

# ELGIN ROAD PIT

## ***AGGREGATE RESOURCES ACT*** ***SUMMARY STATEMENT***

APPLICATION FOR A CLASS A, PIT BELOW WATER LICENSE UNDER THE  
AGGREGATE RESOURCES ACT

PART LOT 16, CONCESSION 2  
MUNICIPALITY OF THAMES CENTRE  
COUNTY OF MIDDLESEX

ESHER PLANNING INC.  
JANUARY 2023

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## 1.0 INTRODUCTION

This report has been prepared in support of an application for a Class "A" pit below water license being made by Brantam Excavating. The report has been prepared in accordance with the Aggregate Resources of Ontario: Technical Reports and Information Standards, 2020. It provides a summary of the information and conclusions of the consultants who have contributed to the preparation of the Site Plans including:

- Water Resources/Hydrogeology: EXP Services Inc.
- Natural Environment : Terrastory Environmental Consulting Inc.
- Archaeological Assessment: Lincoln Environmental Consulting Group
- Noise Study: Aercoustics Engineering

The report is intended to supplement the information contained on the Site Plans which have been prepared by Harrington McAvan Ltd, and to assist in the review of the licensing application.

## 2.0 SITE DESCRIPTION

The subject property is located at the southwest corner of Dundas Street and Elgin Road and is described as part of Lots 13 & 14, Concession 1 NTR, in the Municipality of Thames Centre, County of Middlesex (see **Figure 1**). The area to be licenced is 20.7 hectares with a proposed extraction area of 17.8 hectares. The area to be licenced consists of predominantly agricultural fields. There is a wetland and wooded area forming the west boundary of the site, outside of the proposed extraction limit. A commercial John Deere dealership (Huron Tractor) is located in the northeast corner of concession lot, abutting the lands owned by Brantam Excavating. There are rural residences located along Dundas Street and Elgin Road near the site and the Village of Thamesford is located approximately 4 km east of the site along Dundas Street. An existing licenced aggregate operation (CBM gravel pit) is located east of the site, on the east side of Elgin Road, south of Dundas Street (see **Figure 2**)

Figure 1 – Location Map

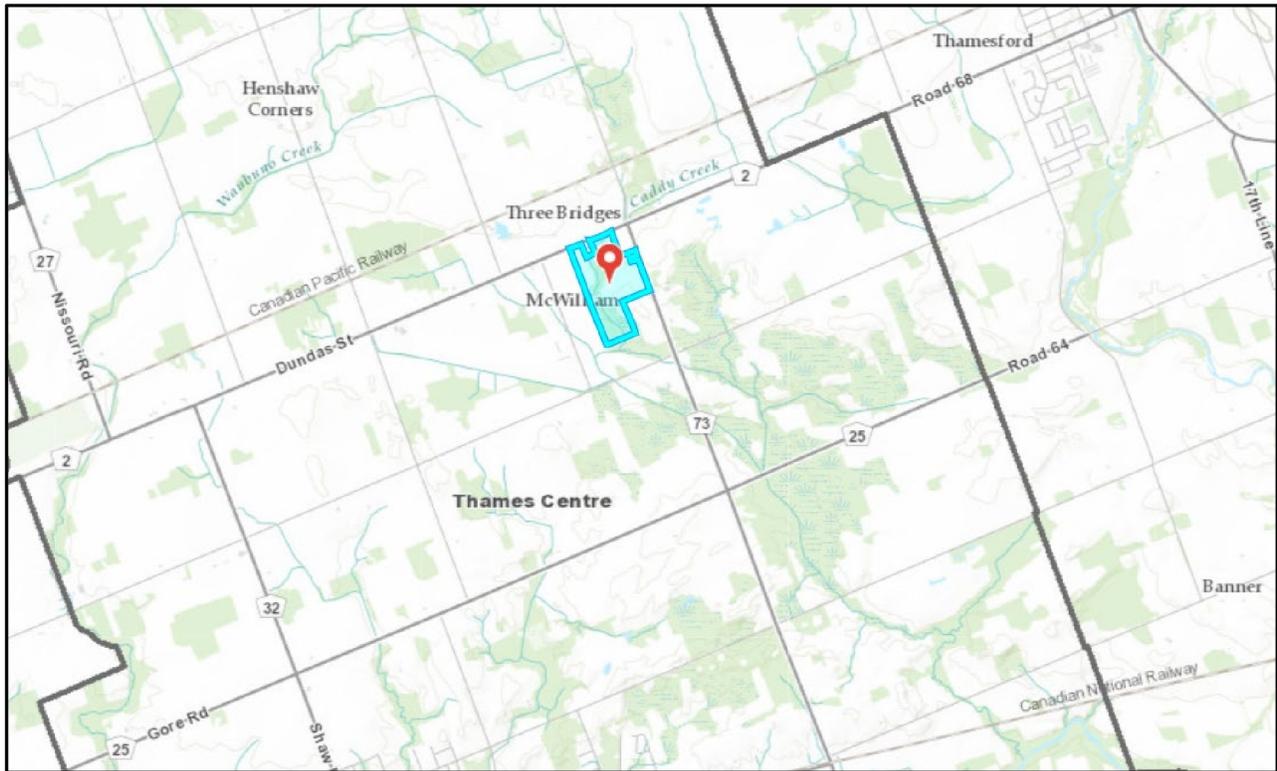


Figure 2 – Aerial View

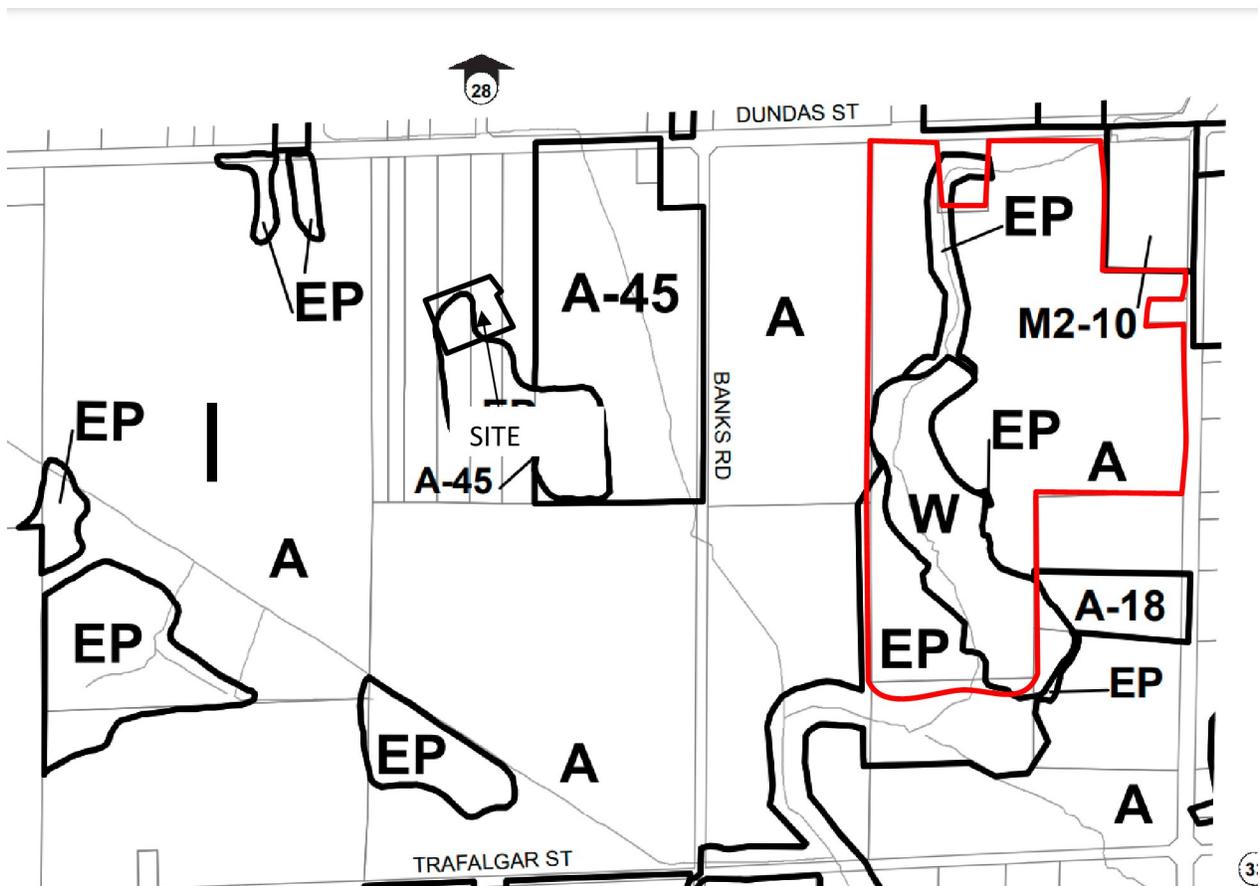


### 3.0 PLANNING AND LAND USE CONSIDERATIONS

Brantam Excavating is applying to the Ministry of Natural Resources and Forestry (MNR) for a Class “A”, License under the Aggregate Resources Act for a Pit Below Water. The license would allow for extraction of aggregate in a pit above and below the water table from a portion of the applicant’s property located at on Elgin Road in the Municipality of Thames Centre. Related Planning Act applications (Official Plan and Zoning By-law Amendment) are required to permit the proposed pit and these applications are being filed concurrently with the Municipality.

The area to be licensed is currently zoned ‘A’ Agricultural. The wetland along the west area of the property, and outside of the area to be licensed, is zoned “Wetland” (W) and “Environmental Protection” (EP). (See Figure 3)

Figure 3 - Thames Centre Zoning



## Approvals Required for the Proposed Elgin Road Pit

1. County of Middlesex Official Plan - No Regional Official Plan Amendment is required.
2. Municipality of Thames Centre Official Plan - An Official Plan Amendment (OPA) is required to re-designate the proposed area to be licensed of the lot from “Agricultural” to “Extractive Industrial”.
3. Municipality of Thames Centre Zoning By-law – A Zoning By-Law Amendment is required to rezone the area to be licensed from “A” (Agricultural) to “M3” (Extractive Industrial)
4. A Ministry of Natural Resources and Forestry Aggregate Resources Act Licence is required for a Class “A” Pit below water.

The applications to permit the development of the pit are supported by a series of technical studies which assess 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.

The operations and the rehabilitation of the pit have been designed to minimize impacts and propose that the lands will be returned to agricultural use through progressive rehabilitation. 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 located on the site and on adjacent lands. The report identifies measures to ensure there are no negative impacts on these natural features or their functions.

The area to be licensed is designated in the County Plan as an Agricultural area. 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 subject property consists primarily of cultivated agricultural fields with gently rolling topography. Land use in the general area includes agricultural, and industrial uses. There is a former licensed gravel pit located to the west of the subject lands. The hamlet of Thorndale is located east of the site.

The protection and management of aggregate resources has 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.

In summary, the proposed pit:

- Has been evaluated to ensure there are no negative impacts on the natural environment or groundwater resources.
- Is designed to mitigate potential impacts from noise and dust of the proposed operations.
- Will be progressively rehabilitated to an agricultural use.
- Conforms with the policies of the County of Middlesex Official Plan and the Thames Centre Official Plan.
- Represents wise management and use of resources.
- is consistent with the Provincial Policy Statement.

## 4.0 AGRICULTURAL CLASSIFICATION

The Soils of Middlesex County mapping (OMAFRA Soil Report #56, 1992) describe the soils on the subject property as a combination of Caledon and Burford loam (see Figure 5). The Burford soils are developed on gravelly, sandy to loamy-textured, glaciofluvial outwash deposits. Cobble-sized coarse fragments are also present in the outwash materials. In the subsoil, the gravel content is greater than 20% and beds of sand are common. The gravelly material is overlain by thin caps, less than 40 cm in thickness, of sandy or loamy-textured material. Burford Association soils are mainly used for the production of common field crops and for pasture in Middlesex County, but they are also suitable for a variety of special crops. There are a number of gravel pits developed in the Burford soils. Caledon soils are rated Class 2FM for common field crops, where topography is not a limiting factor. Low cation exchange capacities, which are related to their sandy textures, contribute to fertility limitations. Moisture limitations are due to the low moisture-holding capacities of these soils.

Canada Land Inventory (CLI) mapping from Ministry of Agriculture, Food and Rural Affairs shows the area to be licensed is class 2 agricultural land. The site is currently in agricultural use with the majority of the site used for crops.

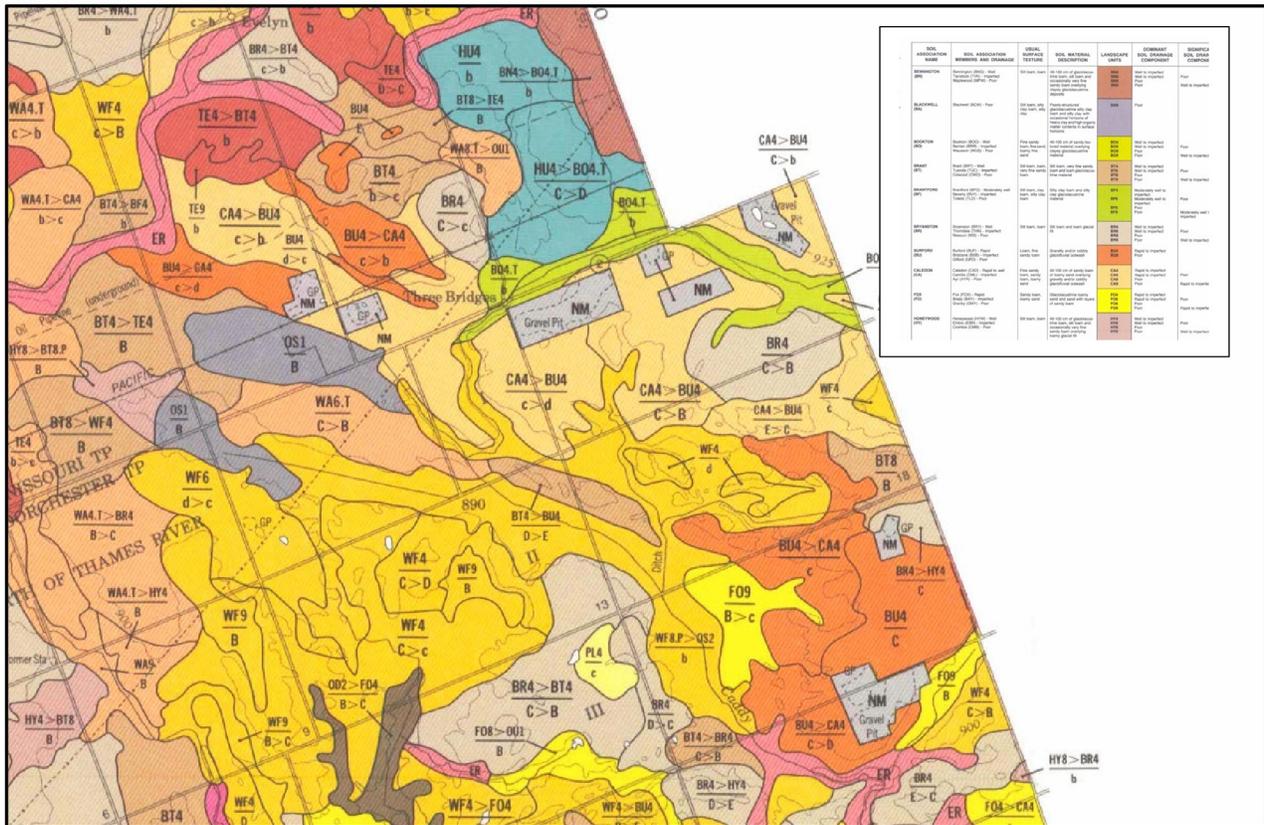
Section 2.5.4 of the Provincial Policy Statement (2020) deals with mineral aggregate resources extraction in prime agricultural areas. The PPS defines prime agricultural land as “specialty crop areas and/or Canada Land Inventory Class 1, 2, and 3 lands, as amended from time to time, in this order of priority for protection”. The policies allow for extraction of mineral aggregate resources as an interim use.

Extraction of minerals and petroleum resources is permitted in prime agricultural areas provided that the site will be rehabilitated. Complete rehabilitation to an agricultural after use is not required where there is a substantial amount of aggregate below the water table warranting extraction and where alternatives on non-prime agricultural land have been considered.

PPS Section 2.3.6.2 requires that “impacts from any new or expanding agricultural uses on surrounding agricultural operation and lands are mitigated to the extend feasible”. The surrounding properties are a combination of aggregate extraction, rural industrial, agricultural and environmentally protected lands. There are a number of aggregate operations in the area and the proposed pit would use existing haul routes that have functioned without impact to the agricultural community. There are no farming operations or agricultural services that will be impacted by the proposed expansion.

This proposal is consistent with the Provincial requirements for mineral extraction in prime agricultural areas as directed by the PPS. It also conforms to the County and the Township planning policies regarding aggregate extraction in agricultural areas.

**Figure 4: Excerpt from Soils of Middlesex County, Map 3 (OMAFRA, 1992)**



## 5.0 QUALITY AND QUANTITY OF AGGREGATE ON SITE

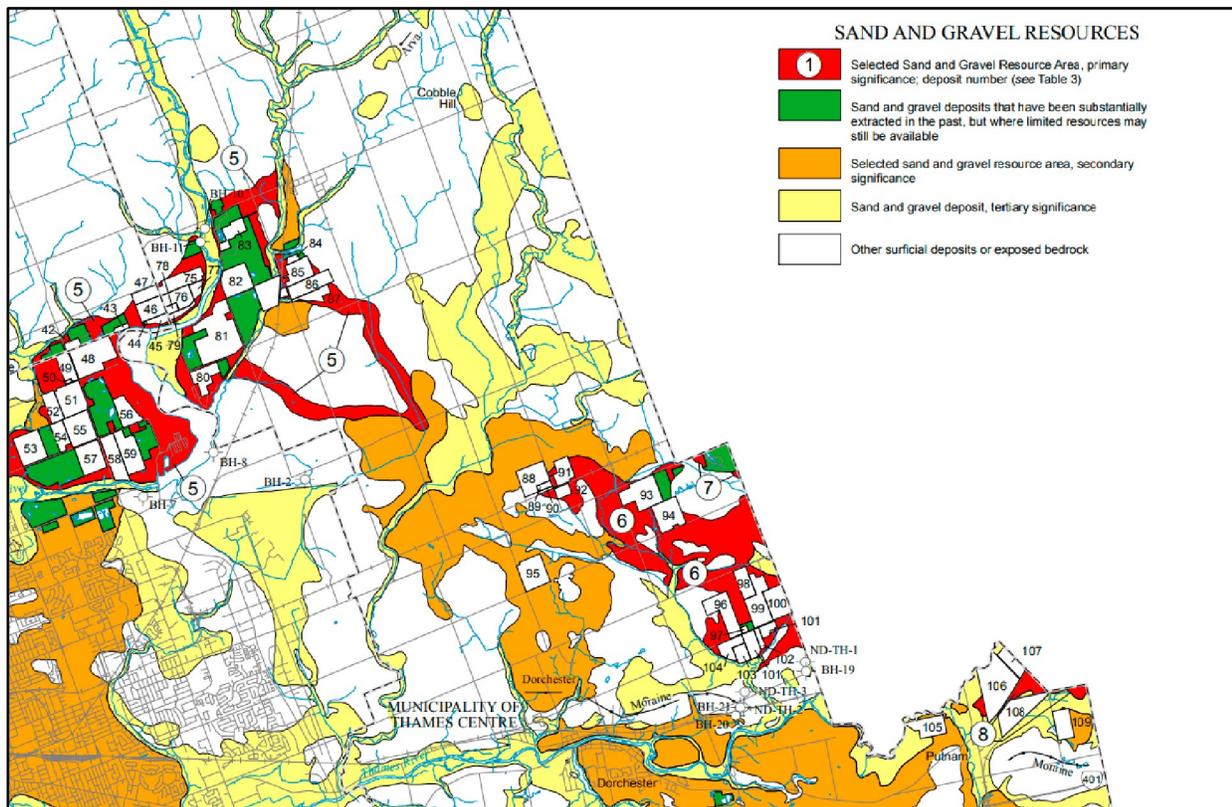
### Geological Information from Published Reports

#### *Aggregate Resources Inventory of the County of Middlesex and the City of London– ARIP78, revised 2016*

According to the 2016 ARIP report, the majority of the property is within “Selected Sand and Gravel Resource Area 6” a large expanse of undifferentiated ice-contact stratified drift terrain located in the east-central portion of the Municipality of Thames Centre, extending into the County of Oxford. This deposit is associated with the Dorchester moraine. Sand and gravel deposits are often overlain by or interbedded with till. Face heights range from 2 to 6 m and expose material that varies considerably. Water-well and borehole records indicate up to 20 m of material. Portions of these resources will be below the water table.

Based on the mapping and borehole information, there is an estimated 2 Million tonnes of commercially viable resources within the area to be licenced.

**Figure 5: Excerpt from Aggregate Resource Inventory ARIP 78 (2016)**

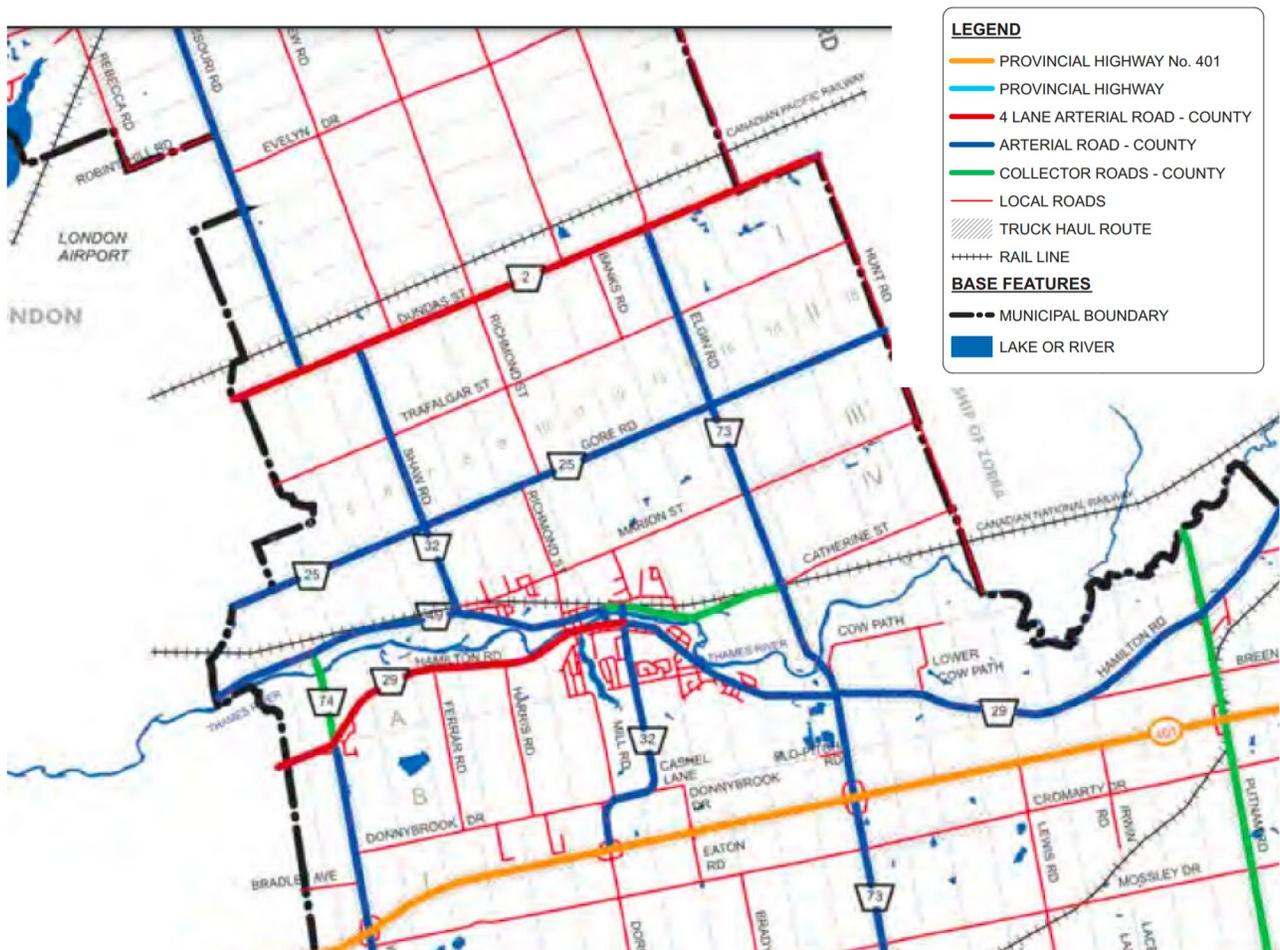


## 6.0 HAUL ROUTES AND TRUCK TRAFFIC

The proposed Pit operations would utilize an entrance/exit onto Elgin Road, near the south limit of the Site. An entrance permit will be required from the County. Elgin Road (County Rd. 27) is a County arterial road and is identified in the Thames Centre Official Plan as a “Truck Haul Route”. These roads have been identified as suitably constructed or improved to accommodate truck traffic. Traffic from the pit will travel on Elgin Road or Dundas Street, which are both part of the County road system.

The Pit license proposes an annual maximum material extraction of 500,000 tonnes. The anticipated average truck volumes, based on sales forecasts, will be in the range of 10-12 trucks per day, during the operating season.

Figure 6: Excerpt from Thames Centre Official Plan, Schedule C, Transportation



## 7.0 PROGRESSIVE AND FINAL REHABILITATION

The final rehabilitation of the site following extraction will result in the creation of a pond with wetland areas and meadow around the perimeter of the pond. The total area to be rehabilitated is 17.8 hectares of which 12.9 ha will be open water pond, 1.4 ha of wetland and 3.5 ha of meadow on the sideslopes of the pond.

As the operations progress, the existing 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. Acoustic berms that are required to attenuate noise will remain in place for each phase before being removed and used for rehabilitation of the site.

Restoration of the shallow wetland areas in the pond will be accomplished by adding woody debris (branches, stumps, brush bundles) from the site to create habitat in the nearshore area. Shoreline plantings will include native wetland plants such as floating pondweed, common wooly bulrush, and swamp milkweed. Tree planting in the shoreline area will include native species of trees and shrubs such as dogwood, staghorn suman, and elderberry.

The ARA Site Plans (Page 5, Rehabilitation Plan) include additional details regarding progressive and final rehabilitation. The final rehabilitation will be compatible with the surrounding lands and land uses and enhance the existing natural features within and surrounding the site.

## 8.0 SOURCE WATER PROTECTION

The property is within the Upper Thames River Source Protection Area which is part of the Thames-Sydenham Source Protection Region. According to the MECP Source Water Protection Atlas, the site is not located within an identified wellhead protection area as set out in an applicable source water protection plan under the Clean Water Act. The site not identified as within an intake protection zone or an issue contributing area.

On a regional watershed scale, highly vulnerable aquifers (HVA) and significant groundwater recharge areas (SGRA) were also mapped as part of the assessment. These areas are based on an aquifer vulnerability assessment which is determined through assessment of the aquifer depth and geologic setting and provides an intrinsic vulnerability of the aquifer. Based on the regional scale mapping the site is mapped as a significant groundwater recharge area and a high vulnerable aquifer area.

Aggregate extraction is not identified as a significant drinking water threat according to the Source Protection Plan. There will be no salt storage on this site. Fuel storage and handling will be subject to provincially regulation as noted on the Site Plans. A spills plan will be in place for the operation.

## 9.0 TECHNICAL REPORTS

A series of technical reports were completed in accordance with the requirements set out in the Provincial Standards for Aggregate license applications. A brief description of these reports is provided in the following section. The technical recommendations outlined in these reports have been incorporated as conditions and can be found on the Site Plans.

### 8.1 Hydrogeological Assessment: EXP Services Inc., Feb. 2023

A Geotechnical and Hydrogeological Investigation was carried out by EXP in 2021 and consisted of the advancement of six (6) boreholes. Monitoring wells were installed on the site and these are shown on the Site Plans. The observations pertaining to groundwater conditions at the borehole locations and stabilized groundwater levels in the monitoring wells are recorded in the borehole logs found in the EXP report.

Over a full year of groundwater elevation monitoring (June 2021 to September 2022) and water quality monitoring was completed in support of the hydrogeological investigation. Based on the hydrogeological data collected from the property, a good understanding has been captured regarding the groundwater conditions related to site development.

The proposed monitoring program includes manual water level and temperature measurements of the existing wells and surface water stations as well as turbidity and total suspended solids (TSS). Changes to the water balance are expected to be minor and localized changes in groundwater levels which are expected to result in a flattening of the groundwater gradient are not expected to have an adverse impact on surrounding water wells or the Humphrey Municipal Drain and North Dorchester Swamp PSW.

### 8.2 Natural Environmental Impact Study, Terrastory Environmental Consulting Inc., Feb 2023

Field investigations and data collection included in this submission were carried out between June and November 2022 and included surveys of breeding birds, vascular plants, fish habitat, natural feature mapping and incidental observations. After collecting the background biophysical information and

completing the site assessments the data was interpreted to determine whether any significant natural features and/or significant species occur on the property or adjacent lands (within 120 metres of the property boundary).

Terrastory identified a significant wetland, woodland, coldwater fish and wildlife habitat in the west portion of the lands owned by the applicant, outside of the area to be licensed. Their report recommends a 30-metre setback be maintained from the wetland, and a 15-metre setback from the dripline of the significant woodland. The report also recommends timing restrictions for vegetation removal as a measure to protect the features on and near the site.

The report concludes that there will be no negative impacts to significant natural features from the proposed pit operation.

### **8.3 Archaeological Assessment (Stage 1 -2), Lincoln Environmental Consulting Corp. Nov. 2021:**

Lincoln completed a Stage 1 archaeological assessment of the property in accordance with Section 1.3.1 of the Ministry of Heritage, Sport, Tourism, and Culture Industries' (MHSTCI) 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011). This assessment determined that the study area exhibits high potential for the identification and recovery of archaeological resources and a Stage 2 archaeological assessment was recommended.

The Stage 2 assessment was conducted on May 18<sup>th</sup> 2021 under archaeological consulting license P344 issued to Kara Adams, MSc, of LEC by the MHSTCI. No archaeological resources were identified during the Stage 2 archaeological assessment of the study area, and as such no further archaeological assessment of the property is recommended.

### **8.4 Noise Assessment Report, Aercoustics Engineering, Jan 2023**

Aercoustics completed an analysis of the potential impact of noise from the proposed gravel pit at neighbouring noise sensitive receptors (residential dwellings) in accordance with the Ministry of Natural Resources and Forestry (MNR) and the Ministry of the Environment, Conservation and Parks (MECP) Guidelines. Under MECP guidelines, the acoustical environment at the receptors is classified as semi-urban (Class 2) as the background sound is dominated by traffic noise from Dundas Street and Elgin Road.

To ensure compatibility with the existing acoustic environments at the nearest sensitive receptors, suitable noise limits have been established for the operations in the proposed pit. Noise control measures are designed to ensure that the sound levels from the pit will comply with provincial limits and have been incorporated in the site and operating plans. The recommended noise control measures include construction of perimeter berms as shown on the Site Plans.

Incorporation of the recommended noise control measures will ensure that the aggregate extraction and processing operations in the proposed will comply with the Ministry noise guidelines.

## **10.0 CONCLUSION**

With the investigation and planning undertaken to support the extraction and rehabilitation of this site, we are confident that the Site Plans, as prepared, adequately address and mitigate any potential adverse impacts of the proposed operation on the surrounding land uses while maximizing the utilization of the aggregate resources and the after-use potential of the property.

In summary, the proposed area to be extracted contains a viable aggregate deposit and its recovery is not constrained by any natural heritage features, water resources, cultural heritage resources or incompatible land uses that would preclude extraction of the subject site. The proposed rehabilitation will result in the creation of a pond on the site once extraction is complete.

## 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.