Committee of the Whole

April 14, 2026

Staff Report: #PLN-2026-43

REPORT BY: Forbes Symon, Senior Planner, Jp2g Consultants Inc.

REPORT SUBJECT: 1126432 Ontario Inc (Easton) Draft Plan of Subdivision 09-T-25004 (Easton Subdivision) – Recommended Township Conditions of Draft Approval

DEPARTMENT: Planning

RECOMMENDATION(S):

*"**THAT**, Council passes the necessary motion to endorse the recommended Township conditions of draft approval for Draft Plan of Subdivision Application 09-T-25004, on lands described as Lot 16, Concession 6, geographic Township of Lanark, now in the Township of Lanark Highlands."*

1. BACKGROUND

This report has been prepared to provide planning review and recommended Township conditions of draft approval for a draft plan of subdivision in the Hamlet of Middleville, currently under review by the County of Lanark.

The County of Lanark deemed Draft Plan of Subdivision Application 09-T-2025004 complete on December 12, 2025. The Township received official notice from the County of the application on December 18, 2025, requesting comments by March 3, 2026. The County is aware that Township comments will not be submitted by the requested date. Township staff have participated in County lead, preconsultation discussions with the proponent's team.

It is understood that the Township of Lanark Highlands is a primary commenting body for plan of subdivision applications and as such, the Township typically provides comments to the County after all required peer reviews of submitted studies have been completed. It is understood that the Stormwater Management Plan (SWM), the Environmental Impact Study (EIS), and Hydrogeological Investigation and Terrain Analysis Peer Reviews have now been completed. It is now appropriate for the Township Council to consider the application and the draft conditions they wish Lanark County to include in their decision.

Similar to consents, Lanark County is the Approval Authority for plans of subdivisions and condominiums. The Township's responsibilities are to review the application and provide any comments and recommend Township conditions of draft approval they deem appropriate to Lanark County for consideration. It is typical that Lanark County's approval

is conditional and that it is proponent's responsibility to satisfy the conditions prior to the proposed lots being legally registered and transferable.

It is important for Council to appreciate that Lanark County has provided notice to prescribed persons and public bodies of the application and have made available to the public all the information submitted by the applicant, in accordance with the Planning Act. The public are able to provide comments to Lanark County, however the Planning Act does not require a public meeting for proposed plans of subdivision/condominium.

2. DISCUSSION

On behalf of 1126432 Ontario Inc. (Owner), Q9 Planning + Design Inc. (Applicant) submitted an application for a 13 Lot Plan of Subdivision for lands described as Part of Lot 16, Concession 6, Part of Lot 42 and 37 to 40, Registered Plan 1490, geographic Township of Lanark, now the Township of Lanark Highlands, known locally as 2236 Galbraith Road. The subject property is a 10.5 ha (25.9 ac) parcel of land located entirely within the Hamlet of Middleville and fronting on Galbraith Road and the 6th Concession D Lanark, both being an opened and maintained Township Roads.

The draft plan of subdivision proposes to create 13 residential building lots, fronting on and having access from an internal crescent road to be assumed by the Township. The proposal also includes the creation of a stormwater block and pond which would also be assumed by the Township.

The residential building lots are proposed to range in size from 5,504 m2 (1.4 acres) to 11,006 m2 (2.7 acres) and are to be serviced by individual wells and septic systems.

In support of the proposed Plan of Subdivision, the applicant submitted the following documents:

1. Planning Justification Report: Draft Plan of Subdivision, Galbraith Road, Middleville, Township of Lanark Highlands, November 15, 2025 (Q9 Planning + Design Inc.)
2. Hydrogeological Investigation & Terrain Analysis, Proposed Subdivision – Galbraith Road, Lot 16, Con. 6, Part of Lot 42 and 37 to 40, Registered Plan 1490, November 13, 2025 (Gemtec)
3. Geotechnical Investigation, Proposed Easton Subdivision, Village of Middleville, County of Lanark, April 3, 2024 (Gemtec)
4. Environmental Impact Statement, Proposed Subdivision, Lot 16, Con 6, Township of Lanark Highlands, September 11, 2024 (Gemtec)
5. Servicing Options and Preliminary Stormwater Management Report, Middleville Subdivision, November 18, 2025 (Tatham Engineering)
6. Draft Plan of Subdivision, Part of Lot 16, Con 6, Geographic Township of Lanark, Township of Lanark Highlands, County of Lanark, November 24, 2025 (Callon & Dietz, OLS)
7. Conceptual Site Plan, Easton Subdivision, November 2025 (Gemtec)

It is understood that the following peer reviews have been commissioned by Lanark County:

1. Environmental Impact Study Peer Review, Plan of Subdivision 09-T-2025004, Part of Lot 16, Con 6, Township of Lanark Highlands, February 28, 2026 & March 5, 2026 (LGL Limited).
2. Stormwater Management Peer Review, Easton Subdivision – Hamlet of Middleville, March 3, 2026 & March 4, 2026 (Jewell Engineering).
3. Hydrogeological Investigation and Terrain Analysis, Technical Review Memorandum, Lot 16, Con 6, Pt Lot 42, 37 to 40, Plan 1490, February 13, 2025

3. DISCRIPTION OF THE SITE

The applicant's Planning Justification Report (PJR) does well to describe the subject property, as an irregularly shaped parcel of land approximately 10.5 hectares in size, situated along the western side of Galbraith Road, just north of the village core of Middleville in the Township of Lanark Highlands. The site extends westward from Galbraith Road, forming a roughly triangular shape that widens as it moves inland, with its boundaries clearly defined by Concession Road 6D Lanark to the west and Galbraith Road to the east. The site currently consists of a pasture with a small barn with sparse tree cover and vegetation.

Access to the site will be achieved via a new internal roadway with two entrances from Galbraith Road. The proposed lots will then have frontage and access along the new proposed road. Currently, the lot is undeveloped and has no servicing infrastructure.

The surrounding area is characterized by a blend of low-density residential development and large agricultural plots, resulting in a diverse rural settlement pattern. This includes a variety of lot frontages and parcel sizes, contributing to the area's unique character. The residential uses situated immediately to the south and southeast of the property further underscore the appropriateness of the proposed development, integrating with the surrounding built form and Hamlet settlement area landscape.

A number of community amenities are situated within approximately 800 metres of the site, including the Middleville and District Museum, Trinity United Church, and the local fire service station.

4. PLANNING REVIEW

The applicant's PJR provides a comprehensive overview of the Planning Act requirements for applications of plans of subdivisions, Provincial Planning Statement (2024) directions for development as it applies to plans of subdivisions in rural settlement areas, conformity with the Lanark County Sustainable Communities Official Plan (SCOP), conformity with the policies of the Township of Lanark Highlands Official Plan, 2024 and the Township of Lanark Highlands Zoning By-law No. 2003-451.

Planning Act, RSO, 1990

The creation of lots by plan of subdivision is regulated under Section 51 of the Planning Act, RSO, 1990. It stresses that plans of subdivisions, like consents, must have regard

for matters related to health, safety, convenience, accessibility and welfare of the present and future inhabitants of the municipality. The Planning Act establishes criteria by which plans of subdivision are evaluated, including provincial interests, public interests, suitability of the lands, roads, lot configuration, conservation of natural resources and flood control, utilities and services, and represents efficient and appropriate use of the land.

This Report concurs with the conclusion of the applicant's PJR that the proposal draft plan of subdivision has regard for the applicable criteria of Section 51 (24) of the Planning Act.

Provincial Planning Statement (PPS) 2024

The PPS 2024 provides direction to municipalities on planning for growth and development, establishing provincial expectations on addressing the housing crisis.

In general terms, the PPS 2024 directs the majority of development to fully serviced communities. In communities such as the Township of Lanark Highlands, growth is directed towards "rural settlement areas" such as the Hamlet of Middleville. The direction specifically states that "When directing development in rural settlement areas, planning authorities shall give consideration to locally appropriate rural characteristics, the scale of development and the provisions of appropriate service levels."

The PPS 2024 also provides direction on the protection of natural heritage features, directing development away from natural hazards, ensuring appropriate and adequate supply of water and the treatment of waste and effective stormwater management.

This Report concurs with the conclusion of the applicant's PJR that the proposal draft plan of subdivision is consistent with the PPS 2024.

Lanark County Sustainable Communities Official Plan (SCOP)

The Lanark County SCOP recognizes the subject property being within the Middleville Settlement Area. Like the PPS the SCOP directs development to rural settlement areas at a density that can be supported by private services. The SCOP contains policies on new roads, subdivision control, and supporting studies for development.

This Report concurs with the conclusion of the applicant's PJR that the proposal draft plan of subdivision conforms to the Lanark County SCOP.

Lanark Highlands Official Plan (OP)

The Lanark Highlands Official Plan (OP) is an important document when considering new residential subdivisions. The introductory statements promote appropriate and efficient growth and development, encouraging a mix of housing to address housing needs, directed primarily towards the Township's rural settlement areas such as the Hamlet of Middleville.

Section 3.2 of the OP contains the specific policies related to Village and Hamlet Communities. The Hamlet of Middleville is specifically identified as a rural settlement

area. The policies speak to promoting healthy, sustainable growth of its hamlets, understanding the servicing limitations and need to protect public health of its residents. The policies make specific reference to regenerating Hamlets and encouraging residential development at an appropriate scale, understanding development limitations on the use of private well and septic services. The policies also speak to ensuring the provision of roads and other municipal services necessary for the development of functional neighbourhoods.

Section 3.2.3 requires that all residential development proposals in excess of three lots is to proceed by way of plan of subdivision. For such applications, studies such as hydrogeological studies and approved sewage treatment systems shall be required.

Section 3.2.5 sets out the specific residential development criteria, including buffering from non-compatible uses, zoning controls, and additional residential units. The policies speak to the impact of the proposed development on the neighbourhood in terms of parking, traffic, open space and appropriate water and wastewater services.

Section 7.4.3 sets out the polices for local roads. Specific reference to “new roads” states that new roads may be added to the road system where such roads are the result of approval of a plan of subdivision. New roads must be constructed to municipal standards, at no cost to the municipality, and must satisfy Council that the additional maintenance costs are justified.

Section 7.4.7 contains the Township’s policies regarding water, wastewater and stormwater services. Section 7.4.7.2 states that:

> “Where development is proposed on private services, the applicant must show that there is sufficient quantity and quality of potable water and must also demonstrate that a permit can be obtained for the proposed sewage system from the Health Unit or the Ministry of Environment, Conservation and Parks as applicable. In addition, the applicant must demonstrate that the proposed development will not result in increased costs to the municipality for the provision of other required services such as road maintenance, school transportation, waste collection etc.”

In terms of stormwater management, Section 7.4.9.2 states that stormwater systems shall be resilient to climate change and encourage low impact approaches to stormwater management (infiltration). The policies provide detailed directions on the preparation of SWM plans, consistent with direction from the Ministry of Environment, Conservation and Parks (MECP).

Finally, Section 8.4.4 of the OP sets out specific direction for development by way of plans of subdivision. Specific reference is given to compliance with the Planning Act and the local OP policies. Studies such as Environmental Impact Studies (EIS), servicing option reports, stormwater management/grading/sediment control plans and hydrogeological and terrain analysis are all highlighted as key studies. There is also direction provided on design of subdivisions, lot configuration, compatibility with neighbouring properties, road and access considerations, including pedestrian access, parks and open spaces, need and emergency/secondary access.

The applicant's PJR review of Lanark Highlands Official Plan policies concludes with the opinion that the proposed development conforms to the OP.

It is the position of this Report that the proposed development is located in a rural settlement area, as is preferred, and includes a modest amount of new road. The proposed subdivision provides additional housing opportunities in a preferred location and has demonstrated through the various studies that development on private wells and septic systems is sustainable. Stormwater management plan includes a stormwater retention pond which will be the responsibility of the Township. Environmental matters have been considered. The peer review of the critical documents (EIS, SWM, Hydrogeological) conclude development can proceed in an efficient and sustainable matter, subject to various conditions.

The only issue which appears to be unclear relates to open space and parkland. It is held that the provision of parkland for large lot, privately services subdivision is not always necessary and that the individual lots themselves contain a large amount of open space and lands for outdoor enjoyment. It is typically recommended that for such development, cash in lieu of parkland be considered. This would provide the Township with funds to invest in already existing public lands in the Hamlet. It is recognized that the Township already owns several parcels of land within Middleville. This is an issue that would benefit from some direction from Council.

This Report supports the conclusions of the applicant's PJR that the proposal draft plan of subdivision conforms to the Lanark Highlands OP.

Zoning By-Law

The applicant's PJR accurately identifies the subject property as being located within the "Hamlet (H)" zone which permits a range of uses including single, semi-detached, triplex and apartment residential uses. The proposed single detached residential development is consistent with the H zoning. It is stated that future residential dwellings "will comply with the building setbacks, lot coverage and height requirements" of the H zone.

The only zoning related issues is associated with additional residential units (ARU) which are also permitted within the H zone. The issue is that ARUs add additional load to the water supply and septic systems for the individual lots. The size of the individual lots has been established through the hydrogeological analysis. It appears that the hydrogeological analysis did not consider the possibility of ARUs which is not uncommon. It is suggested that a condition of draft approval requires the applicant to consider ARUs and the ability of the lots to handle the additional load. If the lots can not support ARUs, a zoning by-law amendment to remove the "as-a-right" use of ARUs would be required.

5. PEER REVIEW COMMENTS

As noted in this report, three of the studies submitted by the applicant have been subject to peer review and agency comments (Appendix D).

The Peer Review of the Environmental Impact Study was undertaken by LGL Limited in their March 5, 2026, submission to Lanark County. Their comments included a number of statements for improving the EIS, but which "will not affect the lot configuration." They

concluded by stating “we would have no objection to the approval of the application from a natural heritage perspective, subject to the incorporation of the following Draft Plan conditions:”

1. “Submission of an EIS addendum addressing the technical comments within this review to the satisfaction Lanark County and Township of Lanark Highlands.
2. Submission of all required MECP permit requirements (bobolink, meadowlark, and potential bat habitat) and the implementation of these requirements via detailed design drawings, construction management plans, and/or the subdivision agreement to the satisfaction of the County, Township, and MECP.
3. Submission of a compensation plan which includes planting, management, and monitoring plan and schedule for grassland breeding bird habitat compensation to the satisfaction of MECP, Lanark County, and Township of Lanark Highlands.
4. The registration of a conservation easement over the proposed compensation site to ensure its management and protection in perpetuity or an equivalent protection measure to the satisfaction of Lanark County and the Township of Lanark Highlands.”

The Peer Review of the Stormwater Management Plan was undertaken by Jewell Engineering in their March 3, 2026, submission. They recognize that the existing drainage pattern consists of two catchment areas and the construction of a stormwater management pond to regulate stormwater during a 100-year rainfall event. They conclude that they have no concerns with the proposed SWM design concept, water quality approach, or quantity, LID and water balance at this stage. They provided direction on recommended updates to the SWM plan as the project moves forward.

Jewell Engineering also prepared a March 4, 2026, letter to Lanark County regarding the concerns of the downstream property owner (Mr. Patrick Ouellette). It was noted in their response that “intent of the Jewell review of the drainage concerns presented by the landowner is not to provide a critique of the landowner’s understanding of stormwater management principles, legislation or policies. Instead, we have reviewed the report to help provide a summary of the concerns raised and recommend potential actions that can be taken.” It was suggested that an enhanced stormwater management plan containing a full water balance showing predevelopment conditions matching post development conditions may assist in addressing the concerns.

The Peer Review of the Hydrogeological Investigation and Terrain Analysis was undertaken by BluMetric in their February 13, 2025, submission to Lanark County. Their review endorsed the hydrogeology and aquifer conclusions and implementation of the recommended protective measures, concurred with the proposed placement of private wells and septic beds, recommended well casing of 24.4 mbgs and new wells drilled to a depth of 109 m and endorsed the assessment of water quality and the conclusion that the bedrock aquifer is capable of supplying safe drinking water of acceptable quality, subject to the treatment recommendations. They concluded that “BluMetric supports the determination that the site is appropriate for the development of a 13-lot subdivision. Provided that the hydrogeological recommendations outlined in this report are followed and the lot schematic of Figure 5 (Appendix C of this report) is implemented, the proposed development is expected to be safe and sustainable over the long term.”

6. PUBLIC COMMENTS

At the time of the writing of this report, the Township was aware of two separate comments submitted to Lanark County from surrounding property owners. Mr. Patrick Ouellette of 4248 Wolf Grove Road has expressed concerns regarding stormwater management and the impact on his downstream property. Ms. Kirsten Perreault, 2427 Galbraith Road, has expressed concerns with impact on the natural environment, water supply, increased traffic and noise, impacts on local farms, impact on local taxes and the lack of local amenities.

Mr. Ouellette's concerns regarding stormwater management have been considered by the peer review consultant and recognized as an "existing condition". The peer review did suggest an additional scope of work for the final SWM plan would be beneficial.

Ms. Perreault's concerns appear to be addressed by the supporting studies. Council may wish to discuss the provision of amenities in their discussions on provision of parkland or cash-in-lieu of parkland.

7. SUMMARY AND RECOMMENDATIONS

As matters now stand, the proposed 13 lot residential subdivision in the Hamlet of Middleville is found to have merit and represents good land use planning. The development proposal is consistent and conforms to the relevant planning documents noted in this report and the applicant's PJR. Additional discussion will be required related to the provision of parkland, although cash-in-lieu of parking is recommended and the accommodation of ARUs, both of which can be identified as conditions of draft approval. It is now appropriate for Council to consider recommending conditions of draft plan approval to Lanark County, the subdivision approval authority.

8. FINANCIAL IMPLICATIONS

All costs associated with this Application are borne by the proponent. The construction of the road and stormwater management infrastructure are to be paid by the developer. There will be a need for a subdivision agreement between the proponent and the Township, that sets out financial controls, posting of securities, default provisions and clear responsibilities, ensuring that all costs are borne by the proponent.

9. OPTIONS CONSIDERED

1. Receive the report and forward recommended conditions to Lanark County for consideration;
2. Defer consideration of the report to allow for further deliberation on the merits of the application.
3. Recommend to Lanark County that the draft plan of subdivision application not be approved with clearly stated reasons (not recommended).

10. STRATEGIC PRIORITIES

Advances the sustainable growth development of the Hamlet of Middleville.

11. RELEVANT LEGISLATION AND POLICIES

Planning Act, RSO, 1990
Provincial Planning Statement (2024)
Lanark County SCOP
Township of Lanark Highlands Official Plan
Township of Lanark Highlands Zoning By-Law 2003-451

12. OTHERS CONSULTED

County of Lanark
Peer Reviewers

13. ATTACHMENTS

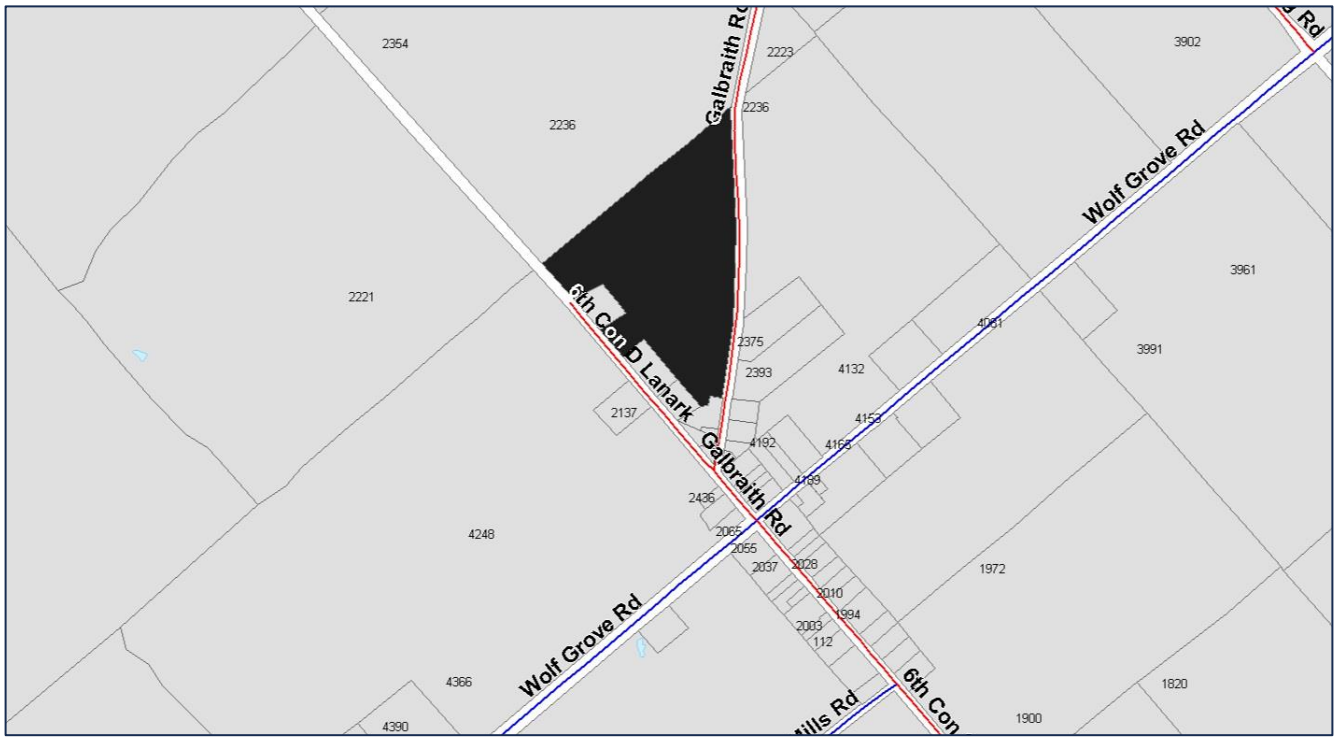
Appendix “A” – Subject Property
Appendix “B” – Proposed Draft Plan of Subdivision
Appendix “C” – Conceptual Site Plan
Appendix “D” – Peer Review Comments
Appendix "E” - Known Public Comments
Appendix “F” – Recommended Township Conditions of Draft Approval

Prepared By: Forbes Symon, Senior Planner, Jp2g Consultants Inc.

Approved By: Nicole Guthrie, Clerk

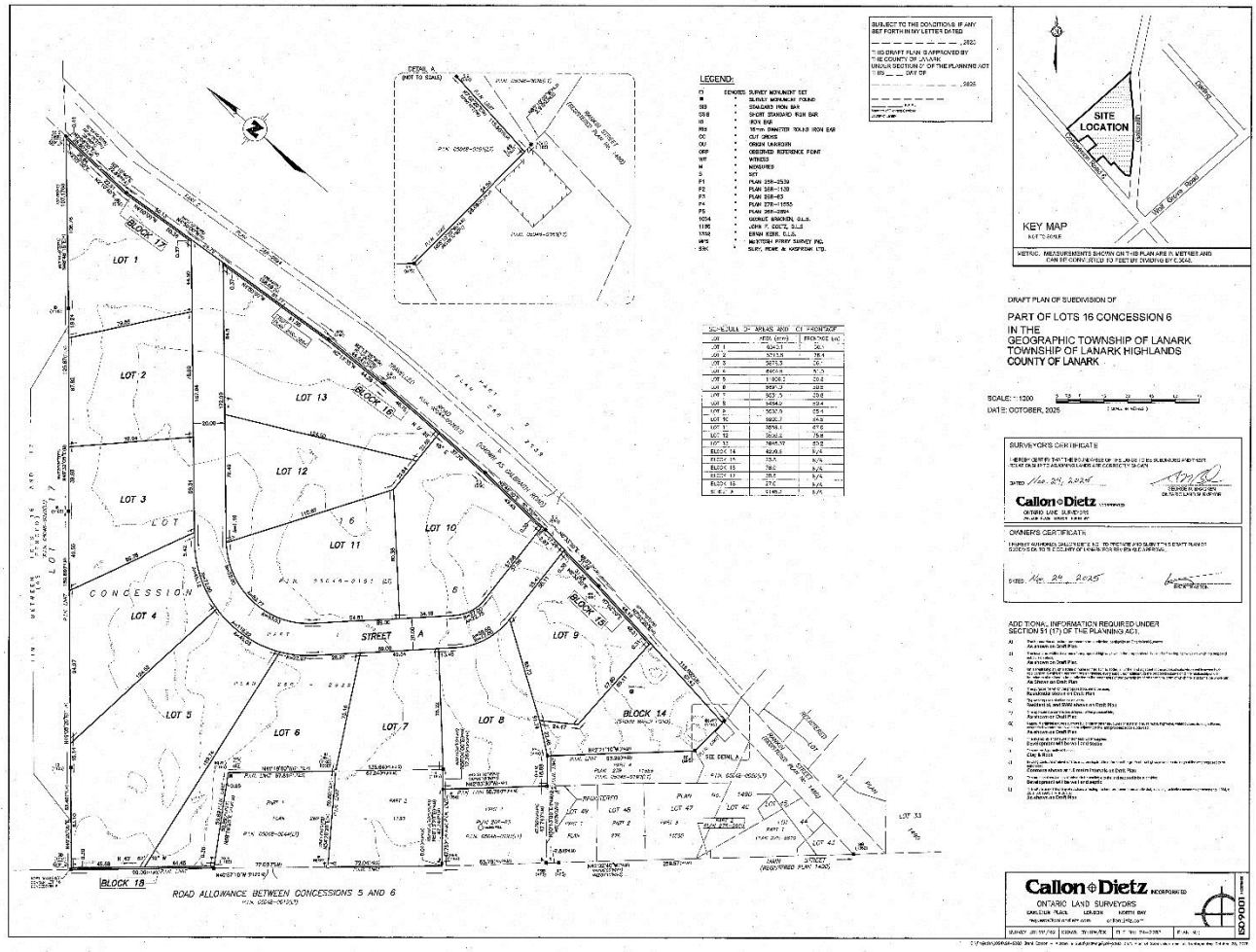
APPENDIX A
SUBJECT PROPERTY

Part Lot 16, Con. 6, Part of Lot 42 and 37 to 40, Registered Plan 1490, geographic Township of Lanark, now the Township of Lanark Highlands, known locally as 2236 Galbraith Road

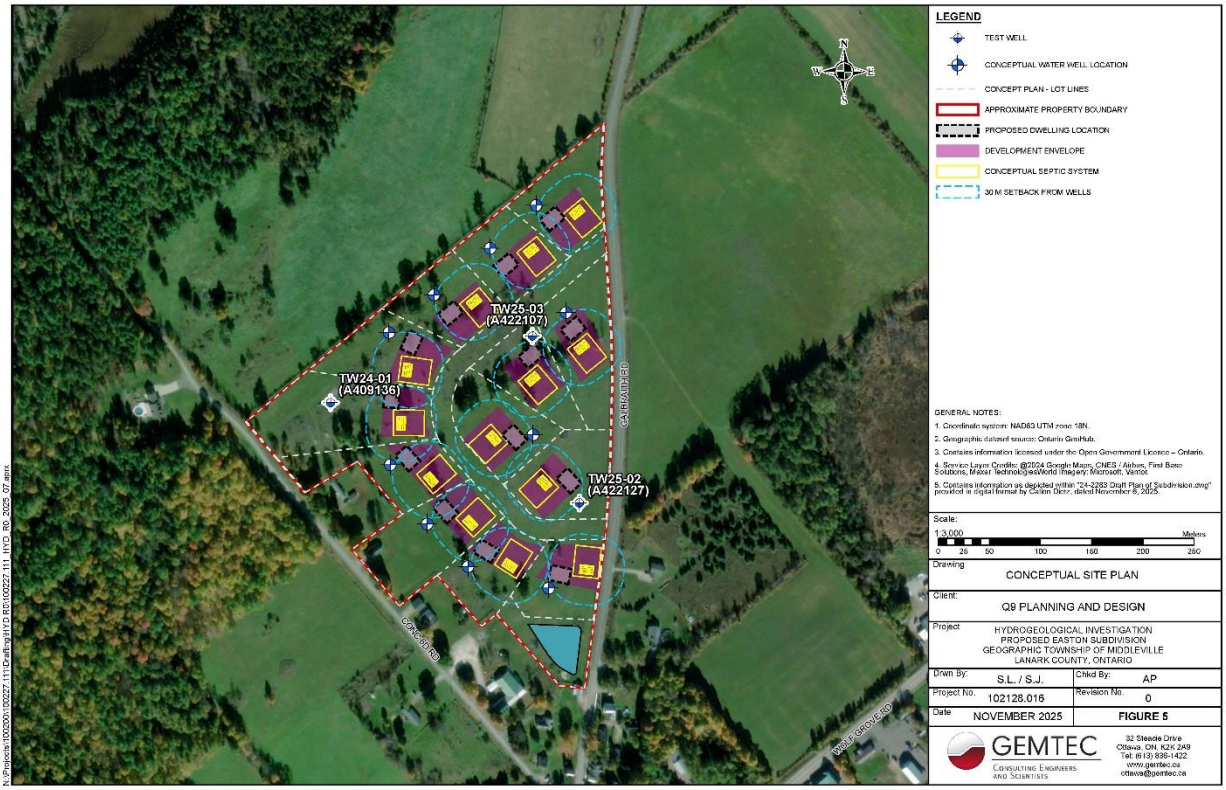


Subject Property

APPENDIX B
PROPOSED DRAFT PLAN OF SUBDIVISION



APPENDIX C
CONSEPTUAL SITE PLAN



APPENDIX C
PEER REVIEW COMMENTS

LGL Limited
445 Thompson Drive, Unit 2
Cambridge, ON, N1T 2K7

Environmental Impact Study Peer Review

Item:	Peer Review of Environmental Impact Study Lanark County Plan of Subdivision File: 09-T-25004 LGL File TA9443-04
Location:	Part of Lots 16, Concession 6 Township of Lanark Highlands, Lanark County
Author:	Beverly Saunders Heather Polan Madhupreeta Muralidhar
Date of Review:	March 5, 2026

Documents Reviewed

- Environmental Impact Study (EIS) by GEMTEC Consulting Engineers and Scientists Limited dated September 11, 2024
- Planning Justification Report (PJR) by Q9 Planning + Design Inc., dated November 14, 2025.
- Provincial Planning Statement, 2024
- Lanark County Sustainable Communities Official Plan and Schedules, 2012
- Township of Lanark Highlands Consolidated Official Plan and Schedules, 2024
- Township of Lanark Highlands Zoning By-Law No. 2003-451 and Schedules

Project Understanding

It is our understanding the landowner is proposing a plan of subdivision consisting of 13 lots on the subject parcel and that the subject property is currently vacant. We further understand no Official Plan Amendment or Zoning By-Law Amendment has been requested at this time. The below noted comments reflect this understanding.

Natural Heritage Feature Review

The Subject Property is located within or directly adjacent to the following:

- Significant Woodlands within Canadian Shield (west of the subject property, as identified on Schedule C of Lanark County Sustainable Communities Official Plan)
- Confirmed (Eastern Meadowlark and Bobolink) and potential habitat (Species at Risk bats) for Endangered and Threatened species and species regulated under the *Endangered Species Act* and the *Migratory Birds Act*
- Significant Wildlife Habitat for Deer Yarding Areas and Cervid Movement Corridors

Recommendations

Based on the peer reviewers' assessment of the submitted EIS and our understanding of the policy context (see Background Information below), we would have no objection to the approval of the application from a natural heritage perspective, subject to the incorporation of the following Draft Plan conditions:

1. Submission of an EIS addendum addressing the technical comments within this review to the satisfaction Lanark County and Township of Lanark Highlands
2. Submission of all required MECP permit requirements (bobolink, meadowlark, and potential bat

Technical Commentary (ensuring EIS accuracy):

6. The EIS references Provincial Policy Statement 2020. Please update it to reference Provincial Planning Statement 2024.
7. Please be advised that Section 8.4.5.4 of the Township of Lanark Highland Official Plan provides policies for a full EIS. In consideration these policies and the PJR, which includes findings from the Geotechnical Study, Hydrogeological Investigation & Terrain Analysis and Preliminary Stormwater Management Report, it is recommended that the EIS be updated to summarize the full development plans (to the level known) and to include language confirming the development plans with applicable policy and legislative requirements.
8. Please update the EIS to include currently listed species within the SAR list and confirm if additional mitigation measures are required to address these additional species.
9. Please include recommendations in the EIS around rescreening the property for SAR prior to site development, to confirm compliance with legislative obligations at the time of construction.
10. The characterization of the Bobolink/Eastern Meadowlark Habitat must consider adjacent lands to confirm it's overall size. Please update the EIS to consider this in the overall habitat size calculations.
11. Please update section Section 3.3 of the EIS to include relevant information for groundwater features within the study area and potential impacts to natural features as a result (if any).

The peer reviewers are of the opinion that the above comments will not affect the lot configuration, subject to the location of an appropriate site for compensation to meet compensation recommendations and requirements. As such, it is our opinion these comments can be addressed through the recommended condition of draft plan approval.

Background information (for information purposes only)

Policy Context Review

Below represents our understanding of the policy context applicable to the subject Plan of Subdivision application:

- The PPS requires no negative impact to the feature or its ecological function be demonstrated for development of lands within and adjacent (within 120 metres) to significant wildlife habitat and significant woodlands within ecoregions 6E and 7E (Section 4.1.5 and 4.1.8).
- The PPS prohibits development in threatened and endangered species habitat except in accordance with applicable provincial and federal legilsation (section 4.1.7).
- Bill 5 has removed the ability to pay into a conservation fund for compensation under the ESA. The Species Conservation Act is pending but has not yet passed.
- The Significant Wildlife Mitigation Tool indicates that Eastern Meadownlark and Bobolink habitat are excluded from the indicator species for Open County Brid Breeding Habitat (#32) as they are protected and listed under the ESA. If they were delisted, it is the peer reviewers opinion these species should and would need to be incorporated into these criteria and that the site would therefore be considered Significant Wildlife Habitat and protected accordingly.
- Section 5 of the Lanark County Sustainable Communities Official Plan 2025 Consolidation includes policies on natural heritage features. Section 5.5.2 outlines policies for Endangered or Threatened Species Habitat. These policies state that development and/or site alteration within significant habitat is prohibited but may be permiited within 120 metres if an EIS demonstrates that there will be no negative impacts.
- Policy 5.5.2.2 of the Lanark County Sustainable Communities Official Plan states that approval authorities shall, subject to federal or provincial legislation, refuse development applications where the development review process, which can include an Ecological Site Assessment, confirms the existence of

significant habitat of endangered or threatened species as approved by the Ministry of Natural Resources.

- Section 5.5.4 and 5.5.5 provides policies on development and/or site alteration within 120m of Significant Woodlands and Significant Wildlife Habitat. These policies do not require an EIS for development and site alteration provided the Significant Woodlands are located on the Canadian Shield but require an assessment of no negative impact for Significant Wildlife Habitat.
- Schedule C of the Township of Lanark Highlands Official Plan Site Plan identifies Significant Woodland adjacent to the subject property on the west side;
- The Township of Lanark Highlands Official Plan (Section 5.3.1) includes policies for development within and adjacent to Habitat for Endangered or Threatened Species. These policies prohibit development and/or site alteration within the identified habitat unless an environmental impact statement demonstrates no negative impacts on the natural features or associated ecological function. Development of adjacent lands that are within 120m will require an EIS to determine no adverse impact.
- The Township of Lanark Highlands Official Plan (Section 5.3.4) includes policies for development within and on adjacent lands within 120m of Significant Wildlife Habitat. These policies require an EIS to assess the impact of development and site alteration and to demonstrate no negative impact on the natural features or ecological functions within the identified habitat.
- Section 8.4.5.4 of the Township of Lanark Highlands Official Plan sets out policies for a full Environmental Impact Statement.

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March 3, 2026

Lanark County
99 Christie Lake Road
Perth, Ontario
K7H 3C6

Attn: Koren Lam

RE: Easton Subdivision – Hamlet of Middleville
Stormwater Management Peer Review
Jewell Project No.: 240-5539

Ms. Lam,

Jewell Engineering has completed a review of the stormwater management design for the residential subdivision at 2236 Galbraith Road in the Hamlet of Middleville, Lanark County. The following documents were submitted for review:

- Lanark County Subdivision Application Form
- Draft Plan of Subdivision, prepared by Callon Dietz, dated October 2025
- Conceptual Plan, prepared by Callon Dietz, dated October 2025
- Planning Justification Report, prepared by Q9 Planning + Design, dated November 15, 2025
- Geotechnical Investigation Report, prepared by GEMTEC, dated April 3, 2024
- Servicing Options & Preliminary Stormwater Management Report, prepared by Tatham Engineering, dated November 18, 2025
- Sewer CCTV Inspection Report and Associated Files, dated May 16, 2025

The 10.5 hectare residential development would provide single detached estate homes in the hamlet of Middleville. This development is a single looping street that will have 13 residential lots and a stormwater management block. Site grading changes will be minimized with front yard sloping toward Street A while sides and rear yards will be undisturbed as possible. Stormwater will be conveyed to the stormwater management facility via ditches and culverts.

Tatham reviewed the existing conditions drainage and identified the drainage patterns can be summarized into two catchments:

- Catchment 101 is the largest at 7.69ha. This catchment drains southeasterly to Galbraith Road and contributes to the storm sewer system along Galbraith Road or to the 450mm cross culvert under Concession Road 6D just west of the intersection. Both drainage routes collect on the west side of Concession Road 6D and enter the small watercourse that short cuts through
- Catchment 102 is south and west of Catchment 101 and drains in a diffuse manner toward Concession Road 6D.

They proposed a stormwater block that is approximately 0.42ha that is immediately upstream of the existing ditch inlet DICB1. Runoff will enter the SWM facility via a grass channel with a bottom width of 2m and side slopes of 3:1 to a maximum depth of 0.5m. Drainage will be routed from Street A through a proposed grassed swale situated within a 10m drainage easement over the west limit of Lot 9. The easement will include a 3m wide maintenance access route. Roadside ditches on Street A will have banks no steeper than 2.5:1 and flat bottom widths of 0.5m.

The pond is designed to receive internal drainage only from Catchment 201 and attenuate the discharge to a rate of 25 L/s in the 100-year rainfall event. This discharge rate is significantly reduced from pre-development conditions to allow the entire 100-year runoff to enter the existing storm sewer. Tathem determined that an available capacity within the storm sewer would be 25L/s.

When the external lands run off uncontrolled to the catchbasins and ditch inlets, the remaining capacity in the storm sewer during the 100-year 24 hour SCS Type II event is 25 L/s. Tatham has proposed a solution that will eliminate overland flow during major events.

In summary, I have no concerns with the proposed SWM design concept at this stage. My detailed review comments are included below.

Tatham identifies the stormwater management plan includes mitigation for water quality. The treatment target is "Enhanced", which is understood as achieving 80% TTS removal. A dry pond is proposed to meet the MECP Water Quality Storage Requirements where a minimum active storage volume of 136.9 m^3 is needed. The water quality active storage (calculated at 112.3 m^3) needs to be detained for at least 24 hours. A detention time of 48 hours will be targeted during detailed design. The dry pond is not the only quality feature; the grassed swales throughout the site will also provide varying degrees of quality treatment to remove suspended sediments prior to the runoff entering the pond. The velocity of drainage in the grassed swale during the 25mm quality event is 0.38 m/s, sufficient to assist quality treatment objectives.

While a calculation that would show the combined treatment effectiveness of the pond/swale system was not included, one can conclude it would exceed the target removal rate given that the pond has significantly more than ample active storage on its own.

I have no concern with the water quality approach at this stage. Detailed review comments are included below.

Tatham addressed the questions of mitigation for peak flows, as well as the consideration of LID opportunities and water balance requirements. Tatham concluded that the peak flow could be reduced with the implementation of a SWMF to allow the 100-year event to be conveyed through the existing storm sewer alone. This approach is beyond the norm of Pre to Post, but is still accepted as long as it is feasible. LID opportunities will be explored where possible, specifically ensuring roof drains outlet to pervious areas to promote infiltration. Given the soil classifications in the area, I would agree that the area is suitable for infiltration. The municipality does not require a water balance.

I have no concerns with quantity, LID and water balance.

Jewell is satisfied with the general direction of the preliminary stormwater management plan and options. Within the report and calculations Jewell noted some inconsistencies which may change the calculations slightly. It is important that Tatham review the following comments and provide rationalizations or update accordingly during detailed design.

1) Ensure that the location of the homes, specifically the front of the house, abides by the grading and catchment plans. The catchment divide should consider the location of the house if all front yards are drained to the street.
2) Please elaborate upon the significance of restricting runoff from the site to be entirely conveyed by the storm sewer? In the existing conditions, only flows up to the 5-year would be expected to be conveyed by storm sewer, while the major events would travel overland. Explain why this is a preferred drainage solution.
3) The road crossing culvert from approximately Lot 10 to drainage easement has not been sized. Please provide relevant sizing in detailed design submission.
4) The emergency weir at an invert elevation of 192.30m has not been sized. Please provide sizing in detailed design submission.
5) The asphalt road width is inconsistent. It is listed as 8.5m wide in some contexts, where others the width is 9.5m. This width will directly affect the imperviousness and runoff generation. Please confirm the road width and verify that it is correct in detailed design submission.
6) Per GEMTEC's Geotechnical Investigation, there are reported rock outcroppings in the SWM Block. Provide comment on any impact this may have on the SWMF in detailed design submission.

It is understood that some concerns have been expressed regarding the existing storm sewer system that outlets through private property. This is reviewed under separate cover.

If you have any questions, please feel free to contact the undersigned.

Sincerely,

Bryon Keene, P.Eng.
Jewell Engineering Inc.

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March 4, 2026

Lanark County
99 Christie Lake Road
Perth, Ontario
K7H 3C6

Attn: Koren Lam

RE: Easton Subdivision – Hamlet of Middleville
Stormwater Management Peer Review
Jewell Project No.: 240-5539

Ms. Lam,

Subsequent to our initial review, comments from a downstream landowner were received and also reviewed by Jewell. The concerns expressed by the landowner relate to existing drainage issues they believe are currently causing damage to their property. They are concerned the proposed development will contribute to further damage.

In our discussion below we refer to the drainage system as a "municipal" system and intend to mean this to include Lanark County, but it is not intended to try to distinguish particular ownership, rather to categorize it as non-private.

The municipal storm sewer outlets southwest of Concession Road 6D into a tributary of Clyde River. The tributary flows through a series of on-line ponds thought to have been excavated historically. The tributary flows southward through the driveway for 4248 Wolf Grove Road and then through a culvert under Wolf Grove Road. The total distance of the route through private property is approximately 250m (from Google Maps). The landowner describes this route as a 'water easement'. Jewell did not review the registry office to confirm if this is a registered easement in favour of the County for drainage, but the landowner states in the report that a registered easement was not found.

The intent of the Jewell review of the drainage concerns presented by the landowner is not to provide a critique of the landowner's understanding of

stormwater management principles, legislation or policies. Instead, we have reviewed the report to help provide a summary of the concerns raised and recommend potential actions that can be taken.

Provincial Policies

An email from the landowner alleges that Lanark is proceeding with an application that does not adhere to PPS 3.6.8, which directs planning authorities to manage stormwater in alignment with "comprehensive municipal plans for stormwater management that consider cumulative impacts of stormwater from development on a watershed scale." The PPS provides direction to municipalities to undertake a wide range of integrated planning studies that many municipalities cannot undertake of their own accord. In this case, the proposed development lands are within the Clyde River watershed. While a municipally-initiated, watershed-scale study has not been completed by Lanark for the Clyde River watershed, the conservation authority has undertaken such studies that monitor and predict the impacts of development on a watershed scale.

The potential impacts of stormwater from development include:

a. Flooding
b. Erosion,
c. Water quality degradation, and
d. Reduction in groundwater recharge.

The 2024 MVCA Report Card for the Clyde River shows the Clyde River received excellent scores for surface water quality (phosphorus), forest cover, and groundwater quality (chlorides and nitrates) and good score for wetland cover. In that sense, the cumulative impacts are being monitored by the conservation authority, and the Clyde River watershed is in very good shape. There is no indication of cumulative impacts to surface water quality and the groundwater resource from development. This is very good news for the Clyde River Watershed and its residents.

It is also noted that Clyde River Floodrisk Mapping series issued December 8, 2023 provides a visual display of areas subject to flooding. Map 8 of the series shows the lands west of the subject site and it is evident that the Ouellette lands are not subject to watershed flooding – that is, they are entirely outside of the flood risk area. Floodrisk mapping includes forecasted development per Official Plans. This means, the flooding risk from cumulative impacts of development are considered and are mapped.

It would seem that work undertaken by the conservation authority (with funding from the municipality and other levels of government) has considered the cumulative impacts on a watershed scale and no risk to the Ouellette farm is presented.

Thus, it is concluded that the focus of the complaint is local impact, which is not the subject of the PPS 3.6.8.

Owner's Investigation Report

The concerns allege:

1. There has been a diversion of lands to drain through the tributary that would not naturally drain there. The extent of the diversion and the time of the diversion is not presented. The diversion is equated with the area serviced by the municipal storm sewer.
2. The water easement is 'under stress' and is experiencing damage.
3. The new development would increase this damage.
4. The direct damage is described as erosion.
5. Indirect damage is described as a maintenance obligation to 'prevent downstream problems'.
6. Hydraulic calculations using the continuity equation and Manning's Open Channel Flow equation (Imperial units) were put forward as evidence of scale of the diverted flows.
7. The volume of stormwater was low when purchased by the current owners in 2002, but has 'increased significantly' and is now causing damage.
8. Stormwater management ponds are not adequate to treat stormwater and should be 'heavily criticized'.

The allegations of existing damage are attributed by the landowner to two causes:

- climate change
- diversion of drainage via the storm sewer system.

The first cause – climate change is not within the power of the County to address. Planning for climate change, however, is. Going forward, new infrastructure must be resilient to climate change. Climate change impacts are considered

The second cause is claimed to be the diversion of lands by the storm sewer system. The storm sewer system is situated along the lower portion of Galbraith Road while the majority of the road is drained by open ditches. A review of the surface drainage in the area suggests the lands contributing to the tributary in question are generally consistent with topographic divides. This means the lands contributing to the municipal sewer system is not external to the natural watershed, but as can be seen from the natural topography, is fully within the natural watershed. A diversion of drainage is not the cause.

Timing of the historic changes to the tributary is not known. It is suspected that the original drainage system would have been ditched as the municipality constructed the first roads and

stormwater collected thereby passed through the road via a culvert. The culvert would have been a point source for concentrated flows. The later addition of a storm sewer wouldn't have diverted or added more external drainage or created a new point source. The urbanization of the drainage is suspected to have occurred long before the landowner purchased the property. According to the landowner's own analysis of the precipitation data, climate change impacts may be the cause of the erosion.

Other more recent but significant changes to the tributary were completed by the landowner with the construction of four large online settling ponds.

What can be done to address the existing alleged erosion?

The report claims that the municipal drainage has been diverted into his treatment system and is causing the erosion. But there have not arisen any links to indicate what structural changes have been made in the catchment that could cause this, as discussed earlier. If we are to interpret the landowner's intention with this claim, it is that the erosion can be corrected by diverting the municipal drainage away from his land. Could such a diversion occur and what would be the impact of this? To understand that much more study would be needed than presented here. But a cursory check can be contemplated.

The area contributing to the tributary is roughly estimated to be less than 35ha (see Figure 1). This represents a very small contributing area and would be insufficient to feed a continuously flowing watercourse unless supported by a substantial groundwater source. The landowner notes the presence of a groundwater source to the tributary. Not much is known about the aquifer supporting this spring.

The landowner describes the purpose of the online ponds as a 'runoff management system' that is designed to remove suspended solids and nutrients from stormwater drainage. The treatment system is discussed in detail and appears to include some active aeration. The goal of this system is stated by the landowner to produce 'high-quality water suitable for discharge into the environment.' The discharge point is the municipal ROW ditch where it crosses Wolf Grove Road.

The treatment system itself is described as providing crucial habitat and ecosystem diversity for a long list of species.

Although it is not stated in the report, Jewell assumes the 'runoff management system' was instituted by the owner, not for the treatment of the groundwater discharge that would be considered high quality water, nor for the treatment of municipal drainage that they allege is harming their runoff management system, but must therefore be intended for treatment of agricultural drainage from the landowner's property.

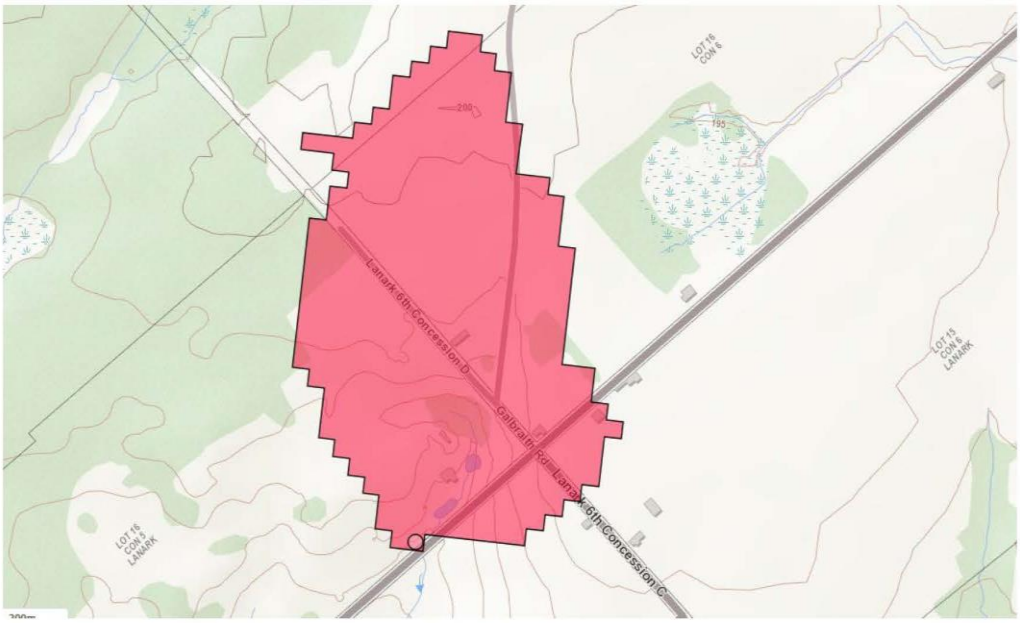


Figure 1: Contributing Area of the Tributary at Crossing of Wolf Grove Road (OWIT)

As such, it is not clear why the treatment would have been placed online since it would introduce contaminated water into the watercourse – the very feature to be protected. Stormwater quality treatment should not be performed online. It is clear that the design and construction of the works were completed with the knowledge of the drainage regime in place at that time and is still in place.

The tributary is reliant upon the surface and groundwater sources. Changes to the contributing area by a diversion of the drainage can also have a negative impact on the watercourse depleting it of its surface water contribution. Not enough is known about the groundwater source to assure a regulator that the water can be safely diverted out of the natural watershed to the tributary. A diversion of existing drainage is not recommended.

Nevertheless, the landowner has expressed they are not a willing host to the municipal drainage and are opposed to any development of lands within the contributing area. While it can be argued that drainage rights already exist through common law, the preferred solution would be to obtain formal drainage rights for the existing drainage.

Lanark County is interested in ensuring all drainage outlets meet the test of a 'sufficient and legal outlet'. The sufficient outlet term is borrowed from the Drainage Act legislation that would not apply to this situation since no Drainage Act approval is known to exist over this

watercourse. However, the intention is understood. While common law and potentially riparian rights would support your drainage outlet, disputes can only be resolved through the courts, and this is not an effective use of taxpayers' resources.

Instead, granted drainage easements are the preferred approach for municipal drainage over private property.

Drainage from Development

Jewell has reviewed the stormwater management plan for the proposed development and found it to be proactively protective, providing more storage than would be required and resulting in a much-reduced release rate than what would be required to achieve pre-development conditions. Still, minor changes to hydrology will occur.

A significant impact of development is reduction in groundwater recharge. In a rural area with larger lots, this impact will be small and can be mitigated using stormwater management techniques to enhance infiltration. The facility has the opportunity to provide full mitigation of drainage impacts of development.

Although the position of the landowner is that a stormwater management facility is a poor investment, inherently flawed, costly, and should be 'heavily criticized', such a facility provides ample opportunity to enhance infiltration as well as increase evaporation and transpiration (withdrawal of water by vegetation). Contaminants do collect in stormwater management facilities, but do not 'develop' as alleged by the landowner. Well designed stormwater management facilities will collect sediment including contaminants associated with development, and they do require infrequent sediment removal and disposal, just as roadside ditches and catch basins do. There is no magic to a stormwater management pond. They are just better at settling out contaminants than ditches are. The better they do their job, the more they will collect contaminants.

Onsite drainage features can also be adapted to enhance infiltration. The impacts from development can be mitigated on site. The current design provides peak flow mitigation, but not full volumetric mitigation. The erosion allegations would be mostly related to peak flows, but to some smaller degree is influenced by increased volume of runoff.

What then should the municipality do?

One cannot separate out and divert the drainage from the developing lands since this would rob the tributary downstream of the water it needs. Stopping all development is not a solution either, albeit this may be the hoped outcome of some.

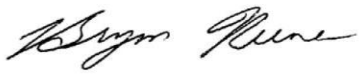
A full water balance analysis can address the volumetric concern. This is a higher level of stormwater management, but can likely be implemented here. However, since the landowner

is already alleging damage is occurring, no amount of reassurance can satisfy a landowner that the new development will not make matters worse. This may still be an unsatisfactory solution for a landowner that is already experiencing concerns.

An enhanced stormwater management plan that provides water balance matching pre-developed conditions will fully mitigate development impacts. This has not been fully presented in the current stormwater management design, but I suspect the design would be adaptable to implement full water balance.

If you have any questions, please feel free to contact the undersigned.

Sincerely,



Bryon Keene, P.Eng.
Jewell Engineering Inc.

February 13, 2025
Project Number: 220484-73

Alison Merkley
Lanark County
99 Christie Lake Road
Perth, ON K7H 3C6
613-267-4200 x1530

Technical Review Memorandum

Hydrogeological Investigation and Terrain Analysis
Lot 16, Con 6, and Part of Lot 42 &37-40 Reg Plan 1490
Township of Middleville, Lanark County, Ontario
GEMTEC dated: November 13th , 2025

At the request of Lanark County, BluMetric Environmental Inc. (BluMetric®) has prepared the following peer review comments for the above referenced report regarding the general requirements set out in the *Scoped Hydrogeological Report Requirements for Development by Consent* and the *Consultant's Screening Checklist for Hydrogeological Reports* (MVCA & RVCA, 2013, 2015), MECP Procedures D-5-4 and D-5-5 (1996a, 1996b), and the *Ontario Drinking Water Quality Standards* (O. Reg. 169/03).

Based on the documentation provided, it is understood that the proposed development involves the creation of thirteen (13) lots ranging in size from 0.6 to 1.6 hectares

The intended land use for the subdivision is residential, with single-family dwellings planned. The new proposed residential development will be serviced by an onsite well water supply and wastewater sewage system as municipal servicing is not available.

BluMetric held a pre-consultation meeting with GEMTEC on August 29, 2024.

Hydrologic Setting

- Ground surface at the Site is described as gently sloping to the south-east, with topography ranging from 200 to 195 metres above mean sea level (m a.s.l.).
- Shallow, local groundwater and surface water is expected to flow towards the southeast and post development into a designed stormwater pond.

Hydrogeology and Aquifer Sensitivity

- Geological mapping indicates indicate that the Site is underlain by glacial till (Silty Sand) and shallow bedrock to the south-east, as listed by the Ontario Geological Survey (OGS).
- The site is not located in an area of known or inferred karst.
- A review of the MECP Water Well Information System (WWIS) identified 55 drilled bedrock wells within approximately 500 m of the proposed severance lots.
  - Overburden thickness ranges from 0 m to 28.3 m.
  - Well yields range from about 3.8 to 113.6 L/min.
- Two (2) nearby properties were interviewed and sampled.
- 13 test pits were completed. The overburden is described as relatively thin with the bedrock encountered at depths varying from between 0.6 and 2.6 metres. The test pits generally encountered a thin layer of topsoil (all test pit locations), underlain by a layer of silty sand/sand and silt (test pits 24-01, 24-04 to 24-06, and 24-08 to 24-11 and 24-13), which overlies the bedrock surface. A layer of clayey silt was encountered at test pits 24-01 and 24-08 in between the silty sand layer and bedrock.
- GEMTEC identifies the site as **hydrogeologically sensitive**.
- Background nitrates were measured in the targeted aquifer, GEMTEC monitored the nitrate levels for more than a year and in general was fairly stable with some spatial variation.
  - Data suggests that the source of nitrate in groundwater is likely related to both on-site and off-site agricultural land use, and that spatial variability is related to groundwater flow as well as nitrate loading and dilution. Long-term water level records from on-site test wells and private well PW 2148 does not show a rapid response suggesting that there is not a direct connection between the ground surface and the bedrock supply aquifer, which is interpreted as providing a reduced potential for rapid nitrate or bacteria transport to the aquifer.
    - The background nitrates were carried forward into the impact concentrations.

  - Calculations met the D-5-4 guidelines.
  - *BluMetric agrees with this conclusion*
- All test wells and carried recommendations include additional protective measures, including increased setbacks between wells and septic systems (30 m) and the installed extended well casing of 24.4 m.
  - *BluMetric agrees with this conclusion and supports the implementation of the recommended protective measures.*

D-5-4 Individual on-site Sewage Systems

- Thirteen (13) lot subdivision do not meet the lot size criteria in MECP Procedure D-5-4 (Step 1).
- The site has been assessed using Step 3 in MECP Procedure D-5-4 (Nitrate Dilution Calculations).
- Nitrate attenuation calculation, in general is considered conservative, additionally the inclusion of background concentrations is considered a conservative approach.
- A conceptual lot development plan is provided in Figure 5 includes proposed 30 m setback from drilled wells.
  - *BluMetric concurs with the methodology and satisfactory results employed for impact assessment.*
  - *BluMetric concurs with the proposed placement of the private well and septic beds.*

D-5-5 Well Water Quantity

- A 6-hour pumping tests or equivalent were conducted at all three test wells (TW24-01, TW24-02 and TW24-03).
- Pumping rates ranged from 15-68 l/min.
- Each of the test wells had casings extended into bedrock to a depth of 24.4 m BGS.
  - **The extended casing recommendation of 24.4 mbgs is carried forward for all future well installation.**
  - **All newly constructed drinking water wells should be drilled to a final depth of 109 metres below ground surface to provide additional wellbore storage, particularly where low well yields are encountered.**

- Even though significant drawdowns occurred during each pumping test, recovery of each test was fairly rapid and based on all of the observations and calculations GEMTEC states "It is GEMTEC's opinion that the long term safe well yield of the onsite test wells, and future wells constructed in accordance with the well construction recommendations, is greater than the demand of the proposed development. Accordingly, GEMTEC has no concerns with long term sustainability of the proposed water supply aquifer or interference with neighbouring private wells,based on the available data."
  - *These results meet MECP Procedure D-5-5 requirements for individual domestic supply wells.*

D-5-5 Well Water Quality

- Two (2) water quality samples were collected, one after half and one at the end of the three tests. The sampled groundwater was odourless and clear. Water quality was consistent between all samples.
- No health-related exceedances were observed under the Ontario Drinking Water Standards, Objectives and Guidelines (ODWSOG). Operational guideline exceedances were noted for hardness.
- Bacteria (total coliforms) was detected in samples collected from TW24-01, and chlorine residual was 0 mg/L at the time of collection.
  - Re-chlorination was completed and bacteriological parameters analyzed were non-detectable, although it is noted that laboratory qualifiers were applied to total coliform and e.coli indicating *"Greater than 200 CFU background flora present. This may interfere with target colony growth and ability of analyst to count discreet colonies. The target colonies may be under-represented."*
  - Chlorination procedure appears to be non-typical.
  - All other wells show no detections of any total coliform and e.coli and it is GEMTECS opinion that based on the water quality sampling completed, the groundwater quality is considered to be acceptable from a bacteriological perspective.
  - *BluMetric concurs with this assessment*
- Overall, groundwater quality was good, with parameters compared against the Ontario Drinking Water Standards, Objectives, and Guidelines. Exceedances were noted for colour, hardness, and iron (each surpassed their respective aesthetic or operational objectives). Recommendations were provided regarding appropriate home treatment units and other mitigation measures, including:

  - Hardness: Install a water softener to reduce scaling effects.
  - Manganese: above the AO but below treatability limits, Greensand filters are recommended.
- Water treatment recommendations include the installation of a standard-grade residential water softener, and green sand filters. An ultraviolet (UV) disinfection unit may be considered as an optional measure, although bacteriological analysis did not detect the presence of bacteria.
  - ***BluMetric concurs with the conclusion that the bedrock aquifer is capable of supplying safe drinking water of acceptable quality, and agrees with the recommendations for treatment and other mitigation measures.***
- The well construction included a casing depth of 24.4m.
  - ***This aligns with the site's classification as hydrologically sensitive.***

Conclusions and Recommendations

BluMetric supports the determination that the site is appropriate for the development of a 13 lot subdivision. Provided that the hydrogeological recommendations outlined in this report are followed, and the lot schematic of Figure 5 is implemented, the proposed development is expected to be safe and sustainable over the long term.

Closure

If you have any questions relating to BluMetric's review, please do not hesitate to contact the undersigned.

Respectfully Submitted,
BluMetric Environmental Inc

Peer Reviewer

Michael Melaney M.Sc., P.Eng.
Manager, Water Resources and Sr. Civil/Env. Engineer

Senior Review

Jacqueline Brook M.Sc., P.Geo.
Senior Hydrogeologist

Ref: 220484_Middle Subdivision_Ontario.docx

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Mississippi Valley Conservation Authority (MVCA) & Rideau Valley Conservation Authority (RVCA). (2015). *Scoped hydrogeological report requirements for development by consent in Lanark County* (Version 1.0, July 2, 2015). MVCA and RVCA.

Limiting Conditions

This Memorandum (the "Memorandum") has been prepared for the exclusive use of Lanark County. This Memorandum is intended to provide a review and offer an opinion based on documents/data/productions provided by Lanark County and obtained from publicly available information sources (the "Information"). The opinions provided by BluMetric in the Memorandum:

Have relied in good faith on the Information provided by others as noted in the Memorandum and: has not independently verified the accuracy or completeness of such Information; have assumed that the Information provided is factual and accurate; must be read as a whole and sections thereof should not be read out of such context; and are based on our professional judgement and are subject to the limitations noted herein.

These limitations apply to the Memorandum. BluMetric agrees that the Memorandum represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Memorandum.

BluMetric Environmental Inc. accepts no responsibility for any deficiency, error, misstatement, or inaccuracy contained in this Memorandum because of omissions, misinterpretations or errors in the documents / productions given to BluMetric Environmental Inc. to review.

Nothing in this Memorandum is intended to constitute or provide a legal opinion. BluMetric Environmental Inc. makes no representation as to compliance with environmental laws, rules, regulations, or policies established by regulatory agencies.

Any use any unauthorized third party makes of this Memorandum, any reliance on the Memorandum, or decisions based upon the Memorandum, is the responsibility of those third parties. BluMetric Environmental Inc. accepts no responsibility for any loss or damages suffered by any unauthorized third party because of decisions made or actions taken based on this Memorandum.

APPENDIX E
KNOW PUBLIC COMMENTS

From: Kirsten
Sent: Monday, January 19, 2026 5:06 PM
To: Koren Lam
Subject: County File No. 09-T-25004

Hello,

Regarding the application from 1126432 Ontario Inc. proposing a subdivision at (part of) Lot 16, Concession 6, in the Township of Lanark Highlands, and, as per your notice dated 18 Dec 2025 ...

Please notify me of updates to the application as the review progresses and/or Lanark County's decision re this proposed subdivision.

This development would change the landscape in more ways than one. Many of us that have recently adopted Middleville as our home - having moved here from more populated areas - chose this place because of its rural environment and are deeply saddened by the proposed changes to the area.

Also, this email is to confirm that the previously expressed concerns of me and my neighbours still stand; that is, the below to which I have added additional notes:
- what, if any, impact there will be on the "deer yard" area (see township docs), and, impact on other wildlife / their habitats; there are several deer, foxes, coyotes, turtles, snakes, frogs/toads, darners, turkeys, grouse, vultures, and smaller bird breeds, including migrating birds, in the area (many of which I have seen/documented personally - including eastern bluebirds)
- long-term impact on the water table / our wells, and nearby creek (opposite my property; downhill from the proposed subdivision); also note, water runoff on that downhill has caused damage to my neighbours (Lot 43) more than once
- impact on the surrounding forest and misc flora
- increased traffic and noise (currently we have little to none, day and night)
- impact on local farms/farmers (the land is and has been used for cattle for several years)
- what kind of subdivision it will be (size of homes planned, loss of trees, children/park area, etc.)
- impact on our property tax bills (which is the least of our worries)

Especially worrying is the fact that we have heard nothing about what amenities, if any, amenities will be included in the development to occupy the expected occupants of these units; i.e., the children/teens. There is no store, library, playground, school, etc., in the area that can be reached without a car.

It is hard to understand why new homes are needed when there are homes in the area that have been vacant for several years. It feels like a township tax grab; a township

that installed a second sidewalk last year (yes, I have two sidewalks in front of my home) and which removes the snow from neither.

And not in your control obviously, we were particularly disheartened to hear that a proposal to keep the land agricultural was rejected.

Several of my neighbours are in fact upset with the individual who sold the land, it is assumed, with the knowledge that his relatives would be changing it from agricultural to, essentially, suburban.

Kirsten Perreault
2427 Galbraith Road
(Plan 1490, Lot 33, of Draft Plan of Subdivision)

INVESTIGATION REPORT

IMPACTS FROM INCREASING DOWNPOURS AND POTENTIAL LAND DEVELOPMENTS TO THE WATER EASEMENT LOCATED ON THE PROPERTY OF FERME OUELLETTE FARM

Prepared for:

Lanark County

Planning Department

99 Christie Lake Road

Perth, ON K7H 3C6

Lanark Highlands

Planning Department

75 George Street, PO BOX 340

Lanark, Ontario, K0G 1K0

Prepared by:

Ferme Ouellette Farm

4248 Wolf Grove Road

Lanark, ON K0G 1K0

Contents

Figures

1 Purpose and Overview

The purpose of this investigation is to describe the impacts from increasing downpours and potential surrounding land developments to the water easement located on the property of Ferme Ouellette Farm. The intent of this report is to provide Lanark Highlands and Lanark County with the objective evidence that the water easement is at capacity and cannot manage additional water runoff from surrounding land development.

This report starts by describing the location of the water easement within the Lanark Highlands which is situated on Ferme Ouellette Farm and provides a background describing the current infrastructure feeding the water easement. The core of this report details seven expositions which are the foundation of the objective evidence. These expositions describe the current stormwater infrastructure and underscores impacts to existing issues and how these issues can only increase in the future with or without land development.

The tail end of this report concludes by summarizing the findings and highlights how the water easement impacts the current owners of the farm. References and sources are included to support the validity of this report appendices are included to provide additional details.

2 Locations

This report considers Ferme Ouellette Farm located in Middleville Ontario, Canada. Geographical details are provided in the following subsection.

2.1 Middleville Ontario

Middleville is a hamlet located in the township of Lanark Highlands in the County of Lanark Ontario. Its main intersection is situated at 45°05'51.7"N 76°23'46.3"W, or 5.097687, -76.396202. Figure 1 (Google, Middleville Ontario, 2025) is an aerial image of Middleville looking North where the image highlights the main intersection at the specified latitude and longitude.

Figure 1: Middleville, Lanark Ontario looking North with main intersection highlighted.

2.2 Ferme Ouellette Farm

Ferme Ouellette Farm is a federally registered farm located in the township of Lanark Highlands in the County of Lanark Ontario. The farm is located at civic address 4248 Wolf Grove Road with a business location situated at 45°05'49.0"N 76°23'54.7"W, or 45.096956, -76.398530. Figure 2 (Google, Ferme Ouellette Farm, 2025) is an aerial image of Ferme Ouellette Farm looking North with its approximate boundaries highlighted in red. Herin, Ferme Ouellette Farm is defined as the Subject Farm.

Figure 2: Ferme Ouellette Farm, Lanark Ontario looking North with farm boundaries highlighted in red.

3 Background

The Subject Farm has a natural spring which discharges water at very low volume all year round. Historically, this spring was used by the local population as a source of water from private and business use. This spring is at the heart of the water easement where additional water has been introduced to this local by an underground stormwater infrastructure and culverts. In essence, this has become a focal point for a large surface areas and runoff from the surrounding land. The combined systems collect, divert, and drain water from several sources including, but not limited to, rainfall, snowmelt, basement sump pumps, domestic watering, and pool draining. As designed, this system is intended to prevent flooding and erosion on private and public land; however, this report describes how this issue is diverted from surrounding properties within the hamlet onto the Subject Farm.

The water easement on the Subject Farm is currently under stress and year-over-year damage to the property increases. The cause of this damage relates to increasing downpours which would only be compounded by the development of surrounding land. Direct damage is evident via visual inspection where erosion decimates the land on the Subject Farm. Indirect damage has also occurred over time which impacts the runoff management system where continual maintenance must be performed to prevent downstream problems.

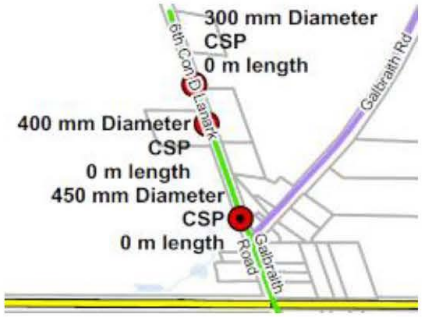
4 Expositions

The following expositions provide a comprehensive description and explanation of the water easement and the closely coupled elements. These expositions contain objective fact-based data and information which support how each element impacts and causes damage to the Subject Farm. Each element within the expositions is described in a discrete fashion whereas the conclusions consolidate each to describe how their effects have been and will continue to compound over time.

4.1 Culvert Infrastructure

Along the 6th concession D in Lanark, there are three culverts which divert storm onto the Subject Farm. The culvert situated furthest North has a diameter of 300 mm, followed by a 400 mm, and ending with 450mm. All three culverts are installed to drain from the East to the West and ultimately feed the confluence on the Subject Farm.

Figure 3: Middleville culvert locations and diameters



Selecting a CSP culvert for water capacity is based on diameter, shape, and the hydraulic characteristics of the flow. This study does not go in-depth and provides an average capacity based on each culvert installed at a 4-degree slope and provides estimates at their maximum capacity. The Mannings Equation was used to estimate the open channel flow of these culverts which represents the uniform flow which is a function of the channel velocity, flow area and channel slope. The equation is represented by the following independent variables:

$$Q = VA = \frac{1.49}{n} AR^{2/3}\sqrt{S}$$

Where:

Q = Flow Rate, (ft^3/s)

V = Velocity, (ft/s)

A = Flow Area, (ft^2)

n = Manning's Roughness Coefficient*

R = Hydraulic Radius, (ft)

S = Channel Slope, (ft/ft)

* n = constant value at 0.023 for corrugated metal pipe

Based on Mannings Equation, each culvert can accommodate the following maximum flow volume and velocity:

a. 300 mm culvert: 155 L/s and 2.3 m/s

b. 400 mm culvert: 335 L/s and 2.8 m/s
c. 450 mm culvert: 460 L/s and 3.0 m/s

Adding each maximum flow volume from the three culverts gives a total maximum flow of 950 L/s. To help visualize this volume, we compare this to a standard bathtub which holds approximate 190 Liters. When running at maximum capacity, these three culverts can process the equivalent of five full bathtubs per second. Throughout the years, especially during heavy downpours, observations were made where these culverts were at their maximum capacity and the stormwater water had to circumvent the culverts or pool behind them until the excess water was processed. Based on this overview, these culverts are considered at capacity and are not suited to accommodate additional runoff from new developments.

Reworking these culverts to allow more surface runoff due to new developments will increase the volume of water on the Subject Farm which will increase the property damage. A stormwater management study is required to understand the impacts of downstream properties from new developments.

4.2 Underground Stormwater Infrastructure

Middleville's underground stormwater infrastructure is believed to be a gravity conveying system designed in an open channel configuration (SUDAS, 2025). The system uses the force of gravity to move stormwater through the network of pipes where the system must be sized so that the water surface within the conduit remains open to atmospheric pressure. In this case, the system relies on the natural gradient of the land to create the necessary pressure for the water to flow to a discharge point. This type of system is a common and cost-effective way to collect and transport stormwater.

The underground stormwater infrastructure located within Middleville consists of several grates, routing pipes and discharge point(s); which includes a discharge point which diverts water directly onto the Subject Farm. The generalized flow of the stormwater to this discharge point is South West towards the intersection of Galbraith Road and Concession Road 6D Lanark.

The outlet pipe of the underground stormwater system discharges on the South West side at the intersection of Concession Road 6D Lanark and Galbraith Road. The aerial view in Figure 4 shows the approximate location of the discharge. Figure 5 is a photograph of this discharge pipe; taken in June 2025. The discharge pipe was measured and found to have an inside diameter of 18 inches and an approximate slope of 4 degrees.

Figure 4: Location of an outlet pipe discharging onto the Subject Farm

Figure 5: Photograph of discharge pipe onto the Subject Farm

This discharge point is on municipal property which is currently not designed with a ditching system to divert the stormwater away from private land. Instead, this discharge point is imposed on a drainage easement which flows across the Subject Farm as shown in Figure 9. Due to the topography in this area, a water easement was imposed onto the Subject Farm which receives stormwater, and road debris as trash and suspended particles.

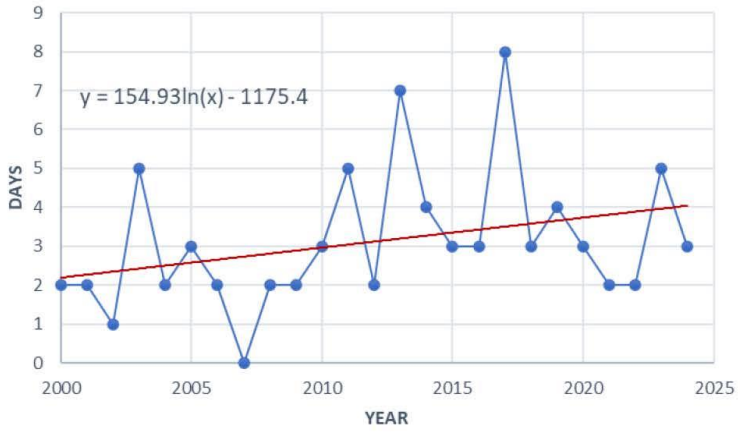
When the land was purchased by the current owners in 2002, the volume of stormwater and suspended particles was low and no apparent damage to the private land was taking place. Over the years, the volume of stormwater has increased significantly to the point where significant damage is occurring on the Subject Farm.

On 28 June 2025, a request was made to Lanark County for details on the stormwater infrastructure. At the time of this investigation, this data was not available nor provided. If received, this report will be revised based on the findings from these documents. A request was made for design document(s) along with any detailed drawings showing its implementation. The request was to include, but not limited to; inlet locations, pipe diameters, pipe slopes, depth of pipe installation and design decisions relating to infrastructure capacity.

4.3 Rainfall Data

To help support the claim that the stormwater infrastructure is increasingly damaging and dumping particulates and debris on the subject farm, historical and trending rainfall data was analyzed for trending patterns. The Government of Canada maintains environment and natural resource data for which past weather and climate data is gathered and made available to the public. The Appleton Ontario weather station (Canada, 2005) was selected as it is the closest station to the subject farm with sufficient data to analyze. The weather station has the following particulars:

Figure 7: Total days by year where rain fall exceeded 30 mm



In conjunction with actual rainfall data, the Coupled Model Intercomparison Project Phase 6 (CMIP6) was used to predict the total annual precipitation between 1950 and 2100. The model is based on historical data ranging from 1950 to 2005. CMIP6 was selected over CMIP5 due to its significant advancements in spatial resolution, additional detailed representation of physical processes, and inclusion of wider ranges of emissions scenarios (Coupled Model Intercomparison Project, 2025).

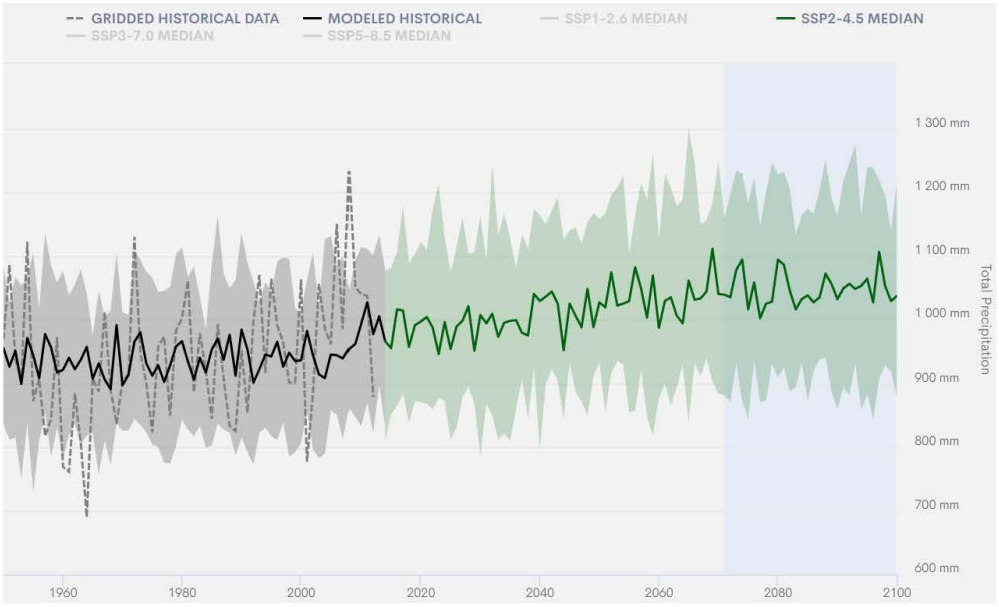
The purpose for presenting and discussing this data is to show the predicted rainfall trends and how they couple with and closely represent the measured rainfall discussed above. Climate data was obtained from ClimateData.ca which "provides high-resolution climate data to help decision makers build a more resilient Canada (ClimateData, 2025)." The SSP2-4.5 scenario was selected as it represents a "Middle of the Road" such that the model applies the current development patterns where challenges to adaptation and mitigations are considered at centerline. Figure 8 shows the total annual rainfall in mm from 1950 to 2100 which also includes snowfall over 30-year averages. Climate Data defines the properties in the chart as:

A. The shaded region is bounded by the 90th percentile (90% of model results fall below this value) and the 10th percentile (10% of model results fall below this value).
B. The bold lines indicate the median value, so half of the climate model results fall below this line and half of them are above this line.
C. The grey area of the graph illustrates the historical component of the climate model simulations and spans the years 1950 to 2014 for the CMIP6 models.
D. The coloured area of the graph illustrates the future component of the climate model simulations and spans the period 2015-2100 for CMIP6 models.

E. 30-year averages are used to ensure that the data reflects the overall climate and not the more variable experience of weather. Annual averages can vary from year to year, whereas a 30-year average removes much of that variation and represents common conditions across the time period. Changes in 30-year averages over time are thus indicative of a change in climate that are unlikely to be caused by short-term variability.

This SSP2-4.5 model clearly shows an upward trend to rainfall in the upcoming years. These trends must be taken into consideration when evaluating any new development which would channel surface runoff onto the water easement on the Subject Farm which is already under stress.

Figure 8: Total Rainfall (mm) Model from 1950 to 2100



4.4 Water Easement on Subject Farm

The water easement on the Subject Farm has a confluence which is fed by four water sources: natural spring, hay fields, culverts, and stormwater infrastructure. The area of the confluence is approximately 1,000 m^2 and is situated directly downstream from all sources. The length of the water easement is approximately 270 m and follows an approximate course from North to South as highlighted red in Figure 9. The figure also highlights in light blue the location of the confluence.

Figure 9: Confluence and path of water easement

Natural Spring

The natural spring water, located directly in the confluence has a low volume of water which does not contribute to erosion and does not drastically change its volume based on heavy downpours or prolonged periods of rain or drought. This spring runs year-round at a fairly consistent rate. There are currently no know impacts to the discharge from this natural spring from new developments. Considerations should be put in place to understand the impact to this natural spring from any new developments from drilled water wells, material extraction for basements, and drainage infrastructure in and amongst the current water table.

Hay Fields

The rainfall runoff feeding the confluence originating on the Subject Farm comes from two fields located North West and West of the confluence. Both fields are grass covered hay fields which are harvested once per year. During heavy rainfalls, these fields soak up the majority of the water and are not heavy contributors of runoff to the confluence and as such do not cause erosion. During spring time, snow melt contributes to surface runoff until the snow has melted. In this case, the majority of the snow melt is absorbed by the fields and surface runoff is minimal and also does not cause erosion. Erosion from this source is described in section 4.5, Water Easement Ecosystem.

Culverts

According to the Lanark Fire and Public Works culverts report (Hutchings, 2025), there are a total of three Corrugated Steel Pipe (CSP) culverts which divert stormwater and runoff into the water easement on the Subject Farm. All three culverts are located on Concession Road 6D Lanark where each culvert progressively increases in diameter as they approach the water easement. See section 4.1, Culvert Infrastructure, for additional details.

4.4 Water Easement on Subject Farm

The water easement on the Subject Farm has a confluence which is fed by four water sources: natural spring, hay fields, culverts, and stormwater infrastructure. The area of the confluence is approximately 1,000 m^2 and is situated directly downstream from all sources. The length of the water easement is approximately 270 m and follows an approximate course from North to South as highlighted red in Figure 9. The figure also highlights in light blue the location of the confluence.

Figure 9: Confluence and path of water easement

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The natural spring water, located directly in the confluence has a low volume of water which does not contribute to erosion and does not drastically change its volume based on heavy downpours or prolonged periods of rain or drought. This spring runs year-round at a fairly consistent rate. There are currently no know impacts to the discharge from this natural spring from new developments. Considerations should be put in place to understand the impact to this natural spring from any new developments from drilled water wells, material extraction for basements, and drainage infrastructure in and amongst the current water table.

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Stormwater Infrastructure

No information was provided by the township of Lanark Highlands and Lanark County on the underground stormwater infrastructure. The only details obtained for this investigation are based on field observations as described in section 4.2, Underground Stormwater Infrastructure. Evidence of damage on the Subject Farm's property is discussed in section 4.7, Damage within Water Easement. This source of runoff is considered a major contributor of damage. Should a subdivision development be established as described in section 4.6, New Developments, then an increase of surface runoff will be directed to this water easement.

The township of Lanark Highlands and Lanark County were queried for the existence of an easement agreement to accommodate in influx of stormwater from the surrounding area. No easement agreement was found or exists to allow or define the capacity of stormwater allotted based on current and new developments. With the increase of heavy downpours which are often intense creates flash flooding which erodes and damages the property on the Subject Farm. See Figure 4 and Figure 5 for the location of the discharge pipe along with a photograph. Section 4.7, Damage within Water Easement, shows and discusses the existing damage from water erosion related to concentrating up-slope water to the easement.

4.5 Water Easement Ecosystem

In circa 2004, the Subject Farm worked with the Mississippi Valley Conservation Authority (MVCA) to develop a runoff management system which meets the requirements of a permanently vegetated area. The permanently vegetated area was designed as a staged pond system with outlets to provide an effective method for nutrient management from stormwater and surface runoff. This system consists of four in-series cells where each cell in the series is designed to remove different types of pollutants and particulate matter through a physical and biological processes. These outlets are crucial for controlling water flow and ensuring the desired level of treatment is achieved at each stage.

Referring to Figure 10, the first stage in the serial process starts at pond 'A'. Stormwater and surface runoff enters this first stage which allows larger particles and debris to settle out. This pond is also designed as a buffer such that the level of the water is kept below the overflow to account for downpours. The discharge point uses a 4" diameter pipe installed at an inclination of approximately 4 degrees. Water at the surface of this stage transitions to stage 'B' using this pipe.

The next stage consists of ponds 'B' and 'C'. The objective of these two stages is to remove suspended particles where gravity draws suspended particles to the bottom of the pond. The added benefit of these two ponds is to provide flow homogenization and removal of organic matter which are linked to suspended particles. These ponds also have a buffer such that the level of the water is kept below the

overflow level to account for downpours. Their discharge points also use 4" diameter pipes installed at approximately 4 degrees. Water at the surface of stage 'B' feeds stage 'C', and water at the surface of stage 'C' feeds the final stage, stage 'D'.

The final stage of treatment occurs within pond 'D' which is designed for tertiary treatment which further cleanses the water after the primary and secondary treatments. The purpose of this stage is to remove pollutants, nutrients (nitrogen and phosphorus), fine suspended solids, and pathogens which were not eliminated by the previous stages. Oxygen is a crucial component in water treatment which feeds the aerobic bacteria thus allowing them to break down organic matter. It is critical to note that this stage was designed to add oxygen to the water thereby enhancing the efficiency of water treatment by removing additional pollutants which greatly improves water quality. A dedicated aeration system is installed in this pond which runs continuously 24 hours a day, 7 days a week which provides an airflow of 80 L/min. As such, this final stage aims to produce high-quality water suitable for discharge into the environment.

Figure 10: Staged ponds supporting the runoff management system

To promote further filtration at each stage, and prevent erosion, MVCA provided guidance in selecting land and aquatic vegetation for this system. Local native vegetation was selected, planted, and is now currently well established. Non-invasive species were selected to promote a biodiversity within the system. The selection of vegetation served three purposes where firstly it had to support nutrient management from stormwater and surface runoff in the pond system, secondly it had to prevent erosion resulting from heavy downpours, and thirdly provide a natural habitat for local species. Since its inception, this system has matured and is operating as designed. With all do respect, it should be noted that erosional damage based on runoff from surrounding land must be fixed every year at the expense of the Subject Farm.

The ecosystem within and surrounding the water easement is well established and full of diversity. Since the inception of the runoff management system, the ecosystem slowly developed and has matured to its current state. The diversity of this ecosystem is consists of plant life, aquatic life birds, and mammals.

The plant life surrounding the runoff management system is deep rooted and provides support to the surrounding land to prevent erosion. It also serves as a habitat to frogs and other species which depend

on cover, next to the ponds, for survival. Unfortunately, these plants are continuously being damaged by increased levels and large volumes of runoff causing the banks to erode. The owners of the Subject Farm must provide continuous maintenance to ensure this zone is protected and remains established. In its current mature state, this ecosystem provides the resources necessary for survival consisting of food, water, and shelter for a wide range of species. The following species have been identified in this ecosystem[1].

i. Reptile and Amphibians (Nature, Ontario, 2023)
    a. Frogs and toads
    b. Salamanders and newts: Spotted Salamander
    c. Skink and snakes: eastern milk snake, eastern garter snake
    d. Turtles: painted, snapping, blanding's, and wood turtles
ii. Mammals
    a. Otters, Muskrats, Beaver
iii. Aquatic
    a. Minnows, leeches, snails
iv. Birds
    a. Bitterns, Killdeer, Morning dove, Red-winged blackbird, Mallard, Great blue heron, King fisher

The following aquatic and non-aquatic plants have been identified/observed in the water easements' ecosystem[2].

i. Aquatic Plants (Kawartha Lake Stewards, 2023)
    a. Emergent Plants: Scirpus, Typha
    b. Floating Plants: Brasenia
    c. Submersed Plants: Elodea, Ceratophyllum, Potamogeton
ii. Non-Aquatic Plants
    a. Lythrum salicaria

4.6 New Developments

New developments within the Middleville community, be it residential or commercial, will have an impact to the stormwater infrastructure. The level of impact would be based on location and design of their stormwater management plan. To support this research, a location was investigated to get an

[1] An in-depth study was not performed to identify the full diversity of species living in this ecosystem.
[2] An in-depth study was not performed to identify the full diversity of aquatic and non-aquatic plants in this ecosystem.

understanding on its impact to the Subject Farm's ecosystem which is feed by the stormwater infrastructure and culverts.

The potential development property in is located north of Middleville and is bound by Galbraith Road and Concession Road 6D Lanark with central coordinates at 45.101573, -76.398355 or 45°06'05.7"N 76°23'54.1"W (Google, Potential Development Land, 2005). The plate in Figure 13, nested in Appendix A – Potential Development Land, highlights in light red the approximate boundaries of this land.

The Arc Geographic Information System (ArcGIS) was used profile the elevation changes of the land. The tool provides a profile graph used to visualize elevation changes along a user defined vector which displays elevation values over the distance of each 3D vector to help assess stormwater flow over land. Table 1 in Appendix D – Profile Data, Potential Development Land provides samples of profile data for the land shown in Figure 13. A total of six cross sections were measured with three running North to South and three running East to West. In all cases, the vector profile spans the edges of the property line. The three profiles running East to West were fairly flat with the following change in elevation:

a. -3 feet change in elevation over approximately 0.2 miles
b. -4 feet change in elevation over approximately 0.15 miles
c. +4 feet change in elevation over approximately 0.05 miles

The three profiles running North to South were not flat and had the following change in elevation:

a. -26 feet change in elevation over approximately 0.3 miles
b. -25 feet change in elevation over approximately 0.3 miles
c. -29 feet change in elevation over approximately 0.25 miles

Based on this study, the elevation profile of this land shows that surface runoff will concentrate at the Southern tip located at the intersection of Galbraith Road and Concession Road 6D Lanark. With the current stormwater infrastructure, additional surface runoff from a new development will feed the confluence on the Subject Farm and inevitably cause further damage. The Ontario Government's Ministry of the Environment publishes a Stormwater Management Planning and Design Manual (Ontario, 2025) which clearly states:

> *"As a consequence of urbanization, there is an increase in the volume and rate at which sediment and water are delivered to streams. This causes an increase in the erosive forces on stream banks and beds that dislodge and transport particles and, over time, damage the natural form of streams. Streams change shape and enlarge, the size distribution of stream bed sediments changes, and meander patterns may also be affected. Degradation of stream habitat leads to a decline in plant and animal diversity."*

The sentence underlined in the quote is an existing problem for which the owners of the Subject Farm are contending with. This problem is yet to be resolved and catalysts, such as new developments adjacent to the confluence on the Subject Farm, will only amplify the existing problem.

Stormwater management using stormwater ponds has been implemented throughout various Canadian cities with various success rates. Once developed, they are not maintenance free and are subject to issues that cities are contending with. Environment Canada's National Water Research Institute (Mayer, Marsalek, & Delow Reyes, 1995) describe how, over time, nutrients and metal contaminants develop in stormwater ponds. In the study, they outline how concentrations of heavy metals develop in suspended and bottom sediments in stormwater ponds. Stormwater ponds come at a cost and require maintenance and provisions for disposal "due to the contamination levels and regulatory criteria, the only viable disposal option available is landfill disposal (Westerbeek, 2007)." The township and county should heavily criticize new developments proposing stormwater ponds as cities across Canada are researching and discovering their environmental impact and long-term costs.

4.7 Damage within Water Easement

The source of the erosion within the water easement stems from the culverts and the stormwater infrastructure. As previously described, the natural spring, hay fields, culverts, and stormwater infrastructure combined as one water source and subsequently feed the confluence. The culverts and stormwater infrastructure are part of the water easement whereas the hayfields and natural spring as in situ on the Subject Farm.

Over the past 20 years, erosion within the water easement has increased due to the higher volume and intensity of water from the culverts and stormwater infrastructure. Damage takes place as erosion, fence destruction, breaches and sediments to the runoff management system, and undermining of trees. Reoccurring costs relating to these damages are incurred by the owner of the Subject Farm with no compensation from Lanark Highlands or Lanark County. It should be noted the owner has not requested compensation at this point. This damage has a direct impact to the diverse wildlife contained within the water easement and the runoff management system. For details relating to the diversity of wildlife within this water easement, see section 4.5, Water Easement Ecosystem.

The hayfields which feed the confluence have an approximate area of 80, 000 m^2 (~20 acres). During heavy rainfalls, the majority of the water is soaked up by the ground which results in a minimal amount of water arriving at the confluence. The natural spring continuously discharges approximately one liter and gently flows through the confluence. Both of these sources of water do not damage the property. When comparing these two water systems at the confluence, it is evident that the water easement sources by culverts and stormwater infrastructure are the source of damage.

Figure 11 shows the water system feeding the confluence from the hay fields. From the picture, it is evident to see that erosion is not taking place and a healthy environment is present to support a diverse ecosystem. To promote this environment, vegetation was planted and allowed to establish over time. No maintenance is required to this section of land due to erosion or deposits.

Figure 12 shows the water system feeding the confluence from the culverts and stormwater infrastructure. From this picture, it is evident to see that erosion is taking place and a healthy environment is not present to support a diverse ecosystem. To help promote a healthy environment, vegetation was planted; however, heavy erosion continuously prevented them from establishing. From the figure, specific damage is highlighted. At point 'A', we see evidence of trash in several forms. This trash has an impact to the environment and as such the owner must continuously survey the area and clean up as required. At point 'B', we see evidence of fine and course sediment which, over time, creates deltas for which the owner must hire heavy machinery to remove the sediments to prevent buildup and blockages. The sediment is highlighted at this point; however, it takes place at each meander point. At point 'C', we see evidence that the erosion causes damage to fencing where this area of fence must be repaired annually. Not contained within the image are downed trees where their rooting system has been undermined.

From these two figures, it is clear to see that the water easement is past capacity and continuously experiences damage. With the increased trends in heavy rain downpours and potential new developments feeding this water easement with additional water will only compound the existing issue.

Figure 11: hay fields runoff feeding the concourse showing no damage

Figure 12: culverts and stormwater infrastructure feeding the concourse showing damage

5 Conclusion

This report investigated the impacts to the property from the water easement on Ferme Ouellette Farm relating to increasing downpours and potential surrounding land developments. Impacts to the easement and subsequent infrastructures on the property are enumerated in section 4, Expositions, where each discuss current and future issues relating to erosion and property damage.

The water easement, instantiated as a confluence, is fed by four separate sources where two are deemed as natural sources and the other two sources are the result of construction methods used to divert water towards the confluence. The two natural sources of water pose no issues to the Subject Farm despite increased down powers and annual rainfall. Their natural entrenchment provides methods to soak-in and slow down waterflow which is critical to prevent erosion. The two unnatural sources of water; however, pose an opposite effect from increased down powers and annual rainfall where they are currently causing and continue to cause damage and erosion. Their designs are unnatural and do not provide methods to soak-in nor slow down waterflow which increase and intensify erosion.

The owners of the Subject Farm are subject to continuous maintenance to the confluence, property, and the staged pond system. This maintenance is critical to prevent and correct damage where the damage has a direct negative impact to the biodiversity along the entire water course. The ability for the water easement to accommodate additional water shed from surrounding land due to potential developments is not feasible and will only serve as a catalyst to the existing issue.

To maintain the existing ecosystem within the confluence and water easement, the Subject Farm must continuously perform maintenance due to erosion from the water easement. Maintenance costs are solely assumed by the property owners and support from Lanark County or Lanark Highlands has not yet been requested. The increased water from heavy downpours has made it challenging to maintain this water course; however, provisions for additional maintenance costs have been allocated to the Subject Farm's annual budget. Increased damage to the property from excess water at the easement will not be tolerated especially if sourced from new developments.

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APPENDIX F
RECOMMENDED TOWNSHIP CONDITIONS OF DRAFT APPROVAL

1. This approval applies to the draft plan prepared by George N Bracken, OLS, Callon & Dietz Inc, Ontario Land Surveyors, dated November 24, 2025, which shows a total of thirteen (13) single detached residential lots and four (4) 0.3 m reserve blocks, one (1) stormwater block, and one public street (Street A) on lands described as Part of Lot 16, Concession 6, Geographic Township of Lanark, Township of Lanark Highlands, County of Lanark.

2. This Draft Approval is granted for a 3-year period from the date of Notice of Decision, at the end of which, should the lots not be registered, said Draft Approval shall lapse. This shall be to the satisfaction of the Township of Lanark Highlands (Township) and the County of Lanark (County).

3. The Owner may seek an extension of the Conditions of Draft Approval from the County of Lanark; said Draft Approval may be extended for additional periods not to exceed 12 (twelve) months and shall be granted only with the written concurrence of, and to the satisfaction of, the Township of Lanark Highlands and the County of Lanark.

4. The Owner covenants and agrees that all municipal infrastructure (works), including roads, ditching and stormwater management features, are to be designed and constructed in general accordance with Ministry of Transportation Ontario Provincial Standard Drawings and Specifications, Ministry of Transportation Ontario Guidelines, Ministry of the Environment, Conservation and Parks Guidelines, and to the satisfaction of the Township and County.

5. The Owner covenants and agrees that prior to final approval, the Township is to advise the approval authority that matters such as financial securities, facilities to be provided, inspections, timing for assumption of works by the Township and any other such conditions have been set out in the subdivision agreement in a manner that is satisfactory to the Township.

6. The Owner covenants and agrees to have a full-time construction inspector in attendance of the site, with qualifications satisfactory to the Township during construction activities.

7. The Owner covenants and agrees to obtain all necessary approvals from the Ontario Ministry of the Environment, Conservation and Parks, MVCA, Lanark County and other relevant authorities and copies of such approvals shall be provided to the Township and to its satisfaction.

Planning

8. The Owner covenants and agrees that prior to registration of the plan of subdivision~~,~~ the proposed plan of subdivision shall meet the provisions of a Zoning By-Law approved under the requirements of the *Planning Act*, with all possibility of appeal to the Ontario Land Tribunal (OLT) exhausted. Specifically, the Zoning for the single detached residential development shall include provisions for additional residential units, where appropriate. This shall be to the satisfaction of the Township.

9. The Owner covenants and agrees to provide to the Township cash-in-lieu of the required parkland dedication based on 5% of the value of the subdivision lands the day before the day of the approval of the draft plan of subdivision. The Owner shall provide the Township with the valuation of the subdivision lands, prepared by a qualified land appraiser in the Province of Ontario. The Township may have the Owner's land appraisal peer reviewed at the Owner's expense.

10. The Owner covenants and agrees to submit a phasing plan, if required, for the registration and development of the subdivision to the satisfaction of the Township and that the subdivision agreement shall detail the phasing of the registration and development of the lands. A copy of the phasing plan shall also be provided to the County.

11. The Owner covenants and agrees that the Township shall implement whatever measures it deems necessary to ensure development of this plan of subdivision proceeds according to the approved phasing plan.

Subdivision Agreement

12. The Owner covenants and agrees to enter into a subdivision agreement between the Owner and the Township to the satisfaction of the Township.

13. The Owner covenants and agrees that the subdivision agreement between the Owner and the Township shall be registered against the lands to which it applies once the plan of subdivision has been registered to the satisfaction of the Township.

14. The Owner covenants and agrees to deposit with the Township, security in the form of a letter of credit representing 100% of the estimated cost of all on-site and off-site works to be provided with respect to the subdivision. The subdivision agreement shall detail how the letter of credit shall be reduced once works are completed to the satisfaction of the Township and the County, including the provision of engineering and other certification of the works, and digitized copies of as-built drawings relating to the work for which the final release is sought. This shall be to the satisfaction of the Township and County.

15. The Owner covenants and agrees that the subdivision agreement shall contain appropriate provisions for the Township to assume ownership and operation of the public works (roads, ditches/stormwater management elements, etc.) in a manner

satisfactory to the Township. The provision of public works shall be specifically outlined within the subdivision agreement and shall reflect conditions therein.

16. The Owner covenants and agrees that the subdivision agreement between the Owner and the Township shall contain restrictive covenants or other provisions, to the satisfaction of the Township, to address the following:
    a) the permitted hours of construction activity on the site;
    b) construction traffic routes to and from the site; and,
    c) the location of the construction access to the site.

17. The Owner covenants and agrees that the subdivision agreement shall contain wording to the satisfaction of the Township and County whereby the Owner acknowledges and agrees to implement the final stormwater management plan. Further, that the subdivision agreement shall contain clauses whereby the Owner covenants and agrees to provide certification to the Township and the County through a professional engineer that all measures have been implemented in conformity with the approved stormwater management plan to the satisfaction of the Township and the County.

18. The Owner covenants and agrees to submit a fence design for the boundaries of the subdivision, specifically along the lot lines of Lots 1-8 and Block 14 abutting neighbouring lands to the satisfaction of the Township. Further the Owner covenants and agrees that prior the commencement of any and all site works, the Owner shall install the boundary fences as approved, and that the subdivision agreement shall contain clauses requiring the establishment of the boundary fences to the satisfaction of the Township.

19. The Owner covenants and agrees that the subdivision agreement between the Owner and the Township shall contain clauses whereby:
    a) All utility services within the subdivision are detailed in a composite utility plan and with the appropriate easements to the utility authorities.
    b) All of the recommendations in the final approved detailed stormwater management plan will be implemented and appropriate erosion and sediment control undertaken during all phases of site preparation and construction in accordance with the "*Guidelines on Erosion and Sediment Control for Urban Construction Sites"*, Government of Ontario, May 1987. This shall be to the satisfaction of the Township and the County.
    c) Prior to the commencement of any lot grading or issuance of any building permit, the Owner shall submit to the Township a grading, drainage and development plan, including drawings and site plans, prepared by a qualified professional and certified as complete by the Township's engineer, which will show:
        i. the location of all buildings and structures to be erected on the site and all final grades and elevation;
        ii. the means whereby the storm drainage will be accommodated;
        iii. the means whereby erosion and siltation will be contained and minimized, both during and after construction;
        iv. the demonstration of legal and adequate outlet for stormwater;
        v. the grading, drainage and development plan shall be to the satisfaction of the Township.

20. The Owner covenants and agrees that the subdivision agreement between the Owner and the Township contain provisions, whereby all Offer of Purchase and Sale Agreements contain a provision advising potential owners that the lot number shall be posted on all lots prior to any application for a Building Permit being filed.

21. The Owner covenants and agrees that the subdivision agreement shall contain provisions to provide the Township with hardcopy paper and an electronic copy (including AutoCAD and PDF) of the "as-built" plan(s), certified under seal by a professional engineer, upon completion of the installation of all works.

22. The Owner covenants and agrees that the subdivision agreement between the Owner and the Township shall provide for the responsibilities and development of the following related requirements and all other requirements related, but not otherwise listed herein, to the satisfaction of the Township and the County:
    a) the stormwater collection and treatment system;
    b) the required private well locations and construction;
    c) the required private septic system locations and construction;
    d) the required paved shoulder/pathways;
    e) the required street lighting; and,
    f) the public road system.

Roads

23. The Owner covenants and agrees that the Street A included in approved draft plan of subdivision shall be shown and dedicated as public highways and named to the satisfaction of the Township.

24. The Owner covenants and agrees that any dead ends and open sides of road allowances created by the approved draft plan of subdivision, shall be terminated in 0.3 metre reserves to be conveyed to, retained by, or held in trust by the Township.

25. The Owner covenants and agrees that any lot abutting an existing street, other than Street A, shall be terminated in 0.3 metre reserves to be conveyed to, retained by, or held in trust by the Township.

26. The Owner shall submit detailed design road plans, prepared by a Civil Engineer licensed in the Province of Ontario, to the Manager of Public Works for approval. The Owner shall provide a 20m Right-of-Way, unless justification is provided to the satisfaction of the Township. All roads shall be constructed to the satisfaction of the Township.

27. The Owner covenants and agrees to design and construct, at their own cost, Street A that services the subdivision. The Owner further agrees to construct two intersections at Street A with Galbraith Road. The Owner agrees to complete this work to the satisfaction of the Township.

28. The Owner covenants and agrees that in advancing the road design, all recommended grading (3:1 maximum slope) be maintained wholly within the provided right-of-way. Revised ROW widths, beyond the indicated 20m, shall be provided, as required, and clearly indicated on the approved drawings. Recommended lot entrance locations shall be clearly indicated with related grading within safe limits and confirmation of visibility for the design speed and/or related cautionary signage provided.

Environmental Matters

29. The Owner covenants and agrees that no site works shall commence, including the clearing, grubbing, roads, stormwater, utilities, and any off-site works, until such time as the Owner:
    a) Provides the Township with an erosion and sediment control plan prepared by a professional engineer in accordance with current best management practices;
    b) Installs the erosion and sediment control plan, approved by the Township; and,
    c) Provides certification to the Township by a professional engineer that the erosion and sediment control plan has been implemented.

30. The Owner covenants and agrees that the subdivision agreement shall contain clauses whereby the Owner agrees to implement the recommendations of the *"Environmental Impact Study – Proposed Subdivision Lot 16, Con 6, Township of Lanark Highlands"*, dated September 11, 2024, prepared by Gemtec, to the satisfaction of the Township.

31. The Owner covenants and agrees to address the Environmental Impact Study Peer Review comments by LGL Limited, dated March 5, 2026, including:

    a) Submission of an EIS addendum addressing the technical comments within this review to the satisfaction Lanark County and Township of Lanark Highlands
    b) Submission of all required MECP permit requirements (bobolink, meadowlark, and potential bat habitat) and the implementation of these requirements via detailed design drawings, construction management plans, and/or the subdivision agreement to the satisfaction of the County, Township, and MECP.
    c) Submission of a compensation plan which includes a planting, management, and monitoring plan and schedule for grassland breeding bird habitat compensation to the satisfaction of MECP, Lanark County, and Township of Lanark Highlands.
    d) The registration of a conservation easement over the proposed compensation site to ensure it's management and protection in perpetuity or an equivalent protection measure to the satisfaction of Lanark County and the Township of Lanark Highlands.

32. The Owner covenants and agrees that prior to final approval, to submit a landscaping/tree planting plan and tree retention plan, prepared by a qualified professional, to the satisfaction of the Township. The subdivision agreement shall contain clauses to implement the approved landscaping/tree planting plan and tree retention plan to the satisfaction of the Township.

Stormwater

33. The Owner covenants and agrees that prior to final approval to submit a drainage report/ final stormwater management report and plan, to the satisfaction of the Township and the County. The final detailed plan shall be in accordance with the "Servicing Options and Preliminary Stormwater Management Plan, Middleville Subdivision" prepared by Tatham Engineering, dated November 18, 2025. No site preparation or road construction shall take place until such time as the final storm water plan has been approved.

34. The Owner covenants and agrees that the final stormwater management report shall address the peer review comments from Jewell Engineering dated March 3, 2026 and March 4, 2026 and further, shall address the following issues:
    a) maintenance and operational procedures and guides;
    b) low impact design will be considered and implemented where possible;
    c) identification of the sequence of its implementation in relation to construction of the subdivision;
    d) an HGL analysis to determine if sump pumps are required for any lots as well as to determine if inlet control devices are required at road catch basins. This shall be to the satisfaction of the Township;

35. The Owner covenants and agrees that such easements as may be required for drainage purposes shall be granted to the appropriate authority. This shall be to the satisfaction of the Township.

36. The Owner covenants and agrees to provide a minimum 3.0m maintenance access road to stormwater quality/quantity control ditches and the outlet pond.

37. The Owner covenants and agrees to install a 1.2 m black vinyl chain link fence to separate stormwater management features (the ditch and maintenance pathway) from residential lands.

38. The Owner covenants and agrees that each individual lot shall be developed in a manner to ensure that any increase in site drainage (i.e., from roof drains, patios, driveways) is directed away from the house, with all outlets of excess runoff directed towards the road or other communal drainage features. Limited sheet flow may be permitted in accordance with the Drainage and Grading Plan to be approved by the Township. At no time shall lot drainage outlet onto adjacent private property. Communal drainage works shall be in place prior to any individual lot development.

39. The Owner covenants and agrees that all road and communal drainage shall only extend through engineered drainage structures/systems, existing wholly within blocks to be dedicated to the municipally owned lands or easements where approval is granted by the Township.

40. The Owner covenants and agrees to retain the services of a Civil Engineer or Ontario Land Surveyor to certify to the Township that the final lot grading conforms with the approved grades on the grading and drainage plan.

41. The Owner covenants and agrees to submit an as-built grading plan showing actual ground elevations to geodetic datum at front, rear and side of house, driveway at curb and at garage, all lot corners, finished floor elevation, swale inverts and top and bottom of retaining walls if required. The grades must be taken under the supervision of a Civil Engineer or Ontario Land Surveyor.

42. The Owner covenants and agrees to implement the final Lot Grading and Drainage plan including erosion and sedimentation control both during and after construction, and that upon completion of all stormwater works, to provide certification to the Township, through a professional engineer, that all works have been implemented in accordance with the approved plans. The Township shall take no responsibility or assume control over any drainage outlet until such time as the stormwater design plan has been approved and certified.

43. The Owner covenants and agrees that this development shall not interfere with existing drainage patterns for adjacent lands during construction and after completion of the development of this subdivision. Drainage from the existing adjacent lands must be accommodated by this development, to the satisfaction of the Township.

Wells/Septic Systems

44. The Owner covenants and agrees that prior to final approval, the Owner shall submit to the Township and the County a final hydrogeological assessment report, to the satisfaction of the Township and the County. The final detailed report shall be in accordance with the “Hydrogeological Investigation and Terrain Analysis, Proposed Subdivision - Galbraith Road”, prepared by Gemtec, dated November 13, 2025.

45. The Owner covenants and agrees that the final hydrogeological assessment report shall address the peer review comments from BluMetric dated February 13, 2025.

46. Existing wells which are not to be utilized for water supply wells, or retained for sentinel well purposes, shall be decommissioned under the strict supervision of a qualified Professional Engineer or Professional Geoscientist.

Utilities/Canada Post

47. The Owner covenants and agrees to coordinate the preparation of an overall composite utility distribution and lighting plan showing the location (shared or otherwise) and installation, timing and phasing of all required utilities (on-grade, below-grade or above-grade) to the satisfaction of all affected authorities and shall consider their respective standards and specification manuals, where applicable. The composite utility plan shall be prepared and approved prior to final approval and shall include a plan for the installation of any of the service lateral connections for any of the affected utilities.

48. The Owner covenants and agrees that prior to final approval the Owner shall enter into agreements with Hydro One Networks, and other utility companies for the provision of services to the development and shall transfer such easements as and when required. This shall be to the satisfaction of the Township.

49. That the Owner covenants and agrees to provide the Township with evidence that satisfactory arrangements, financial and otherwise, have been made with Canada Post Corporation for the installation of Community Mailboxes (CMB) as required by Canada Post Corporation.

50. That the Owner covenants and agrees to address the requirements of Canada Post in the subdivision agreement in order that:
    a) Community Mailbox location(s) will be indicated on the appropriate servicing plans in the subdivision agreement.
    b) the Owner will, prior to offering any units for sale, display a map on the wall of the sales office in a place readily accessible to potential homeowners that indicates the location of all Community Mailboxes, as approved by Canada Post.
    c) the Owner will provide a suitable and safe temporary site for a Community Mailbox until curbs and final grading are completed at the permanent Community Mailbox location(s).
    d) the Owner agrees to provide the following for the Community Mailbox site and to include these requirements on the appropriate servicing plans:
        i. any required curb depressions for wheelchair access, with an opening of at least two metres, in accordance with requirements of Canada Post detailed specifications; and,
        ii. a Community Mailbox concrete access/or culvert per municipal specifications.

51. The Owner covenants and agrees to provide Canada Post Corporation with the excavation date for the first foundation/first phase as well as the date development is scheduled to begin. The Owner agrees to provide the expected installation date for the Community Mailbox and the civic addressing assigned to the above-mentioned subdivision.

52. The Owner covenants and agrees to include in all offers of purchase and sale a statement which advises the purchaser that Canada Post will deliver mail via a Community Mailbox. The Owner also agrees to note the locations of all Community Mailboxes within the development, and to notify affected homeowners of any established easements granted to Canada Post to permit access to the Community Mailbox.

53. The Owner shall confirm to Bell Canada and/or other telecommunication providers the provisioning of communication/telecommunication infrastructure needed to service the subdivision during detailed design of the subdivision.

54. The Owner acknowledges that it is his responsibility to provide entrance/service duct(s) from Bell Canada's and/or other service provider's existing network infrastructure to service this development. In the event that no such network infrastructure exists the Owner may be required to pay for the extension of such network infrastructure, to be detailed in the subdivision agreement.

55. The Owner covenants and agrees that the subdivision agreement, shall contain wording satisfactory to Bell Canada and/or other service providers, that it will grant any easements that may be required, which may include a blanket easement, for communication/ telecommunication infrastructure. In the event of any conflict arise with existing telecommunication facilities where a current and valid easement exists within the subject area, the Owner shall be responsible for the relocation of any such facilities or easements at their own cost.