

ELLIOT PIT

AGGREGATE RESOURCES ACT SUMMARY STATEMENT

APPLICATION FOR A CLASS A, CATEGORY 3 LICENSE UNDER THE
AGGREGATE RESOURCES ACT

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

ESHER PLANNING INC.
JANUARY 2021

Table of Contents

1.0	INTRODUCTION	4
2.0	SITE DESCRIPTION	4
	Figure 1 – Location Map.....	5
	Figure 2 – Aerial View.....	5
3.0	PLANNING AND LAND USE CONSIDERATIONS.....	6
	Figure 3 - Thames Centre Official Plan, Schedule A: Land Use Designation Map.....	7
	Figure 4 - Thames Centre Official Plan, Schedule A-11, Thorndale Settlement Area	7
4.0	AGRICULTURAL CLASSIFICATION	9
5.0	QUALITY AND QUANTITY OF AGGREGATE ON SITE	11
	Figure 5: Excerpt from Aggregate Resource Inventory ARIP 78 (2016)	11
6.0	HAUL ROUTES AND TRUCK TRAFFIC	12
	Figure 6: Excerpt from Thames Centre Official Plan, Schedule C, Transportation.....	12
7.0	PROGRESSIVE AND FINAL REHABILITATION	13
8.0	TECHNICAL REPORTS.....	13
	8.1 Hydrogeological Assessment: EXP Services Inc., January 2021 (Appendix A)	13
	8.2 Level II and Environmental Impact Study, Terrastory Environmental Consulting Inc., Jan 2021 (Appendix B)	14
	8.3 Archaeological Assessment (Stage 1 -2), Lincoln Environmental Consulting Corp. Oct 2020:.....	15
	(Appendix C)	15
	8.4 Noise Assessment Report, HGC Engineering Limited, Jan 2021 (Appendix D).....	15
9.0	CONCLUSION.....	16
	STATEMENT OF QUALIFICATIONS	17

APPENDICES:

- A. **Hydrogeological Level 1 Assessment**
EXP Services Inc
- B. **Natural Environment Level 2 Report**
Terrastory Environmental
- C. **Archaeological Assessment Stage 1 and 2**
Lincoln Environmental Consulting Group
- D. **Noise Assessment Report**
HGC Engineering Limited
- E. **Site Plans**
Harrington McAvan Ltd.

1.0 INTRODUCTION

This report has been prepared in support of an application for a Category 3 - Class "A" license, pit above water by 5026367 Ontario Inc, as required under the *Aggregate Resources of Ontario Provincial Standards Version 1.0* (AROPS) developed in support of the Aggregate Resources Act. It summarizes the information and conclusions of the consultants who have contributed to the preparation of the Site Plans including:

- Hydrogeology: EXP Services Inc.
- Natural Environment : Terrastory Environmental Consulting Inc.
- Archaeological Assessment: Lincoln Environmental Consulting Group
- Planning Justification Report: Findlater Associates
- Resource Assessment: Atkinson Davies and EXP Services

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

2.0 SITE DESCRIPTION

The subject property to be licensed is located at 21878 County Road 27 just west of the community of Thorndale. The property is described as part of Lot 16, Concession 2, in the Municipality of Thames Centre, County of Middlesex and is part of a larger parcel of land (see Figure 1). The area to be licenced is 14.2 hectares with a proposed extraction area of 12 hectares. The site consists of predominantly agricultural fields. A house and barns are located outside of the proposed area to be licensed.

The community of Thorndale is located east of the site, on the east side of Nissouri Road. Agricultural lands are located north and west of the site, and the Thames River is located approximately 350 metres west of the westerly boundary of the site. Industrial uses are located to the south of the site, on the south side of Thorndale Road, and include TRS Components Ltd. (building supply) and Ideal Pipe (drainage pipe systems).

Figure 1 – Location Map

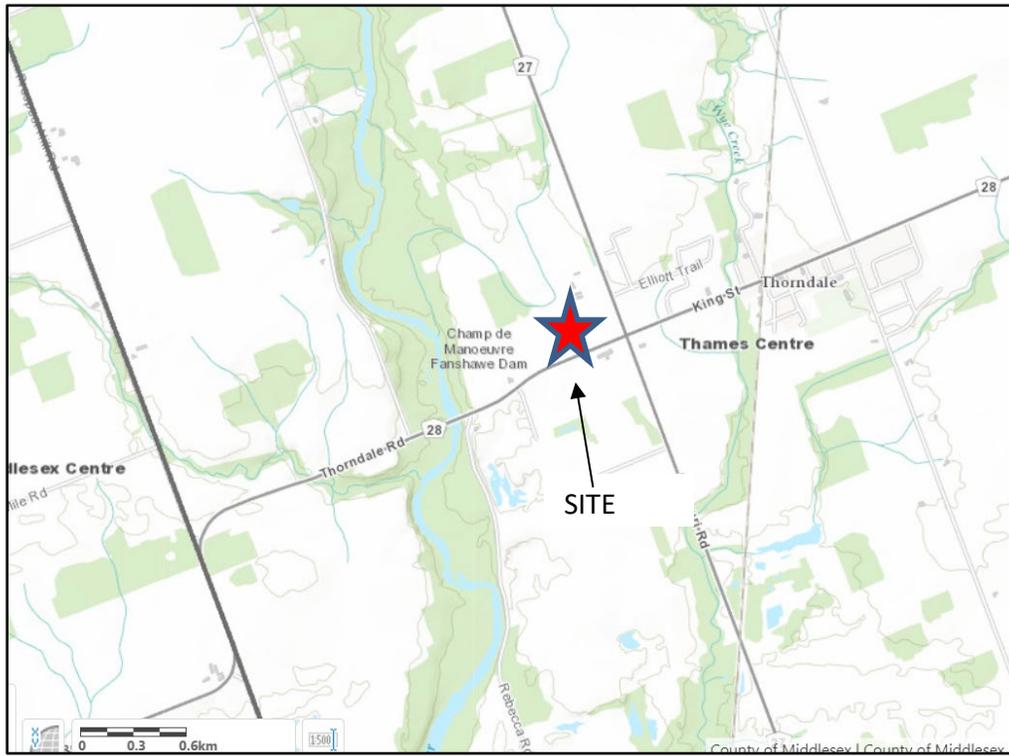


Figure 2 – Aerial View



3.0 PLANNING AND LAND USE CONSIDERATIONS

“5026367 Ontario Inc” is applying to the Ministry of Natural Resources and Forestry (MNRF) for a Class “A”, Category 3 License under the Aggregate Resources Act. The license would allow for extraction of aggregate in a pit above the water table from a portion of the applicant’s property located at 21878 County Road 27 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 Planning Justification Report, prepared by Findlater Associates for the associated Planning Act applications, provides a comprehensive review and analysis of the proposal in the context of provincial and local planning documents and policy. This includes: the Provincial Policy Statement (PPS, 2020), the County of Middlesex Official Plan, the Municipality of Thames Centre Official Plan as well as the Zoning-By Law for Thames Centre.

The land proposed to be licensed (the “Site”) is approximately 14.2 hectares (35 acres) from which the applicant proposes to extract 12 hectares (30 acres).

The area to be licensed is currently zoned ‘A’ Agricultural. The woodlot in the northwest corner of the lands also owned by the applicant, and outside of the area to be licensed, are zoned ‘EP’ Environmental Protection. The area immediately to the east of the proposed license, is also owned by the applicant and is zoned for future development. The close proximity of the aggregate will provide a supply of construction materials that may be utilized by the applicant for future developments in the area.

Approvals Required for the Proposed Elliot 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” Category 3 Pit above water to remove sand and gravel.

Figure 3 - Thames Centre Official Plan, Schedule A: Land Use Designation Map

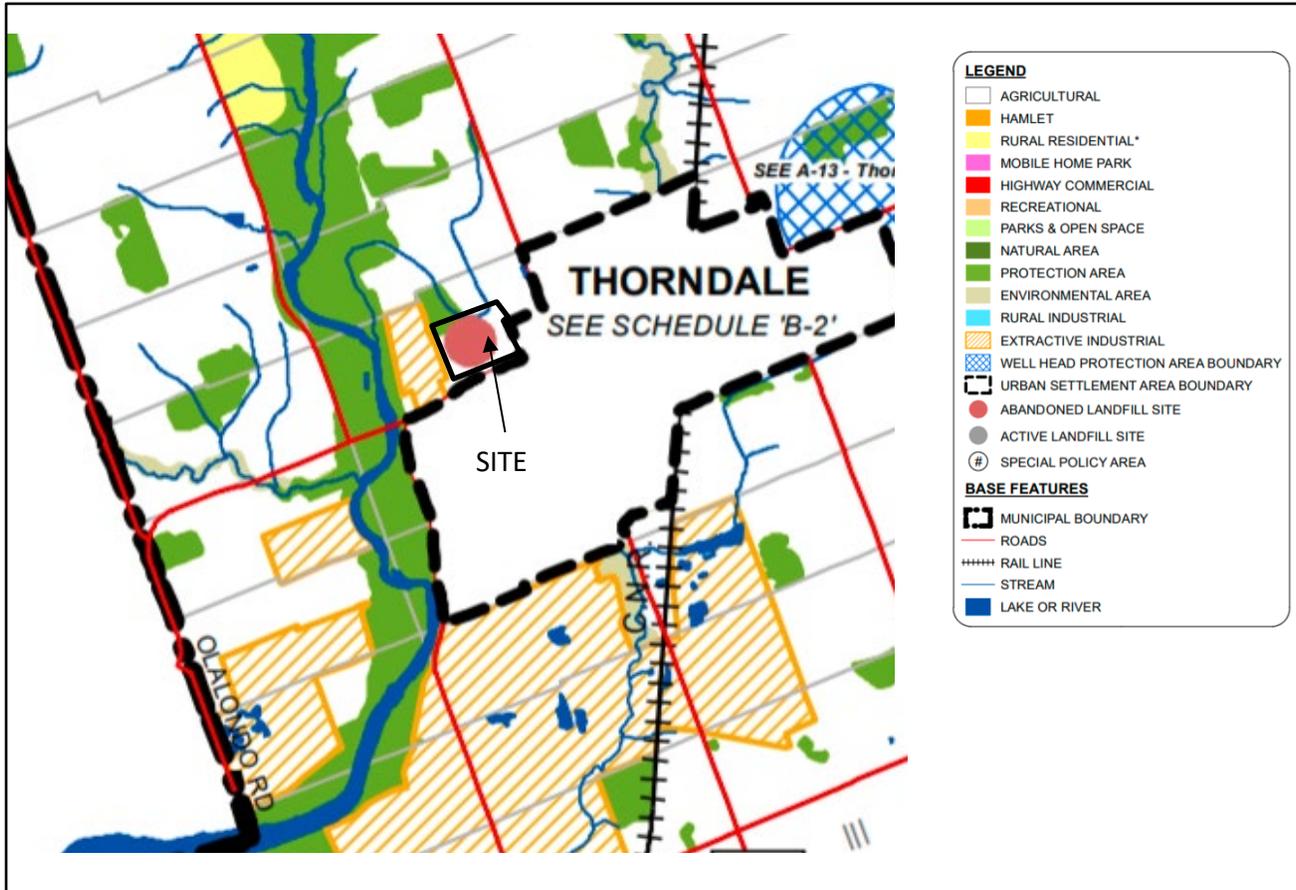
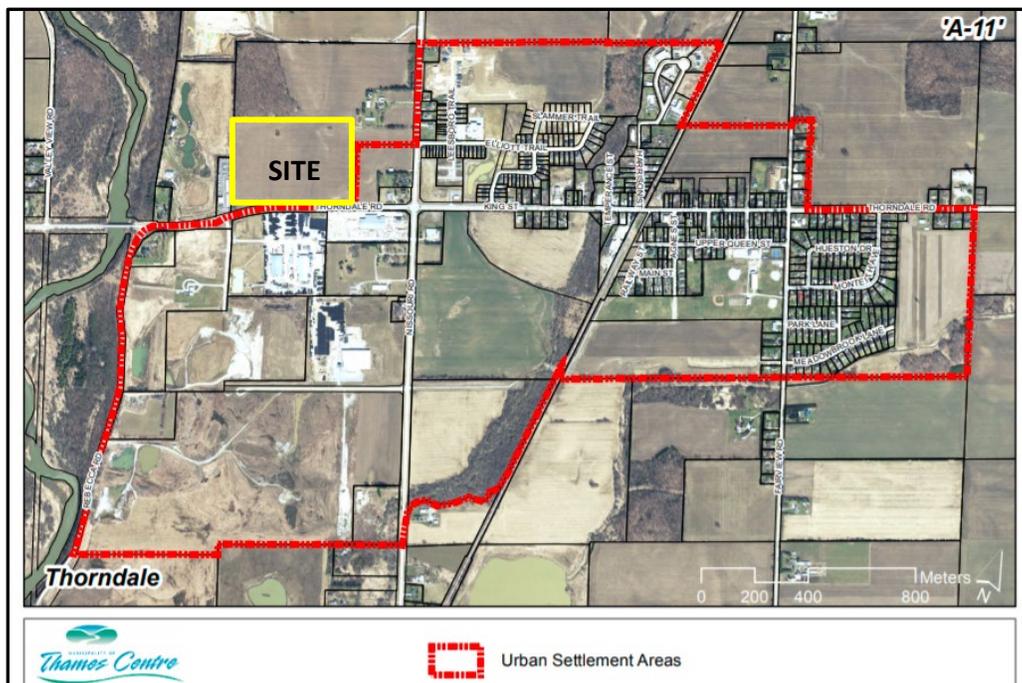


Figure 4 - Thames Centre Official Plan, Schedule A-11, Thorndale Settlement Area



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.

Canada Land Inventory (CLI) mapping from Ministry of Agriculture, Food and Rural Affairs shows the area to be licensed is class 1 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.

The rehabilitation of the site to an agricultural use will be achieved by:

- deep ripping of fields to eliminate compaction of soils, where required
- spreading of available topsoil and overburden, and grading to achieve a slope to ensure drainage
- removal of stones larger than 100mm
- seeding of graded area with a mixture of grasses and legumes that may include the following at a rate of approximately 125 kg/ha: buckwheat, red clover, white clover, tall fescue, annual rye

The extracted lands will be progressively rehabilitated using the soil resources on site to restore the area to an agricultural after use. The area to be restored to the capability of a CLI Class 1 soil will be maximized. 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.

5.0 QUALITY AND QUANTITY OF AGGREGATE ON SITE

Geological Information from Published Reports

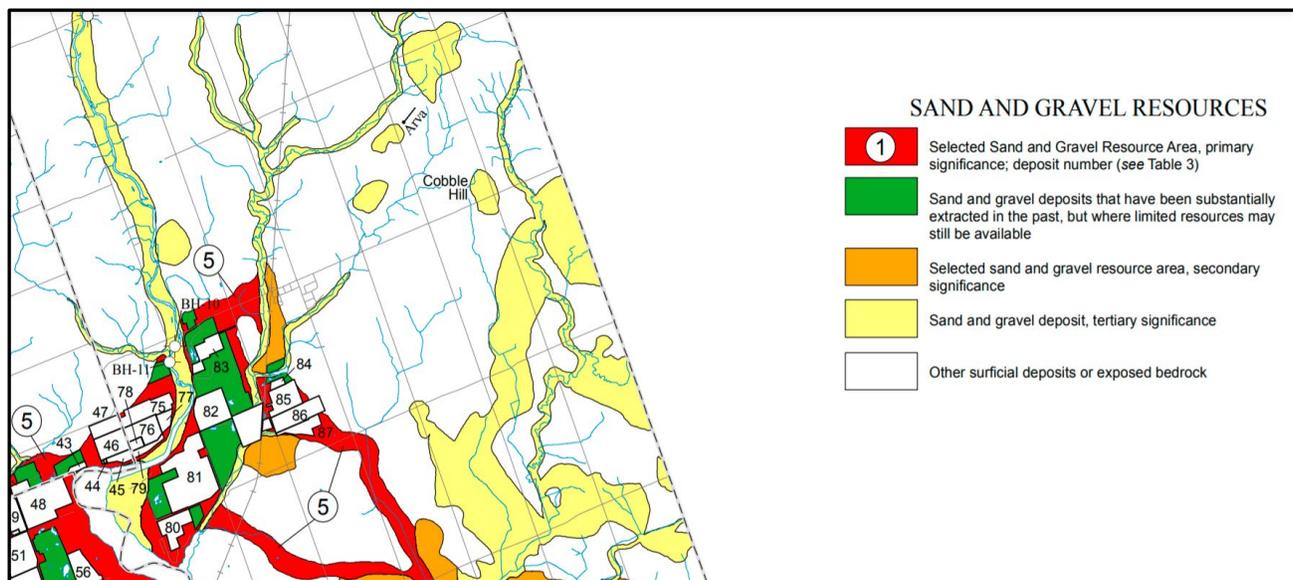
Aggregate Resources Inventory of the County of Middlesex and the City of London– ARIP78, revised 2016

According to the 2016 ARIP report, the majority of the property is within “Selected Sand and Gravel Resource Area 5”. The deposit is informally named the “Fanshawe Delta”. This complex includes both deltaic and glaciofluvial outwash deposits. Numerous pits have been developed in this deposit. Pit faces range from 3 to 8 m and generally expose horizontally bedded, well-sorted sand and gravel, overlying inclined, well-sorted sand and gravel beds. Water-well and borehole records indicate sand and gravel material present at depths up to 20 m. A number of former pits in this deposit have been depleted and rehabilitated, including former licensed located to the west and south of the Site. The material in this deposit is suitable for making a range of aggregate products, including high quality sand and gravel for use in asphalt and concrete products.

Geotechnical Investigations On Site

In 2001, Atkinson Davies Inc., completed a geotechnical investigation on the Site. The program consisted of digging 16 test pits, with material samples sent for grain size analysis. The investigation confirmed between 950,000 – 1 Million tonnes of commercially viable material on the property.

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

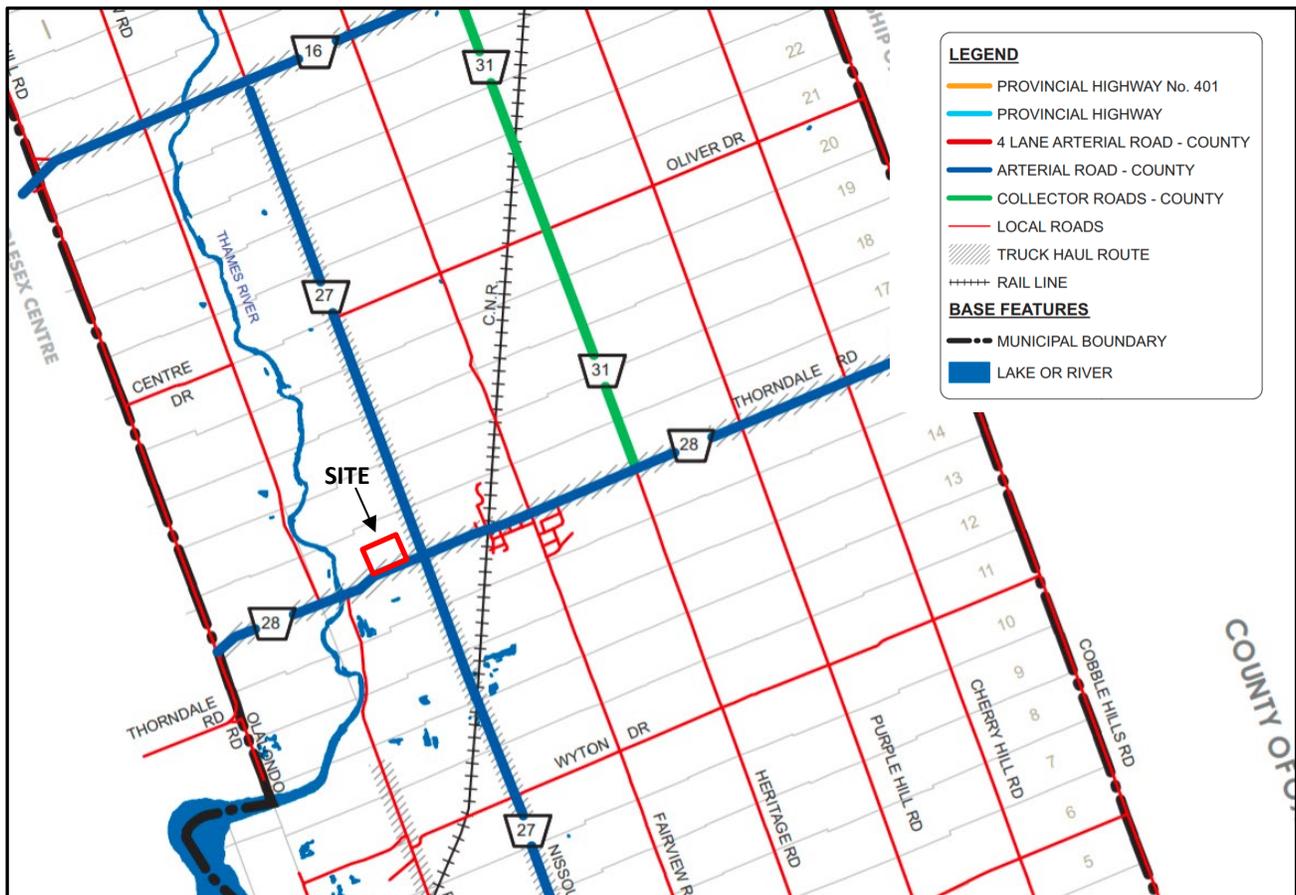


6.0 HAUL ROUTES AND TRUCK TRAFFIC

The proposed Pit operations would utilize an entrance/exit onto Thorndale Road, near the west limit of the Site. An entrance permit will be required from the County. Thorndale Road (County Rd. 28) 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.

The Pit license proposes an annual maximum material extraction of 300,000 tonnes. Based on this volume, at maximum levels, the pit may expect to generate truck volumes averaging 45 trucks per day. 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 proposed pit will be rehabilitated to an agricultural after use which is consistent with provincial policy and compatible with the surrounding areas.

All 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. However, acoustic berms required to attenuate noise will remain in place for each phase before being removed and used for rehabilitation of the site. After side slopes are created and required berms are removed from setbacks adjacent to Thorndale Road and to the easterly licensed limit, these areas will be immediately stabilized with a suitable groundcover.

Utilization of on-site materials will facilitate both maximum resource utilization as well as timely progressive rehabilitation of the property.

The ARA Site Plans (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. A monitoring program is included on the Site Plans.

8.0 TECHNICAL REPORTS

A series of technical reports were completed in accordance with the requirements set out in the Provincial Standards for Category 3 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 Page 3, Section and Details.

8.1 Hydrogeological Assessment: EXP Services Inc., January 2021 (Appendix A)

A Geotechnical and Hydrogeological Investigation was carried out by EXP in June 2020 and consisted of the advancement of seven (7) boreholes. Four 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.

Based on the review of MECP Well Records, the recorded potable wells in the area are typically sourced from bedrock aquifers. Three (3) wells were sourced from intermediate to deep overburden

aquifers which are generally confined below clay and glacial till strata. The two (2) shallow overburden wells are not expected to be impacted by excavations associated with the proposed gravel-taking operations at the site, given that the depth of extraction will remain 1.5 m above the seasonal high groundwater table.

The report recommends that monitoring at the Site should consist of routine compliance reporting for the operation, to ensure good operational practices and to ensure that the rehabilitation plan is completed. In addition, monitoring of the groundwater depths at the Site should continue on a quarterly basis to document the groundwater table elevations throughout the seasons.

There are no surface water features on the site. An unnamed Municipal Drain is located north of the area to be licensed, on other lands owned by the applicant, with eventual discharge into the Thames River located west of the site. There is no proposed water diversion, storage or drainage features proposed on the site and no discharge to surface waters. Overland runoff of surface water is currently towards the center of the site. Post rehabilitation, the final grading will direct surface drainage to the southwest portion of the site with no discharge off the property.

8.2 Level II and Environmental Impact Study, Terrastory Environmental Consulting Inc., Jan 2021 (Appendix B)

Field investigations and data collection included in this submission were carried out between June and September 2020 and included surveys of breeding birds, vascular plants, natural feature mapping and incidental observations. The natural environment study also utilized current aerial photographs. 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 woodland and wildlife habitat in the northwest corner of the lands owned by the applicant, outside of the area to be licensed. Their report recommends a 15-metre setback be maintained from the woodlot.

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. Oct 2020: (Appendix C)

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 June 2nd, 2020 under archaeological consulting license P344 issued to Derek Lincoln, MA, 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.

The report was reviewed by MHSTCI and a letter of clearance, dated October 14, 2020, was issued by the Ministry. This letter is also included as part of Appendix C.

8.4 Noise Assessment Report, HGC Engineering Limited, Jan 2021 (Appendix D)

HGC Engineering 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 (MNRF) and the Ministry of the Environment, Conservation and Park (MECP) Guidelines. Under MECP guidelines, the acoustical environment at the receptors is classified as semi-urban as the background sound is dominated by traffic noise from Thorndale Road and Nissouri 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 were 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.

9.0 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 return the site to an agricultural use once extraction is complete and represents wise management of resources.

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.