

**KITTLE CREEK MUNICIPAL DRAIN
EAST BRANCH, STEWART BRANCH, 8TH
CONCESSION BRANCH, AND IRVEN BRANCH
S. 76 ENGINEER'S REPORT
TOWNSHIP OF NORTH DUNDAS**



PREPARED BY

SHADE GROUP INC
4625 MARCH ROAD
ALMONTE, ONTARIO
K0A 1A0

PREPARED FOR

THE TOWNSHIP OF NORTH DUNDAS
636 ST. LAWRENCE STREET
WINCHESTER, ON
K0C 2K0

SEPTEMBER 12, 2024

EXECUTIVE SUMMARY

This Engineer's Report has been prepared under Section 76 of the *Drainage Act, R.S.O. 1990, c. D. 17*. The purpose of this report is to update the assessment schedules associated with various branches of the Kittle Creek Municipal Drain, including the East Branch, Stewart Branch, 8th Concession Branch, and Irven Branch. The reason for the update is to allow for fair distribution of costs associated with future maintenance works.

This report has been prepared in anticipation of future maintenance works; with future maintenance to be scheduled and overseen by the Township's Drainage Superintendent. Through the update of this report, the Drainage Superintendent can undertake such maintenance as required, and assess costs in a fair manner across the landowners within the watershed.

Improvements to the Kittle Creek Municipal Drain East Branch and Stewart Branch were last performed under an Engineer's Report dated November 24, 1980, and written by A.J. Graham Engineering Consultants Ltd. that was adopted under By-Law No. 29-81. The 8th Concession and Irven Branch were constructed under the 1967 Engineer's Report authored by Alex J. Graham and adopted under By-Law 8-67. Future maintenance is to be performed in conformance with the governing reports.

Shade Group Inc. (SGI) was appointed by Bylaw on February 29, 2024 (Bylaw No. 2024-17) to "*prepare a new assessment schedule and update watershed boundaries for the Kittle Creek East Branch, Stewart Branch, Irven Branch, and 8th Concession Branch Drains under Section 76 of the Drainage Act*". A copy of the Bylaw has been enclosed in **Appendix E**.

Per Section 85 of the Drainage Act, only works completed under Section 4, 74 and 78 are eligible for provincial grant. As such, the engineering works associated with the preparation of this report are not eligible as works have been performed under Section 76. Works associated with the proposed maintenance are expected to be conducted under Section 74, and with that, the construction (maintenance) works are expected to be eligible for grant.

The extent of maintenance works required shall be at the discretion of the Township's Drainage Superintendent. As the construction costs associated with such maintenance are not yet known, Shade Group has assigned an estimated valuation to the works with input from the Township's Drainage Superintendent. With that, the numbers used to prepare the assessment schedule are for illustration purposes only, to determine the apportionment of estimated costs assessed to each property. Actual future maintenance costs would be assessed in the same apportionments as the schedules enclosed herein. Schedules A through D are included in **Appendix C**.

A separate assessment schedule has been included in **Appendix D** based on approximate known engineering fees. Note that engineering fees are estimated based on the assumption of no

appeals; should there be appeals, whether to the Court of Revision, Tribunal or the Referee, the engineering fees for our involvement in these appeals would be beyond the fees provided herein.

Enclosed within the Appendices of this report you will find: a location plan showing the location of the watershed and drains (**Appendix A**); a map of the watersheds showing the East Branch, Stewart Branch, 8th Concession Branch, and Irven Branch of the Kittle Creek Municipal Drain (**Appendix B**), the updated assessment schedules for the distribution of costs for future maintenance (**Appendix C**), and the assessment schedule distributing the one-time engineering costs for this report (**Appendix D**). The appointment by-law has also been enclosed in **Appendix E**.

REVISIONS & SUBMISSIONS

Revision #	Comments	Date
00	Draft Submission to Municipality for Review	August 16, 2024
01	Formal Submission to Municipality	September 12, 2024

TABLE OF CONTENTS

1.0	OBJECTIVE	1
2.0	DRAIN HISTORY	1
3.0	DESCRIPTION OF THE WATERSHED + ALIGNMENT OF DRAINS	2
4.0	DRAINAGE ACT, 1990, PROCESS	3
4.1	TO DATE.....	3
4.2	NEXT STEPS.....	3
4.3	BY-LAWS	4
4.4	LIMITATIONS	4
5.0	PLAN, PROFILE & SPECIFICATIONS.....	4
6.0	ASSESSMENTS	5
6.1	LAND USE FACTORS.....	6
6.2	DISTANCE FACTORS.....	6
6.3	SUB-SECTION FACTORS	7
6.4	EXCEPTIONS.....	7
7.0	COSTS	8
7.1	CONSTRUCTION COSTS	8
7.2	ENGINEERING COSTS.....	9
8.0	GRANTS	9
9.0	CLOSING	10

APPENDICES

APPENDIX A: LOCATION PLAN

APPENDIX B: DRAINAGE PLANS

APPENDIX C: ASSESSMENT SCHEDULES – FUTURE MAINTENANCE

APPENDIX D: ASSESSMENT SCHEDULE – ENGINEERING

APPENDIX E: BY-LAWS

1.0 OBJECTIVE

This Engineer's Report has been prepared under Section 76 of the *Drainage Act, R.S.O. 1990, c. D. 17*. The purpose of this report is to update the assessment schedules associated with various branches of the Kittle Creek Municipal Drain, including the East Branch, Stewart Branch, 8th Concession Branch, and Irven Branch. The reason for the update is to allow for fair distribution of costs associated with future maintenance works.

This report has been prepared in anticipation of future maintenance works; with future maintenance to be scheduled and overseen by the Township's Drainage Superintendent. Through the update of this report, the Drainage Superintendent can undertake such maintenance as required, and assess costs in a fair manner across the landowners within the watershed.

A number of land use changes and divisions of land have occurred since the drain's reporting was last updated, including development through severances and subdivision, and as such, an update to the assessment schedules was deemed necessary to allow for fair and correct billings of maintenance works.

Per the Drainage Act, the municipality is mandated to perform maintenance of petition drains adopted under the Drainage Act; but to do so, the associated paperwork (Engineer's Report) must first be confirmed to be relevant, accurate, and fair.

2.0 DRAIN HISTORY

Prior to undertaking this report, consultation was undertaken with the Township's Drainage Superintendent to acquire the most recent report for the relevant Kittle Creek Municipal Drain branches.

Improvements to the Kittle Creek Municipal Drain East Branch and Stewart Branch were last performed under an Engineer's Report dated November 24, 1980, and written by A.J. Graham Engineering Consultants Ltd. that was adopted under By-Law No. 29-81.

The Stewart, 8th Concession, and Irven Branch were constructed under the 1967 Engineer's Report authored by Alex J. Graham and adopted under By-Law 8-67. No further improvements have been made to the 8th Concession or Irven Branch since 1967, to the best of our knowledge.

According to the 1967 report, the Stewart and Irven branches were designed to provide drainage for the north and south parts of the parcel on the West Half of Lot 19, Concession 8 (Geographic Township of Winchester). The 8th Concession Branch was designed to drain off excess water from the north part of the parcel on the West Half of Lot 19, Concession 7 (Geographic Township of Winchester).

3.0 DESCRIPTION OF THE WATERSHED + ALIGNMENT OF DRAINS

To facilitate the descriptions of the alignments in this section, County Road 7 is taken to align with the North-South direction, and County Road 3 is aligned with the East-West direction, with the top of the East Branch being situated at the northern-most point.

East Branch

The East Branch is roughly 4,500 m (~14,834 ft) in length with the upper limit of the East Branch beginning on the north side of County Road 3, approximately 170 m west of the intersection of County Road 3 with County Road 7. The drain crosses County Road 3 and travels approximately 640 m in a general southerly direction before turning 90 degrees and traveling another roughly 320 m east to meet County Road 7. The East Branch then travels south, parallel to County Road 7 for approximately 1,500 m until it jogs west away from County Road 7 for approximately 160 m before continuing south until it meets Boyne Road. At this point, the drain turns 90 degrees in a westerly direction for approximately 1,100 m until it intersects the Kittle Creek Main Drain at the eastern extremity of the South ½ of Lot 16, Concession 7. The sub-watershed boundary for the East Branch encompasses approximately 350 hectares.

8th Concession Branch

The 8th Concession branch is a straight, roughly 317 m (1040 ft) long drain, running perpendicular to County Road 7 and approximately located on the line between Concession 7 and 8. The sub-watershed boundary for the 8th Concession Branch and Stewart Branch is a combined approximately 60 hectares. The outlet of the 8th Concession Branch is the Stewart Branch.

Stewart Branch

The upstream limit of the Stewart branch begins approximately 700 m north of the intersection of County Road 7 with Crump Road. The drain continues parallel to County Road 7 until it reaches the intersection of County Road 7 and Crump Road. From here it crosses County Road 7, just south of the intersection, to outlet into the East Branch at Station 57+21. The sub-watershed boundary for the 8th Concession Branch and Stewart Branch is a combined approximately 60 hectares.

Irven Branch

The Irven Branch is a straight, roughly 300 m (985 ft) drain located parallel to County Road 7 and outletting into the East Branch at Station 35+53. The sub-watershed boundary for the Irven Branch is estimated to be approximately 7 hectares.

The watershed for the East Branch includes the subwatersheds for the Stewart, 8th Concession and Irven Branch Drains and is comprised of predominantly active agricultural lands and vacant,

forested areas, but also includes some areas of rural residential development. A review of the soil composition, topography and/or terrain was not completed for this report as there were no noted concerns with the capacity of the current channel system, and as improvements would be considered outside the permitted scope of work associated with a Section 76 undertaking.

4.0 DRAINAGE ACT, 1990, PROCESS

4.1 TO DATE

Shade Group Inc. (SGI) was appointed by Bylaw on February 29, 2024 (Bylaw No. 2024-17) to *"prepare a new assessment schedule and update watershed boundaries for the Kittle Creek East Branch, Stewart Branch, Irven Branch, and 8th Concession Branch Drains under Section 76 of the Drainage Act"*. A copy of the Bylaw has been enclosed in **Appendix E**.

Invitations to the on-site meeting were mailed to landowners within the watershed by Township staff, inviting them to attend a meeting on April 17, 2024, at the Nelson Laprade Centre in Chesterville.

Approximately 9 landowners attended the on-site meeting. No further correspondence has been brought forth from landowners within the watershed since the on-site meeting, to the best of Shade Group's knowledge.

At the on-site meeting, landowners expressed concerns over ongoing beaver activity and had general inquiries about the process for the update and the specific questions about the pending maintenance. The Township's Drainage Superintendent was present to answer questions about the upcoming maintenance.

Prior to the on-site meeting, Shade Group staff conducted a visual assessment of the watershed boundary to field verify the approximate limits of the boundary. The final shown boundary was compiled using digitally available data (Ontario Watershed Information Tool) and compared again to the original Engineer's Report, with field verification being the final step.

No concerns were brought forth with respect to the inadequacy of the current design as it currently exists - for erosion, capacity, etc. With this, it was concluded that a Section 76 undertaking was adequate; no improvements were required at this time.

4.2 NEXT STEPS

Following the submission of this report, the report will be brought to a Meeting to Consider (Section 42).

The clerk of the municipality shall send a copy of the report and a notice stating the date on which the report was filed, the name or designation of the drainage works; and the date of the council meeting at which the report will be considered, to the prescribed people (Section 41).

The Meeting to Consider is held by council, and council may then adopt the report by provisional by-law by giving two readings (Section 45(1)).

Following the Meeting to Consider, and assuming a provisional by-law is adopted by two readings, a notice is sent, including a copy of the provisional by-law (exclusive of the Engineer's Report) of the time and place for the first sitting of the Court of Revision. This notice is sent to each body or person as entitled under Section 41 of the Drainage Act.

Following the completion of addressing all appeals; or the time for appealing has expired, the council may pass the provisional by-law by a third reading, thereby authorizing construction (or maintenance) of the drainage works. Work may then be commenced as early as ten days after the by-law is passed, if no notice of intention to make an application to quash the by-law has been filed with the clerk of the council (Section 58(1)).

Through discussions with Township staff, it is understood that the Township's Drainage Superintendent will oversee the acquisition of all necessary permits, coordinate the hiring of a contractor, oversee any required work, and complete a final walk through of any such maintenance works upon completion. No engineering involvement is proposed in the maintenance works.

4.3 BY-LAWS

Appendix E has been included in this report as a place to attach the applicable by-laws associated with this Section 76 undertaking. The by-law from Shade Group's initial appointment has been enclosed with this submission, and it is recommended that the Drainage Superintendent (or applicable Township Staff) attach a copy of the report adoption by-law following its third reading for ease of future reference.

4.4 LIMITATIONS

The process overview provided in Section 4.2 is provided as a general summary of the next steps to completion. Should the process described conflict with the specifications of the Drainage Act, the Drainage Act shall govern. The process described is provided as a summary only, the Township clerk shall be responsible for ensuring that the applicable administration works are completed in accordance with the specifications of the Drainage Act.

5.0 PLAN, PROFILE & SPECIFICATIONS

It is intended that the profile and construction specifications of the governing Engineer's Report remain as the governing specifications for any future maintenance works.

This report shall serve only as an update to the *assessment schedules* to assess costs of future maintenance to those within the watershed.

A watershed map has been enclosed with this submission, which reflects the updated contributing area for the watershed. In addition to a desktop analysis, Shade Group also conducted a visual field review of the watershed boundary as part of the preparation of this map.

Property ID numbers have been assigned to each property for ease of reference to the assessment schedule. The use of Property IDs rather than names offers protection of private information and affords continuity of use as property ownership can change over time.

6.0 ASSESSMENTS

Given the number of changes to the watershed, including land divisions (severances, subdivision) an update to the assessment schedules for the East Branch, Stewart Branch, Irven Branch and 8th Concession Branch of the Kittle Creek Municipal Drain has been undertaken to fairly assess costs for current and future maintenance to all of those encompassed within the watersheds.

As per Section 21 of *the Act*, *"The engineer in the report shall assess for benefit, outlet liability and injuring liability, and shall insert in an assessment schedule, in separate columns, the sums assessed for each opposite each parcel of land and road liable therefor."* As this is an existing drain and the scope of works does not include any works that would be considered injuring to lands or roads, injuring liability is not applicable.

As the overall changes to the land use have been minimal *for lands directly abutting the drain*, and as it can reasonably be assumed that the overall benefit-to-outlet ratio of the drain can be considered to be relatively proportional today to that of the governing Engineer's Report (i.e. the benefit area has not measurably changed in size); the overall benefit assessment proportions have not been changed from that of the previous governing reports, and have instead been reapportioned amongst the lands who meet the definition of such an assessment. Under *the Act*, lands eligible for benefits assessment are defined as those *"lands, roads, buildings, utilities, or other structures that are increased in value or are more easily maintained as a result of the construction, improvement, maintenance or repair of a drainage works may be assessed for benefit. R.S.O. 1990, c. D.17, s. 22."*

Finally, lands within the watershed are assessed outlet liability, which is defined as *"lands and roads that use a drainage works as an outlet, or for which, when the drainage works is constructed or improved, an improved outlet is provided either directly or indirectly through the medium of any other drainage works or of a swale, ravine, creek or watercourse, may be assessed for outlet liability. R.S.O. 1990, c. D.17, s. 23 (1)."*

The method for determining the apportionment of benefit and outlet liability assessment is the responsibility of the appointed Drainage Engineer. The Drainage Engineer shall use their best judgement to determine an apportionment that is considered fair to all those assessed.

For the purposes of assessing outlet and benefit across the lands within the watershed, the Drainage Engineer has generally followed the Factored Areas Method. Under this method, the areas of land within the watershed are assigned factors based on land use, proximity to the drain (distance factor), and general location in the watershed (sub-section factor). The summation of these factors provides a factored area that allows lands within the watershed to be compared on what has been considered a fair basis. The appropriate factors are assigned by the engineer, on a case-by-case basis, as deemed appropriate and fair by the engineer.

6.1 LAND USE FACTORS

Each property was assigned a land use based on current aerial mapping. The assigned values for the respective land use have been summarized in Table 1.

Table 1: Land Use Factors

Land Use Description	Factor
Agricultural / Vacant Land / Unprotected Forests	1.00
Commercial	4.00
Managed Forest	0.70
Large Lot Residential (>2ha)	1.00
Small Residential (<2ha)	2.00
Roads	3.00
Provincially Significant Wetlands	0.50

Unprotected forest refers to undeveloped lands that may include significant tree cover but are not registered as part of the Managed Forest Tax Incentive Program. Lands not registered as part of the Managed Forest Tax Incentive Program would be assigned the same factor as agricultural or vacant lands and they are not generally protected by current legislation to remain as forested lands.

Properties with wetlands were determined based on provincial mapping that describes Provincially Significant Wetlands (PSWs) and their associated mapped limits as these lands are afforded protection from development under current legislation. Unevaluated wetlands were not assessed as wetlands, as unevaluated wetlands are generally not automatically afforded the same level of limitations for development. While they may still have development limitations, that is generally only determined on a case-by-case basis (i.e. through a site-specific evaluation), which would be beyond the scope of this report.

6.2 DISTANCE FACTORS

Each property within the drain was assigned a distance factor based on offsetting measurements from the applicable channel. The distance factors for the East Branch are as follows:

Table 2: Distance Factors

Offset (m)	Factor
0 – 100	1.0
100 – 200	0.75
200 – 300	0.50
>300	0.25

For the East Branch, the channel alignment was offset the respective amounts noted in Table 2, and the areas between the offsets were assigned the corresponding factors.

Each property was assigned a value based on its location relative to the channel. Where properties were encompassed within multiple factor areas, a prorated factor value was established (e.g. if half the property is within the 100m offset and the other half within 100-200m; the property would be assigned a value of $0.5 \times 1.0 + 0.5 \times 0.75 = 0.875$).

6.3 SUB-SECTION FACTORS

Each property was assigned a factor between 1.0 and 0.15 based on their relative location in the watershed. Properties farthest upstream (top of the watershed) benefit from the entire length of the drain and were assigned a factor of 1.0, while properties at the outlet of the drain only make use of a small relative apportionment of the total system; and were assigned a smaller factor. Properties throughout the watershed were then assigned factors between 1.0 and 0.15 based on their relative location within the watershed. Factors were determined based on the approximate outlet station where water from the property would be expected to enter the respective drain, and pro-rated accordingly.

For example, when calculating the assessments for the East Branch for lands that drain directly into the Stewart Branch, these properties are assigned a factor of 0.61 as the Stewart Branch enters the East Branch at Station 57+21.

This would be calculated as follows:

$$(14,834 - 5,721) / 14,834 = 0.61$$

This calculation equates the total linear length of the drain used (14,834 – 5,721; where 14,834 is the total length of the drain in feet, and 5,721 is the point at which the Stewart Branch enters the East Branch) and assigns that value as a factor. The summation of these factors (land use, distance, and sub-section) was used to determine an equivalent area, which was used to determine the apportionment of the associated outlet liability for each property.

6.4 EXCEPTIONS

It should be noted that the assessment schedules for the Stewart Branch and 8th Concession Branch were reviewed in detail and it was determined that although the watershed boundary

has slightly changed, the previous apportioned assessments are still considered to be appropriate. Updates to these branch assessment schedules were limited to updates to reflect current anticipated construction costs for maintenance (per data provided by the Township's Drainage Superintendent).

A review of the Irven Branch suggests the contributing drainage area has changed since 1967. Per the 1967 Engineer's Report, the Irven Branch was *"designed to provide outlet for the north part of the West ½ of Lot 19, Concession 8"* (on the east side of County Road 7). A field review conducted by Shade Group suggests that the road crossing culvert in this area has since been removed, and a lateral drain has been dug on the east side of County Road 7, connecting to the Stewart Branch, rather than to the Irven Branch. With that, the assessment schedule from 1967 is no longer appropriate. Updates to the Irven Branch were generally limited to the removal of lands from the east side of County Road 7 from the assessment, and calculations for a new assessment of outlet and benefit to those remaining within the watershed. The previous 1967 division of cost was described as being *"assessed directly to the properties benefiting by their construction, and in proportion to the amount of benefit to be received"*. As it was not clear on why outlet had not been previously assessed to those on the Irven Branch, and as a severance has since occurred since the previous report was adopted, new assessments were calculated with an outlet/benefit split that this engineer considers fair to those within the remaining contributing drainage area.

7.0 COSTS

7.1 CONSTRUCTION COSTS

The costs used for the assessment schedules were determined in consultation with the Township's Drainage Superintendent based on historical maintenance costs. Refer to Table 3 which lists the estimated maintenance costs used in the assessment schedules:

Table 3: Estimated Maintenance Costs

Branch Drain	Estimated Construction Cost
East Branch	\$67,850.00
Stewart Branch	\$7,000.00
8 th Concession Branch	\$4,750.00
Irven Branch	\$3,000.00

Schedules A through D are enclosed in **Appendix C** and are considered for future maintenance works.

7.2 ENGINEERING COSTS

The cost associated with the preparation of this report are estimated to be \$13,950 (exclusive of taxes). This estimate does not account for our involvement in any appeals to the Court of Revision, Tribunal or the Referee, but does include for attendance at the first mandated sitting of the Court of Revision. Responding to appeals, if applicable, would be subject to additional fees.

Assessments for engineering fees are to be assessed in the same manner and apportionments as future maintenance. For ease of reference, a separate assessment schedule has been prepared for the engineering fees – to clearly show the engineering fee assessed to each property for the preparation of this report.

Preparation of separate engineering costs for the Irven, Stewart, and 8th Concession Branches was deemed unnecessary as much of the work was done concurrently with the preparation of the East Branch assessment schedule. Instead, as the assessment schedule for the East Branch captures all those within the watershed, including those assessed into branches, the approach of assessing costs based on the East Branch Assessment Schedule was determined to be the most fair and feasible distribution of engineering fees.

The assessment schedule for the assessment of this Engineer's Report is enclosed in **Appendix D**.

Projects under Section 76, including the preparation of this report and the associated assessment schedules *are not* eligible for provincial grant.

8.0 GRANTS

Properties that are registered with the Ontario Ministry of Agriculture, Food and Agribusiness (OMAFRA) for the Farm Property Class Tax Rate Program may be eligible for a 1/3 grant from the Province. As eligibility requires active status with OMAFA, the grant has not been reflected on current assessment schedules. If you have any questions on whether your property is eligible for grant, please contact the Township's Drainage Superintendent.

As per Section 85 of the Drainage Act, only projects performed under Section 4, 74, and 78 are eligible for provincial grant. With that, the engineering costs associated with this Section 76 report are not eligible for grant. Maintenance works hereafter are to be performed in accordance with the governing Engineer's Report and the maintenance works would be considered as works performed under Section 74 and would be expected to be eligible for grant.

9.0 CLOSING

This report is respectfully submitted to the Council of the Township of North Dundas this September 12, 2024.

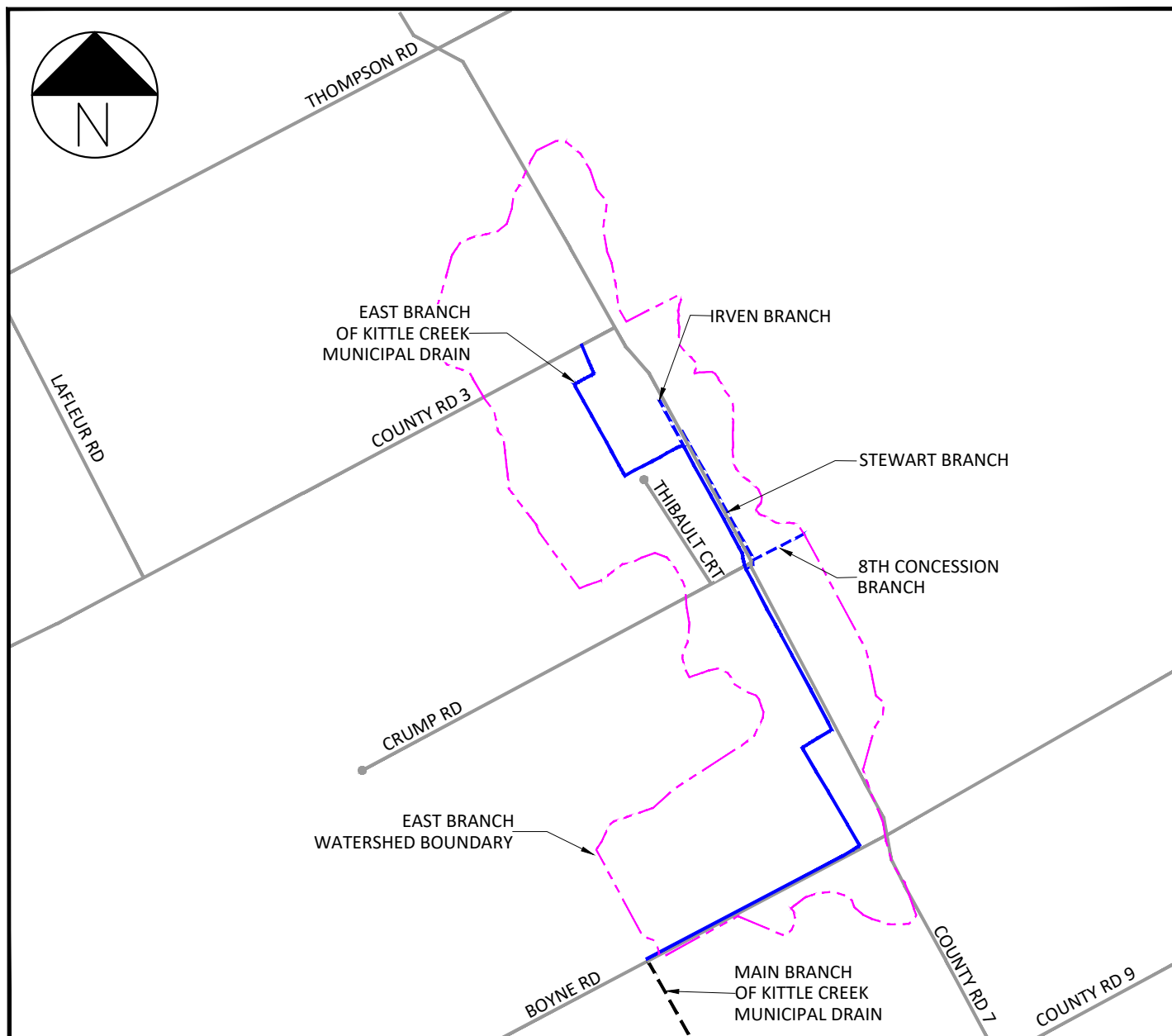
Should you have any questions or concerns, please do not hesitate to contact the undersigned.



Monica Shade, P. Eng.
Drainage Engineer
Shade Group Inc.

APPENDIX A

LOCATION PLAN



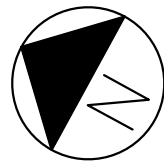
LOCATION PLAN
N.T.S.

EAST BRANCH
OF KITTLE CREEK MUNICIPAL DRAIN
NORTH DUNDAS
2024

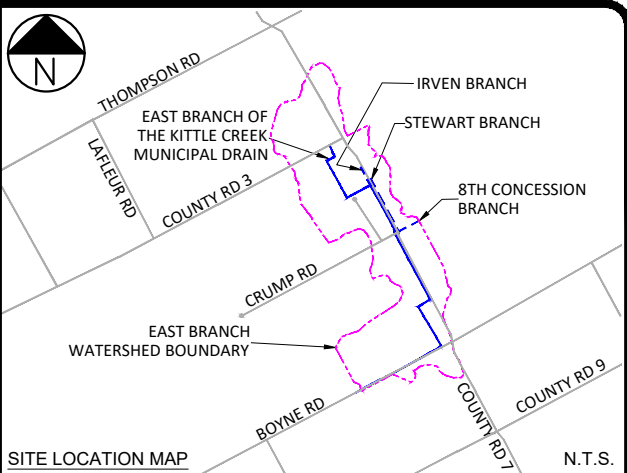
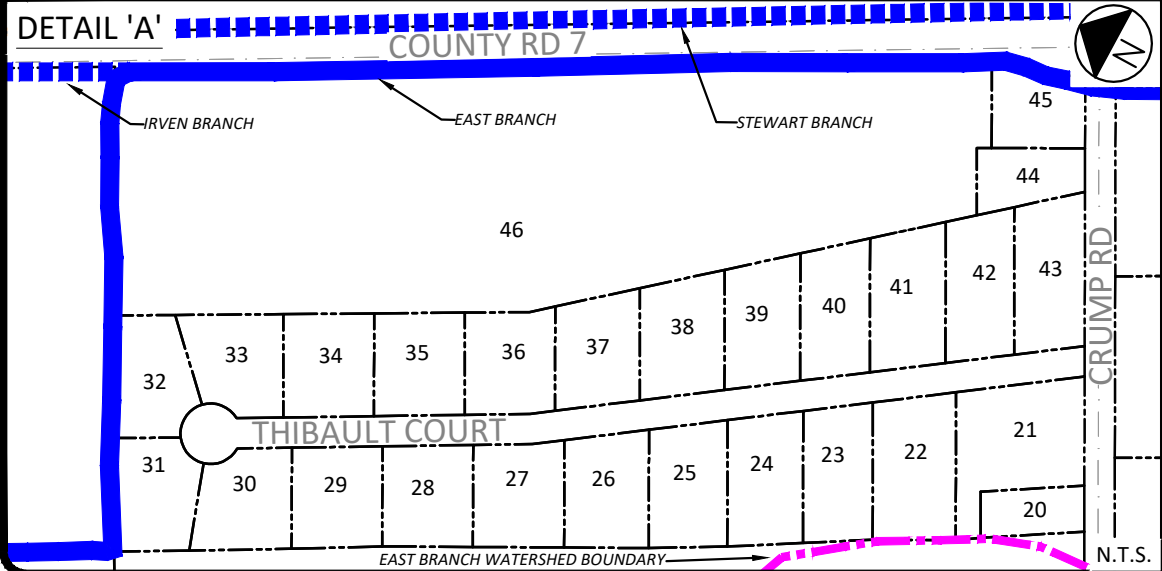
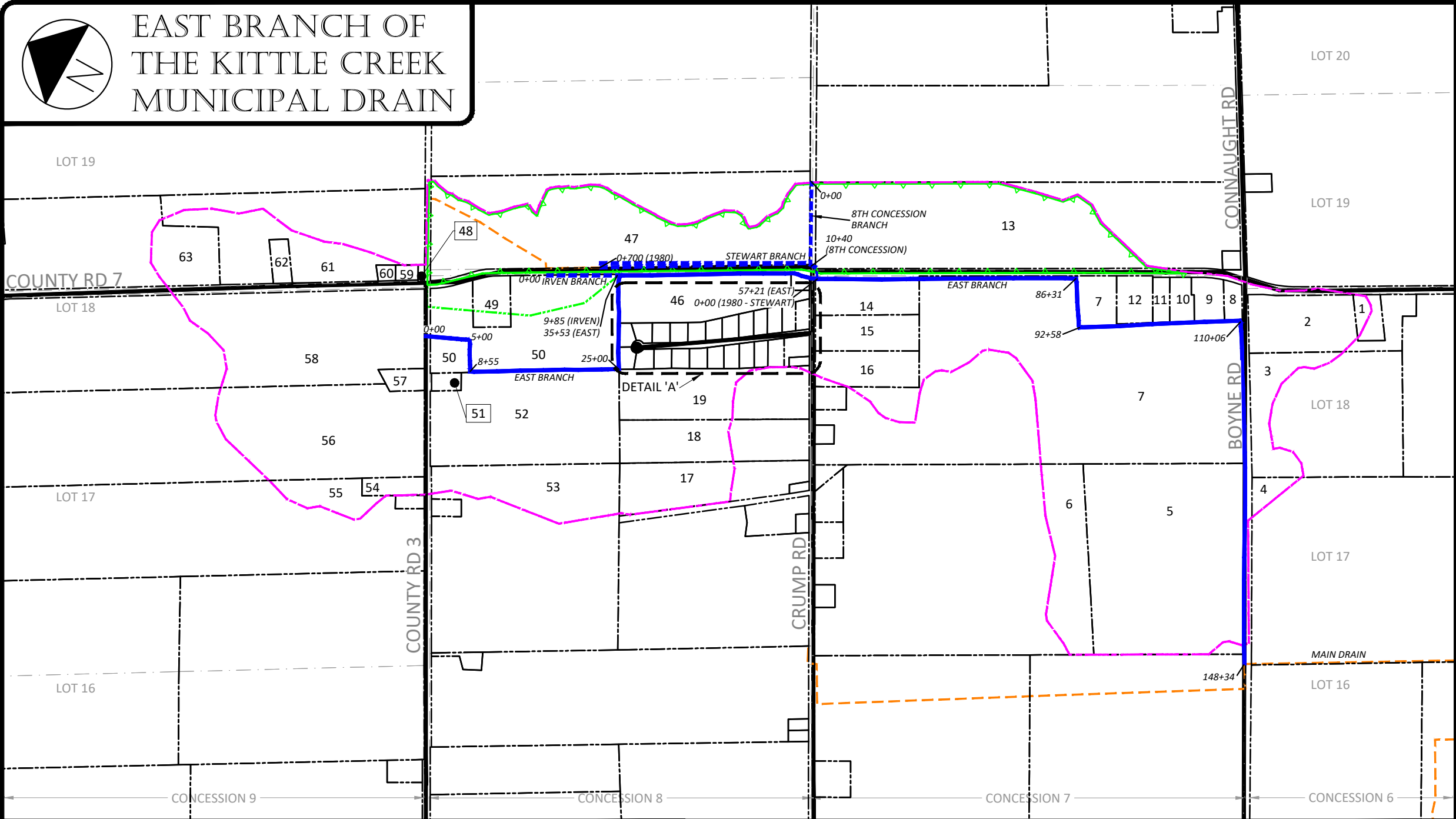
SHADE
GROUP INC

APPENDIX B

DRAINAGE PLAN



EAST BRANCH OF THE KITTLE CREEK MUNICIPAL DRAIN



SCALE BAR		0	125	250	500
ALL DIMENSIONS ARE IN METRES. DO NOT SCALE DRAWING					
PAGE SIZE	11" x 17"	SCALE	1:15,000		

SHADE GROUP INC.
4625 MARCH ROAD
ALMONTE, ONTARIO
K0A 1A0

SHADE
GROUP INC.

LEGEND	
	APPROX. PROPERTY LINES (GIS DATA)
	KITTLE CREEK MUNICIPAL DRAIN - EAST BRANCH
	BRANCH DRAINS - SEE PLAN
	KITTLE CREEK MUNICIPAL DRAIN - EAST BRANCH WATERSHED BOUNDARY
	SUB-WATERSHED BOUNDARY OF STEWART AND 8TH CONCESSION BRANCHES
	SUB-WATERSHED BOUNDARY OF IRVEN BRANCH
	WATERCOURSES
0+00	APPROX. STATIONS (ft - 1967 ENGINEER'S REPORT)
0+00 (1980)	APPROX. STATIONS FOR STEWART BRANCH (m - 1980 ENGINEER'S REPORT)
	LOT AND CONCESSION LINES
1	PROPERTY I.D. NUMBER

00	ISSUED WITH ENGINEER'S REPORT	SEPT 12, 2024
REV.	DESCRIPTION	DATE

STAMP

PROJECT TITLE	EAST BRANCH OF THE KITTLE CREEK MUNICIPAL DRAIN
DRAWING TITLE	WATERSHED MAP
DRAWING NO.	1 OF 1

NOTES

- THIS MAP IS FOR INFORMATION PURPOSES ONLY AND IMPLIES NO GUARANTEE OF ACCURACY. DO NOT SCALE DRAWING.
- MAINTENANCE WORKS SHOULD BE COMPLETED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE GOVERNING ENGINEER'S REPORT
- ALL PROPERTY LINE INFORMATION WAS SUPPLIED BY THE UNITED COUNTIES OF STORMONT, DUNDAS & GLENGARRY, AS ACQUIRED FROM THEIR GEOGRAPHIC INFORMATION SYSTEM (GIS) FEBRUARY 2024. PROPERTY LINES ARE NOT SURVEY ACCURATE.

APPENDIX C

ASSESSMENT SCHEDULES – FUTURE MAINTENANCE

Assessment Schedule - Updated 2024
Schedule 'A'
Kittle Creek Municipal Drain - East Branch
Construction - For Future Maintenance

Property ID No.	Roll No.	Con	Lot	Area Drained (ha)	Outlet	Benefit	Est Assess.*
1	0511016-006-37050	6	18	0.5	\$ 13.70	\$ -	\$ 13.70
2	0511016-006-37010	6	18	6.9	\$ 216.15	\$ -	\$ 216.15
3	0511016-006-37000	6	18	5.4	\$ 218.30	\$ -	\$ 218.30
4	0511016-006-36000	6	17	1.1	\$ 120.50	\$ -	\$ 120.50
5	0511016-007-40000	7	17	33.7	\$ 520.88	\$ 2,375.25	\$ 2,896.13
6	0511016-007-41000	7	17	8.4	\$ 155.14	\$ -	\$ 155.14
7	0511016-007-46000	7	18	51.3	\$ 2,716.85	\$ 4,948.58	\$ 7,665.43
8	0511016-007-42900	7	18	0.8	\$ 79.17	\$ 436.72	\$ 515.89
9	0511016-007-43000	7	18	1.5	\$ 161.87	\$ 732.00	\$ 893.87
10	0511016-007-43900	7	18	1.2	\$ 135.36	\$ 589.14	\$ 724.50
11	0511016-007-44000	7	18	0.9	\$ 103.28	\$ 409.93	\$ 513.21
12	0511016-007-45000	7	18	1.9	\$ 247.17	\$ 857.92	\$ 1,105.09
13	0511016-007-49000	7	19	27.8	\$ 2,349.07	\$ -	\$ 2,349.07
14	0511016-007-47020	7	18	4.2	\$ 505.09	\$ 1,348.27	\$ 1,853.36
15	0511016-007-47010	7	18	4.2	\$ 341.57	\$ -	\$ 341.57
16	0511016-007-47000	7	18	4.1	\$ 184.36	\$ -	\$ 184.36
17	0511016-008-15000	8	17	5.9	\$ 205.68	\$ -	\$ 205.68
18	0511016-008-16502	8	18	5.4	\$ 452.45	\$ -	\$ 452.45
19	0511016-008-16500	8	18	6.9	\$ 569.97	\$ -	\$ 569.97
20	0511016-008-16800	8	18	0.2	\$ 28.47	\$ -	\$ 28.47
21	0511016-008-16801	8	18	0.6	\$ 87.87	\$ -	\$ 87.87
22	0511016-008-16802	8	18	0.5	\$ 66.23	\$ -	\$ 66.23
23	0511016-008-16803	8	18	0.4	\$ 51.75	\$ -	\$ 51.75
24	0511016-008-16804	8	18	0.4	\$ 52.84	\$ -	\$ 52.84
25	0511016-008-16805	8	18	0.4	\$ 51.29	\$ -	\$ 51.29
26	0511016-008-16806	8	18	0.4	\$ 50.85	\$ -	\$ 50.85
27	0511016-008-16807	8	18	0.4	\$ 57.40	\$ -	\$ 57.40
28	0511016-008-16808	8	18	0.4	\$ 65.11	\$ -	\$ 65.11

Assessment Schedule - Updated 2024
Schedule 'A'
Kittle Creek Municipal Drain - East Branch
Construction - For Future Maintenance

Property ID No.	Roll No.	Con	Lot	Area Drained (ha)	Outlet	Benefit	Est Assess.*
29	0511016-008-16809	8	18	0.4	\$ 83.15	\$ -	\$ 83.15
30	0511016-008-16810	8	18	0.4	\$ 102.28	\$ -	\$ 102.28
31	0511016-008-16811	8	18	0.4	\$ 110.19	\$ 295.80	\$ 405.99
32	0511016-008-16812	8	18	0.4	\$ 109.14	\$ 292.96	\$ 402.10
33	0511016-008-16813	8	18	0.4	\$ 105.98	\$ -	\$ 105.98
34	0511016-008-16814	8	18	0.4	\$ 85.23	\$ -	\$ 85.23
35	0511016-008-16815	8	18	0.4	\$ 78.02	\$ -	\$ 78.02
36	0511016-008-16816	8	18	0.4	\$ 72.31	\$ -	\$ 72.31
37	0511016-008-16817	8	18	0.4	\$ 74.00	\$ -	\$ 74.00
38	0511016-008-16818	8	18	0.4	\$ 82.31	\$ -	\$ 82.31
39	0511016-008-16819	8	18	0.4	\$ 80.75	\$ -	\$ 80.75
40	0511016-008-16820	8	18	0.4	\$ 80.60	\$ -	\$ 80.60
41	0511016-008-16821	8	18	0.5	\$ 94.25	\$ -	\$ 94.25
42	0511016-008-16822	8	18	0.4	\$ 91.06	\$ -	\$ 91.06
43	0511016-008-16823	8	18	0.5	\$ 103.97	\$ -	\$ 103.97
44	0511016-008-18500	8	18	0.3	\$ 72.75	\$ -	\$ 72.75
45	0511016-008-18005	8	18	0.3	\$ 91.09	\$ 244.52	\$ 335.61
46	0511016-008-18000	8	18	8.7	\$ 1,115.12	\$ 2,427.28	\$ 3,542.40
47	0511016-008-21000	8	19	27.7	\$ 2,018.60	\$ -	\$ 2,018.60
48	0511016-008-87000	9	19	0.1	\$ 27.71	\$ -	\$ 27.71
49	0511016-008-17100	8	18	2.1	\$ 304.92	\$ -	\$ 304.92
50	0511016-008-17000	8	18	17.7	\$ 2,921.85	\$ 4,008.80	\$ 6,930.65
51	0511016-008-16005	8	18	0.6	\$ 219.78	\$ -	\$ 219.78
52	0511016-008-16000	8	18	19.6	\$ 2,725.98	\$ 2,037.09	\$ 4,763.07
53	0511016-008-14000	8	17	9.2	\$ 456.16	\$ -	\$ 456.16
54	0511016-008-83200	9	17	1.3	\$ 125.31	\$ -	\$ 125.31
55	0511016-008-82000	9	17	3.1	\$ 153.94	\$ -	\$ 153.94
56	0511016-008-84000	9	18	20.3	\$ 1,226.14	\$ -	\$ 1,226.14

Assessment Schedule - Updated 2024
Schedule 'A'
Kittle Creek Municipal Drain - East Branch
Construction - For Future Maintenance

Property ID No.	Roll No.	Con	Lot	Area Drained (ha)	Outlet	Benefit	Est Assess.*
57	0511016-008-84200	9	18	1.0	\$ 291.59	\$ -	\$ 291.59
58	0511016-008-85000	9	18	22.5	\$ 1,840.87	\$ 5,027.54	\$ 6,868.41
59	0511016-008-87500	9	19	39.7	\$ 41.78	\$ -	\$ 41.78
60	0511016-008-87550	9	19	0.3	\$ 32.40	\$ -	\$ 32.40
61	0511016-008-88000	9	19	9.7	\$ 501.51	\$ -	\$ 501.51
62	0511016-008-88020	9	19	0.9	\$ 93.66	\$ -	\$ 93.66
63	0511016-008-88050	9	19	4.4	\$ 217.16	\$ -	\$ 217.16
Sub-Total					\$ 25,639.93	\$ 26,031.80	\$ 51,671.73

*Estimated Assessment does not include Farm Tax Credit (FTC). Farm Tax Credit eligibility to be confirmed at time of maintenance.

Assessment Schedule - Updated 2024
Schedule 'A'
Kittle Creek Municipal Drain - East Branch
Construction - For Future Maintenance

Roads

ID/Name	Owner	Outlet	Benefit	Net Assessment
Boyne Road	Township of North Dundas	\$ 314.97	\$ 2,257.13	\$ 2,572.10
Crump Road		\$ 269.57	\$ 286.62	\$ 556.19
Thibault Crt		\$ 375.83	\$ -	\$ 375.83
Road allowance between Concession 8 and 9, North of County Road 7		\$ 36.62	\$ -	\$ 36.62
Road allowance between Concession 7 and 8, North of County Road 7		\$ 47.84	\$ -	\$ 47.84
County Road 7	United Counties of Stormont, Dundas and Glengarry	\$ 3,274.78	\$ 8,289.63	\$ 11,564.41
County Road 3		\$ 572.96	\$ 452.32	\$ 1,025.28
Sub-Total		\$ 4,892.57	\$ 11,285.70	\$ 16,178.27

Summary

Real Properties	\$ 25,639.93	\$ 26,031.80	\$ 51,671.73
Township of North Dundas - Roads	\$ 1,044.83	\$ 2,543.75	\$ 3,588.58
United Counties of Stormont, Dundas, and Glengarry - Roads	\$ 3,847.74	\$ 8,741.95	\$ 12,589.69
Sub-Total (Pre-Tax/Grant)	\$ 30,532.50	\$ 37,317.50	\$ 67,850.00

Assessment Schedule - Updated 2024

Schedule 'B'

Kittle Creek Municipal Drain - 8th Concession Branch

Construction - For Future Maintenance

Property ID No.	Roll No.	Con	Lot	Area Drained (ha)	Outlet	Benefit	Est Assess.*
13	0511016-007-49000	7	19	27.8	\$ -	\$ 1,900.02	\$ 1,900.02
47	0511016-008-21000	8	19	27.7	\$ -	\$ 1,900.02	\$ 1,900.02
Sub-Total					\$ -	\$ 3,800.04	\$ 3,800.04

*Estimated Assessment does not include Farm Tax Credit (FTC). Farm Tax Credit eligibility to be confirmed at time of maintenance.

Roads

ID/Name	Owner	Outlet	Benefit	Net Assessment
County Road 7	United Counties of Stormont, Dundas and Glengarry	\$ -	\$ 949.96	\$ 949.96
Sub-Total		\$ -	\$ 949.96	\$ 949.96

Summary

Real Properties	\$ -	\$ 3,800.04	\$ 3,800.04
United Counties of Stormont, Dundas, and Glengarry - Roads	\$ -	\$ 949.96	\$ 949.96
Sub-Total (Pre-Tax/Grant)	\$ -	\$ 4,750.00	\$ 4,750.00

Assessment Schedule - Updated 2024
Schedule 'C'
Kittle Creek Municipal Drain - Stewart Branch
Construction - For Future Maintenance

Property ID No.	Roll No.	Con	Lot	Area Drained (ha)	Outlet	Benefit	Est Assess.*
13	0511016-007-49000	7	19	27.8	\$ 218.75	\$ -	\$ 218.75
47	0511016-008-21000	8	19	27.7	\$ 2,187.50	\$ 3,500.00	\$ 5,687.50
Sub-Total					\$ 2,406.25	\$ 3,500.00	\$ 5,906.25

*Estimated Assessment does not include Farm Tax Credit (FTC). Farm Tax Credit eligibility to be confirmed at time of maintenance.

Roads

ID/Name	Owner	Outlet	Benefit	Net Assessment
County Road 7	United Counties of Stormont, Dundas and Glengarry	\$ 875.00	\$ -	\$ 875.00
Road allowance between Concession 7 and 8, North of County Road 7	North Dundas	\$ 218.75	\$ -	\$ 218.75
Sub-Total		\$ 1,093.75	\$ -	\$ 1,093.75

Summary

Real Properties	\$ 2,406.25	\$ 3,500.00	\$ 5,906.25
Township of North Dundas - Roads	\$ 218.75		
United Counties of Stormont, Dundas, and Glengarry - Roads	\$ 875.00	\$ -	\$ 875.00
Sub-Total (Pre-Tax/Grant)	\$ 3,500.00	\$ 3,500.00	\$ 7,000.00

Assessment Schedule - Updated 2024
Schedule 'D'
Kittle Creek Municipal Drain - Irven Branch
Construction - For Future Maintenance

Property ID No.	Roll No.	Con	Lot	Area Drained (ha)	Outlet	Benefit	Est Assess.*
49	0511016-008-17100	8	18	2.2	\$ 103.78	\$ -	\$ 103.78
50	0511016-008-17000	8	18	18.0	\$ 321.22	\$ 1,320.00	\$ 1,641.22
Sub-Total					\$ 425.00	\$ 1,320.00	\$ 1,745.00

*Estimated Assessment does not include Farm Tax Credit (FTC). Farm Tax Credit eligibility to be confirmed at time of maintenance.

Roads

ID/Name	Owner	Outlet	Benefit	Net Assessment
County Road 7	United Counties of Stormont, Dundas and Glengarry	\$ 175.00	\$ 1,080.00	\$ 1,255.00
Sub-Total		\$ 175.00	\$ 1,080.00	\$ 1,255.00

Summary

Real Properties	\$ 425.00	\$ 1,320.00	\$ 1,745.00
United Counties of Stormont, Dundas and Glengarry - Roads	\$ 175.00	\$ 1,080.00	\$ 1,255.00
Sub-Total (Pre-Tax/Grant)	\$ 600.00	\$ 2,400.00	\$ 3,000.00

APPENDIX D

ASSESSMENT SCHEDULE – ENGINEERING (ONE TIME USE)

Assessment Schedule - Updated 2024

Schedule 'E'

Kittle Creek Municipal Drain - East Branch

ONE TIME USE - Assessment of Engineering Fees for S. 76 Report

Property ID No.	Roll No.	Con	Lot	Area Drained (ha)	Est Assess.
1	0511016-006-37050	6	18	0.5	\$ 2.82
2	0511016-006-37010	6	18	6.9	\$ 44.44
3	0511016-006-37000	6	18	5.4	\$ 44.88
4	0511016-006-36000	6	17	1.1	\$ 24.77
5	0511016-007-40000	7	17	33.7	\$ 595.45
6	0511016-007-41000	7	17	8.4	\$ 31.90
7	0511016-007-46000	7	18	51.3	\$ 1,576.02
8	0511016-007-42900	7	18	0.8	\$ 106.07
9	0511016-007-43000	7	18	1.5	\$ 183.78
10	0511016-007-43900	7	18	1.2	\$ 148.96
11	0511016-007-44000	7	18	0.9	\$ 105.52
12	0511016-007-45000	7	18	1.9	\$ 227.21
13	0511016-007-49000	7	19	27.8	\$ 482.97
14	0511016-007-47020	7	18	4.2	\$ 381.05
15	0511016-007-47010	7	18	4.2	\$ 70.23
16	0511016-007-47000	7	18	4.1	\$ 37.90
17	0511016-008-15000	8	17	5.9	\$ 42.29
18	0511016-008-16502	8	18	5.4	\$ 93.02
19	0511016-008-16500	8	18	6.9	\$ 117.19
20	0511016-008-16800	8	18	0.2	\$ 5.85
21	0511016-008-16801	8	18	0.6	\$ 18.07
22	0511016-008-16802	8	18	0.5	\$ 13.62
23	0511016-008-16803	8	18	0.4	\$ 10.64
24	0511016-008-16804	8	18	0.4	\$ 10.86
25	0511016-008-16805	8	18	0.4	\$ 10.55
26	0511016-008-16806	8	18	0.4	\$ 10.45
27	0511016-008-16807	8	18	0.4	\$ 11.80
28	0511016-008-16808	8	18	0.4	\$ 13.39
29	0511016-008-16809	8	18	0.4	\$ 17.10

Assessment Schedule - Updated 2024

Schedule 'E'

Kittle Creek Municipal Drain - East Branch

ONE TIME USE - Assessment of Engineering Fees for S. 76 Report

Property ID No.	Roll No.	Con	Lot	Area Drained (ha)	Est Assess.
30	0511016-008-16810	8	18	0.4	\$ 21.03
31	0511016-008-16811	8	18	0.4	\$ 83.47
32	0511016-008-16812	8	18	0.4	\$ 82.67
33	0511016-008-16813	8	18	0.4	\$ 21.79
34	0511016-008-16814	8	18	0.4	\$ 17.52
35	0511016-008-16815	8	18	0.4	\$ 16.04
36	0511016-008-16816	8	18	0.4	\$ 14.87
37	0511016-008-16817	8	18	0.4	\$ 15.21
38	0511016-008-16818	8	18	0.4	\$ 16.92
39	0511016-008-16819	8	18	0.4	\$ 16.60
40	0511016-008-16820	8	18	0.4	\$ 16.57
41	0511016-008-16821	8	18	0.5	\$ 19.38
42	0511016-008-16822	8	18	0.4	\$ 18.72
43	0511016-008-16823	8	18	0.5	\$ 21.38
44	0511016-008-18500	8	18	0.3	\$ 14.96
45	0511016-008-18005	8	18	0.3	\$ 69.00
46	0511016-008-18000	8	18	8.7	\$ 728.32
47	0511016-008-21000	8	19	27.7	\$ 415.03
48	0511016-008-87000	9	19	0.1	\$ 5.70
49	0511016-008-17100	8	18	2.1	\$ 62.69
50	0511016-008-17000	8	18	17.7	\$ 1,424.95
51	0511016-008-16005	8	18	0.6	\$ 45.19
52	0511016-008-16000	8	18	19.6	\$ 979.29
53	0511016-008-14000	8	17	9.2	\$ 93.79
54	0511016-008-83200	9	17	1.3	\$ 25.76
55	0511016-008-82000	9	17	3.1	\$ 31.65
56	0511016-008-84000	9	18	20.3	\$ 252.10
57	0511016-008-84200	9	18	1.0	\$ 59.95
58	0511016-008-85000	9	18	22.5	\$ 1,412.15



Assessment Schedule - Updated 2024

Schedule 'E'

Kittle Creek Municipal Drain - East Branch

ONE TIME USE - Assessment of Engineering Fees for S. 76 Report

Property ID No.	Roll No.	Con	Lot	Area Drained (ha)	Est Assess.
59	0511016-008-87500	9	19	39.7	\$ 8.59
60	0511016-008-87550	9	19	0.3	\$ 6.66
61	0511016-008-88000	9	19	9.7	\$ 103.11
62	0511016-008-88020	9	19	0.9	\$ 19.26
63	0511016-008-88050	9	19	4.4	\$ 44.65
				Sub-Total	\$ 10,623.74

Assessment Schedule - Updated 2024

Schedule 'E'

Kittle Creek Municipal Drain - East Branch

ONE TIME USE - Assessment of Engineering Fees for S. 76 Report

Roads

ID/Name	Owner	Net Assessment
Boyne Road	Township of North Dundas	\$ 528.83
Crump Road		\$ 114.35
Thibault Crt		\$ 77.27
Road allowance between Concession 8 and 9, North of County Road 7		\$ 7.53
Road allowance between Concession 7 and 8, North of County Road 7		\$ 9.84
County Road 7	United Counties of Stormont, Dundas and Glengarry	\$ 2,377.65
County Road 3		\$ 210.80
Sub-Total		\$ 3,326.26

Summary

Real Properties	\$ 10,623.74
Township of North Dundas - Roads	\$ 737.81
United Counties of Stormont, Dundas, and Glengarry - Roads	\$ 2,588.45
Sub-Total (Pre-Tax/Grant)	\$ 13,950.00

APPENDIX E

BY-LAWS

THE CORPORATION OF THE TOWNSHIP OF NORTH DUNDAS

BYLAW No. 2024-17

Being a Bylaw to appoint Monica Shade of Shade Group Inc. as the Drainage Engineer under RSO 1990, c.D.17, s.76(1); 2006, c.19, Sched. A, s.6(1), to prepare a new assessment schedule for maintenance of the East Branch of the Kittle Creek Municipal Drain, the Irven Branch of the Kittle Creek Municipal Drain, the Stewart Branch of the Kittle Creek Municipal Drain and the 8th Concession Branch of the Kittle Creek Municipal Drain in the former Township of Winchester.

WHEREAS pursuant to the provisions of Section 76(1) of the *Drainage Act R.S.O. 1990*, as amended, the Council of the initiating municipality, shall appoint an engineer to make an examination of the area to vary the assessment and to prepare a report;

NOW THEREFORE pursuant to the *Drainage Act, RSO 1990*, the Council of The Corporation of the Township of North Dundas enacts as follows:

- 1.0** That Monica Shade of Shade Group Inc. is hereby appointed Drainage Engineer to prepare a new assessment schedule for the maintenance of the East Branch of the Kittle Creek Municipal Drain, the Irven Branch of the Kittle Creek Municipal Drain, the Stewart Branch of the Kittle Creek Municipal Drain and the 8th Concession Branch of the Kittle Creek Municipal Drain in the former Township of Winchester.
- 2.0** The review Engineer appointed herein shall receive such remuneration as agreed to between her firm and Council and shall hold office until such time that she resigns, is terminated by Council, or her report and comments are completed. The remuneration paid to the Engineer shall then be billed to the lands within the watershed.
- 3.0** The review Engineer shall carry out the duties imposed upon her, pursuant to the *Drainage Act, RSO 1990*, and shall submit such reports as may be required to Council.
- 4.0** This Bylaw takes effect on February 29, 2024.

READ and passed in Open Council, signed and sealed this 29th day of February, 2024.


MAYOR


CLERK