

PLANNING JUSTIFICATION REPORT
and
AGGREGATE RESOURCES ACT
SUMMARY STATEMENT

THAMES VALLEY AGGREGATES PIKE PIT

PART LOT 18, CONCESSION 3 N.T.R
MUNICIPALITY OF THAMES CENTRE
COUNTY OF MIDDLESEX

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DECEMBER 2020

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1.0 INTRODUCTION

Thames Valley Aggregates (TVA) is submitting an application to amend the Zoning by-law for the Municipality of Thames Centre, to permit the establishment of a sand and gravel pit operation. The proposed pit would extract sand and gravel from above and below the water table, with rehabilitation to a pond.

In addition to the municipal Planning Act application, TVA is submitting an application to the Ministry of Natural Resources and Forestry (MNRF) under the *Aggregate Resources Act* (ARA) for Class A, Category 1 License application (pit below the water table). The provincial standards under the Aggregate Resources Act include requirements for Site Plans together with a Summary Statement as part of the license application process. The Summary Report outlines the information and conclusions of the technical reports prepared in support of the application.

The property is within the Planning jurisdiction of the County of Middlesex and the Municipality of Thames Centre. This report evaluates the proposed land use within the context of both Official Plans, as well as within the context of Provincial legislation including the Planning Act, and the Provincial Policy Statement (2020).

The applications for the proposed aggregate operation are supported by a series of technical studies that have assessed the impact the natural environment, water resources, and on neighbouring residents. These technical studies conclude that, with the implementation of the recommended mitigation measures, there will be no significant adverse impacts on the neighbouring residents, or the natural environment. The Site Plans detail the manner in which operations will be carried out as described by the sequence of mining and progressive rehabilitation.

The following information and reports have been prepared in support of this application:

- Natural Environment Level 1 and 2 Technical Report, Terrastory Environmental
- Water Resources Assessment Report: LDS Consultants Inc.
- Stage 1 and 2 Archaeology Assessment, Lincoln Environmental Consulting Group
- Noise Impact Assessment Report: HCG Engineering
- License Pit Site Plans, Harrington McAvan Ltd.

This report has been prepared to meet the requirements of both the Planning Act and the Aggregate Resources Act applications. The operational notes on the license site plans under the Aggregate Resources Act, have incorporated conditions based on specific technical recommendations ensuring no negative impacts on the natural environment or surrounding community. For reference, a copy of the Site Plans can be found in Appendix E.

2.0 LOCATION

The subject property is located at the southwest corner of Gore Road and Hunt Road. The area to be licensed covers and area of approximately 22 hectares, and described as part of Lots 18, Concession 3. NTR, geographic Township of North Dorchester, Municipality of Thames Centre.

The site is rectangular in shape, with frontage on both Hunt Road and Gore Road. The property is currently in agricultural use. There are no existing buildings or structures at the property.

Figure 1: Site Location



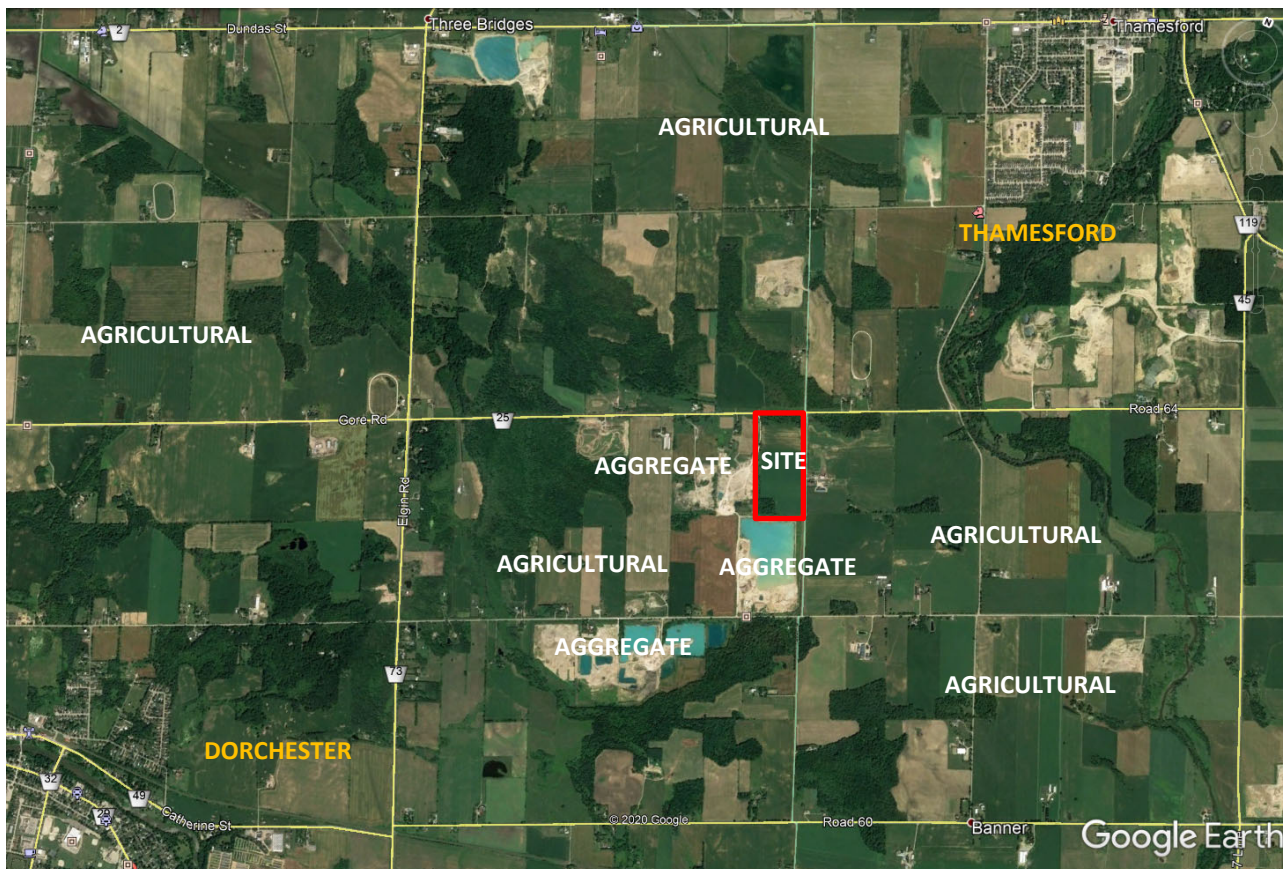
3.0 SITE DESCRIPTION AND SURROUNDING LAND USES

The surrounding lands are rural and are characterized by agricultural and aggregate land use. The community of Thamesford is located approximately 2.5 kilometers northeast of the site, and the community of Dorchester is located approximately 4.5 kilometers southwest of the site.

The lands immediately south of the property are occupied by a 32-hectare gravel pit operation, owned by Nicli Aggregates, with a maximum annual tonnage of 500,000. There are also aggregate operations located south and west of the site, including a 42-hectare gravel pit, which has a maximum annual tonnage of 227,000 (Spivak) and a 21-hectare gravel pit with a maximum annual tonnage of 250,000, both operated by Aaroc Aggregates Ltd.

To the east of Hunt Road, the lands are predominantly agricultural, and support a dairy operation and are used for agricultural cultivation.

Figure 2: Surrounding Lands



4.0 DESCRIPTION OF THE PROPOSAL

The proposed sand and gravel operation would operate on a licensed area of approximately 21 hectares, with extraction proposed on a portion (16.3 ha) of the subject lands. The pit operation will include extraction of material from above and below the water table, with onsite processing and shipping. The proposed annual tonnage limit is 500,000 tonnes.

As extraction occurs, the operational area will be stripped of topsoil and subsoil, and this material will be stored on-site within berms, or used for progressive rehabilitation. The operations plan phasing shows extraction in 3 phases or areas, starting in the south limit of the site and moving towards Gore Road. The berms will be vegetated and maintained to help prevent erosion and control dust.

Extraction would remove approximately 5-7 metres of material from above the water table and below water extraction would to a depth of approximately 10 metres. The finished pond area is expected to be about 11.33 hectares in size, at completion.

The hours of operation of the Pit will be within daytime hours, 7 a.m. to 7 p.m on weekdays, and 7am – noon on Saturdays, with no operations on Sundays or Statutory holidays.

An application to remove the trees in the small, wooded area at the southwest corner of the site was submitted to the municipality prior to the ARA application and it is anticipated that the trees would be removed prior to commencement of extraction. The aggregate operations will utilize conventional construction equipment, including trucks, loaders, excavators, backhoes, bulldozers, scrapers, and conveyors. Portable processing equipment will be utilized at the site.

The primary site access will be located at the northeast corner of the site, south of the existing woodlot, and the primary truck route will be located along the easterly limit of the site. Rehabilitation will be undertaken progressively, and the final rehabilitation will create a pond with sideslopes. The details of the operations and rehabilitation are shown on the Site Plans, which have been prepared in accordance with Provincial Standards for aggregate resource operations. The proposed rehabilitation will be compatible with the surrounding land uses.

Careful consideration and planning has gone into the design of the operations and the rehabilitation to minimize and mitigate impacts on the surrounding environment and nearby residents. The Site Plans are included in the Appendices to this report.

The site plans have incorporated the technical recommendations from all the reports to mitigate any negative impacts on the adjacent land uses from the proposed pit.

5.0 AGGREGATE RESOURCES SUMMARY STATEMENT

The provincial standards under the Aggregate Resources Act include requirements for Site Plans together with a Summary Statement as part of the license application process. The Summary Report outlines the information and conclusions of the technical reports prepared in support of the application.

5.1 Planning and Land Use Considerations

The subject lands fall within the Planning jurisdiction of the County of Middlesex and the Municipality of Thames Centre. The proposed pit will require approvals from the municipality, specifically amendments to both the Official Plan and the Zoning Bylaw for Thames Centre are required to permit the proposed use.

The property is designated as 'Agricultural' in both the County and Township Official Plans. As per the County Official Plan, mineral aggregate uses are permitted in Agricultural areas provided they meet the other requirements of the Official Plan, and provided that appropriate zoning is in place.

The technical studies prepared in support of the proposal assess the impact of the proposed pit operation on neighbouring residents, the natural environment, and ground and surface water resources. The Site Plans detail the manner in which operations will be carried out as described by the sequence of mining and progressive rehabilitation.

The operations and the rehabilitation of the pit have been designed to minimize impacts. The Natural Environment Report has evaluated the impacts of the proposal on significant wetlands, woodlands, fish habitat, and habitat of endangered species and threatened species. The recommended mitigative measures are incorporated to ensure no negative impacts on these natural features or their functions.

The protection and management of aggregate resources has also been deemed to be of provincial significance and their development is regulated by specific legislation. In addition to the Aggregate Resources Act (ARA), the development of aggregate extraction operations must respect the provisions of the Planning Act and give appropriate consideration to the policy framework established by the regional and municipal planning documents.

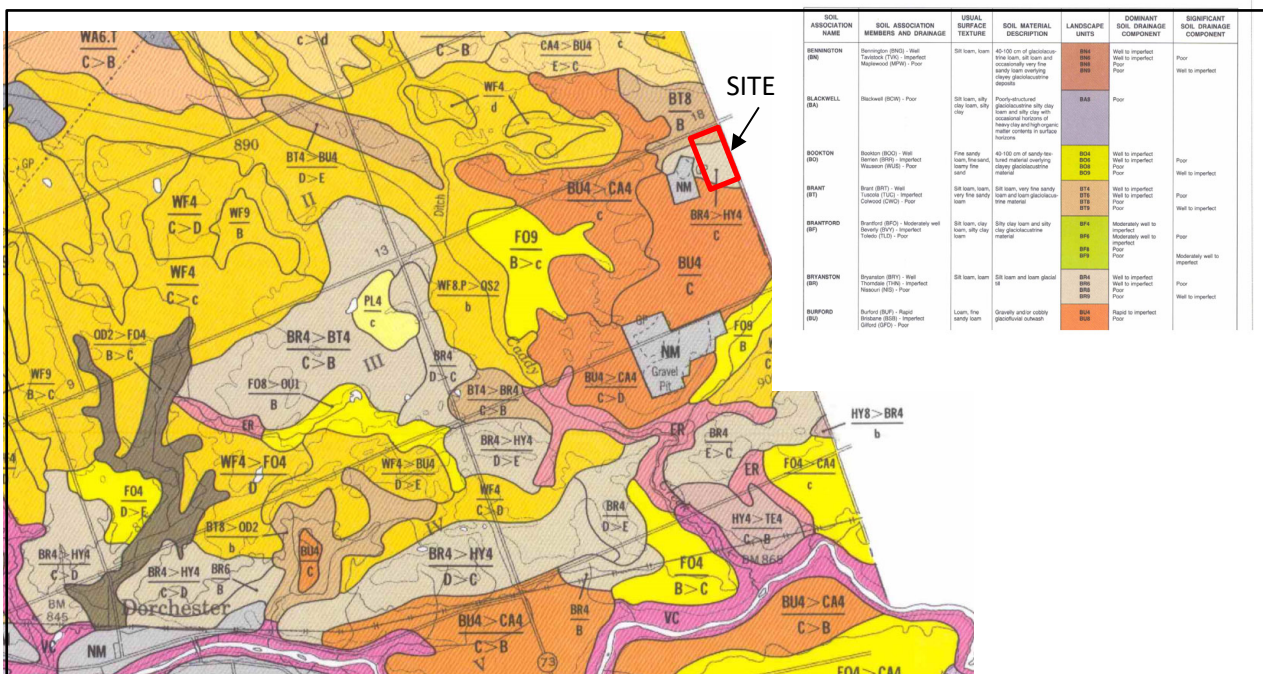
The Planning analysis is further detailed in Section 7 of this report.

5.2 Agricultural Classification

According to the Soils of Middlesex County mapping (OMAFRA 1992) the soils on the subject property are comprised of Bryanston or Thorndale loam (see Figure 4). The soil is characterized by brown sandy loam over roughly stratified sand and gravel. The topography of the area is gently undulating with some knolls present along the north edge and in the central part of the property. The property slopes down in a long, steady decline to the west and east from the central part of the site.

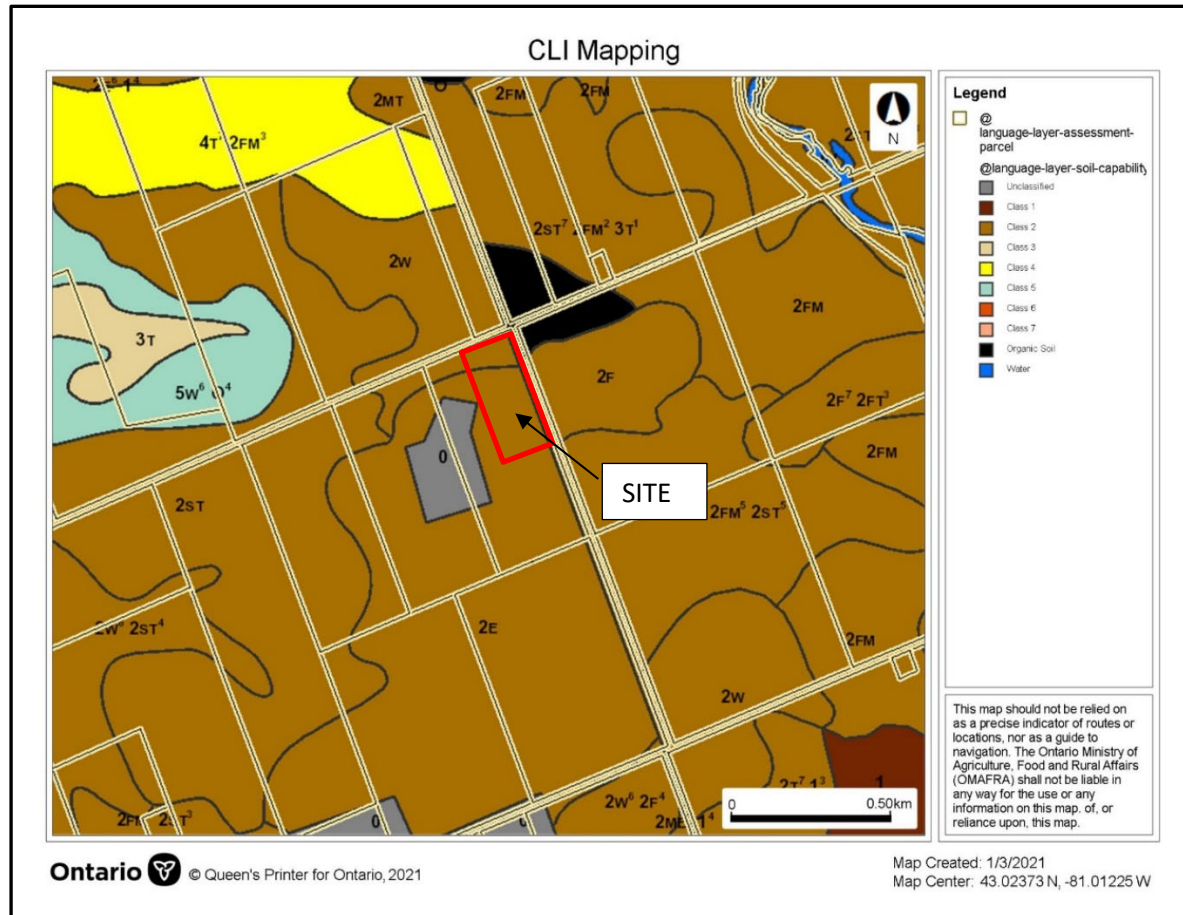
The Bryanston Association has developed in the loamy-textured till, on nearly level to undulating topography. The gravel content of the till is greater than 10%. Cobbles and stones are common. Bryanston Association soils are used extensively for the production of common field crops in Middlesex County, and they are also suitable for a variety of special crops

Figure 3: Excerpt from Soils of Middlesex County, OMAFRA 1992



The Canada Land Inventory Mapping indicates that the soils on the subject property are primarily Class 2 Soils, and exhibit limitations that restrict the choice of crops, or require special conservation practices and very careful management, or both (see Figure 5). The area to be extracted is primarily class 2E, indicating limitations for agriculture associated with loss of topsoil and subsoil from erosion. The woodlot at the northern edge of the property, outside the area to be extracted, is soil class 2W, This subclass indicates the presence of excess soil moisture due to poor or very poor soil drainage. These lands are considered prime agricultural lands and are subject to relevant Provincial and local planning policies.

Figure 4: Excerpt from Canada Land Inventory Mapping, OMAFRA 2020



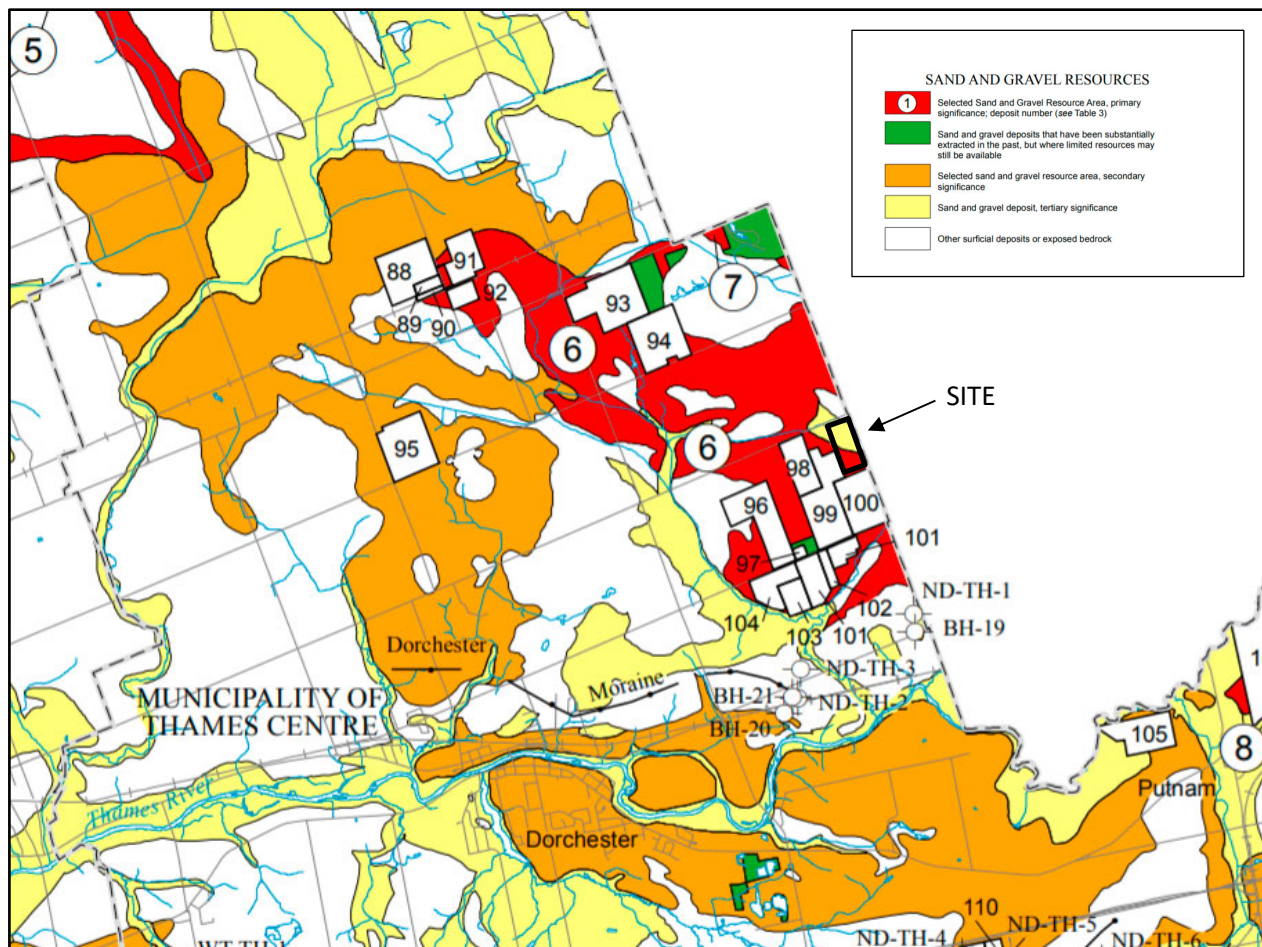
5.3 Quality and Quantity of Aggregate Resource

Quaternary geology mapping for the area indicates that the study area consists of ice-contact stratified drift deposits of silt with some sand and gravel in the north half of the site, and ice-contact gravel deposits with some re-worked glacial till in the south part of the site.

According to the Aggregate Resource Inventory Paper for the County of Middlesex and the City of London (Ontario Geological Survey Paper 78, 2016) the majority of the site is identified as an aggregate resource area of primary significance for sand and gravel. The deposit is associated with the Dorchester moraine, a feature with sand and gravel deposits often overlain by or interbedded with till.

There are several licensed pits within this deposit with face heights ranging from 2 to 6 metres with material that varies from medium sand with medium to coarse gravel with pockets of material with higher gravel content in some areas. Portions of these resources are below the water table. A number of licenced operations are extracting material from below the water table. Water-well and borehole records indicate that the deposit may yield up to 20 m of material, when above and below water extraction is considered.

Figure 5: Aggregate Resource Inventory Mapping (ARIP)



Geotechnical investigations in 2019 confirmed the presence of commercially viable sand and gravel, with a significant portion of the resource located below the water table. The resources in this deposit are known to be of high quality and suitable for a wide range of construction products including granular products and sand and gravel for asphalt and concrete products. Records of the boreholes and grain size analysis can be found in the Hydrogeological Report (LDS Consulting, Dec 2020).

The proposed pit will extract approximately 7 metres of material from above the water table and up to 10 metres from below the water table. The deposit is shallower in the northern portion of the property, where the till layer is encountered, and below water extraction in this part of the site is expected to be approximately 3 metres in depth.

There is an estimated 4.04 Million tonnes of sand and gravel within the area proposed to be licensed. Approximately 60 percent of the resource is found below the water table.

5.4 Haul Routes and Truck Traffic

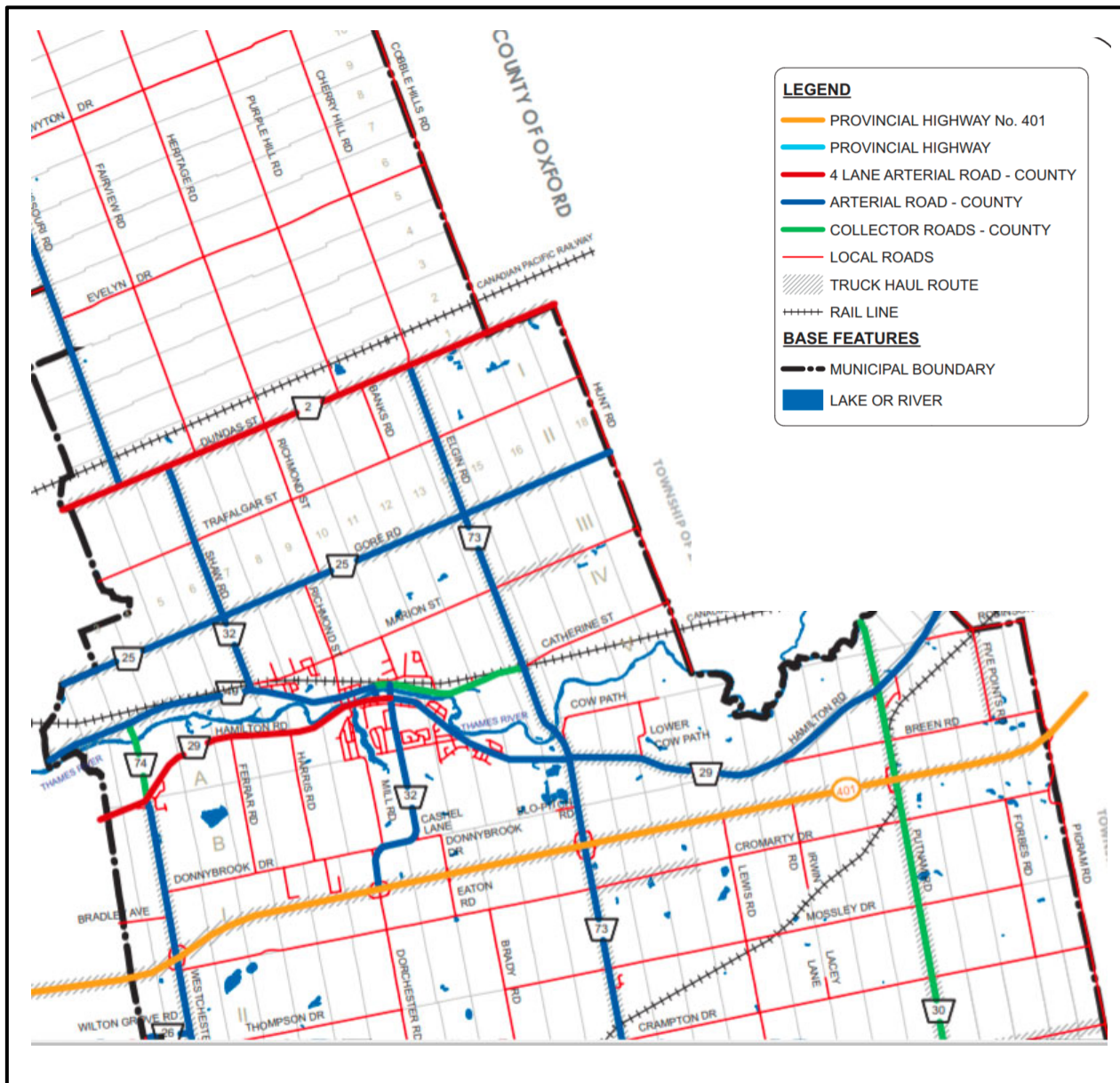
The proposed access to the site is located at the north end of the site onto Hunt Road (see site plans). This is currently used as a haul route for the existing aggregate operations in this area. On a typical day during construction season, it is anticipated that approximately 5 trucks would enter and exit the site per hour.



INTERSECTION OF
GORE ROAD AND
HUNT ROAD, FACING
WEST ON GORE
ROAD.

The Official Plan for Thames Centre identifies Gore Road as a “County Arterial Road” and a “Truck Haul Route”. According to the Official Plan, “the function of the arterial roads is to facilitate the inter-municipal and intra-municipal movement of high volumes of traffic to and from major traffic generating sectors in the Municipality” (OP Section 5.4). Truck Haul Routes are also identified in the Official Plan to ensure that trucks utilize roads that are suitably constructed or improved for these purposes (see OP Schedule “C” and Section 5.9). The proposed entrance to the Pike Pit is located on Hunt Road, a local road which forms the boundary between the Municipality of Thames Centre, in Middlesex County and the Township of Zorra, in Oxford County.

Figure 6: Thames Centre Official Plan, Schedule “C”: Transportation Plan



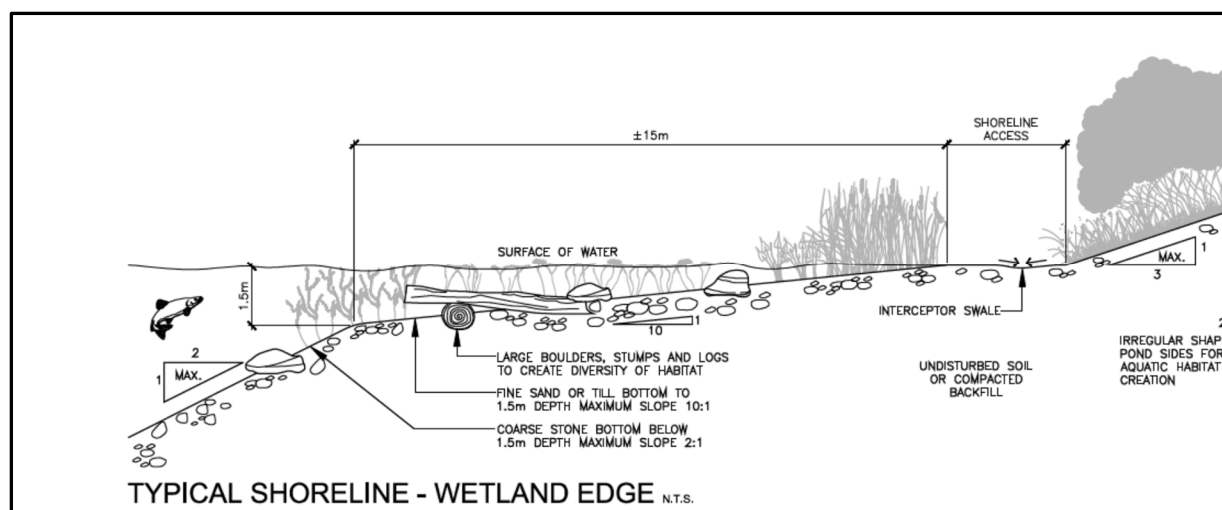
5.5 Progressive and Final Rehabilitation

In accordance with the requirements of the Aggregate Resources Act Provincial Standards, the extracted area will be progressively rehabilitated, as outlined on the Site Plans.

All topsoil and overburden on site will be stripped and stockpiled separately in berms or stockpiles and replaced as quickly as possible in the progressive rehabilitation process. Berms and stockpiles will be constructed on the perimeter of the site to attenuate noise and provide visual screening. The material (overburden and topsoil) in the berms will be used for progressive and final rehabilitation of the site.

As below water extraction progresses across the site, a pond will be created which, when final rehabilitation is completed, will be approximately 11.3 hectares in area. The northern margins of the out pond will be rehabilitated to wetland habitat through contouring (shallow nearshore slopes) shoreline plantings and inclusion of woody debris to create habitat. Additional native upland planting will be installed around the perimeter of the site.

The proposed final rehabilitation is compatible with the surrounding lands and land use.



6.0 Technical Reports and Site Plans

The Planning Act and Aggregate Resources Act applications are supported by the technical studies assessing the impact of the proposed operation on neighbouring residents, the natural environment, the agricultural capabilities of the land, impact on roads, and municipal water supply. These technical reports have been prepared in accordance with the requirements under the Aggregate Resources Act.

The following technical reports were completed as part of this application:

- Water Resources Assessment Report, LDS Consulting
- Natural Environment Level 1 and 2 Technical Report, Terrastory Environmental
- Stage 1 and 2 Archaeological Assessment, Lincoln Environmental Consulting Group
- Noise Impact Assessment, HGC Associates

The Site Plans detail the manner in which pit operations will be carried out as described by the sequence of mining and progressive rehabilitation. The Site Plans form the basis of the pit license application under the Aggregate Resources Act and also form an integral part of the review process of the applications.

The proposed operation has been carefully designed to reflect the recommendations of the accompanying technical reports. The operational notes on the license site plans under the ARA, have incorporated conditions to reflect specific recommendations to mitigate any negative environmental effects.

6.1 Water Resources/Hydrogeology (Appendix A)

In support of the proposed aggregate excavation, LDS Consulting completed a background review of the available geological, hydrogeological, and natural environment data to develop a conceptual understanding of the site hydrogeology and hydrogeology.

LDS carried out a field program consisting of a series of seven boreholes, drilled between July 10 and 22, 2019. Monitoring wells were installed in all of the boreholes, with the exception of Borehole BH3, to allow for monitoring the stabilized groundwater level at the site. Details of monitoring well construction are provided in the Hydrogeology report. The monitoring wells have been registered with the Ministry of Environment, Conservation, and Parks (MECP), in accordance with Ontario Regulation (O.Reg.) 903.

There is no proposed dewatering of the gravel pit. Aggregate extraction is proposed for excavation below the water table using an excavator or a drag line. According to the LDS report, predicted changes to water balance are small and inconsequential, and localized changes which are expected to result in a flattening of the groundwater gradient are not expected to have an adverse impact on natural features including the northern woodlot and wetland areas which are being maintained.

The report concludes, that based on the setting, scale of projected groundwater volume and level changes there is no significant potential for negative impacts to local water supplies associated with the proposed Pike Pit. The hydrogeology report recommends monitoring of groundwater levels on the site through the operating season and this recommendation is included as a condition on the Site Plans.

6.2 Natural Environment (Appendix B)

Under the ARA, a Level 2 Natural Environment impact assessment and report is required when natural heritage features (e.g., wetlands, species at risk habitat) have been identified on, or within, 120 m of a site during preliminary investigations (i.e., a Level 1 assessment). During Terrastory's preliminary review of available data sources and initial site reconnaissance, natural heritage features were identified as occurring on the site, or within 120 m of the Study Area. The Natural Environment Report addresses the requirements for an aggregate license application.

The Terrastory report identified potential habitat for species at risk, significant woodlands and valleylands, and locally significant wetlands on or adjacent to the site. The report includes an assessment of potential impacts of the proposed aggregate extraction on natural features and functions. The report includes recommendation to mitigate any impact on species at risk, significant wildlife habitat areas and significant woodlands. These include protection measures such as sediment and erosion control during construction and site clearing, together with replacement of habitat through the proposed progressive and final rehabilitation plan.

The report concludes that the phased extraction approach and progressive rehabilitation being proposed, along with mitigation measures described in their report, will ensure that potential impacts to natural heritage features on and within 120 m of the site will be mitigated. The features and their ecological functions will be maintained over the long-term consistent with provincial and local policy requirements.

6.3 Cultural Heritage/Archaeology (Appendix C)

Lincoln Environmental Consulting Group completed a Stage 1 and 2 archaeological assessment for the Site in 2019. The field work and report (dated Jan 2020) were completed in compliance with the provincial standards and guidelines set out in the Ministry of Tourism, Culture and Sport's (MTCS) 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011).

The Stage 2 archaeological assessment of the study area did not result in the identification of archaeological resources on the property.

The report was been provided to the Minister of Heritage, Sport, Tourism and Culture Industries as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c. O.18 (Government of Ontario 1990b) and a letter of clearance from the Ministry is included in Appendix C of this report.

6.4 Noise Impact Assessment (Appendix D)

HCG Engineering Ltd. prepared an assessment of the potential impact of noise from the proposed aggregate operations in accordance with the Ontario Ministry of Environment, Conservation and Parks, MECP, guidelines for noise assessment, NPC-3002 and NPC-2333. The noise study considered the impacts at noise sensitive points of reception near the proposed pit operation.

There are 2 residences located within 150 metres of the proposed pit operation. One is located to the west and is part of the property which is licensed to Spivak (Gore Pit). The other is located to the west, on the east side of Hunt Road, and is the Pike farmhouse.

The noise report sets out noise mitigation measures which are designed to ensure all operations are in compliance with the applicable sound level limits. These measures include construction of a berm along Hunt Road, and screening around plant equipment. It is noted that the residents of the Pike house indicated in writing when they sold the portion of the farm that is now subject to this application, that they have no objection to the pit operations.

7.0 LAND USE PLANNING CONSIDERATIONS

The subject lands fall within the Planning jurisdiction of the Township of Thames Centre and the County of Middlesex. This report evaluates the proposed land use within the context of both of the Official Plans, as well as within the context of Provincial legislation including the Planning Act, and the Provincial Policy Statement (2020).

Land use planning decisions are informed by a review of provincial interests, and a detailed assessment of the impacts of the proposed development or change in land use. In the case of aggregate operations, it is common to have overlapping provincial interests (e.g., agriculture, natural heritage and aggregate resources). It is the goal of good land use planning to balance and protect these overlapping interests in the most effective manner, keeping in mind the long- term planning horizon.

The protection and management of aggregate resources has been deemed to be of provincial significance and is regulated by specific legislation. In addition to the Aggregate Resources Act (ARA), the development of aggregate extraction operations must respect the provisions of the Planning Act and give appropriate consideration to the provincial and local policy framework. The proposed pit will provide additional reserves to extend the life of the Sunderland pit and sustain a close to market supply of high-quality sand and gravel. The extension area is recognized as an important mineral aggregate resource area in the regional official plan.

The Provincial Policy Statement, 2020 establishes a policy-led system of planning. These policies are intended to enable protection and utilization of aggregate resources, while maintaining important agricultural areas; conserving cultural and natural heritage resources; and protecting existing settlements, ground and surface water resources.

The following analysis provides an assessment of the Pike pit proposal in the context of relevant Provincial and local planning policies. The evaluation is based on the findings of the technical studies forming part of the application submission, an evaluation and an analysis of the surrounding land use, and the environmental impact of the proposal. For ease of reference, this report includes tables which outline a review the proposal against the applicable current planning policies.

7.1 Planning Act

When carrying out its responsibilities under the Planning Act, a municipality or any other authority that affects a planning matter must have regard for the provincial interests as identified in Section 2 of the Planning Act. The provincial interests contained in Section 2 of the Planning Act are outlined in the table below. The proposal has been evaluated in the context of these prescribed provincial interests:

Provincial Interests	Pike Pit Proposal
<p><i>2(a) The protection of ecological systems, including natural areas, features and functions.</i></p>	<p>The Natural Environmental Report screening and technical evaluation prepared by Terrastory identified the following natural areas and features within the area to be licensed or within 120 metres of the subject property:</p> <ul style="list-style-type: none"> • Significant woodlands • Significant wildlife habitat • Potential Habitat of Species at Risk (barn swallow, little brown myotis, northern myotis, bobolink and Eastern Meadowlark) <p>The proposed extraction operations have been assessed for impacts on the natural environment. The Terrastory report recommends measures to mitigate impacts on the natural environment. These recommendations are detailed in their report and have been incorporated into the Site Plans. The Terrastory report concludes that there will be no negative impacts to the significant natural features and functions on the site or adjacent lands.</p>
<p><i>2(b) The protection of the agricultural resources of the Province</i></p>	<p>There are overlapping provincially interests on this site (aggregate and agriculture). Provincial policy allows for the extraction of aggregate resources in agricultural areas and does not require rehabilitation to agriculture where there is a significant quantity of material below the water table.</p>
<p><i>2(c) The conservation and management of natural resources and the mineral resource base.</i></p>	<p>Aggregate resources are a provincial interest and should be protected from incompatible land uses and developed responsibly. The proposed pit will provide a high-quality supply of mineral aggregate material to the local and regional markets.</p>
<p><i>2(d) The conservation of features of significant architectural, cultural, historical, archaeological or scientific interest.</i></p>	<p>The Archaeology Assessment Report completed by Lincoln Environmental Consulting Group confirmed that there are no significant archaeological resources on the subject property. This report was reviewed and a letter of clearance was issued by the Ministry of Heritage, Sport, Culture and Tourism.</p>

<i>2(e) The supply, efficient use and conservation of energy and water</i>	Ground and surface water features have been studied and documented in the report prepared by LDS Consulting. Mitigation measures included on the Operations Plan including, groundwater level monitoring, annual water quality monitoring and management of surface activities (e.g., fuel handling) to minimize the potential for groundwater disturbance or contamination in accordance with provincial guidelines.
<i>2(k) The adequate provision of employment opportunities.</i>	The proposed aggregate extension will result in the continued availability of employment opportunities locally. These primary resource jobs present a multiplier effect that can result in the creation of additional supplemental service jobs in the Township.
<i>2(l) The protection of the financial and economic well-being of the Province and its municipalities.</i>	In addition to the employment opportunities created by the proposed operation, the Township will receive financial contributions through property tax assessment and TOARC levies as well as providing a source of aggregate to contribute to competition in the local market.
<i>2(m) The coordination of planning activities of public bodies.</i>	The interests of public bodies and agencies are considered by the circulation requirements of the Planning Act and the ARA and have been incorporated into the Site Plans.
<i>2(n) The resolution of planning conflicts involving public and private interests.</i>	The land use planning process, as well as the ARA licensing process, enables municipalities, agencies and the public to participate in the evaluation of this proposal. The appropriate agencies (i.e., MNRF, MECP, GRCA) will be included in the review of the ARA application.
<i>2(o) The protection of public health and safety.</i>	The operational plan contains mitigation measures that have been developed to minimize the social impact of the proposed pit operation. For example, measures to mitigate impacts from noise, and dust, and visual screening measures have been incorporated into the Site Plans. The requirements of the Operation Plan and site plan notes are legally binding and enforceable through the ARA.
<i>2(p) The appropriate location of growth and development.</i>	On- site investigation has confirmed the quality and extent of the aggregate resource on this property. No significant natural or cultural heritage features will be negatively impacted by the proposed pit operation.

7.2 Provincial Policy Statement (PPS) 2020

The Minister of Municipal Affairs and Housing, under Section 3 of the Planning Act, can issue policy statements that provide direction to other ministries, municipalities and agencies on matters of provincial interest as they relate to land use planning. These policy statements are developed in consultation with other ministries and are updated from time to time. The latest PPS came into effect on May 1, 2020 and any land use decision by any authority that affects a planning matter must be consistent with the PPS. The 2020 Provincial Policy Statement provides a policy-led planning approach that recognizes the complex inter-relationship among environmental, economic and social factors in land use planning. The PPS supports a comprehensive, integrates and long-term approach to planning and recognizes linkages among policy areas.

The 2020 Provincial Policy Statement provides a policy-led planning approach that recognizes the complex inter-relationship among environmental, economic and social factors in land use planning. The PPS supports a comprehensive, integrates and long-term approach to planning and recognizes linkages among policy areas. (Part III)

The PPS recognizes that the Province's natural heritage resources, water, agricultural lands, mineral aggregate resources, cultural heritage and archaeological resources provide important environmental, economic and social benefits. The wise use and management of these resources over the long term is a key provincial interest. The province must ensure that its resources are managed in a sustainable way to conserve biodiversity, protect essential ecological processes and public health and safety, provide for the production of food and fiber, minimize environmental and social impacts and meet its long term economic needs. (PPS, Part IV)

While the PPS provides strong measures for the protection of prime agricultural lands, the provincial policies also recognize the importance of mineral aggregate resources.

The following table provides an evaluation of the proposal in the context of the relevant policies of the PPS. The evaluation is based largely on findings of the technical studies prepared in support of the applications.

Provincial Policy Statement – Consistency Analysis

PPS (2020) Policies	Pike Pit Proposal
<p><i>1.1.4. Rural Areas in Municipalities</i></p> <p><i>Healthy, integrated and viable rural areas should be supported by:</i></p> <p><i>f) promoting the diversification of the economic base and employment opportunities through goods and services, including value-added products and the sustainable management or use of resources.</i></p>	<p>The proposed Pike Pit is located in a rural area. The sustainable management or use of mineral aggregate resources, contributes to the local economic base. The proposed pit provides access to a provincially significant resource and the rehabilitation to agriculture is consistent with provincial policy.</p> <p>The use of existing transportation infrastructure also promotes efficient development.</p>
<p><i>1.1.5 Rural Lands in Municipalities:</i></p> <p><i>permitted uses are:</i></p> <ul style="list-style-type: none"> <i>a) to the management or use of resources;</i> <i>b) resource-based recreational activities;</i> <i>c) limited residential development;</i> <i>d) home occupation and home industries</i> <i>e) cemeteries;</i> <i>f) other rural land uses</i> 	<p>The proposal represents to the use of a provincially significant natural resource (mineral aggregate) and is an appropriate rural land use. The lands are designated Agricultural and are also identified as a Mineral Aggregate Resource Area. The Official Plan recognizes sand and gravel extraction as a permitted use in the rural area.</p>
<p><i>1.2.6 Land Use Compatibility</i></p> <p><i>1.2.6.1 Major facilities and sensitive land uses should be planned to ensure they are appropriately designed, buffered and/or separated from each other to prevent or mitigate adverse effects from odour, noise and other contaminants, minimize risk to public health and safety, and to ensure the long-term viability of major facilities.</i></p>	<p>The site plans for the proposed Pike Pit have been designed to ensure that appropriate mitigation measures are in place to minimize the effects of noise and dust from the operation. The recommendations of the Noise Assessment Report are incorporated into the design of the pit.</p> <p>The Site Plans have been to include recommended buffers and/or setbacks from nearby sensitive lands uses to prevent and mitigate adverse effects from dust and noise. and dust on the surrounding land uses.</p>
<p><i>1.6.7.1 Efficient use shall be made of existing and planned infrastructure.</i></p>	<p>Truck traffic from the proposed Pike Pit will utilize the existing Truck Haul Route (Gore Road). This route is currently used by several other gravel pits in the area.</p>

PPS (2020) Policies	Pike Pit Proposal
<p><i>1.7.1 Long-term economic prosperity should be supported by:</i></p> <p><i>b) optimizing the long-term availability and use of land, resources, infrastructure, electricity generation facilities and transmission and distribution systems and public service facilities;</i></p>	<p>The proposed Pike Pit provides a close-to-market supply of high-quality aggregate resource. The progressive rehabilitation plan ensures that the subject lands will be returned to a use that is compatible with the surrounding landscape. In addition to employment, the pit will provide a source of revenue from TOARC levies and property taxes over the life of the operation.</p>
<p><i>2.1.1 Natural features and areas shall be protected for the long term.</i></p>	<p>The Natural Heritage Report has evaluated the impacts of the proposal on significant wetlands, woodlands, fish habitat, and habitat of endangered species and threatened species. Based on the field work and site assessment, a provincially significant wetland and potential habitat for Species at Risk were identified on site or on the adjacent lands. The recommended mitigative measures are incorporated to ensure no negative impacts on these natural features or their functions.</p>
<p><i>2.2.1 Planning authorities shall protect, improve or restore the quality and quantity of water by:</i></p> <ul style="list-style-type: none"> <i>a) using the watershed as the ecologically meaningful scale for integrated and long-term planning;</i> <i>b) minimizing potential negative impacts, including cross-jurisdictional and cross-watershed impacts;</i> <i>c) identifying surface water resource systems consisting of ground water features, hydrologic functions and natural heritage features and areas, and surface water features including shoreline areas, which are necessary for the ecological and hydrological integrity of the watershed;</i> <i>d) maintaining linkages and related functions among ground water features, hydrologic functions and natural heritage features and areas and surface water</i> 	<p>No surface water features, hydrologic features or municipal drinking water sources are located on or within 120 metres of the Pike Pit property.</p> <p>Several operational conditions and best practices have been included on the Operations Plan in order to minimize any potential for surface activities to impact groundwater quality.</p> <p>These include groundwater level monitoring and restriction of surface activities in accordance with provincial guidelines. Further, contingency measures have been implemented on the site plans in order to provide for appropriate corrective actions should groundwater be encountered during extraction.</p>

PPS (2020) Policies	Pike Pit Proposal
<p><i>features including shoreline areas;</i></p> <p><i>e) implementing necessary restrictions on development and site alteration to:</i></p> <ol style="list-style-type: none"> <i>1. protect all municipal drinking water supplies and designated vulnerable areas; and</i> <i>2. protect, improve or restore vulnerable surface and ground water, sensitive surface water features and sensitive ground water features, and their hydrologic functions;</i> <p><i>f) planning for efficient and sustainable use of water resources, through practices for water conservation and sustaining water quality; and</i></p>	
<p>2.3 Agriculture</p> <p><i>2.3.1 Prime agricultural areas shall be protected for long-term use for agriculture.</i></p> <p>2.3.6 Non-Agricultural Uses in Prime Agricultural Area</p> <p><i>2.3.6.1 Planning authorities may only permit non-agricultural uses in prime agricultural areas for:</i></p> <ol style="list-style-type: none"> <i>a) extraction of minerals, petroleum resources and mineral aggregate resources in accordance with policies 2.4 and 2.5</i> <i>b) limited non-residential uses</i> 	<p>The Pike property is identified in the Canada Land Inventory Agricultural Capabilities Mapping as class 2 agricultural land. Extraction of minerals is a permitted use according to PPS policy 2.3.6.1 (a). The proposal ensures that rehabilitation will be undertaken progressively to generally restore the extracted area to an agricultural after-use. The site will be protected for the cultivation of field crops over the long term.</p> <p>The proposed extraction of sand and gravel, and progressive rehabilitation is in-keeping with the PPS section 2.3.6.</p>
<p>2.5 Mineral Aggregate</p> <p><i>2.5.2.1 As much of the mineral aggregate resources as is realistically possible shall be made available as close to markets as possible.</i></p> <p><i>Demonstration of need for mineral aggregate resources, including any type of supply/demand analysis, shall not be required, notwithstanding the availability, designation or licensing for extraction of mineral aggregate resources locally or elsewhere.</i></p>	<p>The proposed pit will provide a supply of commercially viable aggregate material for the local and regional market. The proposed pit will increase access to close-to-market supply of aggregates in local construction markets.</p> <p>This site is identified in the Regional and Township Official Plan as an important area of Mineral Aggregate Resources.</p>

PPS (2020) Policies	Pike Pit Proposal
<p><i>2.5.2.2 Extraction shall be undertaken in a manner which minimizes social, economic, and environmental impacts.</i></p>	<p>The technical studies prepared in support of the proposed pit demonstrate that no natural or cultural heritage features will be impacted by the development. The hydrogeological study has confirmed groundwater elevations and a series of operational practices designed to restrict activities which could present threats to groundwater have been included on the operations plan. Adherence to the applicable provincial standards for noise and dust will minimize any potential social impacts and nuisances. The TOARC contributions will provide a sustained fund to the Township for road maintenance along the proposed haul route and ensure safe vehicular access to and from the site is provided over the long-term with minimal disruption to existing traffic flows.</p>
<p><i>2.5.2.3 Mineral aggregate resource conservation shall be undertaken, including through the use of accessory aggregate recycling facilities within operations, where feasible.</i></p>	<p>The proposed pit extension does not propose recycling of construction materials for re-use as part of the expanded pit operations.</p>
<p><i>2.5.3 Rehabilitation</i></p> <p><i>2.5.3.1 Progressive and final rehabilitation shall be required to accommodate subsequent land uses, to promote land use compatibility, to recognize the interim nature of extraction, and to mitigate negative impacts to the extent possible. Final rehabilitation shall take surrounding land use and approved land use designations into consideration.</i></p>	<p>As described previously in this report, the site will be progressively rehabilitated to a use that is compatible with the rural nature of the surrounding area and reflects the requirements of the PPS.</p>

PPS (2020) Policies	Pike Pit Proposal
<p><i>2.5.4 Extraction in Prime Agricultural Areas</i></p> <p><i>2.5.4.1 In prime agricultural areas, on prime agricultural land, extraction of mineral aggregate resources is permitted as an interim use provided that the site will be rehabilitated back to an agricultural condition.</i></p> <p><i>Complete rehabilitation to an agricultural condition is not required if: a) outside of a specialty crop area, there is a substantial quantity of mineral aggregate resources below the water table warranting extraction, or the depth of planned extraction in a quarry makes restoration of pre-extraction agricultural capability unfeasible; b) in a specialty crop area, there is a substantial quantity of high quality mineral aggregate resources below the water table warranting extraction, and the depth of planned extraction makes restoration of pre-extraction agricultural capability unfeasible; c) other alternatives have been considered by the applicant and found unsuitable. The consideration of other alternatives shall include resources in areas of Canada Land Inventory Class 4 through 7 lands, resources on lands identified as designated growth areas, and resources on prime agricultural lands where rehabilitation is feasible. Where no other alternatives are found, prime agricultural lands shall be protected in this order of priority: specialty crop areas, Canada Land Inventory Class 1, 2 and 3 lands; and d) agricultural rehabilitation in remaining areas is maximized.</i></p>	<p>Through the life of the operation, agricultural uses will continue on the site in areas that are not being extracted.</p> <p>The geotechnical investigation has confirmed the quantity and quality of aggregate material below the water table, warranting extraction.</p> <p>The subject property is outside of a specialty crop area. The depth of planned extraction makes restoration to an agricultural use unfeasible. In considering other alternatives, it is noted that all of the lands within the County of Middlesex, with the exception of wetland areas, meet the criteria and are recognized as prime agricultural lands. There are no alternative locations within the County on non-prime agricultural lands.</p>

PPS (2020) Policies	Pike Pit Proposal
<p><i>2.6 Cultural Heritage and Archaeology</i></p> <p><i>2.6.2 Development and site alteration shall only be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved.</i></p>	<p>A Stage I and II Archeological Assessment was completed by Lincoln consulting. No further work has been recommended and the reports have been submitted to the Ministry of Heritage, Sport, Tourism, and Culture (MHSTCI) for review and acceptance. The proposal meets the PPS requirements.</p>

7.3 Official Plan Policies: County of Middlesex

The County of Middlesex Official Plan was adopted by County Council on September 9, 1997 and approved by the Minister of Municipal Affairs and Housing on December 17, 1997. The County Plan was amended on July 11, 2006 by OPA No. 2. The County Plan provides the broad framework for planning and development and sets a framework for coordination of planning issues which cross local municipal boundaries. Detailed strategies, policies and land use designations are addressed in the local municipal planning documents. The strategic priorities for Middlesex County planning include: the protection of the agricultural community; the management of growth; and, a vibrant economy.

“The County recognizes the importance of the protection, conservation and sustainable utilization of natural resources to the continuation of economic growth and development. An integrated approach to land use planning is intended to protect the quality of the natural environment and conserve those natural resources necessary for future economic growth, on a sustainable basis.” (Section 2.2 Resource Management)

The Pike Pit property is designated “Agricultural Area” as shown on County OP Schedule A, Land Use. The County OP policies allow for mineral aggregate extraction in Agricultural Areas, subject to meeting the other policy requirements of the plan (OP Section 3.3.3).

The County Plan and associated mapping Schedules also identify a “Natural System” which includes important ecological features such as significant woodlands, wildlife habitat, endangered and threatened species habitat and fish habitat (see Figure 6). The County Natural System also includes aggregate resource areas. The Pike Pit property is identified in the County OP as an aggregate resource area.

Section 2.2.3 of the County OP outlines the policies for Aggregate Resources. The areas identified on Schedule C are to be protected for extraction purposes (Section 2.2.3.2). The policies in the Official Plan recognize the importance of protecting aggregate resources within the County, as well as the need to balance resource extraction with protection of agricultural lands and the natural environment.

The proposed pit will supply mineral aggregate material to the local and regional markets. No significant natural heritage features will be impacted by the pit operation and the site will be rehabilitated progressively as the site is extracted.

Section 2.2.3.3 outlines the criteria to be considered in making a decision on an amendment to a local official plan or zoning by-law to permit a new extractive use. As outlined in this report, the applications to permit the development of the Pike Pit are supported by a series of technical studies which have assessed the impact of the proposed operation on neighbouring residents, the natural environment, the agricultural capabilities of the land, and water resources. The Site Plans detail the manner in which operations will be carried out as described by the sequence of mining and progressive rehabilitation. Careful consideration and planning have gone into the design of the operations and the rehabilitation of the pit to minimize impacts and ensure that the lands are returned to agricultural use.

The Natural Heritage Report has evaluated the impacts of the proposal on significant wetlands, woodlands, fish habitat, and habitat of endangered species and threatened species. The recommended mitigative measures are incorporated to ensure no negative impacts on these natural features or their functions. The report is consistent with the “Development Assessment Report” outlined in the County OP (Section 2.3.10).

The Site Plans have been prepared in accordance with the Aggregate Resources Act requirements and include a description of: Existing Features, Operations Plan and Phasing, Rehabilitation as well as a series of cross sections to depict the elevation, grades and drainage of the land before during and after extraction on the property (Section 2.2.3.4).

7.4 Official Plan Policies: Municipality of Thames Centre

The Official Plan for the Municipality of Middlesex Centre was approved by Council on June 30, 2015 and came into full force and effect on September 15, 2015. The Pike Pit property is currently designated as Agricultural (A) in the Official Plan. The majority of the property is also identified in the Official Plan as a Primary Mineral Resource Area. The Pike pit proposal has been reviewed in the context of the Municipality of Thames Centre Official Plan.

The Thames Centre policies require both an Official Plan Amendment and a Zoning By-Law Amendment to establish a new aggregate use (Section 1.10.4). The criteria for assessing applications is found in Section 3.3.3 and includes an assessment of potential impacts on adjacent lands uses, natural heritage system, cultural heritage features, the existing road network, and groundwater resources. The application should detail the manner in which operations would be carried out and outline the nature of progressive and final rehabilitation.

The Pike Pit property contains significant mineral aggregate resources as identified in the Township’s Official Plan. The proposed pit will allow for the utilization of these resources to produce a supply of local construction materials.

The Natural Environment Report includes an assessment of impact on woodlands, wetlands and species and risk and proposes mitigation measures including setbacks to ensure that there will be no negative impacts from the proposed development. These recommendations have been incorporated into the design of the operations and site rehabilitation.

Section 2.25.1 of the Thames Centre Official Plan outlines the matters to be addressed in considering proposals for changes in land use. The items outlined for the Planning Impact Analysis in the OP are noted below in italics, with a response provided below each item.

1) Compatibility of proposed uses with surrounding land uses;

The proposed Pike pit is located in an Agricultural area of Thames Centre and is also recognized as an important mineral aggregate resource area. The surrounding lands are in mainly agricultural use and extractive industrial. There are farm residences located nearby and there are several existing licensed gravel pits located near the site. Mineral aggregate uses are permitted in Agricultural areas provided they meet the other requirements of the Official Plan, and provided that appropriate zoning is in place. The proposed Pike pit is compatible with surrounding land uses.

2) The likely impact of the proposed development on present and future land uses in the area and on the character and stability of the surrounding neighbourhood;

The Pike pit is compatible with the present and future uses in the area. Once extraction is completed, the lands will be rehabilitated. The proposal will not adversely impact the character or stability of the surrounding neighbourhood.

3) If the proposed development is within an Agricultural designation, a demonstrated need for the land use and proof of no reasonable alternative locations that avoid prime agricultural lands or lands of a lower agricultural rating;

In addition to being in an Agricultural designation, the subject lands are also identified as a Mineral Aggregate Resource Area in the Official Plan. According to the Provincial Policy Statement “demonstration of need for mineral aggregate resources, including any type of supply/demand analysis, shall not be required, notwithstanding the availability, designation or licensing for extraction of mineral aggregate resources locally or elsewhere” (PPS 2020, Sec 2.5.2.1)

4) The height, location and spacing of any buildings in the proposed development, and any potential impacts on surrounding land uses

There are no buildings proposed as part of this development. This section is not applicable.

5) The extent to which the proposed development provides for the retention of any desirable vegetation or natural features that contribute to the visual character of the surrounding area

The woodlot and wetland feature located along the northern limit of the property will be maintained together with a 30 metre buffer to protect the feature. A berm will be constructed along the perimeter of the pit and will serve as an acoustic and visual screen. The berms will be taken down once the pit operations are complete.

6) The proximity of any proposal for medium density residential development to public open space and recreational facilities, community facilities, municipal services, transit services, and the adequacy of these facilities and services to accommodate the development proposed

This section is not applicable to the proposed development.

7) The size and shape of the parcel of land on which a proposed development is to be located, and the ability of the site to accommodate the intensity of the proposed use

This section is not applicable to the proposed development.

8) The location of vehicular access points and the likely impact of traffic generated by the proposal on streets, on pedestrian and vehicular safety, and on surrounding properties;

The proposed pit entrance will be located on Hunt Road, just south of the intersection with Gore Road. Gore Road is used by several other pit operations in the areas.

9) The exterior design and layout of buildings and the integration of these uses with present and future land uses in the area

This section is not applicable to the proposed development.

10) The location of lighting and screening and the adequacy of parking areas

This section is not applicable to the proposed development.

11) The provisions for landscaping and fencing

The site has been designed in accordance with Aggregate Resources Act Provincial Standards, which includes a standard requirement for fencing (1.2 metre height) around the boundary of the licensed area. The perimeter berms are designed as both an acoustic and visual screen, and these berms will be seeded and maintained through the life of the operation. Existing vegetation along Heritage Road will be maintained.

12) The location of outside storage, garbage and loading facilities

The Aggregate Resources Act standards are reflected in the design of the site and include provisions for stockpile height, loading and shipping of aggregate materials. Compliance with the Site Plan requirements is enforced by the Ministry of Natural Resources and Forestry (MNRF). Copies of annual Compliance Assessment Reports are provided to the Municipality.

13) Conformity with the provisions of the Site Plan Control By-law

This section is not applicable to the proposed development (ARA Standards apply).

14) *The design and location of signs, and the compliance of signs with the Sign Control By-law*

This section is not applicable to the proposed development.

15) *Measures planned by the applicant to mitigate any adverse impacts on surrounding land uses and streets that have been identified as part of the Planning Impact Analysis, and*

The site plans for the proposed Pike pit have been designed to ensure that appropriate mitigation measures are in place to minimize the effects of noise and dust from the operation. The recommendations of the Noise Assessment Report prepared by HGC Engineering have been incorporated into the design of the pit.

Based on the planning analysis, the proposed Pike Pit conforms with the Official Plan policies for the County of Middlesex and the Municipality of Thames Centre.

7.5 Municipality of Thames Centre Zoning By-law

An application for a zoning by-law amendment is being submitted to the Municipality of Thames Centre Zoning By-Law 75-2006, to rezone the lands from “Agricultural” (A) to Extractive Industrial (M3) to permit the establishment of a Class A pit license, Category 3, above the water table.

8.0 PLANNING CONCLUSION

The zoning by-law amendment and ARA license applications are supported by the land use planning analysis, the Summary Statement, the ARA site plans and related requirements, and the associated technical reports referenced in this document.

Based on these submissions it is concluded that:

- 1) The proposed pit extension is located in a provincially, regionally and locally recognized aggregate resource area.
- 2) The deposit can be extracted in such a manner that potential environmental and social impacts are minimized.
- 3) The matters of provincial interest as identified in Section 2 of the Planning Act have been properly assessed and the proposal has appropriate regard to these provincial interests.
- 4) The proposed pit, through its Operations Plan, Rehabilitation Plan and the recommendations of the supporting technical reports, is consistent with provincial policy as set out in the 2020 Provincial Policy Statement.
- 5) The Provincial Policy Statement 2020, contains policy requiring mineral aggregate resources to be protected and that as much of the resource as possible be made available as close to market as is possible. The proposal is consistent with this provincial objective as well as provincial policy related to the protection of natural heritage, water and cultural resources and the protection of public health and safety.

- 6) The proposal is consistent with the relevant policies of the Official Plan for the County of Middlesex and the Municipality of Thames Centre with regard to amendments for new aggregate extraction applications.
- 7) The ARA site plans, prepared by taking into consideration the technical studies, surrounding land uses and legislative requirements, will minimize any environmental and social impacts in accordance with the Provincial Standards established under the ARA.
- 8) The modifications proposed to the local municipal planning documents represent good rural land use planning principles.
- 9) The proposed pit operation has been carefully designed and reflects recommendations of the accompanying technical reports. The operational notes on the license site plans under the Aggregate Resources Act, have incorporated conditions to reflect specific recommendations and measure to mitigate any negative environmental effects.

Prepared By:

Melanie Horton, MCIP. RPP
Esher Planning Inc.

December 2020

STATEMENT OF QUALIFICATIONS

Esher Planning Inc.

Melanie Horton, MCIP, RPP

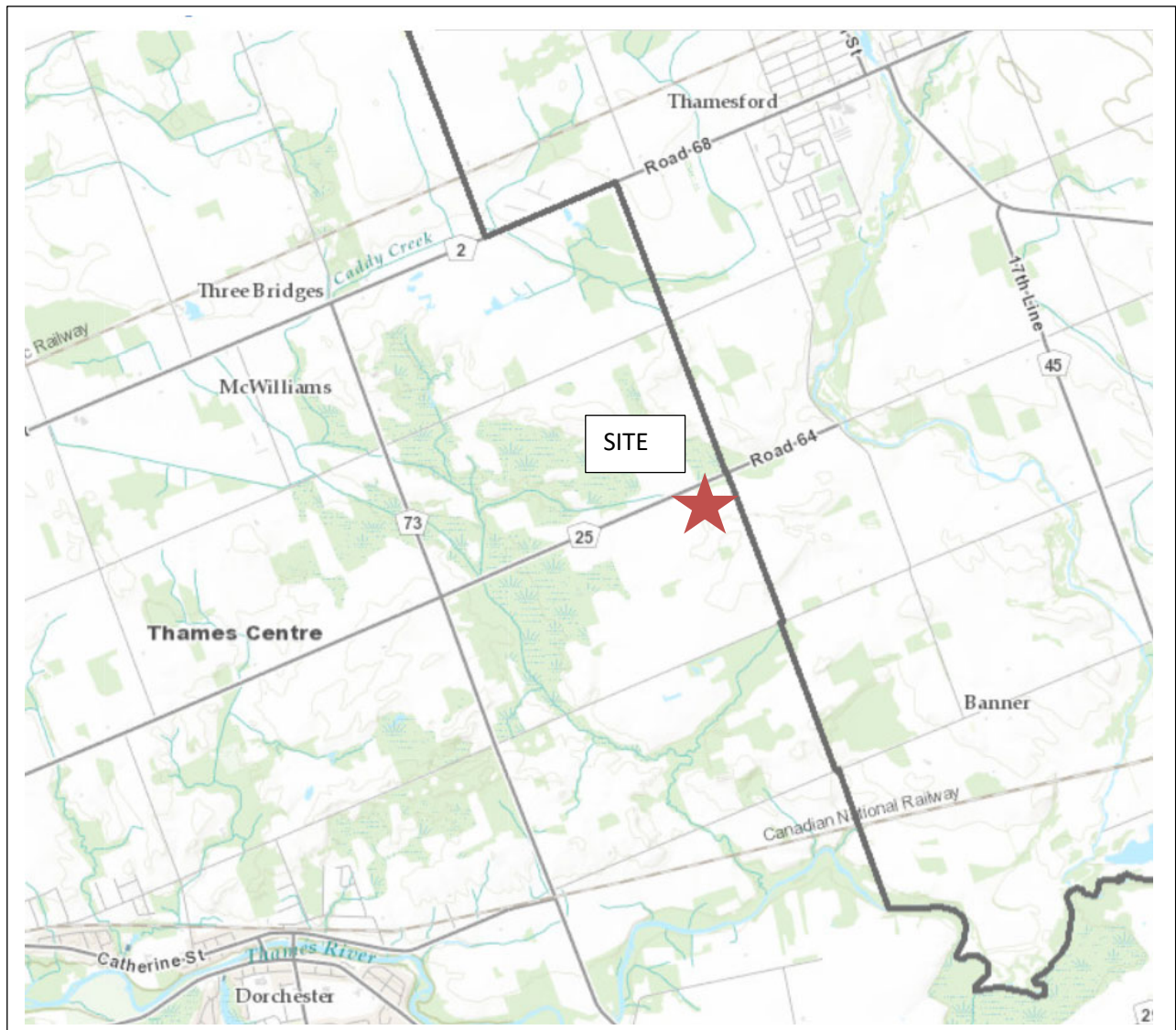
Esher Planning Inc. has expertise in land use planning and resource management with extensive experience in aggregate resource planning. The firm is an associate member of the Ontario Stone, Sand & Gravel Association (OSSGA).

Ms. Melanie Horton is a Registered Professional Planner and is a member in good standing of the Ontario Professional Planners Institute and the Canadian Institute of Planners. She is past chair of the Natural Resource Working Group for the Ontario Professional Planners Institute (OPPI) and has represented Ontario Planners on a variety of Natural Resource Policy initiatives. Melanie has over 25 years of experience in Aggregate Resource Management and Planning, working in both the public and private sector. She has been coordinating applications for over twenty-five years for pits and quarries across the province.

Ms. Horton has served on numerous provincial advisory committees including the State of the Aggregate Resources Report, and the Aggregate Strategy Working Group.

FIGURES

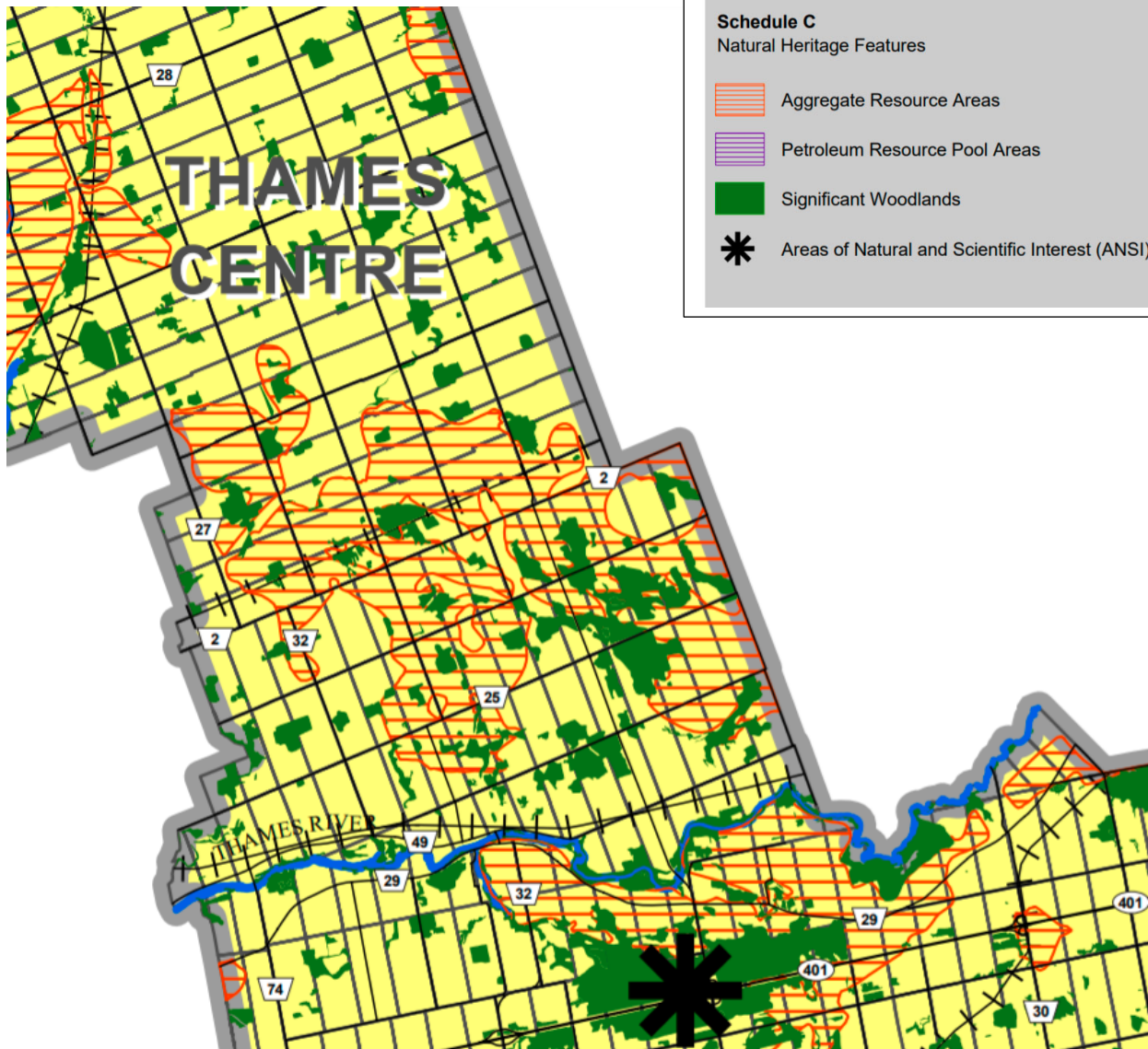
Figure 7: Location



Pike Pit

Part Lot 18, Concession 3 NRT,
Municipality of Thames Centre
County of Middlesex

**Figure 8: County of Middlesex Official Plan
Schedule C Natural Heritage Features**

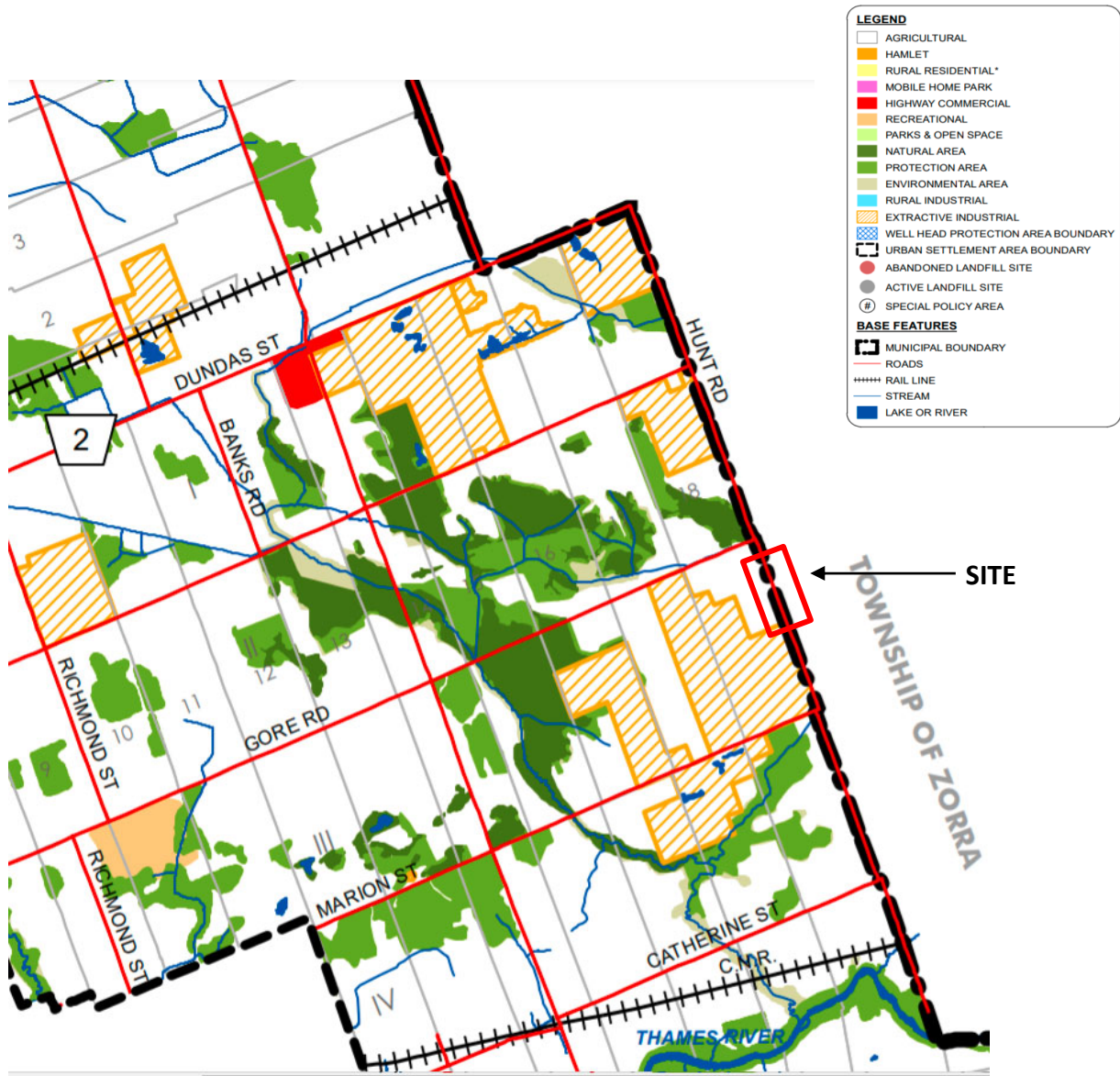


Pike Pit

Part Lot 18, Concession 3 NRT,
Municipality of Thames Centre
County of Middlesex

Figure 7: Thames Centre Official Plan

Schedule A: Land Use

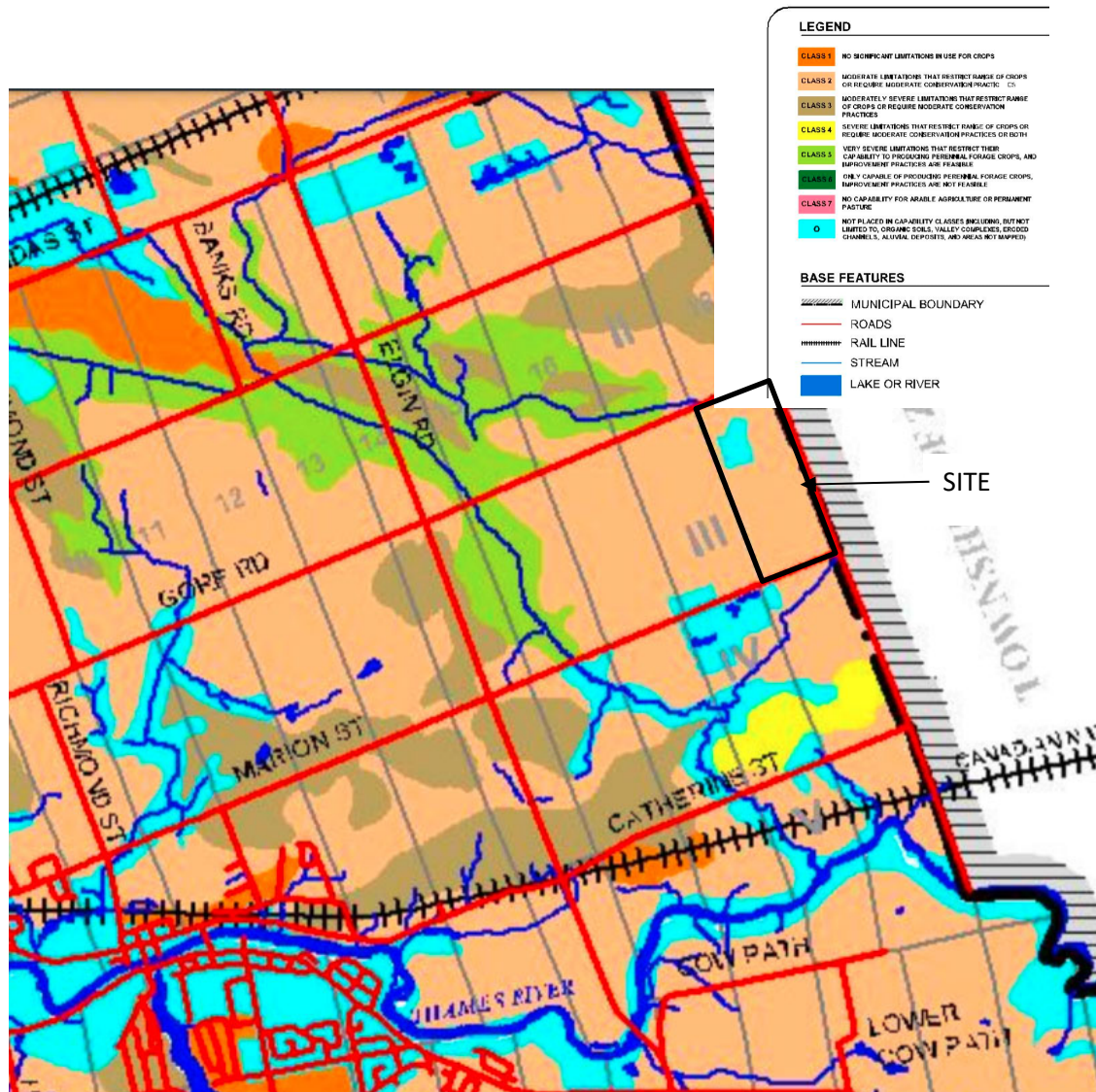


Pike Pit

Part Lot 18, Concession 3 NRT,
Municipality of Thames Centre
County of Middlesex

Figure 8: Thames Centre Official Plan

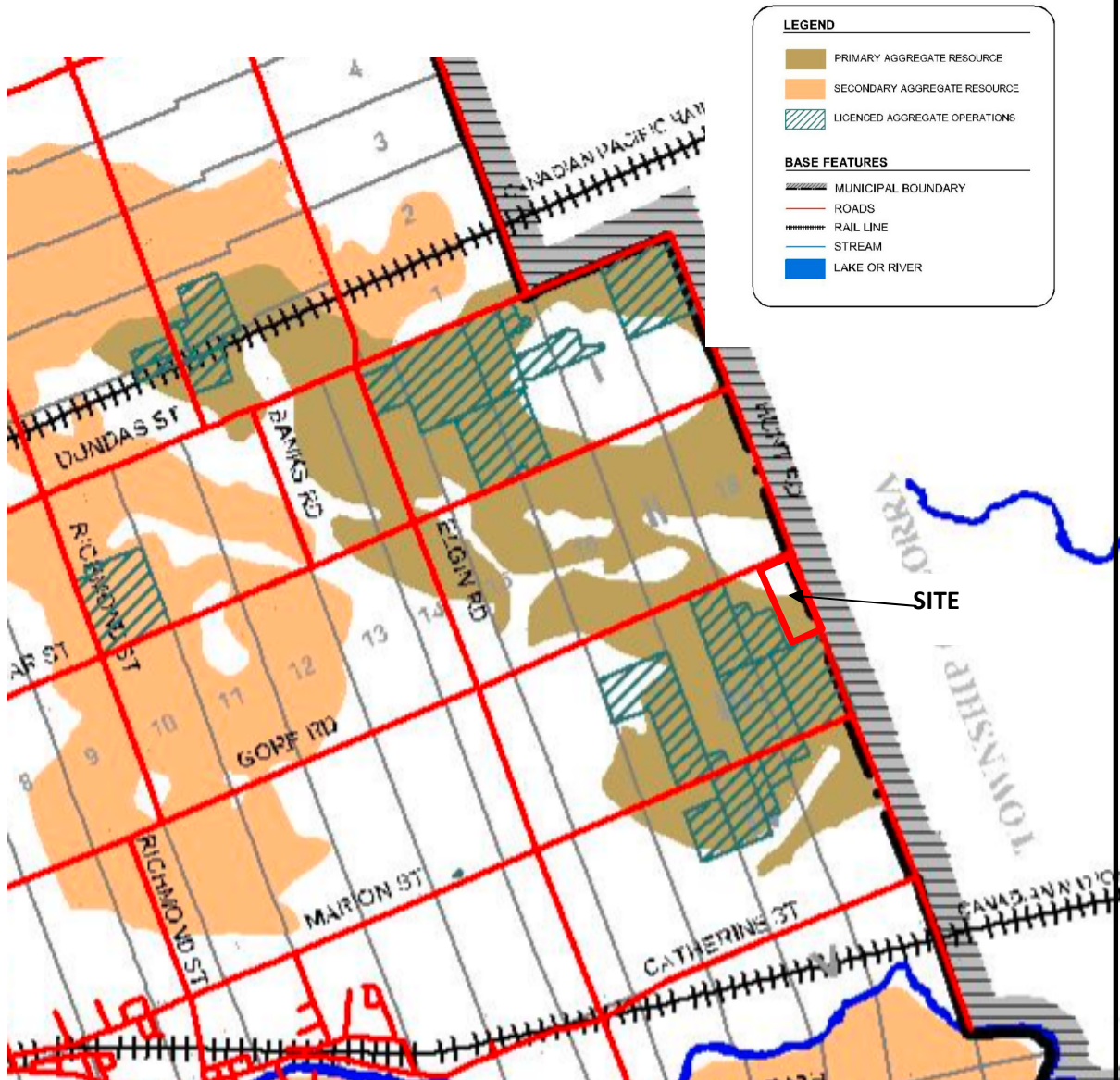
Appendix 2: Soil Capability for Agriculture



Pike Pit

Part Lot 18, Concession 3 NRT,
Municipality of Thames Centre
County of Middlesex

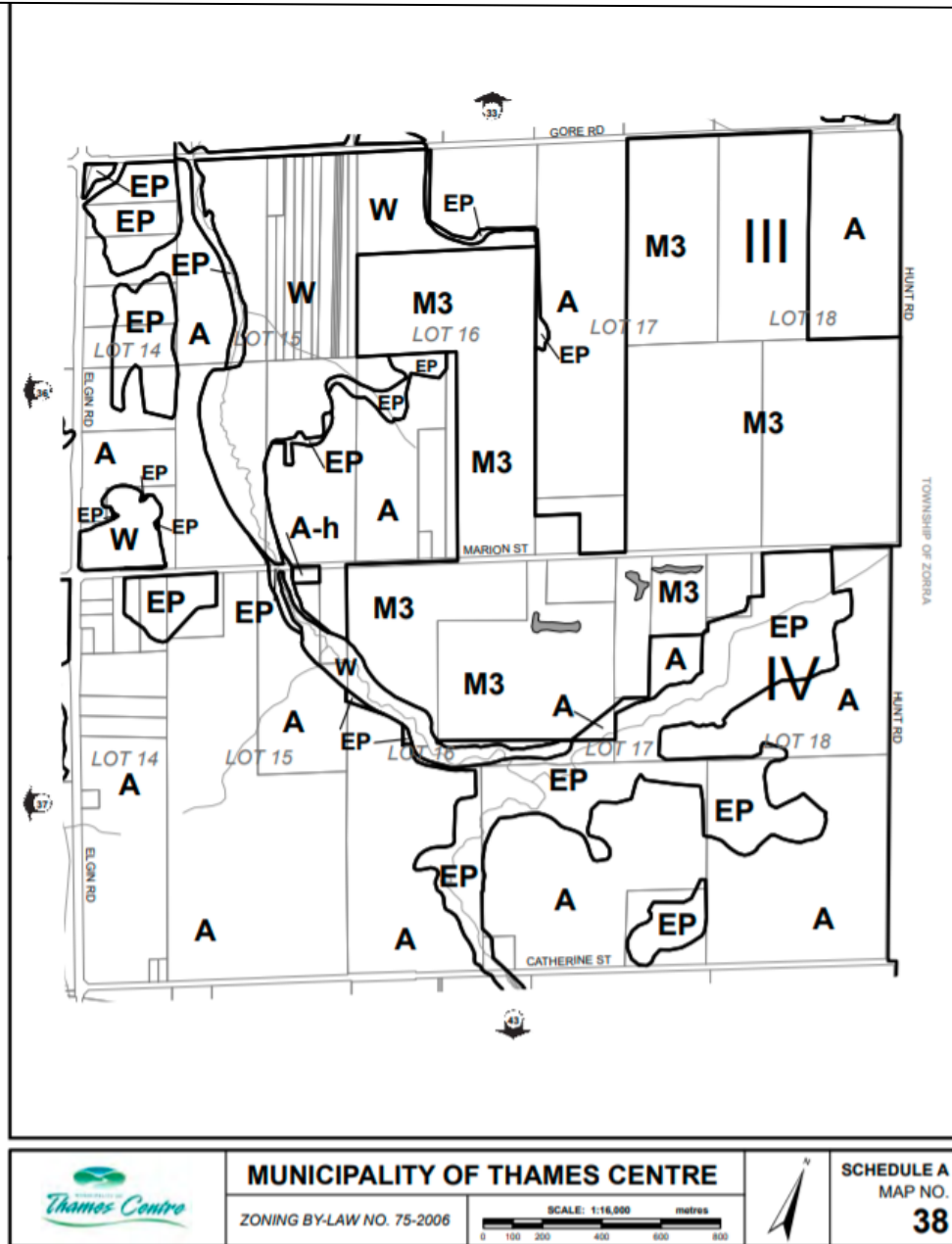
Figure 9: Thames Centre Official Plan
Appendix 3: Aggregate Resources



Pike Pit

Part Lot 18, Concession 3 NRT,
Municipality of Thames Centre
County of Middlesex

Figure 10: Thames Centre Zoning By-Law



Pike Pit

Part Lot 18, Concession 3 NRT,
Municipality of Thames Centre
County of Middlesex