

PLANNING ANALYSIS REPORT

APRIL 2021

Aaroc Aggregates Payne Pit Proposal

Applications for Amendments to the Official Plan and Zoning Bylaw,
Municipality of Thames Centre, County of Middlesex

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1.0 INTRODUCTION

The following report has been prepared to address, in part, the complete application requirements of the Planning Act regarding a proposal to establish a gravel pit on Part of Lots 16 and 17, Concession 1, NTR, in the former Township of North Dorchester, Municipality of Thames Centre. A corresponding Aggregate Resources Act Application has been submitted to the Ministry of Natural Resources and Forestry, for a Class 'A', Category 1 License (pit below water). The required approvals are summarized in Table 1. The project is referred to as the **"Payne Pit"**. The site is located at 6508 Trafalgar Street, approximately 2.3 km west of the Village of Thamesford. A location map is provided in Figure 1.

Table 1: Required Approvals

Application	Approval Authority
<ul style="list-style-type: none">• Municipality of Thames Centre Official Plan Amendment to designate the subject lands as Extractive Industrial	County of Middlesex
<ul style="list-style-type: none">• Municipality of Thames Centre Zoning By-law Amendment to re-zone the subject lands from (A) Agricultural to (M3) Extractive Industrial Zone	Municipality of Thames Centre
<ul style="list-style-type: none">• Aggregate Resources Act (ARA) Category '1' License (Class 'A' pit below the water table)	Ministry of Natural Resources and Forestry (MNRF)

A series of technical reports have been prepared to support the applications noted above. These technical reports, and their recommendations, have been considered in the preparation of this Planning Report. For ease of reference, these technical reports and plans include the following:

- **"Natural Environment Technical Report: Level I & II"** prepared by MTE
- **"Hydrogeologic Assessment"** prepared by Groundwater Science Corp.
- **"Noise Impact Study"** prepared by HCG Engineering
- **"Summary Statement"** prepared by Harrington McAvan Ltd.
- **"Aggregate Resources Act Site Plans"** prepared by Harrington McAvan Ltd.,
- **"Archaeological Assessment"** prepared by Timmins Martelle Heritage Consultants
- **"Traffic Impact Assessment"** prepared by F.R. Berry & Associates

2.0 SITE LOCATION

2.1 Property Location, Ownership and Description

The Payne Pit property includes two “parcels” (south and north). The southern parcel is located at 6508 Trafalgar Street and consists of open agricultural fields. The northern parcel is located at 6367 Dundas Street and consists of farm fields. A portion of the northern parcel was previously licensed under the Aggregate Resources Act and has now been extracted and rehabilitated. Most of the proposed extraction would occur in the southern parcel. Some limited extraction would occur in the northern parcel and this parcel would also be used for the driveway/access route onto Dundas Street.

2.2 Surrounding Land Uses

The surrounding lands are mainly in agricultural use and extractive industrial use. There are a number of farm and non-farm residences located along Trafalgar Street and along Dundas Street, near the proposed site (see Figure 2).

There are several existing licensed gravel pits located near the site. Lafarge and CBM Aggregates operate pits located to the north and west of the site, south of Dundas Street. And there are several licensed pits located to the south of the site, including the Paton Trafalgar Street Pit, on the south side of Trafalgar Rd.

Other adjacent land uses include agricultural and rural residential (See Figure 3).

3.0 DESCRIPTION OF THE PROPOSAL

The proposal would permit the establishment of a sand and gravel operation on the subject property. The proposed licence is for an area of 66.0 hectares, with extraction proposed on a portion 58.4 ha of the subject lands. Access to the site is proposed from the northern portion of the area to be licensed, onto Dundas Street.

According to the Aggregate Resource Act (ARA) standards, the proposal is classified as a Category 1, Class A Licence for below water extraction; however, no actual below water table extraction is proposed. The proposed extraction would remove aggregate to approximately 0.5 m (or more) above of the high-water table.

The operational plan shows the proposed phasing of the operation, with extraction commencing in the northern property and then proceeding from west to east in 3 areas across the southern property. The area for primary crushing and screening would move with the pit face, as shown on the Site Plans, as extraction progresses from west to east. Berms will be constructed around the perimeter of the licensed areas, with height ranging from 3 – 5 metres and will provide noise attenuation as outlined in the Noise Assessment Report

Rehabilitation would replace the subsoil and topsoil layer such that the final ground surface would remain 1.0 m (or more) above the water table and the lands would return back to agricultural use.

The proposed annual tonnage limit is 400,000 tonnes. With a total estimated resource volume of 1.2 Million tonnes, and based on market demand estimates, the life span of the pit is expected to be approximately 5 years, depending on market demands.

3.1 Aggregate Resource

A geotechnical investigation of the southern portion of the site was undertaken in 2019 to determine the quantity and quality of the aggregate resources on the property and to estimate the elevation of the groundwater table across the site. Twelve test pits and five boreholes were completed on-site. In May 2020 a similar assessment was undertaken for the northern property and included an additional ten test pits and four boreholes. The geotechnical investigation confirmed the presence of a sand and gravel aggregate deposit with a variable thickness on the majority of site. The location of the boreholes and test pits completed on site are shown on the existing features plans.

The results of the geotechnical investigations indicate that there is a sand and gravel deposit of varying thickness on the site. Additional information and the borehole logs can be found in the Hydrogeologic Assessment report prepared by Groundwater Science Corp. Based on these geotechnical investigations, the estimated resource within the area to be licensed will yield approximately 1.2 Million tonnes.

3.2 Operations and Phasing

The operation of the site will be phased, and the sequence of operations has been designed to allow for the progressive rehabilitation of the site as early as possible during the course of the operation. Extraction will generally occur from west to east across the southern parcel.

The closest off-site residences, other than the houses on the property, are located to the west of the site along Trafalgar Street. Temporary berms will be constructed along the perimeter to store stripped topsoil and/or overburden for future rehabilitation of the site. The Noise Impact Assessment Report identified eight sensitive receptors (homes) within 150 metres of the site, 5 along Dundas Street, and 3 along Trafalgar Street.

These temporary berms will protect nearby residences from noise impacts from the aggregate operation. These acoustic berms are designed to comply with the Ministry of Environment guidelines and reflect the technical recommendations of the Noise Impact Study prepared by HCG Engineering.

Aggregate processing operations and shipping will only occur during daytime hours (7am to 7pm) and processing of material on this property will be done in designated areas as shown on the site plans. Existing vegetation will be maintained to visually buffer the pit from the adjacent land uses. Fencing will be upgraded to meet the requirements of the Aggregate Resources Act along the site boundaries to prevent inadvertent access into the property.

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

3.3 Haul Route

The aggregate resource from the site will be utilized locally to supply materials for construction of roads, homes, and other developments in the area. Materials will be transported from the site by truck to supply local projects.

The proposed entrance is onto Dundas Street, a two-lane arterial Road. Since the primary use of the aggregate is expected to be into the London market area, it is estimated that 90 percent of the generated truck traffic would be to and from the west of the site entrance.

The Traffic Impact Assessment Report, prepared by Frank Berry & Associates (Mar 2021) predicts a 1.5 percent increase in traffic volumes on Dundas Street as a result of the proposed pit development. The analysis in the traffic report is based on the maximum annual tonnage (400,000 tonnes) and a predicted peak volume of 10 truck per hour. No road improvements are recommended by the Traffic consultant to accommodate the pit truck traffic.

3.4 Rehabilitation

In accordance with the requirements of the Provincial Policy Statement 2020, and the Aggregate Resources Act Provincial Standards, the proposed Payne Pit will be rehabilitated back to an agricultural use. The rehabilitation of the extracted lands will occur in a progressive manner, with the rehabilitation following the removal of the aggregate material as closely as is feasible. It is intended that each phase will be rehabilitated prior to the subsequent phase being extracted.

Rehabilitation of the site to agricultural land of similar capability will involve the replacement of topsoil and site grading. A detailed overview of the rehabilitation scheme is provided in the Rehabilitation Plan and summarized in the ARA Summary Statement prepared by Harrington McAvan.

The final grades will be gentle enough to facilitate the use of machinery. 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. Berms/stockpiles will be constructed on the perimeter of the site to attenuate noise and/or visual screening and will be used for rehabilitation of the site.

The final rehabilitation will be compatible with the surrounding lands and land use, and maintain the existing natural features on and adjacent to the site. The owners will cultivate the rehabilitated lands and plant the areas with a cover crop of grasses and legumes to get the soil productive and return the land to crops and pasture. The proposed rehabilitation of 58.4 hectares back to an agricultural after use is consistent with the policies of the Municipality of Thames Centre Official Plan and the Provincial Policy Statement (2020).

3.5 Background Reports and Site Plans

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 to amend the Municipality's Official Plan and Zoning By-law. The Site Plans are labelled as follows:

- i) Existing Features (Drawing 1);
- ii) Operational Plan (Drawing 2 and 3);
- iii) Sections and Details (Drawing 4); and,
- iv) Rehabilitation Plan (Drawing 5).

The Site Plans were prepared taking into consideration the requirements of the Aggregate Resources Act, the County of Middlesex Official Plan, the Municipality of Thames Centre Official Plan and the Provincial Policy Statements, as well as the recommendations of the following expert consultants retained to review the proposal:

- Hydrogeology: Groundwater Science Corp.
- Natural Environment: MTE
- Archaeological Assessment: Timmins Martelle
- Noise: HCG Engineering
- Traffic Impact Assessment: Frank Berry Associates

4.0 PLANNING ANALYSIS

The subject lands fall within the Planning jurisdiction of the County of Middlesex Official Plan and the Municipality of Thames Centre Official Plan. 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 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.

4.1 Planning Act

When carrying out its responsibilities under the Planning Act, a municipality or any other authority which 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 Trafalgar Street pit proposal has been evaluated in the context of these prescribed provincial interests:

Planning Act, Section 2 Evaluation

	Provincial Interests	Payne Pit Proposal
2(a)	<i>The protection of ecological systems, including natural areas, features and functions.</i>	<p>The Natural Environmental Level 1 screening and technical evaluation prepared by MTE 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">- Habitat of Endangered and Threatened Species – Barn Swallow [THR] and SAR Bats- Confirmed Significant Wildlife Habitat (Eastern Wood-pewee)- Significant Woodlands <p>The proposed extraction operations and associated development activities have been assessed for impacts on the natural environment. Potential negative impacts have been mitigated through setbacks and buffer zone measures with an operational constraint zone to maintain and demonstrate no negative impacts to the sites significant</p>

		features and associated ecological functions. Much of the post-extraction landscape will be rehabilitated to agriculture.
2(b)	<i>The protection of the agricultural resources of the Province</i>	The proposed rehabilitation of the site to agricultural uses allows for the interim use of the site for aggregate extraction while returning the lands to an agricultural use once extraction is complete. This represents wise resource management and protects the agricultural resources of the area for the long term.
2(c)	<i>The conservation and management of natural resources and the mineral resource base.</i>	Aggregate resources are a provincial interest and should be protected from incompatible land uses and developed responsibly. The proposed pit will provide a local supply of mineral aggregate material to the local and regional markets. No significant natural heritage features will be impacted by the pit operation and the agricultural use will be restored progressively as the site is extracted.
2(d)	<i>The conservation of features of significant architectural, cultural, historical, archaeological or scientific interest.</i>	The cultural heritage report prepared by Timmins Martelle identified 6 sites of archaeological interest on the subject lands. One of the sites (Location 4) was subject to a Stage 3 investigation, however no cultural features of significance were found. The report did not recommend any further archaeology work on the subject property.
2(e)	<i>The supply, efficient use and conservation of energy and water</i>	Ground and surface water features have been studied and documented. Mitigation measures included on the Operations Plan such as, groundwater level monitoring and restriction of surface activities will minimize the potential for groundwater disturbance or contamination in accordance with provincial guidelines.
2(k)	<i>The adequate provision of employment opportunities.</i>	The proposed aggregate extraction operation will result in the creation of employment opportunities locally. These primary resource jobs present a multiplier effect which can result in the creation of additional supplemental service jobs in the Township.
2(l)	<i>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 see an increase in revenue through increased assessment and annual tonnage contributions as well as an additional source of aggregate to contribute to competition in the market.
2(m)	<i>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.

2(n)	<i>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.
2(o)	<i>The protection of public health and safety.</i>	The operational plan prepared by Harrington McAvan contains a variety of mitigation measures which have been developed to minimize the social impact of the proposed pit operation. The requirements of the Operation Plan and site plan notes therein are legally binding as per the ARA.
2(p)	<i>The appropriate location of growth and development.</i>	Rural areas are prime location for the development of this non-renewable resource. On- site investigation has confirmed the quality and extent of this resource. No significant natural or cultural heritage features will be impacted by the proposed pit operation.

4.2 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	Analysis
<p>1.1.4. Rural Areas in Municipalities</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 Payne 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 and the return of the lands to an agricultural use post extraction represents sustainable resource management.</p> <p>The use of existing transportation infrastructure also promotes efficient development.</p>
<p>1.1.5 Rural Lands in Municipalities: <i>permitted uses are:</i></p> <p><i>a) the management or use of resources;</i></p> <p><i>b) resource-based recreational uses (including recreational dwellings);</i></p> <p><i>c) residential development, including lot creation, that is locally appropriate;</i></p> <p><i>d) agricultural uses, agriculture-related uses, on-farm diversified uses and normal farm practices, in accordance with provincial standards;</i></p> <p><i>e) home occupations and home industries;</i></p> <p><i>a) other rural land uses</i></p>	<p>The proposed Payne pit is an appropriate rural land use.</p>
<p>1.2.6 Land Use Compatibility</p> <p>1.2.6.1 Major facilities and sensitive land uses shall be planned and developed to avoid, or if avoidance is not possible, minimize and mitigate any potential adverse effects from odour, noise and other contaminants, minimize risk to public health and safety, and to ensure the long-term operational and economic viability of major facilities in accordance with provincial guidelines, standards and procedures.</p>	<p>The site plans 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.</p>

<p><i>1.6.7.2 Efficient use should be made of existing and planned infrastructure, including through the use of transportation demand management strategies, where feasible.</i></p>	<p>Truck traffic from the proposed pit will utilize Dundas Street and travel predominantly west towards London. The proposed pit will not require any extension or expansion of municipal infrastructure.</p>
<p><i>1.7.1 Long-term economic prosperity should be supported by:</i></p> <p><i>c) optimizing the long-term availability and use of land, resources, infrastructure, and public service facilities;</i></p>	<p>The proposed pit will increase the availability of close-to-market supplies of aggregate resources in this area of Middlesex County. The progressive rehabilitation plan ensures that the long-term agricultural use of the subject lands is protected.</p>
<p><i>2.1.1 Natural features and areas shall be protected for the long term.</i></p>	<p>The Site Plans have incorporated a number of measures to protect natural features on the site and on adjacent lands. Setbacks from the woodlot on the site are designed to maintain the ecological function of the area.</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. 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, which can be a foundation for considering cumulative impacts of development;</i> <i>b) minimizing potential negative impacts, including cross-jurisdictional and cross-watershed impacts;</i> <i>c) evaluating and preparing for the impacts of a changing climate to water resource systems at the watershed level;</i> <i>d) identifying water resource systems consisting of ground water features, hydrologic functions, 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>e) maintaining linkages and related functions among ground water features, hydrologic functions, natural heritage features and areas, and surface water features including shoreline areas;</i> <i>f) implementing necessary restrictions on development and site alteration to:</i> <ul 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> <i>g) planning for efficient and sustainable use of water resources, through practices for water conservation and sustaining water quality;</i> <i>h) ensuring consideration of environmental lake capacity, where applicable; and</i> <i>i) ensuring stormwater management practices minimize stormwater volumes and contaminant loads, and maintain or increase the extent of vegetative and pervious surfaces.</i> 	<p>No municipal drinking water sources are located on or within 120 metres of the property. The proposal will ensure the preservation of existing groundwater quality and quantity by retaining a buffer between the pit floor and the established high water table.</p> <p>Several operational 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>
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<p><i>2.3 Agriculture</i></p> <p><i>2.3.1 Prime agricultural areas shall be protected for long-term use for agriculture.</i></p> <p><i>2.3.6 Non-Agricultural Uses in Prime Agricultural Area</i></p> <p><i>2.3.6.1 Planning authorities may only permit non-agricultural uses in prime agricultural areas for:</i></p> <ul style="list-style-type: none"> <i>a) extraction of minerals, petroleum resources; or</i> <i>b) limited non-residential uses</i> 	<p>The rehabilitation plan submitted as part of proposed pit license ensures that substantially the same areas and same average soil quality for agricultural use will be restored progressively as extraction occurs and that the property will be protected for mixed crop production over the long-term.</p>
<p><i>2.5 Mineral Aggregate</i></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><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 Payne 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 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 Payne Pit provides for resource conservation and proposes recycling of construction materials for re-use as part of the pit operations.</p>
<p>2.5.3 Rehabilitation</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 Payne Pit will be progressively rehabilitated to substantially the same soil quality for agriculture. The restoration of this property to agricultural use is compatible with the agricultural nature of the surrounding area.</p>
<p>2.5.4 Extraction in Prime Agricultural Areas</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>The proposed Payne Pit will be progressively rehabilitated to substantially the same area and average soil quality in order to provide for and protect the site's long term agricultural use.</p>

<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, II and III Archeological Assessment was completed by Timmins Martelle Heritage Consultants Inc. and will be reviewed by the Ministry of Heritage, Sport, Tourism, and Culture. The proposal is consistent with the PPS in this regard.</p>
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4.3 County of Middlesex Official Plan

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 Plan recognizes the need for a balanced approach to resource management.

“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 Payne Pit property is designated Agriculture in the County Official Plan (see Figure 4). Although the property is not identified on Schedule C as being within a mineral aggregate resource area (See Figure 5), a geotechnical investigation was undertaken and confirmed that there is approximately 1.2 Million tonnes of commercial sand and gravel on the subject property. A portion of the area (the northern parcel) was previously licensed under the Aggregate Resources Act.

The following table highlights the policies in the County Official Plan which are most relevant to the consideration of the proposal.

Middlesex County OP Policies	Analysis
<p>2.2.1 Natural System</p> <p>The County's Natural System includes the following elements which, while listed separately for convenience, are inter-connected and functionally dependent:</p> <ul style="list-style-type: none"> • Natural Heritage Features <ul style="list-style-type: none"> ○ Significant woodlands ○ Wildlife habitat ○ Endangered and threatened species habitat ○ Aquatic ecosystems including fish habitat ○ River, stream, ravine and upland corridors ○ Aggregate resource areas ○ ANSIs <p>The maintenance of this System requires that the ecological functions and processes which created and now sustain it are also maintained and where necessary, rehabilitated or enhanced</p> <p>2.2.1.2 General Policies</p> <p>Identify, protect, maintain and encourage rehabilitation of the Natural System</p> <p>The County supports the protection of existing woodlands and will continue to enforce the County Woodlands Conservation By-law</p> <p>2.2.1.3 Natural System Policies</p> <p>Certain parts of the County's Natural System preclude development. These are designated as Natural Environment Areas on Schedule A and include:</p> <ul style="list-style-type: none"> • Wetlands; • Floodplains; and • Flood regulated water courses. <p>Significant portions of Endangered Species Habitats also preclude development. These areas are not shown on Schedule A in order to protect the endangered species; however, the Province should be consulted regarding these habitats, as required.</p>	<p>MTE completed an Impact Assessment to identify the potential effects of the Payne pit proposal on the Natural Heritage system. Their report recommended a number of mitigative measures to protect these features and ecological functions, and these recommendations have been incorporated into the design of the operations and site rehabilitation.</p> <p>The analysis undertaken by MTE has concluded that site development within the adjacent lands to the woodland features should have no direct measurable negative impacts to the identified overall woodland flora or genetic variability of the stands. To address potential negative impacts to the health of the woodland trees, a development setback from the woodland edge has been incorporated into the pit design to maintain no negative impacts to the Significant Woodland feature.</p>

<p>The remaining Natural Heritage Features, Groundwater Features and Natural Hazards listed as elements of the Natural System in Section 2.2.1.1 do not preclude development; however, there is an interest on the part of the Province, Conservation Authorities and the County in protecting these Features and Hazards from incompatible land uses.</p>	
<p>2.2.3 Aggregate Resources</p> <p>The County, in conjunction with the Province shall ensure that as much of the mineral aggregate resources as is realistically possible is made available to supply the need, as close to market as possible; extraction is undertaken and completed in an orderly fashion; and, the extraction does not have a permanent adverse impact on the Natural System or the agricultural land base. Operational impacts on residential and other sensitive land uses shall be minimized.</p>	<p>The policies 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.</p>
<p>2.2.3.2 General Policies</p> <p>Aggregate and non-aggregate resources shall be recognized and managed as non- renewable resources.</p> <p>Areas of aggregate resource, as identified on Schedule C, shall be protected for extraction purposes.</p> <p>Consideration of the expansion of existing extractive operations and of new aggregate extraction areas shall include an evaluation of the impact on area residents and on the Natural System including ground and surface waters. Extraction and processing operations shall be located in such a way to minimize the impact on the natural and social environments.</p> <p>All pit and quarry operations shall be subject to a program of progressive rehabilitation as specified in the Aggregate Resources Act, regulations under this Act and in the license for the property.</p> <p>Aggregate extraction is only permitted in the Agricultural Area if site rehabilitation is carried out</p>	<p>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 agricultural use will be restored progressively as the site is extracted.</p> <p>As described previously in this report, the Payne Pit will be progressively rehabilitated to substantially the same soil quality for agriculture. The restoration of this property to agricultural use is compatible with the agricultural nature of the surrounding area.</p>

<p>and substantially the same acreage and soil capability for agriculture will occur after extraction and rehabilitation is complete except in the following instances:</p> <p>a) where extraction occurs below the water table,</p> <p>b) where the lands do not constitute Prime Agricultural Land,</p> <p>c) where there is an approved, underlying land use designation which permits uses other than agriculture in a local official plan.</p> <p>Wayside pits and quarries and temporary asphalt plants shall be permitted throughout the County except in Settlement Areas and in Natural Environment Areas, as shown on and only as permitted in local official plans.</p>	
<p>2.2.3.3. New Pits and Quarries</p> <p>Prior to making a decision on an amendment to a local official plan or zoning by-law to permit a new extractive use, or to allow the expansion of an existing extractive use, the local municipality shall consult with the County, the Conservation Authority and the Province to ensure that the effects on any Natural System Elements are properly considered. Consultation may include studies related to ground and surface water impacts, noise and dust impacts and other matters that may affect the natural environment and adjacent residents.</p> <p>Local municipalities shall include policies in their official plans to address the impact of new pits and quarries. Such policies shall address:</p> <ul style="list-style-type: none"> • visual impact; • proximity to residential uses; • impact on Natural System Elements; and • site rehabilitation. <p>In considering applications to permit new pits and quarries, local municipalities shall be satisfied that the following are addressed:</p>	<p>In addition to the Planning Act applications for Official Plan amendment and rezoning, the proposed pit will require an Aggregate Resources Act License from the Ministry of Natural Resources. Technical reports have been prepared as part of the applications to evaluate the impacts of the proposal on the natural environment, hydrologic and hydrogeological features, noise and traffic. The applications will be circulated to the Upper Thames Valley Conservation Authority, the Ministry of Agriculture and Food and the Ministry of Environment, Culture and Communications for review and comment.</p> <p>The proposed Payne Pit will require approvals from the Township of Thames Centre, specifically, amendments to the local Official Plan and Zoning Bylaw are required to allow for the proposed development.</p> <p>The local Official Plan for the Municipality of Thames Centre addressed the matters outlined in the County Official Plan with respect to assessing the impact of new pits and quarries.</p> <p>The Planning Act and Resources Act applications to permit the development of the Payne pit are</p>

<p>a) the impact on adjacent land uses and residents;</p> <p>b) the impact on the natural environment;</p> <p>c) the capabilities of the subject land for agriculture and other land uses;</p> <p>d) the impact on the road network;</p> <p>e) the impact on any existing or potential municipal water supply resource areas;</p> <p>f) the manner in which the operation will be carried out;</p> <p>g) the nature of rehabilitation work that is proposed; and</p> <p>h) any other matters deemed necessary by the local municipality or the County.</p>	<p>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, the impact of roads and municipal water supply. The Site Plans detail the manner in which operations will be carried out as described by the sequence of mining and progressive rehabilitation.</p> <p>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.</p>
<p>2.3.10 Natural Heritage Features</p> <p>When an application for development within a Natural Heritage Feature, or within the adjacent lands of the elements as identified in Table 1 is being considered by Council, the appropriate Conservation Authority and the Province shall be consulted. The applicant will be required to submit a suitable Development Assessment Report in accordance with the policies of Section 2.2.1.2. The report shall address protection of the Natural System and show how existing and potential hazards shall be accommodated in a manner consistent with accepted engineering techniques and resource management practices and applicable provincial policies.</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. 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.</p> <p>As part of the agency review, the Upper Thames Valley Conservation Authority will be invited to review and comment on the proposed pit.</p>
<p>2.2.3.4 Site Plan Requirements</p> <p>It is the policy of this Plan that an application for a permit to operate a sand or gravel pit or quarry shall be accompanied by a Site Development Plan(s) to be submitted to the County, the local municipality and the Ministry of Natural Resources. The Site Development Plan(s) shall deal with those matters specified by the Province.</p>	<p>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.</p>
<p>2.3.10 Natural Heritage Features</p>	

<p>Natural Heritage Features are shown on Schedule C and identify lands that have natural environment functions and significance which should be considered when development proposals are reviewed. The Natural Heritage Features shown on Schedule C have been consolidated from existing information sources.</p> <p>When an application for development within a Natural Heritage Feature, or within the adjacent lands of the elements as identified in Table 1 is being considered by Council, the appropriate Conservation Authority and the Province shall be consulted. The applicant will be required to submit a suitable Development Assessment Report in accordance with the policies of Section 2.2.1.2. The report shall address protection of the Natural System and show how existing and potential hazards shall be accommodated in a manner consistent with accepted engineering techniques and resource management practices and applicable provincial policies.</p>	<p>There are no significant natural heritage features within the proposed area of extraction. There is a significant woodlot, as identified in the Township Official Plan, located to the east of the southern portion of the area to be licensed and MTE has recommended setbacks and silt fencing to protect this feature.</p>
<p>DETAILED LAND USE POLICIES</p> <p>3.3 Agricultural Areas</p> <p>3.3.2 General Policies It is the policy of County Council that the Agricultural Area in Middlesex County shall be preserved and strengthened with the goal of sustaining the agricultural industry that is so vital to the Middlesex economy.</p> <p>3.3.3. Permitted Uses Agricultural Areas shall generally permit the following use:</p> <ul style="list-style-type: none"> a) Agriculture and related uses; b) Up to two farm residences provided the second farm residence is a temporary residential unit c) Forestry uses d) Mineral aggregate and petroleum extraction e) Conservation (etc.) <p>3.3.7 Mineral Aggregate Extraction In the Agricultural Areas, mineral aggregate extraction is a permitted use in accordance with the provincial Agricultural Land Policies and Section 2.2.3 of this Plan.</p>	<p>The County OP policies allow for mineral aggregate extraction in Agricultural Areas, subject to meeting the other policy requirements of the plan.</p> <p>As described previously in this report, the Payne Pit will be progressively rehabilitated to substantially the same soil quality for agriculture. The restoration of this property to agricultural use is compatible with the agricultural nature of the surrounding area.</p>

4.4 Municipality of Thames Centre Official Plan

The Official Plan for the Municipality of Middlesex Centre recently went through a comprehensive review (OPA 12). The Official Plan was approved by Council on June 30, 2015 and came into full force and effect on September 15, 2015.

The Payne Pit properties are currently designated as *Agricultural (A)* in the Official Plan (See Figure 7). The Thames Centre Official Plan Appendix 3 shows significant mineral aggregate resource areas (See Figure 8). Although the Payne pit property is not identified on Appendix 3, a resource investigation of the property was completed and confirmed the presence of approximately 1.2 Million tonnes of mineral aggregate resource.

The Payne pit proposal has been reviewed in the context of the Municipality of Thames Centre Official Plan.

The following table highlights the policies of the Thames Centre Official Plan which are most relevant to the consideration of the Payne Pit proposal.

Municipality of Thames Centre OP Policies	Analysis
<p>1.10.4 Aggregate Resources</p> <p>Thames Centre has a rich supply of aggregate resources. Nearly all of the extractable sand and gravel resources are currently licensed. These resources need to be protected for extraction and regulated. In areas of primary aggregate resources that are also identified as significant natural heritage features, priority for development will be given to extractive industrial uses (i.e., lands will not be developed until aggregate is removed from the ground)</p>	<p>The subject property contains mineral aggregate resources as confirmed through a resource investigation. The proposed pit will allow for the utilization of these resources to produce a supply of local construction materials.</p>

<p>1.10.5 Natural Environment</p> <p>Woodlands provide important contributions to both environmental quality and to agriculture, however, they comprise only about ten percent of Thames Centre's land base. The Official plan strongly encourages the retention of woodlands.</p> <p>The Official Plan includes policies for the maintenance of natural areas within the rural landscape and for farming practices to include buffers along watercourses and around the edges of wetland areas.</p>	<p>The MTE report has demonstrated that there will be no negative impacts to woodland health or identified ecological functions.</p>
<p>2.13 Heritage Conservation</p> <p>Development on lands containing significant archaeological resources shall avoid the destruction or alteration of these resources.</p>	<p>An Archeological Assessment was completed by Timmins Martelle Heritage Consultants Inc.</p>
<p>3.1 "Agricultural" Designation</p> <p>3.1.3 Policies</p> <p>(1) Permitted uses shall be in accordance with the policies outlined in this Section and shall be limited to agricultural uses and related buildings and structures, including specialty crops, cash crops, livestock and poultry, and forestry and silviculture, as well as mineral aggregate and petroleum extraction and open space and conservation uses.</p>	<p>The Thames Centre OP policies allow for mineral aggregate extraction in Agricultural Areas, subject to meeting the other policy requirements of the plan.</p>
<p>3.2 Natural Heritage Features and Natural Hazard Areas</p> <p><u>For Group B features</u>, development and site alteration may be permitted if it can be demonstrated, through environmental studies conducted by qualified individuals, that no negative impacts on the features or their associated ecological functions will result;</p> <p>Development and site alteration on adjacent lands may be permitted where an EIS demonstrated that there will be no negative impacts on the natural features and their sustaining ecological or hydrologic functions.</p>	<p>MTE completed an Impact Assessment to identify the potential effects of the Payne pit proposal on the Natural Heritage system. Their report recommended mitigation measures to protect these features and ecological functions, and these recommendations have been incorporated into the design of the operations and site rehabilitation.</p>
<p>3.3 Non-renewable Resources</p> <p>Aggregate extraction will be permitted within primary aggregate resources areas (shown on</p>	<p>The proposed Payne Pit meets the policy requirements of Section 3.3 of the Township OP.</p>

<p>Appendix 3) that are not designated “Extractive Industrial” subject to the approval of amendments to the Official Plan and Zoning By-law and the approval of an Aggregate Resources Act license application.</p> <p>(3) To encourage extraction of mineral aggregate resources where this is feasible recognizing these resources are needed as close to market as possible.</p> <p>(4) To achieve a balance among protecting aggregate resources for future extraction, protecting agricultural land and resources, and protecting the natural heritage features and areas of the Municipality’s green-space system.</p> <p>(5) To require that aggregate extraction sites are operated in an orderly fashion so that extraction operations do not cause unacceptable impacts on the agricultural land base, or the components of the green-space system, or on existing areas of development.</p> <p>(6) To ensure that aggregate extraction and petroleum sites are rehabilitated to leave the sites amenable for uses that are compatible and consistent with surrounding land uses.</p> <p>(7) To encourage the continuance of compatible land uses (i.e., agricultural land uses) on lands having deposits of aggregate materials and on licensed areas until such time as aggregate extraction occurs.</p>	<p>The pit will allow for the utilization of the resources, close to the markets where they are needed. The majority of the products will be used to supply local construction projects.</p> <p>The pit has been carefully designed to avoid sensitive natural features and ensures the protection of the woodland and wetland areas for the long term.</p> <p>The operations, phasing and rehabilitation plans will allow for ongoing agricultural uses and will ensure, through progressive and final rehabilitation that impacts to the agricultural land base are temporary and are minimized.</p> <p>The rehabilitation to agricultural use is compatible with the surrounding land uses. As noted in this report, the surrounding land uses also include other active mineral aggregate operations, located to the east of the subject property. In this regard, the proposed use is consistent and compatible with existing land uses in the area.</p>
<p>3.3.3.3 Rehabilitation of Aggregate Resource Sites</p> <p>In lands designated “agricultural” site rehabilitation will be carried out so that substantially the same areas and the same average soil quality for agriculture are restored.</p>	<p>As part of the rehabilitation program, topsoil will be stored and replaced to ensure that the soil depth and grades post extraction will allow for rehabilitation of these lands to the same average soil quality that currently exists on the lands.</p>
<p>5.9 Truck Haul Routes</p> <p>To ensure that trucks utilize roads that are suitably constructed or improved for these purposes, “Truck Haul Routes” have been designated and are shown on Schedule “C”.</p> <p>In evaluating applications for changes in use, trucks will be expected to access the nearest designated</p>	<p>Truck traffic from the proposed Payne Pit will utilize Dundas Street and travel west. The proposed pit will not require any extension or expansion of municipal infrastructure.</p>

<p>“Truck Haul Route” by the shortest distance possible that minimizes the impact on local roads that are either unsuited for truck traffic as a result of their standard construction or as a result of existing truck traffic volumes.</p>	
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Section 2.25.1 of the 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 Payne pit is located in an Agricultural area of Thames Centre. The surrounding lands are in mainly agricultural use and extractive industrial. There are farm and non-farm residences located along Trafalgar Street and Dundas Street 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 Payne 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 Payne pit is compatible with the present and future uses in the area. Once extraction is completed, the lands will be restored to agricultural use. 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 in the southwest corner of the site is excluded from the area to be licensed. 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 Dundas Street. The traffic impact assessment completed by F.R. Berry & Associated in March 2021 concludes that there is adequate capacity on Dundas Street to accommodate the additional traffic which would be associated with the new pit. The report also indicates that there are no issues with sight distance and no road improvements are recommended to accommodate the additional pit truck traffic.

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 Payne 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.

The Traffic consultant has indicated that the proposed pit will not require any extension or expansion of municipal infrastructure to accommodate additional truck traffic.

16) All other items included in Section 7.20 of this Plan pertaining to amendments.

4.5 Municipality of Thames Centre Zoning By-law

The area to be licensed is zoned 'A' (Agricultural) according to the Municipality of Thames Centre Zoning By-law (See Figure 9).

The current application proposes to change the zoning to M3 (Extractive Industrial) to permit the pit development.

The M3 zone permits both aggregate extraction operations and agricultural uses. Therefore, the zone provisions will allow for extraction and rehabilitation to occur in a phased and progressive manner as provided for on the Site Plans.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Aaroc Aggregates have retained the services of several experts to properly plan a new aggregate extraction operation. The team of experts, which included an ecologist, hydrogeologist, noise expert, aggregate consultant and archaeologist, studied the subject lands and surrounding area and collectively designed a gravel pit operation and rehabilitation plan that:

- Is compatible with the surrounding landscape and reflects the importance of agricultural lands, through progressive and final rehabilitation;
- has no negative impact on the natural environment or groundwater resources;
- has a minimal impact on the social environment of the area;
- maintains the intent and purpose of the County of Middlesex Official Plan and the Municipality of Thames Centre Official Plan;
- represents wise management and use of resources; and,
- is consistent with the Provincial Policy Statement.

This Planning Report has provided a thorough evaluation of the proposed development. In view of the conclusions provided, it is my professional opinion that the Payne Pit proposal represents good planning.

This report has been prepared by:

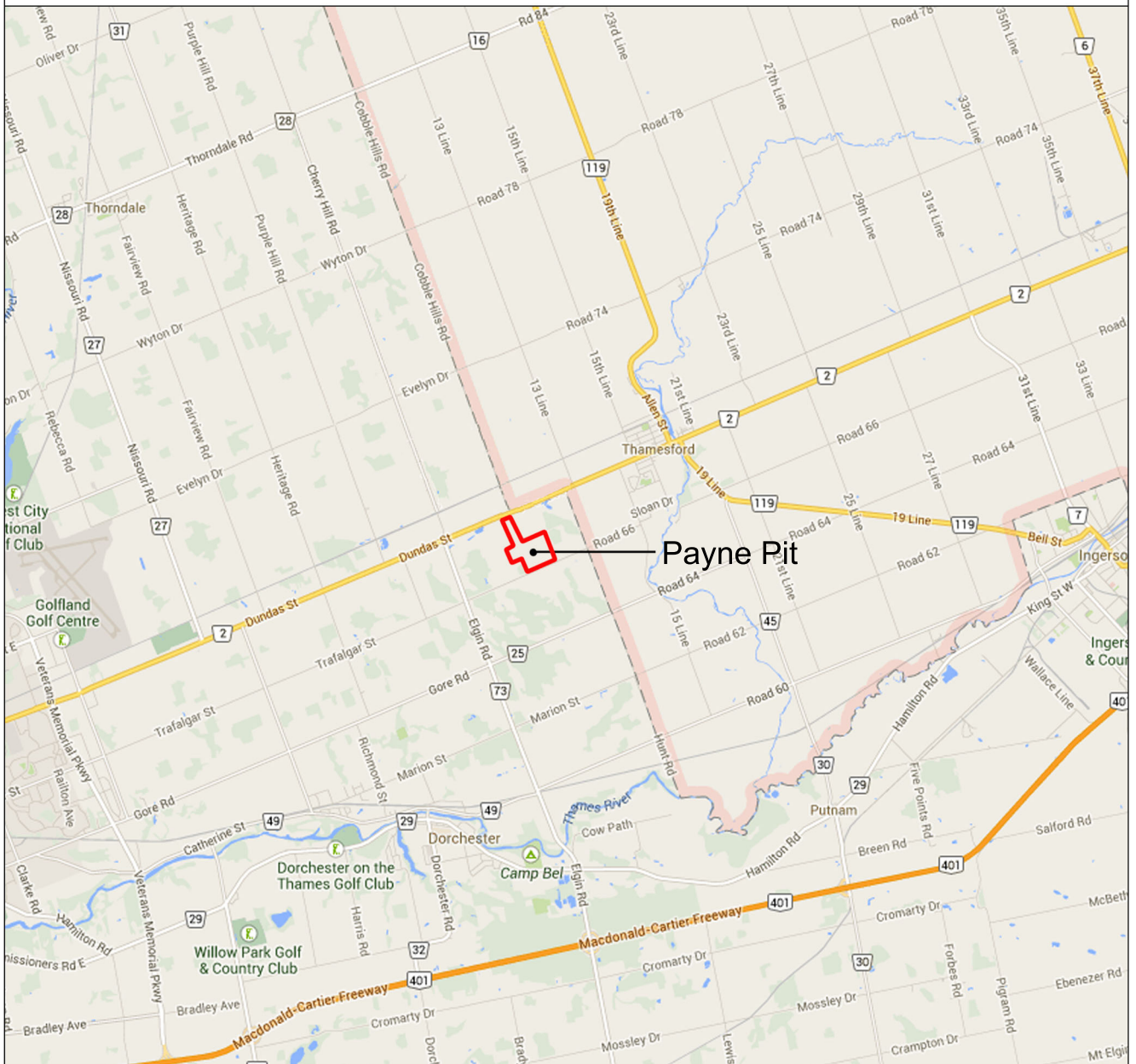


Melanie Horton, MCIP, RPP
Esher Planning Inc.

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Figure 1: Location



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Payne Pit

Part Lots 16 and 17 Concession 1 NTR
Municipality of Thames Centre
(formerly North Dorchester), County of Middlesex



Figure 2: Surrounding Lands
GoogleEarth, November 2019



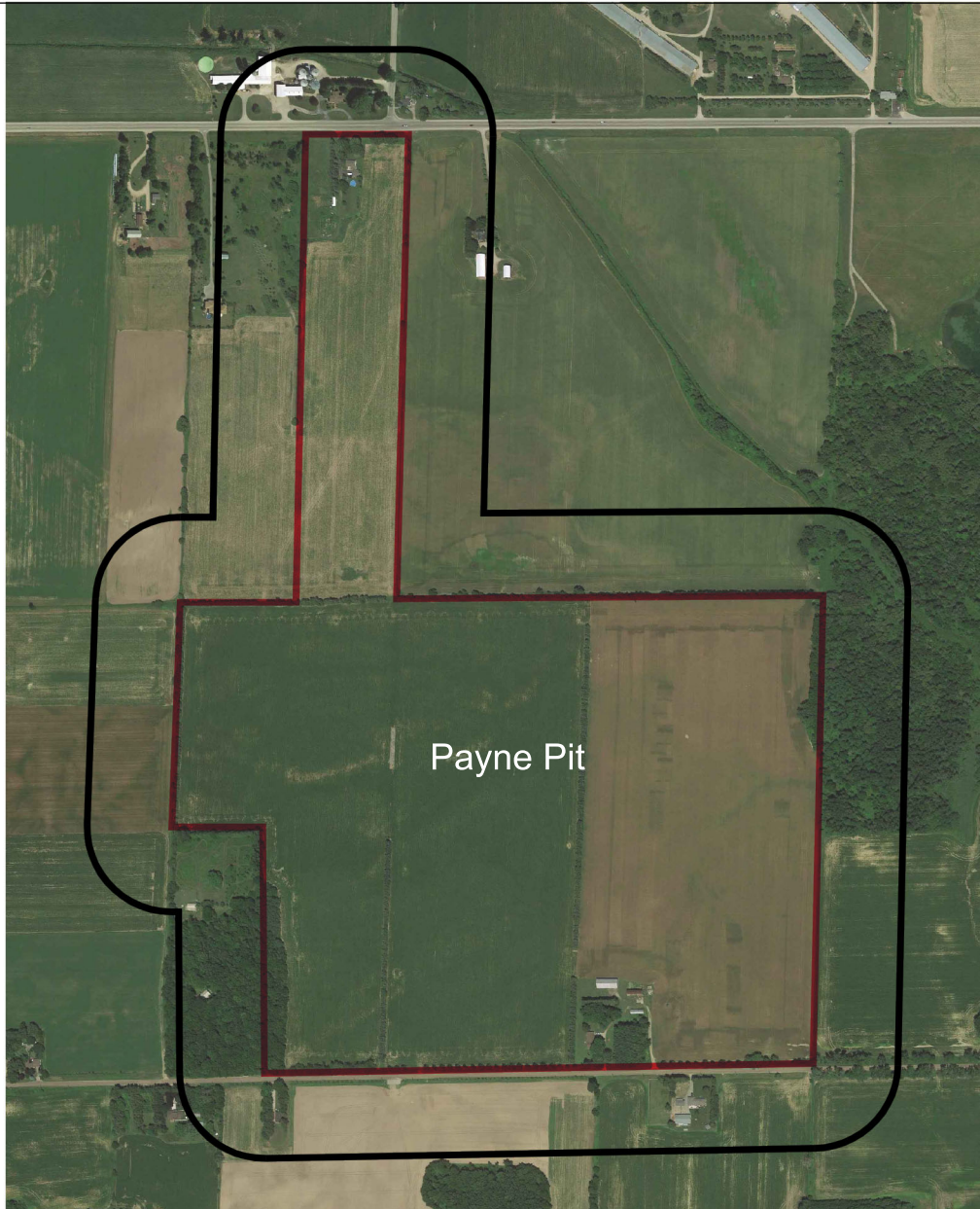
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Figure 3: Adjacent Land (ARA 120 m Boundary)
GoogleEarth, January 2021



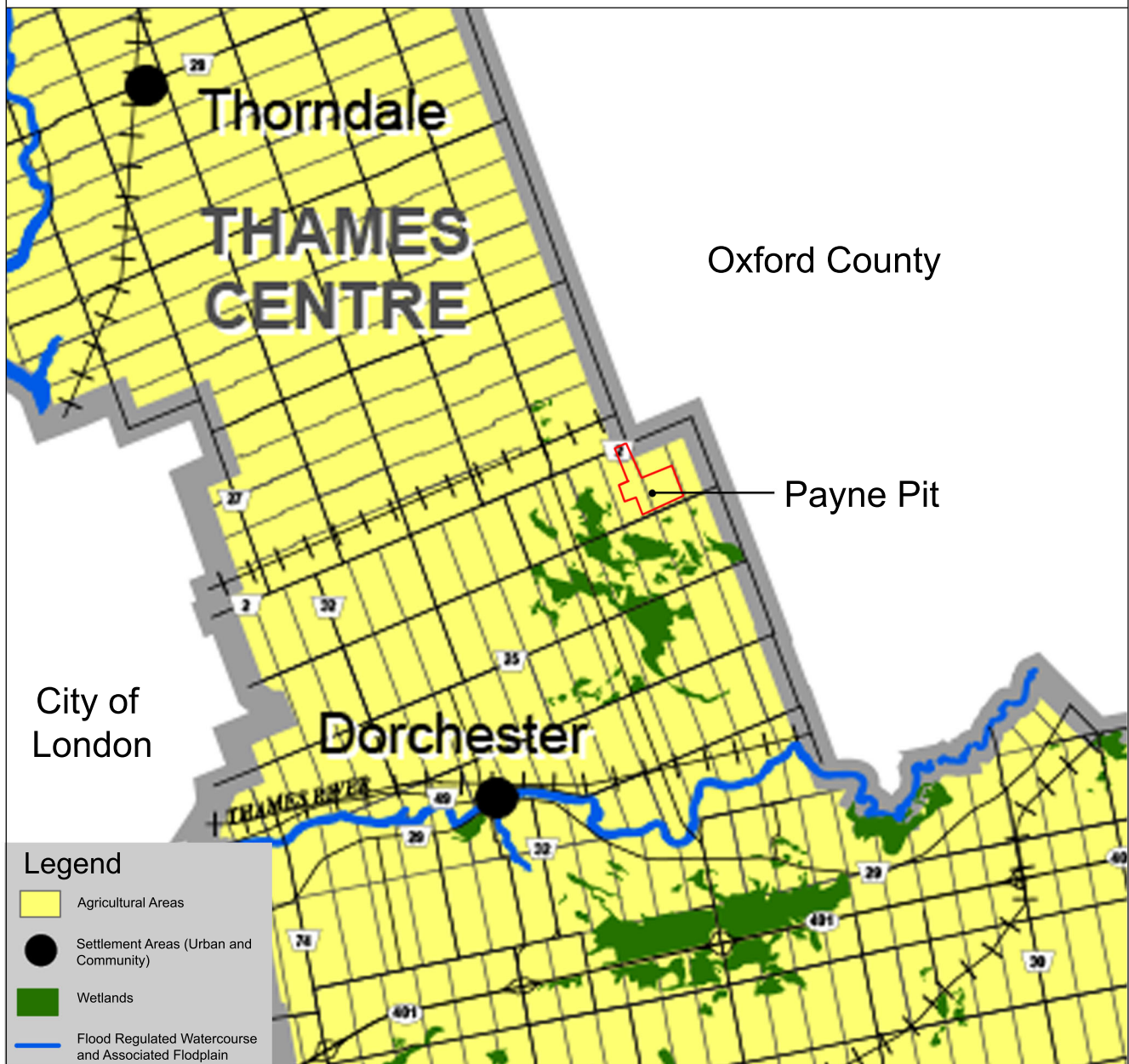
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Figure 4: Middlesex County
Official Plan, Schedule 'A', Land Use, 2006



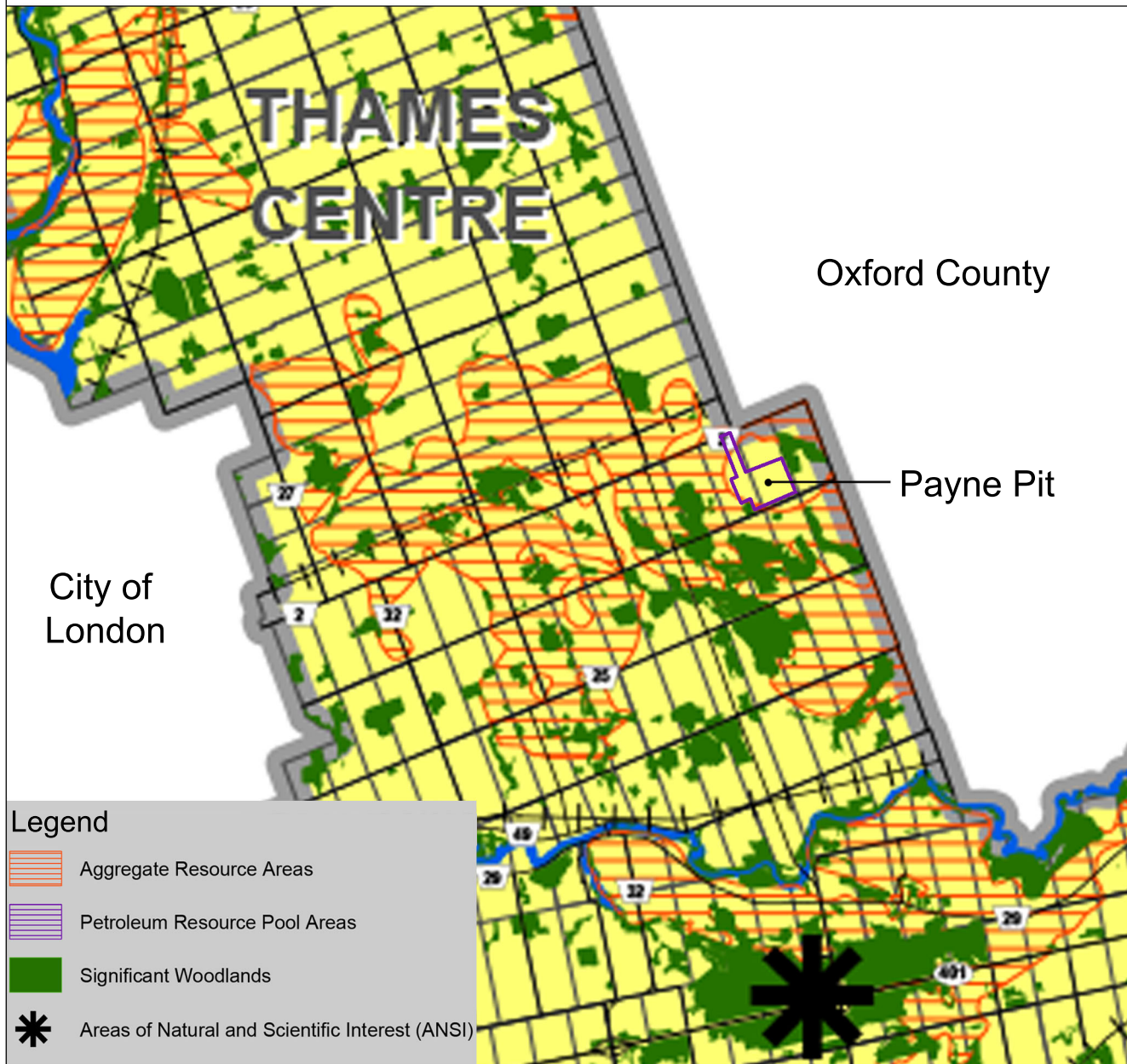
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Figure 5: Middlesex County
Official Plan, Schedule 'C, Land Use, 2006



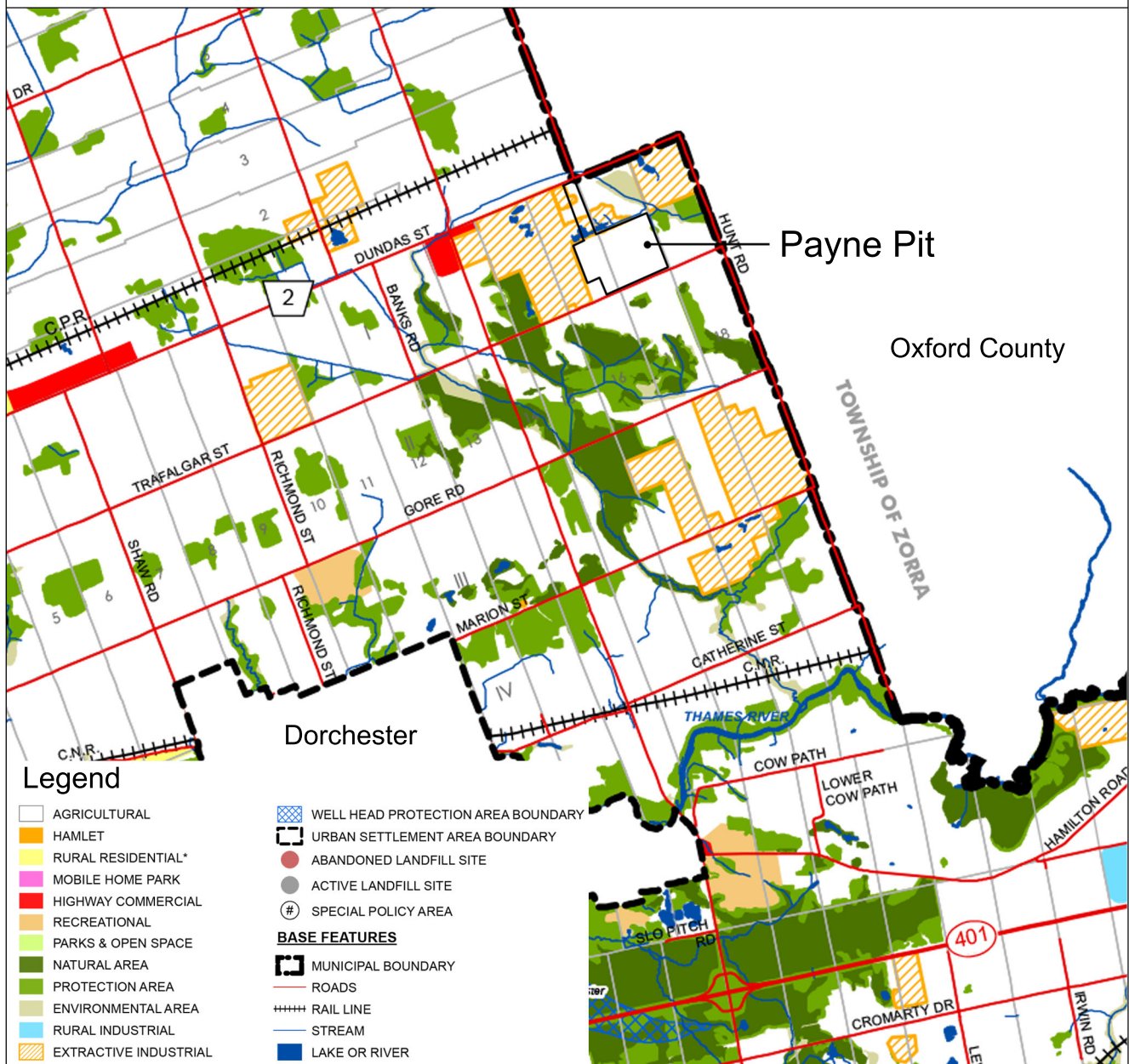
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Figure 6: Municipality of Thames Centre
Official Plan, Schedule 'A, Land Use, Office Consolidation 2016



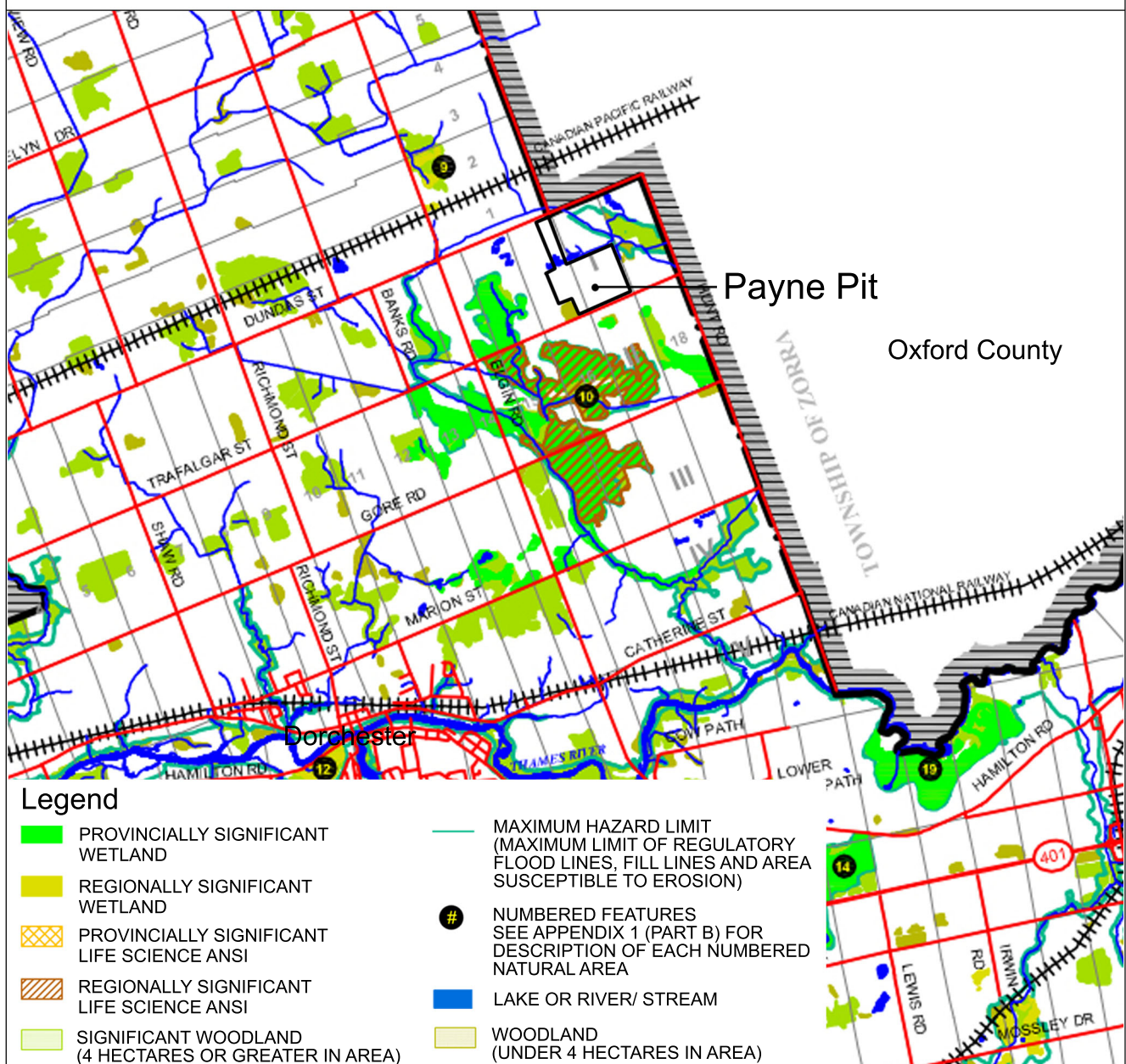
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Figure 7: Municipality of Thames Centre
Official Plan, Appendix 1 (Part A), Natural Heritage Features, 2009



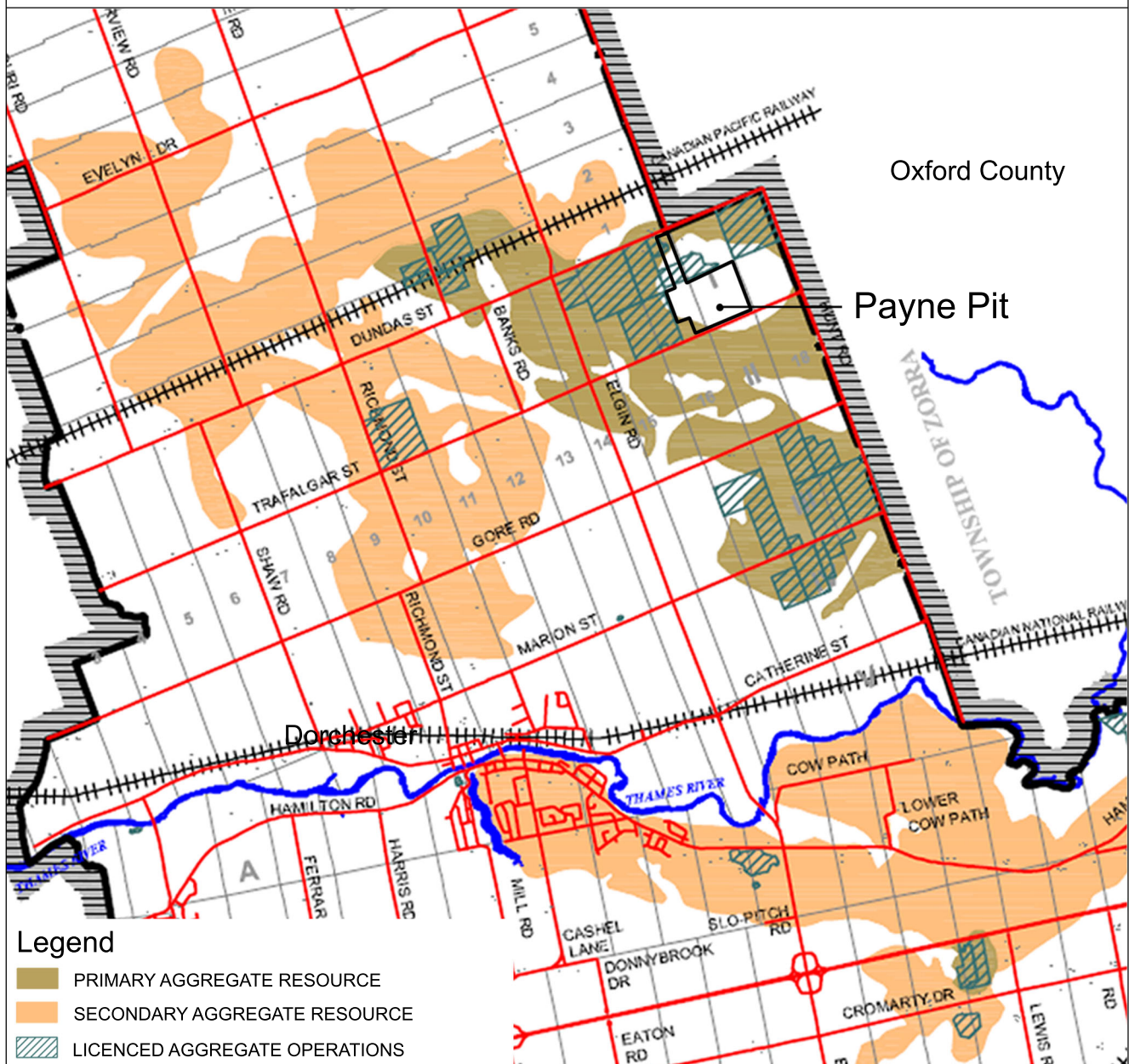
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Figure 8: Municipality of Thames Centre
Official Plan, Appendix 3, Aggregate Resources 2009



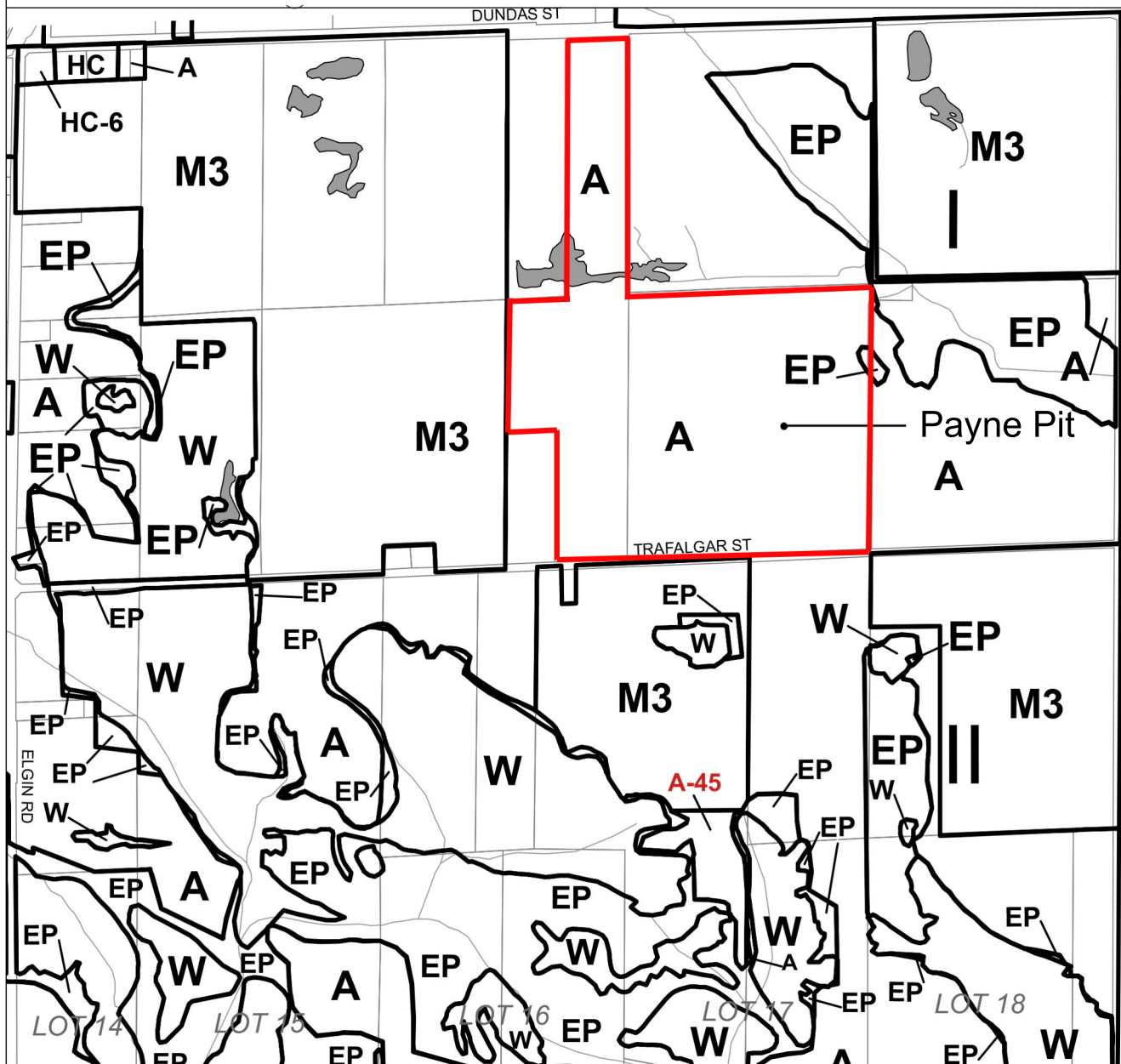
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Figure 9: Municipality of Thames Centre
Zoning By-law 75-2006, Schedule 'A', Map 33, October 2018



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