.072	0.18	0.072	Anthony & Sarah Querin	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.072	0.18	0.072	Norman Davison & Stephen Laurie	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.081	0.20	0.081	Danielle Oles	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.069	0.17	0.069	Randy & Lori Duhig	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.069	0.17	0.069	Allan & Laura Gagne	$ -	$ 16.00	$ -	$ 16.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	M100	25	0.136	0.34	0.136	Curtis Bishop	$ -	$ 26.00	$ -	$ 26.00
	M100	24	0.121	0.30	0.121	Wanda Hayes	$ -	$ 24.00	$ -	$ 24.00
	M100	23	0.113	0.28	0.113	Ivan Dets	$ -	$ 23.00	$ -	$ 23.00
	M100	22	0.097	0.24	0.097	Ronald & Debra Mitchell	$ -	$ 21.00	$ -	$ 21.00
	M100	21	0.069	0.17	0.069	Daniel Stanley	$ -	$ 16.00	$ -	$ 16.00
	M100	20	0.077	0.19	0.077	Francesco Incitti & Sofia Montgomery	$ -	$ 17.00	$ -	$ 17.00
	M100	19	0.073	0.18	0.073	John & Krista Armaly	$ -	$ 17.00	$ -	$ 17.00
	M100	18	0.073	0.18	0.073	Shelley Schraeder	$ -	$ 17.00	$ -	$ 17.00
	M100	17	0.069	0.17	0.069	Daniel & Twyla St. Louis	$ -	$ 16.00	$ -	$ 16.00
	M100	16	0.069	0.17	0.069	Florin Serbanescu	$ -	$ 16.00	$ -	$ 16.00
	M100	15	0.070	0.17	0.070	James & Cheryl Sagaert	$ -	$ 16.00	$ -	$ 16.00
	M100	28	0.088	0.22	0.088	Neil & Barbara Banman	$ -	$ 19.00	$ -	$ 19.00
	M100	29	0.088	0.22	0.088	Joseph & Susan Schembri	$ -	$ 19.00	$ -	$ 19.00
	M100	32	0.072	0.18	0.072	Ian & Janet Williams	$ -	$ 17.00	$ -	$ 17.00
	M100	33	0.072	0.18	0.072	Anthony Esposito	$ -	$ 17.00	$ -	$ 17.00
	M100	34	0.072	0.18	0.072	Richard & Brenda Summerfield	$ -	$ 17.00	$ -	$ 17.00
	M100	35	0.072	0.18	0.072	Mary Squance	$ -	$ 17.00	$ -	$ 17.00
	M100	36	0.072	0.18	0.072	Carol Montello	$ -	$ 17.00	$ -	$ 17.00
	M100	37	0.072	0.18	0.072	James & Ginger Bogdon	$ -	$ 17.00	$ -	$ 17.00
	M100	38	0.072	0.18	0.072	John & Bonnie Marn	$ -	$ 17.00	$ -	$ 17.00
	M100	14	0.077	0.19	0.077	Johan & Sarah Wiebe	$ -	$ 17.00	$ -	$ 17.00
	M100	13	0.067	0.17	0.067	Joseph Foley & Volha Baranava	$ -	$ 16.00	$ -	$ 16.00
	M100	12	0.067	0.17	0.067	Rojina & Ruth Veeresar	$ -	$ 16.00	$ -	$ 16.00
	M100	11	0.067	0.17	0.067	David & Karen Middleton	$ -	$ 16.00	$ -	$ 16.00
	M100	10	0.067	0.17	0.067	Timothy & Jennine Meloche	$ -	$ 16.00	$ -	$ 16.00
	M100	9	0.069	0.17	0.069	Jason & Sherri Dutot	$ -	$ 16.00	$ -	$ 16.00
	M100	8	0.077	0.19	0.077	Ralph & Veronica Devries	$ -	$ 17.00	$ -	$ 17.00
	M100	7	0.069	0.17	0.069	Donald & Mary Bryant	$ -	$ 16.00	$ -	$ 16.00
	M100	6	0.081	0.20	0.081	David Pereira & Kathleen Dennison	$ -	$ 18.00	$ -	$ 18.00
	M100	5	0.074	0.18	0.074	Becky & Corey Coussens	$ -	$ 16.00	$ -	$ 16.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	M100	4	0.072	0.18	0.072	Shannon Dalgleish & Robert Scott	$ -	$ 17.00	$ -	$ 17.00
	M100	3	0.073	0.18	0.073	Timothy & Sherry Rudge	$ -	$ 17.00	$ -	$ 17.00
	M100	2	0.085	0.21	0.085	Cornelio & Anna Fehr	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.085	0.21	0.085	Jake Fehr	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.069	0.17	0.069	David Barwick & Angela Mulcaster-Boer	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.069	0.17	0.069	Steven Moon & Gail Donais	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.069	0.17	0.069	Gerald & Tammy Poirier	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.069	0.17	0.069	Jeffrey & Amanda Ferreira	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.085	0.21	0.085	Steven & Cynthia Ghikadis	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.081	0.20	0.081	William & Sarah Smith	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.077	0.19	0.077	Robert & Shannon Belleau	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.077	0.19	0.077	Daniel & Shelby Wilkins	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.079	0.19	0.079	Chad Gray	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.079	0.19	0.079	Gary & Patricia Bain	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.079	0.19	0.079	Herbert Bernhardt & Kathleen Sauter	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.079	0.19	0.079	Douglas & Ann Sabga	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.079	0.19	0.079	Jacob Hildebrandt & Helen Boldt	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.079	0.19	0.079	David & Sabrina Green	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.082	0.20	0.082	Kyle Sayers	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.085	0.21	0.085	Gregory Anger & Samantha Tofflemire	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.085	0.21	0.085	Wayne & Ellen Hyland	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.081	0.20	0.081	Charles & Jennifer Tilden	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.081	0.20	0.081	Faye St. Pierre	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.081	0.20	0.081	Dave & Sue Maedel	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.081	0.20	0.081	Roger Mercer & Luwana Mealing-Mercer	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.081	0.20	0.081	Robert & Laura Kapetanov	$ -	$ 18.00	$ -	$ 18.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	STR	269	0.079	0.20	0.079	Ismael Oozer & Bodeha Booze-Oozeer	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.097	0.24	0.097	Patrick & Debra Brophey	$ -	$ 21.00	$ -	$ 21.00
	STR	269	0.138	0.34	0.138	Harry & Bonnie Terzopoulos	$ -	$ 27.00	$ -	$ 27.00
	STR	269	0.073	0.18	0.073	Dean & Sandra Pearson	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.093	0.23	0.093	Keith & Elizabeth Cornell	$ -	$ 20.00	$ -	$ 20.00
	STR	269	0.069	0.17	0.069	Joshua & Michelle Weeks	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.069	0.17	0.069	Victoria Davison & John Hunter	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.081	0.20	0.081	Shawn & Angie Couvillon	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.096	0.24	0.096	Donald & Kailyn Neal	$ -	$ 20.00	$ -	$ 20.00
	STR	269	0.096	0.24	0.096	Michael Richmond & Andrea Balkwill	$ -	$ 20.00	$ -	$ 20.00
	STR	269	0.097	0.24	0.097	Dwane & Suzanne Osborne	$ -	$ 21.00	$ -	$ 21.00
	STR	269	0.069	0.17	0.069	Brian Cinat & Karlea Beresh	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.073	0.18	0.073	Glenn & Karen Quinlan	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.073	0.18	0.073	Florence Rivest	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.075	0.19	0.075	Dina Pantoja & Oscar Molina	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.075	0.19	0.075	August & Lorrie Hoekstra	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.075	0.19	0.075	Dennis & Catherine Dugdale	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.075	0.19	0.075	Karen Allen	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.075	0.19	0.075	Timothy Kelly & Shannon Dubai-Kelly	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.075	0.19	0.075	Brandon Sonoski & Shania Taylor	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.075	0.19	0.075	Jason & Andrea Powell	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.075	0.19	0.075	Tarcisio & Mary-Jo Morassut	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.075	0.19	0.075	Salvatore Peralta & Carlee Fleming	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.075	0.19	0.075	Robert & Annette Gabriele	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.099	0.25	0.099	Linda Fick & Nancy Kujawski	$ -	$ 21.00	$ -	$ 21.00
	STR	269	0.089	0.22	0.089	Denis Sterling	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.079	0.20	0.079	Jacob & Helena Froese	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.079	0.20	0.079	Steven & Diane Doyle	$ -	$ 18.00	$ -	$ 18.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	STR	269	0.079	0.20	0.079	Derek & Diane Cameron	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.074	0.18	0.074	Cindy Mills	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.074	0.18	0.074	Mark & Tammy Clifford	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.074	0.18	0.074	Joseph & Helga Bondy	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.074	0.18	0.074	Richard Ferrato	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.080	0.20	0.080	Randy & Tracey Baillargeon	$ -	$ 18.00	$ -	$ 18.00
	STR	269	0.075	0.19	0.075	Robert & Julie Wilson	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.077	0.19	0.077	Daniel & Melissa Langis	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.077	0.19	0.077	David & Irene Doody	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.077	0.19	0.077	William & Natalie Simon	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.089	0.22	0.089	Craig & Jennifer Newman	$ -	$ 19.00	$ -	$ 19.00
	STR	269	0.117	0.29	0.117	Lizabeth Matte	$ -	$ 23.00	$ -	$ 23.00
	STR	269	0.069	0.17	0.069	Richard Dunn	$ -	$ 16.00	$ -	$ 16.00
	M100	1	0.146	0.36	0.146	William & Cheryl Carmichael	$ -	$ 28.00	$ -	$ 28.00
	STR	269	0.076	0.19	0.076	Derek & Kristen Freeman	$ -	$ 17.00	$ -	$ 17.00
	STR	269	0.067	0.17	0.067	Dean & Patricia Dame	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.067	0.17	0.067	Arthur Delaney	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.067	0.17	0.067	Ted & Carleen Hunter	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.067	0.17	0.067	Brian & Lynn Higgins	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.067	0.17	0.067	Coreen Sykes & Paul Epp	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.067	0.17	0.067	Christopher & Mallory Branov	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.068	0.17	0.068	Andy & Christine Faraci	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.069	0.17	0.069	Margaret McCord	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.069	0.17	0.069	Erin Livingston	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.069	0.17	0.069	Ronan & Melanie Oliver	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.069	0.17	0.069	John & Carol Quinn	$ -	$ 16.00	$ -	$ 16.00
	STR	269	0.198	0.49	0.198	Ricky & Brenda Garant	$ -	$ 34.00	$ -	$ 34.00
	STR	269	0.142	0.35	0.142	Kenneth & Rosemary Roadhouse	$ -	$ 27.00	$ -	$ 27.00
	STR	269	0.158	0.39	0.158	Maria Klaas	$ -	$ 30.00	$ -	$ 30.00
	STR	269	0.838	2.07	0.838	Town of Kingsville	$ -	$ 91.00	$ -	$ 91.00
	STR	269	0.259	0.64	0.259	Gary & Maria Klaas	$ -	$ 42.00	$ -	$ 42.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	STR	269	0.219	0.54	0.219	David Parise & Ryan Mcleod	$ -	$ 37.00	$ -	$ 37.00
	STR	268	0.186	0.46	0.186	Essex County Community Living	$ -	$ 34.00	$ -	$ 34.00
	STR	268	0.186	0.46	0.186	John & Michelle Ivanisko	$ -	$ 34.00	$ -	$ 34.00
	STR	268	0.336	0.83	0.336	Dennis Mostoway & Dawn Reaume	$ -	$ 52.00	$ -	$ 52.00
	STR	268	0.405	1.00	0.405	Mark Voligny & Michelle Winger	$ -	$ 60.00	$ -	$ 60.00
	STR	268	0.279	0.69	0.279	Preston Harris & Germaine Gould	$ -	$ 46.00	$ -	$ 46.00
	STR	268	0.765	1.89	0.765	Beverley & Kristine Iles	$ -	$ 87.00	$ -	$ 87.00
	STR	268	0.186	0.46	0.186	Pedro & Aganetha Dyck	$ -	$ 34.00	$ -	$ 34.00
	STR	268	0.502	1.24	0.502	Nicholas & Erin Hayes	$ -	$ 67.00	$ -	$ 67.00
	STR	267	0.196	0.48	0.196	Peter & Elizabeth Peters	$ -	$ 34.00	$ -	$ 34.00
	STR	267	0.168	0.42	0.168	Cody Haynes	$ -	$ 32.00	$ -	$ 32.00
	STR	267	0.304	0.75	0.304	Rita & Ralph Wigle	$ -	$ 48.00	$ -	$ 48.00
	Total on Privately Owned - Non-Agricultural Lands.....						**$ -**	**$ 6,153.00**	**$ -**	**$ 6,153.00**
5. PRIVATELY OWNED - AGRICULTURAL LANDS (grantable):										
	6	1	20.234	25.00	10.117	Andre & Colette Cazabon	$ -	$ 501.00	$ -	$ 501.00
	6	1	19.842	49.03	19.842	Richard & Donna Valenciuk	$ -	$ 983.00	$ -	$ 983.00
	6	2	19.138	32.29	13.068	Burstyn Farms Limited	$ -	$ 647.00	$ -	$ 647.00
	6	2	19.506	33.20	13.436	Matthew Hyland	$ -	$ 665.00	$ -	$ 665.00
	6	3	40.282	14.54	5.884	Stephen Ferguson	$ -	$ 291.00	$ -	$ 291.00
	6	4	20.072	20.10	8.134	Joslyne Rizza	$ -	$ 403.00	$ -	$ 403.00
	6	4	39.623	17.91	7.248	Lawrence & Joseph Miehls	$ -	$ 359.00	$ -	$ 359.00
	6	5	40.286	19.95	8.074	Ronald & Karen Kendrick	$ -	$ 400.00	$ -	$ 400.00
	6	6	20.020	8.94	3.618	Edward Ross	$ -	$ 179.00	$ -	$ 179.00
	6	6	20.469	10.05	4.067	Edward Ross	$ -	$ 201.00	$ -	$ 201.00
	6	6	39.874	18.53	7.499	Davin & Nicole Kendrick	$ -	$ 371.00	$ -	$ 371.00
	6	6	19.862	20.00	8.094	Henry Renaud	$ -	$ 401.00	$ -	$ 401.00
	6	8	80.937	102.00	41.279	Milton Hillier	$ -	$ 2,044.00	$ -	$ 2,044.00
	7	8	20.234	50.00	20.235	James Ferguson	$ -	$ 1,002.00	$ -	$ 1,002.00
	7	8	16.187	40.00	16.188	James & Diane Ferguson	$ -	$ 802.00	$ -	$ 802.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	7	8	25.329	41.00	16.592	Brent & Michelle Ramsay	$ -	$ 822.00	$ -	$ 822.00
	7	9	22.132	54.69	22.133	Donna & Steven Merritt	$ -	$ 1,096.00	$ -	$ 1,096.00
	7	9	24.164	59.71	24.164	Donna & Steven Merritt	$ -	$ 1,197.00	$ -	$ 1,197.00
	6	7	39.461	14.00	5.666	Neil & Sharla Ferguson	$ -	$ 281.00	$ -	$ 281.00
	6	8	26.993	34.70	14.043	Dorothy & Laurence Merritt	$ -	$ 696.00	$ -	$ 696.00
	6	8	0.554	1.37	0.554	Laurence & Dorothy Merritt	$ -	$ 74.00	$ -	$ 74.00
	6	9	41.784	66.25	26.811	Stevan Barisic	$ -	$ 1,328.00	$ -	$ 1,328.00
	7	8	18.102	44.73	18.102	Cottam Radiator & James Ferguson	$ -	$ 897.00	$ -	$ 897.00
	7	7	20.473	25.50	10.320	James & Jeannette Sylvestre	$ -	$ 511.00	$ -	$ 511.00
	7	7	20.335	24.38	9.866	James Sylvestre	$ -	$ 489.00	$ -	$ 489.00
	7	6	28.955	50.00	20.235	David & Debbie Alexander	$ -	$ 1,002.00	$ -	$ 1,002.00
	7	6	35.803	88.47	35.803	David & Jason Alexander	$ -	$ 1,773.00	$ -	$ 1,773.00
	7	5	19.708	48.70	19.709	Richard & Phyliss Barnett	$ -	$ 976.00	$ -	$ 976.00
	7	5	10.117	25.00	10.117	Michael & Patricia Hamlin	$ -	$ 501.00	$ -	$ 501.00
	7	4	48.761	86.00	34.804	Robert & Jerry Vriesacker	$ -	$ 1,724.00	$ -	$ 1,724.00
	7	3	20.234	50.00	20.235	Brian & Dorene Lester	$ -	$ 1,002.00	$ -	$ 1,002.00
	7	3	18.960	46.85	18.960	Kevin & Adam Schmitchen	$ -	$ 939.00	$ -	$ 939.00
	7	2	18.211	45.00	18.211	Bradley & Ruth Salter	$ -	$ 902.00	$ -	$ 902.00
	7	2	9.785	24.18	9.786	Sharon & Eric Mulcaster	$ -	$ 485.00	$ -	$ 485.00
	7	1	19.425	42.00	16.997	Todd Gee & Kelly Dunn	$ -	$ 842.00	$ -	$ 842.00
	7	5	30.141	56.50	22.865	David & Robert Alexander	$ -	$ 1,132.00	$ -	$ 1,132.00
	7	5	19.397	28.17	11.400	Donald & Cora Bertram	$ -	$ 565.00	$ -	$ 565.00
	7	6	13.962	11.00	4.452	Jason & Laura Alexander	$ -	$ 220.00	$ -	$ 220.00
	7	7	19.822	48.98	19.822	Steckle Farms Limited	$ -	$ 982.00	$ -	$ 982.00
	7	7	26.207	34.76	14.067	John & David Bachtold	$ -	$ 697.00	$ -	$ 697.00
	STR	267	10.158	25.10	10.158	Larry & Tammy Meloche	$ -	$ 503.00	$ -	$ 503.00
	STR	267	9.915	24.50	9.915	John & David Bachtold	$ -	$ 491.00	$ -	$ 491.00
	STR	267	20.234	50.00	20.235	Chevalier Farms & Elevator Ltd.	$ -	$ 1,002.00	$ -	$ 1,002.00
	STR	268	36.450	90.07	36.451	Richard & Sharon Kendrick	$ -	$ 1,805.00	$ -	$ 1,805.00
	STR	268	2.825	6.98	2.825	Richard & Sharon Kendrick	$ -	$ 196.00	$ -	$ 196.00
	STR	269	4.504	11.13	4.504	Jacob & Yola Pretli	$ -	$ 223.00	$ -	$ 223.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	STR	268	18.336	45.31	18.337	Margery Macgregor	$ -	$ 908.00	$ -	$ 908.00
	STR	268	8.996	22.23	8.996	Leo Hayes	$ -	$ 446.00	$ -	$ 446.00
	STR	268	29.093	71.89	29.093	Charles & Craig Chevalier	$ -	$ 1,441.00	$ -	$ 1,441.00
	STR	267	10.117	25.00	10.117	George Newman	$ -	$ 501.00	$ -	$ 501.00
	STR	267	7.487	18.50	7.487	Gerald & Iris Pillon	$ -	$ 371.00	$ -	$ 371.00
	STR	267	9.810	24.24	9.810	Milka Jezdic	$ -	$ 486.00	$ -	$ 486.00
	Total on Privately Owned - Agricultural Lands (grantable).....						**$ -**	**$ 38,755.00**	**$ -**	**$ 38,755.00**

5. PRIVATELY OWNED - AGRICULTURAL LANDS (non-grantable):

Tax Roll No.	Con. or No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Benefit	TOTAL VALUE
	6	3	40.282	14.54	5.884	Marian Maslin	$ -	$ 291.00	$ -	$ 291.00
	STR	269	9.814	24.25	9.814	1575742 Ontario Ltd.	$ -	$ 486.00	$ -	$ 486.00
	STR	268	4.051	10.01	4.051	Justin Ireland & Jamie Meunier	$ -	$ 201.00	$ -	$ 201.00
	STR	268	1.368	3.38	1.368	Leo Hayes	$ -	$ 68.00	$ -	$ 68.00
	STR	268	2.934	7.25	2.934	Daniel & Jenny Nantais	$ -	$ 145.00	$ -	$ 145.00
	Total on Privately Owned - Agricultural Lands (non-grantable).....						**$ -**	**$ 1,191.00**	**$ -**	**$ 1,191.00**

TOTAL KINGSVILLE ASSESSMENT	2184.41	884.02	**$ -**	**$ 57,583.00**	**$ - **	**$ 57,583.00**
TOTAL ESSEX ASSESSMENT (brought forward)	419.69	169.84	**$ -**	**$ 11,063.00**	**$ 33,354.00**	**$ 44,417.00**
TOTAL ASSESSMENT	2604.10	1053.86	**$ -**	**$ 68,646.00**	**$ 33,354.00**	**$ 102,000.00**

1 Hectare = 2.471 Acres
Project No.REI2023D014
April 4th, 2025

DRAIN MAINTENANCE SCHEDULE OF ASSESSMENT
SNYDER BRANCH DRAIN
(Including 7th Concession Drain Watershed)
TOWN OF ESSEX

3. MUNICIPAL LANDS:

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
		County Road 23		2.10	0.851	County of Essex	$ 44.00	$ 67.00	$ -	$ 111.00
		Total on Municipal Lands.....					**$ 44.00**	**$ 67.00**	**$ -**	**$ 111.00**

4. PRIVATELY OWNED - NON-AGRICULTURAL LANDS:

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	9	20	1.590	3.26	1.319	Gordon & Donita Osborne	$ 27.00	$ 34.00	$ -	$ 61.00
	9	20	1.578	3.23	1.307	Christopher & Heather Escobar	$ 26.00	$ 33.00	$ -	$ 59.00
	9	20	1.647	3.40	1.376	Henrique & Alexia Ribafeita	$ 28.00	$ 33.00	$ -	$ 61.00
	9	20	1.740	3.63	1.469	Walter & Sharon Hayes	$ 30.00	$ 35.00	$ -	$ 65.00
	9	20	1.813	3.81	1.542	Tamara & Kenneth Whitney	$ 31.00	$ 37.00	$ -	$ 68.00
	9	20	1.853	3.91	1.582	Kimberly Panzer	$ 32.00	$ 36.00	$ -	$ 68.00
	9	20	1.886	3.99	1.615	Michael & Lauren Cowan	$ 33.00	$ 36.00	$ -	$ 69.00
	9	20	1.967	4.19	1.696	Tony Deyle	$ 34.00	$ 38.00	$ -	$ 72.00
	9	20	2.072	4.45	1.801	Gord & Judy Tennant	$ 36.00	$ 38.00	$ -	$ 74.00
	9	20	2.185	4.73	1.914	Patrick McCormick	$ 39.00	$ 41.00	$ -	$ 80.00
	9	20	2.323	5.07	2.052	Earl McCormick	$ 42.00	$ 43.00	$ -	$ 85.00
	9	20	2.465	5.42	2.193	Darlene Mckay	$ 44.00	$ 43.00	$ -	$ 87.00
	9	20	2.618	5.80	2.347	Francise Ewing & CIBC Mortgage	$ 48.00	$ 46.00	$ -	$ 94.00
	9	20	2.505	5.52	2.234	David Bastien Jr.	$ 45.00	$ 44.00	$ -	$ 89.00
	9	21	0.813	2.01	0.813	James Taylor	$ 16.00	$ 25.00	$ -	$ 41.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	9	21	1.578	3.90	1.578	Adam & Jeslyn Davies	$ 32.00	$ 40.00	$ -	$ 72.00
	9	21	0.376	0.93	0.376	Ralph & Lillian Hammer	$ 8.00	$ 16.00	$ -	$ 24.00
	9	21	0.117	0.29	0.117	Gregory Hammer	$ 2.00	$ 7.00	$ -	$ 9.00
	Total on Privately Owned - Non-Agricultural Lands.....						**$ 553.00**	**$ 625.00**	**$ -**	**$ 1,178.00**

5. PRIVATELY OWNED - AGRICULTURAL LANDS (grantable):

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	9	19	19.813	21.00	8.499	Dennis Zawadski	$ 86.00	$ 120.00	$ -	$ 206.00
	9	19	12.586	11.50	4.654	Monica & Cyril Poisson	$ 47.00	$ 66.00	$ -	$ 113.00
	9	21	20.627	33.41	13.521	Paul & Renee Salden	$ 137.00	$ 191.00	$ -	$ 328.00
	9	21	20.174	49.85	20.174	Trevor Bennett & Sandra Pupatello	$ 204.00	$ 285.00	$ -	$ 489.00
	9	21	20.449	50.53	20.449	Gerald & Maria Czajkowski	$ 207.00	$ 289.00	$ -	$ 496.00
	9	21	20.692	51.13	20.692	Gordon & Pauline Olafson	$ 210.00	$ 292.00	$ -	$ 502.00
	9	21	39.667	98.02	39.668	Bradley & Anne Anger	$ 402.00	$ 560.00	$ -	$ 962.00
	9	21	30.101	49.00	19.830	Darrin Banwell & Lauren Howard	$ 201.00	$ 280.00	$ -	$ 481.00
	9	21	19.595	48.42	19.595	Brenda & Bradley Anger	$ 198.00	$ 277.00	$ -	$ 475.00
	9	21	20.117	45.71	18.499	John & Gregory Hammer	$ 187.00	$ 261.00	$ -	$ 448.00
	Total on Privately Owned - Agricultural Lands (grantable).....						**$ 1,879.00**	**$ 2,621.00**	**$ -**	**$ 4,500.00**
	TOTAL ESSEX ASSESSMENT		528.21	213.764			**$ 2,476.00**	**$ 3,313.00**	**$ -**	**$ 5,789.00**

TOWN OF KINGSVILLE

2. ONTARIO LANDS:

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
		Highway No. 3		24.37	9.864	Ministry of Transportation	$ -	$ 664.00	$ -	$ 664.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
		Total on Ontario Lands.....					**$ -**	**$ 664.00**	**$ -**	**$ 664.00**
3. MUNICIPAL LANDS:										
		County Road 34		2.09	0.845	County of Essex	$ -	$ 56.00	$ -	$ 56.00
		County Road 27		36.85	14.911	County of Essex	$ -	$ 995.00	$ -	$ 995.00
		County Road 23		2.10	0.851	County of Essex	$ -	$ 57.00	$ -	$ 57.00
		South Talbot Road		4.24	1.716	Town of Kingsville	$ -	$ 115.00	$ -	$ 115.00
		Road 7 West		5.32	2.153	Town of Kingsville	$ -	$ 144.00	$ -	$ 144.00
		Marsh Road		5.46	2.211	Town of Kingsville	$ -	$ 148.00	$ -	$ 148.00
		McCain Sideroad		0.62	0.251	Town of Kingsville	$ -	$ 17.00	$ -	$ 17.00
		Clark Street		1.97	0.797	Town of Kingsville	$ -	$ 53.00	$ -	$ 53.00
		William Street		0.83	0.336	Town of Kingsville	$ -	$ 22.00	$ -	$ 22.00
		Lyle Street		0.60	0.241	Town of Kingsville	$ -	$ 16.00	$ -	$ 16.00
		Francis Street		1.06	0.431	Town of Kingsville	$ -	$ 29.00	$ -	$ 29.00
		Veriena Boulevard		1.53	0.618	Town of Kingsville	$ -	$ 41.00	$ -	$ 41.00
		Dianne Street		0.76	0.306	Town of Kingsville	$ -	$ 20.00	$ -	$ 20.00
		Sara Street		0.33	0.135	Town of Kingsville	$ -	$ 9.00	$ -	$ 9.00
		Joaney Lane		1.71	0.694	Town of Kingsville	$ -	$ 46.00	$ -	$ 46.00
		Total on Municipal Lands.....					**$ -**	**$ 1,768.00**	**$ -**	**$ 1,768.00**
4. PRIVATELY OWNED - NON-AGRICULTURAL LANDS:										
6	1		0.231	0.57	0.231	Richard & Donna Valenciuk	$ -	$ 10.00	$ -	$ 10.00
6	2		0.478	1.18	0.478	John & Nancy Stitzinger	$ -	$ 17.00	$ -	$ 17.00
6	2		0.433	1.07	0.433	Paul & Corinne Molle	$ -	$ 15.00	$ -	$ 15.00
6	2		0.249	0.62	0.249	Joseph & Christine Parent	$ -	$ 10.00	$ -	$ 10.00
6	2		0.282	0.70	0.282	Mark Hall & Melissa Weldon	$ -	$ 11.00	$ -	$ 11.00
6	4		0.405	1.00	0.405	Shelley Moody	$ -	$ 15.00	$ -	$ 15.00
6	4		0.661	1.63	0.661	Amber Norman & Trevor Maheux	$ -	$ 20.00	$ -	$ 20.00
6	6		0.372	0.92	0.372	Henry & Megan Lumley	$ -	$ 14.00	$ -	$ 14.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	6	6	0.449	1.11	0.449	Arthur Brown	$ -	$ 16.00	$ -	$ 16.00
	6	8	0.162	0.40	0.162	Donna Merritt	$ -	$ 7.00	$ -	$ 7.00
	7	8	0.797	1.97	0.797	Curtis Ferguson & Tina Rose	$ -	$ 22.00	$ -	$ 22.00
	7	7	0.453	1.12	0.453	Tyler Menard & Elizabeth Jeffrey	$ -	$ 16.00	$ -	$ 16.00
	7	6	0.271	0.67	0.271	Dorothy Davison	$ -	$ 11.00	$ -	$ 11.00
	7	6	0.510	1.26	0.510	Phillip Keele & Quina Bartoli	$ -	$ 17.00	$ -	$ 17.00
	7	6	0.615	1.52	0.615	David & Debbie Alexander	$ -	$ 19.00	$ -	$ 19.00
	7	6	0.405	1.00	0.405	Benjamin & Kaitlyn Watson	$ -	$ 15.00	$ -	$ 15.00
	7	5	0.486	1.20	0.486	Kari Barnett	$ -	$ 17.00	$ -	$ 17.00
	7	4	0.494	1.22	0.494	Jennifer & Michael Dinchik	$ -	$ 16.00	$ -	$ 16.00
	7	3	0.190	0.47	0.190	Dawne Grado	$ -	$ 8.00	$ -	$ 8.00
	7	3	1.000	2.47	1.000	Daniel & Nina Lavin	$ -	$ 27.00	$ -	$ 27.00
	7	3	0.370	0.91	0.370	Nina Civitarese & Daniel Bouliane	$ -	$ 13.00	$ -	$ 13.00
	7	2	2.019	4.99	2.019	Douglas & Andrea Pisciotto	$ -	$ 39.00	$ -	$ 39.00
	7	2	0.231	0.57	0.231	Ruth Battersby	$ -	$ 10.00	$ -	$ 10.00
	7	2	0.138	0.34	0.138	Dale & Betty Steed	$ -	$ 7.00	$ -	$ 7.00
	7	1	0.405	1.00	0.405	Michael & Constance Mulholland	$ -	$ 15.00	$ -	$ 15.00
	7	7	0.405	1.00	0.405	Kevin Darmon	$ -	$ 15.00	$ -	$ 15.00
	7	7	0.931	2.30	0.931	James & Diane Ferguson	$ -	$ 25.00	$ -	$ 25.00
	STR	269	2.724	6.73	2.724	Gary & Laurie Taveirne	$ -	$ 46.00	$ -	$ 46.00
	STR	267	0.368	0.91	0.368	John & Diane Bachtold	$ -	$ 13.00	$ -	$ 13.00
	STR	267	0.231	0.57	0.231	Diane Bachtold & Alysa Gould	$ -	$ 10.00	$ -	$ 10.00
	STR	268	0.348	0.86	0.348	Barbara VanGrinsven	$ -	$ 13.00	$ -	$ 13.00
	STR	268	0.417	1.03	0.417	Andrea Nikita	$ -	$ 15.00	$ -	$ 15.00
	STR	269	0.085	0.21	0.085	Neil Arner	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.069	0.17	0.069	David Krahn	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Terry Ramsay & Amy Wiper	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.081	0.20	0.081	Heidi & Paul Harnish	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.134	0.33	0.134	Cameron & Grace Fast	$ -	$ 6.00	$ -	$ 6.00
	STR	269	0.138	0.34	0.138	Antonio & Sheila Lopetrone	$ -	$ 7.00	$ -	$ 7.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	STR	269	0.077	0.19	0.077	Trevor & Kari Smith	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Steven & Mckenzee Chortos	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Jason Clark & Amanda Middleton	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.085	0.21	0.085	Michael & Tina O'Connor	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.085	0.21	0.085	Eric & Amanda Noel	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.067	0.17	0.067	Wilhelm & Jessica Loewen	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.085	0.21	0.085	Carlos Correa & Gloria Arango	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.073	0.18	0.073	Benjamin & Melissa Fischer	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Brian & Sharon Birch	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.113	0.28	0.113	Alexander & Jamesina Keeney	$ -	$ 6.00	$ -	$ 6.00
	STR	269	0.105	0.26	0.105	David & Toni Curtis	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.125	0.31	0.125	Nancy Garraway & John Etue	$ -	$ 6.00	$ -	$ 6.00
	STR	269	0.065	0.16	0.065	Al Langstaff	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Maninder Brar & Prabjheet Kaur	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.085	0.21	0.085	Virgina Deman & The Canada Trust Company	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.073	0.18	0.073	Connie Bilton	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Michael & Rita Beaule	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Keith Cullin	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.089	0.22	0.089	Brian Mitchell & Jane Harley	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.105	0.26	0.105	Mario & Sonia Mendes	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.113	0.28	0.113	Fredy & Corin Menjivar	$ -	$ 6.00	$ -	$ 6.00
	STR	269	0.089	0.22	0.089	Douglas Dalpe	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.069	0.17	0.069	Santina Viselli & Megan Manchester	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Irene Stewart	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.073	0.18	0.073	Joseph & Lindsay Iatonna	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.067	0.17	0.067	Christopher South & Maegan Ferranti	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.067	0.17	0.067	Justin & Sarah Snelgrove	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.081	0.20	0.081	Crystal Hudon & Michael Bondy	$ -	$ 4.00	$ -	$ 4.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	STR	269	0.089	0.22	0.089	Tyler & Patricia Driedger	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.061	0.15	0.061	Edward & Brenda Ryall	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.063	0.16	0.063	James & Nicole Bradley	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.085	0.21	0.085	Kevin Anderson & Michele Lowe	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.081	0.20	0.081	Roger Desramaux & Megan Watson	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.083	0.20	0.083	Bker & Zelia Abdulkader	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.077	0.19	0.077	Peter Millar & Jaclyn Garant	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.051	0.12	0.051	Cottam Solar Limited	$ -	$ 3.00	$ -	$ 3.00
	STR	269	0.077	0.19	0.077	Cottam Solar Limited	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.084	0.21	0.084	Cottam Solar Limited	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.084	0.21	0.084	Cottam Solar Limited	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.078	0.19	0.078	Cottam Solar Limited	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.073	0.18	0.073	Cottam Solar Limited	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.026	0.06	0.026	Cottam Solar Limited	$ -	$ 2.00	$ -	$ 2.00
	STR	269	0.087	0.22	0.087	Cottam Solar Limited	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.122	0.30	0.122	Cottam Solar Limited	$ -	$ 6.00	$ -	$ 6.00
	STR	269	0.075	0.19	0.075	Cottam Solar Limited	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.085	0.21	0.085	Cottam Solar Limited	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.124	0.31	0.124	Cottam Solar Limited	$ -	$ 6.00	$ -	$ 6.00
	STR	269	0.139	0.34	0.139	Cottam Solar Limited	$ -	$ 7.00	$ -	$ 7.00
	STR	269	0.108	0.27	0.108	Cottam Solar Limited	$ -	$ 6.00	$ -	$ 6.00
	STR	269	0.087	0.21	0.087	Cottam Solar Limited	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.099	0.25	0.099	Cottam Solar Limited	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.083	0.20	0.083	Cottam Solar Limited	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.072	0.18	0.072	Cottam Solar Limited	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.072	0.18	0.072	Cottam Solar Limited	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.072	0.18	0.072	Cottam Solar Limited	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.077	0.19	0.077	Cottam Solar Limited	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.092	0.23	0.092	Cottam Solar Limited	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.081	0.20	0.081	Christian Fairey & Hailee Mathies	$ -	$ 4.00	$ -	$ 4.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	STR	269	0.072	0.18	0.072	Mary Chapman & Wayne Roy	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.072	0.18	0.072	Amy & Robert Purdy	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.072	0.18	0.072	Anthony & Sarah Querin	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.072	0.18	0.072	Norman Davison & Stephen Laurie	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.081	0.20	0.081	Danielle Oles	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Randy & Lori Duhig	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Allan & Laura Gagne	$ -	$ 4.00	$ -	$ 4.00
	M100	25	0.136	0.34	0.136	Curtis Bishop	$ -	$ 6.00	$ -	$ 6.00
	M100	24	0.125	0.31	0.125	Wanda Hayes	$ -	$ 6.00	$ -	$ 6.00
	M100	23	0.113	0.28	0.113	Ivan Dets	$ -	$ 6.00	$ -	$ 6.00
	M100	22	0.097	0.24	0.097	Ronald & Debra Mitchell	$ -	$ 5.00	$ -	$ 5.00
	M100	21	0.080	0.20	0.080	Daniel Stanley	$ -	$ 4.00	$ -	$ 4.00
	M100	20	0.077	0.19	0.077	Francesco Incitti & Sofia	$ -	$ 4.00	$ -	$ 4.00
	M100	19	0.073	0.18	0.073	John & Krista Armaly	$ -	$ 4.00	$ -	$ 4.00
	M100	18	0.073	0.18	0.073	Shelley Schraeder	$ -	$ 4.00	$ -	$ 4.00
	M100	17	0.069	0.17	0.069	Daniel & Twyla St. Louis	$ -	$ 4.00	$ -	$ 4.00
	M100	16	0.069	0.17	0.069	Florin Serbanescu	$ -	$ 4.00	$ -	$ 4.00
	M100	15	0.070	0.17	0.070	James & Cheryl Sagaert	$ -	$ 4.00	$ -	$ 4.00
	M100	28	0.088	0.22	0.088	Neil & Barbara Banman	$ -	$ 5.00	$ -	$ 5.00
	M100	29	0.088	0.22	0.088	Joseph & Susan Schembri	$ -	$ 5.00	$ -	$ 5.00
	M100	32	0.072	0.18	0.072	Ian & Janet Williams	$ -	$ 4.00	$ -	$ 4.00
	M100	33	0.072	0.18	0.072	Anthony Esposito	$ -	$ 4.00	$ -	$ 4.00
	M100	34	0.072	0.18	0.072	Richard & Brenda Summerfield	$ -	$ 4.00	$ -	$ 4.00
	M100	35	0.072	0.18	0.072	Mary Squance	$ -	$ 4.00	$ -	$ 4.00
	M100	36	0.072	0.18	0.072	Carol Montello	$ -	$ 4.00	$ -	$ 4.00
	M100	37	0.072	0.18	0.072	James & Ginger Bogdon	$ -	$ 4.00	$ -	$ 4.00
	M100	38	0.072	0.18	0.072	John & Bonnie Marn	$ -	$ 4.00	$ -	$ 4.00
	M100	14	0.077	0.19	0.077	Johan & Sarah Wiebe	$ -	$ 4.00	$ -	$ 4.00
	M100	13	0.067	0.17	0.067	Joseph Foley & Volha Baranava	$ -	$ 4.00	$ -	$ 4.00
	M100	12	0.067	0.17	0.067	Rojina & Ruth Veeresar	$ -	$ 4.00	$ -	$ 4.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	M100	11	0.067	0.17	0.067	David & Karen Middleton	$ -	$ 4.00	$ -	$ 4.00
	M100	10	0.067	0.17	0.067	Timothy & Jennine Meloche	$ -	$ 4.00	$ -	$ 4.00
	M100	9	0.069	0.17	0.069	Jason & Sherri Dutot	$ -	$ 4.00	$ -	$ 4.00
	M100	8	0.077	0.19	0.077	Ralph & Veronica Devries	$ -	$ 4.00	$ -	$ 4.00
	M100	7	0.069	0.17	0.069	Donald & Mary Bryant	$ -	$ 4.00	$ -	$ 4.00
	M100	6	0.081	0.20	0.081	David Pereira & Kathleen Dennison	$ -	$ 4.00	$ -	$ 4.00
	M100	5	0.074	0.18	0.074	Becky & Corey Coussens	$ -	$ 4.00	$ -	$ 4.00
	M100	4	0.072	0.18	0.072	Shannon Dalgleish & Robert Scott	$ -	$ 4.00	$ -	$ 4.00
	M100	3	0.073	0.18	0.073	Timothy & Sherry Rudge	$ -	$ 4.00	$ -	$ 4.00
	M100	2	0.085	0.21	0.085	Cornelio & Anna Fehr	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.085	0.21	0.085	Jake Fehr	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.069	0.17	0.069	David Barwick & Angela Mulcaster-Boer	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Steven Moon & Gail Donais	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Gerald & Tammy Poirier	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Jeffrey & Amanda Ferreira	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.085	0.21	0.085	Steven & Cynthia Ghikadis	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.081	0.20	0.081	William & Sarah Smith	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.077	0.19	0.077	Robert & Shannon Belleau	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.077	0.19	0.077	Daniel & Shelby Wilkins	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.079	0.19	0.079	Chad Gray	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.079	0.19	0.079	Gary & Patricia Bain	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.079	0.19	0.079	Herbert Bernhardt & Kathleen Sauter	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.079	0.19	0.079	Douglas & Ann Sabga	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.079	0.19	0.079	Jacob Hildebrandt & Helen Boldt	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.079	0.19	0.079	David & Sabrina Green	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.082	0.20	0.082	Kyle Sayers	$ -	$ 4.00	$ -	$ 4.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	STR	269	0.085	0.21	0.085	Gregory Anger & Samantha Tofflemire	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.085	0.21	0.085	Wayne & Ellen Hyland	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.081	0.20	0.081	Charles & Jennifer Tilden	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.081	0.20	0.081	Faye St. Pierre	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.081	0.20	0.081	Dave & Sue Maedel	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.081	0.20	0.081	Roger Mercer & Luwana Mealing-Mercer	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.081	0.20	0.081	Robert & Laura Kapetanov	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.079	0.20	0.079	Ismael Oozer & Bodeha Booze-Oozeer	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.097	0.24	0.097	Patricky & Debra Brophey	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.138	0.34	0.138	Harry & Bonnie Terzopoulos	$ -	$ 7.00	$ -	$ 7.00
	STR	269	0.134	0.33	0.134	Dean & Sandra Pearson	$ -	$ 6.00	$ -	$ 6.00
	STR	269	0.093	0.23	0.093	Keith & Elizabeth Cornell	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.069	0.17	0.069	Joshua & Michelle Weeks	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Victoria Davison & John Hunter	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.081	0.20	0.081	Shawn & Angie Couvillon	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.096	0.24	0.096	Donald & Kailyn Neal	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.096	0.24	0.096	Michael Richmond & Andrea Balkwill	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.097	0.24	0.097	Dwane & Suzanne Osborne	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.069	0.17	0.069	Brian Cinat & Karleal Beresh	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.073	0.18	0.073	Glenn & Karen Quinlan	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.073	0.18	0.073	Florence Rivest	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.075	0.19	0.075	Dina Pantoja & Oscar Molina	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.075	0.19	0.075	August & Lorrie Hoekstra	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.075	0.19	0.075	Dennis & Catherine Dugdale	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.075	0.19	0.075	Karen Allen	$ -	$ 4.00	$ -	$ 4.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	STR	269	0.075	0.19	0.075	Timothy Kelly & Shannon Dubai-Kelly	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.075	0.19	0.075	Brandon Sonoski & Shania Taylor	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.075	0.19	0.075	Jason & Andrea Powell	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.075	0.19	0.075	Tarcisio & Mary-Jo Morassut	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.075	0.19	0.075	Salvatore Peralta & Carlee Fleming	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.075	0.19	0.075	Robert & Annette Gabriele	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.099	0.25	0.099	Linda Fick & Nancy Kujawski	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.089	0.22	0.089	Denis Sterling	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.079	0.20	0.079	Jacob & Helena Froese	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.079	0.20	0.079	Steven & Diane Doyle	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.079	0.20	0.079	Derek & Diane Cameron	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.074	0.18	0.074	Cindy Mills	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.074	0.18	0.074	Mark & Tammy Clifford	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.074	0.18	0.074	Joseph & Helga Bondy	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.074	0.18	0.074	Richard Ferrato	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.080	0.20	0.080	Randy & Tracey Baillargeon	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.075	0.19	0.075	Robert & Julie Wilson	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.077	0.19	0.077	Daniel & Melissa Langis	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.077	0.19	0.077	David & Thyssen Doody	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.077	0.19	0.077	William & Natalie Simon	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.089	0.22	0.089	Craig & Jennifer Newman	$ -	$ 5.00	$ -	$ 5.00
	STR	269	0.117	0.29	0.117	Lizabeth Matte	$ -	$ 6.00	$ -	$ 6.00
	STR	269	0.069	0.17	0.069	Richard Dunn	$ -	$ 4.00	$ -	$ 4.00
	M100	1	0.146	0.36	0.146	William & Cheryl Carmichael	$ -	$ 7.00	$ -	$ 7.00
	STR	269	0.076	0.19	0.076	Derek & Kristen Freeman	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.067	0.17	0.067	Dean & Patricia Dame	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.067	0.17	0.067	Arthur Delaney	$ -	$ 4.00	$ -	$ 4.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	STR	269	0.067	0.17	0.067	Ted & Carleen Hunter	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.067	0.17	0.067	Brian & Lynn Higgins	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.067	0.17	0.067	Coreen Sykes & Paul Epp	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.067	0.17	0.067	Christopher & Mallory Branov	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.068	0.17	0.068	Andy & Christine Faraci	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Margaret McCord	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Erin Livingstone	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	Ronan & Melanie Oliver	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.069	0.17	0.069	John & Carol Quinn	$ -	$ 4.00	$ -	$ 4.00
	STR	269	0.202	0.50	0.202	Ricky & Brenda Garant	$ -	$ 9.00	$ -	$ 9.00
	STR	269	0.142	0.35	0.142	Kenneth & Rosemary Roadhouse	$ -	$ 7.00	$ -	$ 7.00
	STR	269	0.158	0.39	0.158	Maria Klaas	$ -	$ 7.00	$ -	$ 7.00
	STR	269	0.838	2.07	0.838	Town of Kingsville	$ -	$ 22.00	$ -	$ 22.00
	STR	269	0.259	0.64	0.259	Gary & Maria Klaas	$ -	$ 10.00	$ -	$ 10.00
	STR	269	0.219	0.54	0.219	David Parise & Ryan Mcleod	$ -	$ 9.00	$ -	$ 9.00
	STR	268	0.186	0.46	0.186	Essex County Community Living	$ -	$ 8.00	$ -	$ 8.00
	STR	268	0.186	0.46	0.186	John & Michelle Ivanisko	$ -	$ 8.00	$ -	$ 8.00
	STR	268	0.336	0.83	0.336	Dennis Mostoway & Dawn Reaume	$ -	$ 13.00	$ -	$ 13.00
	STR	268	0.405	1.00	0.405	Mark Voligny & Michelle Winger	$ -	$ 15.00	$ -	$ 15.00
	STR	268	0.279	0.69	0.279	Preston Harris & Germaine Gould	$ -	$ 11.00	$ -	$ 11.00
	STR	268	0.765	1.89	0.765	Beverley & Kristine Iles	$ -	$ 21.00	$ -	$ 21.00
	STR	268	0.186	0.46	0.186	Pedro & Aganetha Dyck	$ -	$ 8.00	$ -	$ 8.00
	STR	268	0.502	1.24	0.502	Nicholas & Erin Hayes	$ -	$ 16.00	$ -	$ 16.00
	STR	267	0.196	0.48	0.196	Peter & Elizabeth Peters	$ -	$ 8.00	$ -	$ 8.00
	STR	267	0.168	0.42	0.168	Cody Haynes	$ -	$ 8.00	$ -	$ 8.00
	STR	267	0.304	0.75	0.304	Rita & Ralph Wigle	$ -	$ 12.00	$ -	$ 12.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
		Total on Privately Owned - Non-Agricultural Lands.....					**$ -**	**$ 1,509.00**	**$ -**	**$ 1,509.00**
5. PRIVATELY OWNED - AGRICULTURAL LANDS (grantable):										
	6	1	20.234	43.64	17.661	Andre & Colette Cazabon	$ -	$ 214.00	$ -	$ 214.00
	6	1	19.842	49.03	19.842	Richard & Donna Valenciuk	$ -	$ 241.00	$ -	$ 241.00
	6	2	19.138	27.07	10.956	Burstyn Farms Limited	$ -	$ 133.00	$ -	$ 133.00
	6	2	19.506	27.51	11.133	Matthew Hyland	$ -	$ 135.00	$ -	$ 135.00
	6	3	40.282	7.43	3.008	Stephen Ferguson	$ -	$ 36.00	$ -	$ 36.00
	6	4	20.072	15.68	6.347	Joslyne Rizza	$ -	$ 77.00	$ -	$ 77.00
	6	4	39.623	15.33	6.204	Lawrence & Joseph Miehls	$ -	$ 75.00	$ -	$ 75.00
	6	5	40.286	16.51	6.682	Ronald & Karen Kendrick	$ -	$ 81.00	$ -	$ 81.00
	6	6	20.020	7.31	2.958	Edward Ross	$ -	$ 36.00	$ -	$ 36.00
	6	6	20.469	8.24	3.333	Edward Ross	$ -	$ 40.00	$ -	$ 40.00
	6	6	39.874	15.57	6.300	Davin & Nicole Kendrick	$ -	$ 76.00	$ -	$ 76.00
	6	6	19.862	49.08	19.862	Henry Renaud	$ -	$ 241.00	$ -	$ 241.00
	6	8	80.937	99.17	40.135	Milton Hillier	$ -	$ 487.00	$ -	$ 487.00
	7	8	20.234	50.00	20.235	James Ferguson	$ -	$ 245.00	$ -	$ 245.00
	7	8	16.187	40.00	16.188	James & Diane Ferguson	$ -	$ 196.00	$ -	$ 196.00
	7	8	25.329	8.94	3.618	Brent & Michelle Ramsay	$ -	$ 44.00	$ -	$ 44.00
	7	9	22.233	54.94	22.234	Donna & Steven Merritt	$ -	$ 270.00	$ -	$ 270.00
	7	9	24.257	59.94	24.257	Donna & Steven Merritt	$ -	$ 294.00	$ -	$ 294.00
	6	7	39.461	97.51	39.462	Neil & Sharla Ferguson	$ -	$ 479.00	$ -	$ 479.00
	6	8	26.993	38.74	15.677	Dorothy & Laurence Merritt	$ -	$ 190.00	$ -	$ 190.00
	6	8	0.554	1.37	0.554	Laurence & Dorothy Merritt	$ -	$ 18.00	$ -	$ 18.00
	6	9	41.784	60.76	24.587	Stevan Barisic	$ -	$ 298.00	$ -	$ 298.00
	7	8	18.102	44.73	18.102	Cottam Radiator & James Ferguson	$ -	$ 220.00	$ -	$ 220.00
	7	7	20.473	25.76	10.425	James & Jeannette Sylvestre	$ -	$ 126.00	$ -	$ 126.00
	7	7	20.335	24.20	9.792	James Sylvestre	$ -	$ 119.00	$ -	$ 119.00
	7	6	28.955	43.65	17.665	David & Debbie Alexander	$ -	$ 214.00	$ -	$ 214.00

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	7	6	35.803	88.47	35.803	David & Jason Alexander	$ -	$ 434.00	$ -	$ 434.00
	7	5	19.708	48.70	19.709	Richard & Phyliss Barnett	$ -	$ 239.00	$ -	$ 239.00
	7	5	10.117	25.00	10.117	Michael & Patricia Hamlin	$ -	$ 123.00	$ -	$ 123.00
	7	4	48.761	120.49	48.762	Robert & Jerry Vriesacker	$ -	$ 592.00	$ -	$ 592.00
	7	3	20.234	50.00	20.235	Brian & Dorene Lester	$ -	$ 245.00	$ -	$ 245.00
	7	3	18.960	46.85	18.960	Kevin & Adam Schmitchen	$ -	$ 230.00	$ -	$ 230.00
	7	2	18.211	45.00	18.211	Bradley & Ruth Salter	$ -	$ 221.00	$ -	$ 221.00
	7	2	9.785	24.18	9.786	Sharon & Eric Mulcaster	$ -	$ 119.00	$ -	$ 119.00
	7	1	19.425	42.66	17.264	Todd Gee & Kelly Dunn	$ -	$ 209.00	$ -	$ 209.00
	7	5	30.141	54.88	22.208	David & Robert Alexander	$ -	$ 269.00	$ -	$ 269.00
	7	5	19.397	29.60	11.979	Donald & Cora Bertram	$ -	$ 145.00	$ -	$ 145.00
	7	6	13.962	8.53	3.453	Jason & Laura Alexander	$ -	$ 42.00	$ -	$ 42.00
	7	7	19.830	49.00	19.830	Steckle Farms Limited	$ -	$ 241.00	$ -	$ 241.00
	7	7	26.207	33.22	13.444	John & David Bachtold	$ -	$ 163.00	$ -	$ 163.00
	STR	267	10.158	25.10	10.158	Larry & Tammy Meloche	$ -	$ 123.00	$ -	$ 123.00
	STR	267	9.915	24.50	9.915	John & David Bachtold	$ -	$ 120.00	$ -	$ 120.00
	STR	267	20.234	50.00	20.235	Chevalier Farms & Elevator Ltd.	$ -	$ 245.00	$ -	$ 245.00
	STR	268	40.469	100.00	40.469	Richard & Sharon Kendrick	$ -	$ 491.00	$ -	$ 491.00
	STR	268	2.825	6.98	2.825	Richard & Sharon Kendrick	$ -	$ 48.00	$ -	$ 48.00
	STR	269	4.504	11.13	4.504	Jacob & Yola Pretli	$ -	$ 55.00	$ -	$ 55.00
	STR	268	18.336	45.31	18.337	Margery Macgregor	$ -	$ 222.00	$ -	$ 222.00
	STR	268	8.996	22.23	8.996	Leo Hayes	$ -	$ 109.00	$ -	$ 109.00
	STR	268	29.093	71.89	29.093	Charles & Craig Chevalier	$ -	$ 353.00	$ -	$ 353.00
	STR	267	10.117	25.00	10.117	George Newman	$ -	$ 123.00	$ -	$ 123.00
	STR	267	7.487	18.50	7.487	Gerald & Iris Pillon	$ -	$ 91.00	$ -	$ 91.00
	STR	267	9.810	24.24	9.810	Milka Jezdic	$ -	$ 119.00	$ -	$ 119.00
Total on Privately Owned - Agricultural Lands (grantable).....							**$ -**	**$ 9,956.00**	**$ -**	**$ 9,956.00**

Tax Roll No.	Con. or Plan No.	Lot or Part of Lot	Hectares Owned	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
5. PRIVATELY OWNED - AGRICULTURAL LANDS (non-grantable):										
	6	3	40.282	14.54	5.884	Marian Maslin	$ -	$ 71.00	$ -	$ 71.00
	STR	269	9.814	24.25	9.814	1575742 Ontario Ltd.	$ -	$ 119.00	$ -	$ 119.00
	STR	268	4.051	10.01	4.051	Justin Ireland & Jamie Meunier	$ -	$ 49.00	$ -	$ 49.00
	STR	268	1.368	3.38	1.368	Leo Hayes	$ -	$ 32.00	$ -	$ 32.00
	STR	268	2.934	7.25	2.934	Daniel & Jenny Nantais	$ -	$ 43.00	$ -	$ 43.00
						Total on Privately Owned - Agricultural Lands (non-grantable).....	**$ -**	**$ 314.00**	**$ -**	**$ 314.00**
TOTAL KINGSVILLE ASSESSMENT			2311.49	935.449			**$ -**	**$ 14,211.00**	**$ -**	**$ 14,211.00**
TOTAL ESSEX ASSESSMENT (brought forward)			528.21	213.764			**$ 2,476.00**	**$ 3,313.00**	**$ -**	**$ 5,789.00**
			TOTAL ASSESSMENT	2839.71	1149.213		**$ 2,476.00**	**$ 17,524.00**	**$ -**	**$ 20,000.00**

1 Hectare = 2.471 Acres
Project No.REI2023D014
April 4th, 2025

SPECIFICATIONS

SNYDER BRANCH DRAIN

Replacement Bridge for MN 10901 10th Concession

(Geographic Township of Colchester North)

TOWN OF ESSEX

I. GENERAL SCOPE OF WORK

The Snyder Branch Drain currently comprises of an open Municipal drain generally located through Concession 9 and extending from its outlet in the Elford Creek Drain west of County Road 23 easterly to its upper end at County Road 23 (Arner Townline Road). The work under this project generally comprises of improvements to an existing access bridge serving the lands. The work on the bridge being improved includes the removal of the existing steel and timber structure near Station 0+770; the installation of a new bridge to replace the existing bridge near Station 0+770; new bridge end treatments comprising of precast concrete block headwalls with rip rap on filter cloth adjacent to each wall; granular approaches and backfill; and granular transition areas.

All work shall be carried out in accordance with these specifications, the plans forming part of this drainage project, as well as the Standard Details included in **Appendix "REI-C"**. The bridge improvements and new construction shall be of the size, type, depth, etcetera, as is shown in the accompanying drawings, as determined from the Benchmarks, and as may be further laid out at the site at the time of construction. All work carried out under this project shall be completed to the full satisfaction of the Town Drainage Superintendent and the Consulting Engineer.

II. E.R.C.A. AND D.F.O. CONSIDERATIONS

The Contractor will be required to implement stringent erosion and sedimentation controls during the course of the work to help minimize the amount of silt and sediment being carried downstream into the Canard River. It is intended that work on this project be carried out during relatively dry weather to ensure proper site and drain conditions and to avoid conflicts with sediment being deposited into the outlet drainage system. All disturbed areas shall be restored as quickly as possible with grass seeding and mulching installed to ensure a protective cover and to minimize any erosion from the work sites subsequent to construction. The Contractor may be required to provide temporary silt fencing and straw bales as outlined further in these specifications.

All of the work shall be carried out in accordance with any permits or authorizations issued by the Essex Region Conservation Authority (E.R.C.A.) or the Department of Fisheries and Oceans (D.F.O.), copies of which will be provided, if available, and the notes in **Appendix "REI-A"**. The Contractor is advised that no work may be carried out in the existing drain from March 15th to June 30th of any given year because the drain is directly connected to a downstream area that is classified as sensitive to impacts on aquatic life and habitat by E.R.C.A. and D.F.O.

As part of its work, the Contractor will implement the following measures that will ensure that any potential adverse effects on fish and fish habitat will be mitigated:

a) As per standard requirements, work will not be conducted at times when flows in the drain are elevated due to local rain events, storms, or seasonal floods. Work will be done in the dry.

b) All disturbed soils on the drain banks and within the channel, including spoil, must be stabilized immediately upon completion of work. The restoration of the site must be completed to a like or better condition to what existed prior to the works. The spoil material must be hauled away and disposed of at a suitable site, or spread an appropriate distance from the top of the drain bank to ensure that it is not washed back into the drain.

c) 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 their Contractors to ensure that sediment and erosion control measures are functioning properly and are maintained and upgraded as required.

d) Silt or sand accumulated in the barrier traps must be removed and stabilized on land once the site is stabilized.

e) All activities including maintenance procedures should be controlled to prevent the entry of petroleum products, debris, rubble, concrete, or other deleterious substances into the water. Vehicular refuelling and maintenance should be conducted away from the water.

III. M.N.R.F. & M.E.C.P. ENDANGERED SPECIES ACT CONSIDERATIONS

The Ministry of Natural Resources & Forestry (M.N.R.F.) Species at Risk former Town agreement with M.N.R.F. pursuant to Section 23 of the "Endangered Species Act, 2007" expired as of June 30th, 2015. The former agreements are replaced with new regulation provisions under Ontario Regulation 242/08 administered by the M.E.C.P. The Contractor is to note that the Ministry of Environment, Conservation and Parks (M.E.C.P.) screening process by way of a Species at Risk (S.A.R.) review of the M.E.C.P. "Endangered Species Act, 2007" (E.S.A.) will be completed as a self-assessment by the Town pursuant to Section 23.9 of the E.S.A. prior to construction. This Section allows the Town to conduct eligible works of repair, maintenance, and improvements to

existing municipal drains under the Drainage Act, and exemptions from Sections 9 and 10 of the E.S.A., provided that the requirements are followed in accordance with Ontario Regulation 242/08. The results of the review will be provided to the Contractor and copies of the mitigation measures, habitat protection and identification sheets will be included within **Appendix "REI-B"**. When eligible, the new regulations allow Municipalities to give notice to M.N.R.F. by registering their drainage activities through an online registry system.

The M.N.R.F. - M.E.C.P. mapping has basically confirmed that snake species including Butler's Garter Snake and Eastern Fox Snake are threatened and endangered, respectively, on this project. Because snakes are mobile and indicated as sensitive and endangered in the area, we have included herein a copy of the M.N.R.F. - M.E.C.P. mitigation requirements for them in **Appendix "REI-B"**. Providing mitigation requirements are implemented, it was concluded that present wildlife Species at Risk will be protected from negative impacts and the works will not contravene Section 9 (species protection) or Section 10 (habitat protection) of the Endangered Species Act, 2007.

The Contractor is to review **Appendix "REI-B"** in detail and is required to comply in all regards with the contents of said M.N.R.F. & M.E.C.P. measures, and follow the special requirements therein included during construction. Throughout the course of construction, the Contractor will be responsible to ensure that all necessary provisions are undertaken to protect all species at risk and their habitats including those shown in the N.H.I.C. table in the Appendix. If a threatened or sensitive species is encountered, the Contractor shall notify the Town and M.N.R.F. - M.E.C.P. and provide all the equipment and materials stipulated by the mitigation requirements for handling the species and cooperate fully with the Town and M.N.R.F. - M.E.C.P. staff in the handling of the species.

IV. ACCESS TO WORK

The Contractor is advised that the majority of the work to be carried out on this project extends along the Snyder Branch Drain. The Contractor shall have access for the full width of the driveway and lands abutting the proposed drainage works. The Contractor may utilize the driveway as necessary, to permit the completion of all of the work required to be carried out for this project. The Contractor shall also have access into the driveway as necessary to carry out the removal of the existing access bridge and to construct the new replacement access bridge, as set out on the plans and in these specifications, along with a sufficient area in the vicinity of the bridge to carry out the required construction of the removal and new structure installation and ancillary work.

The Contractor shall ensure that the traveling public is protected at all times while utilizing the 10th Concession roadway for its access. The Contractor shall provide traffic control, including flag persons when required. Should the Contractor have to close the 10th Concession Road for the proposed works, it shall obtain the permission of the Town Drainage Superintendent or Consulting Engineer and arrange to provide the necessary notification of detours around the site. The Contractor shall also ensure that all emergency services, school bus companies, etcetera are

contacted about the disruption to access at least 48 hours in advance of same. All detour routes shall be established in consultation with the Essex Works Department.

Throughout the course of the work it is imperative that the Contractor protect as much landscaping and vegetation as possible when accessing along the drain. This will be of particular concern along the buffer areas of the property. Any accesses or areas used in carrying out the works are to be fully restored to their original conditions by the Contractor at its cost, including topsoil placement and grass restoration as directed by the Town Drainage Superintendent and the Consulting Engineer. Restoration shall include but not be limited to all necessary levelling, grading, shaping, topsoil, seeding, mulching, and granular placement required to make good any damage caused.

V. REMOVAL OF BRUSH, TREES AND RUBBISH

Where there is any brush, trees or rubbish along the course of the drainage works, including the full width of the work access, all such brush, trees or rubbish shall be close cut and grubbed out, and the whole shall be chipped up for recycling, burned or otherwise satisfactorily disposed of by the Contractor. The brush and trees removed along the course of the work are to be put into piles by the Contractor in locations where they can be safely chipped and disposed of, or burned by it, or hauled away and disposed of by the Contractor to a site to be obtained by it at its expense. Prior to and during the course of any burning operations, the Contractor shall comply with the guidelines prepared by the Air Quality Branch of the Ontario Ministry of the Environment; and shall ensure that the Environmental Protection Act is not violated. The Contractor will be required to notify the local fire authorities to obtain any permits and co-operate with them in the carrying out of any work. The removal of brush and trees shall be carried out in close consultation with the Town Drainage Superintendent or Consulting Engineer to ensure that no decorative trees or shrubs are disturbed by the operations of the Contractor that can be saved. It is the intent of this project to save as many trees and bushes as practical within the roadway allowances and on private lands. Where decorative trees or shrubs are located directly over drainage pipes, the Contractor shall carefully extract same and turn them over to the Owner when requested to do so and shall cooperate with the Owner in the reinstallation of same if required.

The Contractor shall protect all other trees, bushes, and shrubs located along the length of the drainage works except for those trees that are established, in consultation with the Town Drainage Superintendent, the Consulting Engineer, and the Owners, to be removed as part of the works. The Contractor shall note that protecting and saving the trees may require the Contractor to carry out hand work around the trees, bushes, and shrubs to complete the necessary final site grading and restoration.

Following the completion of the work, the Contractor is to trim up any broken or damaged limbs on trees which are to remain standing, and it shall dispose of said branches along with other brush, thus leaving the trees in a neat and tidy condition.

The Contractor shall remove all deleterious materials and rubbish along the course of the open drain in the location of the work areas and any such materials located under the bridge while carrying out its removal and cleaning of same. All such deleterious materials and rubbish shall be loaded up and hauled away by the Contractor to a site to be obtained by it at its cost.

VI. FENCING

Where it is necessary to take down any fence to proceed with the work, the same shall be done by the Contractor across or along that portion of the work where such fence is located. The Contractor will be required to exercise extreme care in the removal of any fencing so as to cause a minimum of damage to same. The Contractor will be required to reinstall any fence that is taken down in order to proceed with the work, and the fence shall be reinstated in a neat and workmanlike manner. The Contractor will not be required to procure any new materials for rebuilding the fence provided that it has used reasonable care in the removal and replacement of same. When any fence is removed by the Contractor, and the Owner thereof deems it advisable and procures new material for replacing the fence so removed, the Contractor shall replace the fence using the new materials and the materials from the present fence shall remain the property of the Owner.

VII. DETAILS OF OPEN DRAIN WORK

The open drain shall be excavated to the lines, levels, grades and cross-sections as shown on the accompanying drawings, or as may be further established by the Town Drainage Superintendent or the Engineer at the time of the work. The drain shall be carefully excavated so as not to disturb the existing banks, rock protection and vegetation, except for those portions of the drain where widening or restoration of a stable drain bank configuration is required. The bottom width of the drain and the sideslopes of the excavation shall conform to the dimensions given on the drawings.

The drain shall be of the size, type, depth, etcetera as shown on the accompanying drawings. When completed, the drain shall have a uniform and even bottom and in no case shall such bottom project above the grade line, as shown on the accompanying drawings, and as determined from the Benchmarks. The finished side slopes of the drain shall be 1.5 metres horizontal to 1.0 metre vertical with a 3.0 metre drain bottom and grade of 0.03%.

The excavated material to be cast onto the adjoining lands shall be well and evenly spread over a sufficient area so that no portion of the excavated earth is more than 100mm in depth. The material shall be kept at least 1.2 metres clear from the finished edge of the drain, care being taken not to fill up any existing tiles, ditches, furrows or drains with the excavated material. The excavated material to be spread upon the lands shall be free from rocks, cobbles, boulders,

stumps, rubble, rubbish or other similar material and these materials, if encountered, shall be hauled away by the Contractor and disposed of at a site to be obtained by it at its expense.

Where the drain crosses any lawn, garden, orchard, parking, roadway or driveway areas, the excavated material for the full width of the above-mentioned areas shall be hauled away by the Contractor and disposed of to the nearest open area along the drain at its expense. If necessary and approved by the Drainage Engineer or Superintendent for material that is being removed from the project area, the Contractor shall obtain and supply the Town of Essex with permission in writing from the landowners confirming acceptance of material in accordance with the regulation. All work at the disposal site shall be established between the Contractor and the site owner. The Contractor shall be responsible for any permits required and shall provide copies of same to the Town and Consulting Engineer when requested. The Contractor is responsible for all components related to the Excess Soil regulations including but not limited to hauling records which must be supplied to the Town of Essex. The Town will need to review the paperwork with the landowner's permission, beneficial re-use, sign off if it may be impacted by salt and confirmation that it is not tested, and no liability is to be assumed by the Town of Essex.

Where there is any brush or rubbish in the course of the drain, including both side slopes of the drain, all such brush or rubbish shall be close cut and grubbed out. Where there is any brush or rubbish where the earth is to be spread, or on that strip of land between where the earth is to be spread and the edge of the drain, all such brush or rubbish shall be close cut and grubbed out. The whole is to be burned, chipped or otherwise satisfactorily disposed of by the Contractor as noted above.

VIII. DETAILS OF BRIDGE WORK

The Contractor shall provide all material, labour and equipment to repair and improve the existing access bridge in the Snyder Branch Drain requiring work, along with endwall repairs and other improvements as noted.

The existing steel beams and timber bridge slated to be removed shall be replaced with new precast concrete box structure meeting CHBDC CAN/CSA S6-06. The new access bridge installation shall comprise of precast concrete box sections. All bridge sections shall be connected by the use of gaskets and galvanized steel clips on each side of the box joints installed across the joints of the box segments in accordance with the manufacturer's recommendation. Each joint shall be wrapped in filter cloth material around the complete circumference to ensure that there will be no soil migration through the joints and into the box culvert bridge through said connections.

The bridge replacement installation on this project shall be set to the grades as shown on the plans or as otherwise established herein and the Town Drainage Superintendent or the Consulting Engineer may make minor changes to the bridge alignment as they deem necessary to suit the site conditions. All work shall be carried out in general accordance with the items in

the "**STANDARD SPECIFICATIONS FOR ACCESS BRIDGE CONSTRUCTION"** attached to this report and labelled **Appendix "REI-C"**.

IX. PRECAST CONCRETE BOX BRIDGE INSTALLATION

The new precast concrete box segments to be installed on this project is required to be provided in the longest lengths that are available and shall not be less than 2.4 metres (8 feet). Where the overall access pipe length exceeds the standard box lengths, the Contractor shall connect the box sections together by use of a galvanized clips bolted to each side of the segments joints and installed in accordance with the manufacturer's recommendations. All joints shall be wrapped with a layer of filter cloth around the complete circumference so that it extends a minimum of 100mm beyond the joint on each end, to ensure a positive seal against soil migration through the joints.

The Contractor shall note that the placement of any new bridge or culvert pipe shall be performed totally in the dry and it shall be prepared to take whatever steps are necessary to ensure same, all to the full satisfaction of the Town Drainage Superintendent or the Consulting Engineer. As part of the work, the Contractor will be required to clean out the drain along the full length of the bridge and for a distance of 3.05 metres (10 ft.) upstream and downstream of the bridge. The design parameters of the Snyder Branch Drain at the location of the new replacement access bridge installation consist of a 3.0m (10.0 ft.) bottom width, the 0.03% grade shown on the profile, and 1.5 horizontal to 1.0 vertical sideslopes. The Contractor shall note that the bridge inverts are set at least 10% of the bridge diameter (or the bridge rise) below the drain bottom to provide the embedment required by E.R.C.A. and D.F.O. and to meet the minimum cover requirements for the bridge.

The installation of the complete length of the new bridge, including all appurtenances, shall be completely inspected by the Town Drainage Superintendent or the Consulting Engineer's Inspector prior to backfilling any portions of same. Under no circumstance shall the Contractor commence the construction or backfill of the new bridge without the site presence of the Town Drainage Superintendent or the Consulting Engineer's Inspector to inspect and approve said installation. The Contractor shall provide a minimum of two (2) working days' notice to the Town Drainage Superintendent or the Consulting Engineer prior to commencement of the work. The installation of the new bridge structure is to be performed during normal working hours of the Town Drainage Superintendent and the Consulting Engineer from Monday to Friday unless written authorization is provided by them to amend said working hours.

For the access bridge installation, once the new precast concrete box segments have been satisfactorily set in place and anchored to each other, the Contractor shall completely backfill same with granular material M.T.O. Type "B" O.P.S.S. Form 1010 with the following exception. The top 305mm (12") of the backfill material for the full top width of the access, and the full top width of the excavated trench, and any approaches to the south and to the north shall be granular material M.T.O. Type "A" O.P.S.S. Form 1010. All of the driveway approach areas to the south

and north face of the new bridge shall be backfilled with compacted granular material M.T.O. Type “A” O.P.S.S. Form 1010, but only after all topsoil material has been completely removed and disposed of, and the minimum thickness of this granular material shall be 305mm (12”). All areas outside of the access driveway shall be backfilled with native material compacted to 95% of Standard Proctor Density and topped with a minimum of 50mm of topsoil and shall be seeded and mulched.

For hard surface driveway crossings, the top 305mm (12”) of the backfill over the bridge below the hard surface treatment shall comprise granular material M.T.O. Type “A” O.P.S.S. Form 1010 compacted to a minimum of 100% Standard Proctor Density. The Contractor shall at all times be very careful when performing its backfilling and compaction operations so that no damage is caused to the bridge. To ensure that no damage is caused to the proposed bridge, alternative methods of achieving the required backfill compaction shall be submitted to the Consulting Engineer or the Town Drainage Superintendent for their approval prior to the commencement of this work. The Contractor shall restore the asphalt surface by placing a minimum of the existing thickness or a 90mm minimum thickness of Type HL-4 or equivalent Superpave hot mix asphalt. The asphalt shall be supplied and placed in two (2) approximately equal lifts compacted to a value ranging from 92% to 96% of maximum relative density as per O.P.S.S. 310. For existing concrete driveways, the Contractor shall carefully remove the concrete to the nearest expansion joint. The concrete driveway shall be restored to the original length and width that was removed and include 150mm thick, 30mPa concrete, with 6% ±1% air entrainment and 6x6-6/6 welded wire fabric reinforcing installed at the midpoint of the slab. All slab surfaces shall be finished to provide an appearance approximating the finish on the existing concrete driveway abutting the replacement.

The Contractor will be responsible to restore any damage caused to the roadways at its cost. All damaged hard surface roadway areas shall be neatly saw cut and the damaged materials removed and disposed of by the Contractor prior to carrying out any restoration work. The extent of the repairs shall be established in consultation with the Town Drainage Superintendent, the Road Authority, and the Consulting Engineer and the repairs shall be completed to their full satisfaction.

The Contractor is to note that any intercepted pipes or tiles along the length of the proposed bridge are to be extended and connected at its cost to the open drain at the end of the new bridge unless otherwise noted in the accompanying drawings.

The Contractor shall also note that the placing of the new access bridge shall be completed so that it totally complies with the parameters established and noted in the Bridge Details and Tables for the bridge replacement. The bridge shall be set on an even grade and the placement shall be performed totally in the dry, and the Contractor should be prepared to take whatever steps are necessary to ensure same, all to the full satisfaction of the Town Drainage Superintendent or the Consulting Engineer. The Contractor shall also be required to supply a minimum of 100mm (4”) of 20mm (3/4”) clear stone bedding underneath the bridge extending from the bottom of the drain to the bridge invert grade, all to the full satisfaction of the Town Drainage Superintendent or the Consulting Engineer. Furthermore, if an unsound base is

encountered, it must be removed and replaced with 20mm (3/4") clear stone satisfactorily compacted in place to the full satisfaction of the Town Drainage Superintendent or the Consulting Engineer. The Contractor is to note that when replacing an access bridge or enclosure culvert, it shall be required to excavate a trench having a width not less than the new bridge or pipe outside diameter plus a 600mm working width on both sides of the new bridge or pipe to allow for proper installation of granular backfill and compaction of same. The Contractor shall also note that all bridge and culvert pipe installations are to be carried out with a minimum of 10% of their diameter or rise embedded below the drain design bottom, as shown and noted on the plan for each of the access bridge installations.

X. REMOVALS

Where existing access bridges and enclosures are to be completely removed and replaced, the Contractor shall be required to excavate and completely extract the existing concrete or steel and timber structure or culvert pipe and the existing endwalls in their entirety, as well as any other deleterious materials that may be encountered in removing same, excluding poured concrete headwalls that are to be reused. The Contractor shall neatly saw cut any concrete or asphalt surfaces over the pipes for a sufficient width to allow for the safe removal of same or go to the nearest expansion joint panel of the concrete driveways. The Contractor shall also be required to completely dispose of all removed materials to a site to be obtained by it at its own expense. The Contractor shall note that when headwalls are shown to be left in place, the Contractor shall protect same and carry out its work for the bridge replacement as noted above and dispose of any debris resulting from the work.

All unsuitable and deleterious materials from the excavation and removal of the existing bridge and enclosure structures and drain cleaning shall be hauled away and disposed of by the Contractor to a site to be obtained by it at its expense. Likewise, any material excavated to allow for the granular approaches to the bridge, driveway transitions, or installation of new headwalls shall also be hauled away and disposed of by the Contractor.

XI. CONCRETE FILLED JUTE BAG, PRECAST CONCRETE BLOCK OR SLOPED END PROTECTION

Unless otherwise shown or noted, the Contractor is to provide new concrete filled jute bag headwalls, precast concrete block, or sloped quarried limestone on non-woven filter cloth end protection for the access bridges and enclosures being replaced or constructed on this drain.

The concrete filled jute bags are to be provided and laid out as is shown and detailed in the drawings provided by the Town and as noted in the Standard Specifications in **Appendix "REI-C"**. In all cases, the concrete filled jute bag headwalls shall be topped with a minimum 100mm (4") thick continuous concrete cap comprising 30mPa concrete with 6% ±1% air entrainment for the entire length of the headwalls. The headwalls shall be installed on an inward batter to be not less than 1 horizontal to 5 vertical, and under no circumstances shall this batter, which is measured

from the top of the headwall to the projection of the end of the pipe, be less than 305mm (12”). From the midpoint of the pipe height down to the concrete footing, the wall shall be a double concrete filled jute bag installation. On the roadside the walls shall be deflected as shown to provide daylighting and a better approach across the new bridge.

The installation of the concrete filled jute bag headwalls, unless otherwise specified, shall be provided in total compliance with the Items 1, 3, and 4 included in the **“STANDARD SPECIFICATIONS FOR ACCESS BRIDGE CONSTRUCTION”**. These are attached to the back of these specifications and labelled **Appendix “REI-C”**. The Contractor shall comply in all respects with the General Conditions included in Item 4 and the **“Typical Concrete Filled Jute Bag Headwall End Protection”** detail also shown therein.

The Contractor shall install interlocking decorative precast concrete blocks with filter cloth backing for walls on both ends of the bridges requiring same. The blocks shall be minimum 600X600X1200mm in size as available from Underground Specialties - Wolseley, Windsor, Ontario, or equal, and installed as set out in **Appendix "REI-C"**. Vertical joints shall be staggered by use of half blocks where needed and wingwall deflections when required shall employ 45-degree angled blocks. The block supplier shall provide shop drawings of the headwall block layout for review by the Engineer that includes blocks shaped for a close fit around the bridge pipe. Voids between the blocks and the pipe shall be grouted with 30mPa concrete having 6% ±1% air entrainment and extend for the full thickness of the wall and have a smooth uniform finish on the face that blends with the precast blocks. The installation of the endwalls, as well as the backfilling of the pipe where applicable, shall be provided in compliance with Items 1), 3), and 4) of the "Standard Specifications for Access Bridge Construction" attached within **Appendix "REI-C"** and in total compliance and in all respects with the General Conditions included in said Appendix. The Contractor shall submit shop drawings for approval of the wall installation that includes details for a minimum 300mm thick reinforced precast concrete footing that extends from the pipe invert downward. The reinforced precast footing shall extend for the full bottom width of the drain and into the drain banks each side for the required 400mm of embedment of the blocks and be constructed and installed to ensure that the completed wall will be completely vertical or tipped slightly back towards the driveway. Where the block walls extend more than 1.8 metres in height, the supplier shall provide the Contractor with uni-axial geogrid (SG350 or equivalent) reinforcement for installation to tie the wall back into the granular backfill. The Contractor, in all cases, shall comply with these specifications and upon completion of the stacked precast concrete end protection installation shall restore the adjacent areas to their original conditions. The Contractor shall supply quarried limestone on filter cloth rock protection adjacent to the headwalls at each corner of the bridge. All rock protection shall be 1.0 metres wide and 305mm (12”) thick, installed on non-woven filter cloth, and shall be installed in accordance with Item 2) of the "Standard Specifications for Access Bridge Construction". The synthetic filter mat to be used shall be non-woven geotextile GMN160 conforming to O.P.S.S. 1860 Class I, as available from Armtec Construction Products through Underground Specialties - Wolseley in Windsor, Ontario or equal. The quarried limestone to be used shall be graded in size from a minimum of 100mm to a maximum of 250mm, and is available from Walker Industries Amherst Quarries, in Amherstburg, Ontario, or equal.

Where sloped end protection is specified, the top 305mm (12") of backfill material over the ends of the access pipe, from the invert of said pipe to the top of the driveway elevation of the access bridge or enclosure, shall be quarried limestone. The quarried limestone shall be provided as shown and detailed on the plans or as indicated in the Standard Specifications in **Appendix "REI-C"** and shall be graded in size from a minimum of 100mm (4") to a maximum of 250mm (10"). The quarried limestone to be placed on the sloped ends of an access bridge or enclosure shall be underlain with a synthetic **non-woven** geotextile filter fabric. The sloped quarried limestone protection is to be rounded as shown on the plan details and shall also extend along the drain side slopes to a point directly in line with the ends of the culvert pipe. The roadside approach to the entrance shall be provided with a minimum 5.0m radius at each end of the driveway entrance. All work shall be completed to the full satisfaction of the Town Drainage Superintendent or the Consulting Engineer.

The installation of the sloped quarried limestone end protection, unless otherwise specified herein, shall be provided in total compliance with Item 2), 3), and 4) of the **"STANDARD SPECIFICATIONS FOR ACCESS BRIDGE CONSTRUCTION"**. These are attached to the back of these specifications and labelled **Appendix "REI-C"**. The Contractor shall comply in all respects with the General Conditions included in Item 4 and the **"Typical Quarried Limestone End Protection Detail"** also in **Appendix "REI-C"**.

The quarried limestone erosion protection shall be embedded into the sideslopes of the drain a minimum thickness of 305mm and shall be underlain in all cases with non-woven synthetic filter mat. The filter mat shall not only be laid along the flat portion of the erosion protection, but also contoured to the exterior limits of the quarried limestone and the unprotected slope. The width of the erosion protection shall be as established in the accompanying drawings or as otherwise directed by the Town Drainage Superintendent or the Consulting Engineer during construction. In placing the erosion protection, the Contractor shall carefully tamp the quarried limestone pieces into place with the use of the excavator bucket so that the erosion protection when completed will be consistent, uniform and tightly laid. In no instance shall the quarried limestone protrude beyond the exterior contour of the unprotected drain sideslopes along either side of said protection. The synthetic filter mat fabric to be used shall be non-woven geotextile GMN160 conforming to O.P.S.S. 1860 Class I, as available from Armtec Construction Products, or equal. The quarried limestone to be used shall be graded in size from a minimum of 100mm to a maximum of 250mm, and is available from Walker Aggregates Amherst Quarries, in Amherstburg, Ontario, or equal.

XII. BENCHMARKS

Also, for use by the Contractor, we have established Benchmarks along the course of the work and especially at the locations where existing access bridges are being replaced or new bridges are being constructed.

For each of the bridge replacements and new bridges, the plans include details illustrating the work to be carried out. For each bridge detail a Benchmark has been indicated and the Elevation has been shown and may be utilized by the Contractor in carrying out its work. The Contractor shall note that in each case a specific design elevation grade has been provided for the invert at each end of the bridge in the table accompanying each detail. The table also sets out the bridge size, materials, and other requirements relative to the installation of the bridge structure. In all cases, the Contractor is to utilize the specified drain grade to set any new bridge installation. The Contractor shall ensure that it takes note of the direction of flow and sets all bridges to assure that all grades flow from east to west to match the direction of flow within the drain. The Contractor's attention is drawn to the fact that the bridge invert grades established herein provide for the bridges to be set at least 10% of their diameter or bridge rise below the existing drain bottom or the design grade of the drain, whichever is lower.

XIII. ANCILLARY WORK

During the course of any work to the bridges and enclosures along the length of the project, the Contractor will be required to protect or extend any existing tile ends or swales and connect them to the drainage works to maintain the drainage from the adjacent lands. All existing tiles shall be extended utilizing solid Big 'O' "standard tile ends" or equal plastic pipe of the same diameter as the existing tile and shall be installed in accordance with the **"Standard Lateral Tile Detail"** included in the plans, unless otherwise noted. Connections shall be made using a manufacturer's coupling where possible. Wherever possible, tiles shall be extended to outlet beyond the end of any access culverts. When required, openings into new pipes shall be neatly bored, saw cut or burned with a torch to the satisfaction of the Town Drainage Superintendent or the Consulting Engineer. All cuts to steel pipes shall be touched up with a thick coat of zinc rich paint (Galvicon or equal) in accordance with the manufacturer's recommendations. For other connections, the Contractor shall utilize a grouted connection. Grouted mortar joints shall be composed of three (3) parts of clean, sharp sand to one (1) part of Portland cement with just sufficient water added to provide a stiff plastic mix, and the mortar connection shall be performed to the full satisfaction of the Town Drainage Superintendent or the Consulting Engineer. The mortar joint shall be of a sufficient mass around the full circumference of the joint on the exterior side to ensure a tight, solid seal. The Contractor is to note that any intercepted pipes along the length of the existing culverts and enclosures are to be extended and connected to the open drain unless otherwise noted in the accompanying drawings.

Where the bridge or enclosure installation interferes with the discharge of an existing swale, the Contractor shall re-grade the existing swales to allow for the surface flows to freely enter the drain. Any disturbed grass areas shall be fully restored with topsoil, seed and mulch.

All granular backfill for the bridge and enclosure installations shall be satisfactorily compacted in place to a minimum Standard Proctor Density of 98% by means of mechanical compaction equipment. All other good, clean, native fill material or topsoil to be utilized, where applicable, shall be compacted in place to a minimum Standard Proctor Density of 95%. All of the backfill

material, equipment used, and method of compacting the backfill material shall be provided and performed to the full satisfaction of the Town Drainage Superintendent or Consulting Engineer.

Where the Contractor removes concrete or asphalt hard surfaces over the pipes, the Contractor shall restore the hard surfaces as previously outlined. The Contractor will be responsible to restore any damage caused to these driveways at its cost. All damaged hard surface driveway areas shall be neatly saw cut and the damaged materials removed and disposed of by the Contractor prior to carrying out any restoration work.

Any new H.D.P.E. pipes or corrugated aluminized steel type II pipes for these installations are to be provided with a minimum depth of cover measured from the top of the pipe of 305mm (12") for a round pipe and 500mm for a pipe arch. If the bridge culvert pipes are placed at their proper elevations, same should be achieved. If the Contractor finds that the minimum cover is not being met, they shall notify the Town Drainage Superintendent and the Consulting Engineer immediately so that steps can be taken to rectify the condition prior to the placement of any backfill. The minimum cover requirement is **critical** and must be attained. In order for these new access bridge culverts to properly fit the channel parameters, **all of the design grade elevations must be strictly adhered to**. The Contractor is advised that this bridge is being constructed with no fill over it with the design requirement being the CHBDC (Canadian Highway Bridge Design Code).

As a check, all of the access bridge and enclosure culvert design grade elevations should be confirmed before commencing to the next stage of the access bridge or enclosure installation. The Contractor is also to check that the bridge invert grades are correct by referencing the Benchmark.

Although it is anticipated that the bridge installation at each site shall be undertaken in the dry, the Contractor shall supply and install a temporary straw bale or silt curtain check dam in the drain bottom immediately downstream of each bridge site during the time of construction. The straw bale or silt curtain check dam shall be to the satisfaction of the Town Drainage Superintendent or Consulting Engineer and must be removed upon completion of the construction. The check dam materials may be reused at each site subject to their condition. All costs associated with the supply and installation of this straw bale or silt curtain check dam shall be included in the cost bid for the bridge replacements.

XIV. TOPSOIL, SEED AND MULCH

The Contractor shall be required to restore all existing grassed areas and drain side slopes damaged by the structure replacements, construction or cutting of the drain cross section, by placing topsoil, and then seed and mulch over said areas including any specific areas noted on the bridge details. The Contractor shall be required to provide all the material and to cover the above mentioned surfaces with approximately 50mm of good, clean, dry topsoil on slopes and 100mm of good, clean, dry topsoil on horizontal surfaces, fine graded and spread in place ready for seeding and mulching. The placing and grading of any topsoil shall be carefully and

meticulously carried out in accordance with Ontario Provincial Standard Specifications, Form 802 dated November 2010, or as subsequently amended, or as amended by these specifications and be readied for the seeding and mulching process. The seeding and mulching of all of the above mentioned areas shall comply in all regards to Ontario Provincial Standard Specifications, Form 803 dated November 2010 and Form 804, dated November 2013, or as subsequently amended, or as amended by these specifications. The seeding mixture shall be the Standard Roadside Mix (Canada No. 1 Lawn Grass Seed Mixture) as set out in O.P.S.S. 804. All cleanup and restoration work shall be performed to the full satisfaction of the Town Drainage Superintendent or Engineer.

When all of the work for this installation has been completed, the Contractor shall ensure that positive drainage is provided to all areas; and shall ensure that the site is left in a neat and workmanlike manner, all to the full satisfaction of the Town Drainage Superintendent or Engineer.

XV. SPECIAL PROVISIONS FOR REPLACEMENT, REPAIR AND IMPROVEMENTS

The Contractor shall provide for the construction and improvements to the access bridge along the Snyder Branch Drain, for the structure noted, as follows:

Existing Bridge

The Contractor shall completely remove the existing steel beam and timber bridge, wingwalls and any end protection that currently exists. The Contractor will then be required to restore the drain cross section at the former bridge location to match the upstream and downstream drain cross sections. All disturbed areas shall be restored with topsoil, seed and mulch as set out above.

New Replacement Bridge

The Contractor shall completely remove the existing topsoil and vegetation in the area of the proposed new replacement bridge and clean out the drain bottom. The Contractor will then be required to install the new bridge as set out in the chart forming part of the details for the bridge on the plans. The Contractor shall install sloped quarried limestone on filter cloth protection on each end adjacent to the decorative precast concrete block headwalls. The Contractor shall protect any tile outlets on the banks at each end of the structure and divert and extend same as necessary to accommodate the replacement bridge. All work shall be carried out in accordance with these specifications and the requirements in **Appendix "REI-C"**.

XVI. GENERAL CONDITIONS

a) The Town Drainage Superintendent or Consulting Engineer shall have authority to carry out minor changes to the work where such changes do not lessen the efficiency of the work.

b) The Contractor shall satisfy itself as to the exact location, nature and extent of any existing structure, utility or other object which it may encounter during the course of the work. The Contractor shall indemnify and save harmless the Town of Essex and the Consulting Engineer and their representatives for any damages which it may cause or sustain during the progress of the work. It shall not hold the Town of Essex or the Consulting Engineer liable for any legal action arising out of any claims brought about by such damage caused by it.

c) The Contractor shall provide a sufficient number of layout stakes and grade points so that the Drainage Superintendent and Consulting Engineer can review same and check that the work will generally conform to the design and project intent.

d) The Contractor will be responsible for any damage caused by it to any portion of the Town 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 the road, the travelled portion shall be protected by having the excavation equipment placed on satisfactory timber planks or timber pads. If any part of the travelled portion of the road is damaged by the Contractor, the Town 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 Town. The Contractor, upon completing the works, shall clean all debris and junk, etcetera, from the roadside of the drain, and leave the site in a neat and workmanlike manner. The Contractor shall be responsible for keeping all public roadways utilized for hauling materials free and clear of mud and debris.

e) The Contractor shall provide all necessary lights, signs, and barricades to protect the public. All work shall be carried out in accordance with the requirements of the Occupational Health and Safety Act, and latest amendments thereto. If traffic control is required on this project, signing is to comply with the M.T.O. Manual of Uniform Traffic Control Devices (M.U.T.C.D.) for Roadway Work Operations and Ontario Traffic Manual Book 7.

f) During the course of the work the Contractor shall be required to connect existing drainage pipes to the Municipal Drain. In the event that polluted flows are discovered, the Contractor shall delay the connection of the pipe and leave the end exposed and alert the Town, the Drainage Superintendent and the Consulting Engineer so that steps can be taken by the Town to address the concern with the owner and the appropriate authorities. Where necessary the Contractor shall cooperate with the Town in providing temporary measures to divert the drain or safely barricade same. Should the connection be found acceptable by the authorities, the Contractor shall complete the connection of the drain as provided for in the specifications, at no extra cost to the project.

g) Following the completion of the work, the Contractor is to trim up any broken or damaged limbs on trees which are to remain standing, and it shall dispose of said branches along with other brush, thus leaving the trees in a neat and tidy condition.

h) The whole of the work shall be satisfactorily cleaned up, and during the course of the construction, no work shall be left in any untidy or incomplete state before subsequent portions are undertaken.

i) During the course of the project the Contractor shall deal with any excess soil management from the project in accordance with Ontario Reg 406/19 pursuant to the Environmental Protection Act, R.S.O. 1990, c. E.19 and any subsequent amendments to same.

j) All driveways, laneways and access bridges, or any other means of access on to the job site shall be fully restored to their former condition at the Contractor's expense. Before authorizing Final Payment, the Town Drainage Superintendent and the Consulting Engineer shall inspect the work in order to be sure that the proper restoration has been performed. In the event that the Contractor fails to satisfactorily clean up any portion of these accesses, the Consulting Engineer shall order such cleanup to be carried out by others and the cost of same be deducted from any monies owing to the Contractor.

k) The Contractor will be required to submit to the Town, a Certificate of Good Standing from the Workplace Safety and Insurance Board prior to the commencement of the work and the Contractor will be required to submit to the Town, a Certificate of Clearance for the project from the Workplace Safety and Insurance Board before Final Payment is made to the Contractor.

l) The Contractor shall furnish a Performance and Maintenance Bond along with a separate Labour and Material Payment Bond within ten (10) days after notification of the execution of the Agreement by the Town. One copy of said bonds shall be bound into each of the executed sets of the Contract. Each Performance and Maintenance Bond and Labour and Material Payment Bond shall be in the amount of 100% of the total Tender Price. All Bonds shall be executed under corporate seal by the Contractor and a surety company, authorized by law to carry out business in the Province of Ontario. The Bonds shall be acceptable to the Town in every way and shall guarantee faithful performance of the contract during the period of the contract, including the period of guaranteed maintenance which will be in effect for twelve (12) months after substantial completion of the works.

The Tenderer shall include the cost of bonds in the unit price of the Tender items as no additional payment will be made in this regard.

m) The Contractor shall be required, as part of this Contract, to provide Comprehensive Liability Insurance coverage for not less than $5,000,000.00 on this project; and shall name the Town of Essex and its' officials and the Consulting Engineer and their staff as additional insured under the policy. The Contractor must submit a copy of this policy to both the Town Clerk and the Consulting Engineer prior to the commencement of work.

n) Monthly progress orders for payment shall be furnished the Contractor by the Town Drainage Superintendent. Said orders shall be for not 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% will be paid 60 days after the final acceptance and completion of the work and payment shall not be authorized until the Contractor provides the following:

i) a Certificate of Clearance for the project from the Workplace Safety and Insurance Board

ii) proof of advertising

iii) a Statutory Declaration, in a form satisfactory to the Engineer and the Town, that all liabilities incurred by the Contractor and its Sub-Contractors in carrying out the Contract have been discharged and that all liens in respect of the Contract and Sub-Contracts thereunder have expired or have been satisfied, discharged or provided for by payment into Court.

The Contractor shall satisfy the Consulting Engineer or Town that there are no liens or claims against the work and that all of the requirements as per the Construction Act, 2018 and its' subsequent amendments have been adhered to by the Contractor.

o) In the event that the Specifications, Information to Tenderers, or the Form of Agreement do not apply to a specific condition or circumstance with respect to this project, the applicable section or sections from the Canadian Construction Documents Committee C.C.D.C.2 shall govern and be used to establish the requirements of the work.

p) Should extra work be required by the Town Drainage Superintendent or Consulting Engineer, and it is done on a time and material basis, the actual cost of the work will be paid to the Contractor with a 15% markup on the total actual cost of labour, equipment and materials needed to complete the extra work.

q) The Contractor shall provide shop drawings of the proposed wall for decorative precast concrete block headwalls for approval by the Drainage Superintendent or Engineer prior to construction.

APPENDIX "REI-A"

STANDARD E.R.C.A. AND D.F.O.
MITIGATION REQUIREMENTS

As part of its work, the Contractor will implement the following measures that will ensure that any potential adverse effects on fish and fish habitat will be mitigated:

1. As per standard requirements, work will not be conducted at times when flows in the drain are elevated due to local rain events, storms, or seasonal floods. Work will be done in the dry.

2. All disturbed soils on the drain banks and within the channel, including spoil, must be stabilized immediately upon completion of work. The restoration of the site must be completed to a like or better condition to what existed prior to the works. The spoil material must be hauled away and disposed of at a suitable site, or spread an appropriate distance from the top of the drain bank to ensure that it is not washed back into the drain.

3. 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 the related Ontario Provincial Standards. It is incumbent on the proponent and Contractors to ensure that sediment and erosion control measures are functioning properly and maintained/upgraded as required.

4. Silt or sand accumulated in the barrier traps must be removed and stabilized on land once the site is stabilized.

5. All activities including maintenance procedures should be controlled to prevent the entry of petroleum products, debris, rubble, concrete, or other deleterious substances into the water. Vehicular refuelling and maintenance should be conducted away from the water.

6. Any drain banks trimmed outside of the July 1st to September 15th timing window will require bio-degradable erosion control blankets to be installed to promote re-vegetation and to protect the slope from erosion in the interim.

Measures to Avoid Causing Harm to Fish and Fish Habitat

If you are conducting a project near water, it is your responsibility to ensure you avoid causing serious harm to fish in compliance with the *Fisheries Act*. The following advice will help you avoid causing harm and comply with the *Act*.

PLEASE NOTE: This advice applies to all project types and replaces all "Operational Statements" previously produced by DFO for different project types in all regions.

Measures

- Time work in water to respect timing windows to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed.
- Minimize duration of in-water work.
- Conduct instream work during periods of low flow, or at low tide, to further reduce the risk to fish and their habitat or to allow work in water to be isolated from flows.
- Schedule work to avoid wet, windy and rainy periods that may increase erosion and sedimentation.

- Design and plan activities and works in waterbody such that loss or disturbance to aquatic habitat is minimized and sensitive spawning habitats are avoided.
- Design and construct approaches to the waterbody such that they are perpendicular to the watercourse to minimize loss or disturbance to riparian vegetation.
- Avoid building structures on meander bends, braided streams, alluvial fans, active floodplains or any other area that is inherently unstable and may result in erosion and scouring of the stream bed or the built structures.
- 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.

- Plan activities near water such that materials such as paint, primers, blasting abrasives, rust solvents, degreasers, grout, or other chemicals do not enter the watercourse.
- 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.

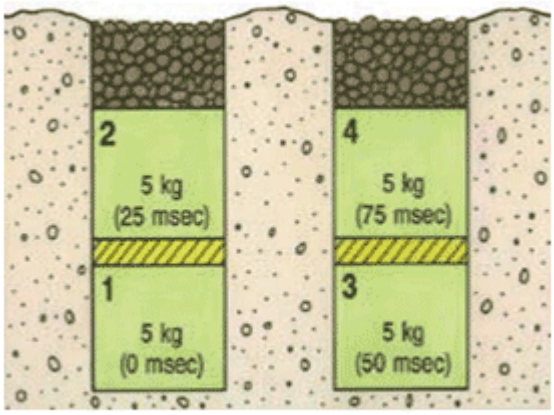
- Develop and implement an Erosion and Sediment Control Plan for the site that minimizes risk of sedimentation of the waterbody during all phases of the project. Erosion and sediment control measures should be maintained until all disturbed ground has been permanently stabilized, suspended sediment has resettled to the bed of the waterbody 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 onto the site, as well as water being pumped/diverted from the site such that sediment is filtered out prior to the water entering a waterbody. For example, pumping/diversion of water to a vegetated 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, underwater cable installation).
    - Measures for containing and stabilizing waste material (e.g., dredging spoils, construction waste and materials, commercial logging waste, uprooted or cut aquatic plants, accumulated debris) above the high water mark of nearby waterbodies 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.
    - Removal of non-biodegradable erosion and sediment control materials once site is stabilized.

- Clearing of riparian vegetation should be kept to a minimum: use existing trails, roads or cut lines wherever possible to avoid disturbance to the riparian vegetation and prevent soil compaction. When practicable, prune or top the vegetation instead of grubbing/uprooting.
- Minimize the removal of natural woody debris, rocks, sand or other materials from the banks, the shoreline or the bed of the waterbody below the ordinary high water mark. If material is removed from the waterbody, set it aside and return it to the original location once construction activities are completed.
- Immediately stabilize shoreline or banks disturbed by any activity associated with the project to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site.
- Restore bed and banks of the waterbody to their original contour and gradient; if the original gradient cannot be restored due to instability, a stable gradient that does not obstruct fish passage should be restored.
- If replacement rock reinforcement/armouring is required to stabilize eroding or exposed areas, then ensure that appropriately-sized, clean rock is used; and that rock is installed at a similar slope to maintain a uniform bank/shoreline and natural stream/shoreline alignment.
- Remove all construction materials from site upon project completion.

- 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 environmental 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.
    - In freshwater, follow these measures for design and installation of intake end of pipe fish screens to protect fish where water is extracted from fish-bearing waters:
        - Screens should be located in areas and depths of water with low concentrations of fish throughout the year.
        - Screens should be located away from natural or artificial structures that may attract fish that are migrating, spawning, or in rearing habitat.
        - The screen face should be oriented in the same direction as the flow.
        - Ensure openings in the guides and seals are less than the opening criteria to make “fish tight”.
        - Screens should be located a minimum of 300 mm (12 in.) above the bottom of the watercourse to prevent entrainment of sediment and aquatic organisms associated with the bottom area.
        - Structural support should be provided to the screen panels to prevent sagging and collapse of the screen.
        - Large cylindrical and box-type screens should have a manifold installed in them to ensure even water velocity distribution across the screen surface. The ends of the structure should be made out of solid materials and the end of the manifold capped.
        - Heavier cages or trash racks can be fabricated out of bar or grating to protect the finer fish screen, especially where there is debris loading (woody material, leaves, algae mats, etc.). A 150 mm (6 in.) spacing between bars is typical.
        - Provision should be made for the removal, inspection, and cleaning of screens.
        - Ensure regular maintenance and repair of cleaning apparatus, seals, and screens is carried out to prevent debris-fouling and impingement of fish.
        - Pumps should be shut down when fish screens are removed for inspection and cleaning.
- Avoid using explosives in or near water. Use of explosives in or near water produces shock waves that can damage a fish swim bladder and rupture internal organs. Blasting vibrations may also kill or damage fish eggs or larvae.
    - If explosives are required as part of a project (e.g., removal of structures such as piers, pilings, footings; removal of obstructions such as beaver dams; or preparation of a river or lake bottom for installation of a structure such as a dam or water intake), the potential for impacts to fish and fish habitat should be minimized by implementing the following measures:

- Time in-water work requiring the use of explosives to prevent disruption of vulnerable fish life stages, including eggs and larvae, by adhering to appropriate fisheries timing windows.
- Isolate the work site to exclude fish from within the blast area by using bubble/air curtains (i.e., a column of bubbled water extending from the substrate to the water surface as generated by forcing large volumes of air through a perforated pipe/hose), cofferdams or aquadams.
- Remove any fish trapped within the isolated area and release unharmed beyond the blast area prior to initiating blasting
- Minimize blast charge weights used and subdivide each charge into a series of smaller charges in blast holes (i.e., decking) with a minimum 25 millisecond (1/1000 seconds) delay between charge detonations (see Figure 1).
- Back-fill blast holes (stemmed) with sand or gravel to grade or to streambed/water interface to confine the blast.
- Place blasting mats over top of holes to minimize scattering of blast debris around the area.
- Do not use ammonium nitrate based explosives in or near water due to the production of toxic by-products.
- Remove all blasting debris and other associated equipment/products from the blast area.

Figure 1: Sample Blasting Arrangement



Per Fig. 1: 20 kg total weight of charge; 25 msecs delay between charges and blast holes; and decking of charges within holes.

- Ensure that machinery arrives on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds.

- 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 waterbody.
- Limit machinery fording of the watercourse to a one-time event (i.e., over and back), and only if no alternative crossing method is available. If repeated crossings of the watercourse are required, construct a temporary crossing structure.
- Use temporary crossing structures or other practices to cross streams or waterbodies with steep and highly erodible (e.g., dominated by organic materials and silts) banks and beds. For fording equipment without a temporary crossing structure, use stream bank and bed protection methods (e.g., swamp mats, pads) if minor rutting is likely to occur during fording.
- 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.

Date modified:

2013-11-25

SECTION II

SPECIFICATIONS

FOR FISH SALVAGE

GENERAL
SECTION 201

The Work shall include the capture, salvage and release of fish that are trapped or stranded as the result of the Contractor's operations, at locations identified in the Fish Salvage Plan, and in co-operation with the Essex Region Conservation Authority (E.R.C.A.).

Fish capture shall be performed prior to dewatering, and in such manner that will minimize the injury to the fish.

MATERIALS
SECTION 202

All materials required for fish capture, salvage and release shall be supplied by the Contractor.

CONSTRUCTION
SECTION 203

The Contractor shall not commence any fish capture, salvage and release work until the Fish Salvage Plan has been accepted by the Consultant and the Conservation Authority. All work shall be performed in accordance with the Fish Salvage Plan unless otherwise determined by the Consultant or the Conservation Authority.

The Contractor shall ensure an ice-free pool is maintained throughout all fish capture and release operations.

All fish shall be captured within the area specified and released at an acceptable location in the downstream water body. Fish shall be captured by electro fishing, netting, seining, trapping, or other method acceptable to the Consultant and/or the Conservation Authority.

MEASUREMENT AND PAYMENT
SECTION 204

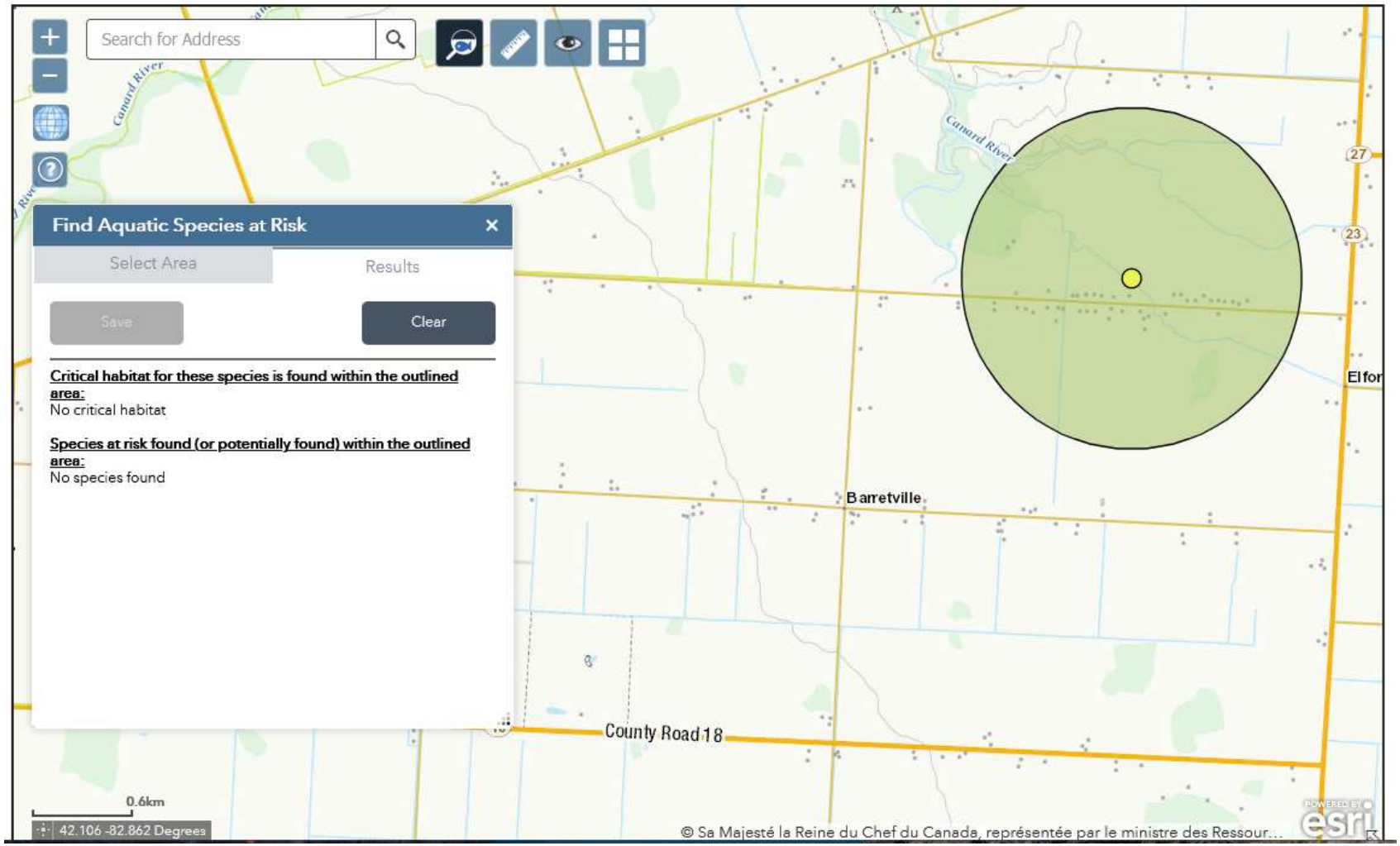
Payment for this Work will be included in the price bid for drainage work components or made at the lump sum price bid for "Fish Capture and Release". The lump sum price will be considered full compensation for all labour, materials, equipment, tools, and incidentals necessary to complete the Work to the satisfaction of the Consultant.

Snyder Branch Drain
REI2023D014

2023-10-04

D.F.O. SAR Map

Town of Essex



Fisheries and Oceans Canada

Ontario and Prairie Region

Fish and Fish Habitat Protection Program

867 Lakeshore Rd.

Burlington, ON

L7S 1A1

Pêches et Océans Canada

Région de l'Ontario et des Prairies

Programme de protection du poisson et de son habitat

867 chemin Lakeshore

Burlington, ON

L7S 1A1

Dear Lindsay Dean:

Subject: Culvert Replacement, Snyder Drain, Town of Essex (24-HCAA-02590) – Implementation of Measures to Avoid and Mitigate the Potential for Prohibited Effects to Fish and Fish Habitat

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your proposal on October 29, 2024. We understand that you propose to:

• Replace an existing structure on Snyder Drain and replace with a 7.32m long by 2400mm wide concrete box culvert and install riprap for a footprint below the high water mark of approximately

51.41m2;

• Embed culvert and install riprap to allow for fish passage under low flow conditions; and,

• Work in isolation of flow or open water to avoid sedimentation of the watercourse.

Our review considered the following information:

• Request for Review form and associated documents.

Your proposal has been reviewed to determine whether it is likely to result in:

• the death of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat which are prohibited under subsections 34.4(1) and 35(1) of the *Fisheries Act*; and,

• effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*.

The aforementioned impacts are prohibited unless authorized under their respective legislation and regulations.

To avoid and mitigate the potential for prohibited effects to fish and fish habitat (as listed above), we recommend implementing the measures listed below:

• Plan in-water works, undertakings and activities to respect timing windows to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed and migrate;

• Limit impacts on riparian vegetation to those approved for the work, undertaking or activity;

◦ Limit access to banks or areas adjacent to waterbodies;

◦ Construct access points and approaches perpendicular to the watercourse or waterbody;

◦ Re-vegetate the disturbed area with native species suitable for the site;

• Restore stream geomorphology (i.e., restore the bed and banks, gradient and contour of the waterbody) to its initial state;

• Develop and implement an erosion and sediment control plan to avoid the introduction of sediment into any waterbody during all phases of the work, undertaking or activity;

◦ Schedule work to avoid wet, windy and rainy periods (and heed weather advisories) that may result in high flow volumes and/ or increase erosion and sedimentation;

◦ Monitor the watercourse to observe signs of sedimentation during all phases of the work, undertaking or activity and take corrective action; and,

• Develop and implement a response plan to avoid a spill of deleterious substances.

• Aquatic invasive species are introduced and spread through transporting sands and sediments and using contaminated construction equipment. To prevent the spread of aquatic invasive species during construction in aquatic environments:

◦ Clean, drain and dry any equipment used in the water; and,

◦ Never move organisms or water from one body of water to another

Provided that you incorporate these measures into your plans, the Program is of the view that your proposal is not likely to result in the contravention of the above mentioned prohibitions and requirements.

Should your plans change or if you have omitted some information in your proposal, further review by the Program may be required. Consult our website (Projects near water (dfo-mpo.gc.ca)) or consult with a qualified environmental consultant to determine if further review may be necessary. It remains your responsibility to remain in compliance with the *Fisheries Act*, and the *Species at Risk Act*.

It is also your *Duty to Notify* DFO if you have caused, or are about to cause, the death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat. Such notifications should be directed to DFO.OPHabitat.MPO@dfo-mpo.gc.ca or 1-855-852-8320.

Please notify this office at least 10 days before starting any in-water works. Send your notification to the assessor (contact information below) and the DFO 10 notification mailbox: DFO.OP.10DayNotification-Notification10Jours.OP.MPO@dfo-mpo.gc.ca. We recommend that a copy of this letter be kept on site while the work is in progress. It remains your responsibility to meet all other federal, territorial, provincial and municipal requirements that apply to your proposal.

If you have any questions with the content of this letter, please contact Jenica Pires at Jenica.Pires@dfo-mpo.gc.ca. Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,

Jenica Pires

Biologist, Triage and Planning

Fish and Fish Habitat Protection Program

APPENDIX "REI-B"

The mitigation plan for work on the drain will be provided upon request.

NHIC Data

OGF ID	Element Type	Common Name	Scientific Name	SRank	SARO Status	COSEWIC Status	ATLAS NAD83 IDENT	COMMENTS
702508	SPECIES	Yellow-fruited Sedge	Carex annectens				17LG4764	
702508	SPECIES	Hairy Green Sedge	Carex hirsutella				17LG4764	
702508	SPECIES	Squarrose Sedge	Carex squarrosa				17LG4764	
702508	SPECIES	Climbing Prairie Rose	Rosa setigera		SC	SC	17LG4764	
702508	SPECIES	Eastern Meadowlark	Sturnella magna		THR	THR	17LG4764	
702508	SPECIES	Lizard's-tail	Saururus cernuus				17LG4764	
702518	SPECIES	Yellow-fruited Sedge	Carex annectens				17LG4864	
702518	SPECIES	Hairy Green Sedge	Carex hirsutella				17LG4864	
702518	SPECIES	Squarrose Sedge	Carex squarrosa				17LG4864	
702518	SPECIES	Climbing Prairie Rose	Rosa setigera		SC	SC	17LG4864	
702518	SPECIES	Eastern Meadowlark	Sturnella magna		THR	THR	17LG4864	
702518	SPECIES	Lizard's-tail	Saururus cernuus				17LG4864	
702527	SPECIES	Massasauga (Carolinian population)	Sistrurus catenatus pop. 2		END	END	17LG4963	
702527	SPECIES	Barn Owl	Tyto alba		END	END	17LG4963	
702527	SPECIES	Bobolink	Dolichonyx oryzivorus		THR	THR	17LG4963	
702507	SPECIES	Yellow-fruited Sedge	Carex annectens				17LG4763	
702507	SPECIES	Hairy Green Sedge	Carex hirsutella				17LG4763	
702507	SPECIES	Squarrose Sedge	Carex squarrosa				17LG4763	
702507	SPECIES	Climbing Prairie Rose	Rosa setigera		SC	SC	17LG4763	
702507	SPECIES	Eastern Meadowlark	Sturnella magna		THR	THR	17LG4763	
702507	SPECIES	Lizard's-tail	Saururus cernuus				17LG4763	
702507	SPECIES	American Burying Beetle	Nicrophorus americanus		EXP	EXP	17LG4763	

OGF ID	Element Type	Common Name	Scientific Name	SRank	SARO Status	COSEWIC Status	ATLAS NAD83 IDENT	COMMENTS
702517	SPECIES	Yellow-fruited Sedge	Carex annectens				17LG4863	
702517	SPECIES	Hairy Green Sedge	Carex hirsutella				17LG4863	
702517	SPECIES	Squarrose Sedge	Carex squarrosa				17LG4863	
702517	SPECIES	Climbing Prairie Rose	Rosa setigera		SC	SC	17LG4863	
702517	SPECIES	Eastern Meadowlark	Sturnella magna		THR	THR	17LG4863	
702517	SPECIES	Bobolink	Dolichonyx oryzivorus		THR	THR	17LG4863	
702517	SPECIES	Lizard's-tail	Saururus cernuus				17LG4863	

APPENDIX “REI-C”

STANDARD SPECIFICATIONS
FOR ACCESS BRIDGE CONSTRUCTION

1. PRECAST CONCRETE BLOCK & CONCRETE FILLED JUTE BAG HEADWALLS

After the Contractor has set the endwall foundations and the new pipe in place, it shall completely backfill same and install new precast concrete blocks or concrete filled jute bag headwalls at the locations and parameters indicated on the drawing. All concrete used for headwalls shall be a minimum of 30 mPa at 28 days and include 6% +/- 1% air entrainment.

Precast concrete blocks shall be interlocking and have a minimum size of 600mmX600mmX1200mm. Half blocks shall be used to offset vertical joints. Cap blocks shall be a minimum of 300mm thick. A foundation comprising minimum 300mm thick poured concrete or precast blocks the depth of the wall and the full bottom width of the drain plus 450mm embedment into each drain bank shall be provided and placed on a firm foundation as noted below. The Contractor shall provide a levelling course comprising a minimum thickness of 150mm Granular “A” compacted to 100% Standard Proctor Density or 20mm clear stone, or a lean concrete as the base for the foundation. The base shall be constructed level and flat to improve the speed of installation. Equipment shall be provided as required and recommended by the block supplier for placing the blocks such as a swift lift device for the blocks and a 75mm eye bolt to place the concrete caps,. The headwall shall extend a minimum of 150mm below the invert of the access bridge culvert with the top of the headwall set to match the finished driveway grade, unless a 150mm high curb is specified at the edge of the driveway. To achieve the required top elevation, the bottom course of blocks and footing may require additional embedment into the drain bottom. The Contractor shall provide shop drawings of the proposed wall for approval by the Drainage Superintendent or Engineer prior to construction.

Blocks shall be placed so that all vertical joints are staggered. Excavation voids on the ends of each block course shall be backfilled with 20mm clear stone to support the next course of blocks above. Walls that are more than 3 courses in height shall be battered a minimum of 1 unit horizontal for every 5 units of vertical height. The batter shall be achieved by careful grading of the footing and foundation base, or use of pre-battered base course blocks. Filter cloth as specified below shall be placed behind the blocks to prevent the migration of any fill material through the joints. Backfill material shall be granular as specified below. Where the wall height exceeds 1.8 metres in height, a uni-axial geogrid SG350 or equivalent shall be used to tie back the walls and be installed in accordance with the manufacturer’s recommendations. The wall face shall not extend beyond the end of the access bridge pipe. Non-shrink grout shall be used to fill any gaps between the blocks and the access bridge pipe for the full depth of the wall. The grout face shall be finished to match the precast concrete block walls as closely as possible.

When constructing the concrete filled 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 behind the new concrete filled jute bag headwalls with Granular "B" and Granular "A" material as per O.P.S.S. Form 1010 and the granular material shall be compacted in place to 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 305mm (12") in thickness.

The concrete filled 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 25 MPa in 28 days and shall be provided and placed only as a wet mix. Under no circumstance shall the 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 (18") x 660mm (26"). The jute bags shall be filled with concrete so that when they are laid flat, they will be approximately 100mm (4") thick, 305mm (12") to 380mm (15") wide and 460mm (18") long.

The concrete jute bag headwall to be provided at the end of the bridge pipe shall be a single or double bag wall construction as set out in the specifications. The concrete filled bags shall be laid so that the 460mm (18") dimension is parallel with the length of the new pipe. The concrete filled jute bags shall be laid on a footing of plain concrete being 460mm (18") wide, and extending for the full length of the wall, and 305mm (12") thick extending below the bottom of the culvert pipe.

All concrete used for the footing, cap and bags shall have a minimum compressive strength of 30 mPa at 28 days and shall include 6% ± 1% air entrainment.

Upon completion of the jute bag headwall the Contractor shall cap the top row of concrete filled bags with a layer of plain concrete, minimum 100mm (4”) thick, and hand trowelled to obtain a pleasing appearance. If the cap is made more than 100mm thick, the Contractor shall provide two (2) continuous 15M reinforcing bars set at mid-depth and equally spaced in

the cap. 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.

The completed jute bag headwalls shall be securely embedded into the drain bank a minimum of 450mm (18") measured perpendicular to the sideslopes of the drain.

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 pieces 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 (2) flat parallel sides. The concrete rip rap shall be fully mortared in place using a mixture composed of three (3) parts of clean sharp sand and one (1) part of Portland cement.

The complete placement and backfilling of the headwalls shall be performed to the full satisfaction of the Drainage Superintendent and the Engineer.

2. QUARRIED LIMESTONE ENDWALLS

The backfill over the ends of the corrugated steel pipe shall be set on a slope of 1-½ units horizontal to 1 unit vertical from the bottom of the corrugated steel pipe to the top of each end slope and between the drain banks. The top 305mm (12") in thickness of the backfill over the ends of the corrugated steel pipe shall be quarried limestone. The quarried limestone shall also be placed on a slope of 1-½ units horizontal to 1 unit vertical from the bottom of the corrugated steel pipe to the top of each bank of the drain adjacent each end slope. The quarried limestone shall have a minimum dimension of 100mm (4") and a maximum dimension of 250mm (10"). The end slope protection shall be placed with the quarried limestone pieces carefully tamped into place with the use of a shovel bucket so that, when complete, the end protection shall be consistent, uniform, and tightly laid in place.

Prior to placing the quarried limestone end protection over the granular backfill and on the drain banks, the Contractor shall lay non-woven geotextile filter fabric "GMN160" conforming to O.P.S.S. 1860 Class I or approved equal. The geotextile filter fabric shall extend from the bottom of the corrugated steel pipe to the top of each end slope of the bridge and along both banks of the drain to a point opposite the ends of the pipe.

The Contractor shall take extreme care not to damage the geotextile filter fabric when placing the quarried limestone on top of the filter fabric.

3. BRIDGE BACKFILL

After the corrugated steel pipe has been set in place, the Contractor shall backfill the pipe with Granular "B" material, O.P.S.S. Form 1010 with the exception of the top 305mm (12") of the backfill. The top 305mm (12") of the backfill for the full width of the excavated area (between each bank of the drain) and for the top width of the driveway, shall be Granular "A" material, O.P.S.S. Form 1010. The granular backfill shall be compacted in place to a Standard Proctor Density of 100% by means of mechanical compactors. All of the backfill material, equipment used, and method of compacting the backfill material shall be inspected and approved and meet with the full satisfaction of the Drainage Superintendent and Engineer.

4. GENERAL

Prior to the work commencing, the Drainage Superintendent and Engineer must be notified, and under no circumstances shall work begin without one of them being at the site. Furthermore, the grade setting of the pipe must be checked, confirmed, and approved by the Drainage Superintendent or Engineer prior to continuing on with the bridge installation.

The alignment of the new bridge culvert pipe shall be in the centreline of the existing drain, and the placing of same must be performed totally in the dry.

Prior to the installation of the new access bridge culvert, the existing sediment build-up in the drain bottom must be excavated and completely removed. This must be done not only along the drain where the bridge culvert pipe is to be installed, but also for a distance of 3.05 metres (10 ft.) both upstream and downstream of said new access bridge culvert. When setting the new bridge culvert pipe in place it must be founded on a good undisturbed base. If unsound soil is encountered, it must be totally removed and replaced with 20mm (3/4") clear stone, satisfactorily compacted in place.

When doing the excavation work or any other portion of the work relative to the bridge installation, care should be taken not to interfere with, plug up, or damage any existing surface drains, swales, and lateral or main tile ends. Where damage is encountered, repairs to correct same must be performed immediately as part of the work.

The Contractor and/or landowner performing the bridge installation shall satisfy themselves as to the exact location, nature and extent of any existing structure, utility or other object that they may encounter during the course of the work. The Contractor shall indemnify and save harmless the Town, or the Municipality, the Engineer, and their staff from any damages which it may cause or sustain during the progress of the work. It shall not hold them liable for any legal action arising out of any claims brought about by such damage caused by it.

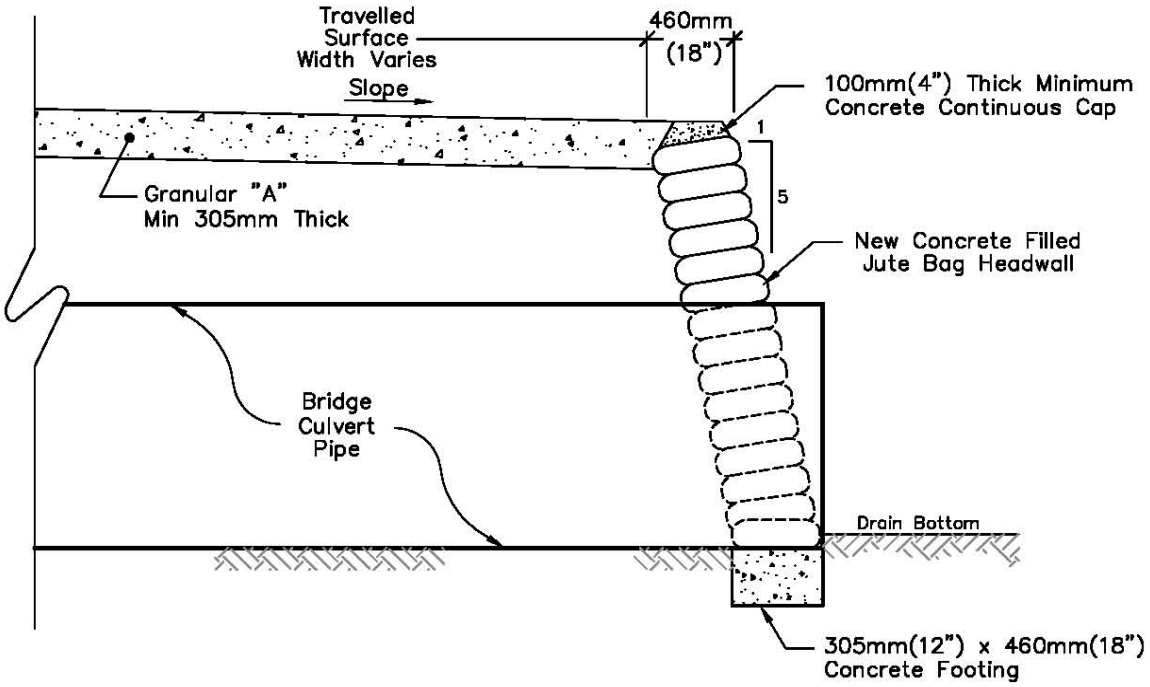
Where applicable, the Contractor and/or landowner constructing the new bridge shall be responsible for any damage caused by them to any portion of the Town road right-of-way. They shall take whatever precautions are necessary to cause a minimum of damage to same and must restore the roadway to its original condition upon completion of the works.

When working along a municipal roadway, the Contractor shall provide all necessary lights, signs, barricades and flagpersons as required to protect the public. All work shall be carried out in accordance with the requirements of the Occupational Health and Safety Act, and latest amendments thereto. If traffic control is required on this project, it is to comply with the M.T.O. Traffic Control Manual for Roadway Work Operations and Ontario Traffic Manual Book 7.

Once the bridge installation has been completed, the drain sideslopes directly adjacent the new headwalls and/or endwalls are to be completely restored including revegetation, where necessary.

All of the work required towards the installation of the bridge shall be performed in a neat and workmanlike manner. The general site shall be restored to its' original condition, and the general area shall be cleaned of all debris and junk, etc. caused by the work

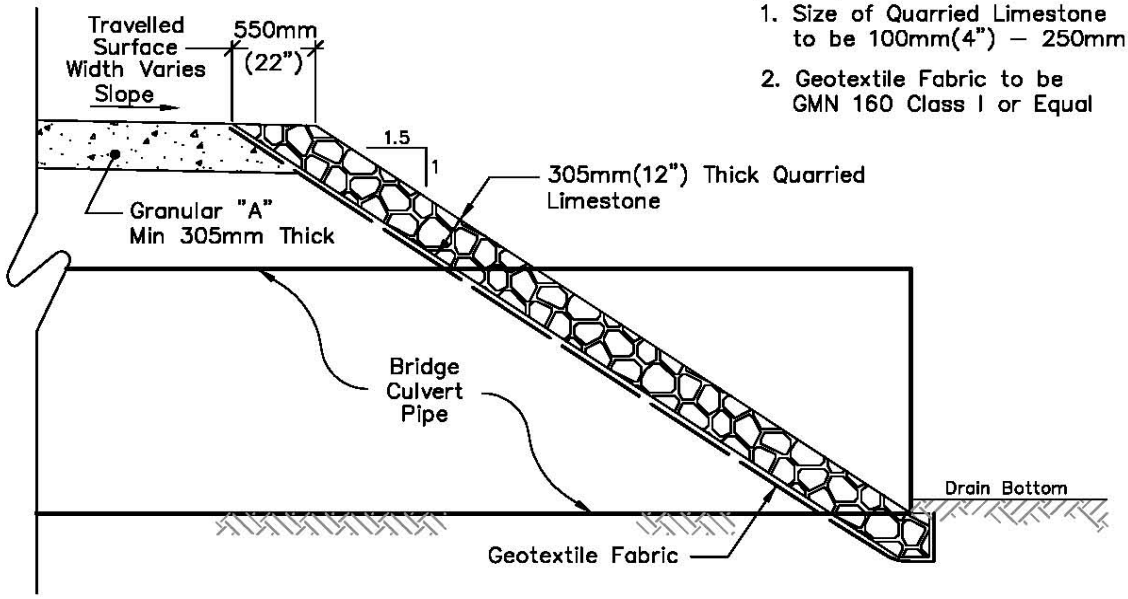
All of the excavation, installation procedures, and parameters as above mentioned are to be carried out and performed to the full satisfaction of the Drainage Superintendent and Engineer.



Typical Jute Bag Headwall

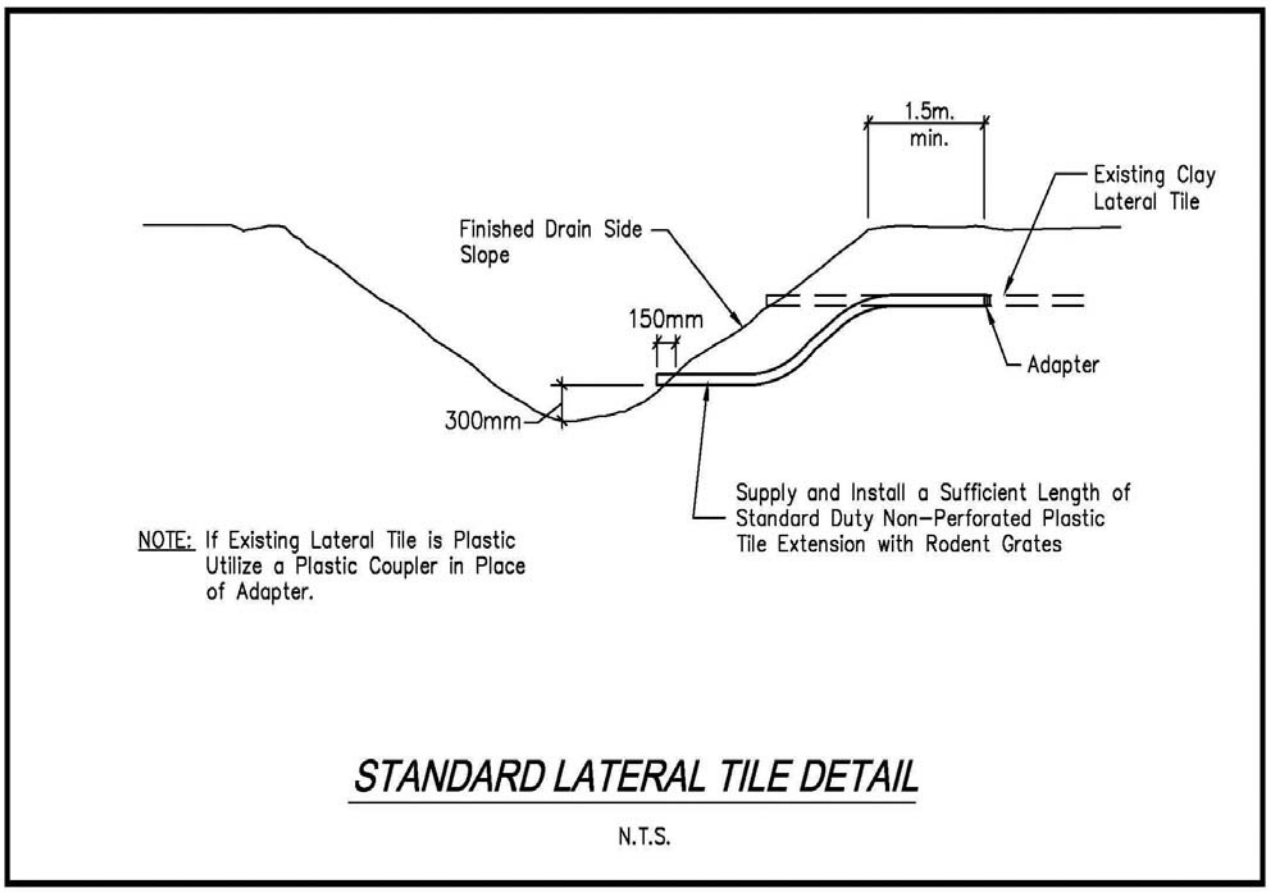
NOTE:

1. Size of Quarried Limestone to be 100mm(4") – 250mm(10")
2. Geotextile Fabric to be GMN 160 Class I or Equal



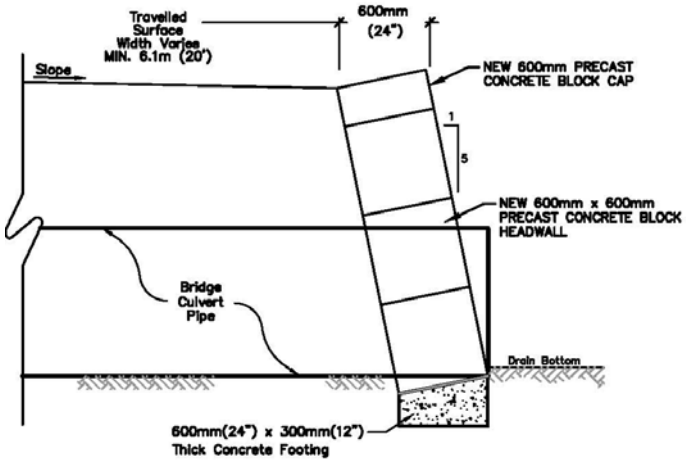
Typical Quarried Limestone End Protection

Rood Engineering Inc.
Consulting Engineers
9 Nelson Street
Leamington, Ontario N8H 1G6
519-322-1621



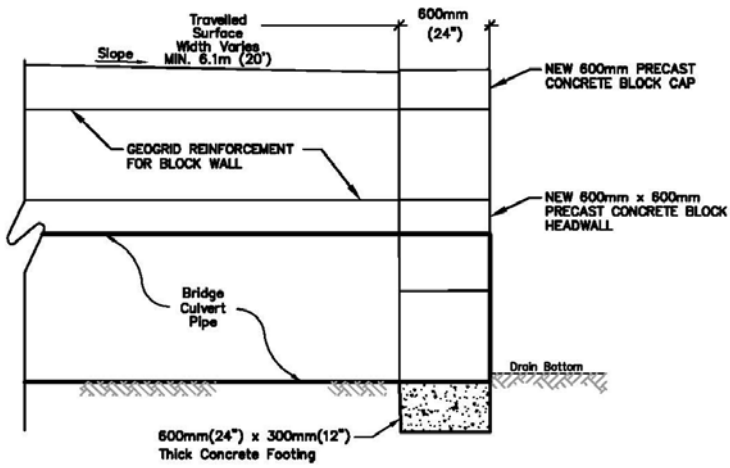
STANDARD LATERAL TILE DETAIL

N.T.S.



TYPICAL PRECAST CONCRETE BLOCK END PROTECTION

Scale = N.T.S.



TYPICAL VERTICAL PRECAST CONCRETE BLOCK END PROTECTION

Scale = N.T.S.

APPENDIX “REI-D”

WATERSHED

OF THE

SNYDER BRANCH DRAIN

(Geographic Township of Colchester North)

IN THE

TOWN OF ESSEX

IN THE

COUNTY OF ESSEX • ONTARIO

Gerard Rood

GERARD ROOD, P.ENG.

REGISTERED PROFESSIONAL ENGINEER G.ROOD 2025-04-04 PROVINCE OF ONTARIO

ROOD ENGINEERING INC.

CONSULTING ENGINEERS
Leamington, Ontario
519-322-1621

DATE: April 4th, 2025

TOWN OF ESSEX

MAYOR:	Sherry Bondy
CLERK:	Joseph Malandruccolo
DRAINAGE SUPERINTENDENT:	Lindsay Dean, B.Sc.

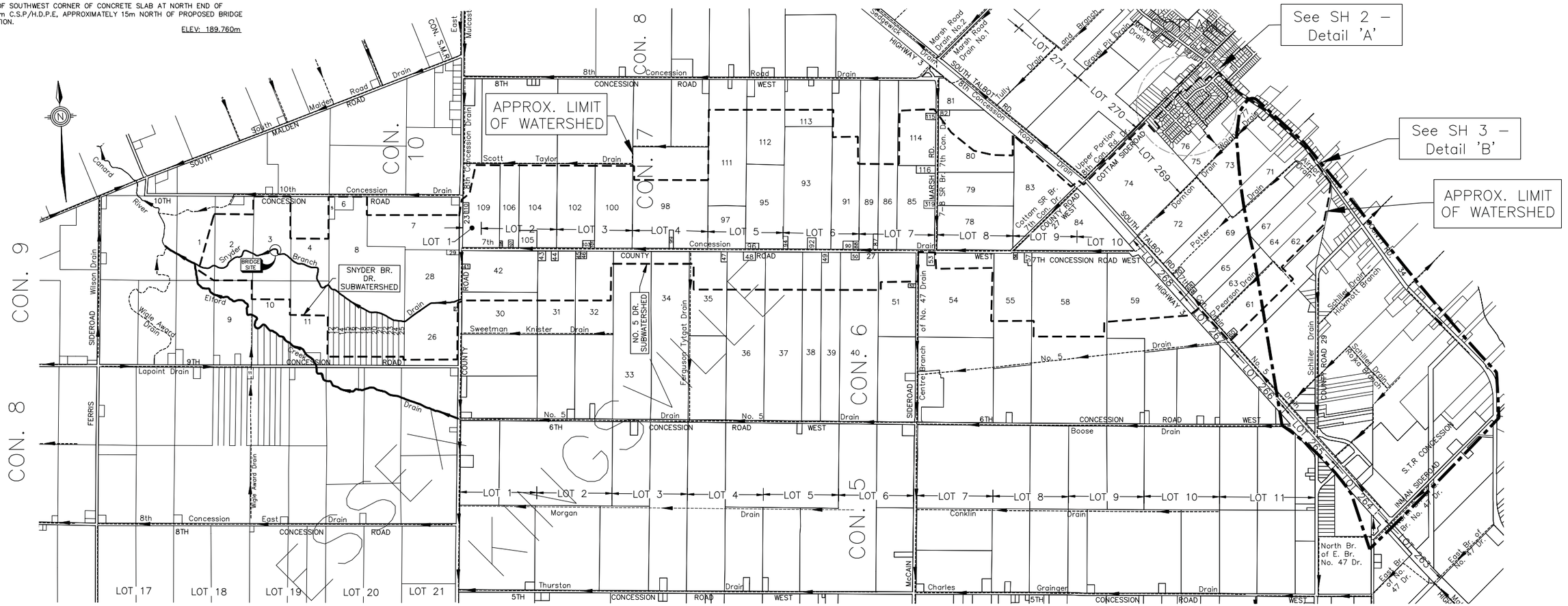
BENCHMARKS:

TOP OF SOUTHWEST CORNER OF CONCRETE SLAB AT NORTH END OF 300mm C.S.P/H.D.P.E, APPROXIMATELY 15m NORTH OF PROPOSED BRIDGE LOCATION.

ELEV: 189.760m

KEY PLAN

Scale = 1:75,000



WATERSHED PLAN

SCALE = 1:15,000

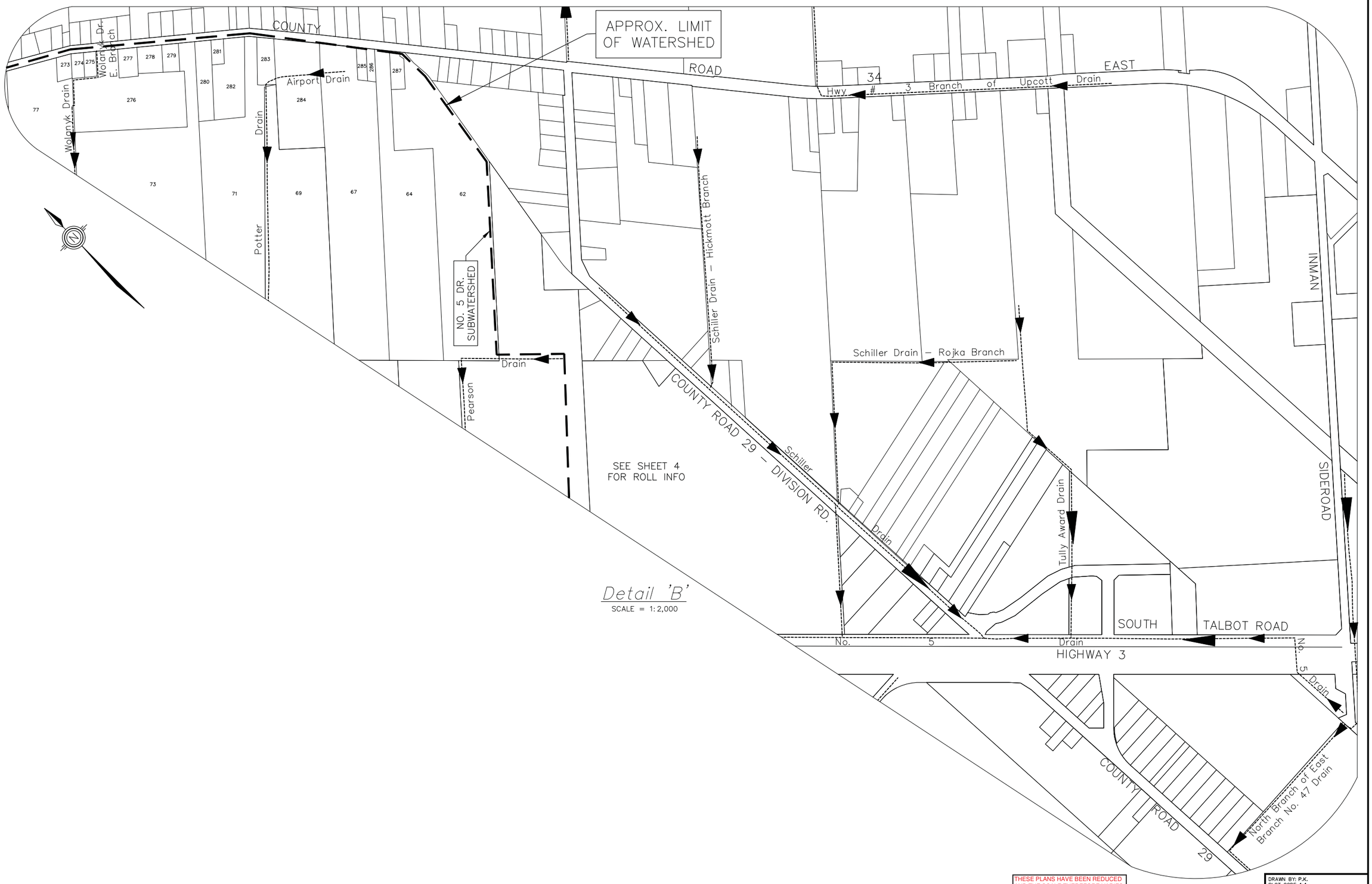
THESE PLANS HAVE BEEN REDUCED AND THE SCALE THEREFORE VARIES. FULL SCALE PLANS MAY BE VIEWED AT THE MUNICIPAL OFFICE.

DRAWN BY: P.K.
PLOT CODE: 1:1
COMPUTER FILE: REI2023D014.DWG

FILE No.: REI2023D014

SHEET No.: 1 OF 4


County Road 34
COTTAM
County Road 27
Cottam Sideroad Drain
Cottam Sideroad Drain
APPROX. LIMIT OF WATERSHED
North Branch of Francis Street Drain
Francis Street
Francis Street Drain
Clark Street
Lyle Street
Lyle Street Drain
William Street
Clark Subdivision Drain
Clark Subdivision Drain
Cottam
Diane D Street
Sara St.
Veriena Boulevard
Diane D
Joaney Lane
Joane Lane
SEE SHEET 4 FOR ROLL INFO
Wolanyk Drain
Dornton Drain
Ivanisko Branch of Cottam Sideroad Drain
Detail 'A'
SCALE = 1:750
154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169
170 171 172 173 174 175 176 227 228 229 230 231 232 233 234 235 236 237
177 178 179 180 181 182 183 184 185 186 187 188 189
190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 267
238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 268 269 270 271 272 273
288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318
117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153
75 76 77
THESE PLANS HAVE BEEN REDUCED AND THE SCALE THEREFORE VARIES. FULL SCALE PLANS MAY BE VIEWED AT THE MUNICIPAL OFFICE.
DRAWN BY: P.K.
PLOT CODE: 1:1
COMPUTER FILE: REI2023D014.DWG
FILE No.: REI2023D014
SHEET No.: 2 OF 4



THESE PLANS HAVE BEEN REDUCED AND THE SCALE THEREFORE VARIES. FULL SCALE PLANS MAY BE VIEWED AT THE MUNICIPAL OFFICE.

DRAWN BY: P.K.
PLOT CODE: 1:1
COMPUTER FILE: REI2023D014.DWG

FILE No.: REI2023D014

SHEET No.: 3 OF 4

WATERSHED OWNER INFO – ESSEX

No.	Roll	Owner/s
1		Paul & Renee Salden
2		Trevor Bennet & Sandra Pupatello
3		Gerald & Maria Czajkowski
4		Gordon & Pauline Olafson
5		James Taylor
6		Adam & Jeslyn Davies
7		Darrin Banwell & Lauren Howard
8		Bradley & Anne Anger
9		Michael & Louise Grona
10		Monica & Cyril Poisson
11		Dennis Zawadski
12		David Bastien Jr
13		Francise Ewing & CIBC Mortgage
14		Darlene Mckay
15		Earl McCormick
16		Patrick McCormick
17		Gord & Judy Tennant
18		Tony Deyle
19		Michael & Lauren Cowan
20		Kimberly Panzer
21		Tamara & Kenneth Whitney
22		Walter & Sharon Hayes
23		Henrique & Alexia Ribafeita
24		Christopher & Heather Escobar
25		Gordon & Donita Osborne
26		John & Gregory Hammer
27		Gregory Hammer
28		Brenda & Bradley Anger
29		Ralph & Lillian Hammer

WATERSHED OWNER INFO – KINGSVILLE

No.	Owner/s
30	Andre & Colette Cazaban
31	Burstyn Farms Ltd.
32	Matthew Hyland
33	Stephen Ferguson
34	Marian Maslin
35	Joslyne Rizza
36	Lawrence & Joseph Miehls
37	Ronald & Karen Kendrick
38	Edward Ross
39	Edward Ross
40	Davin & Nicole Kendrick
41	Richard & Donna Valenciuk
42	Richard & Donna Valenciuk
43	John & Nancy Stitzinger
44	Paul & Corinne Molle
45	Joseph & Christine Parent
46	Mark Hall & Melissa Weldon
47	Shelley Moody
48	Amber Norman & Trevor Maheux
49	Arthur Brown
50	Henry & Megan Lumley
51	Henry Renaud
52	
53	
54	Neil & Sharla Ferguson
55	Dorothy & Laurence Merritt
56	Donna Merritt
57	Laurence & Dorothy Merritt
58	Milton Hillier
59	Stevan Barisic
60	John & Diane Bachtold
61	John & David Bachtold
62	Milka Jezdic
63	Larry & Tammy Meloche
64	Gerald & Iris Pillon
65	John & David Bachtold
66	Diane Bachtold & Alysa Gould
67	George Newman
68	Barbara Van Grinsven
69	Charles & Craig Chevalier
70	Andrea Nikita
71	Leo Hayes
72	Chevalier Farms & Elevator Ltd.
73	Margery Macgregor
74	Richard & Sharon Kendrick
75	1575742 Ontario Ltd.
76	Gary & Laurie Taveirne
77	Jacob & Yola Pretli
78	James Ferguson
79	James & Diane Ferguson
80	Brent & Michelle Ramsay
81	
82	
83	Donna & Steven Merritt
84	Donna & Steven Merritt
85	Cottam Radiator Ltd. & James Ferguson
86	James & Jeannette Syvestre
87	Tyler Menard & Elizabeth Jeffrey
88	Dorothy Davison
89	James Sylvestre
90	Phillip Keele & Quina Bartoli
91	David & Debbie Alexander
92	David & Debbie Alexander
93	David & Jason Alexander
94	Benjamin & Kaitlyn Watson
95	Richard & Phyliss Barnett
96	Kari Barnett
97	Michael & Patricia Hamlin
98	Robert & Jerry Vriesacker
99	Jennifer & Michael Dinchik
100	Brian & Dorene Lester
101	Dawne Grado
102	Daniel & Nina Lavin
103	Nina Civitarese & Daniel Bouliane
104	Bradley & Ruth Salter
105	Douglas & Andrea Pisciotto
106	Sharon & Eric Mulcaster
107	Ruth Battersby
108	Dale & Betty Steed
109	Todd Gee & Kelly Dunn
110	Michael & Constance Mulholland
111	David & Robert Alexander
112	Donald & Cora Bertram
113	Jason & Laura Alexander
114	Steckle Farms Linited
115	Kevin Darmon
116	James & Diane Ferguson
117	Wilhelm & Jessica Loewen
118	Christopher South & Maegan Ferranti
119	Justin & Sarah Snelgrove
120	Crystal Hudon & Michael Bondy
121	Tyler & Patricia Driedger
122	Edward & Brenda Ryall
123	James & Nicole Bradley
124	Kevin Anderson & Michele Lowe
125	Roger Desramaux & Megan Watson
126	Bker & Zelia Abdulkader
127	Peter Millar & Jaclyn Garant
128	Cottam Solar Limited
129	Cottam Solar Limited
130	Cottam Solar Limited
131	Cottam Solar Limited
132	Cottam Solar Limited
133	Cottam Solar Limited
134	Cottam Solar Limited
135	Cottam Solar Limited
136	Cottam Solar Limited
137	Cottam Solar Limited
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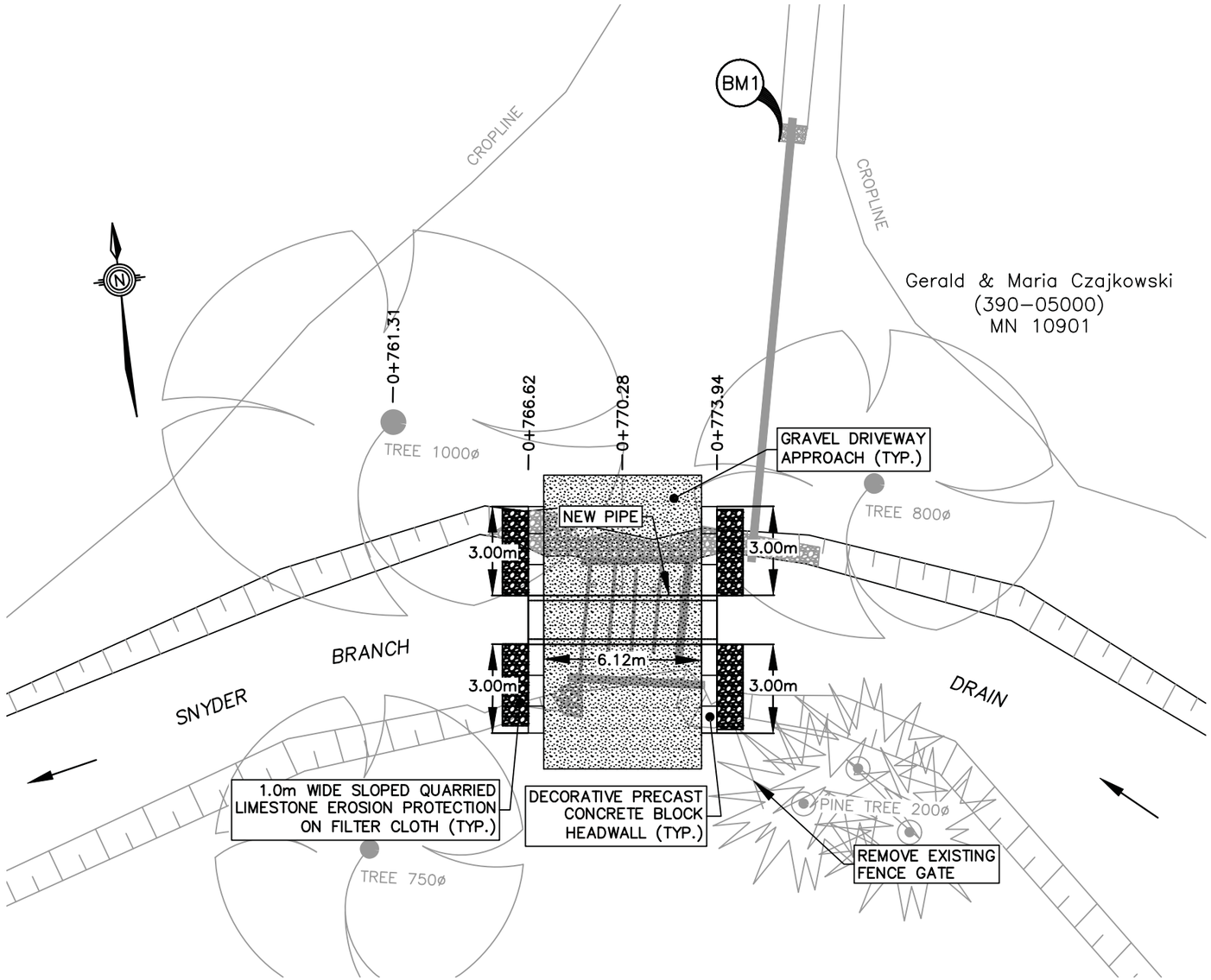
141	Cottam Solar Limited
142	Cottam Solar Limited
143	Cottam Solar Limited
144	Cottam Solar Limited
145	Cottam Solar Limited
146	Cottam Solar Limited
147	Cottam Solar Limited
148	Cottam Solar Limited
149	Christian Fairey & Hailee Mathies
150	Mary Chapman & Wayne Roy
151	Amy & Robert Purdy
152	Anthony & Sarah Querin
153	Norman Davison & Stephen Laurie
154	
155	Randy & Lori Duhig
156	Allan & Laura Gagne
157	Curtis Bishop
158	Wanda Hayes
159	Ivan Dets
160	Ronald & Debra Mitchell
161	Daniel Stanley
162	Francesco Incitti & Sofia Montgomery
163	John & Krista Armaly
164	Shelley Schraeder
165	Daniel & Twyla St. Louis
166	Florin Serbanescu
167	James & Cheryl Sagaert
168	Neil & Barbara Banman
169	Joseph & Susan Schembri
170	Ian & Janet Williams
171	Anthony Esposito
172	Richard & Brenda Summerfield
173	Mary Squance
174	Carol Montello
175	James & Ginger Bogdon
176	John & Bonnie Marn
177	Johan & Sarah Wiebe
178	Joseph Foley & Volha Baranava
179	Rojina & Ruth Veeresar
180	David & Karen Middleton
181	Timothy & Jennine Meloche
182	Jason & Sherri Dutot
183	Ralph & Veronica Devries
184	Donald & Mary Bryant
185	David Pereira & Kathleen Dennison
186	Becky & Corey Coussens
187	Shannon Dalgleish & Robert Scott
188	Timothy & Sherry Rudge
189	Cornelio & Anna Fehr
190	Jake Fehr
191	David Barwick & Angela Mulcaster-Boer
192	Steven Moon & Gail Donais
193	Gerald & Tammy Poirier
194	Jeffrey & Amanda Ferreira
195	Steven & Cynthia Ghikadis
196	William & Sarah Smith
197	Robert & Shannon Belleau
198	Daniel & Shelby Wilkins
199	Chad Gray
200	Gary & Patricia Bain
201	Herbert Bernhardt & Kathleen Sauter
202	Douglas & Ann Sabga
203	Jacob Hildebrandt & Helen Boldt
204	David & Sabrina Green
205	Kyle Sayers
206	Gregory Anger & Samantha Tofflemire
207	Wayne & Ellen Hyland
208	Charles & Jennifer Tilden
209	Faye St. Pierre
210	Dave & Sue Maedel
211	Roger Mercer & Luwana Mealing-Mercer
212	Robert & Laura Kapetanov
213	Ismael Oozer & Bodeha Booze-Oozeer
214	Patrick & Debra Brophey
215	Harry & Bonnie Terzopoulos
216	Dean & Sandra Pearson
217	Keith & Elizabeth Cornell
218	Joshua & Michelle Weeks
219	Victoria Davison & John Hunter
220	Shawn & Angie Couvillon
221	Donald & Kailyn Neal
222	Michael Richmond & Andrea Balkwill
223	Dwane & Suzanne Osborne
224	Brian Cinat & Karlea Beresh
225	Glenn & Karen Quinlan
226	Florence Rivest
227	Dina Pantoja & Oscar Molina
228	August & Lorrie Hoekstra
229	Dennis & Catherine Dugdale
230	Karen Allen
231	Timothy Kelly & Shannon Dubai-Kelly
232	Brandon Sonoski & Shania Taylor
233	Jason & Andrea Powell
234	Tarcisio & Mary-Jo Morassut
235	Salvatore Peralta & Carlee Fleming
236	Robert & Annette Gabriele
237	Linda Fick & Nancy Kujawski
238	Denis Sterling
239	Jacob & Helena Froese
240	Steven & Diane Doyle
241	Derek & Diane Cameron
242	Cindy Mills
243	Mark & Tammy Clifford
244	Joseph & Helga Bondy
245	Richard Ferrato
246	Randy & Tracey Baillargeon
247	Robert & Julie Wilson
248	Daniel & Melissa Langis
249	David & Irene Doody
250	William & Natalie Simon
251	Craig & Jennifer Newman
252	Lizabeth Matte
253	Town of Kingsville
254	William & Cheryl Carmichael
255	Derek & Kristen Freeman
256	Dean & Patricia Dame
257	Arthur Delaney
258	Ted & Carleen Hunter
259	Brian & Lynn Higgins
260	Coreen Sykes & Paul Epp
261	Christopher & Mallory Branov
262	Andy & Christine Faraci
263	Richard Dunn
264	Margaret McCord
265	Erin Livingstone
266	Ronan & Melanie Oliver
267	Cottam Solar Limited
268	Ricky & Brenda Garant
269	Kenneth & Rosemary Roadhouse
270	Maria Klaas
271	Gary & Maria Klaas
272	David Parise & Ryan McLeod
273	Town of Kingsville
274	Essex County Community Living
275	John & Michelle Ivanisko
276	Justin Ireland & Jamie Meunier
277	Dennis Mostoway & Dawn Reaume
278	Mark Voligny & Michelle Winger
279	Preston Harris & Germaine Gould
280	Beverley & Kristine Iles
281	Pedro & Aganetha Dyck
282	Leo Hayes
283	Nicholas & Erin Hayes
284	Daniel & Jenny Nantais
285	Peter & Elizabeth Peters
286	Cody Haynes
287	Rita & Ralph Wigle
288	Fred & Corin Menjivar
289	Douglas Dalpe
290	Santino Viselli & Megan Manchester
291	Irene Stewart
292	Joseph & Lindsay Iatonna
293	Neil Arner
294	David Krahn
295	Terry Ramsay & Amy Wiper
296	Heidi & Paul Harnish
297	Cameron & Grace Fast
298	Antonio & Sheila Lopetrone
299	Trevor & Kari Smith
300	Steven & Mckenzee Chortos
301	Jason Clark & Amanda Middleton
302	Michael & Tina O'Connor
303	Connie Bilton
304	Michael & Rita Beaule
305	Keith Cullin
306	Brian Mitchell & Jane Harley
307	Mario & Sonia Mendes
308	Nancy Garraway & John Etue
309	Al Langstaff
310	Maninder Brar & Probjheet Kaur
311	Virgina Deman & The Canada Trust Company
312	Eric & Amanda Noel
313	Danielle Oles
314	Carlos Correa & Gloria Arango
315	Benjamin & Melissa Fischer
316	Brian & Sharon Birch
317	Alexander & Jamesina Keeney
318	David & Toni Curtis
319	Curtis Ferguson & Tina Rose

THESE PLANS HAVE BEEN REDUCED AND THE SCALE THEREFORE VARIES. FULL SCALE PLANS MAY BE VIEWED AT THE MUNICIPAL OFFICE.

DRAWN BY: P.K.
PLOT CODE: 1:1
COMPUTER FILE: REI2023D014.DWG

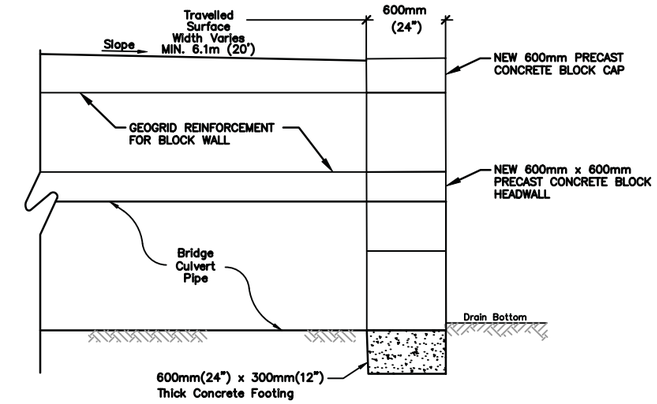
FILE No.: REI2023D014

APPENDIX "REI-E"



BRIDGE PLAN
SCALE = 1:200

REMOVE EXISTING BRIDGE, STORE STEEL BEAMS OFF ASIDE AS OWNER WOULD LIKE TO KEEP ALL STEEL BEAMS WITHIN COLLAPSED BRIDGE



TYPICAL VERTICAL PRECAST CONCRETE BLOCK END PROTECTION
Scale = N.T.S.

KEY PLAN
Scale = 1:100,000

BENCHMARK:
TOP OF SOUTHWEST CORNER OF CONCRETE SLAB AT NORTH END OF 300mm C.S.P/H.D.P.E, APPROXIMATELY 15m NORTH OF PROPOSED BRIDGE LOCATION. ELEV. = 189.760m

PIPE SIZE:	PIPE LENGTH:	PIPE GAUGE:	CORRUGATIONS:	TYPE OF PIPE:	DESIGN ELEVATIONS:
2400mm Span x 1500mm Rise	7.32m (24.0 FT.)	CHBDC CAN CSA S6-06	N/A	REINFORCED CONCRETE BOX	UPSTREAM INV. (E) =187.411m DOWNSTREAM INV. (W) =187.409m ℄ TOP OF DRIVEWAY =189.108m DRAIN GRADE = 0.03%

SNYDER BRANCH DRAIN
New Bridge for Gerald & Maria Czajkowski (390-05000)
(Geographic Township of Colchester North)
IN THE
TOWN OF ESSEX
IN THE
COUNTY OF ESSEX • ONTARIO

REGISTERED PROFESSIONAL ENGINEER
G.ROOD
2025-04-03
PROVINCE OF ONTARIO

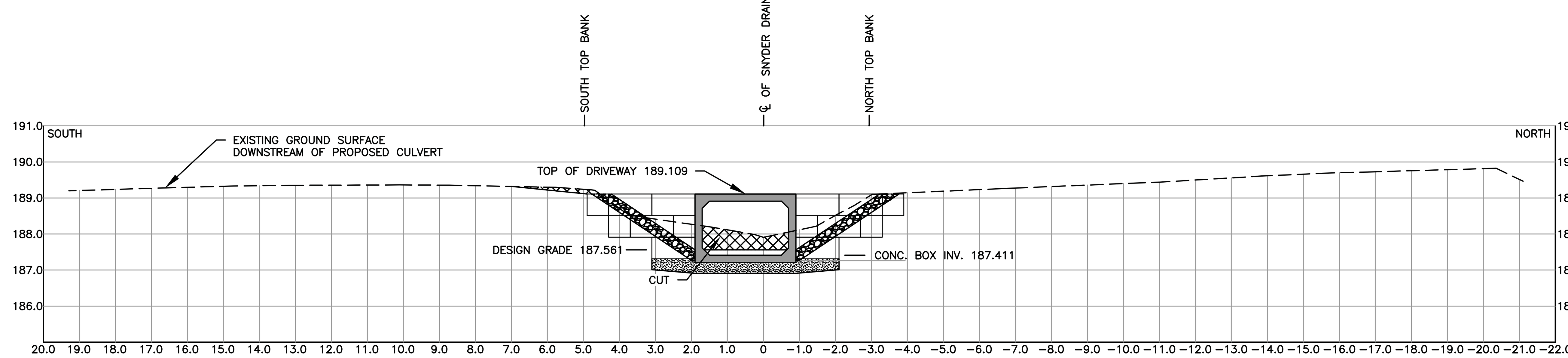
ROOD ENGINEERING INC.
CONSULTING ENGINEERS
Leamington, Ontario
519-322-1621

DATE: 2025-04-04

FILE No.: REI2023D014

DRAWN BY: P.K
PLOT CODE: 1:1
COMPUTER FILE: REI2023D014.DWG

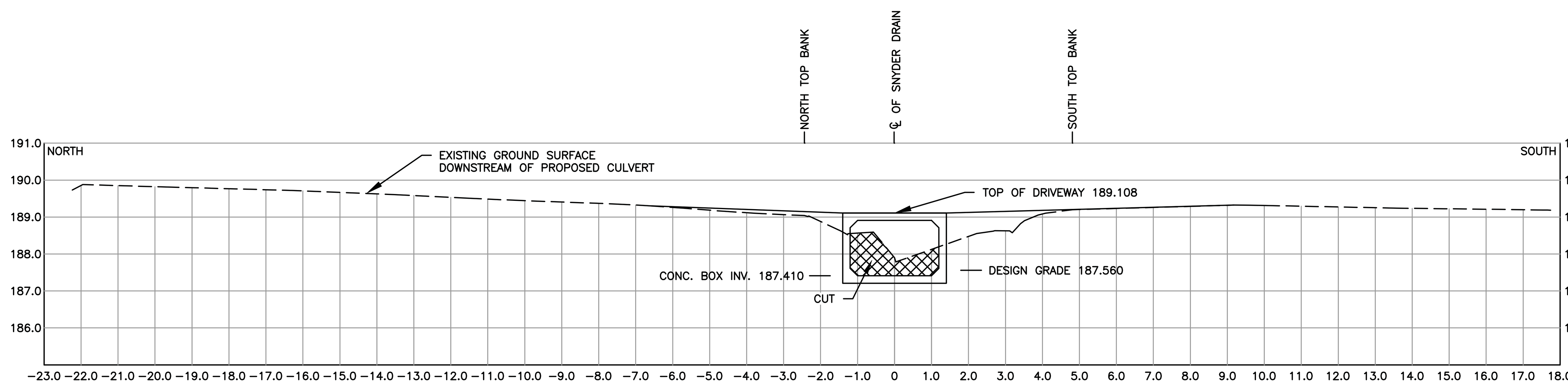
APPENDIX 'E'
SHEET No.: 1 OF 2



Elev.	189.20	189.28	189.33	189.35	189.36	189.35	189.30	189.21	188.54	188.53	188.19	188.08	187.98	187.57	187.72	188.22	188.55	188.80	189.10	189.26	189.28	189.41	189.44	189.61	189.69	189.72	189.82	189.47
Offset	19.29	16.62	14.81	13.17	10.11	8.72	5.77	4.68	3.70	3.12	1.47	0.79	0.23	0.01	0.47	1.47	2.06	2.53	3.09	6.64	7.11	10.37	11.02	13.83	15.65	16.78	20.35	21.10

STA. 0+773.94

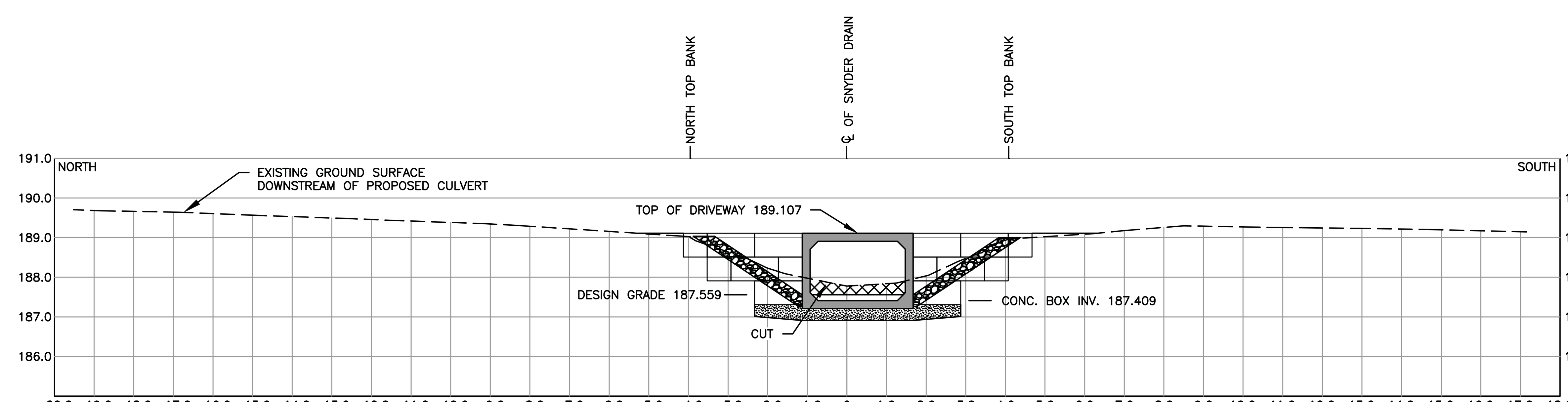
Scale = 1:100



Elev.	189.73	189.88	189.81	189.72	189.61	189.51	189.45	189.35	189.30	189.24	189.15	189.10	189.04	188.62	188.57	188.59	187.90	188.55	188.62	188.63	188.82	189.05	189.20	189.29	189.33	189.32	189.31	189.24	189.19	189.19
Offset	22.24	21.95	19.64	16.27	13.56	11.47	10.18	7.52	6.62	5.70	4.59	3.81	2.44	1.45	0.84	0.57	0.00	2.22	2.67	3.11	3.41	3.88	4.81	8.06	9.18	9.60	10.05	13.57	17.53	17.74

STA. 0+770.28

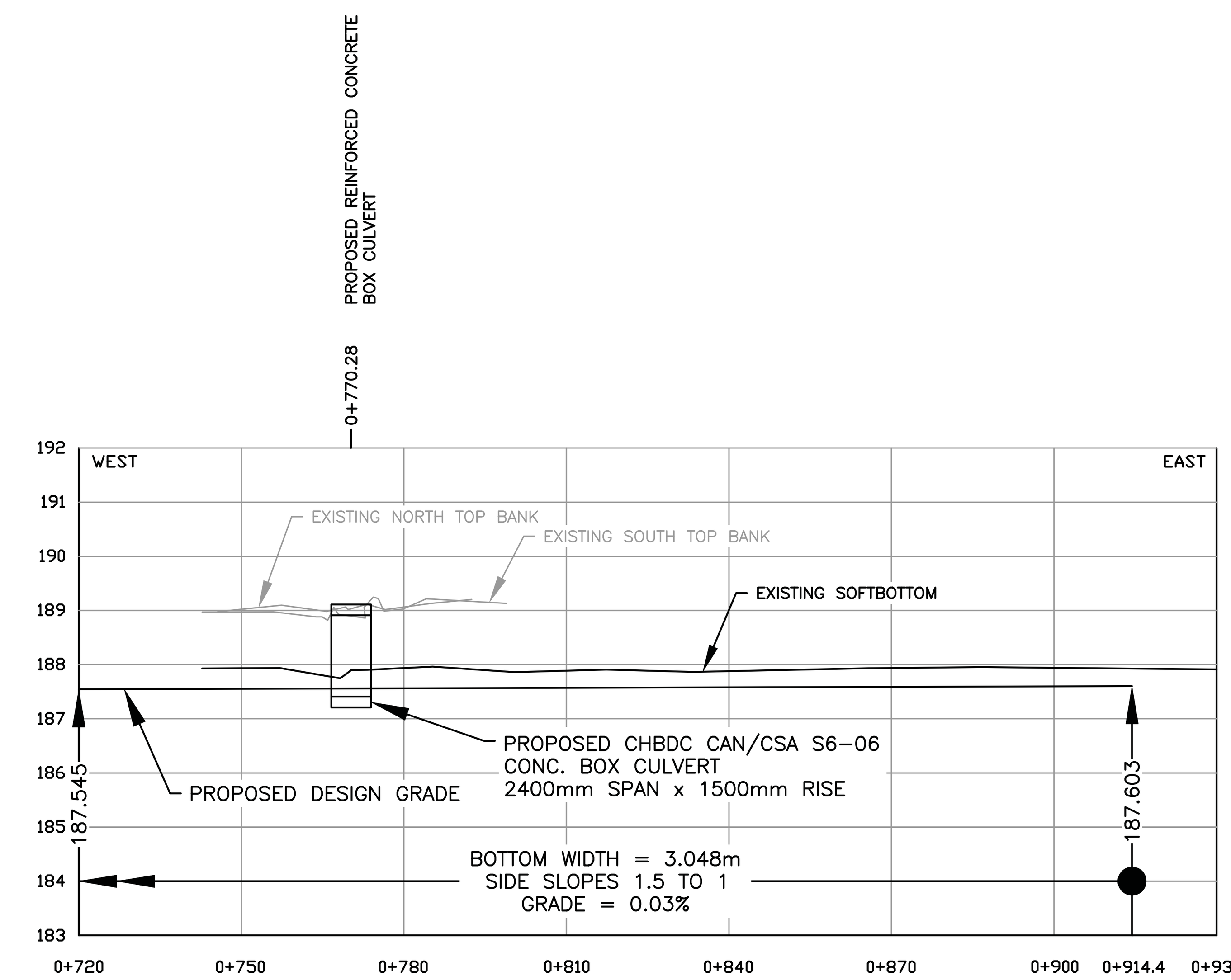
Scale = 1:100



Elev.	189.70	189.68	189.64	189.56	189.48	189.43	189.35	189.31	189.03	188.92	188.46	188.23	188.09	187.78	187.85	188.05	188.40	188.61	188.82	188.96	189.10	189.18	189.30	189.27	189.26	189.25	189.23	189.21	189.14
Offset	19.52	18.84	16.86	14.92	12.62	11.40	9.22	8.29	4.13	3.82	2.48	2.02	1.56	0.00	1.25	2.06	2.81	3.33	3.66	4.08	6.20	6.97	8.49	10.10	10.93	11.73	12.98	14.68	17.16

STA. 0+766.62

Scale = 1:100



PROFILE – SNYDER DRAIN

SCALE=1:1000 hor.
1:100 vert.

DRAWN BY: P.K.
PLOT CODE: 1:1
COMPUTER FILE: REI2023D014.DWG

FILE No.:	SHEET No.:
REI2023D014	2 OF 2