PIKE ROAD DRAIN IMPROVEMENTS AND AUXILIARY DRAIN OUTLET

Town of Amherstburg

(PWD-MD-2002-014)

Town of Amherstburg

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Project REI2015D024
January 26th, 2022

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Mayor and Municipal Council
Corporation of the Town of Amherstburg
271 Sandwich Street South
Amherstburg, Ontario
N9V 2A5

Mayor DiCarlo and Members of Council:

PIKE ROAD DRAIN IMPROVEMENTS
AND AUXILIARY DRAIN
Geographic Township of Malden
PWD-MD-2002-014, 2015-EPW-13
Project No. REI2015D024
Town of Amherstburg, County of Essex

I. INTRODUCTION

Further to the motion from Council at their November 9th, 2015 meeting authorizing administration to utilize a roster for drainage services under the Drainage Act, and pursuant to instructions received by letter dated November 27th, 2015 from Eric Chamberlain, C.E.T., former Manager of Public Works, we have proceeded with an Engineer's Report to repair and improve the Pike Road Drain West. Our instructions, and this drainage report are in accordance with Section 78 of the "Drainage Act, R.S.O. 1990, Chapter D.17, as amended 2010".

The Town of Amherstburg has received a request for alleviating flooding concerns north of Simcoe Street and an outlet for a new development. Town Drainage Superintendent Shane McVitty has provided a detailed background and history on the drain. The original request for improvement was received from a resident along Simcoe Street through a letter dated July 30th, 2001. This included a request for the Pike Road Drain to be enclosed in front of the property to address flooding concerns and performance issues with the drain. Over the next year there were ongoing flooding problems and other nearby residents on Simcoe Street also expressed their concerns to the Town. This resulted in Town Council authorizing Stantec Consulting to complete a drainage report for improvements to the drain at their March 4th, 2003 meeting. In early August of 2004 flooding was experienced and at their August 9th, 2004 meeting, the Town Council instructed Stantec to prepare a report to enclose the drain portion at 560 Simcoe Street and to provide a strategy or permanent solution to resolve the remaining drainage and flooding issues on the Pike Road Drain.

The Stantec report dated January 31st, 2005 provided for the enclosure of the drain with all costs assessed to the Town. The report made reference to a 1966 preliminary report prepared by LaFontaine Cowie Buratto and Associates which was prepared to review maintenance and repairs to the drain to accommodate proposed upstream development, along with a video inspection of the drain in 2002. Key comments included in this report included: "*Covering in the section of the drain fronting the Parlette's property, east of Martin Crescent, will not solve any flooding problems. A second report should be prepared indicating a preferred solution for the entire drainage area*".

The enclosure at 560 Simcoe Street was installed by the Town in May/June of 2005 in accordance with the Stantec report and fulfilling Council's instructions to enclose the drain. Unfortunately, a permanent solution to resolve the flooding on Pike Road Drain was never implemented and a second report was never completed to address the concern. A report dated January 22nd, 2008 was completed by Stantec for the 2nd Concession Road Drain South enclosure and realignment around St. Jean-Baptiste elementary school. In 2013 Rood Engineering completed an updated maintenance schedule of assessment for the 2nd Concession Road Drain South to properly allocate costs for required maintenance; however, neither of these reports addressed the previous instruction from Council to resolve the drainage and flooding problems on the Pike Road Drain.

To alleviate the flooding problem along the Pike Road Drain, this requires an Auxiliary Drain Outlet from the Pike Road Drain to the 2nd Concession Road Drain South to address flooding concerns on the roads and lands north of the drain along Simcoe Street (County Road 18). The proposed works will provide relief for the drainage in the watershed lands to the north and along Simcoe Street (Pike Road) from Fryer Street to Meloche Road. The Auxiliary Outlet will convey 1 in 100 year storm events to the 2nd Concession Road Drain South open channel that has capacity for the flows and will include a storm water management pond to address the current and future development in the watershed.

II. DRAINAGE HISTORY

The 2nd Concession Road Drain South and its tributary the Pike Road Drain are located entirely within the Town of Amherstburg. The drainage basin served by the 2nd Concession Road Drain South consists of approximately 218.067 hectares (538.84 acres). The upper end of the 2nd Concession Road Drain South commenced south of Alma Street (County Road 16) and extended southerly and downstream along the east side of Fryer Street (2nd Concession Road) to Simcoe Street and has been abandoned as a municipal drain being replaced with new infrastructure storm sewer works. The 2nd Concession Road Drain South now commences at Simcoe Street at the junction with Pike Road Drain and extends south along the east side of Fryer Street to approximately the line between Lots 21 and 22, Concession 2, Geographic Township of Malden. The drain then continues easterly and southeasterly to an outlet in Big Creek south of Lowes Sideroad and west of Meloche Road (County Road 5). The reconstruction of Fryer Street from

Alma Street south to Simcoe Street in the near future will include replacement of the storm drainage works and abandonment of the 2nd Concession Road Drain South for that portion as it is replaced by storm sewer infrastructure. The Pike Road Drain extends along the north side of Simcoe Street (Pike Road) from the west side of Meloche Road westerly and downstream to its outlet in the 2nd Concession Road Drain South at Fryer Street.

The overall Pike Road Drain was last repaired and improved under a report dated April 28th, 1965 by C.G.R. Armstrong, P.Eng. Said report provided for relocation of the drain off the road right-of-way at the request of the County Engineer, and enclosure of the westerly portion that abutted smaller private lots. The January 31st, 2005 report by Stantec provided for enclosure of the open drain at 560 Simcoe Street and noted that a further report would be required to address the overall flooding concerns.

III. INVESTIGATIONS AND ON-SITE MEETING

Prior to the on-site meeting, submissions were made to the Ministry of Natural Resources and Forestry (M.N.R.F.) and the Department of Fisheries and Oceans (D.F.O.) since the proposed works would be near the sensitive area of Big Creek. Contact from M.N.R.F. indicated that the area is surrounded by Eastern Fox Snake habitat, and this will require consideration during the course of the project.

D.F.O. responded that their mapping indicated no species at risk in the area. We were contacted by Lucente Engineering who is working for the developer of lands south of Simcoe Street and east of Fryer Street and discussed coordinating any environmental studies that would be required. Follow-ups were done with biology consultant Dan Barcza of Sage Earth who had been working with biologist Todd Leadley, Lucente Engineering, and their client Rocksedge Developments. Additional information was provided to D.F.O. at their request including extracts from a biological study report dated December 7th, 2011 that was prepared by biologists Gerry Waldron and Todd Leadley. Work on the Pike Road Drain and Auxiliary Outlet was established to be clear of any significant concerns.

An on-site meeting with the affected Owners was scheduled for June 2nd, 2016 at the Libro Credit Union Centre, located just southeast of the drainage works off Meloche Road. This meeting was well attended with the meeting moderated by Eric Chamberlain (Town Drainage Superintendent) and Gerard Rood (Rood Engineering Inc.). Those in attendance included: Rob Taylor, Randy & Joanne Deneau, Joe & Doris Kitka, Ed Smith (Rocksedge Developments), Julie Hunt, Pat Greenwood, Gerry Bronstein, Ryan Wall (Walker Aggregates), Karl Clifford, Lee Handscomb, Ken & Janet Gardiner, Yvonne Sinasac & Jim Lesperance, Clare Hamelin, and Dale Iler.

Mr. Chamberlain outlined the purpose of the meeting, explaining that the Town is working with the developer for works to the 2nd Concession Road Drain South to facilitate growth in the Town, and that an auxiliary outlet is planned from the Pike Road Drain to that drain to address flooding

concerns along and north of Simcoe Street as per Council instructions. Mr. Clifford asked about the duration of the project and Mr. Rood suggested that it could take 6 to 10 months depending on regulatory reviews and approvals. Mr. Chamberlain estimated that tendering and construction would take approximately 2 months, once the drainage report has been adopted.

Mr. Taylor asked about the area of the Smith – Rocksedge Developments site. Mr. Rood estimated the area at approximately 68 hectares or 170 acres. Mr. Chamberlain commented that the development will have Storm Water Management (SWM) controls in their plans. Mr. Taylor asked about the subdivision being developed at Simcoe Street and Meloche Road. Mr. Chamberlain informed him that storm flows will proceed to Meloche Road and south to Big Creek and will not drain into the Pike Road Drain. Mr. Bronstein questioned if this would provide some relief to Simcoe Street and Fryer Street and Mr. Chamberlain confirmed that it would since the outlet would now be better. Mr. Hunt wanted to know if flows would go down Simcoe Street from Fryer Street and Mr. Chamberlain explained that the proposed auxiliary outlet would intercept some of the upstream flows from the east to provide relief towards Fryer Street

The report will provide an updated Assessment Schedule along with provisions for sharing cost of work to all the affected lands and roads within the watershed. The procedure under the Drainage Act was also reviewed with the Owners. Mr. Chamberlain explained that assessment for maintenance work depends on where the work is done and who is involved, generally being the adjacent and upstream landowners. Owners were reminded that it is their responsibility to bring their drainage to the drain. It was questioned if the maintenance work on the 2nd Concession Road Drain open portion should have been delayed and Mr. Chamberlain stated that existing problems needed to be addressed including flooding of the Sportsmen's Club parking. The Town has to take care of drain outlets and cannot allow them to remain blocked or the Town could be liable. Mr. Rood pointed out that the Essex Region Conservation Authority (E.R.C.A.) has controls in place to set grades and reduce the risk of flooding.

Mr. Chamberlain summed up that the Town would not do any work until the drainage report had been completed. The required work will be carried out as a capital project. He went on to advise that a public meeting with the Drainage Board would be scheduled and notices for same will be sent out along with a copy of the Drainage Report and Schedule of Assessment. The Owners were advised that they may contact either the Drainage Superintendent or the Engineer, if any questions arise in the interim.

IV. FIELD SURVEY AND INVESTIGATIONS

Subsequent to the on-site meeting we arranged for a topographic survey of the drain to be completed, along with the topography along the area for the Pike Road Auxiliary Drain Outlet. We further arranged to get updated roll information from the Town, including information on the tax class of each of the properties affected by the Municipal Drain.

The consultant for the development provided information on their archaeological assessment including a plan indicating some "Findspots", but none are located in the direct area of the proposed drainage works. Landmark Engineers has conducted work to establish requirements for storm water management (S.W.M.) for the proposed development. Their work determined that flows from upstream areas could be incorporated into the design for improvements to the 2nd Concession Road Drain South and creation of a S.W.M. pond. Working in consultation with the Town and key stakeholders, Landmark Engineers was able to determine amendments to the Pike Road Drain and a design for the Auxiliary Drain Outlet for the Pike Road Drain to convey 1:100 year storm flows to the proposed S.W.M. pond. The proposed works will help to minimize the risk of flooding along Simcoe Street and the development area to the north of it. Works to the 2nd Concession Road Drain South under a separate drainage report will accommodate the repairs and improvement to the Pike Road Drain and Auxiliary Drain Outlet.

We also made initial submissions to the Essex Region Conservation Authority regarding their requirements for work that would be proposed to be carried out on the drainage works. A response from the Conservation Authority was received on June 1st, 2016. A copy of their concerns and requirements is included in **Appendix "REI-A"** of this report. E.R.C.A. provided further input in their August 23rd, 2021 response on review of the initial 2nd Concession Road Drain South submission noting that the proponent has to ensure that all applicable municipal, provincial, and federal authorizations have been obtained for a project. Further information was received from E.R.C.A. in their November 2nd, 2021 email and a copy has been included in **Appendix "REI-A"** of this report. Through self-assessment it has been determined that incorporation of the mitigation requirements included in the report specifications and appendices will address the requirements for proceeding with this project.

We also arranged for the Town to review the Ministry of Natural Resources and Forestry (M.N.R.F.) Species at Risk (S.A.R.) former agreement made with the Town pursuant to the Endangered Species Act, 2007. The former Agreement plans indicate that turtle and snake species are a concern for this work area as outlined during meetings with the Town and stakeholders. The former Agreement includes mitigation measures to be followed as outlined in "Schedule C Mitigation Measures" of the document and a copy of same as it relates to turtles and snakes is included herein in **Appendix "REI-B".** Biology consultant Nicole Wajmer of Insight Environmental assisted with getting input on the 2nd Concession Road Drain South, that is the outlet for the Pike Road Drain, from the Department of Fisheries and Oceans (D.F.O.) with their response to the Town dated April 16th, 2021. Ms. Wajmer also assisted with submissions to the Ministry of Environment, Conservation and Parks (M.E.C.P.) for their input and worked with the Town to re-register Eastern Foxsnake under Section 23.9 (Drainage Works) of Ontario Regulation (O. Reg) 242/08 for exemption based on the mitigation plans. Due to the link and proximity between the drains, and our self-assessment, similar provisions as applicable for the Pike Road Drain and Auxiliary Drain are included as part of this report.

V. FINDINGS AND RECOMMENDATIONS

The Pike Road Drain extends from the west side of Meloche Road westerly and downstream along the north side of Simcoe Street to its outlet into the 2nd Concession Road Drain South at Fryer Street. This drain currently experiences some flooding on the covered drain portions along Simcoe Street, along with flooding on some of the lands and roads in the watershed to the north.

To address the flooding concerns with the Pike Road Drain, we recommend the construction of an Auxiliary Drain outlet to the 2nd Concession Road Drain South, at the open channel to the east of the Parkland north of the Saint Jean-Baptiste French school located along Fryer Street. The Pike Road Auxiliary Drain outlet shall be a covered system with an open conveyance swale constructed in accordance with the details provided in this report and the plans and specifications forming part of this report, extending from the north side of Simcoe Street southerly to the rear of the lots along the south side of Simcoe Street, and then westerly to the open drain location just east of Fryer Street.

Camera investigations of the existing Pike Road Drain indicated some tree root clumps and other minor obstructions along the course of the covered drain system. The Town will continue to monitor the existing Pike Road Drain and it is expected that maintenance work on the portions not affected by the current proposed works will be conducted at a future date when the need arises with costs assessed to the affected lands and roads within the Pike Road Drain watershed.

We recommend improvements to the Pike Road Drain to convey 1:100 year storm events from the proposed Shaw Mulberry Court Development, Martin Crescent, and Bratt Drive, including connections from the north side of Simcoe Street to the new Auxiliary Drain outlet on the south side of the street. These improvements shall be constructed in accordance with the details, plans, and specifications forming part of this report. We have noted a mature tree in the vicinity of the drain at the northwest corner of Martin Crescent and Simcoe Street that may be impacted by the works. Our specifications will provide for the Contractor to try and protect this tree but it may have to be removed as an obstruction to the drainage works pursuant to Sections 80 and 81 of the Drainage Act. The flows from the improved drainage works will be incorporated into the 2nd Concession Road Drain and S.W.M. pond design carried out by consultant Landmark Engineers that form part of the development requirements for the lands south of Simcoe Street to Lowes Sideroad located between Fryer Street and the quarry lands to the east.

All works on the project shall be carried out in accordance with the requirements established by the investigations with D.F.O. and M.E.C.P. and their input. The required mitigation measures are included in the design plans and the specifications and appendices forming part of this report. Proposed construction and any future maintenance work to the drainage system shall be carried out in accordance with the mitigation requirements included in the report and any future updates or permits that are required.

The Town will also be required to obtain a permit from E.R.C.A. for the proposed works and for any future maintenance carried out on the drainage works. E.R.C.A. mitigation provisions are included in the report specifications and appendices and shall be followed during construction and any future maintenance works on the drain system.

VI. ALLOWANCES

We find that the work on the drains will impact some of the affected lands, particularly at the new outlets, and these lands require payment for the land taken by same. We therefore recommend that the following owners be compensated for the land taken for the drain construction and relocation as follows, namely:

1)	County of Essex,	Owner,	Simcoe Street,	$	10.00
2)	Rocksedge Developments Inc., (010-01810)	Owner,	Part of Lots 21 & 22, Concession 2,	$	52,788.00
3)	Rocksedge Developments Inc., (010-00310)	Owner,	Part of Lot 21, Concession 2,	$	28,486.00
	TOTAL FOR LAND TAKEN			**$**	**81,284.00**

We have provided for this land taken compensation in our estimate, as is provided for under Section 29 of the "Drainage Act, R.S.O. 1990, Chapter D.17, as amended 2010". These allowances are based on nominal values due to the County of Essex affected lands being public spaces. The value for lands taken on the Rocksedge Developments lands is based on the Farm Credit Canada (FCC) current value of $19,920.00 per acre for land used for agriculture in the area.

This compensation shall allow for all of the land necessary to construct the new drain outlets. Nominal values have been used for the drain portions across the roadway as these are public lands intended to serve the landowners. The new development south of Simcoe Street will dedicate a green space strip between the new lots and existing lots along Simcoe Street, to the Town, and we have therefore provided FCC land values for these lands that are currently farmed. The allowances provided shall establish the legal right for the Municipal drainage systems in their proposed locations, allow for the required construction, and access by the Town to maintain the drainage works in the future.

We find that the construction and future maintenance of the drainage works will require access along the west and north side of the drain. We therefore recommend that the following owners be compensated for the damages to land and crops, if any, as follows, namely:

1)	County of Essex,	Owner,	Simcoe Street,	$	10.00
2)	Rocksedge Developments Inc., (010-01810)	Owner,	Part of Lots 21 & 22, Concession 2,	$	3,246.00

3)	Rocksedge Developments Inc.,	Oner,	Part of Lot 21, Concession 2,	$	1,752.00
	TOTAL FOR DAMAGES			**$**	**5,008.00**

These values for damages are based on a strip of land parallel to and along the drainage works. This area will be used for the construction of the drain and future maintenance of the drain. These allowances are based on nominal values for the County of Essex due to the affected lands being public spaces and $1,225.00 per acre for Rocksedge Developments lands currently being under agricultural production.

We have provided for this in our estimate as is provided for under Section 30 of the "Drainage Act, R.S.O. 1990, Chapter D.17, as amended 2010".

VII. ESTIMATE OF COST

Our estimate of the Total Cost of this work, including all incidental expenses, is the sum of **ONE MILLION FIVE HUNDRED SEVENTY THOUSAND DOLLARS ($1,570,000.00),** made up as follows:

CONSTRUCTION

Item 1)	**Brushing:** provide all equipment, labour, and materials to remove and grub out existing vegetation as required for the drain installations, complete:		
	a) Auxiliary Drain from Station 0+000 to Station 0+470; approximately 470 lineal metres at $6.00 per metre	$	2,820.00
	b) Auxiliary Drain from Station 1+000 to Station 1+161; approximately 161 lineal metres at $6.00 per metre	$	966.00
Item 2)	**Strip Topsoil and Stockpile on Site:** provide all equipment, labour, and materials to complete work:		
	a) Auxiliary Drain from Station 0+000 to Station 0+470; approximately 6,100 square metres at $3.00 per metre	$	18,300.00
	b) Auxiliary Drain from Station 1+000 to Station 1+161; approximately 120 square metres at $4.00 per metre	$	480.00
	c) Pike Road Drain; approximately 100 square metres at $4.00 per metre	$	400.00
Item 3)	**Remove Existing Drain Pipe:** provide all equipment, labour, and material to excavate, remove and dispose of the existing pipe:		

	a) Auxiliary Drain; 375mm diameter C.S.P., approximately 48 lineal metres at $65.00 per metre	$	3,120.00
	b) Pike Road Drain; 750mm diameter C.S.P., approximately 30 lineal metres at $65.00 per metre	$	1,950.00
Item 4)	**Remove Existing Asphalt:** provide all equipment, labour, and materials to sawcut, remove, and dispose of materials at pipe installation locations:		
	a) Auxiliary Drain; at Municipal Number 549 Simcoe Street, approximately 60 square metres at $10.00 per square metre	$	600.00
	b) Simcoe Street Crossings; approximately 110 square metres at $10.00 per square metre	$	1,100.00
Item 5)	**Road Base Materials:** provide all equipment, labour, and materials to excavate road base materials and stockpile on site:		
	a) Auxiliary Drain; at Municipal Number 549 Simcoe Street, approximately 18 cubic metres at $25.00 per cubic metre	$	450.00
	b) Simcoe Street Crossings; approximately 50 cubic metres at $45.00 per cubic metre	$	2,250.00
Item 6)	**Martin Crescent:** provide all labour, material, and equipment to excavate, remove the existing 250mm diameter flow control pipe from the storm sewer to Pike Road Drain, including all patching, backfill, compaction, clean up, and restoration, complete. Lump Sum	$	3,500.00
Item 7)	**Auxiliary Covered Drain**: supply and install 750mm diameter 320 kPa H.D.P.E. Boss 2000 smoothwall pipe, including 600mm diameter maintenance risers, tee connections, cast iron access grate covers, and bedding stone as detailed on the plans, including excavation, placement, backfill, compaction, clean up, and restoration, for approximately 480 lineal metres at $525.00 per metre, complete.	$	252,000.00
Item 8)	**Auxiliary Drain Swale and Tile:** supply and install 100mm diameter perforated H.D.P.E. Big 'O' pipe, along the open portion of the Auxiliary Drain, tee connections to adjacent 750mm pipe, geotextile fabric and clear bedding stone as detailed on the plans, including excavation, placement, backfill, compaction, grading and shaping of swale, clean up, and restoration, for approximately 500 lineal metres at $65.00 per metre, complete.	$	32,500.00
Item 9)	**Outlet Junction Chamber (CH1):** provide all labour, materials, and equipment to supply and install the 3.5mX2.4m precast concrete box chamber as shown on		

	the plans with 450mm deep sump, including sloped top, top galvanized honeycomb grates, sidewall galvanized bar grate, connections, all excavating, bedding, backfill, compaction, clean up and restoration, complete. Lump Sum	$	26,500.00
Item 10)	**Cable Concrete Protection:** supply and install I.E.C.S. CC-45 block mats on 150mm thick compacted Granular 'A" on non-woven filter cloth, including all labour, equipment, and materials, excavation, placement, compaction, clean up, and restoration, complete:		
	a) At Chamber CH1 spillway, approximately 20 square metres at $375.00 per square metre	$	7,500.00
	b) At Auxiliary Drain outlet to 2nd Concession Road Drain South, approximately 84 square metres at $375.00 per square metre	$	31,500.00
Item 11)	**Armour Rock Retaining Walls:** provide all labour, material, and equipment to construct 600mm thick armour rock retaining walls for Chamber CH1 overflow spillway as detailed on the plans, including filter cloth backing, all excavations, placement, backfill, compaction, clean up, and restoration, approximately 20 blocks at $225.00 each.	$	4,500.00
Item 12)	**Maintenance Holes (MH):** supply and install 2400mm precast concrete structures including connections, cast iron frames and lids, risers, and all material, labour, and equipment for excavation, bedding, backfill, compaction, clean up, and restoration as shown on the plans:		
	a) Pike Road Drain MH3 and MH4, 2 units at $22,500.00 each	$	45,000.00
	b) Auxiliary Drain MH1, MH2 and MH5, 3 units at $23,500.00 each	$	70,500.00
Item 13)	**Pike Road Drain Pipe:** provide all labour, materials, and equipment to install reinforced 65D concrete pipe including excavation, bedding, backfill, compaction, and restoration:		
	a) 730mmX1150mm HE IV RCP, approximately 27 lineal metres at $1,675.00 per metre	$	45,225.00
	b) 825mm diameter 65D RCP with end cap (Stub for future Mulberry Court sewer), approximately 2 lineal metres at $1,275.00 per metre	$	2,550.00
Item 14)	**Auxiliary Drain Pipe:** provide all labour, materials, and equipment to install reinforced 65D concrete pipe and P.V.C. DR35 pipe, including excavation, bedding, backfill, compaction, and restoration:		
	a) 730mmX1150mm HE IV RCP, in Simcoe Street south boulevard, approximately 83 lineal metres at $1,700.00 per metre	$	141,100.00

	b) 730mmX1150mm HE IV RCP, in Simcoe Street crossings, approximately 44 lineal metres at $1,785.00 per metre		$	78,540.00
	c) 1200mm diameter 65D RCP, approximately 75 lineal metres at $1,350.00 per metre		$	10,250.00
	d) 300mm diameter P.V.C. DR35 pipe, approximately 22 lineal metres at $200.00 per metre		$	4,400.00
Item 15)	**Pipe Support Beam:** supply and install reinforced concrete support beam as detailed on the plans where the new Simcoe Street crossings pass over the sanitary sewer, including all labour, equipment, and materials for excavation, placement, backfill, compaction, and clean up:			
	a) Station 1+077 with lower 300mm diameter pipe in place	Lump Sum	$	1,000.00
	b) Station 1+161 without lower 300mm diameter pipe in place	Lump Sum	$	660.00
Item 16)	**Martin Crescent Pipe:** supply and install 750mm diameter reinforced concrete 65D pipe to connect the existing sewer to Pike Road Drain including excavation, disposal, bedding, connections, backfill, compaction, and restoration, complete	Lump Sum	$	10,600.00
Item 17)	**Sump Pit Catch Basins:** supply and install 600mm square catch basins as per Amherstburg Standard Drawing LG1, including connections, cast iron frame and grate, all equipment, labour, and materials for excavation, bedding, backfill, compaction, and restoration, approximately 5 units at $2,000.00 each		$	10,000.00
Item 18)	**Road Base:** supply and install Granular 'A' road base at pipe installations, including all equipment, labour, material, and work to excavate, place, compact and prepare for asphalt, complete:			
	a) at Auxiliary Drain Municipal Number 549 Simcoe Street, approximately 42 tonnes at $37.00 per tonne		$	1,554.00
	b) at Simcoe Street crossings, approximately 110 tonnes at $40.00 per tonne		$	4,400.00
Item 19)	**Hot Mix Asphalt:** supply and install hot mix asphalt at road and driveway crossings to restore surfaces, including all equipment, labour, and materials to prepare for the works and complete same, with minimum of 2 compacted lifts with minimum thickness of 90mm or matching existing if thicker:			
	a) Auxiliary Drain at Municipal Number 549 Simcoe Street, approximately 15 tonnes of HL-4 or Superpave mix at $135.00 per tonne		$	2,025.00
	b) Simcoe Street crossings, approximately 26 tonnes of HL-4 or Superpave mix at $135.00 per tonne		$	3,510.00

Item 20)	**Mobilization and Demobilization:**	Lump Sum	$	5,000.00
Item 21)	**Traffic Control:** provide all labour, materials, and equipment, including traffic control plan, and coordination of any road closures and detours with all affected public services including the road authority, complete.	Lump Sum	$	7,500.00
Item 22)	**Topsoil:** Provide all equipment, labour, and tools to place stockpiled topsoil to 150mm depth over drain work areas:			
	a) Auxiliary Drain Station 0+000 to Station 0+470, approximately 9,400 square metres at $7.00 per square metre		$	65,800.00
	b) Auxiliary Drain Station 1+000 to Station 1+161, approximately 600 square metres at $7.00 per square metre		$	4,200.00
	c) Pike Road Drain, approximately 100 square metres at $7.00 per square metre		$	700.00
Item 23)	**Seed and Mulch:** supply and place grass seed and mulch including all equipment, labour, and materials to restore grassed areas disturbed by the drainage works:			
	a) Auxiliary Drain Station 0+000 to Station 0+470, approximately 9,400 square metres at $5.00 per square metre		$	47,000.00
	b) Auxiliary Drain Station 1+000 to Station 1+161, approximately 600 square metres at $5.00 per square metre		$	3,000.00
	c) Pike Road Drain, approximately 100 square metres at $5.00 per square metre		$	500.00
Item 24)	**Brick Bulkhead**: provide all labour, material, and equipment to remove the brick bulkhead with 250mm diameter flow control from the existing 750mm diameter storm sewer at Bratt Drive, if present.	Lump Sum	$	1,250.00
Item 25)	**Imported Topsoil:** Provide all equipment, labour, and tools to place imported topsoil to 150mm depth over drain work areas:			
	a) Auxiliary Drain Station 0+000 to Station 0+470, approximately 1,900 square metres at $15.00 per square metre		$	28,500.00
	b) Auxiliary Drain Station 1+000 to Station 1+161, approximately 120 square metres at $15.00 per square metre		$	1,800.00
	c) Pike Road Drain, approximately 20 square metres at $25.00 per square metre		$	500.00

Item 26)	**Bedrock Removal:** supply all equipment, materials, and labour to remove bedrock and allow for pipes to be installed to the design depths, including loading, hauling, and disposal, complete, approximately 10 cubic metres at $1,250.00 per cubic metre.		$	12,500.00
Item 27)	**Extra Excavation:** supply all equipment, materials, and labour to remove unsuitable trench bottom material and replace with granular bedding and allow for pipes to be installed to the design depths, including loading, hauling, and disposal, complete, approximately 20 cubic metres at $150.00 per cubic metre.		$	3,000.00
Item 28)	**Lower Watermain:** supply and install all pipe, fittings, and appurtenances to avoid conflict with the new drain crossings, including flushing, pressure testing, and disinfection as per the Town Water Department specifications, in coordination with their staff; excavation, loading, hauling, disposal, sand bedding, connections, backfill, compaction, and restoration, complete (excluding bedrock removal under Item 26):			
	a) Station 1+077	Lump Sum	$	6,500.00
	b) Station 1+161	Lump Sum	$	6,500.00
Item 29)	**Final Cleanup and Restoration:** provide all labour, materials, and equipment to finalize work on the sites, including handling of approximately 1,000 cu.m. of excess soils from Simcoe Road right-of-way that must be kept separated, loaded, and hauled to a disposal site as set out in the tender documents, complete.	Lump Sum	$	15,000.00
Item 30)	**Contingency:** allowance to cover unforeseen items during the construction of the drainage works.	Lump Sum	$	10,000.00
	SUBTOTAL FOR CONSTRUCTION		**$**	**1,132,000.00**
	Estimated Net H.S.T. (1.76%) on Construction		$	19,748.00
	TOTAL ESTIMATE FOR CONSTRUCTION		**$**	**1,151,748.00**

INCIDENTALS

1)	Report, Estimate, & Specifications	$	37,000.00
2)	Survey, Assistants, Expenses, and Drawings	$	43,000.00
3)	Duplication Cost of Report and Drawings	$	3,500.00

4)	Estimated Cost of Letting Contract	$	2,500.00
5)	Estimated Cost of Checking Layout and Staking	$	2,800.00
6)	Estimated Cost of Full-Time Supervision and Inspection During Construction (based on 6 weeks duration)	$	40,320.00
7)	Biological Consulting Fees	$	10,500.00
8)	Excess Soil Consulting Fees	$	15,200.00
9)	Estimated Net H.S.T. on Items Above (1.76 %)	$	2,725.00
10)	Estimated Cost of E.R.C.A. Permit	$	800.00
11)	Estimated Excess Soil Fees for Construction	$	1,800.00
12)	Estimated Biological Fees for Construction	$	500.00
13)	Estimated Accrued Consultant Fees Pre 2016	$	146,000.00
14)	Contingency Allowance	$	25,315.00
	TOTAL ESTIMATE FOR INCIDENTALS	**$**	**331,960.00**
	TOTAL FOR ALLOWANCES (brought forward)	**$**	**86,292.00**
	TOTAL FOR CONSTRUCTION (brought forward)	**$**	**1,151,748.00**
	TOTAL ESTIMATE	**$**	**1,570,000.00**

VIII. DRAWINGS AND SPECIFICATIONS

Also attached to this report and included in **Appendix "REI-D" and Appendix "REI-E"** are drawings which consist of plans showing the Pike Road Drain and Auxiliary Drain Outlet. They illustrate the watershed area, the location of the drains and proposed works, the roll numbers of the affected parcels, as well as the approximate limit of the watershed.

Also attached, we have prepared Specifications which set out the required construction details for the proposed drain repairs and improvements and construction of the new Auxiliary Outlet, which also include Standard Specifications labelled therein as **Appendix "REI-C"**.

IX. ASSESSMENT SCHEDULE AND MAINTENANCE WORKS

We have prepared a Schedule of Assessment to be utilized for assessing costs against the affected lands for the construction work and any future maintenance works conducted to the Pike Road

Drain and Auxiliary Drain outlet and same has been attached herein. The assessment proportions as outlined within the Schedule of Assessment have been established on the basis of the Shaw parcel identified as “Block B” being able to develop their lands, as shown by the Special Benefit assessment. The works allow the development to proceed without a separate S.W.M. pond requirement. Assessment to the lands in the watershed north of Simcoe Street is based on the overall enhancement to drainage for the lands and roads within the watershed with the 1:100 year capacity being provided, and all flows being treated with the proposed S.W.M. pond forming part of the 2nd Concession Road Drain South works for the development south of Simcoe Street. The Auxiliary Drain diverts flows southerly and westerly which enhances the available capacity in the downstream Pike Road Drain covered sections west of the proposed works, which benefits all the lands and roads that flow through the west portion of the system and the 2nd Concession Road Drain from Simcoe Street south to the open drain portion of the system. The drainage works and improvements being provided by the work under this report will minimize the risk of overland flows and flooding to those lands.

Prior to 2016 the Town accumulated consultant fees for initial investigations on options to address the drainage concerns for the area. The accumulated costs including interest are assessed to the Town as a one time Special Benefit charge in the assessment schedule as the works that were conducted at that time were not able to be utilized for the current proposed repair and improvement works to the drain. The Special Benefit assessment to the Town Water Department shall be based on the actual final tender price for lowering of the watermains and any incidental works carried out in liaison with the Water Department pursuant to Section 26 of the Drainage Act.

For the purposes of future maintenance on the entire Pike Road Drain and Auxiliary Drain outlet, all costs shall be levied against the lands and roads within the watershed in accordance with the attached Schedule of Assessment excluding any of the Special Benefit assessments that are one time only charges.

When future maintenance work is carried out on the upstream portions of the drains, the physical dimensions which control the extent of maintenance works on the Pike Road Drain shall be limited to the details set out in the April 28th, 1965 report by C.G.R. Armstrong, P.Eng. and the repairs and improvements to the drain included in this report. The maintenance works to the Pike Road Auxiliary Drain shall be in accordance with this drainage report. Any future maintenance costs to those drain portions shall be assessed in accordance with the most current schedule of assessment for each.

The actual cost of future maintenance work on the drains shall be assessed against the lands and roads in the same relative proportions as shown therein, subject to any future variations that may be made under the authority of the "Drainage Act R.S.O. 1990, Chapter D.17, as amended 2010". A block assessment has been provided for the lands being developed north of Pike Road Drain (County Road 18) for the Shaw Mulberry Court Development north of Simcoe Street shown as “Block B” so that costs assessed to those areas can be properly allocated by the Town to any new lots and parcels that are created with the development of the site.

X. GRANTS

On September 22nd, 2005, the Ontario Ministry of Agriculture, Food, and Rural Affairs (O.M.A.F.R.A.) issued Administrative Policies for the Agricultural Drainage Infrastructure Program (A.D.I.P.). This program has re-instated financial assistance for eligible costs and assessed lands pursuant to the Drainage Act. Sections 85 to 90 of the Drainage Act allow the Minister to provide

grants for various activities under said Act. Sections 85 to 87 make it very clear that grants are provided at the discretion of the Minister. Based on the current A.D.I.P. Policies, "lands used for agricultural purposes" may be eligible for a grant in the amount of 1/3 of their total assessment. The new policies define "lands used for agricultural purposes" as those lands eligible for the "Farm Property Class Tax Rate". The Municipal Clerk has provided this information to the Engineer from the current property tax roll. Properties that meet the criteria for "lands used for agricultural purposes" are shown in the attached assessment schedule under the heading "5. PRIVATELY OWNED AGRICULTURAL LANDS (grantable)" and are expected to be eligible for the 1/3 grant from O.M.A.F.R.A. The grant information applies with respect to the cost of construction of the drain and for future maintenance in accordance with the current A.D.I.P. policies.

We recommend that an application be made by the Town of Amherstburg, on completion of the construction provided for under this report or for future maintenance work, to the Ontario Ministry of Agriculture, Food and Rural Affairs (O.M.A.F.R.A.) in accordance with Section 88 of the "Drainage Act R.S.O. 1990, Chapter D.17, as amended 2010" for any grants that are available.

All of which is respectfully submitted,

ROOD ENGINEERING INC.

Gerard Rood

Gerard Rood, P.Eng.

tm
att.

Rood Engineering Inc.
Consulting Engineers
9 Nelson Street
LEAMINGTON, Ontario N8H 1G6

SCHEDULE OF ASSESSMENT

PIKE ROAD DRAIN IMPROVEMENTS

& AUXILIARY DRAIN

TOWN OF AMHERSTBURG

(PWD-MD-2002-014)

3. MUNICIPAL LANDS:

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	Simcoe Street		0.95	0.386	County of Essex	$ 11,383.00	$ 11,997.00	$ -	$ 23,380.00
	Fryer Street (2nd Con Road)		12.24	4.953	Town of Amherstburg	$ 48,948.00	$ -	$ -	$ 48,948.00
	Lowes Sideroad		4.68	1.895	Town of Amherstburg	$ 18,728.00	$ -	$ -	$ 18,728.00
	Riviera Drive		1.14	0.463	Town of Amherstburg	$ 4,573.00	$ -	$ -	$ 4,573.00
	Venetian Drive		2.06	0.833	Town of Amherstburg	$ 8,231.00	$ -	$ -	$ 8,231.00
	Holiday Court		0.54	0.219	Town of Amherstburg	$ 2,167.00	$ -	$ -	$ 2,167.00
	Riviera Place		0.52	0.210	Town of Amherstburg	$ 2,075.00	$ -	$ -	$ 2,075.00
	Boardwalk Avenue		2.25	0.909	Town of Amherstburg	$ 8,986.00	$ -	$ -	$ 8,986.00
	Spring Court		0.55	0.221	Town of Amherstburg	$ 2,187.00	$ -	$ -	$ 2,187.00
	Amlin Street		0.72	0.290	Town of Amherstburg	$ 2,863.00	$ -	$ -	$ 2,863.00
	St. James Court		1.69	0.684	Town of Amherstburg	$ 6,760.00	$ -	$ -	$ 6,760.00
	Richmond Street		2.04	0.825	Town of Amherstburg	$ 8,151.00	$ -	$ -	$ 8,151.00
	Ventnor Avenue		2.62	1.060	Town of Amherstburg	$ 10,477.00	$ -	$ -	$ 10,477.00
	Baltic Avenue		1.56	0.630	Town of Amherstburg	$ 6,223.00	$ -	$ -	$ 6,223.00
	St. Charles Place		1.24	0.503	Town of Amherstburg	$ 4,970.00	$ -	$ -	$ 4,970.00
	Gibb Street		0.81	0.326	Town of Amherstburg	$ 3,221.00	$ -	$ -	$ 3,221.00
	Sullivan Street		0.65	0.262	Town of Amherstburg	$ 2,585.00	$ -	$ -	$ 2,585.00
	Heaton Street		1.38	0.559	Town of Amherstburg	$ 5,527.00	$ -	$ -	$ 5,527.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
	Atlantic Court		0.32	0.131	Town of Amherstburg	$ 1,292.00	$ -	$ -	$ 1,292.00
	Atlantic Avenue		0.86	0.346	Town of Amherstburg	$ 3,420.00	$ -	$ -	$ 3,420.00
	Pacific Avenue		2.92	1.183	Town of Amherstburg	$ 11,690.00	$ -	$ -	$ 11,690.00
	Mediterranean Avenue		1.01	0.410	Town of Amherstburg	$ 12,107.00	$ 12,683.00	$ -	$ 24,790.00
	Mulberry Court		1.87	0.756	Town of Amherstburg	$ 22,297.00	$ 23,357.00	$ -	$ 45,654.00
	Martin Crescent		1.47	0.595	Town of Amherstburg	$ 17,567.00	$ 18,402.00	$ -	$ 35,969.00
	Bratt Drive		1.91	0.773	Town of Amherstburg	$ 22,789.00	$ 23,873.00	$ -	$ 46,662.00
	Hainer Court		0.44	0.179	Town of Amherstburg	$ 5,282.00	$ 5,533.00	$ -	$ 10,815.00
	Hart Street		0.55	0.221	Town of Amherstburg	$ 6,528.00	$ 6,839.00	$ -	$ 13,367.00
	H. Murray Smith Centennial Park		3.00	1.214	Town of Amherstburg	$ 5,910.00	$ -	$ -	$ 5,910.00
	County Road 18 (Simcoe St.)		6.41	2.595	County of Essex	$ 76,558.00	$ 80,199.00	$ -	$ 156,757.00
	Consultant Expenditures pre 2016				Town of Amherstburg	$ -	$ -	$ 146,000.00	$ 146,000.00
	Water Department				Town of Amherstburg	$ -	$ -	$ 13,000.00	$ 13,000.00
	Total on Municipal Lands.....					**$ 343,495.00**	**$ 182,883.00**	**$ 159,000.00**	**$ 685,378.00**

4. PRIVATELY OWNED - NON-AGRICULTURAL LANDS:

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B1	2	Pt. Lot 22	0.42	0.168	Larry Bertrand	$ 818.00	$ -	$ -	$ 818.00
B2	2	Pt. Lot 22	0.35	0.142	Larry & Diana Bertrand	$ 689.00	$ -	$ -	$ 689.00
B3	2	Pt. Lot 22	0.32	0.129	Graeme Hulse	$ 626.00	$ -	$ -	$ 626.00
A1	2	Pt. Lot 22	2.11	0.854	Catholiques Providence Conseil Scolaire	$ 2,141.00	$ -	$ -	$ 2,141.00
A2	2	Pt. Lot 22	4.88	1.975	Catholiques Providence Conseil Scolaire	$ 9,613.00	$ -	$ -	$ 9,613.00
B4	2	Pt. Lot 22	0.32	0.129	Mark Weber	$ 627.00	$ -	$ -	$ 627.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B5	2	Pt. Lot 22	0.32	0.129	Breeyn Wharram	$ 628.00	$ -	$ -	$ 628.00
B6	2	Pt. Lot 22	0.32	0.129	Robin & Karen Charron	$ 629.00	$ -	$ -	$ 629.00
B7	2	Pt. Lot 22	0.30	0.121	Randy & Joanne Deneau	$ 591.00	$ -	$ -	$ 591.00
B8	2	Pt. Lot 22	0.33	0.135	James Fox & Charlene Seguin	$ 657.00	$ -	$ -	$ 657.00
B9	2	Pt. Lot 22	0.32	0.129	Jacqueline & Robert Labute	$ 627.00	$ -	$ -	$ 627.00
B10	2	Pt. Lot 22	0.27	0.107	Mitchell & Catherine Temesy	$ 523.00	$ -	$ -	$ 523.00
B11	2	Pt. Lot 22	0.26	0.107	Harry & Deborah Crowder	$ 521.00	$ -	$ -	$ 521.00
B12	2	Pt. Lot 22	0.51	0.205	Carl Russelo	$ 999.00	$ -	$ -	$ 999.00
B13	2	Pt. Lot 22	0.91	0.369	Robert Rainey & Gerry Hennin	$ 1,797.00	$ -	$ -	$ 1,797.00
B14	2	Pt. Lot 22	0.51	0.206	Rocksedge Developments Inc.	$ 1,005.00	$ -	$ -	$ 1,005.00
B15	2	Pt. Lot 22	0.85	0.344	James & Kelly Lacey	$ 1,674.00	$ -	$ -	$ 1,674.00
B16	2	Pt. Lot 22	1.28	0.518	Deborah Kopacz	$ 2,521.00	$ -	$ -	$ 2,521.00
B17	2	Pt. Lot 22	0.32	0.129	Michael St.Onge	$ 627.00	$ -	$ -	$ 627.00
B18	2	Pt. Lot 22	0.32	0.129	Katie Lewis & Mitchell Finlay	$ 627.00	$ -	$ -	$ 627.00
B19	2	Pt. Lot 22	0.32	0.128	Justin Hills	$ 622.00	$ -	$ -	$ 622.00
B20	2	Pt. Lot 22	1.31	0.530	County of Essex	$ 7,819.00	$ 7,536.00	$ -	$ 15,355.00
B21	2	Pt. Lot 22	0.69	0.279	Robert & Divina Price	$ 1,359.00	$ 1,726.00	$ -	$ 3,085.00
B22	2	Pt. Lot 22	0.69	0.278	Marion & Duncan Smith	$ 1,354.00	$ 2,407.00	$ -	$ 3,761.00
B23	2	Pt. Lot 22	1.20	0.487	Duncan & Marion Smith	$ 2,370.00	$ 2,407.00	$ -	$ 4,777.00
B24	2	Pt. Lot 22	0.45	0.181	Marion & Duncan Smith	$ 880.00	$ 1,787.00	$ -	$ 2,667.00
B25	2	Pt. Lot 23	0.32	0.128	Adam Craig & Jennifer Root	$ 622.00	$ -	$ -	$ 622.00
B26	2	Pt. Lot 23	0.43	0.173	Kam Tang & Cindy Wong	$ 843.00	$ -	$ -	$ 843.00
B27	2	Pt. Lot 23	0.38	0.156	Aldo & Antoinetta Iannucci	$ 758.00	$ -	$ -	$ 758.00
B28	2	Pt. Lot 23	0.13	0.054	Ryan Nespolon & Sonja Mercier	$ 263.00	$ -	$ -	$ 263.00
B29	2	Pt. Lot 23	0.13	0.054	Michael Laporte & Elyssa Kurylo	$ 263.00	$ -	$ -	$ 263.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B30	2	Pt. Lot 23	0.13	0.054	David & Jeanne Oliver	$ 263.00	$ -	$ -	$ 263.00
B31	2	Pt. Lot 23	0.13	0.054	Michelle Hadrian	$ 264.00	$ -	$ -	$ 264.00
B32	2	Pt. Lot 23	0.13	0.054	Robert Bondy	$ 263.00	$ -	$ -	$ 263.00
B33	2	Pt. Lot 23	0.13	0.054	James Bryant	$ 263.00	$ -	$ -	$ 263.00
B34	2	Pt. Lot 23	0.13	0.054	Robertson Brown	$ 263.00	$ -	$ -	$ 263.00
B35	2	Pt. Lot 23	0.14	0.055	Samantha Conway & Christopher Dinunzio	$ 267.00	$ -	$ -	$ 267.00
B36	2	Pt. Lot 23	0.13	0.054	Donna Bellefleur	$ 265.00	$ -	$ -	$ 265.00
B37	2	Pt. Lot 23	0.13	0.054	Kristina Card	$ 263.00	$ -	$ -	$ 263.00
B38	2	Pt. Lot 23	0.18	0.072	Edward Root	$ 352.00	$ -	$ -	$ 352.00
B39	2	Pt. Lot 23	0.14	0.058	Antonietta & Donald Durham	$ 282.00	$ -	$ -	$ 282.00
B40	2	Pt. Lot 23	0.14	0.058	Ajit & Sarah Saxena	$ 281.00	$ -	$ -	$ 281.00
B41	2	Pt. Lot 23	0.14	0.057	Helen & Justin West	$ 279.00	$ -	$ -	$ 279.00
B42	2	Pt. Lot 23	0.17	0.068	Paul & Brenda Beneteau	$ 333.00	$ -	$ -	$ 333.00
B43	2	Pt. Lot 23	0.15	0.060	Robert & Cheryll Damphouse	$ 293.00	$ -	$ -	$ 293.00
B44	2	Pt. Lot 23	0.13	0.054	Richard & Karen Regier	$ 265.00	$ -	$ -	$ 265.00
B45	2	Pt. Lot 23	0.13	0.054	Leslie & Barbara Bosch	$ 265.00	$ -	$ -	$ 265.00
B46	2	Pt. Lot 23	0.17	0.070	Anna D'Alimonte	$ 341.00	$ -	$ -	$ 341.00
B47	2	Pt. Lot 23	0.18	0.071	Herman & Elizabeth VanderHeyden	$ 348.00	$ -	$ -	$ 348.00
B48	2	Pt. Lot 23	0.18	0.072	Kevin & Veronique Peladeau	$ 349.00	$ -	$ -	$ 349.00
B49	2	Pt. Lot 23	0.14	0.056	Amanda & Joseph Goodrich	$ 273.00	$ -	$ -	$ 273.00
B50	2	Pt. Lot 23	0.14	0.055	Teresa Handscomb	$ 270.00	$ -	$ -	$ 270.00
B51	2	Pt. Lot 23	0.13	0.054	Dave & Karen Deheer	$ 265.00	$ -	$ -	$ 265.00
B52	2	Pt. Lot 23	0.13	0.054	Linda Temesy	$ 264.00	$ -	$ -	$ 264.00
B53	2	Pt. Lot 23	0.14	0.055	Michele & Kenneth Walker	$ 270.00	$ -	$ -	$ 270.00
B54	2	Pt. Lot 23	0.14	0.056	Tanya & Megan Desjardins	$ 273.00	$ -	$ -	$ 273.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B55	2	Pt. Lot 23	0.17	0.067	Daniel & Mary Morency	$ 327.00	$ -	$ -	$ 327.00
B56	2	Pt. Lot 23	0.15	0.062	Nicholas & Maria Menna	$ 300.00	$ -	$ -	$ 300.00
B57	2	Pt. Lot 23	0.15	0.062	Dale & Mary Iler	$ 300.00	$ -	$ -	$ 300.00
B58	2	Pt. Lot 23	0.25	0.100	Claudio & Anna Mancini	$ 488.00	$ -	$ -	$ 488.00
B59	2	Pt. Lot 23	0.23	0.091	Michael Bondy	$ 443.00	$ -	$ -	$ 443.00
B60	2	Pt. Lot 23	0.20	0.083	Ralph & Grace Barnwell	$ 403.00	$ -	$ -	$ 403.00
B61	2	Pt. Lot 23	0.14	0.058	Michael & Paula Paquette	$ 283.00	$ -	$ -	$ 283.00
B62	2	Pt. Lot 23	0.14	0.055	Micahel Deneau	$ 269.00	$ -	$ -	$ 269.00
B63	2	Pt. Lot 23	0.14	0.055	Christopher Fabian	$ 269.00	$ -	$ -	$ 269.00
B64	2	Pt. Lot 23	0.14	0.055	Kaitlynn Scott & Cailem Winmill	$ 269.00	$ -	$ -	$ 269.00
B65	2	Pt. Lot 23	0.14	0.055	Gino & Franca Mastronardi	$ 269.00	$ -	$ -	$ 269.00
B66	2	Pt. Lot 23	0.14	0.055	Roger Baylis & Elisha Strong	$ 269.00	$ -	$ -	$ 269.00
B67	2	Pt. Lot 23	0.14	0.055	Paul Brennan & Julie LaLiberte	$ 269.00	$ -	$ -	$ 269.00
B68	2	Pt. Lot 23	0.13	0.055	Daniel & Katie Foster	$ 266.00	$ -	$ -	$ 266.00
B69	2	Pt. Lot 23	0.17	0.070	Karl Clifford	$ 340.00	$ -	$ -	$ 340.00
B70	2	Pt. Lot 23	0.49	0.197	Gwladys & Mary Brush	$ 958.00	$ -	$ -	$ 958.00
B71	2	Pt. Lot 23	0.36	0.147	James & Sherrie Hickey	$ 718.00	$ -	$ -	$ 718.00
B72	2	Pt. Lot 23	0.36	0.147	Raffaele & Denise Orsi	$ 718.00	$ -	$ -	$ 718.00
B73	2	Pt. Lot 23	0.36	0.147	Marilyn & Alvin Deneau	$ 718.00	$ -	$ -	$ 718.00
B74	2	Pt. Lot 23	0.36	0.147	Michael Scipione	$ 718.00	$ -	$ -	$ 718.00
B75	2	Pt. Lot 23	0.36	0.147	Ermenegildo & Phyllis D'Amore	$ 718.00	$ -	$ -	$ 718.00
B76	2	Pt. Lot 23	0.82	0.331	Jodi McLean	$ 1,611.00	$ -	$ -	$ 1,611.00
B77	2	Pt. Lot 23	0.24	0.098	David Fletcher & Karen Booker	$ 479.00	$ -	$ -	$ 479.00
B78	2	Pt. Lot 23	0.24	0.099	Todd & Shirley Goodchild	$ 481.00	$ -	$ -	$ 481.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B79	2	Pt. Lot 23	0.24	0.099	Denis Arsensult & Iris Carberry	$ 481.00	$ -	$ -	$ 481.00
B80	2	Pt. Lot 23	0.24	0.098	Ernest & Kimberly Meloche	$ 478.00	$ -	$ -	$ 478.00
B81	2	Pt. Lot 23	0.34	0.139	Jason Wells & Michaela Leckonby	$ 678.00	$ -	$ -	$ 678.00
B82	2	Pt. Lot 23	0.45	0.180	Antonio D'Ascanio	$ 877.00	$ -	$ -	$ 877.00
B83	2	Pt. Lot 23	0.18	0.074	Chelsie Duffy	$ 362.00	$ -	$ -	$ 362.00
B84	2	Pt. Lot 23	0.49	0.198	Gerald & Sandra Bronstein	$ 965.00	$ -	$ -	$ 965.00
B85	2	Pt. Lot 23	0.68	0.277	Douglas & Maureen Hunt	$ 1,349.00	$ -	$ -	$ 1,349.00
B86	2	Pt. Lot 23	0.44	0.177	John Fleming & Marion Lee	$ 861.00	$ -	$ -	$ 861.00
B87	2	Pt. Lot 23	1.29	0.522	Anitar Inc.	$ 2,541.00	$ -	$ -	$ 2,541.00
B88	2	Pt. Lot 23	0.64	0.259	1741059 Ontario Limited	$ 1,259.00	$ -	$ -	$ 1,259.00
B89	2	Pt. Lot 23	0.96	0.388	1741059 Ontario Limited	$ 1,886.00	$ -	$ -	$ 1,886.00
B90	2	Pt. Lot 23	0.49	0.198	Richard W. Deslippe	$ 965.00	$ -	$ -	$ 965.00
B91	2	Pt. Lot 23	1.32	0.535	Kirk & Eleanore Carey	$ 2,603.00	$ -	$ -	$ 2,603.00
B92	2	Pt. Lot 23	0.27	0.109	Jonathan Curtis	$ 532.00	$ -	$ -	$ 532.00
B93	2	Pt. Lot 23	0.13	0.052	James & Michelle Masters	$ 254.00	$ -	$ -	$ 254.00
B94	2	Pt. Lot 23	0.19	0.078	Brandon & Megan Gourley	$ 381.00	$ -	$ -	$ 381.00
B95	2	Pt. Lot 23	0.18	0.075	Lucio & Antonio Salvati	$ 364.00	$ -	$ -	$ 364.00
B96	2	Pt. Lot 23	0.19	0.077	Paul & Teresa Riggi	$ 377.00	$ -	$ -	$ 377.00
B97	2	Pt. Lot 23	0.20	0.080	Leo & Diane Dufour	$ 387.00	$ -	$ -	$ 387.00
B98	2	Pt. Lot 23	0.20	0.080	Alexander & Shelley White	$ 387.00	$ -	$ -	$ 387.00
B99	2	Pt. Lot 23	0.33	0.134	William & Yvette Meloche	$ 653.00	$ -	$ -	$ 653.00
B100	2	Pt. Lot 23	0.16	0.064	Domenico & Maria Vespa	$ 309.00	$ -	$ -	$ 309.00
B101	2	Pt. Lot 23	0.17	0.067	Annamaria Baker	$ 327.00	$ -	$ -	$ 327.00
B102	2	Pt. Lot 23	0.15	0.062	Ryan & Monique Liebrock	$ 302.00	$ -	$ -	$ 302.00
B103	2	Pt. Lot 23	0.27	0.109	John & Melissa Tregaskiss	$ 530.00	$ -	$ -	$ 530.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B104	2	Pt. Lot 23	0.23	0.091	David & Mina Swan	$ 443.00	$ -	$ -	$ 443.00
B105	2	Pt. Lot 23	0.23	0.091	Trevor & Samantha Kennedy	$ 444.00	$ -	$ -	$ 444.00
B106	2	Pt. Lot 23	0.19	0.076	Jennifer Thorne	$ 371.00	$ -	$ -	$ 371.00
B107	2	Pt. Lot 23	0.15	0.062	Dennis & Melissa Weaver	$ 302.00	$ -	$ -	$ 302.00
B108	2	Pt. Lot 23	0.17	0.067	Shane & Jennifer McVitty	$ 327.00	$ -	$ -	$ 327.00
B109	2	Pt. Lot 23	0.16	0.064	Gerald & Phyllis Goggin	$ 309.00	$ -	$ -	$ 309.00
B110	2	Pt. Lot 23	0.16	0.064	Caroline White	$ 313.00	$ -	$ -	$ 313.00
B111	2	Pt. Lot 23	0.16	0.065	Morgan Ouimette & Trina Ciphery	$ 318.00	$ -	$ -	$ 318.00
B112	2	Pt. Lot 23	0.16	0.064	Kurt Huard	$ 311.00	$ -	$ -	$ 311.00
B113	2	Pt. Lot 23	0.13	0.054	Joseph & Terezia Nagy	$ 265.00	$ -	$ -	$ 265.00
B114	2	Pt. Lot 23	0.20	0.083	John & Mary Holzel	$ 403.00	$ -	$ -	$ 403.00
B115	2	Pt. Lot 23	0.24	0.098	Jeramie & Tiffany Cote	$ 479.00	$ -	$ -	$ 479.00
B116	2	Pt. Lot 23	0.14	0.055	Richard & Tammy Allen	$ 268.00	$ -	$ -	$ 268.00
B117	2	Pt. Lot 23	0.29	0.119	Mario & Concetta D'Alimonte	$ 581.00	$ -	$ -	$ 581.00
B118	2	Pt. Lot 23	0.29	0.119	Denis & Jennifer Mallet	$ 577.00	$ -	$ -	$ 577.00
B119	2	Pt. Lot 23	0.23	0.095	John & Mary Stuart	$ 462.00	$ -	$ -	$ 462.00
B120	2	Pt. Lot 23	0.21	0.085	Irene & Leonard Pigeon	$ 415.00	$ -	$ -	$ 415.00
B121	2	Pt. Lot 23	0.23	0.093	Aaron Mulder & Connie-Fay Girard	$ 453.00	$ -	$ -	$ 453.00
B122	2	Pt. Lot 23	0.21	0.087	Theresa Fox	$ 421.00	$ -	$ -	$ 421.00
B123	2	Pt. Lot 23	0.23	0.095	Kirstin Cote	$ 462.00	$ -	$ -	$ 462.00
B124	2	Pt. Lot 23	0.21	0.087	Sean & Marcia Cota	$ 423.00	$ -	$ -	$ 423.00
B125	2	Pt. Lot 23	0.23	0.094	Ryan Nantais	$ 459.00	$ -	$ -	$ 459.00
B126	2	Pt. Lot 23	0.14	0.056	Ian & Laurie Hui	$ 271.00	$ -	$ -	$ 271.00
B127	2	Pt. Lot 23	0.13	0.051	Leslie Blais	$ 246.00	$ -	$ -	$ 246.00
B128	2	Pt. Lot 23	0.14	0.056	Geoffrey & Donna Hibbert	$ 271.00	$ -	$ -	$ 271.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B129	2	Pt. Lot 23	0.14	0.056	Leo Desbiens	$ 271.00	$ -	$ -	$ 271.00
B130	2	Pt. Lot 23	0.13	0.051	Tammy Marancie	$ 246.00	$ -	$ -	$ 246.00
B131	2	Pt. Lot 23	0.14	0.056	Matthew Erickson & Yvette Evans	$ 271.00	$ -	$ -	$ 271.00
B132	2	Pt. Lot 23	0.15	0.062	Ryan & Melanie D'Alimonte	$ 300.00	$ -	$ -	$ 300.00
B133	2	Pt. Lot 23	0.20	0.081	Sarah & Keith Shaw	$ 394.00	$ -	$ -	$ 394.00
B134	2	Pt. Lot 23	0.16	0.066	Judith Spadafora	$ 320.00	$ -	$ -	$ 320.00
B135	2	Pt. Lot 23	0.16	0.066	Kerry & Amberley Foote	$ 320.00	$ -	$ -	$ 320.00
B136	2	Pt. Lot 23	0.16	0.066	George & Salvina Pearson	$ 320.00	$ -	$ -	$ 320.00
B137	2	Pt. Lot 23	0.16	0.066	Patrick & Pauline Greenwood	$ 320.00	$ -	$ -	$ 320.00
B138	2	Pt. Lot 23	0.16	0.065	Sandra Ashton	$ 318.00	$ -	$ -	$ 318.00
B139	2	Pt. Lot 23	0.40	0.163	Andrew & Debra Groen	$ 792.00	$ -	$ -	$ 792.00
B140	2	Pt. Lot 23	0.32	0.128	Jerry Chadwick	$ 624.00	$ -	$ -	$ 624.00
B141	2	Pt. Lot 23	0.34	0.139	John France	$ 677.00	$ -	$ -	$ 677.00
B142	2	Pt. Lot 23	0.34	0.139	Allan Kinsey & Stacy Markham	$ 678.00	$ -	$ -	$ 678.00
B143	2	Pt. Lot 23	0.34	0.140	Allan Patterson	$ 679.00	$ -	$ -	$ 679.00
B144	2	Pt. Lot 23	0.35	0.140	Theodore Girard & Jessica Spencer	$ 681.00	$ -	$ -	$ 681.00
B145	2	Pt. Lot 23	0.35	0.140	John & Joanne Guitar	$ 682.00	$ -	$ -	$ 682.00
B146	2	Pt. Lot 23	0.35	0.140	Mark & Penny Yablonsky	$ 683.00	$ -	$ -	$ 683.00
B147	2	Pt. Lot 23	0.35	0.141	Jennifer Grant & Nathan Buckwell	$ 685.00	$ -	$ -	$ 685.00
B148	2	Pt. Lot 23	0.35	0.142	Gary & Darlene Burns	$ 692.00	$ -	$ -	$ 692.00
B149	2	Pt. Lot 23	0.36	0.145	Henry & Maureen Abson	$ 704.00	$ -	$ -	$ 704.00
B150	2	Pt. Lot 23	0.18	0.072	Lewis Atherley	$ 349.00	$ -	$ -	$ 349.00
B151	2	Pt. Lot 23	0.24	0.098	John & Margaret Dufour	$ 1,439.00	$ 2,291.00	$ -	$ 3,730.00
B152	2	Pt. Lot 23	0.41	0.164	Isabelle & James Bastien	$ 2,426.00	$ 3,354.00	$ -	$ 5,780.00
B153	2	Pt. Lot 23	0.37	0.149	Timothy & Violet Lauriault	$ 2,195.00	$ 3,128.00	$ -	$ 5,323.00

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B154	2	Pt. Lot 23	0.49	0.199	Michael Holden & Kelly Hunt	$ 2,942.00	$ 3,822.00	$ -	$ 6,764.00
B155	2	Pt. Lot 23	0.66	0.267	Timothy & Janet Beaulieu	$ 3,946.00	$ 4,629.00	$ -	$ 8,575.00
B156	2	Pt. Lot 23	0.63	0.256	Block B	$ 3,770.00	$ 6,003.00	$ -	$ 9,773.00
B157	2	Pt. Lot 23	4.76	1.925	Block B	$ 28,393.00	$ 45,211.00	$ 130,351.00	$ 203,955.00
B158	2	Pt. Lot 23	3.04	1.231	Block B	$ 18,157.00	$ 28,911.00	$ -	$ 47,068.00
B159	2	Pt. Lot 23	0.67	0.269	Julia Bonenfant	$ 3,974.00	$ 4,663.00	$ -	$ 8,637.00
B160	2	Pt. Lot 23	0.44	0.178	Istvan & Sheanna Zambo	$ 2,619.00	$ 3,512.00	$ -	$ 6,131.00
B161	2	Pt. Lot 23	0.25	0.103	Manuel & Maria Cacilhas	$ 1,515.00	$ 2,412.00	$ -	$ 3,927.00
B162	2	Pt. Lot 23	0.25	0.103	Scott & Jamie Hodgins	$ 1,515.00	$ 2,412.00	$ -	$ 3,927.00
B163	2	Pt. Lot 23	0.25	0.102	Todd & Rachel Morin	$ 1,509.00	$ 2,403.00	$ -	$ 3,912.00
B164	2	Pt. Lot 23	0.25	0.100	Jenny Labrada Perez	$ 1,475.00	$ 2,348.00	$ -	$ 3,823.00
B165	2	Pt. Lot 23	0.24	0.096	George Bondy	$ 1,417.00	$ 2,256.00	$ -	$ 3,673.00
B166	2	Pt. Lot 23	0.23	0.092	Maria Dibartolomeo	$ 1,361.00	$ 2,223.00	$ -	$ 3,584.00
B167	2	Pt. Lot 23	0.22	0.090	David & Karen Tales	$ 1,329.00	$ 2,172.00	$ -	$ 3,501.00
B168	2	Pt. Lot 23	0.24	0.099	Jeremy & Jessica D'Alimonte	$ 1,454.00	$ 2,315.00	$ -	$ 3,769.00
B169	2	Pt. Lot 23	0.27	0.108	Ziad & Jennifer Fatallah	$ 1,588.00	$ 2,462.00	$ -	$ 4,050.00
B170	2	Pt. Lot 23	0.24	0.099	Stephen Deschamps & Bridget Eveleigh	$ 1,454.00	$ 2,315.00	$ -	$ 3,769.00
B171	2	Pt. Lot 23	0.22	0.090	Andrew Cormier & Gillian Heisz	$ 1,323.00	$ 2,162.00	$ -	$ 3,485.00
B172	2	Pt. Lot 23	0.22	0.089	Kimberly Wright	$ 1,314.00	$ 2,147.00	$ -	$ 3,461.00
B173	2	Pt. Lot 23	0.19	0.077	Community Living Essex County	$ 1,142.00	$ 1,963.00	$ -	$ 3,105.00
B174	2	Pt. Lot 23	0.21	0.083	Michael & Tara-Lynn McDowell	$ 1,228.00	$ 2,058.00	$ -	$ 3,286.00
B175	2	Pt. Lot 23	0.19	0.078	Antonino Marano	$ 1,149.00	$ 1,974.00	$ -	$ 3,123.00
B176	2	Pt. Lot 23	0.19	0.078	Tho Nguyen	$ 1,149.00	$ 1,975.00	$ -	$ 3,124.00
B177	2	Pt. Lot 23	0.22	0.089	Gwenyth Hartleb & Stephanie Smith	$ 1,315.00	$ 2,149.00	$ -	$ 3,464.00

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B178	2	Pt. Lot 23	0.22	0.090	Timothy & Stacey Vigneux	$ 1,321.00	$ 2,159.00	$ -	$ 3,480.00
B179	2	Pt. Lot 23	0.24	0.098	Kyle & Jodi-Lynn Ouellette	$ 1,452.00	$ 2,312.00	$ -	$ 3,764.00
B180	2	Pt. Lot 23	0.28	0.111	David Harris	$ 1,645.00	$ 2,481.00	$ -	$ 4,126.00
B181	2	Pt. Lot 23	0.22	0.090	Lydia & James Ouellette	$ 1,321.00	$ 2,159.00	$ -	$ 3,480.00
B182	2	Pt. Lot 23	0.22	0.089	Alan & Laura Piper	$ 1,315.00	$ 2,149.00	$ -	$ 3,464.00
B183	2	Pt. Lot 23	0.21	0.087	Jie Zheng & Lin Yang	$ 1,281.00	$ 2,147.00	$ -	$ 3,428.00
B184	2	Pt. Lot 23	0.20	0.083	Corey & Nicole Homick	$ 1,223.00	$ 2,050.00	$ -	$ 3,273.00
B185	2	Pt. Lot 23	0.20	0.079	Timothy & Marcelle O'Reilly	$ 1,167.00	$ 1,955.00	$ -	$ 3,122.00
B186	2	Pt. Lot 23	0.19	0.077	Mahmoud Brouri & Kathleen Bezaire	$ 1,135.00	$ 1,950.00	$ -	$ 3,085.00
B187	2	Pt. Lot 23	0.19	0.078	Jeffrey & Darlene Kopacz	$ 1,148.00	$ 1,972.00	$ -	$ 3,120.00
B188	2	Pt. Lot 23	0.02	0.007	1233804 Ontario Limited	$ 110.00	$ 231.00	$ -	$ 341.00
B189	2	Pt. Lot 23	1.02	0.411	Mikalynn & Michael Parlette	$ 6,060.00	$ 6,349.00	$ -	$ 12,409.00
B190	2	Pt. Lot 23	0.46	0.186	Kenneth Jones & Sandra Peever	$ 2,740.00	$ 3,674.00	$ -	$ 6,414.00
B191	2	Pt. Lot 23	0.42	0.170	Ronald Triolet	$ 2,507.00	$ 2,836.00	$ -	$ 5,343.00
B192	2	Pt. Lot 23	0.18	0.073	Marianne Ferenczy & Paula Demeter	$ 1,083.00	$ 1,906.00	$ -	$ 2,989.00
B193	2	Pt. Lot 23	0.18	0.073	Anna Leardi	$ 1,083.00	$ 1,906.00	$ -	$ 2,989.00
B194	2	Pt. Lot 23	0.18	0.073	Brett Bezaire & Amanda Deslippe	$ 1,083.00	$ 1,905.00	$ -	$ 2,988.00
B195	2	Pt. Lot 23	0.18	0.073	Sarah Sinasac & Nathan French	$ 1,083.00	$ 1,906.00	$ -	$ 2,989.00
B196	2	Pt. Lot 23	0.14	0.057	Michael Fines & Melisa Mulcaster	$ 844.00	$ 1,626.00	$ -	$ 2,470.00
B197	2	Pt. Lot 23	0.14	0.057	Carlie & Lindsay Mower	$ 844.00	$ 1,627.00	$ -	$ 2,471.00
B198	2	Pt. Lot 23	0.20	0.083	Leonardo & Nancy Caro	$ 1,219.00	$ 2,043.00	$ -	$ 3,262.00
B199	2	Pt. Lot 23	0.20	0.083	Essex County Association For Community Living	$ 1,219.00	$ 2,044.00	$ -	$ 3,263.00
B200	2	Pt. Lot 23	0.12	0.050	Clifford & Marietta Ferriss	$ 735.00	$ 1,478.00	$ -	$ 2,213.00

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B201	2	Pt. Lot 23	0.12	0.050	Eric Markham	$ 734.00	$ 1,477.00	$ -	$ 2,211.00
B202	2	Pt. Lot 23	0.12	0.050	Eduardo Munoz & Meggi Hutton	$ 734.00	$ 1,477.00	$ -	$ 2,211.00
B203	2	Pt. Lot 23	0.12	0.050	Roger & Louise Arseneau	$ 734.00	$ 1,477.00	$ -	$ 2,211.00
B204	2	Pt. Lot 23	0.12	0.050	Jeffrey & Maureen Medd	$ 734.00	$ 1,477.00	$ -	$ 2,211.00
B205	2	Pt. Lot 23	0.12	0.050	Cheryl Pillon & Kevin Cote	$ 734.00	$ 1,477.00	$ -	$ 2,211.00
B206	2	Pt. Lot 23	0.12	0.050	Dennis & Anne Bondy	$ 734.00	$ 1,477.00	$ -	$ 2,211.00
B207	2	Pt. Lot 23	0.15	0.062	Liisa & Steven Levesque	$ 914.00	$ 1,723.00	$ -	$ 2,637.00
B208	2	Pt. Lot 23	0.14	0.058	Joseph & Marlene Damphouse	$ 850.00	$ 1,639.00	$ -	$ 2,489.00
B209	2	Pt. Lot 23	0.11	0.046	Joseph & Margaret Joncas	$ 686.00	$ 1,408.00	$ -	$ 2,094.00
B210	2	Pt. Lot 23	0.11	0.046	Carl & Nanette Gatt	$ 686.00	$ 1,408.00	$ -	$ 2,094.00
B211	2	Pt. Lot 23	0.11	0.046	Douglas Buchanan	$ 686.00	$ 1,408.00	$ -	$ 2,094.00
B212	2	Pt. Lot 23	0.12	0.049	Nicola & Anna Simone	$ 727.00	$ 1,462.00	$ -	$ 2,189.00
B213	2	Pt. Lot 23	0.19	0.075	Nelson Caixeira	$ 1,105.00	$ 1,898.00	$ -	$ 3,003.00
B214	2	Pt. Lot 23	0.19	0.075	Roger & Kimberly Schroeder	$ 1,108.00	$ 1,904.00	$ -	$ 3,012.00
B215	2	Pt. Lot 23	0.19	0.075	Laurie-Anne Abraham	$ 1,108.00	$ 1,904.00	$ -	$ 3,012.00
B216	2	Pt. Lot 23	0.19	0.075	Matthew & Amanda Coughlin	$ 1,105.00	$ 1,899.00	$ -	$ 3,004.00
B217	2	Pt. Lot 23	0.12	0.049	Colm Holmes	$ 727.00	$ 1,463.00	$ -	$ 2,190.00
B218	2	Pt. Lot 23	0.11	0.047	Andrew & Carolyn Dopson	$ 686.00	$ 1,409.00	$ -	$ 2,095.00
B219	2	Pt. Lot 23	0.11	0.047	Kenneth Booker & Ashley Dinunzio	$ 686.00	$ 1,408.00	$ -	$ 2,094.00
B220	2	Pt. Lot 23	0.11	0.046	Jerome Lucier	$ 686.00	$ 1,408.00	$ -	$ 2,094.00
B221	2	Pt. Lot 23	0.14	0.058	Peter & Beverly Blain	$ 850.00	$ 1,639.00	$ -	$ 2,489.00
B222	2	Pt. Lot 23	0.16	0.066	Gregory Carr	$ 977.00	$ 1,802.00	$ -	$ 2,779.00
B223	2	Pt. Lot 23	0.11	0.046	Glenn & Marlene Turkington	$ 684.00	$ 1,404.00	$ -	$ 2,088.00
B224	2	Pt. Lot 23	0.11	0.047	Richard Wilson	$ 686.00	$ 1,409.00	$ -	$ 2,095.00

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B225	2	Pt. Lot 23	0.12	0.047	Kelly Charlebois	$ 688.00	$ 1,384.00	$ -	$ 2,072.00
B226	2	Pt. Lot 23	0.12	0.047	Jason & Vida Allen	$ 690.00	$ 1,389.00	$ -	$ 2,079.00
B227	2	Pt. Lot 23	0.12	0.047	Kristopher & Nikita Ostapovitch	$ 693.00	$ 1,393.00	$ -	$ 2,086.00
B228	2	Pt. Lot 23	0.12	0.047	James Lacey	$ 695.00	$ 1,398.00	$ -	$ 2,093.00
B229	2	Pt. Lot 23	0.12	0.047	Bradley & Jennifer Fink	$ 697.00	$ 1,402.00	$ -	$ 2,099.00
B230	2	Pt. Lot 23	0.12	0.047	Michael & Jackie Allen	$ 699.00	$ 1,407.00	$ -	$ 2,106.00
B231	2	Pt. Lot 23	0.12	0.048	David Henderson & Kathrine & Tho Nguyen	$ 702.00	$ 1,411.00	$ -	$ 2,113.00
B232	2	Pt. Lot 23	0.12	0.048	David Thistle	$ 704.00	$ 1,415.00	$ -	$ 2,119.00
B233	2	Pt. Lot 23	0.12	0.048	Kelly Fowkes	$ 706.00	$ 1,420.00	$ -	$ 2,126.00
B234	2	Pt. Lot 23	0.12	0.048	Kelly Abbott	$ 708.00	$ 1,424.00	$ -	$ 2,132.00
B235	2	Pt. Lot 23	0.12	0.048	Alexander Hagg & Heather Mackenzie	$ 710.00	$ 1,429.00	$ -	$ 2,139.00
B236	2	Pt. Lot 23	0.12	0.048	David & Mary Rampersaud	$ 714.00	$ 1,436.00	$ -	$ 2,150.00
B237	2	Pt. Lot 23	0.12	0.049	Natalie Ayer	$ 716.00	$ 1,441.00	$ -	$ 2,157.00
B238	2	Pt. Lot 23	0.12	0.048	Joel & Brytany Archer	$ 709.00	$ 1,427.00	$ -	$ 2,136.00
B239	2	Pt. Lot 23	0.14	0.057	David & Kimmerly Strickland	$ 835.00	$ 1,610.00	$ -	$ 2,445.00
B240	2	Pt. Lot 23	0.20	0.079	Roy Colmer & Rosa Savoni	$ 1,166.00	$ 1,954.00	$ -	$ 3,120.00
B241	2	Pt. Lot 23	0.14	0.058	Thomas Loxton	$ 854.00	$ 1,646.00	$ -	$ 2,500.00
B242	2	Pt. Lot 23	0.11	0.043	Jeffery Helkie & Laura Stark	$ 633.00	$ 1,300.00	$ -	$ 1,933.00
B243	2	Pt. Lot 23	0.12	0.047	Jeffrey & Kristie Melko	$ 691.00	$ 1,389.00	$ -	$ 2,080.00
B244	2	Pt. Lot 23	0.12	0.047	Anne & Michael Duffey	$ 691.00	$ 1,389.00	$ -	$ 2,080.00
B245	2	Pt. Lot 23	0.12	0.047	Gregory & Marisa Forsyth	$ 691.00	$ 1,389.00	$ -	$ 2,080.00
B246	2	Pt. Lot 23	0.14	0.058	Michael MacDonald	$ 856.00	$ 1,651.00	$ -	$ 2,507.00
B247	2	Pt. Lot 23	0.15	0.061	Tina & Travis Renaud	$ 905.00	$ 1,707.00	$ -	$ 2,612.00
B248	2	Pt. Lot 23	0.12	0.049	Kyle Donne	$ 730.00	$ 1,468.00	$ -	$ 2,198.00

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B249	2	Pt. Lot 23	0.12	0.049	Denis & Siobhan Paquin	$ 730.00	$ 1,468.00	$ -	$ 2,198.00
B250	2	Pt. Lot 23	0.12	0.049	Robbie & Karen Bates	$ 730.00	$ 1,468.00	$ -	$ 2,198.00
B251	2	Pt. Lot 23	0.12	0.049	Matthew Sutton & Michelle Sinasac	$ 730.00	$ 1,468.00	$ -	$ 2,198.00
B252	2	Pt. Lot 23	0.12	0.049	Louise Ferriss & Dorothy & Frank Wirag	$ 730.00	$ 1,468.00	$ -	$ 2,198.00
B253	2	Pt. Lot 23	0.12	0.049	Normand & Alida Kingsbury	$ 730.00	$ 1,468.00	$ -	$ 2,198.00
B254	2	Pt. Lot 23	0.13	0.051	Justin Wrixon & Stephanie Pietrangelo	$ 756.00	$ 1,489.00	$ -	$ 2,245.00
B255	2	Pt. Lot 23	0.13	0.051	Fernande Laroche	$ 756.00	$ 1,489.00	$ -	$ 2,245.00
B256	2	Pt. Lot 23	0.13	0.052	Robert Falkanger	$ 766.00	$ 1,508.00	$ -	$ 2,274.00
B257	2	Pt. Lot 23	0.12	0.050	Sean Lunardi & Felicia Deroy	$ 741.00	$ 1,490.00	$ -	$ 2,231.00
B258	2	Pt. Lot 23	0.12	0.050	George & Barbara Sesto	$ 741.00	$ 1,490.00	$ -	$ 2,231.00
B259	2	Pt. Lot 23	0.12	0.050	Ehren Martin	$ 741.00	$ 1,490.00	$ -	$ 2,231.00
B260	2	Pt. Lot 23	0.12	0.050	Jason & Holly McLean	$ 741.00	$ 1,490.00	$ -	$ 2,231.00
B261	2	Pt. Lot 23	0.12	0.050	Peter Belanger & Patricia Capalbo	$ 741.00	$ 1,490.00	$ -	$ 2,231.00
B262	2	Pt. Lot 23	0.15	0.061	Keith & Katherine Jones	$ 906.00	$ 1,709.00	$ -	$ 2,615.00
B263	2	Pt. Lot 23	0.13	0.054	Mark Meloche & Shelley Gonzalvo	$ 799.00	$ 1,574.00	$ -	$ 2,373.00
B264	2	Pt. Lot 23	0.23	0.094	Terrance & Bonnie Bertrand	$ 1,390.00	$ 2,272.00	$ -	$ 3,662.00
B265	2	Pt. Lot 23	0.14	0.055	Anthony Bastien & Krystina Menard	$ 810.00	$ 1,562.00	$ -	$ 2,372.00
B266	2	Pt. Lot 23	0.13	0.053	Joel Gonzalvo & Alan Desimpel	$ 787.00	$ 1,550.00	$ -	$ 2,337.00
B267	2	Pt. Lot 23	0.11	0.046	Sheila Moore	$ 675.00	$ 1,385.00	$ -	$ 2,060.00
B268	2	Pt. Lot 23	0.11	0.046	Charles Copland & Laura Parent	$ 675.00	$ 1,385.00	$ -	$ 2,060.00
B269	2	Pt. Lot 23	0.14	0.057	Shawn MacDonald	$ 837.00	$ 1,613.00	$ -	$ 2,450.00
B270	2	Pt. Lot 23	0.15	0.062	Anita Gibb	$ 922.00	$ 1,738.00	$ -	$ 2,660.00
B271	2	Pt. Lot 23	0.12	0.047	Marion & Graham Clayton	$ 691.00	$ 1,389.00	$ -	$ 2,080.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B272	2	Pt. Lot 23	0.12	0.047	Gregory & Carol Farmer	$ 691.00	$ 1,389.00	$ -	$ 2,080.00
B273	2	Pt. Lot 23	0.13	0.052	Bosko Jugovic & Angela Arce	$ 760.00	$ 1,496.00	$ -	$ 2,256.00
B274	2	Pt. Lot 23	0.13	0.051	Dustin Deslippe	$ 760.00	$ 1,496.00	$ -	$ 2,256.00
B275	2	Pt. Lot 23	0.13	0.052	Anthony Olivito	$ 760.00	$ 1,496.00	$ -	$ 2,256.00
B276	2	Pt. Lot 23	0.13	0.052	Shaun & Stacey Griffiths	$ 760.00	$ 1,496.00	$ -	$ 2,256.00
B277	2	Pt. Lot 23	0.13	0.052	Eric Weigel & Meaghan Hlavac	$ 760.00	$ 1,496.00	$ -	$ 2,256.00
B278	2	Pt. Lot 21	0.17	0.068	Robert & Karen Clifford	$ 330.00	$ -	$ -	$ 330.00
B279	2	Pt. Lot 21	0.11	0.045	Dance & Jamie Stefanovich	$ 221.00	$ -	$ -	$ 221.00
B280	2	Pt. Lot 21	0.11	0.046	Nathan Gillis	$ 222.00	$ -	$ -	$ 222.00
B281	2	Pt. Lot 21	0.11	0.045	Curtis Dufour	$ 220.00	$ -	$ -	$ 220.00
B282	2	Pt. Lot 21	0.19	0.077	Stacey Wiley & Kyle Pierschke	$ 374.00	$ -	$ -	$ 374.00
B283	2	Pt. Lot 21	0.23	0.094	Brian Aucoin & Allison Brown	$ 458.00	$ -	$ -	$ 458.00
B284	2	Pt. Lot 21	0.27	0.108	Tong Bui & Trang Le	$ 524.00	$ -	$ -	$ 524.00
B285	2	Pt. Lot 21	0.27	0.107	Owen Finn	$ 522.00	$ -	$ -	$ 522.00
B286	2	Pt. Lot 21	0.21	0.085	Donald & Kimberly Martin	$ 411.00	$ -	$ -	$ 411.00
B287	2	Pt. Lot 21	0.15	0.060	Robert Kammerer & Shelley McCann	$ 291.00	$ -	$ -	$ 291.00
B288	2	Pt. Lot 21	0.15	0.060	Chantal Brunet	$ 292.00	$ -	$ -	$ 292.00
B289	2	Pt. Lot 21	0.15	0.060	Robin & Debra Russell	$ 292.00	$ -	$ -	$ 292.00
B290	2	Pt. Lot 21	0.15	0.060	Justin Awram & Chelsea Hennon	$ 292.00	$ -	$ -	$ 292.00
B291	2	Pt. Lot 21	0.15	0.060	Krista Sales & Christopher Hayes	$ 292.00	$ -	$ -	$ 292.00
B292	2	Pt. Lot 21	0.16	0.063	Murray Janisse & Teresa Davis	$ 306.00	$ -	$ -	$ 306.00
B293	2	Pt. Lot 21	0.15	0.060	Donald & Claire MacDonald	$ 293.00	$ -	$ -	$ 293.00
B294	2	Pt. Lot 21	0.22	0.091	Robert & Leonarda Faroni	$ 441.00	$ -	$ -	$ 441.00
B295	2	Pt. Lot 21	0.20	0.081	Michael & Carolyn Leake	$ 395.00	$ -	$ -	$ 395.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B296	2	Pt. Lot 21	0.18	0.072	Susanne Bergeron	$ 350.00	$ -	$ -	$ 350.00
B297	2	Pt. Lot 21	0.17	0.070	Melanie Conaty	$ 341.00	$ -	$ -	$ 341.00
B298	2	Pt. Lot 21	0.18	0.072	Michael & Patricia Ford	$ 351.00	$ -	$ -	$ 351.00
B299	2	Pt. Lot 21	0.18	0.072	Krystal Kehoe	$ 353.00	$ -	$ -	$ 353.00
B300	2	Pt. Lot 21	0.18	0.072	Kevin Souligny	$ 353.00	$ -	$ -	$ 353.00
B301	2	Pt. Lot 21	0.18	0.071	Christian Eldred	$ 348.00	$ -	$ -	$ 348.00
B302	2	Pt. Lot 21	0.21	0.083	Janet & David Ross	$ 405.00	$ -	$ -	$ 405.00
B303	2	Pt. Lot 21	0.26	0.104	Robert & Mary Labrecque	$ 506.00	$ -	$ -	$ 506.00
B304	2	Pt. Lot 21	0.19	0.076	Doreen Zajec	$ 368.00	$ -	$ -	$ 368.00
B305	2	Pt. Lot 21	0.17	0.070	Margaret Haskell	$ 339.00	$ -	$ -	$ 339.00
B306	2	Pt. Lot 21	0.19	0.076	Curtis Ficociello & Carly Baz	$ 369.00	$ -	$ -	$ 369.00
B307	2	Pt. Lot 21	0.20	0.082	Gregory & Michele Girty	$ 399.00	$ -	$ -	$ 399.00
B308	2	Pt. Lot 21	0.27	0.108	Bradley & Tracy Blackburn	$ 527.00	$ -	$ -	$ 527.00
B309	2	Pt. Lot 21	0.19	0.077	Tamasin & Terence Dineen	$ 377.00	$ -	$ -	$ 377.00
B310	2	Pt. Lot 21	0.20	0.080	Jeffrey & Janette McCartney	$ 392.00	$ -	$ -	$ 392.00
B311	2	Pt. Lot 21	0.24	0.097	Jodi Taylor	$ 473.00	$ -	$ -	$ 473.00
B312	2	Pt. Lot 21	0.22	0.089	David Amyotte & Sandra Hodgins	$ 434.00	$ -	$ -	$ 434.00
B313	2	Pt. Lot 21	0.19	0.078	Orma Fryer	$ 382.00	$ -	$ -	$ 382.00
B314	2	Pt. Lot 21	0.20	0.079	Richard Dufour	$ 386.00	$ -	$ -	$ 386.00
B315	2	Pt. Lot 21	0.18	0.072	Dennis Rooke	$ 350.00	$ -	$ -	$ 350.00
B316	2	Pt. Lot 21	0.22	0.089	Ernest & Antoinette Pecaski	$ 431.00	$ -	$ -	$ 431.00
B317	2	Pt. Lot 23	0.23	0.091	Luke & Nicole Goggin	$ 445.00	$ -	$ -	$ 445.00
B318	2	Pt. Lot 23 & 24	0.17	0.067	Camillo & Assunta Toppi	$ 327.00	$ -	$ -	$ 327.00
B319	2	Pt. Lot 21	0.16	0.064	Clint Merrifield & Miranda Ronholm	$ 314.00	$ -	$ -	$ 314.00
B320	2	Pt. Lot 21	0.15	0.063	Dale Simmons	$ 305.00	$ -	$ -	$ 305.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B321	2	Pt. Lot 21	0.16	0.066	Gordon Ross & Wendy Wigle	$ 322.00	$ -	$ -	$ 322.00
B322	2	Pt. Lot 21	0.16	0.066	Paul Meloche & Shannon McLaughlin	$ 323.00	$ -	$ -	$ 323.00
B323	2	Pt. Lot 21	0.15	0.061	John & Donna Bondy	$ 298.00	$ -	$ -	$ 298.00
B324	2	Pt. Lot 21	0.15	0.061	Wilbur & Cynthia Mulder	$ 298.00	$ -	$ -	$ 298.00
B325	2	Pt. Lot 21	0.15	0.061	Sabina Harrison	$ 298.00	$ -	$ -	$ 298.00
B326	2	Pt. Lot 21	0.15	0.061	Theresa Brennan	$ 298.00	$ -	$ -	$ 298.00
B327	2	Pt. Lot 21	0.15	0.061	Gail Bratt & Bernard Krebs	$ 298.00	$ -	$ -	$ 298.00
B328	2	Pt. Lot 21	0.16	0.066	Terry & Kimberly Deschamps	$ 323.00	$ -	$ -	$ 323.00
B329	2	Pt. Lot 21	0.16	0.066	Tiffany & Leslie Anscombe	$ 323.00	$ -	$ -	$ 323.00
B330	2	Pt. Lot 21	0.15	0.061	Carmine & Gladys Cristofaro	$ 298.00	$ -	$ -	$ 298.00
B331	2	Pt. Lot 21	0.15	0.061	Daniel & Georgina Marshall	$ 298.00	$ -	$ -	$ 298.00
B332	2	Pt. Lot 21	0.15	0.061	Michael & Betty Constantineau	$ 298.00	$ -	$ -	$ 298.00
B333	2	Pt. Lot 21	0.15	0.061	James & Randa Parent	$ 299.00	$ -	$ -	$ 299.00
B334	2	Pt. Lot 21	0.16	0.065	Christopher Leblanc & Kelly Grantmyre	$ 318.00	$ -	$ -	$ 318.00
B335	2	Pt. Lot 21	0.19	0.077	Tara Gugliotta & Raymond Lariviere	$ 376.00	$ -	$ -	$ 376.00
B336	2	Pt. Lot 21	0.25	0.100	Daria Aybusheva & Andrei Aibouchev	$ 489.00	$ -	$ -	$ 489.00
B341	2	Pt. Lot 21	0.17	0.069	Christopher D'Aloisio	$ 335.00	$ -	$ -	$ 335.00
B342	2	Pt. Lot 21	0.18	0.075	Stephen Nikitiuk	$ 364.00	$ -	$ -	$ 364.00
B343	2	Pt. Lot 21	0.18	0.074	Erin & Kenneth Baird	$ 362.00	$ -	$ -	$ 362.00
B344	2	Pt. Lot 21	0.18	0.074	Michael & Nicole Ouellette	$ 362.00	$ -	$ -	$ 362.00
B345	2	Pt. Lot 21	0.18	0.074	Ronald & Anne Muir	$ 362.00	$ -	$ -	$ 362.00
B346	2	Pt. Lot 21	0.18	0.074	Laurie Cavanaugh	$ 362.00	$ -	$ -	$ 362.00
B347	2	Pt. Lot 21	0.18	0.074	John & Ruth Cooper	$ 362.00	$ -	$ -	$ 362.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B348	2	Pt. Lot 21	0.18	0.074	Ryan McLean & Melissa Woods	$ 362.00	$ -	$ -	$ 362.00
B349	2	Pt. Lot 21	0.20	0.082	Stephen Morello & Stefanie Johnston	$ 400.00	$ -	$ -	$ 400.00
B350	2	Pt. Lot 21	0.23	0.094	Sandra & Bradley Duffy & Deborah & Jeffrey Court	$ 457.00	$ -	$ -	$ 457.00
B351	2	Pt. Lot 21	0.35	0.141	Lisa & David Riopelle	$ 686.00	$ -	$ -	$ 686.00
B352	2	Pt. Lot 21	0.29	0.116	Denise Bratt	$ 562.00	$ -	$ -	$ 562.00
B353	2	Pt. Lot 21	0.20	0.080	Jeffrey & Deborah Court	$ 390.00	$ -	$ -	$ 390.00
B354	2	Pt. Lot 21	0.35	0.141	Bradley & Sandra Duffy	$ 685.00	$ -	$ -	$ 685.00
B355	2	Pt. Lot 21	0.17	0.068	Bradley Flood	$ 330.00	$ -	$ -	$ 330.00
B356	2	Pt. Lot 21	0.12	0.049	Jakob & Shari Damstra	$ 240.00	$ -	$ -	$ 240.00
B357	2	Pt. Lot 21	0.20	0.081	Cheryl West & Gail Doyle	$ 394.00	$ -	$ -	$ 394.00
B358	2	Pt. Lot 21	0.19	0.076	Andrew & Jane Bolley	$ 371.00	$ -	$ -	$ 371.00
B359	2	Pt. Lot 21	0.19	0.078	Michael & Cindy Doyle	$ 378.00	$ -	$ -	$ 378.00
B360	2	Pt. Lot 21	0.18	0.074	David & Dorothy Thrasher	$ 362.00	$ -	$ -	$ 362.00
B361	2	Pt. Lot 21	0.20	0.083	Brittany Pretty	$ 402.00	$ -	$ -	$ 402.00
B362	2	Pt. Lot 21	0.26	0.107	Adam & Gabrielle Renaud	$ 520.00	$ -	$ -	$ 520.00
B363	2	Pt. Lot 21	0.21	0.085	Shirley & Marcel Pare	$ 416.00	$ -	$ -	$ 416.00
B364	2	Pt. Lot 21	0.24	0.097	Bonnie Mansell	$ 472.00	$ -	$ -	$ 472.00
B365	2	Pt. Lot 21	0.19	0.075	Michael Bates	$ 366.00	$ -	$ -	$ 366.00
B366	2	Pt. Lot 21	0.17	0.070	Margaret Halls	$ 342.00	$ -	$ -	$ 342.00
B367	2	Pt. Lot 21	0.17	0.070	Nestor Restrepo & Jillian Romero	$ 342.00	$ -	$ -	$ 342.00
B368	2	Pt. Lot 21	0.17	0.070	John & Kata Valentik	$ 343.00	$ -	$ -	$ 343.00
B369	2	Pt. Lot 21	0.17	0.071	Daniel & Patricia Thibert	$ 344.00	$ -	$ -	$ 344.00
B370	2	Pt. Lot 21	0.17	0.071	Lauren Dewar	$ 344.00	$ -	$ -	$ 344.00
B371	2	Pt. Lot 21	0.22	0.089	James & Marguerite Jaques	$ 435.00	$ -	$ -	$ 435.00

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B372	2	Pt. Lot 21	0.19	0.078	Asterie Ndikumana	$ 382.00	$ -	$ -	$ 382.00
B373	2	Pt. Lot 21	0.19	0.078	Jerry & Elizabeth Sokolik	$ 382.00	$ -	$ -	$ 382.00
B374	2	Pt. Lot 21	0.34	0.137	Douglas & Brenda Thompson	$ 666.00	$ -	$ -	$ 666.00
B375	2	Pt. Lot 21	0.40	0.160	Mark Meloche	$ 781.00	$ -	$ -	$ 781.00
B376	2	Pt. Lot 21	0.26	0.104	Marcella Dufour & James Best	$ 505.00	$ -	$ -	$ 505.00
B377	2	Pt. Lot 21	0.34	0.137	Courtney Ryan & Daniel Michaud	$ 668.00	$ -	$ -	$ 668.00
B378	2	Pt. Lot 21	0.27	0.109	Matthew DiPasquale & Katelyn Goodchild	$ 532.00	$ -	$ -	$ 532.00
B379	2	Pt. Lot 21	0.21	0.085	Leo Drouillard	$ 412.00	$ -	$ -	$ 412.00
B380	2	Pt. Lot 21	0.18	0.072	Paul & Brenda Owen	$ 352.00	$ -	$ -	$ 352.00
B381	2	Pt. Lot 21	0.18	0.072	Cheryl & Thomas DiPasquale	$ 352.00	$ -	$ -	$ 352.00
B382	2	Pt. Lot 21	0.17	0.069	Mark & Gwen McAllen	$ 336.00	$ -	$ -	$ 336.00
B383	2	Pt. Lot 21	0.17	0.069	Aaron Turner & Marija Lelas	$ 336.00	$ -	$ -	$ 336.00
B384	2	Pt. Lot 21	0.17	0.069	Frederick Gilbert	$ 336.00	$ -	$ -	$ 336.00
B385	2	Pt. Lot 21	0.17	0.069	William Beale	$ 336.00	$ -	$ -	$ 336.00
B386	2	Pt. Lot 21	0.17	0.069	Nelson & Pauline St. John	$ 336.00	$ -	$ -	$ 336.00
B387	2	Pt. Lot 21	0.17	0.069	Robert & Gloria Taylor	$ 336.00	$ -	$ -	$ 336.00
B388	2	Pt. Lot 21	0.17	0.069	Tammy Campbell	$ 336.00	$ -	$ -	$ 336.00
B389	2	Pt. Lot 21	0.18	0.072	Rose McKinnon	$ 352.00	$ -	$ -	$ 352.00
B390	2	Pt. Lot 21	0.18	0.072	Douglas & Mary Middleton	$ 352.00	$ -	$ -	$ 352.00
B391	2	Pt. Lot 21	0.21	0.085	Karl & Domenica Trudell	$ 412.00	$ -	$ -	$ 412.00
B392	2	Pt. Lot 21	0.27	0.109	Joshua Hurst	$ 532.00	$ -	$ -	$ 532.00
B393	2	Pt. Lot 21	0.34	0.139	David Sinasac	$ 678.00	$ -	$ -	$ 678.00
B394	2	Pt. Lot 21	0.26	0.105	Otto & Vera Newhook	$ 513.00	$ -	$ -	$ 513.00
B395	2	Pt. Lot 21	0.40	0.162	Paul Simpson	$ 789.00	$ -	$ -	$ 789.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B396	2	Pt. Lot 21	0.35	0.140	Anne Kainz	$ 682.00	$ -	$ -	$ 682.00
B397	2	Pt. Lot 21	0.18	0.072	Joseph & Patricia Cunningham	$ 352.00	$ -	$ -	$ 352.00
B398	2	Pt. Lot 21	0.18	0.072	Michael & Donita Farmer	$ 352.00	$ -	$ -	$ 352.00
B399	2	Pt. Lot 21	0.30	0.122	Jennifer Meunier & Robert Racette	$ 592.00	$ -	$ -	$ 592.00
B400	2	Pt. Lot 21	0.30	0.121	Ralph & Heather Attwater	$ 590.00	$ -	$ -	$ 590.00
B401	2	Pt. Lot 21	0.17	0.070	Ada & Jeffrey VanDongen	$ 339.00	$ -	$ -	$ 339.00
B402	2	Pt. Lot 21	0.17	0.070	Bernice & Neil Slater	$ 339.00	$ -	$ -	$ 339.00
B403	2	Pt. Lot 21	0.17	0.070	Raquel Hurst	$ 339.00	$ -	$ -	$ 339.00
B404	2	Pt. Lot 21	0.17	0.070	Gilbert & Karen Bezaire	$ 339.00	$ -	$ -	$ 339.00
B405	2	Pt. Lot 21	0.17	0.070	Nancy Polyak	$ 339.00	$ -	$ -	$ 339.00
B406	2	Pt. Lot 21	0.17	0.070	Theresa Lachapelle	$ 339.00	$ -	$ -	$ 339.00
B407	2	Pt. Lot 21	0.17	0.070	Albert & Pauline Bump	$ 339.00	$ -	$ -	$ 339.00
B408	2	Pt. Lot 21	0.17	0.070	Alex Temesy & Jaide Lyons	$ 339.00	$ -	$ -	$ 339.00
B409	2	Pt. Lot 21	0.17	0.070	Daniel Delmore & Dayna DiPasquale	$ 339.00	$ -	$ -	$ 339.00
B410	2	Pt. Lot 21	0.17	0.070	Carol Charette	$ 339.00	$ -	$ -	$ 339.00
B411	2	Pt. Lot 21	0.17	0.070	John & Patricia McLaughlin	$ 339.00	$ -	$ -	$ 339.00
B412	2	Pt. Lot 21	0.17	0.070	Kenneth & Anne Garrod	$ 339.00	$ -	$ -	$ 339.00
B413	2	Pt. Lot 21	0.17	0.070	Kenneth Greason	$ 343.00	$ -	$ -	$ 343.00
B414	2	Pt. Lot 21	0.22	0.088	John Shearon	$ 428.00	$ -	$ -	$ 428.00
B415	2	Pt. Lot 21	0.16	0.063	James & Lynda Parr	$ 306.00	$ -	$ -	$ 306.00
B416	2	Pt. Lot 21	0.16	0.063	Natalie Faucher	$ 306.00	$ -	$ -	$ 306.00
B417	2	Pt. Lot 21	0.16	0.063	Jennifer & Robert Oriet	$ 306.00	$ -	$ -	$ 306.00
B418	2	Pt. Lot 21	0.16	0.063	Glenn & Trudy Hansman	$ 306.00	$ -	$ -	$ 306.00
B419	2	Pt. Lot 21	0.19	0.079	Emilia Rufo	$ 384.00	$ -	$ -	$ 384.00

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B420	2	Pt. Lot 21	0.19	0.079	Gary & Shirley Wigle	$ 384.00	$ -	$ -	$ 384.00
B421	2	Pt. Lot 21	0.98	0.395	1882018 Ontario Inc.	$ 1,924.00	$ -	$ -	$ 1,924.00
B422	2	Pt. Lot 21	0.20	0.079	Erik Eliasen & Amanda Ouellette	$ 385.00	$ -	$ -	$ 385.00
B423	2	Pt. Lot 21	0.20	0.079	Dylan & Jessica White & Mary-Josephine McCaffrey	$ 385.00	$ -	$ -	$ 385.00
B424	2	Pt. Lot 21	0.34	0.139	Bruce Abson	$ 678.00	$ -	$ -	$ 678.00
B425	2	Pt. Lot 21	0.34	0.139	Leslie Pettypiece & Linda McLean	$ 678.00	$ -	$ -	$ 678.00
B426	2	Pt. Lot 21	0.24	0.098	Mitchell Bastien	$ 475.00	$ -	$ -	$ 475.00
B427	2	Pt. Lot 21	0.24	0.098	Shawn Keizer & Ashley Schott	$ 475.00	$ -	$ -	$ 475.00
B428	2	Pt. Lot 21	0.27	0.107	Joseph & Carol Reaume	$ 522.00	$ -	$ -	$ 522.00
B429	2	Pt. Lot 21	0.41	0.166	Guiuseppe & Angela Desantis	$ 808.00	$ -	$ -	$ 808.00
B430	2	Pt. Lot 21	0.40	0.162	Keith & Nicole Lauzon	$ 788.00	$ -	$ -	$ 788.00
B431	2	Pt. Lot 21	0.40	0.162	Frederick & Karen Bertrand	$ 788.00	$ -	$ -	$ 788.00
B432	2	Pt. Lot 21	0.40	0.162	Ronald & Mary Grant	$ 788.00	$ -	$ -	$ 788.00
B433	2	Pt. Lot 21	0.40	0.162	Henrik & Rita Andersen	$ 788.00	$ -	$ -	$ 788.00
B434	2	Pt. Lot 21	0.40	0.162	Gerard & Jennifer Shaw	$ 788.00	$ -	$ -	$ 788.00
B435	2	Pt. Lot 21	0.40	0.162	Dina Orsi	$ 788.00	$ -	$ -	$ 788.00
B436	2	Pt. Lot 21	0.40	0.162	Eric Bratt & Elaine Anderson	$ 788.00	$ -	$ -	$ 788.00
B437	2	Pt. Lot 21	0.40	0.162	Rami Chammat & Karen Brookmire	$ 788.00	$ -	$ -	$ 788.00
B438	2	Pt. Lot 21	0.40	0.162	Natalie & Luigi D'Ambrosio	$ 788.00	$ -	$ -	$ 788.00
B439	2	Pt. Lot 21	0.41	0.166	Maynard & Marva Hurst	$ 809.00	$ -	$ -	$ 809.00
B440	2	Pt. Lot 21	0.43	0.174	Drew & Kary Colson	$ 847.00	$ -	$ -	$ 847.00
B441	2	Pt. Lot 21	0.15	0.062	Alan Guthrie & Janice Boismier	$ 301.00	$ -	$ -	$ 301.00
B442	2	Pt. Lot 21	0.15	0.062	Michael Bellefleur	$ 300.00	$ -	$ -	$ 300.00
B443	2	Pt. Lot 21	0.15	0.062	Sherry & Jeffrey Coulter	$ 300.00	$ -	$ -	$ 300.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B444	2	Pt. Lot 21	0.15	0.062	Ernest & Tracy Godden	$ 300.00	$ -	$ -	$ 300.00
B445	2	Pt. Lot 21	0.15	0.062	Thomas & Mary Henderson	$ 300.00	$ -	$ -	$ 300.00
B446	2	Pt. Lot 21	0.15	0.062	Patrick Heroux & Jo-Anne McDowell	$ 300.00	$ -	$ -	$ 300.00
B447	2	Pt. Lot 21	0.15	0.060	John & Gail Deneau	$ 291.00	$ -	$ -	$ 291.00
B448	2	Pt. Lot 21	0.18	0.073	Candace Wright & Christopher Mendler	$ 356.00	$ -	$ -	$ 356.00
B449	2	Pt. Lot 21	0.27	0.108	Larry & Greta Ruston	$ 524.00	$ -	$ -	$ 524.00
B450	2	Pt. Lot 21	0.20	0.079	Leonard & Paula Tetreault	$ 387.00	$ -	$ -	$ 387.00
B451	2	Pt. Lot 23 & 24	0.29	0.118	James Durocher & Carly LeBlanc	$ 576.00	$ -	$ -	$ 576.00
B452	2	Pt. Lot 23 & 24	0.29	0.119	Livia Donofrio	$ 577.00	$ -	$ -	$ 577.00
B453	2	Pt. Lot 23 & 24	0.29	0.116	Donald & Angela Florica	$ 564.00	$ -	$ -	$ 564.00
B454	2	Pt. Lot 23 & 24	0.27	0.110	Alberto & Grazietta D'Alimonte	$ 536.00	$ -	$ -	$ 536.00
B455	2	Pt. Lot 23 & 24	0.27	0.110	Mary DiPasquale	$ 536.00	$ -	$ -	$ 536.00
B456	2	Pt. Lot 23 & 24	0.27	0.110	Corey Pisonneault & Samantha Quinn	$ 536.00	$ -	$ -	$ 536.00
B457	2	Pt. Lot 23 & 24	0.27	0.110	Allan & Donna Halowski	$ 536.00	$ -	$ -	$ 536.00
B458	2	Pt. Lot 23 & 24	0.27	0.110	Luigi & Tonia Fortini	$ 536.00	$ -	$ -	$ 536.00
B459	2	Pt. Lot 23 & 24	0.27	0.110	Michael & Cindy Marentette	$ 536.00	$ -	$ -	$ 536.00
B460	2	Pt. Lot 23 & 24	0.27	0.110	Barry & Maureen Renaud	$ 536.00	$ -	$ -	$ 536.00
B461	2	Pt. Lot 23 & 24	0.27	0.111	Mark Bailey	$ 540.00	$ -	$ -	$ 540.00
B462	2	Pt. Lot 23 & 24	0.21	0.085	Richard & Manila Orum	$ 414.00	$ -	$ -	$ 414.00
B463	2	Pt. Lot 23 & 24	0.16	0.063	Dawna Gorrell	$ 309.00	$ -	$ -	$ 309.00
B464	2	Pt. Lot 23 & 24	0.15	0.062	Mark & Laura Mousseau	$ 301.00	$ -	$ -	$ 301.00
B465	2	Pt. Lot 23 & 24	0.15	0.062	Wendy Wallace	$ 302.00	$ -	$ -	$ 302.00
B466	2	Pt. Lot 23 & 24	0.15	0.062	William Matte & Shelly Price	$ 302.00	$ -	$ -	$ 302.00
B467	2	Pt. Lot 23 & 24	0.16	0.067	Marvin Bennett & Karen Longfield	$ 325.00	$ -	$ -	$ 325.00
B468	2	Pt. Lot 21	0.17	0.068	Andrew & Catherine Goral	$ 330.00	$ -	$ -	$ 330.00
B469	2	Pt. Lot 23	0.20	0.081	Gareth & Sylvia Williams	$ 395.00	$ -	$ -	$ 395.00
B470	2	Pt. Lot 23	0.17	0.067	Gerry Hennin	$ 326.00	$ -	$ -	$ 326.00
B471	2	Pt. Lot 23	0.17	0.067	John Gyori & Amanda Ward	$ 326.00	$ -	$ -	$ 326.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B472	2	Pt. Lot 23	0.17	0.067	Uwe & Mary Kollin	$ 326.00	$ -	$ -	$ 326.00
B473	2	Pt. Lot 23	0.17	0.067	Annie Mower	$ 325.00	$ -	$ -	$ 325.00
B474	2	Pt. Lot 23	0.17	0.067	Renee & Gregory Leal	$ 325.00	$ -	$ -	$ 325.00
B475	2	Pt. Lot 23	0.18	0.072	Eugene & Mary Hasson	$ 353.00	$ -	$ -	$ 353.00
B476	2	Pt. Lot 23	0.18	0.072	Vance Sinasac	$ 353.00	$ -	$ -	$ 353.00
B477	2	Pt. Lot 23	0.18	0.072	Joshua & Olivia Parsons	$ 353.00	$ -	$ -	$ 353.00
B478	2	Pt. Lot 23	0.19	0.078	Joshua Lenz & Lisa Wright	$ 380.00	$ -	$ -	$ 380.00
B479	2	Pt. Lot 23	0.21	0.085	Sylvie & Daniel Babin	$ 414.00	$ -	$ -	$ 414.00
B480	2	Pt. Lot 23	0.25	0.100	Hugh & Margaret Evans	$ 487.00	$ -	$ -	$ 487.00
B481	2	Pt. Lot 23	0.18	0.075	Lorne Harrison	$ 363.00	$ -	$ -	$ 363.00
B482	2	Pt. Lot 23	0.17	0.067	David Howcroft	$ 325.00	$ -	$ -	$ 325.00
B483	2	Pt. Lot 23	0.14	0.058	Matthew Pellow	$ 284.00	$ -	$ -	$ 284.00
B484	2	Pt. Lot 23	0.14	0.059	Jeffrey & Krisanne Moore	$ 285.00	$ -	$ -	$ 285.00
B485	2	Pt. Lot 23	0.15	0.062	Francis & Katherine Beaudoin	$ 303.00	$ -	$ -	$ 303.00
B486	2	Pt. Lot 23	0.16	0.067	Michael & Anne Gray	$ 325.00	$ -	$ -	$ 325.00
B487	2	Pt. Lot 23	0.17	0.067	Laura Borland	$ 326.00	$ -	$ -	$ 326.00
B488	2	Pt. Lot 23	0.05	0.021	Town of Amherstburg	$ 104.00	$ -	$ -	$ 104.00
B489	2	Pt. Lot 23	0.18	0.072	Brandon St.Pierre & Kayla Temesy	$ 353.00	$ -	$ -	$ 353.00
B490	2	Pt. Lot 23	0.19	0.078	Lauren Deneau	$ 380.00	$ -	$ -	$ 380.00
B491	2	Pt. Lot 23	0.16	0.065	Roy Edwards	$ 315.00	$ -	$ -	$ 315.00
B492	2	Pt. Lot 23	0.16	0.064	Brenda Sprague	$ 312.00	$ -	$ -	$ 312.00
B493	2	Pt. Lot 23	0.16	0.065	Randy Fox	$ 317.00	$ -	$ -	$ 317.00
B494	2	Pt. Lot 23	0.16	0.065	Eric & MaryAnn Steel	$ 315.00	$ -	$ -	$ 315.00
B495	2	Pt. Lot 23	0.16	0.065	Larry & Deborah Hawksworth	$ 315.00	$ -	$ -	$ 315.00
B496	2	Pt. Lot 23	0.19	0.076	Tammy Gatto & Todd Meloche	$ 371.00	$ -	$ -	$ 371.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B497	2	Pt. Lot 23	0.21	0.083	Vincent & Shirley Pare	$ 406.00	$ -	$ -	$ 406.00
B498	2	Pt. Lot 23	0.17	0.069	Ignazio & Nives Galvan	$ 337.00	$ -	$ -	$ 337.00
B499	2	Pt. Lot 23	0.17	0.069	David Martin	$ 338.00	$ -	$ -	$ 338.00
B500	2	Pt. Lot 23	0.17	0.069	Adam & Meghan Gilchrist	$ 338.00	$ -	$ -	$ 338.00
B501	2	Pt. Lot 23	0.17	0.069	Mario & Anna Rosso	$ 338.00	$ -	$ -	$ 338.00
B502	2	Pt. Lot 23	0.17	0.069	Richard & Maureen Meloche	$ 337.00	$ -	$ -	$ 337.00
B503	2	Pt. Lot 23	0.17	0.070	Denis Skenderovic & Anne Feghali	$ 339.00	$ -	$ -	$ 339.00
B504	2	Pt. Lot 23	0.17	0.067	Jon & Penny Morse	$ 326.00	$ -	$ -	$ 326.00
B505	2	Pt. Lot 23	0.17	0.067	Frank Sustar	$ 325.00	$ -	$ -	$ 325.00
B506	2	Pt. Lot 23	0.17	0.067	Alan & Gail Doyle	$ 326.00	$ -	$ -	$ 326.00
B507	2	Pt. Lot 23	0.17	0.067	James Irvine & Angela Rothwell	$ 325.00	$ -	$ -	$ 325.00
B508	2	Pt. Lot 23	0.17	0.067	Kyla & Jeremy McLeod	$ 325.00	$ -	$ -	$ 325.00
B509	2	Pt. Lot 23	0.17	0.067	Wayne Laporte	$ 325.00	$ -	$ -	$ 325.00
B510	2	Pt. Lot 23	0.17	0.067	Marc Maitre	$ 325.00	$ -	$ -	$ 325.00
B511	2	Pt. Lot 23	0.17	0.067	Gladys Gates	$ 325.00	$ -	$ -	$ 325.00
B512	2	Pt. Lot 23	0.18	0.072	Charles & Patricia Goodchild	$ 353.00	$ -	$ -	$ 353.00
B513	2	Pt. Lot 23	0.15	0.060	Maria Cafarelli	$ 294.00	$ -	$ -	$ 294.00
B514	2	Pt. Lot 23	0.15	0.060	Judith Renaud	$ 294.00	$ -	$ -	$ 294.00
B515	2	Pt. Lot 23	0.15	0.060	Robin Prior	$ 294.00	$ -	$ -	$ 294.00
B516	2	Pt. Lot 23	0.15	0.060	Christopher & Judith Dywelska	$ 294.00	$ -	$ -	$ 294.00
B517	2	Pt. Lot 23	0.15	0.060	Jonathan & Stephanie McGuire	$ 294.00	$ -	$ -	$ 294.00
B518	2	Pt. Lot 23	0.15	0.060	Brian & Elizabeth Mulder	$ 294.00	$ -	$ -	$ 294.00
B519	2	Pt. Lot 23	0.15	0.060	Steven Blais	$ 294.00	$ -	$ -	$ 294.00
B520	2	Pt. Lot 23	0.15	0.060	Nada Bratt	$ 294.00	$ -	$ -	$ 294.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B521	2	Pt. Lot 23	0.15	0.059	Michel & Debra Bastien	$ 288.00	$ -	$ -	$ 288.00
B522	2	Pt. Lot 23	0.17	0.070	Janos & Ildiko Herits	$ 338.00	$ -	$ -	$ 338.00
B523	2	Pt. Lot 23	0.14	0.058	Stacey-Lee Flatt	$ 284.00	$ -	$ -	$ 284.00
B524	2	Pt. Lot 23	0.14	0.058	Richard Borland	$ 284.00	$ -	$ -	$ 284.00
B525	2	Pt. Lot 23	0.17	0.070	Stephen & Jen-A-Lee Hayes	$ 339.00	$ -	$ -	$ 339.00
B526	2	Pt. Lot 23	0.21	0.085	Ricky & Tammy Digiovanni	$ 413.00	$ -	$ -	$ 413.00
B527	2	Pt. Lot 23	0.20	0.080	Kenneth & Kathryn Foley	$ 389.00	$ -	$ -	$ 389.00
B528	2	Pt. Lot 23	0.15	0.061	Timothy & Kristin Schneider	$ 298.00	$ -	$ -	$ 298.00
B529	2	Pt. Lot 23	0.13	0.051	Rose McKinnon	$ 249.00	$ -	$ -	$ 249.00
B530	2	Pt. Lot 23	0.13	0.051	Richard & Debra Turgeon	$ 249.00	$ -	$ -	$ 249.00
B531	2	Pt. Lot 23	0.13	0.051	Erin Killops	$ 249.00	$ -	$ -	$ 249.00
B532	2	Pt. Lot 23	0.13	0.051	Scott & Joan Donaldson	$ 249.00	$ -	$ -	$ 249.00
B533	2	Pt. Lot 23	0.13	0.051	2309067 Ontario Inc.	$ 249.00	$ -	$ -	$ 249.00
B534	2	Pt. Lot 23	0.13	0.051	Carson & Pamela Williams	$ 249.00	$ -	$ -	$ 249.00
B535	2	Pt. Lot 23	0.13	0.051	Leone & Dennis McLean	$ 249.00	$ -	$ -	$ 249.00
B536	2	Pt. Lot 23	0.14	0.056	William & Michelle Beaudoin	$ 273.00	$ -	$ -	$ 273.00
B537	2	Pt. Lot 23	0.13	0.051	Jeffrey & Pamela Hocevar	$ 249.00	$ -	$ -	$ 249.00
B538	2	Pt. Lot 23	0.14	0.056	Augusto & Giovina Moscatello	$ 273.00	$ -	$ -	$ 273.00
B539	2	Pt. Lot 23	0.18	0.071	Brent Wessels	$ 347.00	$ -	$ -	$ 347.00
B540	2	Pt. Lot 23	0.24	0.095	Lorenzo Alfini & Darcie Wright	$ 463.00	$ -	$ -	$ 463.00
B541	2	Pt. Lot 23	0.22	0.091	Kevin Giroux	$ 443.00	$ -	$ -	$ 443.00
B542	2	Pt. Lot 23	0.23	0.094	Donald & Evelyn Meharg	$ 458.00	$ -	$ -	$ 458.00
B543	2	Pt. Lot 23	0.20	0.083	Paul Garner	$ 403.00	$ -	$ -	$ 403.00
B544	2	Pt. Lot 23	0.20	0.080	Mathew McLean	$ 391.00	$ -	$ -	$ 391.00
B545	2	Pt. Lot 23	0.19	0.079	Christopher & Michelle Short	$ 383.00	$ -	$ -	$ 383.00
B546	2	Pt. Lot 23	0.19	0.078	Tina Triolet	$ 378.00	$ -	$ -	$ 378.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B547	2	Pt. Lot 23	0.19	0.076	Lionel & Ederlyn Girard	$ 372.00	$ -	$ -	$ 372.00
B548	2	Pt. Lot 23	0.18	0.074	Annabelle Bowden	$ 361.00	$ -	$ -	$ 361.00
B549	2	Pt. Lot 23	0.18	0.074	Christine & Ronald Fryer	$ 361.00	$ -	$ -	$ 361.00
B550	2	Pt. Lot 23	0.18	0.074	Jeremy Pillon	$ 361.00	$ -	$ -	$ 361.00
B551	2	Pt. Lot 23	0.18	0.074	Kevin, Jessie & Joyce Boismier	$ 361.00	$ -	$ -	$ 361.00
B552	2	Pt. Lot 23	0.18	0.074	Tina Decarlo	$ 361.00	$ -	$ -	$ 361.00
B553	2	Pt. Lot 23	0.18	0.074	Robert Carr	$ 361.00	$ -	$ -	$ 361.00
B554	2	Pt. Lot 23	0.13	0.051	Larry & Rhonda Hurst	$ 249.00	$ -	$ -	$ 249.00
B555	2	Pt. Lot 23	0.19	0.075	Deborah & Kevin Gonda	$ 367.00	$ -	$ -	$ 367.00
B556	2	Pt. Lot 23	0.16	0.063	Dennis Pare	$ 306.00	$ -	$ -	$ 306.00
B557	2	Pt. Lot 23	0.16	0.063	William & Christine Belcher	$ 306.00	$ -	$ -	$ 306.00
B558	2	Pt. Lot 23	0.16	0.063	Joanne Paliga	$ 306.00	$ -	$ -	$ 306.00
B559	2	Pt. Lot 23	0.16	0.063	James & Catherine Muir	$ 306.00	$ -	$ -	$ 306.00
B560	2	Pt. Lot 23	0.16	0.063	Joshua Oakley	$ 306.00	$ -	$ -	$ 306.00
B561	2	Pt. Lot 23	0.16	0.063	Jacob & Margaret Maine	$ 306.00	$ -	$ -	$ 306.00
B562	2	Pt. Lot 23	0.16	0.063	Elizabeth Mickle & Pauline Shaw	$ 306.00	$ -	$ -	$ 306.00
B563	2	Pt. Lot 23	0.16	0.063	Amber Lougheed	$ 306.00	$ -	$ -	$ 306.00
B564	2	Pt. Lot 23	0.15	0.062	Constance Hamilton & Charles Faraday	$ 300.00	$ -	$ -	$ 300.00
B565	2	Pt. Lot 23	0.15	0.060	Nelly VanDerHeide	$ 293.00	$ -	$ -	$ 293.00
B566	2	Pt. Lot 23	0.15	0.059	Tanya & Bradley McGuinness	$ 288.00	$ -	$ -	$ 288.00
B567	2	Pt. Lot 23	0.15	0.060	Gary & Jessica Drouillard	$ 293.00	$ -	$ -	$ 293.00
B568	2	Pt. Lot 23	0.15	0.059	Kenneth Kozora	$ 289.00	$ -	$ -	$ 289.00
B569	2	Pt. Lot 23	0.15	0.061	Ann Peltier	$ 296.00	$ -	$ -	$ 296.00
B570	2	Pt. Lot 23	0.15	0.062	Wayne & Sandra Bastien	$ 304.00	$ -	$ -	$ 304.00
B571	2	Pt. Lot 23	0.26	0.104	Carlyle & Christine Brassett	$ 506.00	$ -	$ -	$ 506.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B572	2	Pt. Lot 23	0.16	0.066	Peter & Darlene Bischoff	$ 321.00	$ -	$ -	$ 321.00
B573	2	Pt. Lot 23	0.17	0.067	Tara Rousseau & Thomas Triolet	$ 325.00	$ -	$ -	$ 325.00
B574	2	Pt. Lot 23	0.16	0.066	Terence & Michelle Hayes	$ 320.00	$ -	$ -	$ 320.00
B575	2	Pt. Lot 23	0.16	0.064	Nicholas Vitale	$ 312.00	$ -	$ -	$ 312.00
B576	2	Pt. Lot 23	0.15	0.063	Edward & Laura Gushulak	$ 305.00	$ -	$ -	$ 305.00
B577	2	Pt. Lot 23	0.15	0.063	Troy Stewart	$ 305.00	$ -	$ -	$ 305.00
B578	2	Pt. Lot 23	0.15	0.063	Brian & Michelle Barrett	$ 305.00	$ -	$ -	$ 305.00
B579	2	Pt. Lot 23	0.15	0.063	Lisa Stewart	$ 305.00	$ -	$ -	$ 305.00
B580	2	Pt. Lot 23	0.15	0.063	Gary Triolet	$ 305.00	$ -	$ -	$ 305.00
B581	2	Pt. Lot 23	0.15	0.063	Mark & Michelle Fryer	$ 305.00	$ -	$ -	$ 305.00
B582	2	Pt. Lot 23	0.15	0.063	Kenneth & Terry Schneider	$ 305.00	$ -	$ -	$ 305.00
B583	2	Pt. Lot 23	0.15	0.063	Robert & Diane Donaldson	$ 305.00	$ -	$ -	$ 305.00
B584	2	Pt. Lot 23	0.19	0.075	Patricia Batiste	$ 366.00	$ -	$ -	$ 366.00
B585	2	Pt. Lot 23	0.15	0.061	Bruce & Jean Galt	$ 298.00	$ -	$ -	$ 298.00
B586	2	Pt. Lot 23	0.13	0.051	Silvino & Mary DiMarco	$ 248.00	$ -	$ -	$ 248.00
B587	2	Pt. Lot 23	0.18	0.074	Greg & Donna Nemeth	$ 362.00	$ -	$ -	$ 362.00
B588	2	Pt. Lot 23	0.24	0.097	Jason Brown	$ 470.00	$ -	$ -	$ 470.00
B589	2	Pt. Lot 23	0.30	0.120	Karin Porter	$ 585.00	$ -	$ -	$ 585.00
B590	2	Pt. Lot 23	0.28	0.113	Johnny & Rebeckah Muresan	$ 552.00	$ -	$ -	$ 552.00
B591	2	Pt. Lot 23	0.25	0.102	James Wright	$ 495.00	$ -	$ -	$ 495.00
B592	2	Pt. Lot 23	0.30	0.120	Rocco & Graziella Mancini	$ 585.00	$ -	$ -	$ 585.00
B593	2	Pt. Lot 23	0.28	0.113	Joel Cote & Jessica Bagley	$ 552.00	$ -	$ -	$ 552.00
B594	2	Pt. Lot 23	0.30	0.120	Joel & Kelli Street	$ 585.00	$ -	$ -	$ 585.00
B595	2	Pt. Lot 23	0.25	0.102	Daniel Beneteau & Kristy-Lee Fram	$ 495.00	$ -	$ -	$ 495.00

Plan ID	Con. or Plan No.	Lot or Part of Lot	Acres Afft'd	Hectares Afft'd	Owner's Name	Value of Benefit	Value of Outlet	Value of Special Benefit	TOTAL VALUE
B596	2	Pt. Lot 23	0.30	0.120	Eugene Mcgraw & Susan Renaud	$ 585.00	$ -	$ -	$ 585.00
B597	2	Pt. Lot 23	0.30	0.120	Gordon & Leanne Meloche	$ 585.00	$ -	$ -	$ 585.00
B598	2	Pt. Lot 23	0.30	0.120	Robert & Danijela Pontini	$ 585.00	$ -	$ -	$ 585.00
B599	2	Pt. Lot 23	0.21	0.085	Joseph Beattie & Colleen O'Phee	$ 411.00	$ -	$ -	$ 411.00
B600	2	Pt. Lot 23	0.21	0.085	Ian & Helen Hayward	$ 411.00	$ -	$ -	$ 411.00
B601	2	Pt. Lot 23	0.22	0.091	Thomas & Rozemary Jaber	$ 443.00	$ -	$ -	$ 443.00
Total on Privately Owned - Non-Agricultural Lands.....						**$ 424,894.00**	**$ 329,377.00**	**$ 130,351.00**	**$ 884,622.00**
TOTAL ASSESSMENT			504.82	204.298		**$ 768,389.00**	**$ 512,260.00**	**$ 289,351.00**	**$ 1,570,000.00**

1 Hectare = 2.471 Acres
Project No. REI2015D024
January 26th, 2022

SPECIFICATIONS

PIKE ROAD DRAIN IMPROVEMENTS & AUXILIARY DRAIN

(Geographic Township of Malden, PWD-MD-2002-014)

TOWN OF AMHERSTBURG

I. GENERAL SCOPE OF WORK

The Pike Road Drain extends along the north side of Simcoe Street (Pike Road – County Road 18) from the west side of the Meloche Road westerly and downstream to its outlet in the 2nd Concession Road Drain South at Fryer Street. The work under this project generally comprises of repair and improvements to the drainage system and construction of an Auxiliary Drain to provide for 1:100 year flow conveyance to the downstream outlet and storm water management (S.W.M.) pond that will be provided as part of the works to the 2nd Concession Road Drain South. To minimize and relieve flooding along the Pike Road Drain and developments to the north, an Auxiliary Drain is proposed along the south side of a portion of Simcoe Street with connections from the north side. The Auxiliary Drain will extend south to the rear of the lots located along the south side of Simcoe Street and then westerly to the open portion of the 2nd Concession Road Drain South near Fryer Street at the back of the Parkland and Saint Jean-Baptiste elementary French school parcels. Work on the project will generally include stripping topsoil and windrowing and stockpiling same for future use, excavation of the new open drain swale with loading, hauling and disposal of excess materials by Contractor, construction of covered drainage systems along Simcoe Street and along the north side of the open development lands abutting the lots on the south side of Simcoe Street, together with appurtenances including catch basins and maintenance holes. Ancillary work will include restoration of all roads, driveways, and boulevard areas, and topsoil placement, seeding, and mulching of all disturbed areas. Along the open drain swale, work will include a tile subdrain, and quarried limestone rock on filter cloth protection and cable concrete installation at bends and other potential erosion locations.

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 drain improvements and covered drains 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 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 2nd Concession Road Drain South and Big Creek channel. 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 systems. 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 will be required to provide temporary silt fencing and straw bales as outlined further in these specifications. The newly constructed open drain swale will have to be vegetated prior to removal of straw bales or silt fencing at the downstream end. Once the drain is vegetated, the downstream end shall be opened, and the Contractor shall carry out any repairs and touch ups to the new open drain swale.

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.) and 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 notes include provisions for offsetting and mitigation measures to be carried out along the course of the newly excavated open drain swale. The Contractor is advised that no work may be carried out in the existing downstream open drains from March 15th to July 15th of any given year

because the drain is directly connected to downstream waters that are 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. CONSIDERATIONS

The Contractor is to note that this project has gone through the Ministry of Natural Resources and Forestry (M.N.R.F.) and Ministry of Environment, Conservation and Parks (M.E.C.P.) screening process by way of a Species at Risk (S.A.R.) Town Endangered Species Act (E.S.A.) former Agreement review and submissions to and responses from M.N.R.F. and M.E.C.P. They have noted that the Eastern Fox Snake is a species that needs to be protected in this area. A copy of the relevant information that was provided by them is included herein as part of **Appendix "REI-B"**.

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. information, or any future requirements, and follow the special requirements therein included, during construction.

Notwithstanding the above, the Contractor is advised that the Town has signed an **Agreement** with the Ministry of Natural Resources and Forestry (M.N.R.F.) regarding the maintenance operations on Municipal drains and the Endangered Species Act, 2007 (E.S.A.). The Drainage Superintendent has reviewed the endangered species maps and any concerns will be provided in **Appendix "REI-B"**. The review has indicated that there are no endangered fish species. Fish salvage requirements by the Contractor are included in **Appendix "REI-A"** when the drainage is being done at the outlet of the Auxiliary Drain. Certain species such as turtles and snakes are mobile and may be encountered during construction. Therefore, the mitigation requirements of the **Agreement** have been included in **Appendix "REI-B"** in their entirety for further information and use by the Contractor.

The Contractor shall contact the Drainage Superintendent if an endangered species is encountered during construction. The Contractor shall be responsible for providing the necessary

equipment and materials outlined in the mitigation requirements to address the handling of any endangered species encountered during the course of the construction work. The Contractor shall cooperate fully and assist the Drainage Superintendent or M.N.R.F. – M.E.C.P. staff in the proper handling of the endangered species as outlined in the mitigation requirements and as may be further directed by the Drainage Superintendent or the M.N.R.F. – M.E.C.P. staff and shall govern all its operations accordingly.

IV. ACCESS TO WORK

The Contractor is advised that the majority of the work to be carried out on this project extends along the north side of the lands of Rocksedge Developments and Simcoe Street. The Contractor shall have access for a width of 6 metres (20 feet) along the south and east top of the banks in agricultural and open fields for the Auxiliary Drain, and a 6 metres wide easement overtop of the covered drain portions, along with the full width of the roadways abutting the proposed drainage works. The Contractor may use the entire width of the Simcoe Street and Fryer Street right-of-ways. The Contractor may utilize the right-of-ways 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 driveways, roadways, and lawns as necessary to carry out the replacement and removal of the existing lawn enclosure pipes, as set out on the plans and in these specifications, along with a sufficient area in the vicinity of the enclosures to carry out the required construction of the new and replacement structures and ancillary work. On the north side of Simcoe Street, the Contractor shall have access onto the private lot to connect the Auxiliary Drain to the existing covered Pike Road Drain drainage system, taking care to remain within the 6m wide access over the drain, and minimizing any impact to the north side of the existing drain. All disturbed areas shall be restored to a like or better condition upon completion of the work.

The Contractor shall ensure that the traveling public is protected at all times while utilizing the roadway for its access. The Contractor shall provide traffic control, including flag persons when required. Should the Contractor have to close the roadway for the proposed works, it shall obtain the permission of the Town Drainage Superintendent and 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, the road authority, 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 Amherstburg Public Works Department and the County of Essex.

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 lawn areas of residential properties. Due to the extent of the work and the area for carrying out the work, the Contractor will be required to carry out all of the necessary steps to direct traffic and provide temporary diversion of traffic around work sites, including provision of all lights, signs, flag persons, and barricades required to protect the safety of the traveling public. 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 lawn restoration as directed by the Town Drainage Superintendent and the Engineer. Restoration shall include but not be limited to all necessary levelling, grading, shaping, topsoil, seeding, mulching, and granular and asphalt 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 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 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. The Contractor shall endeavor to protect the tree at the northwest corner of Martin Crescent and Simcoe Street if possible.

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 and any such materials located along the enclosures and covered drains while carrying out its cleaning and repair and improvement 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. During initial construction, the outlet end of the Auxiliary Drain shall remain closed off from the existing drain with straw bales or silt fencing until the vegetation is well established and the new open drain swale section is stable. Prior to excavation of the drain swale, the Contractor shall complete any necessary brushing work along the new alignment, and then strip the topsoil and windrow it along the new drain swale for use in covering the work areas and establishing the required vegetation. Material excavated from the new drain swale shall be loaded up, hauled away and disposed of by the Contractor to a site arranged by it at its expense for the material and shall be conducted in accordance with the excess soil management regulations. The Contractor shall ensure that any topsoil fill temporarily stockpiled

along the drain course maintains current drainage of the lands and does not block any furrows, surface inlets or other drainage off the abutting lands.

When future maintenance work is carried out, the drain shall be carefully excavated so as not to disturb the existing banks, rock protection, instream features 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 swale shall be no steeper than 5.0 metres horizontal to 1.0 metre vertical. Work includes the construction of a tile subdrain in the drain bottom as indicated on the cross sections, with connections to the main drain pipe to the east and south as shown on the plans. Maintenance work on the open drain swale shall be carefully conducted so that the covered drainage works are protected from any damage. Any damage to the covered drain system shall be repaired by the Contractor at its expense and be completed to the full satisfaction of the Town Drainage Superintendent and Engineer.

The excavated material from future maintenance work where the drain crosses any lawn, garden, orchard, roadway, or driveway, etcetera, shall be hauled away by the Contractor and disposed of to a site to be obtained by the Contractor at its expense. 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 Engineer when requested, and all work shall comply with excess soil management regulations.

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 access is required, 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.

VIII. COVERED DRAIN WORK

The Contractor shall provide all material, labour, and equipment to install the Pike Road Drain improvements and Auxiliary Drain works with new pipe and appurtenances from the north side of Simcoe Street, along the south side of Simcoe Street, and extending southerly and then westerly to the 2nd Concession Road Drain South open portion as shown on the plans. When Mulberry Court entranceway is constructed, the new roadway portion over the existing covered drain shall include full compacted Granular “A” backfill from the top of the pipe to the underside of the asphalt, placed as noted below.

The Contractor shall note that the placing of the new pipe is to 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 and Engineer. The new concrete and plastic pipe shall be set to the grades as noted and as shown and detailed on the plans with special care to match the inverts of the pipe to the structures at each end.

The installation of the complete length of the new pipe, including all appurtenances, shall be completely inspected by the Town Drainage Superintendent or Engineer representative prior to backfilling any portions of same. Under no circumstance shall the Contractor backfill same until the Town Drainage Superintendent or Engineer representative inspects and approves said pipe installation.

Once the new pipe has been satisfactorily set in place, the Contractor shall completely backfill any roadway area with granular material M.T.O. Type "B", O.P.S. Specification Form 1010, except for the top 425mm. The top 300mm (12") of the backfill material for the full top width of the trench across the roadway shall be granular material M.T.O. Type "A" O.P.S. Specification Form 1010, with the remaining 125mm comprising H.L.-4 hot mix asphalt, or equivalent Superpave asphalt mix, placed in 3 uniform compacted lifts. All other sections of the drain pipe shall be backfilled with select native material, thoroughly compacted around the pipe to ensure that there is minimal settlement upon completion of the work. The backfilling of the pipe, unless otherwise specified herein, shall be provided in total compliance with Item 3) and Item 4) of the "Standard Specifications for Access Bridge Construction Including Endwall Treatment, Backfilling, and Installation Procedures". 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) in the "Standard Specifications" in said Appendix. All backfilling shall be completed in accordance with the above requirements and the OPSD drawings for backfill included on the plans forming part of the project.

At Simcoe Street, the Contractor shall supply and install precast concrete maintenance holes and a chamber CH1, respectively, as outlined on the plans and as set out in the Schedule of Items and Prices. The contractor shall supply offset and online catch basins as noted on the plans and in the Schedule of Items and Prices. Each precast concrete unit shall conform to the sizes and depths indicated on the plans and in the Schedule of Items. The maintenance holes and chamber shall be fitted with frames, lids, and grates as shown and noted on the plans. All maintenance holes along Simcoe Street shall be fitted with a flat top with standard 600mm access opening. The opening shall be extended up to finished grade with 600mm diameter riser sections as needed including aluminum steps in accordance with the OPSD 704.010 and as shown on the plans. All catch basin and maintenance holes shall include a minimum 450mm deep sump and be fitted with cast iron frames and grates and lift rings, or honeycomb galvanized steel grating or galvanized bar grate as outlined on the plans and in the Schedule of Items and Prices. Along the covered portion of the Auxiliary Drain the contractor shall provide tee pipes at each maintenance riser. The tee shall be 750mm diameter on both ends for connection to the drain with a 600mm stub and circular lift rings and steps that will form the riser up to existing grade as per OPSD 704.010. The top of the riser shall be fitted with a grating cover as noted on the plans. The Contractor shall note that all concrete units shall be fitted with a minimum of three and a maximum of six High Density Poly Ethylene (H.D.P.E.) lift rings, secured in place in accordance with the manufacturer's recommendations. Catch basin tops shall generally be set 50mm below the adjacent boulevard ground elevation and be graded to ensure positive drainage and that all flows will enter the top of the unit. Shop drawings shall be provided from the supplier for any structures as noted on the plans and Schedule of Items.

The Contractor shall connect all covered drains to the concrete units with the use of a mortar joint. Said mortar joint shall be provided at the exterior of the concrete unit walls for the full circumference of the covered drain and be of a sufficient mass to produce a sealed joint, all to be performed to the full satisfaction of the Town Drainage Superintendent and the Engineer. All grout for the mortar joint shall be provided in unopened pre-mixed bags or shall comprise of 3 parts of clean sharp sand to 1 part Portland cement with just sufficient water added to provide a stiff plastic mix. Where possible, the Contractor shall employ a standard factory fitting or adapter to connect between the various units, pipes and tiles. For offset catch basins and subdrains being connected directly to the mainline covered drain, the Contractor shall make the connection with the use of an Inserta-Tee fitting. The Inserta-Tee shall be installed by coring a properly sized hole in the side of the H.D.P.E. pipe and securing the fitting into the mainline pipe wall in accordance with the manufacturer's recommendations.

The Contractor, as part of this project, is to connect all existing drain connections into the new covered drainage system unless the pipe is noted to be abandoned and plugged off. In the event that a lateral drain pipe is being abandoned, the plug shall comprise a minimum 305mm (12 in.) long concrete grout plug, securely packed into the end of the abandoned pipe for the full internal diameter of the pipe or be a manufactured cap designed for the purpose. The connection of the

existing tile drains and the entire installation of the new covered drain shall be performed to the full satisfaction of the Town Drainage Superintendent and the Engineer.

The alignment of drains throughout shall be to the full satisfaction of the Town Drainage Superintendent and the Engineer. The whole of the work shall be done in a neat, thorough and workmanlike manner to the full satisfaction of the Town Drainage Superintendent and the Engineer.

The Contractor shall lay the covered drain to the lines, levels and grades as shown in the accompanying drawings or as may be otherwise laid out and approved by the Drainage Superintendent or the Engineer prior to the time of construction. The Contractor will be held responsible for said lines, levels, and grades of the drain pipe. Should the Engineer determine that the Contractor has not satisfactorily adhered to such lines, levels, and grades, the Engineer may direct the Contractor to take up and relay any portion of the drain which does not conform to such lines, levels and grades.

A laser beam shall be used to maintain line and grade and the Contractor shall have a qualified operator to set up and operate the equipment.

The Contractor should note that, because the covered drain is being installed with an excavator, it is expected that they will provide approximately 100mm (4") of either granular material or 19mm (3/4") clear stone bedding throughout the length of this drain pipe to ensure that a good firm base is provided under the drain pipe, and they shall provide for this item as part of their tender price.

All materials shall be stored and handled by the Contractor at its own expense. It shall be responsible for the safe storage of all materials, for obtaining storage area, for the safe transportation and distribution of all the materials at the job site, and for inspection in order to determine defects and breakage. No additional recompense will be allowed the Contractor for any loss incurred by it in the storage and handling of the materials.

Pipe, fittings, and all accessory appurtenances must be loaded and unloaded by lifting with means of a hoist or utilizing a skid so as to avoid shock or damage. Under no circumstances shall any pipe material or materials for pipe appurtenances be dropped.

Pipes shall be laid in trenches in the general location shown on the accompanying drawings or as may be specifically directed and laid out by the Engineer at the time of construction. The trench shall be located to clear all existing utilities and structures above, on, or below the ground level. The Contractor will be responsible at all times for complete investigation to determine the location of all such utilities or structures known or unknown, and it shall indemnify and save harmless the Engineer and the Municipality for any responsibility, injury, or liability arising from and damage to such utilities or structures by the Contractor.

The Contractor shall further contact or notify such utility company or commission of its intention to carry out work in the area and co-operate with such utility company or commission in the location, maintenance and preservation of all such utilities. The Contractor shall note that if the trench passes in close proximity to hydro poles, it shall temporarily brace or secure such poles as it deems necessary to prevent any damage to the utility. The location of the pipes and appurtenances as shown on the drawings is approximate and may be changed by the Engineer if deemed advantageous for the progress of the work.

The trenches are to be excavated where directed. If any part of the bottom of the trench is found to be unsound or in any way unsuitable to lay the pipe in the Town Drainage Superintendent's or the Engineer's opinion, they may direct that the location of said trench be changed if it is possible to avoid unsound soil by doing so. The Contractor shall note that exploratory digs may be required by it to establish the depth of water services, particularly along the deepest portions of the proposed Municipal drainage system. The covered drain should clear all service connections that have been provided to the private lands, but the Contractor shall take steps to ensure that

these are protected from any damage during the course of its works particularly where those service connections are shallow and may be just below the covered drain invert level. Where water services are impacted by the covered drain installation, the Contractor shall coordinate its lowering operations with the Town Water Department and ensure that all of their requirements are met, including notice to any Owners who may be affected by temporary shutdown of the water supply.

Should the Contractor discover any utility conflicts with existing utilities during the course of the work, that requires the relocation of same as established by the Town Drainage Superintendent or Engineer, the Contractor shall give that utility the opportunity to make any adjustments to their services if required, which work shall be done by the utility at the expense of the utility pursuant to Section 26 of the Drainage Act. The Contractor shall note that the water services or mains that are to be lowered by them shall be done on a unit cost basis as set out in the Schedule of Items and Prices. The Contractor shall provide all couplings, fittings and pipe necessary to carry out any lowering of the water services and mains along the project. All work shall be carried out in accordance with the Town Water Department requirements for same and shall be completed to their full satisfaction including utilization of proper materials and disinfection procedures to ensure that no contamination of the existing water system will occur, and there shall be no leaks.

All excavation shall be made in compliance with the drawings and in such a manner and at such depths and widths as will give ample room for installing the pipe, the bracing, sheeting, or otherwise supporting the sides of the excavation and for the pumping of ground water if encountered. The Contractor is fully responsible for the safety of all its people and equipment and must conform completely to the provisions of the "Construction Safety Act".

The bottoms of the trenches must be carefully excavated and trimmed to the elevation and shape of the bottom of the pipe. The bottom of each trench shall be recessed to receive the pipe in order to allow the pipe to be uniformly supported on firm undisturbed earth or compacted bedding for its entire length. Where shown on the plans the Contractor shall provide the reinforced concrete pipe support beam and bedding and rigid insulation for the pipes where protection of existing infrastructure services below the pipe is required. Corrections in depth of excavation caused by the Contractor excavating to an extent greater than that required for the elevation of the pipe shall be made by bedding the pipe with granular material 20mm (3/4") clear stone placed at the time that the pipes are being installed.

The trenches shall be excavated to the depths given by the Engineer and only as far in advance of the pipe installation as permitted by the said Engineer or the Town Drainage Superintendent.

If any part of the bottom of the trench is found to be unsound or in any way unsuitable in the Town Drainage Superintendent's or the Engineer's opinion to lay drain pipe, the Contractor shall remove as much material as may be required and shall replace same with sufficient approved granular material 20mm (3/4") clear stone to form a sound bed for the pipe. The Contractor shall be paid an extra for such additional excavation and for supplying and placing of the granular material in place of unsound soil as per the unit price established for same in the Form of Tender.

No extras will be allowed for excavating any hardpan, boulders, rocks, cobbles, ice or other obstacles found in the excavation or in the line of the trench or for any pumping or bailing of water required in the execution of the work. The trench must be drained or pumped in order to avoid the necessity of making joints under water. The trench must also be drained to avoid any possibility of ground water entering the pipe in the trench until the installation has been successfully completed.

The Contractor shall be responsible for the safe and proper handling of the pipe and shall inspect all pipes to ensure that no cracks, chips or defects exist in the pipe prior to placing the pipe in the drain line. Should the Contractor permit damaged pipe or materials to be installed in the drain, it shall be responsible for the removal and replacement of same at its own expense should the Engineer require such removal and replacement.

If the drain pipe is laid in freezing weather, the Contractor shall take all the necessary precautions to prevent damage to the pipe or to any of the materials used in the construction of the work. In addition, the Contractor shall take care that no frozen ground or backfill is placed in the trench backfilling adjacent to the drain pipe.

All drain pipes and the various other materials used in the placing of said pipe shall be installed in strict compliance with the manufacturer's recommendations.

The Contractor shall also be required, as part of the drain pipe installation, to satisfactorily connect all intercepted tiles or pipes into the new covered drain. When intercepted tiles or pipes are to be connected, the Contractor shall be required to utilize a standard tee fitting or neatly cut the pipe walls with either a hole saw, concrete saw or welding torch where applicable, and connect the existing tiles or pipes to the new covered drain with a mortar joint or where possible, a plastic connecting adapter. The Contractor shall provide all of the above equipment and materials required to connect all intercepted tiles or pipes at no extra cost to the project, and all of same shall be performed to the full satisfaction of the Town Drainage Superintendent or the Engineer and shall not be backfilled until it is inspected by them.

Backfill for the drain pipe shall be in accordance with the specifications noted previously. In the driveway entrance areas, the Contractor shall provide all granular backfill comprising Granular “B”, compacted to 98% S.P.D. to within 300mm of the underside of any existing driveway. The top 300mm of the granular backfill shall comprise Granular “A” compacted to 100% S.P.D. If the driveways have asphalt surfaces, the top of the trench shall be completed with a minimum 90mm thick lift of hot mix HL-4 asphalt (or equivalent SuperPave mix) or to match the existing asphalt thickness, in maximum 50mm thick lifts. All asphalt shall be carefully placed and compacted in place with rollers or plate tampers to achieve 92% to 96% of maximum relative density in accordance with O.P.S.S. 310. The Contractor shall at all times be very careful when performing its backfilling and compaction operations so that no damage is caused to the covered drain. To ensure that no damage is caused to the proposed drain pipe, alternative methods of achieving the required backfill compaction shall be submitted to the Engineer or the Town Drainage Superintendent for their approval prior to the commencement of this work.

The Contractor shall note that during future maintenance it will also be required to cut across any asphalt and concrete that may be intercepted by the covered drain work. Said areas shall also be restored utilizing hot mix asphalt or concrete placed in accordance with the requirements established previously in these specifications.

The Contractor shall take steps to protect all legal survey bars and markers during the course of its work. If any bars are removed or damaged, the Contractor shall arrange for a legal surveyor to replace same, all at its cost.

All of the work towards the construction of the covered drain shall be performed in a neat and workmanlike manner and the general site shall be restored to its original condition, and all of same is to be performed to the full satisfaction of the Town Drainage Superintendent and Engineer. Excess soils shall be handled as set out in any special provisions of the tender documents and may include temporary storage, loading, and hauling to a required disposal site.

The Contractor will be required to provide topsoil and sod or seed and mulch all areas along the length of the new covered drain installation and areas where the old pipe has been removed. Outside of the roadway limits the topsoil shall consist of good clean, dry loam, fine graded and compacted in place and ready for sodding or seeding and mulching in accordance with O.P.S.S. Form 802. The seeding and mulching operation shall be carried out according to O.P.S.S. Form 804 and all of this work is to be performed to the full satisfaction of the Town Drainage Superintendent and Engineer.

IX. CONSTRUCTING NEW SWALES

The Contractor shall provide all labour, material, and equipment, needed to construct the swale drains to the lines, levels, and grades as is shown and detailed in the accompanying drawings. The centreline of swale finished grade elevation and the finished swale cross section at various locations along the length of the drain are to be provided as is shown and detailed in the design drawings. The Contractor shall be required to strictly adhere to this swale design unless otherwise directed and approved by the Town Drainage Superintendent or Engineer on the project. The drawings include the approximate location of the swale along the new pipes along the length of the covered drains. The Contractor shall adhere to same unless otherwise directed by the Town Drainage Superintendent or the Engineer. Where shown on the plans the Contractor shall provide for a perforated H.D.P.E. tile drain below the bottom of the swale centreline bedded in 19mm clear stone wrapped with non-woven geotextile filter cloth. The "French drain" tile shall be connected to the covered drain at 60m intervals utilizing 100mm diameter perforated H.D.P.E. tile drain with filter cloth sock outlets. The outlet to the main covered drain shall be connected utilizing a tee fitting fabricated on the main drain or an Inserta Tee fitting installed in accordance with the manufacturer's specifications.

The swale shall generally be constructed with a V-section, having minimum 5 horizontal to 1 vertical side slopes. All swales shall be graded to ensure positive flow of the surface drainage from the abutting lands into the top of any catch basins that act as outlets for the particular swale section. All materials excavated from the swale, except scavenged topsoil, including all deleterious materials shall be loaded up and hauled away and disposed of by the Contractor to a site to be obtained by it at its own expense in accordance with the excess soil management regulations and the Lucente Engineering plan in **Appendix "REI-D"**.

All swales and boulevard areas are to be completely restored with topsoil, seed and mulch. Where required by the work, all disturbed and newly filled areas and surfaces of newly graded shallow swales shall be covered with approximately 50mm of topsoil fine graded. Across all other grass boulevard areas, the swale and drain banks shall be restored by utilizing a seed and mulch mix and shall be thoroughly restored to their pre-construction conditions. The placing and grading of all topsoil and seeding shall be carefully and meticulously carried out according to the specifications above. The Contractor shall provide watering of sod and seed areas in accordance with O.P.S.S. 804 requirements. As part of the work, the Contractor must provide a full one (1) year guarantee on all sod, seeding and mulching work, and will be required to repair all areas that erode or where the grass cover fails to catch. All work shall be meticulously done and completed in a good and workmanlike fashion to the full satisfaction of the Town Drainage Superintendent and the Engineer.

X. REMOVALS

Where existing access pipes are to be completely removed and replaced or abandoned, the Contractor shall be required to excavate and completely extract the existing pipe, and any ancillary items, in their entirety, including any other deleterious materials that may be encountered in removing same. 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 dispose of any debris resulting from the work.

All unsuitable and deleterious materials from the excavation and removal of the existing drainage works and drain work at lawn areas 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 driveway transitions, or installation of new pipes and appurtenances shall also be hauled away and disposed of by the Contractor. The Contractor is advised that the tender documents may include special provisions for handling of excess soils from works within the

Simcoe Street right-of-way and all required guidelines for storage, loading, hauling and disposal shall be followed.

XI. ARMOUR STONE HEADWALL AND SLOPE PROTECTION

Unless otherwise shown or noted, the Contractor is to provide armour stone block headwalls at the outlet chamber CH1 as shown on the plans. The blocks shall be a minimum of 600mm wide x 600 mm high x 1200mm long, with half-length blocks used where needed to stagger the vertical joints, and the walls shall be backed with non-woven filter cloth.

The armour stone block walls are to be provided and laid out as is shown and detailed in the accompanying drawings and as is noted in the Standard Specifications in **Appendix "REI-C"**. In all cases, the block headwalls shall be provided with a minimum 300mm (12") thick footing embedded below the drain bottom having the same width as the blocks. The footing may be precast concrete or cast in place. Joints in each course shall be staggered from the ones above and below using half blocks or equivalent, ensuring that all blocks interlock. Any voids between the blocks shall be grouted with 30mPa concrete having 6% plus/minus 1% air entrainment and extend for the full thickness of the wall. The face of the grout shall have a smooth finish that blends with the blocks. The headwalls shall be installed on a batter to be not less than 1 unit horizontal to 5 units vertical.

The installation of the block headwalls, unless otherwise specified, shall be provided in total compliance with the Items included in the "**STANDARD SPECIFICATIONS FOR ACCESS BRIDGE CONSTRUCTION". T**hese are attached to the back of this report and labelled **Appendix "REI-C"**. The Contractor shall comply in all respects with the General Conditions included in Item 4 and the **"Typical Concrete Block Headwall End Protection"** detail also shown therein. 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.

Where sloped protection is specified, the top 305mm (12") of backfill material on the slope shall be Granular "A" compacted to 100% S.P.D. placed on non-woven filter cloth. The granular shall be covered with cable concrete material as provided from International Erosion Control Systems (I.E.C.S.) model CC-45, or equal. The cable concrete to be placed on the slope shall be underlain with a synthetic **non-woven** geotextile filter fabric. All work shall be completed in accordance with the instructions from the supplier and to the full satisfaction of the Town Drainage Superintendent or the Engineer.

XII. GENERAL QUARRIED LIMESTONE EROSION PROTECTION

As shown on the plans, it is required that general quarried limestone erosion protection and rock chutes be provided on the drain slopes, at the locations indicated, and to the widths generally shown within the details and notes included in the accompanying drawings and be no less than 1.0 metres wide. The rock chutes shall be V-shaped and constructed to direct all flows through the centre portion of the rock chute. Where the drain banks are showing erosion or slumping and distress, the Contractor shall provide quarried limestone on filter cloth general erosion protection as outlined below. Protection locations shall be as established in consultation with the Town Drainage Superintendent and Engineer.

The quarried limestone erosion protection shall be embedded into the sideslopes of the drain a minimum thickness of 305mm, or as shown on the plans, and shall be underlain in all cases with non-woven synthetic filter mat (geotextile fabric). 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 general erosion protection shall be as established in the accompanying drawings or as otherwise directed by the Town Drainage

Superintendent or the 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 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.

XIII. BENCHMARKS

Also, for use by the Contractor, we have established Benchmarks along the course of the work as noted on the plans. All open drains shall be constructed to the lines, levels, sections, and grades shown on the plans based on the elevations shown and the benchmark information provided.

For each of the covered drain works, the plans include details, profiles and cross sections illustrating the work to be carried out. The Contractor shall note that in each case a specific design elevation grade has been provided for the invert at each end of the pipe. In all cases, the Contractor is to utilize the specified drain grade to set any new pipe installation. The Contractor shall ensure that it takes note of the direction of flow and sets all pipes to assure that all grades flow from east to west and north to south to match the direction of flow within the existing drain and new Auxiliary Drain.

XIV. ANCILLARY WORK

During the course of any drain construction, repair, or improvements to the open and covered drains along the course of the work, 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 or specifications appendix, 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 or enclosures. 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 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 connections to plastic pipes, the Contractor shall employ Inserta-Tee fittings or equal. For other connections, the Contractor shall utilize a grouted connection. Grouted mortar joints shall be composed of premixed bags of mortar or 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 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 new pipe unless otherwise noted in the accompanying drawings.

Where the drain 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 or catch basin. Any disturbed grass areas shall be fully restored with topsoil, seed and mulch.

All granular backfill for the 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 Engineer.

Where the Contractor removes brick, 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 and roadways at its cost and as provided for in the schedule of items and prices. All damaged hard surface driveway and 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.

As a check, all of the above covered drain design grade elevations should be confirmed before commencing to the next stage of the installation. The Contractor is also to check that the invert grades are correct by referencing the Benchmark.

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

If bedrock is encountered during the installation of the drainage works, the Contractor shall provide all equipment, labour, and materials to remove sufficient bedrock to allow for the proper installation of the drainage works. All rock materials shall be loaded up, hauled away, and disposed of by the Contractor at its cost as set out in the schedule of items and prices.

XV. TOPSOIL, SEED AND MULCH

The Contractor will be required to maintain grass buffers along the top of the drain banks where there are currently open field areas. The grass buffer shall extend from the top of each bank of the Auxiliary Drain outlet swale to provide a strip of grass between the swale and the property lines on each side or any future development along the drain. The topsoil shall be prepared for seeding as noted further in these specifications. Should the existing topsoil be treated to prevent grass growth, the Contractor shall strip the existing topsoil material back and spread it on the adjacent field and supply 50mm thick imported topsoil, or topsoil material scavenged from the drain works, that is suitable for growing grass.

The Contractor shall be required to restore all existing grassed areas and drain side slopes damaged by the structure replacements, new installations, and cutting of the drain cross section and provide topsoil, seed, and mulch on the new swale section. Restoration shall be done by placing topsoil, and then seed and mulch over said areas including any specific areas noted on the pipe 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 for lawn areas and include native grass seed species in areas of the relocated drain. 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.

XVI. SPECIAL PROVISIONS FOR REPLACEMENT, REPAIR, AND IMPROVEMENTS

The Contractor shall provide for the construction and improvements to the existing Pike Road Drain as shown and detailed on the plans and set out in the schedule of items and prices. At Bratt Drive a brick bulkhead with 250mm diameter flow control may require removal. The Contractor shall provide all labour, equipment, and materials to carry out the work including any repairs and restoration that may be required. At Martin Crescent, the Contractor shall remove the existing 250mm diameter flow control pipe connecting between the sewer and Pike Road Drain. The existing 750mm diameter sewer on Martin Crescent shall be extended to connect to the proposed new MH4 to be constructed on the Pike Road Drain. The Contractor shall provide all the equipment, labour, and materials to carry out the modifications to the drainage system including all excavation, bedding, backfill, compaction, and restorations and repair works required, all to the full satisfaction of the Town Drainage Superintendent or Engineer. At Simcoe Street crossings the Contractor shall supply reinforced concrete support beams for the covered drain as shown on the plans and noted in the Schedule of Items. Excess soils from work in the Simcoe Street right-of-way shall be handled as set out in any Special Provisions in the tender document include storage, loading, hauling and disposal to an approved site.

General Drain Work

For all pipes and structures directly affected by the drainage works, the Contractor shall clean through the existing structures and pipes, to remove all sediment and accumulated materials, and provide for the drain cross section as shown on the profiles and plans. All cleaning and flushing work shall be carried out to the complete satisfaction of the Town Drainage Superintendent or the Engineer. The Contractor will be required to remove all material taken out of the structures and drains or swales along roads and lawn areas and haul away and dispose of same, at a site to be obtained by it, at its own expense.

Bedrock Removal and Extra Excavation

Should the Contractor encounter bedrock during excavation for the covered drains, steps shall be taken to remove sufficient rock to allow for the pipe bedding to be installed. All excavated rock shall be loaded up and hauled away by the Contractor and disposed of at an approved site in accordance with the item in the tender form. Where unsuitable trench bottom material is encountered, the Contractor shall remove said materials as instructed by the Drainage Superintendent or Engineer with all materials loaded up and hauled away to a suitable disposal site, in accordance with the tender item for same. The unsuitable material removed shall be replaced with compacted Granular “A” pipe bedding as set out on the plans in the specifications above.

Lower Watermain

Where drain road crossings intercept the watermain along Simcoe Street, the Contractor shall coordinate the lowering of the watermain with the Town Water Department. The Contractor shall provide all equipment, labour, and materials to carry out the lowering in accordance with the detail shown on the plans. The installation shall include sand bedding and backfill and thrust restraints as shown on the detail. Work shall be completed as per the tender item included in the Contract. All flushing, pressure testing, and disinfection shall be completed in accordance with the Water Department requirements. All work shall be completed to the full satisfaction of the Water Department under their supervision.

Pipe Support Beam

Where the drain crosses the roadway over the existing sanitary sewer, the Contractor shall provide a concrete support beam as bedding for the new storm water drain. The beam shall be provided at each of the road crossings as shown and detailed on the plans. The Contractor shall provide 50mm thick rigid foam insulation immediately above the sanitary sewer. All insulation and concrete shall be installed to the dimensions shown on the plan details. Concrete shall be minimum 30 mPa strength at 28 days with 6% +/- 1% air entrainment. The Contractor shall provide continuous 15M reinforcing steel bars along each side of the pipe at the locations shown and detailed on the plans, with minimum 100mm concrete cover. The Contractor shall provide any formwork required for the proper placing of the concrete bedding with all formworks removed prior to completing the backfilling of the trench. Backfilling operations shall be carried out carefully to avoid damage to the concrete bedding and pipes.

XVII. GENERAL CONDITIONS

a) The Town Drainage Superintendent or 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 Amherstburg, the County of Essex, and the 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 Amherstburg or the 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 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 Municipal road system, especially to the travelled portion. When excavation work is being carried out and the excavation equipment is placed on the travelled portion of 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. The Contractor shall coordinate temporary loss of access with the affected owners when replacing access bridges. 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 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 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 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 Owner. 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 Owner 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 Amherstburg and its' officials, and the County of Essex and the 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 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 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.

APPENDIX “REI-A”

Pike Road Drain and 2nd Concession Drain South - Notice of Site Meeting

1 message

Cynthia Casagrande <CCasagrande@erca.org> Wed, Jun 1, 2016 at 10:35 AM
To: Eric Chamberlain <echamberlain@amherstburg.ca>
Cc: Nicole Humber <nhumber@amherstburg.ca>, Gerard Rood <gerard@roodengineering.ca>, John Henderson <JHenderson@erca.org>, Dan Jenner <DJenner@erca.org>

Dear Eric:

PWD-MD-2002-014

REI Project 2015D024

This office has received the Notice of Site Meeting scheduled for Thursday, June 2, 2016 regarding the proposed repair and improvement on the Pike Road Drain and 2nd Concession Road Drain South. Unfortunately, we are unable to attend this meeting.

A review of our floodplain mapping for the Pike Road Drain and 2nd Concession Drain South indicates that these drains are located within an area that is under the jurisdiction of the Essex Region Conservation Authority (ERCA) (Section 28 of the *Conservation Authorities Act*). Prior to undertaking works, a permit is required from this office.

This office has had extensive involvement regarding the earlier phases of this overall project. We would recommend scheduling a meeting with representatives of the Town, the Engineer, and ourselves here at the ERCA office to review and outline all ERCA concerns and requirements for this portion of the project to move forward.

Any requirements and/or conditions of development specified by the MNRF and/or DFO would need to form a component of the overall permit issued from this office for the proposed works.

If further information or clarification is required, please do not hesitate to contact this office.

Yours truly,

Cynthia Casagrande

Regulations Coordinator

Essex Region Conservation Authority

360 Fairview Avenue West, Suite 311

Essex ON N8M 1Y6

(519) 776-5209, Ext. 349

Gmail Gerard Rood <gerard.reinc@gmail.com>

RE: Pike Road Drain & Auxiliary Drain Outlet - Amherstburg - REI2015D024

1 message

Ashley Gyori <AGyori@erca.org> Tue, Nov 2, 2021 at 11:33 AM
To: Gerard Rood <gerard@roodengineering.ca>
Cc: Shane McVitty <smcvitty@amherstburg.ca>

Good morning Gerard,

Thank you for providing a copy of the preliminary drawings for the proposed works to the Pike Road Drain & Auxiliary Drain Outlet. We've had the opportunity to review the information and can confirm that, based on the preliminary design as presented, our office does not have any concerns with respect to Section 28 of the *Conservation Authorities Act*.

We look forward to receiving a copy of the final engineer's report and drawings. Prior to undertaking any works to the drain, we will require an application for permit from the municipality.

If you have any questions, please do not hesitate to contact me.

Kind regards,

cid:image001.jpg@01D5FC43.D7CF67C0 ASHLEY GYORI

Regulations Analyst

Essex Region Conservation Authority

360 Fairview Avenue West, Suite 311 Essex, Ontario N8M 1Y6

agyori@erca.org essexregionconservation.ca

**NOTE: As per public health guidelines, our offices are closed to the public, but staff are working remotely to provide responses to inquiries and review applications as efficiently as possible. Your patience and understanding is greatly appreciated at this time. **

From: Gerard Rood <gerard@roodengineering.ca>
Sent: Friday, October 8, 2021 11:23 AM
To: Ashley Gyori <AGyori@erca.org>
Cc: Shane McVitty <smcvitty@amherstburg.ca>
Subject: Pike Road Drain & Auxiliary Drain Outlet - Amherstburg - REI2015D024

Good morning Ashley:

We are working on finalizing the drainage report for this project. Attached are the plans that will form part of the report. We would appreciate your review of the plans and any comments or input that you may have for satisfying ERCA. Please contact us if you have any questions or concerns.

Thank you for your time and help on this. We look forward to hearing from you.

Regards,

Gerard Rood, P.Eng.

ROOD ENGINEERING INC.
9 Nelson Street
Leamington, Ontario
N8H 1G6

Phone: 519-322-1621
Fax: 519-322-1979

2021-10-08 Pike Rd Dr & Aux Dr plans.pdf
4706K

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:

- Work will not be conducted at times when flows are elevated due to local rain events, storms or seasonal floods. In-water works will not be undertaken between March 15th and June 30th.
- New culverts are to be installed with a minimum 10 % embedment below the existing bottom or design bottom of the drain (whichever is lower).
- All new culverts must provide for fish passage. Typically, culvert lengths that do not exceed 15.0 metres do not create an obstruction to fish passage. Depending on the proposed culvert diameter, however, longer lengths may be allowed. Concerns with longer culverts relate to velocity, loss of riparian habitat, etc. (Note: IF longer culvert lengths are proposed, we recommend that they be reviewed with this office prior to finalizing the engineer's report. Ultimately, it is the proponent's responsibility to undertake the necessary studies to confirm that the proposed length will not be a barrier to fish passage.)
- All disturbed soils on both 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 spread an appropriate distance from the top of the drain bank to ensure that it is not washed back into the drain.
- To prevent sediment entry into the drain, in the event of an unexpected rainfall, silt barriers and/or traps must be placed in the channel during the works and until the site has been stabilized. All sediment and erosion control measures are to be in accordance with related Ontario Provincial Standards. It is incumbent on the proponent and his/her contractors to ensure that sediment and erosion control measures are functioning properly and are maintained/upgraded as required.
- Silt or sand accumulated in the barriers/traps must be removed and stabilized on land once the site is stabilized.
- 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 refueling and maintenance should be conducted away from the water.

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.

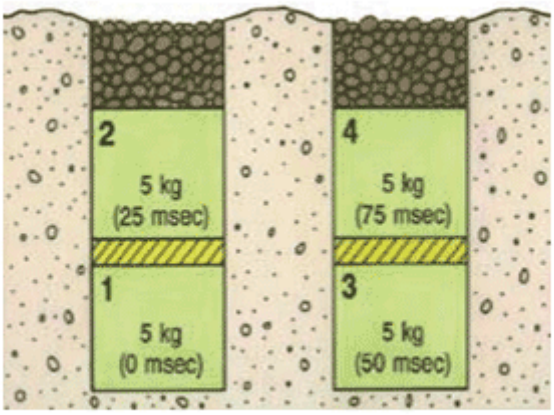
- Develop and implement an Erosion and Sediment Control Plan for the site that minimizes risk of sedimentation of the waterbody during all phases of the project. Erosion and sediment control measures should be maintained until all disturbed ground has been permanently stabilized, suspended sediment has 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 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.

APPENDIX “REI-B”

RE: Pike Road Drain Auxiliary Outlet & 2nd Concession Road Drain Relocation - Amherstburg - REI2015D024

1 message

ESA Screening Request Aylmer District (MNRF)
<ESAScreeningRequest.AylmerDistrict@ontario.ca>

Mon, May 2, 2016 at 11:14 AM

To: Gerard Rood <gerard@roodengineering.ca>
Cc: "ESA Screening Request Aylmer District (MNRF)" <ESAScreeningRequest.AylmerDistrict@ontario.ca>

Hello Mr. Rood,

The Species at Risk in Ontario (SARO) List is Ontario Regulation 230/08 issued under the *Endangered Species Act*, *2007* (ESA 2007). The ESA 2007 came into force on June 30, 2008, and provides both species protection (section 9) and habitat protection (section 10) to species listed as endangered or threatened on the SARO List. The current SARO List can be found on e-laws (http://www.e-laws.gov.on.ca/navigation?file=home&lang=en).

An initial SAR screening has been completed for the Pike Road Drain Auxiliary Outlet and 2nd Concession Drain Relocation, Amherstburg.

The proposed project is occurring within regulated habitat for **Eastern Foxsnake (Endangered)**.

Please note that this is an initial screening for SAR and the absence of an element occurrence does not indicate the absence of species. The province has not been surveyed comprehensively for the presence or absence of SAR, and MNRF data relies on observers to report sightings of SAR. Field assessments by a qualified professional may be necessary if there is a high likelihood for SAR species and/or habitat to occur within the project footprint.

It is important to note that changes may occur in both species and habitat protection which could affect whether proposed projects may have adverse effects on SAR. The Committee on the Status of Species at Risk in Ontario (COSSARO) meets regularly to evaluate new species for listing and/or re-evaluate species already on the SARO List. As a result, species designations may change, which could in turn change the level of protection they receive under the ESA 2007. Also, habitat protection provisions for a species may change if a species-specific habitat regulation comes into effect.

If an activity or project will result in adverse effects to endangered or threatened species and/or their habitat, additional action would need to be taken in order to remain in compliance with the ESA 2007. Additional action could be applying for an authorization under section 17(2)c of the ESA 2007, or completing an online registry for an ESA 2007 regulation, if the project is eligible.

Please be advised that applying for an authorization does not guarantee approval and the process can take several months. Please visit MNR's website to determine whether a project may be eligible for the online registry process (http://www.mnr.gov.on.ca/en/About/2ColumnSubPage/STDPROD_104342.html). Questions

about the registry process should be directed to MNR's Registry and Approval Services Centre at 1-855-613-4256 or at mnr.rasc@ontario.ca.

Kyle Stanley

Management Biologist

Aylmer District

Ministry of Natural Resources and Forestry

615 John Street N.

Aylmer, ON N5H 2S8

Phone: 519-773-4785

Fax: 519-773-9014

kyle.stanley@ontario.ca

ADDITIONAL MITIGATION MEASURES FOR SNAKE SPECIES

16. Training and Required On Site Materials for Snakes

16.1. The Municipality will ensure any person:

(a) involved in the capture, temporary holding, transfer and release of any snake Species has received training in proper snake handling procedures; and
(b) who undertakes an Activity has a minimum of two Holding Tubs and cotton sacks on site at all times.

17. Activities undertaken in Sensitive Areas and Sensitive Periods for Snakes

17.1. Where a proposed Activity involves physical infrastructure (e.g., culverts, pump houses, etc.) and will occur in a Sensitive Area for any snake Species and during a *Sensitive Period – Hibernation* for that Species, the Municipality shall undertake the Activity outside of the Sensitive Period, unless otherwise authorized by and in accordance with any site-specific measures provided in writing by the MNR Designated Representative.

17.2. Where a proposed Activity will occur at or adjacent to a known hibernacula (as identified by the MNR) for any snake Species and during a *Sensitive Period – Staging* for that Species, the Municipality shall:

(a) erect effective temporary snake barriers approved by the MNR that will not pose a risk of entanglement for snakes and that shall be secured so that individual snakes may not pass over or under the barrier or between any openings to enter or re-enter the Work Zone;
(b) inspect the temporary snake barriers daily during periods when snakes are active, capture any individuals incidentally encountered within the area bounded by the snake barrier and release the captured individuals in accordance with section 21.1; and
(c) remove the temporary snake barriers immediately upon completion of the Activity.

17.3. Where a proposed Activity that does not involve physical infrastructure will occur in a Sensitive Area for any snake Species and during a *Sensitive Period – Staging* for that Species, the Municipality shall undertake the Activity outside of the Sensitive Period, unless otherwise authorized by and in accordance with any site-specific measures provided in writing by the MNR Designated Representative.

18. Measures for Encounters with Snakes During a Sensitive Period

18.1. Where one or more individuals belonging to a snake Species is encountered, or should an active hibernacula be uncovered, while conducting an Activity in any part of a Work Zone (including, but not limited to, a Sensitive Area) during a Sensitive Period for that Species, the Municipality shall:

(a) capture and transfer all injured and uninjured individual snakes of that Species into individual light-coloured, drawstring cotton sacks;
(b) place all cotton sacks filled with the captured individuals into a Holding Tub;
(c) ensure that the Holding Tub with the captured individuals is stored at a cool temperature to protect the snakes from freezing until the individuals can be retrieved or transferred;
(d) if an active hibernacula is uncovered, cease all Activities at the hibernacula site; and
(e) immediately Contact the MNR to seek direction and to arrange for the transfer and/or retrieval.

19. Measures for Encounters with Snake Nests

19.1. Where an active nest of any of the snake Species is encountered and disturbed while undertaking an Activity in any part of a Work Zone, the Municipality shall:

(a) collect any displaced or damaged eggs and transfer them to a Holding Tub;
(b) capture and transfer all injured dispersing juveniles of that Species into a light coloured drawstring cotton sack;
(c) place all cotton sacks with the captured injured individuals into a Holding Tub**;**
(d) ensure that the Holding Tub with the captured injured individuals is stored out of direct sunlight;
(e) immediately Contact the MNR to seek direction and to arrange for the transfer of the injured individuals;
(f) immediately stop any disturbance to the nest site and loosely cover exposed portions with soil or organic material to protect the integrity of the remaining individuals;
(g) not drive any equipment over the nest site or conduct any Activities within 5 metres of the nest site;
(h) not place any dredged materials removed from the Drainage Works on top of the nest site;
(i) mark out the physical location of the nest site but not by any means that might increase the susceptibility of the nest to predation or poaching; and
(j) where there are no collected eggs or captured individuals, Contact the MNR within 72 hours to provide information on the location of the nest site.

20. Measures for Encounters with Snakes Outside of a Sensitive Period

20.1. Where one or more individuals belonging to a snake Species is encountered while undertaking an Activity in any part of a Work Zone (including, but not limited to, a Sensitive Area) but outside of any Sensitive Period for that Species, the Municipality shall:

(a) follow the requirements in section 16;
(b) briefly stop the Activity for a reasonable period of time to allow any uninjured individual snakes of that Species to leave the Work Zone;
(c) if the individuals do not leave the Work Zone after the Activity is briefly stopped in accordance with (b) above, capture all uninjured individuals and release them in accordance with section 21.1;
(d) where circumstances do not allow for the immediate release of captured uninjured individuals, they may be transferred into individual, light-coloured, drawstring cotton sacks before placing them in a Holding Tub which shall be stored out of direct sunlight for a maximum of 24 hours before releasing them in accordance with section 21.1;
(e) capture and transfer any individuals injured as a result of conducting the Activities into a Holding Tub separate from any Holding Tub containing uninjured individuals; and
(f) store all captured injured individuals out of direct sunlight and immediately Contact the MNR to seek direction and to arrange for their transfer.

21. Release of Captured Individuals Outside of a Sensitive Period

21.1. Where uninjured individuals are captured under section 20.1, they shall be released:

(a) within 24 hours of capture;
(b) in an area immediately adjacent to the Drainage Works where there is natural vegetation cover;
(c) in an area that will not be further impacted by the undertaking of any Activity; and
(d) not more than 250 metres from the capture site.

21.2. Following a release under section 21.1, the Municipality shall Contact the MNR within 72 hours of the release to provide information on the name of the Drainage Works, the location of the encounter and the location of the release site.

22. Measures for Dead Snakes

22.1. Where one or more individuals belonging to a snake Species is killed as a result of an Activity in a Work Zone, or if a person undertaking an Activity finds a deceased individual of a snake Species within the Work Zone, the Municipality shall:

(a) collect and transfer any dead individuals into a Holding Tub outside of direct sunlight; and
(b) Contact the MNR within 72 hours to seek direction and to arrange for the transfer of the carcasses of the dead individuals.

ADDITIONAL MITIGATION MEASURES FOR TURTLE SPECIES

9. Training and Required On Site Materials for Turtles

9.1. The Municipality will ensure any person:

(a) involved in the capture, temporary holding, transfer and release of any turtle Species has received training in proper turtle handling procedures; and
(b) who undertakes an Activity has a minimum of two Holding Tubs and cotton sacks on site at all times.

10. Activities undertaken in Sensitive Areas and Sensitive Periods for Turtles

10.1. Subject to section 10.2, where a proposed Activity will occur in a Sensitive Area for any Turtle Species and during a Sensitive Period for that Species, the Municipality shall:

(a) not undertake any Activities that include the excavation of sediment or disturbance to
banks during the applicable Sensitive Period unless otherwise authorized;
(b) undertake Activities in accordance with any additional site-specific measures provided in writing by the MNR Designated Representative;
(c) avoid draw-down and de-watering of the Sensitive Area during the applicable Sensitive Period; and
(d) if authorized by the MNR Designated Representative under (a) above to undertake Activities that include excavation of sediment or disturbance of banks, in addition to any other measures required under (b) above, ensure any person undertaking an Activity has at least two Holding Tubs on site at all times.

10.2. Section 10.1 does not apply where the applicable Drainage Works are:

(a) in a naturally dry condition;
(b) classified as a Class F drain in DFO's *Class Authorization System for the Maintenance of Agricultural Municipal Drains in Ontario* (ISBN 0-662-72748-7); or
(c) a closed drain.

11. Measures for Encounters with Turtles During a Sensitive Period

11.1. Where one or more individuals belonging to a turtle Species is encountered in the undertaking of an Activity in any part of a Work Zone (including, but not limited to, a Sensitive Area) during a Sensitive Period for that Species, the Municipality shall:

(a) capture and transfer all uninjured individuals of that Species into a Holding Tub;
(b) capture and transfer all individuals injured as a result of the Activities into a Holding Tub separate from any Holding Tub containing uninjured individuals;
(c) ensure that the Holding Tubs with the captured individuals are stored at a cool temperature to prevent freezing until the individuals can be transferred; and
(d) immediately Contact the MNR to seek direction and to arrange for the transfer of the individual turtles.

12. Measures for Encounters with Turtles Laying Eggs or Nest Sites

12.1. Where one or more individuals belonging to a turtle Species laying eggs, or an active nest site of any turtle Species, is encountered in undertaking an Activity in a Work Zone, the Municipality shall:

(a) not disturb a turtle encountered laying eggs and not conduct any Activities within 20 metres of the turtle while it is laying eggs;
(b) collect any displaced or damaged eggs and capture any injured dispersing juveniles and transfer them to a Holding Tub;
(c) store all captured injured individuals and collected eggs out of direct sunlight;
(d) immediately Contact the MNR to seek direction and to arrange for the transfer of any injured individuals and eggs;
(e) immediately stop any disturbance to the nest site and recover exposed portions with soil or organic material to protect the integrity of the remaining individuals;
(f) not drive any equipment over the nest site or conduct any Activities within 5 metres of the nest site;
(g) not place any dredged materials removed from the Drainage Works on top of the nest site;
(h) mark out the physical location of the nest site for the duration of the project but not by any means that might increase the susceptibility of the nest to predation or poaching; and
(i) where there are no collected eggs or captured individuals, record relevant information and Contact the MNR within 72 hours to provide information on the location of the nest site.

13. Measures for Encounters with Turtles Outside of a Sensitive Period

13.1. Where one or more individuals belonging to a turtle Species is encountered while undertaking an Activity in any part of a Work Zone (including, but not limited to, a Sensitive Area) but outside of any Sensitive Period for that Species, the Municipality shall:

(a) briefly stop the Activity for a reasonable period of time to allow any uninjured individual turtles of that Species to leave the Work Zone;
(b) where individuals do not leave the Work Zone after the Activity is briefly stopped in accordance with (a) above, capture all uninjured individuals and release them in accordance with section 14.1;
(c) where circumstances do not allow for their immediate release, transfer captured uninjured individuals for a maximum of 24 hours into a Holding Tub which shall be stored out of direct sunlight and then release them in accordance with section 14.1;
(d) capture and transfer any individuals that have been injured into a Holding Tub separate from any Holding Tub containing uninjured individuals; and
(e) store all captured injured individuals out of direct sunlight and immediately Contact the MNR to seek direction and to arrange for their transfer.

14. Release of Captured Individuals Outside of a Sensitive Period

14.1. Where uninjured individuals are captured under section 13.1, they shall be released:

(a) within 24 hours of capture;
(b) in an area immediately adjacent to the Drainage Works;
(c) in an area that will not be further impacted by the undertaking of any Activity; and
(d) not more than 250 metres from the capture site.

14.2. Following a release under section 14.1, the Municipality shall Contact the MNR within 72 hours of the release to provide information on the name of the Drainage Works, the location of the encounter and the location of the release site.

15. Measures for Dead Turtles

15.1. Where one or more individuals of a turtle Species is killed as a result of an Activity in a Work Zone, or if a person undertaking an Activity finds a deceased individual of a turtle Species within the Work Zone, the Municipality shall:

(a) place any dead turtles in a Holding Tub outside of direct sunlight; and
(b) Contact the MNR within 72 hours to seek direction and to arrange for the transfer of the dead individuals.

SNAKES OF ONTARIO IDENTIFIER

An identification guide to the Massasauga Rattlesnake and other Ontario snakes.

Recovery through education and conservation.
This guide will help you identify the Massasauga Rattlesnake and other snakes in Ontario. The Massasauga is one of five Ontario snakes with blotches. Snakes on this identifier are grouped by appearance (blotched, striped and no pattern). When you see a snake, look at its size and pattern. Does it have blotches, stripes, or no pattern?

Snakes are illustrated at quarter-life size. These snakes are not found in all Ontario regions. Consult a field guide for maps of snakes in your area. The size of snakes includes U.S. populations as listed in 'Conant, Roger and Joseph T. Collins. 1991 *A Field Guide to Reptiles and Amphibians of Eastern and Central North America.* 3rd edition. Houghton Mifflin Co. Boston'

toronto ZOO

For information on the Toronto Zoo's Rattlesnake Workshop write to:

Toronto Zoo - Rattlesnakes
361-A Old Finch Ave.
Scarborough, ON, CANADA M1B 5K7
email: alentini@torontozoo.ca
Visit the Massasauga Rattlesnake Recovery Team website: www.massasauga.ca

Milk

Lampropeltis triangulum

- 61-90 cm; record 132.1 cm
- Cream, tan, or light grey with red or dark brown black-bordered blotches or rings on back alternating with blotches along each side
- Young have red blotches bordered in black
- Blotch on neck may appear Y or V shaped
- Belly whitish with black checkerboard pattern
- Scales smooth; anal scale single
- Lays eggs
- SPECIAL CONCERN (COSEWIC); SPECIAL CONCERN (OMNR)

Green/Brown Phase

Blotched Phase

Eastern Hog-nosed

Heterodon platirhinos

- 51-84 cm; record 115.6 cm
- Large dark blotches down back alternating with smaller blotches along sides
- When threatened, spreads neck to display darker neck pattern and will roll over to play dead
- Can be blotched phase, plain grey, green-brown or even black
- Heavy-bodied
- Flat head with upturned snout
- Belly yellow-grey with greenish grey pattern
- Underside of tail lighter colour than body
- Scales keeled; anal scale divided
- Lays eggs
- THREATENED (COSEWIC); THREATENED (OMNR)

Northern Water

Nerodia sipedon sipedon

- 61-106.7 cm; record 140.5 cm
- Well patterned individuals have reddish brown squarish blotches down back with row of alternating blotches along each side
- At front of body, some blotches extend as saddles over back and on to sides
- Pattern on older individuals may be obscured and they appear black or brown
- Usually found in or near water
- Belly cream with irregular rows of reddish half moon crescents
- Scales keeled; anal scale divided
- Gives birth to live young

Lake Erie Water

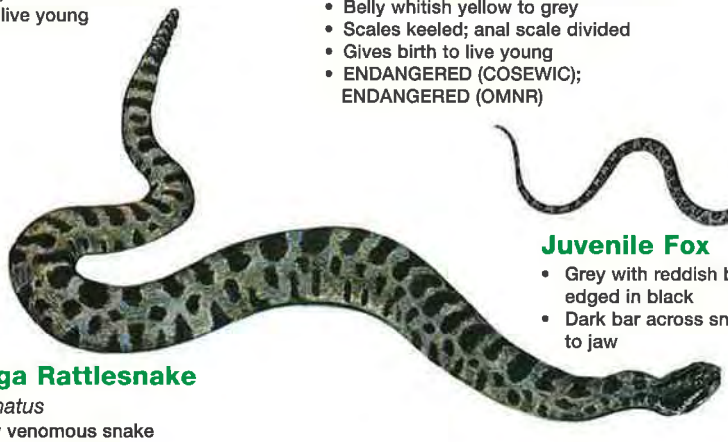
Nerodia sipedon insularum

- 61-106.7 cm; record 140.5 cm
- A sub-species of the more wide spread Northern Water snake
- Range from uniformly grey with no markings to dark grey-brown with some banding
- Only found at western end of Lake Erie and on Pelee and surrounding islands
- Belly whitish yellow to grey
- Scales keeled; anal scale divided
- Gives birth to live young
- ENDANGERED (COSEWIC); ENDANGERED (OMNR)

Eastern Fox

Elaphe gloydi

- 91-137 cm; record 179.1 cm (large snake)
- Yellow-brown with large brown or black blotches on back that alternate with smaller blotches along sides
- May have red-brown head
- Belly yellow with black checkerboard pattern
- Scales weakly keeled; anal scale divided
- Lays eggs
- THREATENED (COSEWIC); THREATENED (OMNR)



Juvenile Fox

- Grey with reddish brown blotches edged in black
- Dark bar across snout and from eye to jaw

Massasauga Rattlesnake

Sistrurus catenatus

- Ontario's only venomous snake
- 47.2-76 cm; record 100.3 cm
- Grey to brownish grey with darker blotches along back and several rows of alternating blotches along sides; blotches edged in white
- Black snakes with no pattern, very rare
- Pit on each side of head between eye and nostril
- Distinct segmented rattle
- Tail thick, squarish; does not taper to a point like all others
- Does not always rattle a warning; relies on pattern and remaining motionless to go undetected
- Heavy bodied; often found coiled
- Belly black
- Scales keeled; anal scale single
- Gives birth to live young
- THREATENED (COSEWIC); THREATENED (OMNR)

DeKay's Brown

Storeria dekayi

- 23-33 cm; record 49.2 cm (small snake)
- Light grey-brown to red-brown
- Two rows of spots along light coloured stripe on back
- Rows of spots may be joined by narrow lines
- Dark downward bar on side of head
- Juveniles have three yellowish spots on neck
- Belly cream or pinkish
- Scales keeled; anal scale divided
- Gives birth to live young

Northern Red-bellied

Storeria occipitomaculata occipitomaculata

- 20.3-25.4 cm; record 40.6 cm (small snake)
- Reddish brown to grey-brown in colour
- Three light brown or yellow spots on neck
- Orange-red belly; few dark spots may be present
- Scales keeled; anal scale divided
- Gives birth to live young

Smooth Green

Opheodrys vernalis

- 30.3-51 cm; record 66 cm
- Bright green and shiny
- Belly white or yellow
- Scales smooth; anal scale divided
- Lays eggs

Ring-necked

Diadophis punctatus

- 25.4-38 cm; record 70.6 cm
- Shiny steel blue, slate or brown in colour
- Neck ring and belly orange-yellow
- Scales adjacent to neck ring darker
- Belly has interrupted row of small black spots
- Scales smooth; anal scale divided
- Lays eggs

Eastern Ribbon

Thamnophis sauritus

- 45.7-66 cm; record 96.5 cm
- Black with 3 yellow stripes
- Lateral stripes on scale rows 3 and 4
- Distinct white half-moon spot in front of eye
- May have brown colour along each side of belly
- Belly yellow-green
- Scales keeled; anal scale single
- Gives birth to live young
- SPECIAL CONCERN (COSEWIC); SPECIAL CONCERN (OMNR)

Stripe on scale rows three and four

Queen

Regina septemvittata

- 38-61 cm; record 92.1cm
- Yellow-brown with yellow stripe along lower flank
- 3-5 dark stripes may be found on back
- Belly cream-yellow; brown stripes may be visible
- Usually found near rivers and marshes
- Scales keeled; anal scale divided
- Gives birth to live young
- THREATENED (COSEWIC); THREATENED (OMNR)

Eastern Garter

Thamnophis sirtalis sirtalis

- 45.7-66 cm; record 123.8 cm
- Black, green or brown with three yellow or yellow-green stripes
- Stripes may be orange or reddish in some parts of range
- Some snakes may be all black with no stripes (melanistic)
- Lateral stripes on scale rows 2 and 3
- May have dark scales or spots between stripes giving it a checkered pattern
- Belly yellowish green
- Scales keeled; anal scale single
- Gives birth to live young

Stripe on scale rows two and three

Blue Racer

Coluber constrictor foxii

- 90-152 cm; record 182.90 cm (large snake)
- Grey to greenish blue
- Head dark, throat white
- Belly light blue
- Only found on Pelee Island
- Scales smooth; anal scale divided
- Lays eggs
- ENDANGERED (COSEWIC); ENDANGERED (OMNR)

Juvenile Blue Racer

- Grey with central row of dark grey-brown blotches
- Few or no blotches on brown or grey tail
- Side of head speckled white and black

Red-sided Garter

Thamnophis sirtalis parietalis

- 41-66 cm; record 124.1 cm
- Black-brown with 3 yellow stripes
- Red bars between stripes and reddish wash on sides between scales
- Lateral stripes on scale rows 2 and 3
- Belly green-black
- In Ontario, only found along the Manitoba border
- Scales keeled; anal scale single
- Gives birth to live young

Butler's Garter

Thamnophis butleri

- 38-51 cm; record 69.2 cm
- Black or brown-green with 3 yellow stripes
- Stripes may be orange
- Lateral stripes on scale row 3 extending onto row 2 below and 4 above
- Towards back of body lateral stripe on scale rows 2 and 3
- Smallish head
- Belly green-yellow
- Only found in SW Ontario
- Scales keeled; anal scale single
- Gives birth to live young
- THREATENED (COSEWIC); THREATENED (OMNR)

Eastern Rat

Elaphe obsoleta

- 106.7-183 cm; record 256.5 cm (large snake)
- In some, faint blotched pattern may be seen
- Throat white
- Belly grey-brown wash
- Scales weakly keeled; anal scale divided
- Lays eggs
- THREATENED (COSEWIC); THREATENED (OMNR)

Juvenile Eastern Rat

- Light grey with grey-brown blotches on body and tail
- Dark bar across snout and from eye to jaw

How to count scale rows on a snake

Smooth Scales

Keeled Scales

Divided Anal Scale

Single Anal Scale

TURTLES OF ONTARIO IDENTIFIER

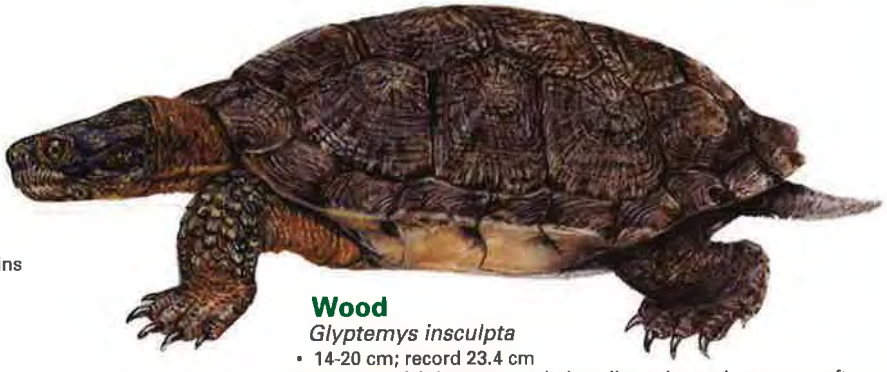
Illustrations are half life size.

www.torontozoo.com/adoptapond

toronto ZOO
361A Old Finch Ave.
Toronto,ON, Canada M1B 5K7
www.torontozoo.com

Midland painted
Chrysemys picta marginata

- 11.5-14 cm; record 19.5 cm
- Females larger than males
- Smooth, olive to brownish-grey carapace with orange-red margins
- Yellow plastron with dark central blotch
- Neck, legs and tail striped with red and yellow; yellow blotch behind each eye
- Males have very long nails on front feet
- Often seen basking on logs
- Lays 3-14 oval, white, smooth-shelled eggs



Wood
Glyptemys insculpta

- 14-20 cm; record 23.4 cm
- Brown or greyish-brown, rough, heavily sculptured carapace, often with a central keel or ridge and raised concentric growth rings on each scute
- Rear margin of carapace serrated
- Plastron is yellow with black squares
- Head black; skin brown; adults with orange or yellow on neck and legs
- Found on land (the most terrestrial turtle in Ontario) and in or near streams and wet meadows
- Lays 4-12 oval, white, thin-shelled eggs
- THREATENED (COSEWIC); ENDANGERED (OMNR)

Stinkpot
Sternotherus odoratus

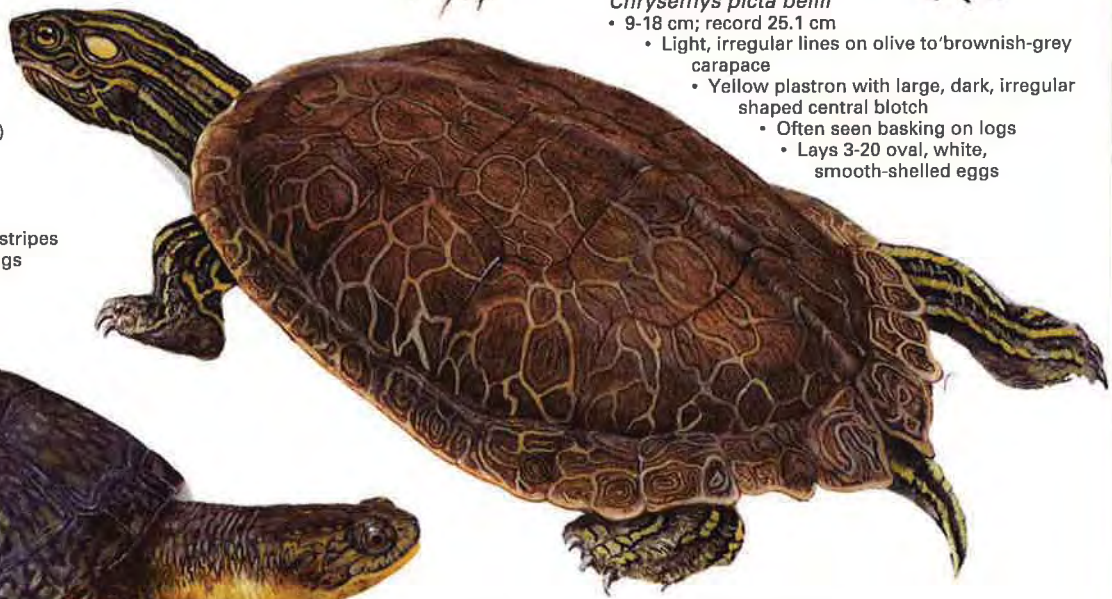
- 5.1-11.5 cm; record 13.7 cm
- Small turtle with smooth, light olive to black, high-domed, narrow carapace
- Plastron is small, yellow-brown and gives little protection to legs; a hinge runs across the front of the plastron allowing it to close upward to protect the head
- Two light stripes on each side of the head
- Barbels (fleshy projections) on chin and throat
- Named for musky odour produced when handled (also known as musk turtle)
- Lays 2-5 oval, white, hard-shelled eggs
- THREATENED (COSEWIC); THREATENED (OMNR)

Western painted
Chrysemys picta bellii

- 9-18 cm; record 25.1 cm
- Light, irregular lines on olive to brownish-grey carapace
- Yellow plastron with large, dark, irregular shaped central blotch
- Often seen basking on logs
- Lays 3-20 oval, white, smooth-shelled eggs

Map
Graptemys geographica

- Male 9-15.9 cm; Female 18-27.3 cm
- Males much smaller than females
- Numerous fine yellow lines on olive green to brownish carapace, resembling a map; may be less obvious in older turtles
- Rear margin of carapace serrated
- Carapace has a slight raised area (or keel) down centre of shell
- Yellow plastron
- Yellow spot, variable in size and shape, behind each eye
- Head and limbs may have light and dark stripes
- Lays 10-16 oblong, parchment-shelled eggs
- SPECIAL CONCERN (COSEWIC); SPECIAL CONCERN (OMNR)



Blanding's
Emydoidea blandingii

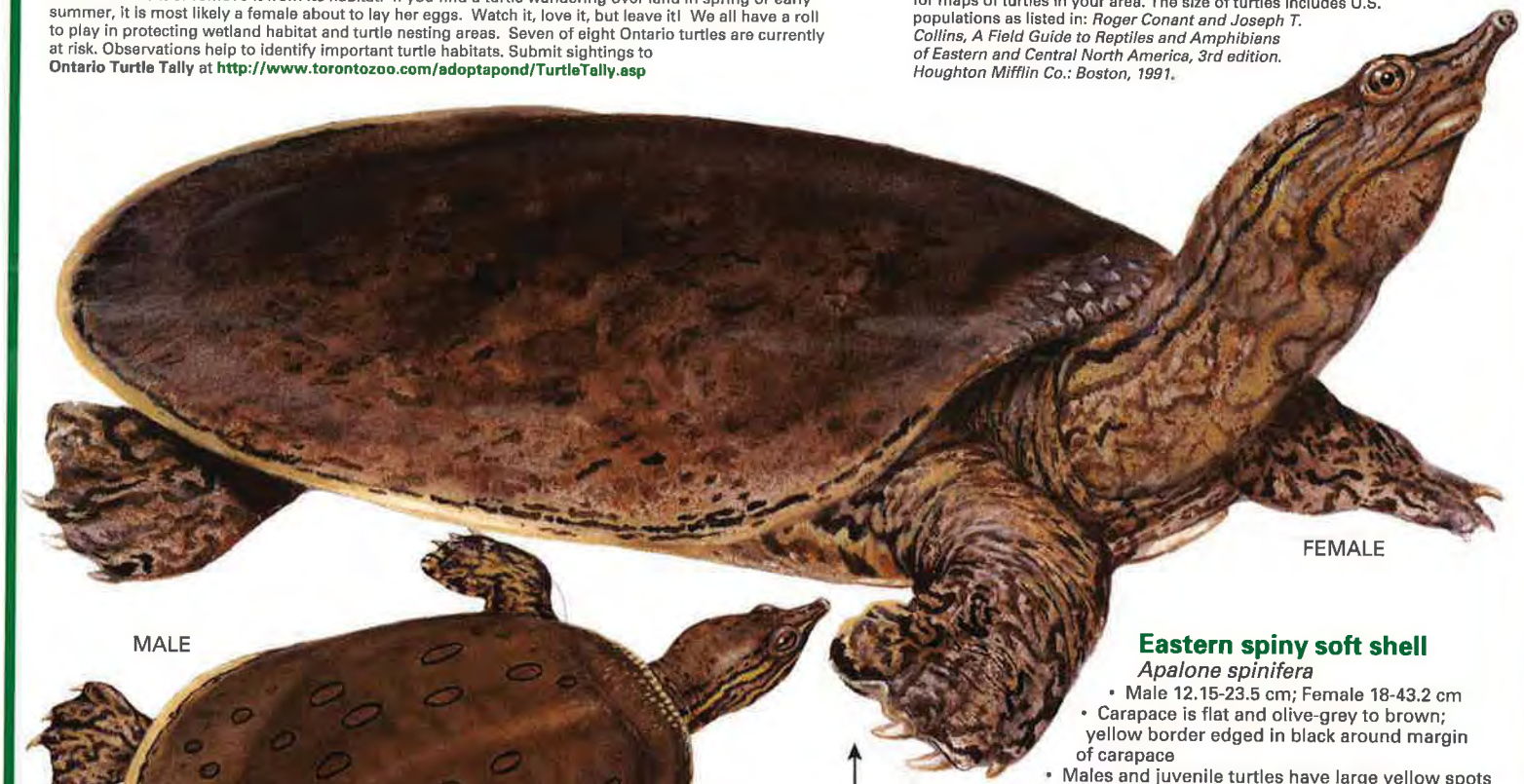
- 12.5-18 cm; record 27.4 cm
- Carapace black to greyish-brown with numerous yellowish spots or streaks
- Plastron has a flexible grooved hinge that allows lower shell to close upward to protect head and legs
- Bright yellow on chin and throat
- Protruding eyes
- Domed shell obvious while basking on logs, rocks, or clumps of vegetation
- Lays 6-11 oval, dull white, hard-shelled eggs
- THREATENED (COSEWIC); THREATENED (OMNR)

Spotted
Clemmys guttata

- 9-11.5 cm; record 12.7 cm
- Smooth black carapace with bright yellow or orange spots; spots fade in older turtles
- Plastron yellow-orange with large black blotch on each scute
- Males have tan chin and brown eyes; females have yellow chin and orange eyes
- Head, neck, limbs and tail are grey to black with yellow spots; inside of legs washed with orange
- Lays 3-8 oval, leathery textured eggs
- ENDANGERED (COSEWIC); ENDANGERED (OMNR)

Turtles in Ontario are protected under the Fish and Wildlife Conservation Act. If you find a turtle please do not disturb it or remove it from its habitat. If you find a turtle wandering over land in spring or early summer, it is most likely a female about to lay her eggs. Watch it, love it, but leave it! We all have a roll to play in protecting wetland habitat and turtle nesting areas. Seven of eight Ontario turtles are currently at risk. Observations help to identify important turtle habitats. Submit sightings to **Ontario Turtle Tally** at **http://www.torontozoo.com/adoptapond/TurtleTally.asp**

These turtles are not found in all Ontario regions. Consult a field guide for maps of turtles in your area. The size of turtles includes U.S. populations as listed in: *Roger Conant and Joseph T. Collins, A Field Guide to Reptiles and Amphibians of Eastern and Central North America, 3rd edition. Houghton Mifflin Co.: Boston, 1991.*



FEMALE

MALE

same species

Eastern spiny soft shell

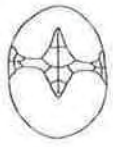
Apalone spinifera

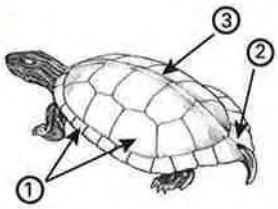
- Male 12.15-23.5 cm; Female 18-43.2 cm
- Carapace is flat and olive-grey to brown; yellow border edged in black around margin of carapace
- Males and juvenile turtles have large yellow spots outlined in black; females have brownish blotches
- Small tubercles or spines on edge of shell above neck
- Two dark bordered, light yellow lines on each side of head
- Very long neck; tubular "pig like" snout
- Often buries in sand or mud
- Lays 12-18 round, white, hard-shelled eggs
- THREATENED (COSEWIC); THREATENED (OMNR)

Snapping

Chelydra serpentina

- 20.3-36 cm; record 49.4 cm
- 4.5-16 kg; record 32 kg snapping turtle once lived at Toronto Zoo
- Carapace is light brown to black
- Young turtles have three longitudinal keels, older turtles almost smooth
- Plastron is yellowish, small, and cross-shaped; legs and skin not well protected
- Large head, two barbels on chin; rounded tubercles on neck
- Head, limbs and tail are brown
- Tail is long, same length or longer than carapace with "dinosaur-like" triangular scales projecting from the upper side
- Lays 20-40 round, ping-pong ball-like eggs
- SPECIAL CONCERN (COSEWIC)





1-scutes
2-serrated marginal scute
3-longitudinal keel
4-hinge on plastron

Red-eared slider

(not illustrated)

Trachemys scripta elegans

The red-eared slider is often sold in pet stores, but is not native to Ontario. **Do not release pet turtles to the wild.** They may carry diseases that threaten our native turtles, and are not likely to survive.

CONFIRMATION OF REGISTRATION

Form Name:	Notice of drainage works (s.23.9)
Date Registration Filed:	05/13/2021
Confirmation ID:	M-102-7422873690
Version Number:	001
Update Date:	

Dear Sir/Madam,

It is your responsibility to understand all the applicable requirements of registration and to be aware of which species are eligible or excluded in relation to your activity. Some requirements apply to all activities being initiated on the landscape, such as the minimization of adverse effects on the species. Other requirements vary by activity such as record keeping, monitoring, and creation of mitigation plans and reports. Please go to https://www.ontario.ca/page/ditch-and-drainage-work-and-endangered-or-threatened-species for specific requirements, information and resources.

It is also your responsibility to monitor changes to the SARO List (O. Reg. 230/08) as well as eligibility and requirements in the General Regulation O. Reg. 242/08.

When documents are requested by the Ministry of Natural Resources and Forestry (MNRF) they are due within 14 days.

The Corporation of the Town of Amherstburg

512 Sandwich ST S
AMHERSTBURG, ON N9V3R2

You have completed the registration portion of Ontario Regulation Reg. 242/08 of the *Endangered Species Act, 2007* and your Notice form has been received by the Ministry of Natural Resources and Forestry for activities eligible under the following regulatory provision:

Notice of drainage works (s.23.9)

located at:

523 Fryer ST

For the species listed in Appendix A.

Species observations must be reported directly to the Natural Heritage Information Centre, within three months, by completing a Rare Species Reporting Form available at http://www.ontario.ca/page/report-rare-species-animals-and-plants.

In addition to the General Regulation, information is available at http://www.ontario.ca/page/natural-resources-approvals.

You are required to show this Confirmation of Registration upon request of the Ministry. Please refer to Ontario Regulation 242/08 for requirements that apply to your activity.

Any questions related to this registration and/or the Natural Resources and Forestry Registry should be directed to:

Registry and Approval Services Centre
Ministry of Natural Resources and Forestry
300 Water Street
Peterborough, ON, K9J8M5
Toll-free: 1-855-613-4256
E-mail: mnr.rasc@ontario.ca

Appendix A:

Species impacted by the registered activity:

Eastern Foxsnake (Carolinian population) (Pantherophis gloydi)

APPENDIX “REI-C”

STANDARD SPECIFICATIONS
FOR ACCESS BRIDGE CONSTRUCTION

1. CONCRETE FILLED JUTE BAG HEADWALLS

After the Contractor has set the new pipe in place, it shall completely backfill same and install new concrete filled jute bag headwalls at the locations and parameters indicated on the drawing. 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, 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 25 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 500mm (20") 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 Town 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 Town Drainage Superintendent and Engineer.

4. GENERAL

Prior to the work commencing, the Town 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 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, 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.

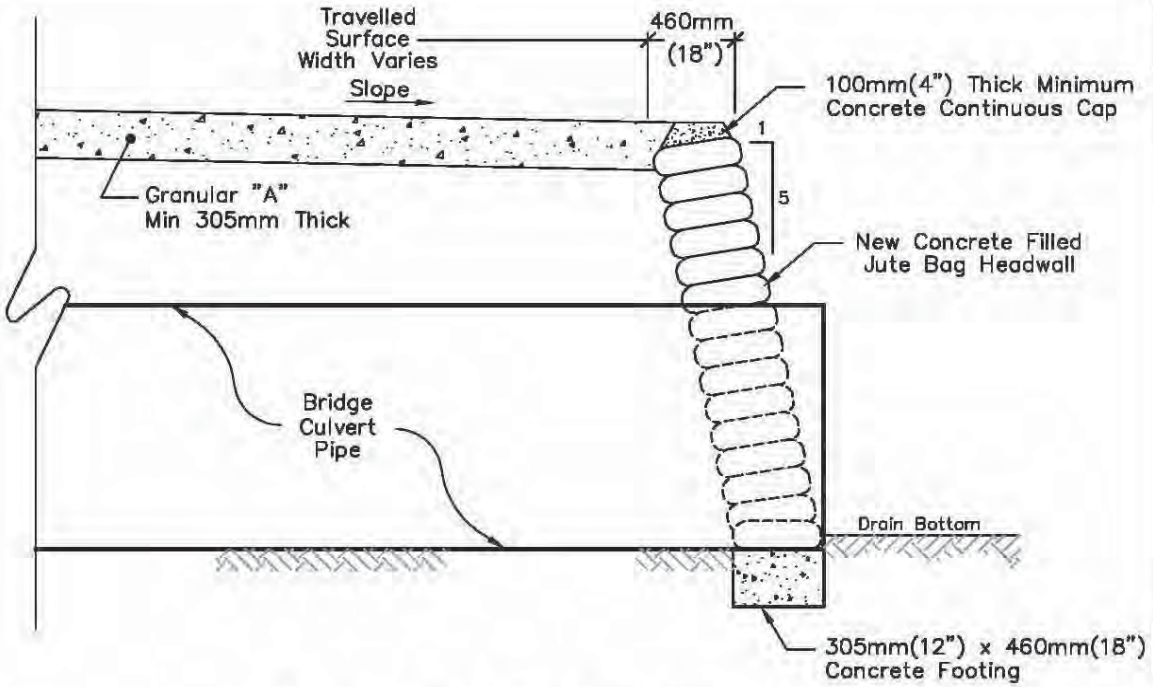
Where applicable, the Contractor and/or landowner constructing the new bridge shall be responsible for any damage caused by them to any portion of the Town road right-of-way. They shall take whatever precautions are necessary to cause a minimum of damage to same and must restore the roadway to its original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

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

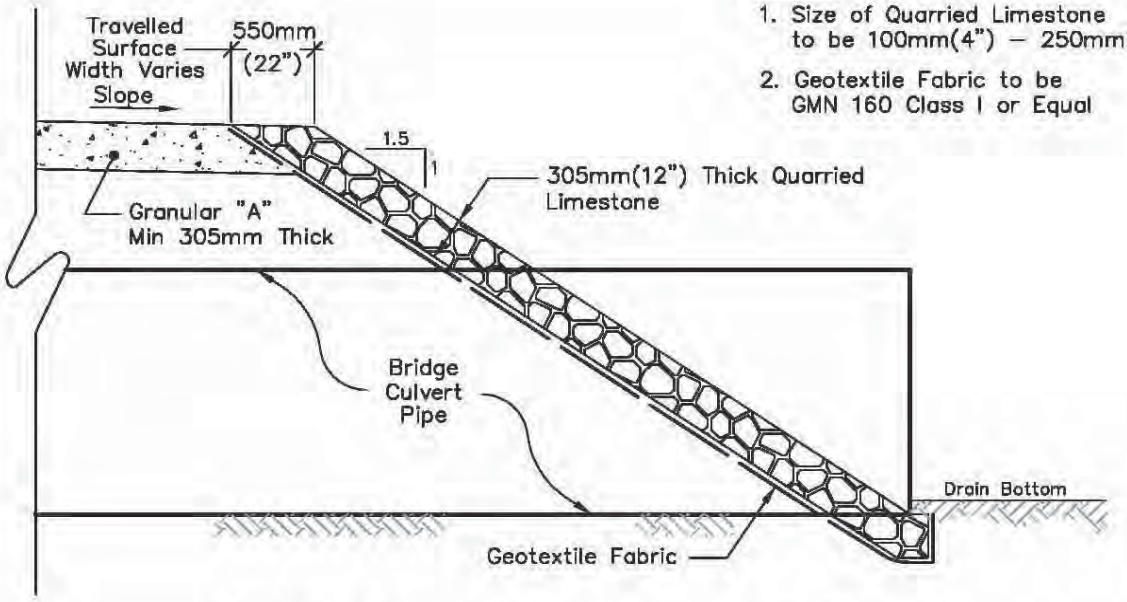
All of the excavation, installation procedures, and parameters as above mentioned are to be carried out and performed to the full satisfaction of the Town Drainage Superintendent and Engineer.



Typical Jute Bag Headwall

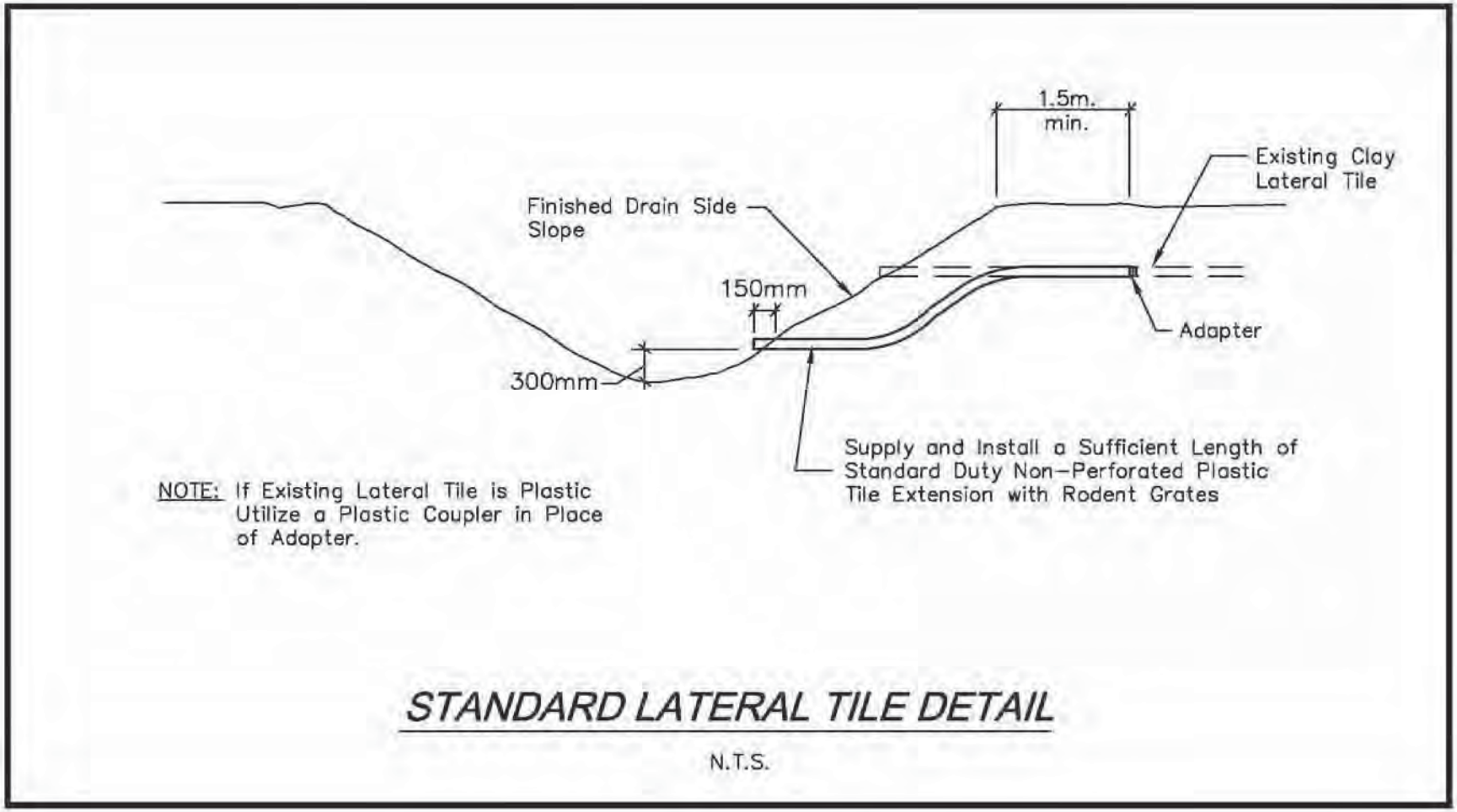
NOTE:

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



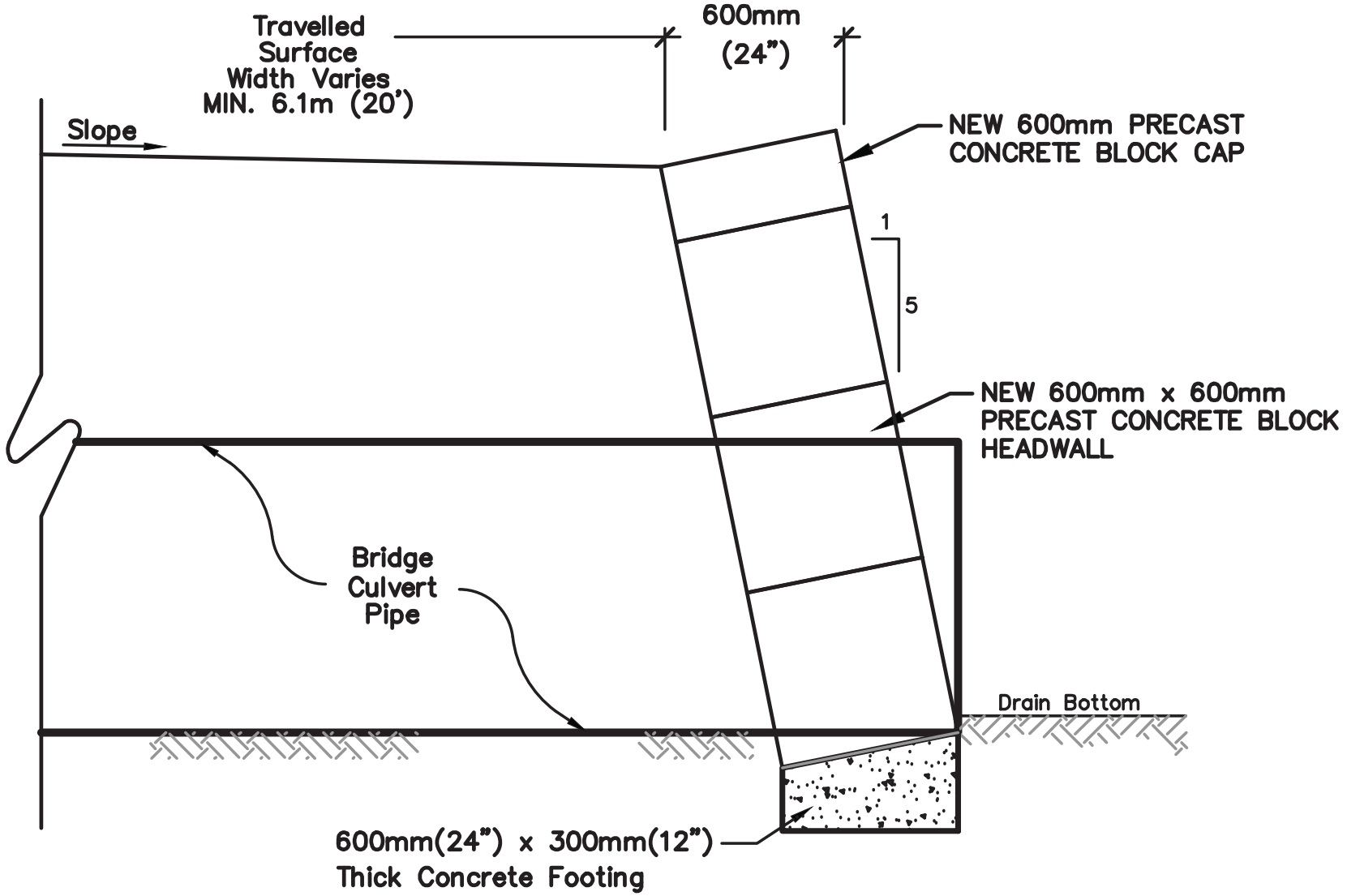
Typical Quarried Limestone End Protection

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.

Block Headwall Installation Instructions for Culverts

1. A swift lift device will be required to place the blocks. A 75mm eye bolt will be required to place the caps.
2. The bottom course of blocks shall be founded on a firm solid base. The contractor shall provide a minimum levelling course of 150mm of compacted 3/4" Clear Stone, or a 100% compacted granular A, or lean concrete as a foundation base.
3. Ensure that the base is level and flat as this will greatly improve speed of installation.
4. On new culverts a minimum of 150mm of block wall will extend below the culvert to prevent scouring under the culvert.
5. The bottom course of blocks shall be embedded into the drain bottom to achieve the desired top elevation of the wall.
6. Blocks shall extend from the pipe invert across the full height and width of the drain and be imbedded a minimum of 300mm into the drain banks. Where possible the top of the block wall will match the height of the completed driveway.
7. Blocks shall be placed such that all joints are staggered.
8. Any excavation voids on the ends of block walls below subsequent block layers shall be filled with ¾" Clear Stone.
9. Where block walls extend beyond three blocks in height, they should be battered a minimum of 1 unit horizontal for every 10 units vertical throughout the wall's full height and width. This can be achieved using pre-battered base blocks, or by careful preparation of the base.
10. Filter cloth (270R or equivalent) should be placed behind the wall to prevent the migration of fill material through the joints.
11. The walls should be backfilled with a free draining granular fill.
12. A uni-axial geogrid (SG350 or equivalent) should be used to tie back the headwalls where walls extend beyond 1.8m in height.
13. The face of the block wall shall not extend beyond the end of the pipe culvert.
14. Any gaps between the blocks and culvert shall be sealed with non-shrink grout for the full depth of the block.

APPENDIX “REI-D”

LEGEND

179.00 SAG

+180.00 HIGH POINT

OVERLAND FLOW ROUTE

2ND CONCESSION DRAIN

EXISTING ELEVATION

0 100 200 300 METRES

SCALE

EXISTING ELEVATION WERE TAKEN BY CLARK SURVEYORS INCORPORATED ON AUGUST 15, 2008

BENCH MARK
ELEV. 183.67 CANADIAN GEODETIC DATUM UNIQUE NUMBER STATION 001683020

MARTIN CRES.

(FUTURE) MULBERRY COURT

PACIFIC AVENUE

SIMCOE STREET

PART 1 PLAN 12R-15213 INSTRUMENT 1382183

BLOCK 'A' TO BE PURCHASED BY WALKER AGGREGATES INC. TO BE USED FOR OVERBURDEN STORAGE

WALKER AGGREGATES INC.

EXISTING NORBURY DRAIN

PART 2 PLAN 12R-3755

EXCESS MATERIAL FROM ROCKSEDGE LANDS

BLOCK 'B' TO BE PURCHASED BY WALKER AGGREGATES INC. TO BE USED FOR BERM AND OVERBURDEN STORAGE

BERM: 4m HIGH & 1m TOP w/ 2:1 SLOPE 32,000 cu.m

INSTRUMENT 276728

INSTRUMENT 740057

INSTRUMENT 190289

142.16 (M) 142.13 (P13)

PART 1, PLAN 12R-7266 INSTRUMENT 891083

ROAD 'A'

ROAD 'B'

ROAD 'C'

ROAD 'D'

ROAD 'E'

ROAD 'F'

ROAD 'G'

ROAD 'H'

ROAD 'J'

ROAD 'K'

ROAD 'L'

ROAD 'M'

ROAD 'N'

ROAD 'O'

ROAD 'P'

ROAD 'Q'

ROAD 'R'

ROAD 'S'

ROAD 'T'

ROAD 'U'

BOULDER RIDGE ESTATES

PHASE 1

PHASE 2

SWM EAST POND #1

SWM WEST POND #2

EXISTING TILE DRAIN

LOWES SIDEROAD

PART 2, PLAN 12R-6379 INSTRUMENT 720335

PART 7, PLAN 12R-6879 INSTRUMENT 114 637

PART 1, PLAN 12R-3750

PIN 01539-0006

PIN 01539-0005

EXCESS MATERIAL FROM ROAD R.O.W.

EXCESS MATERIAL FROM ON-SITE ROCKSEDGE LAND

ST. JEAN BAPTISTE CATHOLIC SCHOOL

FRYER STREET

PICKERING RD.

McCURDY RD.

BRIAR RIDGE RD.

CROPPING RD.

EXCESS MATERIAL FROM ROCKSEDGE LANDS

EXCESS MATERIAL FROM ROCKSEDGE LANDS

NO.	ISSUED FOR	DATE
2	REVISED PER TOWN'S COMMENTS	NOV. 5, 2021
1	REVIEW	NOV. 1, 2021

R. LUCENTE ENGINEERING INC.
CIVIL ENGINEERING CONSULTANT
302-180 Eugenie Street West
Windsor, Ontario, Canada N8X 2X6
Phone: (519) 966-4008
E-mail: rocco@lucenteeng.com

DRAWN:	E. R. M.
CHECKED:	R. L.
APPROVED:	R. L.
CONTRACT NO:	
DATE:	JULY 2018
SCALE:	N.T.S.

OWNER:
ROCKSEDGE DEVELOPMENT INC.

PROJECT:
BOULDER RIDGE ESTATES RESIDENTIAL SUBDIVISION
TOWN OF AMHERSTBURG, ONTARIO

SHEET TITLE:
TRANSPORTATION OF EXCESS EXCAVATION MATERIAL PLAN

OFFICE FILE NO:	12-1013
DRAWING NO:	2R-438
FIELD BOOK NO:	
SHEET NO.:	1 of 1

BOULDER RIDGE ESTATES - RESIDENTIAL SUBDIVISION

File Name: C:\AutoCAD\Ed Smith -Amherstburg Subdivision\Rockedge_10132134_ExcessExcavMatl.dwg Plotted: NOV. 8, 2021 Time: 10:47 AM

PLANS SHOWING THE WATERSHED AND DETAILS FOR THE

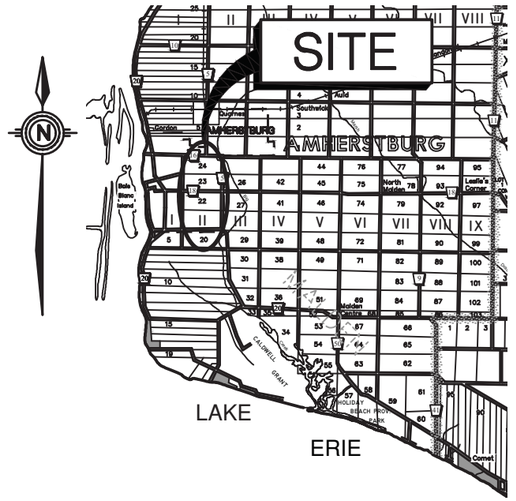
PIKE ROAD DRAIN AND AUXILIARY DRAIN REPAIR AND IMPROVEMENT

IN THE

TOWN OF AMHERSTBURG

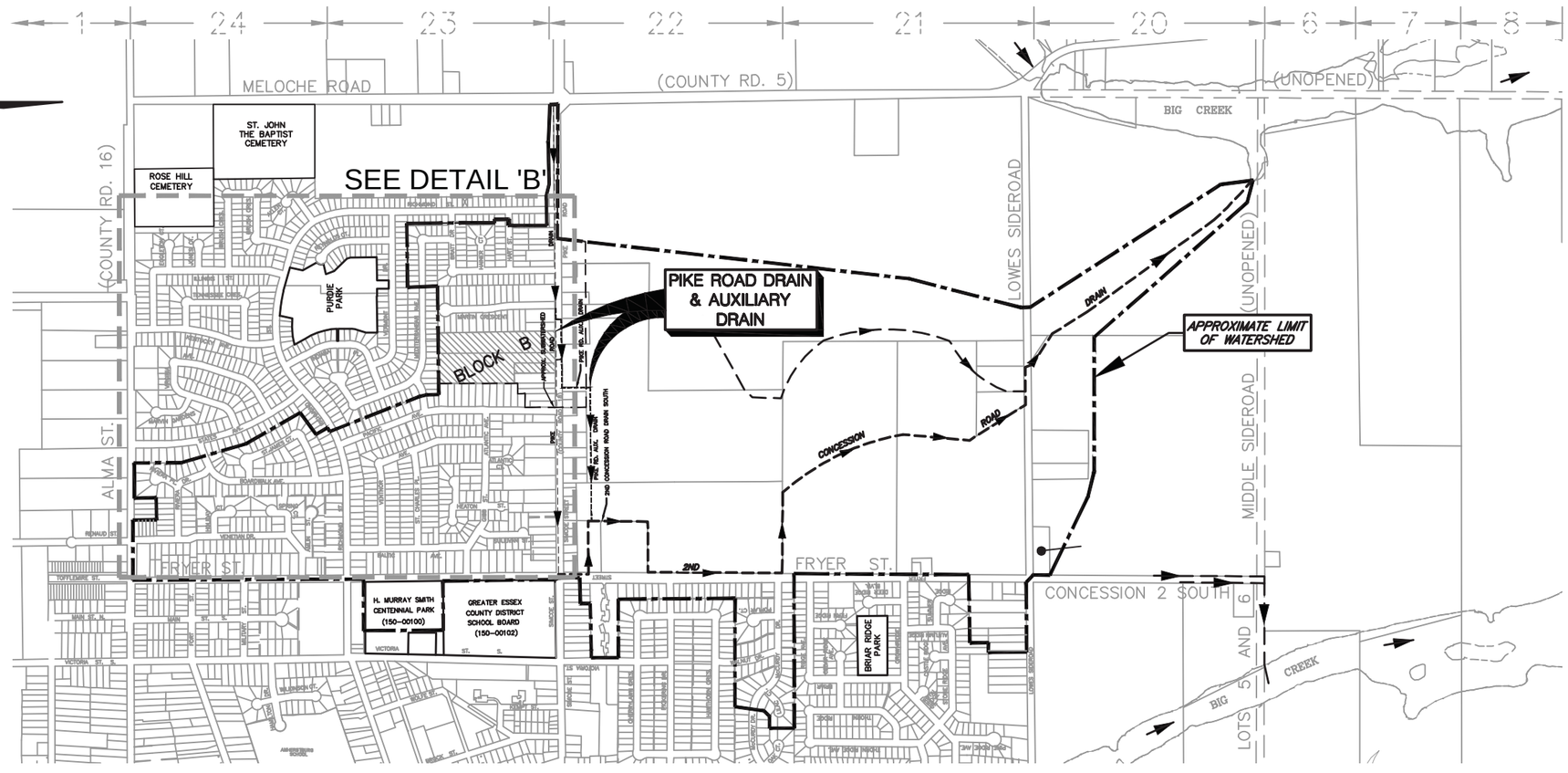
IN THE

COUNTY OF ESSEX, ONTARIO



KEY PLAN

SCALE = 1:200,000



WATERSHED PLAN

SCALE = 1:15,000

Gerard Rood

GERARD ROOD, P.ENG.

REGISTERED PROFESSIONAL ENGINEER
G.ROOD
2022-01-20
PROVINCE OF ONTARIO

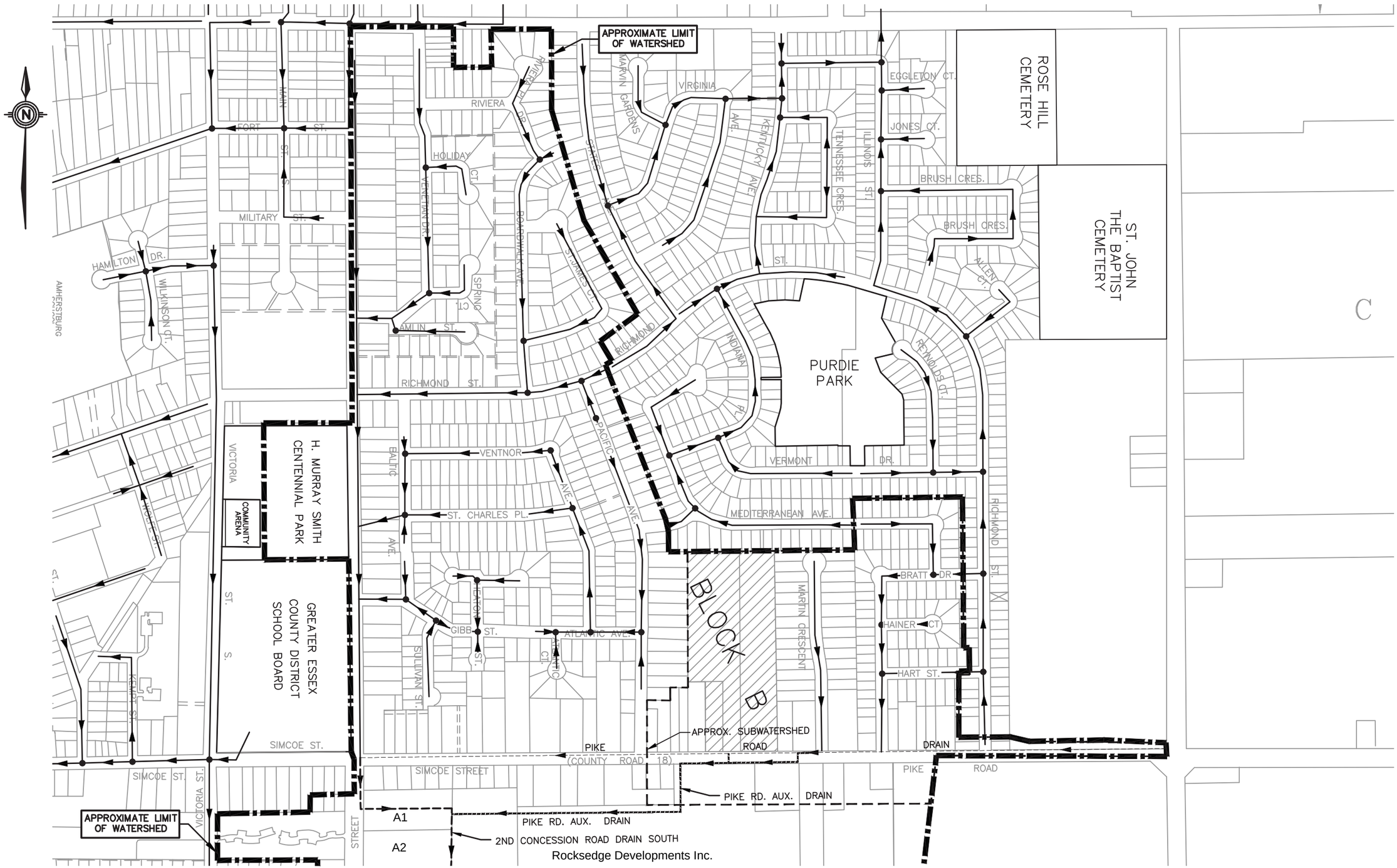
ROOD ENGINEERING INC.
CONSULTING ENGINEERS
Leamington, Ontario
519-322-1621

DATE: January 26th, 2022

TOWN OF AMHERSTBURG

MAYOR: ALDO DICARLO
CLERK: PAULA PARKER
DRAINAGE SUPERINTENDENT: SHANE McVITTY, P.ENG.

SHEET W1 OF 5	
Public Works No. 2015-EPW-13	Project No. REI2015D024



DETAIL 'A'

SCALE = 1:15,000

A1 Catholiques Providence Conseil Scolaire
A2 Catholiques Providence Conseil Scolaire

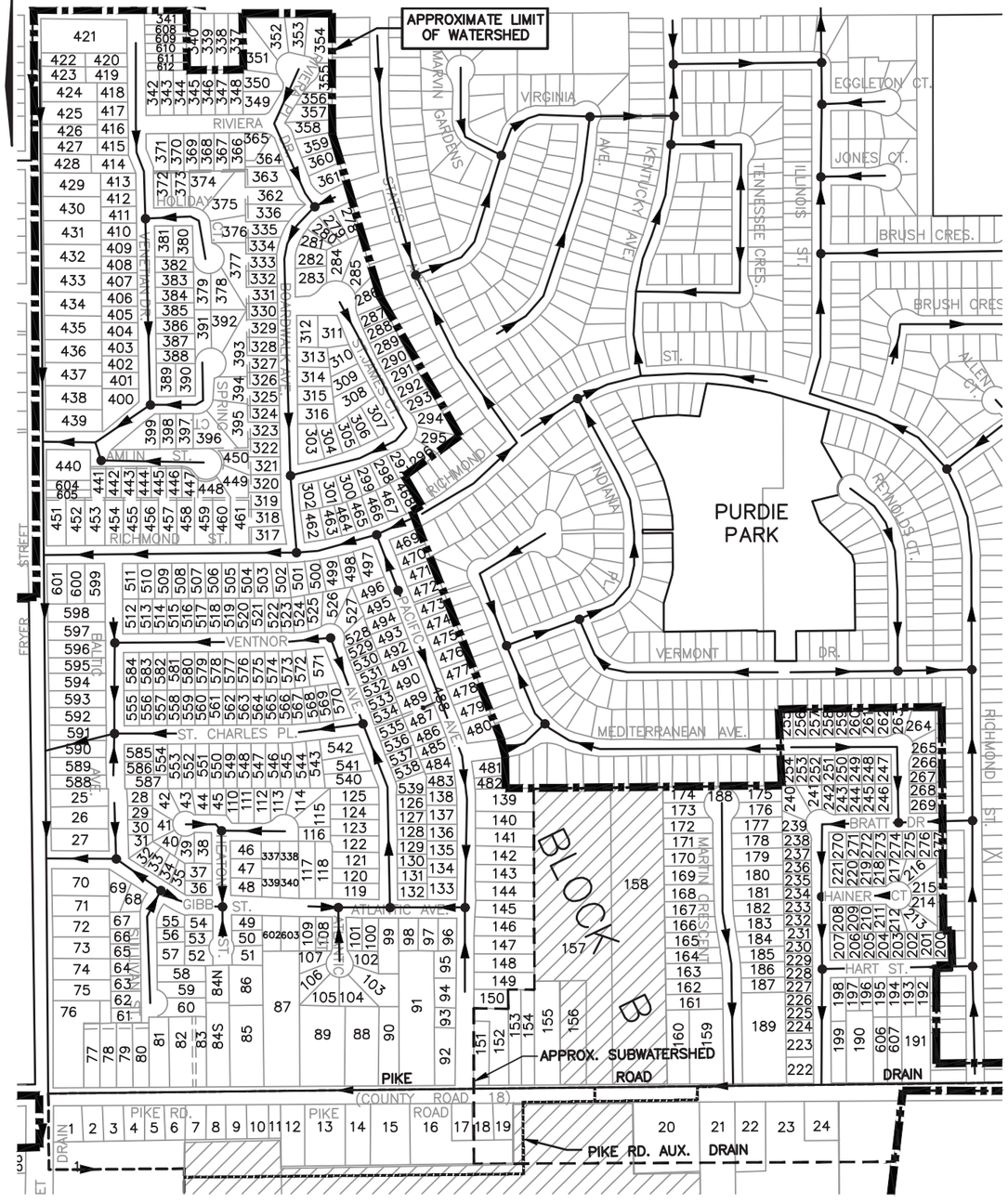
SHEET W2 OF 5

Project No.
REI2015D024

\\SERVER-2019\REI Data Server\DRAFTING\PROJECTS\Projects 2015\REI2015D024 - Pike Rd Dr Aux & 2nd Con Rd Dr Relocation\DWG\2020 DWG\REI2015D024 Watershed Pike Rd Dr & Aux Dr GR.dwg 2021-10-15

NOTE:

DETAIL PLANS SHOW STORM SEWERS AND FLOW DIRECTION
BASED ON TOWN GIS MAPPING INFORMATION



DETAIL 'B'

SCALE = 1:15,000

(SEE SHEETS 3, 4 & 5 FOR ROLL INFORMATION)

ROLL INFORMATION DETAIL 'B'

1)	Larry Bertrand	60)	Ralph & Grace Barnwell
2)	Larry & Diana Bertrand	61)	Michael & Paula Paquette
3)	Graeme Hulse	62)	Micahel Deneau
4)	Mark Weber	63)	Christopher Fabian
5)	Breeyn Wharram	64)	Kaitlynn Scott & Cailem Winmill
6)	Robin & Karen Charron	65)	Gino & Franca Mastronardi
7)	Randy & Joanne Deneau	66)	Roger Baylis & Elisha Strong
8)	James Fox & Charlene Seguin	67)	Paul Brennan & Julie LaLiberte
9)	Jacqueline & Robert Labute	68)	Daniel & Katie Foster
10)	Mitchell & Catherine Temesy	69)	Karl Clifford
11)	Harry & Deborah Crowder	70)	Gwladys & Mary Brush
12)	Carl Russelo	71)	James & Sherrie Hickey
13)	Robert Rainey & Gerry Hennin	72)	Raffaele & Denise Orsi
14)	Rocksedge Developments Inc.	73)	Marilyn & Alvin Deneau
15)	James & Kelly Lacey	74)	Michael Scipione
16)	Deborah Kopacz	75)	Ermenegildo & Phyllis D'Amore
17)	Michael St.Onge	76)	Jodi McLean
18)	Katie Lewis & Mitchell Finlay	77)	David Fletcher & Karen Booker
19)	Justin Hills	78)	Todd & Shirley Goodchild
20)	County Of Essex	79)	Denis Arsensult & Iris Carberry
21)	Robert & Divina Price	80)	Ernest & Kimberly Meloche
22)	Marion & Duncan Smith	81)	Jason Wells & Michaela Leckonby
23)	Duncan & Marion Smith	82)	Antonio D'Ascanio
24)	Marion & Duncan Smith	83)	Chelsie Duffy
25)	Adam Craig & Jennifer Root	84S)	Gerald & Sandra Bronstein
26)	Kam Tang & Cindy Wong	84N)	Raymond LaFontaine
27)	Aldo & Antoinetta Iannucci	85)	Douglas & Maureen Hunt
28)	Ryan Nespolon & Sonja Mercier	86)	John Fleming & Marion Lee
29)	Michael Laporte & Elyssa Kurylo	87)	Anitar Inc.
30)	David & Jeanne Oliver	88)	1741059 Ontario Limited
31)	Michelle Hadrian	89)	1741059 Ontario Limited
32)	Robert Bondy	90)	Richard W. Deslippe
33)	James Bryant	91)	Kirk & Eleanore Carey
34)	Robertson Brown	92)	Jonathan Curtis
35)	Samantha Conway & Christopher Dinunzio	93)	James & Michelle Masters
		94)	Brandon & Megan Gourley
36)	Donna Bellefleur	95)	Lucio & Antonio Salvati
37)	Kristina Card	96)	Paul & Teresa Riggi
38)	Edward Root	97)	Leo & Diane Dufour
39)	Antonietta & Donald Durham	98)	Alexander & Shelley White
40)	Ajit & Sarah Saxena	99)	William & Yvette Meloche
41)	Helen & Justin West	100)	Domenico & Maria Vespa
42)	Paul & Brenda Beneteau	101)	Annamaria Baker
43)	Robert & Cheryll Damphouse	102)	Ryan & Monique Liebrock
44)	Richard & Karen Regier	103)	John & Melissa Tregaskiss
45)	Leslie & Barbara Bosch	104)	David & Mina Swan
46)	Anna D'Alimonte	105)	Trevor & Samantha Kennedy
47)	Herman & Elizabeth VanderHeyden	106)	Jennifer Thorne
48)	Kevin & Veronique Peladeau	107)	Dennis & Melissa Weaver
49)	Amanda & Joseph Goodrich	108)	Shane & Jennifer McVitty
50)	Teresa Handscomb	109)	Gerald & Phyllis Goggin
51)	Dave & Karen Deheer	110)	Caroline White
52)	Linda Temesy	111)	Morgan Ouimette & Trina Ciphery
53)	Michele & Kenneth Walker	112)	Kurt Huard
54)	Tanya & Megan Desjardins	113)	Joseph & Terezia Nagy
55)	Daniel & Mary Morency	114)	John & Mary Holzel
56)	Nicholas & Maria Menna	115)	Jeramie & Tiffany Cote
57)	Dale & Mary Iler	116)	Richard & Tammy Allen
58)	Claudio & Anna Mancini	117)	Mario & Concetta D'Alimonte
59)	Michael Bondy	118)	Denis & Jennifer Mallet

SHEET W3 OF 5

Project No.
REI2015D024

ROLL INFORMATION DETAIL 'B'

119) John & Mary Stuart
120) Irene & Leonard Pigeon
121) Aaron Mulder & Connie-Fay Girard
122) Theresa Fox
123) Kirstin Cote
124) Sean & Marcia Cota
125) Ryan Nantais
126) Ian & Laurie Hui
127) Leslie Blais
128) Geoffrey & Donna Hibbert
129) Leo Desbiens
130) Tammy Marancie
131) Matthew Erickson & Yvette Evans
132) Ryan & Melanie D'Alimonte
133) Sarah & Keith Shaw
134) Judith Spadafora
135) Kerry & Amberley Foote
136) George & Salvina Pearson
137) Patrick & Pauline Greenwood
138) Sandra Ashton
139) Andrew & Debra Groen
140) Jerry Chadwick
141) John France
142) Allan Kinsey & Stacy Markham
143) Allan Patterson
144) Theodore Girard & Jessica Spencer
145) John & Joanne Guitar
146) Mark & Penny Yablonsky
147) Jennifer Grant & Nathan Buckwell
148) Gary & Darlene Burns
149) Henry & Maureen Abson
150) Lewis Atherley
151) John & Margaret Dufour
152) Isabelle & James Bastien
153) Timothy & Violet Lauriault
154) Michael Holden & Kelly Hunt
155) Timothy & Janet Beaulieu
156) 2047909 Ontario Limited
157) 2047909 Ontario Limited
158) 2047909 Ontario Limited
159) Julia Bonenfant
160) Istvan & Sheanna Zambo
161) Manuel & Maria Cacilhas
162) Scott & Jamie Hodgins
163) Todd & Rachel Morin
164) Jenny Labrada Perez
165) George Bondy
166) Maria Dibartolomeo
167) David & Karen Tales
168) Jeremy & Jessica D'Alimonte
169) Ziad & Jennifer Fatallah
170) Stephen Deschamps & Bridget Eveleigh
171) Andrew Cormier & Gillian Heisz
172) Kimberly Wright
173) Community Living Essex County
174) Michael & Tara-Lynn McDowell
175) Antonino Marano
176) Tho Nguyen
177) Gwenyth Hartleb & Stephanie Smith
178) Timothy & Stacey Vigneux
179) Kyle & Jody-Lynn Ouellette
180) David Harris
181) Lydia & James Ouellette
182) Alan & Laura Piper
183) Jie Zheng & Lin Yang
184) Corey & Nicole Homick
185) Timothy & Marcelle O'Reilly
186) Mahmoud Brouri & Kathleen Bezaire
187) Jeffrey & Darlene Kopacz
188) 1233804 Ontario Limited
189) Mikalynn & Michael Parlette
190) Kenneth Jones & Sandra Peever
191) Ronald Triolet
192) Marianne Ferenczy & Paula Demeter
193) Anna Leardi
194) Brett Bezaire & Amanda Deslippe
195) Sarah Sinasac & Nathan French
196) Michael Fines & Melisa Mulcaster
197) Carlie & Lindsay Mower
198) Leonardo & Nancy Caro
199) Essex County Association For Community Living
200) Clifford & Marietta Ferriss
201) Eric Markham
202) Eduardo Munoz & Meggi Hutton
203) Roger & Louise Arseneau
204) Jeffrey & Maureen Medd
205) Cheryl Pillon & Kevin Cote
206) Dennis & Anne Bondy
207) Liisa & Steven Levesque
208) Joseph & Marlene Damphouse
209) Joseph & Margaret Joncas
210) Carl & Nanette Gatt
211) Douglas Buchanan
212) Nicola & Anna Simone
213) Nelson Caixeira
214) Roger & Kimberly Schroeder
215) Laurie-Anne Abraham
216) Matthew & Amanda Coughlin
217) Colm Holmes
218) Andrew & Carolyn Dopson
219) Kenneth Booker & Ashley Dinunzio
220) Jerome Lucier
221) Peter & Beverly Blain
222) Gregory Carr
223) Glenn & Marlene Turkington
224) Richard Wilson
225) Kelly Charlebois
226) Jason & Vida Allen
227) Kristopher & Nikita Ostapovitch
228) James Lacey
229) Bradley & Jennifer Fink
230) Michael & Jackie Allen
231) David Henderson & Kathrine & Tho Nguyen
232) David Thistle
233) Kelly Fowkes
234) Kelly Abbott
235) Alexander Hagg & Heather Mackenzie
236) David & Mary Rampersaud
237) Natalie Ayer
238) Joel & Brytany Archer
239) David & Kimmerly Strickland
240) Roy Colmer & Rosa Savoni
241) Thomas Loxton
242) Jeffery Helkie & Laura Stark
243) Jeffrey & Kristie Melko
244) Anne & Michael Duffey
245) Gregory & Marisa Forsyth
246) Michael MacDonald
247) Tina & Travis Renaud
248) Kyle Donne
249) Denis & Siobhan Paquin
250) Robbie & Karen Bates
251) Matthew Sutton & Michelle Sinasac
252) Louise Ferriss & Dorothy & Frank Wirag
253) Normand & Alida Kingsbury
254) Justin Wrixon & Stephanie Pietrangelo
255) Fernande Laroche
256) Robert Falkanger
257) Sean Lunardi & Felicia Deroy
258) George & Barbara Sesto
259) Ehren Martin
260) Jason & Holly McLean
261) Peter Belanger & Patricia Capalbo
262) Keith & Katherine Jones
263) Mark Meloche & Shelley Gonzalvo
264) Terrance & Bonnie Bertrand
265) Anthony Bastien & Krystina Menard
266) Joel Gonzalvo & Alan Desimpel
267) Sheila Moore
268) Charles Copland & Laura Parent
269) Shawn MacDonald
270) Anita Gibb
271) Marion & Graham Clayton
272) Gregory & Carol Farmer
273) Bosko Jugovic & Angela Arce
274) Dustin Deslippe
275) Anthony Olivito
276) Shaun & Stacey Griffiths
277) Eric Weigel & Meaghan Hlavac
278) Robert & Karen Clifford
279) Dance & Jamie Stefanovich
280) Nathan Gillis
281) Curtis Dufour
282) Stacey Wiley & Kyle Pierschke
283) Brian Aucoin & Allison Brown
284) Tong Bui & Trang Le
285) Owen Finn
286) Donald & Kimberly Martin
287) Robert Kammerer & Shelley McCann
288) Chantal Brunet
289) Robin & Debra Russell
290) Justin Awram & Chelsea Hennon
291) Krista Sales & Christopher Hayes
292) Murray Janisse & Teresa Davis
293) Donald & Claire MacDonald
294) Robert & Leonarda Faroni
295) Michael & Carolyn Leake
296) Susanne Bergeron
297) Melanie Conaty
298) Michael & Patricia Ford
299) Krystal Kehoe
300) Kevin Souligny
301) Christian Eldred
302) Janet & David Ross
303) Robert & Mary Labrecque
304) Doreen Zajec
305) Margaret Haskell
306) Curtis Ficociello & Carly Baz
307) Gregory & Michele Girty
308) Bradley & Tracy Blackburn
309) Tamasin & Terence Dineen
310) Jeffrey & Janette McCartney
311) Jodi Taylor
312) David Amyotte & Sandra Hodgins
313) Orma Fryer
314) Richard Dufour
315) Dennis Rooke
316) Ernest & Antoinette Pecaski
317) Luke & Nicole Goggin
318) Camillo & Assunta Toppi
319) Clint Merrifield & Miranda Ronholm
320) Dale Simmons
321) Gordon Ross & Wendy Wigle
322) Paul Meloche & Shannon McLaughlin
323) John & Donna Bondy
324) Wilbur & Cynthia Mulder
325) Sabina Harrison
326) Theresa Brennan
327) Gail Bratt & Bernard Krebs
328) Terry & Kimberly Deschamps
329) Tiffany & Leslie Anscombe
330) Carmine & Gladys Cristofaro
331) Daniel & Georgina Marshall
332) Michael & Betty Constantineau
333) James & Randa Parent
334) Christopher Leblanc & Kelly Grantmyre
335) Tara Gugliotta & Raymond Lariviere
336) Daria Aybusheva & Andrei Aibouchev
337) Daniel Lombardo & Alicia Savoni
338) Laura & David Handsor
339) Brittany Webster & Codey Smith
340) Gerald & Diane Langlois
341) Christopher D'Aloisio
342) Stephen Nikitiuk
343) Erin & Kenneth Baird
344) Michael & Nicole Ouellette
345) Ronald & Anne Muir
346) Laurie Cavanaugh
347) John & Ruth Cooper
348) Ryan McLean & Melissa Woods
349) Stephen Morello & Stefanie Johnston
350) Sandra & Bradley Duffy & Deborah & Jeffrey Court
351) Lisa & David Riopelle
352) Denise Bratt
353) Jeffrey & Deborah Court
354) Bradley & Sandra Duffy
355) Bradley Flood
356) Jakob & Shari Damstra
357) Cheryl West & Gail Doyle
358) Andrew & Jane Bolley
359) Michael & Cindy Doyle
360) David & Dorothy Thrasher
361) Brittany Pretty
362) Adam & Gabrielle Renaud
363) Shirley & Marcel Pare
364) Bonnie Mansell

SHEET W4 OF 5

Project No.
REI2015D024

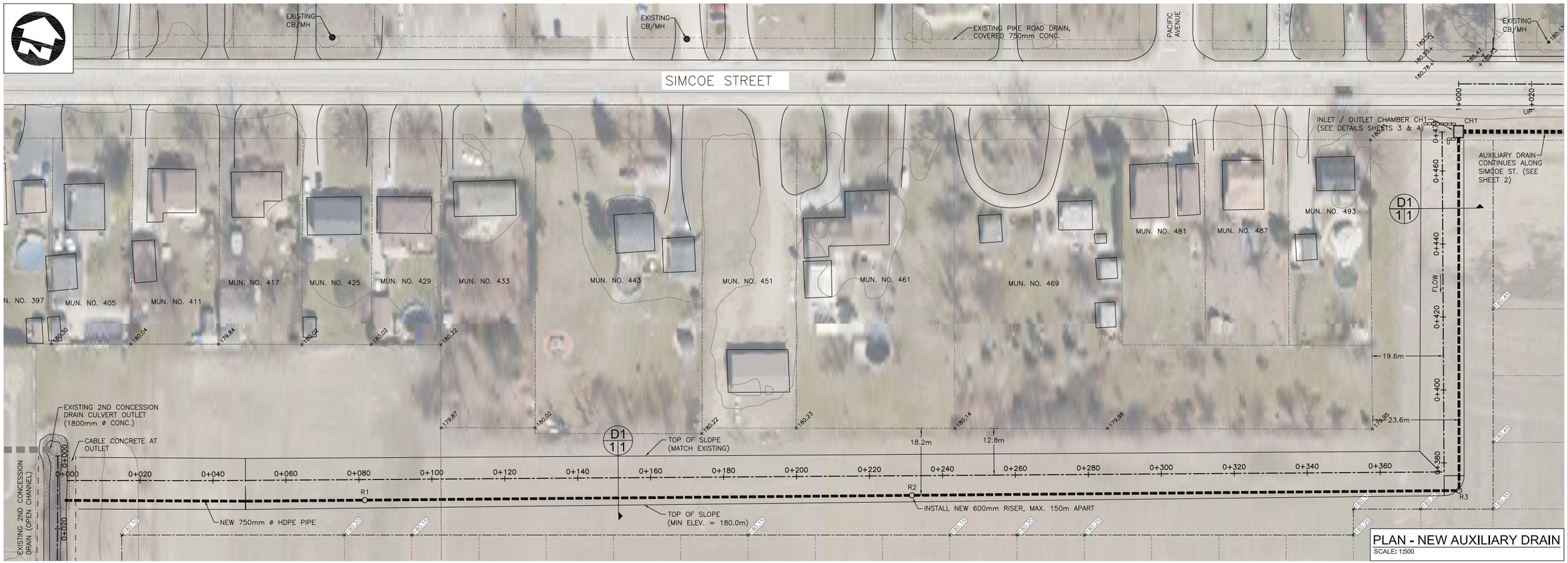
ROLL INFORMATION DETAIL 'B'

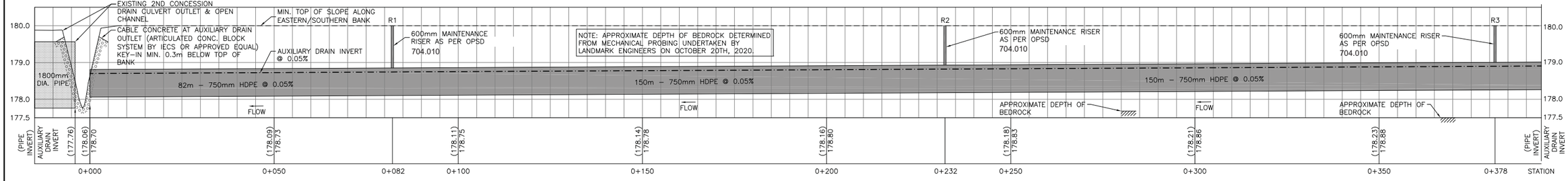
365) Michael Bates
366) Margaret Halls
367) Nestor Restrepo & Jillian Romero
368) John & Kata Valentik
369) Daniel & Patricia Thibert
370) Lauren Dewar
371) James & Marguerite Jaques
372) Asterie Ndikumana
373) Jerry & Elizabeth Sokolik
374) Douglas & Brenda Thompson
375) Mark Meloche
376) Marcella Dufour & James Best
377) Courtney Ryan & Daniel Michaud
378) Matthew Dipasquale & Katelyn Goodchild
379) Leo Drouillard
380) Paul & Brenda Owen
381) Cheryl & Thomas DiPasquale
382) Mark & Gwen McAllen
383) Aaron Turner & Marija Lelas
384) Frederick Gilbert
385) William Beale
386) Nelson & Pauline St. John
387) Robert & Gloria Taylor
388) Tammy Campbell
389) Rose McKinnon
390) Douglas & Mary Middleton
391) Karl & Domenica Trudell
392) Joshua Hurst
393) David Sinasac
394) Otto & Vera Newhook
395) Paul Simpson
396) Anne Kainz
397) Joseph & Patricia Cunningham
398) Michael & Donita Farmer
399) Jennifer Meunier & Robert Racette
400) Ralph & Heather Attwater
401) Ada & Jeffrey VanDongen
402) Bernice & Neil Slater
403) Raquel Hurst
404) Gilbert & Karen Bezaire
405) Nancy Polyak
406) Theresa Lachapelle
407) Albert & Pauline Bump
408) Alex Temesy & Jaide Lyons
409) Daniel Delmore & Dayna DiPasquale
410) Carol Charette
411) John & Patricia McLaughlin
412) Kenneth & Anne Garrod
413) Kenneth Greason
414) John Shearon
415) James & Lynda Parr
416) Natalie Faucher
417) Jennifer & Robert Oriet
418) Glenn & Trudy Hansman
419) Emilia Rufo
420) Gary & Shirley Wigle
421) 1882018 Ontario Inc.
422) Erik Eliasen & Amanda Ouellette
423) Dylan & Jessica White & Mary-Josephine McCaffrey
424) Bruce Abson
425) Leslie Pettypiece & Linda Mclean
426) Mitchell Bastien
427) Shawn Keizer & Ashley Schott
428) Joseph & Carol Reaume
429) Giuseppe & Angela Desantis
430) Keith & Nicole Lauzon
431) Frederick & Karen Bertrand
432) Ronald & Mary Grant
433) Henrik & Rita Andersen
434) Gerard & Jennifer Shaw
435) Dina Orsi
436) Eric Bratt & Elaine Anderson
437) Rami Chammat & Karen Brookmire
438) Natalie & Luigi D'Ambrosio
439) Maynard & Marva Hurst
440) Drew & Kary Colson
441) Alan Guthrie & Janice Boismier
442) Michael Bellefleur
443) Sherry & Jeffrey Coulter
444) Ernest & Tracy Godden
445) Thomas & Mary Henderson
446) Patrick Heroux & Jo-Anne McDowell
447) John & Gail Deneau
448) Candace Wright & Christopher Mendler
449) Larry & Greta Ruston
450) Leonard & Paula Tetreault
451) James Durocher & Carly LeBlanc
452) Livia Donofrio
453) Donald & Angela Florica
454) Alberto & Grazietta D'Alimonte
455) Mary DiPasquale
456) Corey Pisonneault & Samantha Quinn
457) Allan & Donna Halowski
458) Luigi & Tonia Fortini
459) Michael & Cindy Marentette
460) Barry & Maureen Renaud
461) Mark Bailey
462) Richard & Manila Orum
463) Dawna Gorrell
464) Mark & Laura Mousseau
465) Wendy Wallace
466) William Matte & Shelly Price
467) Marvin Bennett & Karen Longfield
468) Andrew & Catherine Goral
469) Gareth & Sylvia Williams
470) Gerry Hennin
471) John Gyori & Amanda Ward
472) Uwe & Mary Kollin
473) Annie Mower
474) Renee & Gregory Leal
475) Eugene & Mary Hasson
476) Vance Sinasac
477) Joshua & Olivia Parsons
478) Joshua Lenz & Lisa Wright
479) Sylvie & Daniel Babin
480) Hugh & Margaret Evans
481) Lorne Harrison
482) David Howcroft
483) Matthew Pellow
484) Jeffrey & Krisanne Moore
485) Francis & Katherine Beaudoin
486) Michael & Anne Gray
487) Laura Borland
488) Town of Amherstburg
489) Brandon St.Pierre & Kayla Temesy
490) Lauren Deneau
491) Roy Edwards
492) Brenda Sprague
493) Randy Fox
494) Eric & MaryAnn Steel
495) Larry & Deborah Hawksworth
496) Tammy Gatto & Todd Meloche
497) Vincent & Shirley Pare
498) Ignazio & Nives Galvan
499) David Martin
500) Adam & Meghan Gilchrist
501) Mario & Anna Rosso
502) Richard & Maureen Meloche
503) Denis Skenderovic & Anne Feghali
504) Jon & Penny Morse
505) Frank Sustar
506) Alan & Gail Doyle
507) James Irvine & Angela Rothwell
508) Kyla & Jeremy McLeod
509) Wayne Laporte
510) Marc Maitre
511) Gladys Gates
512) Charles & Patricia Goodchild
513) Maria Cafarelli
514) Judith Renaud
515) Robin Prior
516) Christopher & Judith Dywelska
517) Jonathan & Stephanie McGuire
518) Brian & Elizabeth Mulder
519) Steven Blais
520) Nada Bratt
521) Michel & Debra Bastien
522) Janos & Ildiko Herits
523) Stacey-Lee Flatt
524) Richard Borland
525) Stephen & Jen-A-Lee Hayes
526) Ricky & Tammy Digiovanni
527) Kenneth & Kathryn Foley
528) Timothy & Kristin Schneider
529) Rose McKinnon
530) Richard & Debra Turgeon
531) Erin Killops
532) Scott & Joan Donaldson
533) 2309067 Ontario Inc.
534) Carson & Pamela Williams
535) Leone & Dennis McLean
536) William & Michelle Beaudoin
537) Jeffrey & Pemela Hocevar
538) Augusto & Giovina Moscatello
539) Brent Wessels
540) Lorenzo Alfini & Darcie Wright
541) Kevin Giroux
542) Donald & Evelyn Meharg
543) Paul Garner
544) Mathew McLean
545) Christopher & Michelle Short
546) Tina Triolet
547) Lionel & Ederlyn Girard
548) Annabelle Bowden
549) Christine & Ronald Fryer
550) Jeremy Pillon
551) Kevin, Jessie & Joyce Boismier
552) Tina Decarlo
553) Robert Carr
554) Larry & Rhonda Hurst
555) Deborah & Kevin Gonda
556) Dennis Pare
557) William & Christine Belcher
558) Joanne Paliga
559) James & Catherine Muir
560) Joshua Oakley
561) Jacob & Margaret Maine
562) Elizabeth Mickle & Pauline Shaw
563) Amber Lougheed
564) Constance Hamilton & Charles Faraday
565) Nelly VanDerHeide
566) Tanya & Bradley McGuinness
567) Gary & Jessica Drouillard
568) Kenneth Kozora
569) Ann Peltier
570) Wayne & Sandra Bastien
571) Carlyle & Christine Brassett
572) Peter & Darlene Bischoff
573) Tara Rousseau & Thomas Triolet
574) Terence & Michelle Hayes
575) Nicholas Vitale
576) Edward & Laura Gushulak
577) Troy Stewart
578) Brian & Michelle Barrett
579) Lisa Stewart
580) Gary Triolet
581) Mark & Michelle Fryer
582) Kenneth & Terry Schneider
583) Robert & Diane Donaldson
584) Patricia Batiste
585) Bruce & Jean Galt
586) Silvino & Mary DiMarco
587) Greg & Donna Nemeth
588) Jason Brown
589) Karin Porter
590) Johnny & Rebeckah Muresan
591) James Wright
592) Rocco & Graziella Mancini
593) Joel Cote & Jessica Bagley
594) Joel & Kelli Street
595) Daniel Beneteau & Kristy-Lee Fram
596) Eugene Mcgraw & Susan Renaud
597) Gordon & Leanne Meloche
598) Robert & Danijela Pontini
599) Joseph Beattie & Colleen O'Phee
600) Ian & Helen Hayward
601) Thomas & Rozemary Jaber
602) Ronald & Luane Faucher
603) Mary Casetta & Allen Simpson
604) 2HCoulson Ltd.
605) Steven & Sheila Walton
606) Nathan & Andrea Fevreau
607) Nanette Gatt
608) Christopher D'Aloisio
609) Richard & Kathryn Lancop
610) Kathryn Lancop
611) Agostino & Lise Menna
612) Agostino Menna

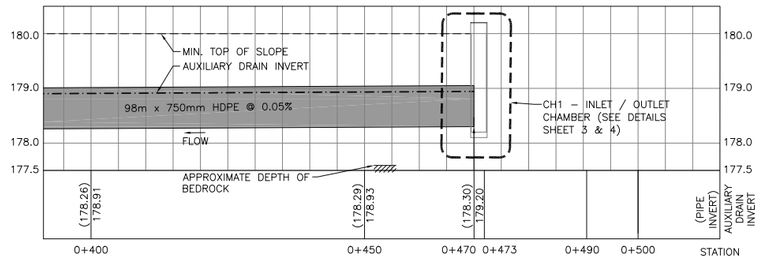
SHEET W5 OF 5

Project No.
REI2015D024

APPENDIX “REI-E”

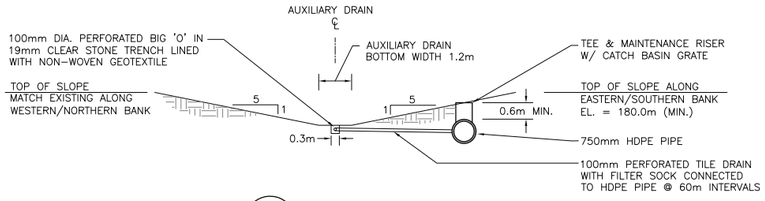






LEGEND

- DRAIN CENTERLINE
- AUXILIARY DRAIN INVERT
- SURFACE CONTOURS
- PROPERTY LINES
- TOP OF SLOPE
- EXISTING GRADE
- PROPOSED GRADE



D1 1|1 SECTION DETAIL - AUXILIARY DRAIN (TYPICAL)
SCALE: 1:100

PLAN - NEW AUXILIARY DRAIN
SCALE: 1:500

PROFILE - STA: 0 + 000 TO 0 + 378
SCALE: 1:500 HORIZONTAL
1:50 VERTICAL

PROFILE - STA: 0 + 378 TO 0 + 490
SCALE: 1:500 HORIZONTAL
1:50 VERTICAL

NOTE:
STATIONING REFERENCED TO AUXILIARY DRAIN CENTER LINE. STATIONING AND PIPE LENGTHS DO NOT RECONCILE NORTH OF STA 0+378.

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

January 26th, 2022

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

all dimensions are in METRES unless otherwise shown

Landmark Engineers Inc.
2280 Ambassador Drive
Windsor, Ontario, Canada
N9C 4E4
Phone: (519) 972-8052
Fax: (519) 972-8644
www.landmarkengineers.ca

approved by

drawn by / date	EMK/JEN DEC. 2020
designed by / date	DMK/DTK DEC. 2020
checked by / date	DMK DEC. 2020

seal: LICENSED PROFESSIONAL ENGINEER D. M. KRUTSCH 100089442 PROVINCE OF ONTARIO

seal: LICENSED PROFESSIONAL ENGINEER JUNE 15/21 A.D. MICHAUD 100089942 PROVINCE OF ONTARIO

revisions

No.	Description	Date
0	OWNER'S REVIEW	APRIL 2020
1	ISSUED FOR APPROVALS	20 AUG. 2020
2	RE-ISSUED FOR APPROVALS	15 JAN. 2021
3	ISSUED FOR ENGINEER'S REPORT	15 JUNE 2021
4		
5		
6		

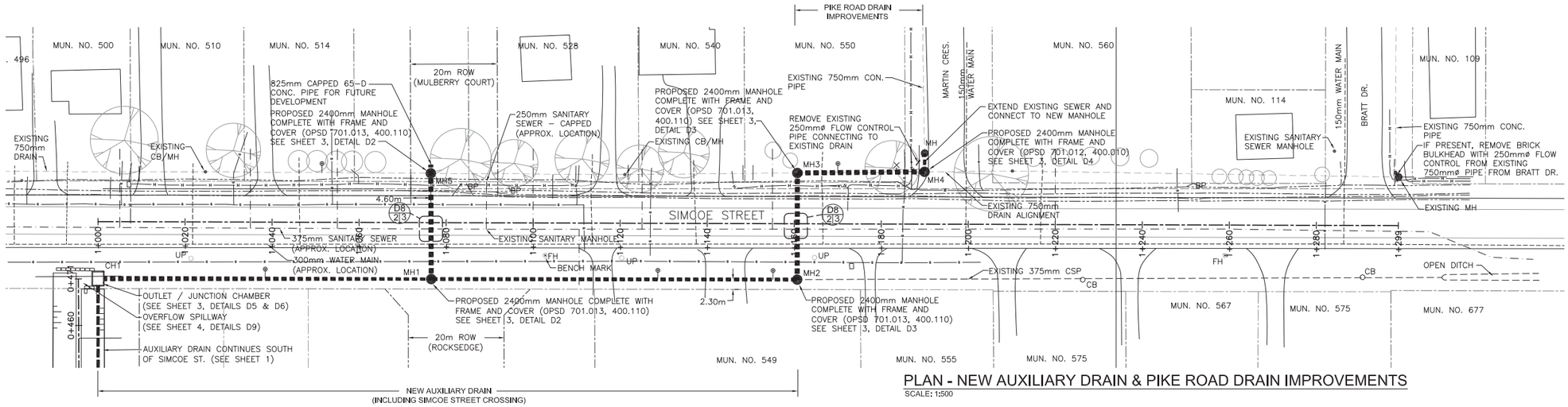
detail legend: A / B C
A DETAIL NO.
B SHEET WHERE DETAIL REQ'D
C SHEET DETAIL DRAWN ON

client: **ROCKSEDGE DEVELOPMENTS INC.**

project: **PIKE ROAD DRAIN IMPROVEMENTS AND AUXILIARY DRAIN CONSTRUCTION**

drawing title: **PROPOSED WORKS AUXILIARY DRAIN PLAN AND PROFILE**

project no.	18-039B
drawing no.	18-039B-01
sheet no.	1 of 4
scale	AS SHOWN



PLAN - NEW AUXILIARY DRAIN & PIKE ROAD DRAIN IMPROVEMENTS

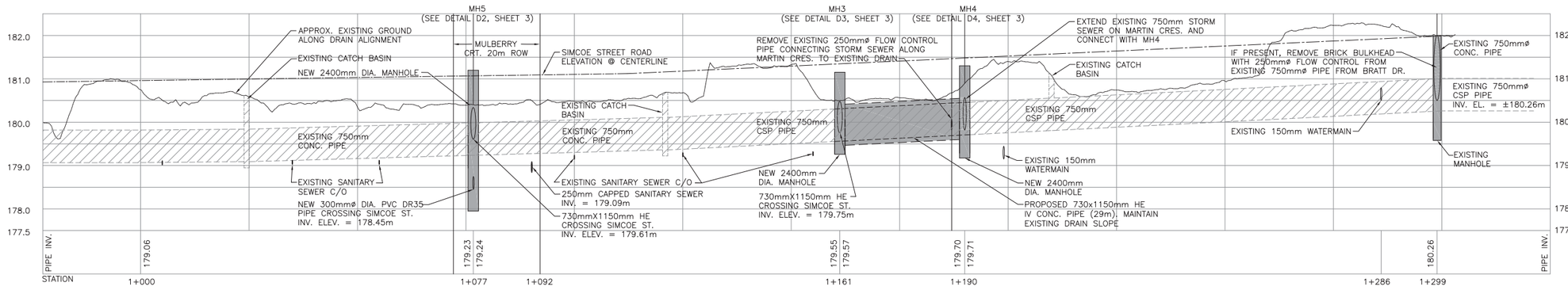
SCALE: 1:500

LEGEND

- NEW DRAIN ALIGNMENT
- EXISTING DRAIN
- TOPOGRAPHIC FEATURES
- BELL TELECOMMUNICATIONS
- NATURAL GAS
- HYDRO
- WATERMAIN
- SANITARY SEWER
- BP — BELL PEDESTAL
- FH — FIRE HYDRANT
- SUMP PIT CATCH BASIN AS PER TOWN OF AMHERSTBURG DRAWING LG1
- EXISTING CONNECTIONS TO STORM SEWER

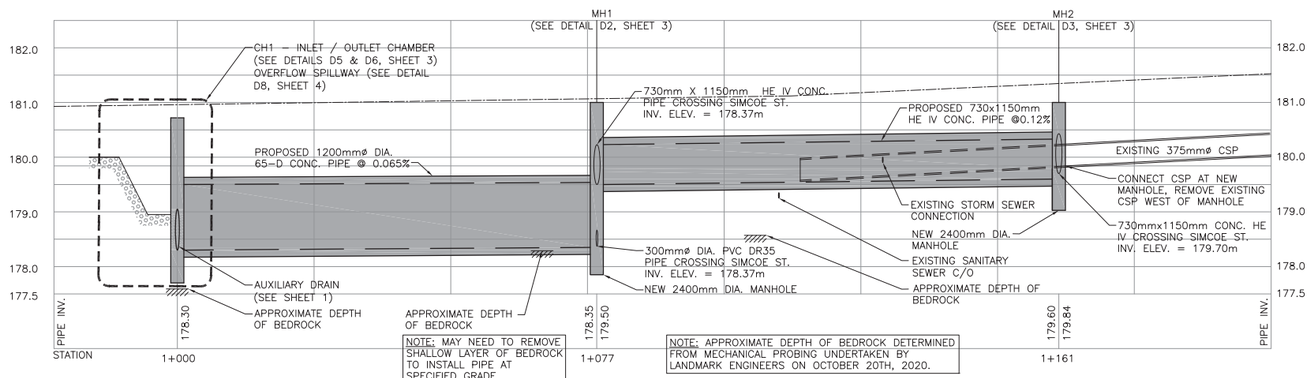
DRAIN LAYOUT POINTS		
DESCRIPTION	NORTHING	EASTING
CH1	4662933.57	327025.46
MH1	4662927.67	327101.82
MH2	4662921.88	327185.73
MH3	4662946.33	327187.42
MH4	4662944.63	327216.62
MH5	4662951.94	327103.36

*NOTE: LAYOUT POINTS REFERENCED TO THE CENTER OF EACH CHAMBER / MANHOLE



PROFILE - PIKE ROAD DRAIN IMPROVEMENTS

SCALE: 1:500 HORIZONTAL
1:50 VERTICAL



NOTE: MAY NEED TO REMOVE SHALLOW LAYER OF BEDROCK TO INSTALL PIPE AT SPECIFIED GRADE

NOTE: APPROXIMATE DEPTH OF BEDROCK DETERMINED FROM MECHANICAL PROBING UNDERTAKEN BY LANDMARK ENGINEERS ON OCTOBER 20TH, 2020.

BENCHMARK
TOP OF NUT ON FIRE HYDRANT NEAR WEST DRIVEWAY TO MUN. NO. 549 SIMCOE ST.
ELEV. = 181.73m

PROFILE - NEW AUXILIARY DRAIN

SCALE: 1:500 HORIZONTAL
1:50 VERTICAL

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

January 26th, 2022

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

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approved by

drawn by	JEN	
date	DEC. 2020	
designed by	DMK/DTK	
date	DEC. 2020	
checked by	DMK	
date	DEC. 2020	

seal: LICENSED PROFESSIONAL ENGINEER D. M. KRUISCH 100128142 PROVINCE OF ONTARIO

seal: LICENSED PROFESSIONAL ENGINEER JUNE 15/21 A. D. MICHAUD 100089342 PROVINCE OF ONTARIO

revisions

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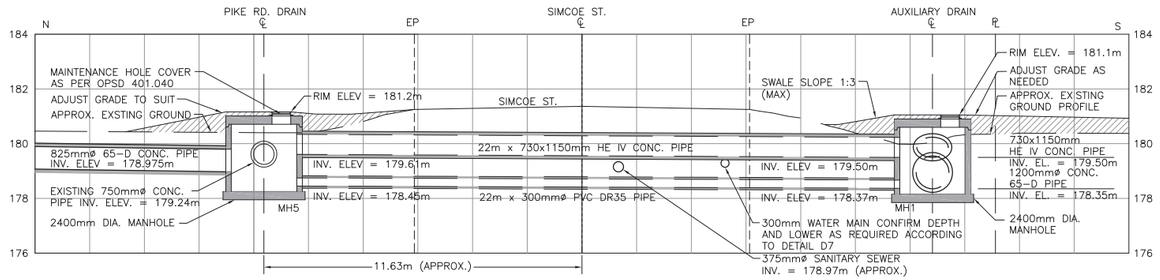
B SHEET WHERE DETAIL REQ'D
C SHEET DETAIL DRAWN ON

client: **ROCKSEDGE DEVELOPMENT INC.**

project: **PIKE ROAD DRAIN IMPROVEMENTS AND AUXILIARY DRAIN CONSTRUCTION**

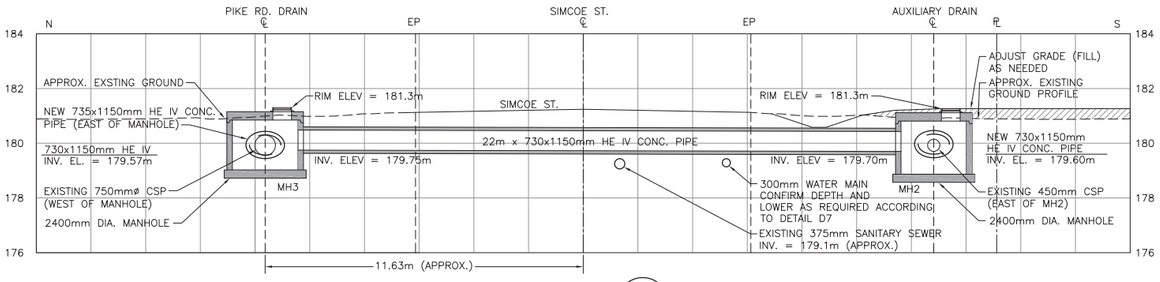
drawing title: **PROPOSED WORKS PIKE ROAD DRAIN IMPROVEMENTS PLAN & PROFILE**

project no. 18-039B
drawing no. 18-039B-02
sheet no. 2 of 4
scale AS SHOWN



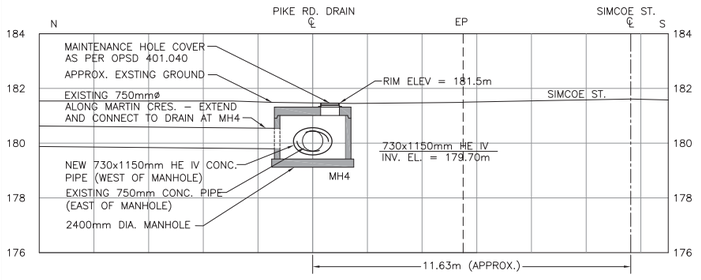
D2 / 2|3 SECTION - STA 1+077 SIMCOE STREET CULVERT CROSSING (MH 1 & MH5)

SCALE: 1:100



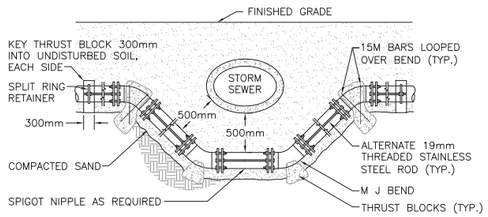
D3 / 2|3 SECTION - STA 1+161 SIMCOE STREET CULVERT CROSSING (MH2 & MH3)

SCALE: 1:100



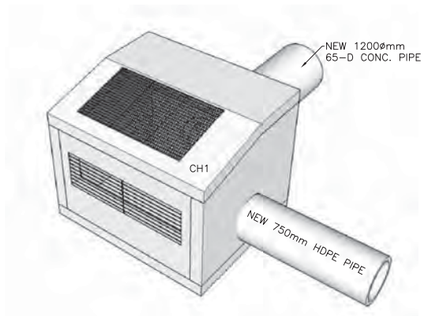
D4 / 2|3 SECTION - STA 1+090 (MH4)

SCALE: 1:100



D7 / 3|4 WATERMAIN LOWERING DETAIL (TYP.)

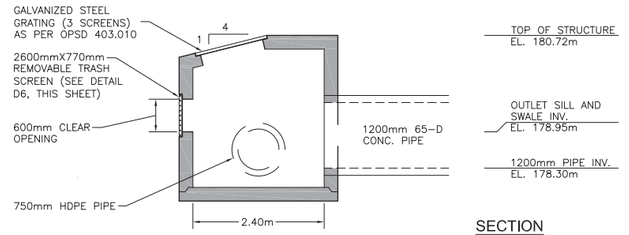
SCALE: 1:50



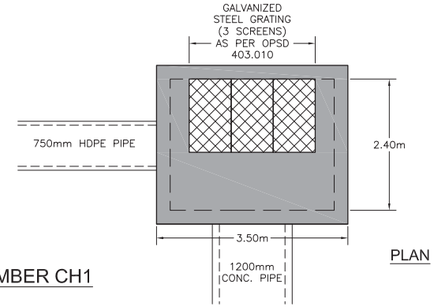
ISOMETRIC VIEW

SCALE: N.T.S.

NOTE:
THE CONTRACTOR SHALL SUBMIT SEALED ENGINEERED SHOP DRAWINGS FOR CHAMBER CH1. CHAMBER CH1 SHALL BE DESIGNED IN ACCORDANCE WITH OPSS 1351 AND CAN/CSA 56



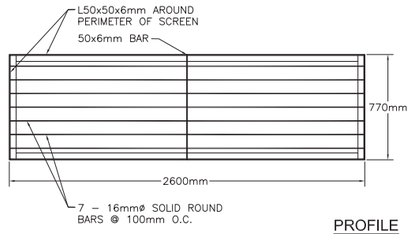
SECTION



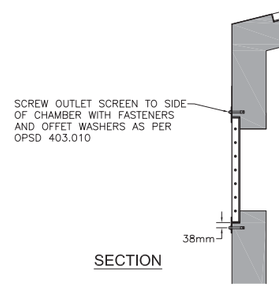
PLAN

D5 / 2|3 OUTLET / JUNCTION CHAMBER CH1

SCALE: 1:50



PROFILE



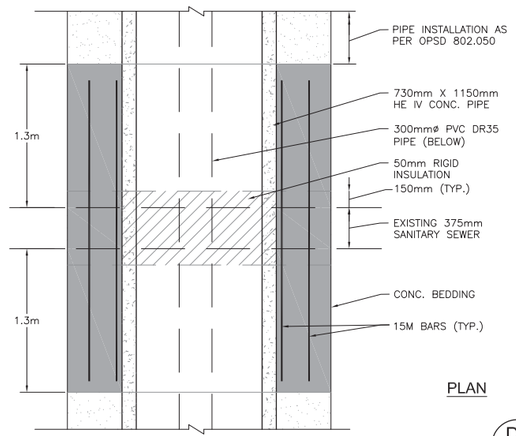
SECTION

NOTES:

1. THE STEEL ANGLES AND BARS THAT MAKE UP THE OUTLET SCREEN SHALL BE FULLY WELDED IN ACCORDANCE WITH CSA W59. ALL JOINTS AND EDGES SHALL BE GROUND SMOOTH TO THE TOUCH.
2. THE ENTIRE SCREEN ASSEMBLY SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH CSA G164

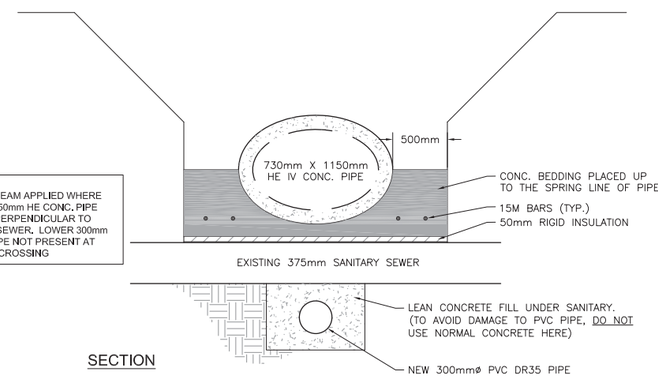
D6 / 2|3 OVERFLOW OUTLET SCREEN DETAILS

SCALE: 1:20



PLAN

NOTE:
SUPPORT BEAM APPLIED WHERE 730mm x 1150mm HE CONC. PIPE CROSSES PERPENDICULAR TO SANITARY SEWER. LOWER 300mm DIA. PVC PIPE NOT PRESENT AT STA. 1+161 CROSSING



SECTION

D8 / 2|3 SECTION - PIPE SUPPORT BEAM

SCALE: 1:50

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Rood Engineering Inc.
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January 26th, 2022

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approved by

drawn by / date	EMK/JEN DEC. 2020
designed by / date	DMK/DTK DEC. 2020
checked by / date	DMK DEC. 2020

seal: LICENSED PROFESSIONAL ENGINEER D. M. KRUISCH 2021/06/18 PROVINCE OF ONTARIO

seal: LICENSED PROFESSIONAL ENGINEER SINCE 1/6/21 A. D. MICHAUD 100088342 PROVINCE OF ONTARIO

revisions

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detail legend

A
B | C

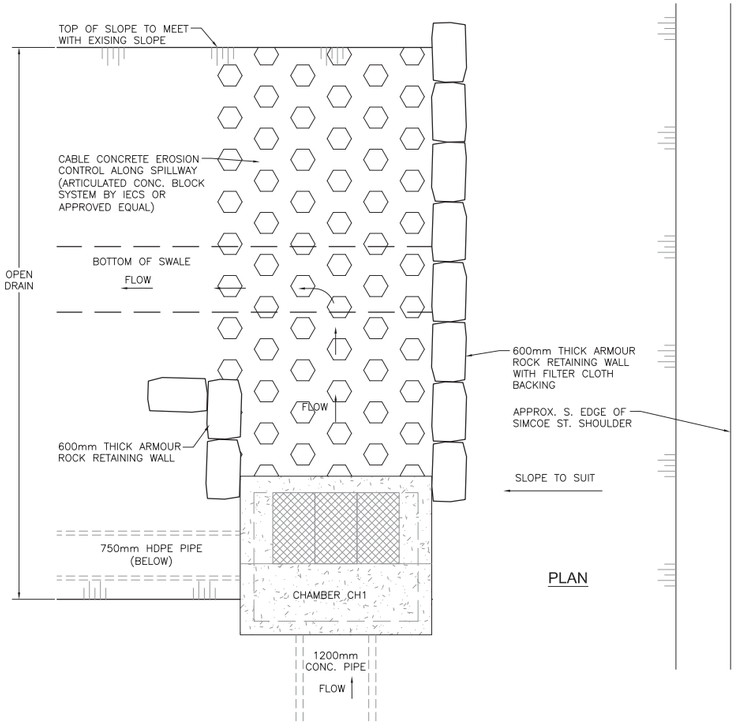
A DETAIL NO.
B SHEET WHERE DETAIL REQ'D
C SHEET DETAIL DRAWN ON

client: **ROCKSEDGE DEVELOPMENT INC.**

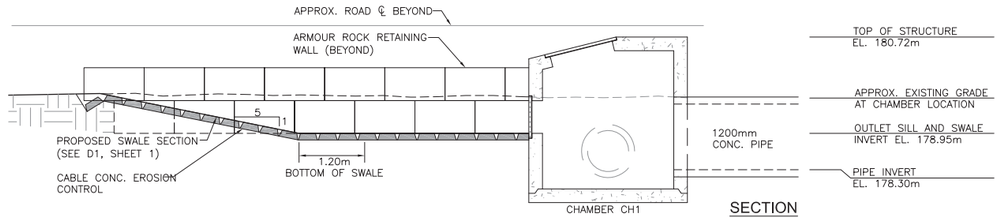
project: **PIKE ROAD DRAIN IMPROVEMENTS AND AUXILIARY DRAIN CONSTRUCTION**

drawing title: **MISCELLANEOUS DETAILS**

project no.	18-039B
drawing no.	18-039B-03
sheet no.	3 of 4
scale	AS SHOWN



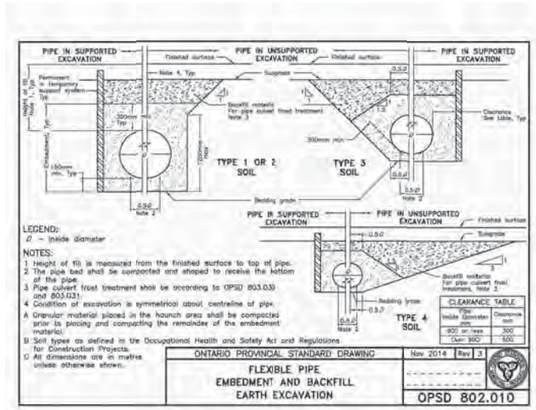
PLAN

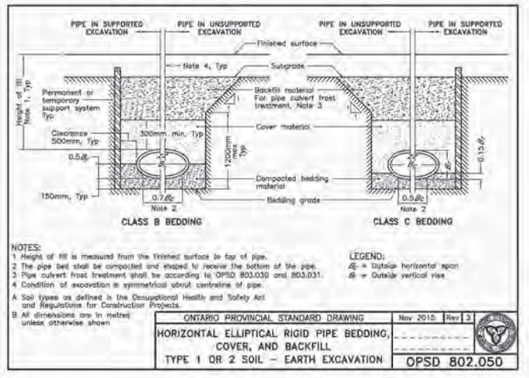


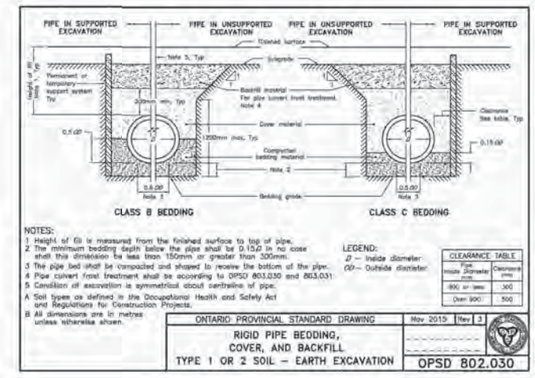
SECTION

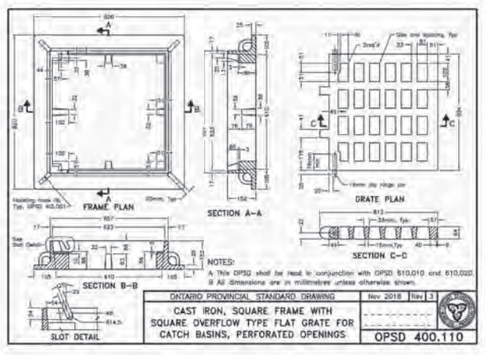
D9 2|4 OVERFLOW SPILLWAY DETAILS

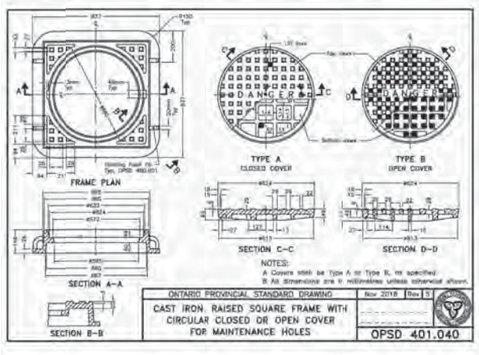
SCALE: 1:50

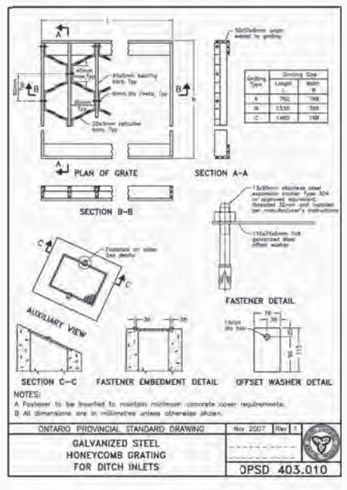


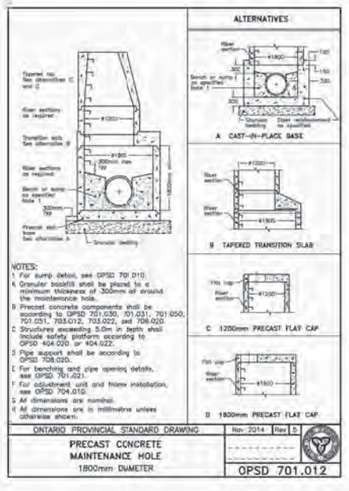


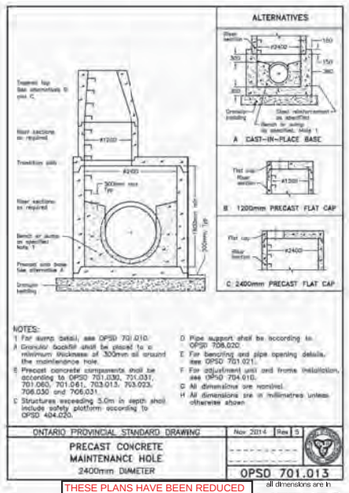












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seal: LICENSED PROFESSIONAL ENGINEER D. M. KRUISCH Dec/16/15 PROVINCE OF ONTARIO

seal: LICENSED PROFESSIONAL ENGINEER CLIVE 15/21 A. D. MICHAUD 100989342 PROVINCE OF ONTARIO

revisions

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drawing title: **MISCELLANEOUS DETAILS**

project no.	18-039B
drawing no.	18-039B-04
sheet no.	4 of 4
scale	AS SHOWN