



ORIGINAL REPORT

Heritage Impact Assessment

1486 O'Neill Road
Oxford Station, Ontario
Part of Lots 13 and 14, Concession 8
(Geographic Township of Oxford on Rideau)
Municipality of North Grenville
County of Leeds and Grenville

Prepared For

Nick Mariani
Environmental Project Coordinator
R.W. Tomlinson Limited
100 Citigate Drive
Ottawa, ON K2J 6K7
nmariani@tomlinsongroup.com

3 March 2026

Submitted for review 23 February and 2 March 2026

Submitted By

Natalie Anderson Rathwell, MA, CAHP
Senior Architectural Historian
& Heritage Consultant
Matrix Heritage

Report: MH1226-REP.01 R2

Matrix Heritage Inc.
6131 Perth Street, Richmond
Ontario K0A 2Z0
Tel: (613) 807-2071
www.MatrixHeritage.ca

Executive Summary

Matrix Heritage has been retained by R.W. Tomlinson to prepare a Heritage Impact Assessment (HIA) for a project located at 1486 O'Neill Road, Oxford Mills, Ontario in support of a proposed aggregate resource license application process required as per the *Aggregate Resources Act*. The study area is the full area required for the aggregate resources site plan, namely, the subject property and the buffer area extending 120.0m around the property (see 10.0 Maps).

A Cultural Heritage Evaluation Report (CHER) was prepared by Matrix Heritage in June 2023 in advance of this HIA. The CHER identified 1506 O'Neill Road, a former schoolhouse, and 805 Pattersons Corners Road, a log house, as cultural heritage resources (CHRs) in the category of built heritage resources (BHRs). The purpose of the HIA is to consider potential adverse (negative) and positive impacts on CHRs resulting from the project. Archaeological resources are subject to separate requirements and reporting. The HIA identifies considered alternatives and proposed mitigation measures.

This HIA follows guidance provided by the Ministry of Tourism, Cultural and Sport in *InfoSheet #5 – Heritage Impact Assessments and Conservation Plans* (2006) and *Information Bulletin 3 – Heritage Impact Assessments for Provincial Heritage Properties* (2017), as well as the Ontario Heritage Trust's *Eight guiding principles in the conservation of built heritage properties*, and the *Standards and Guidelines for the Conservation of Historic Places in Canada* (2010). *Bulletin 3* is focused on properties owned by the Province of Ontario, but the guidance is relevant for other types of properties. Research included an overview of the property's geographic context and history, a visual inspection, including photographic documentation. A site visit to the study area was undertaken on February 19, 2026.

Direct and indirect adverse impacts are anticipated for the previously identified cultural heritage resources at 1506 O'Neill Road and 805 Pattersons Corners Road, from the development and operations proposed for the property at 1486 O'Neill Road (see 6.0 Impact of Proposed Development) These include:

- Land disturbances, such as a change in grade and/or drainage patterns that may adversely affect a heritage property;
- Changes to the character of the property through removal or planting of trees or other natural features, or that may result in the obstruction of significant views or vistas within, from, or of built and natural features;
- Potential noise impacts.

An extensive program of mitigation measures is already planned for the site that will safeguard the identified CHRs, including measures addressing site layout and physical barriers, vegetation, sound, water, and restoration of the site (see section 7.1 for mitigation measures already proposed that are relevant to cultural heritage resources, and Appendix A for a more complete list of proposed mitigation measures).

In addition to mitigation measures already identified by R.W. Tomlinson the following mitigation measures are recommended (see section 0):

Vegetation

- Any dead or dying trees along Pattersons Corners Road that are part of the line of trees screening the 1506 O'Neil Road and 805 Pattersons Corners Road from the project area (acting as a hedgerow; example Figure 14) should be replaced with vegetation suited to the same purpose and location, provided such replacement does not interfere with identified archaeological resources.

Project Personnel

Heritage Study Personnel

| | |
|------------------------------------|--|
| Lead | Natalie Anderson Rathwell, MA, CAHP Senior Architectural Historian and Heritage Consultant |
| Research & Reporting Assistance | Giulia Santocono, MArch Junior Heritage Consultant |
| Mapping and GIS | Jeff Dillane, MA, APA Archaeological Operations Manager and GIS Specialist |
| | Em Miller, BA GIS Technician |
| | Matrix Heritage Inc. 6131 Perth Street, Richmond Ontario K0A 2Z0 (613) 807-2071 info@matrixheritage.ca |

Client Representative

Nick Mariani
Environmental Project Coordinator
R.W. Tomlinson Limited
100 Citigate Drive
Ottawa, ON K2J 6K7
nmariani@tomlinsongroup.com

Property Information

1486 O'Neill Road
Oxford Station, Ontario
Part of Lots 13 and 14, Concession 8
(geographic county of Oxford on Rideau)
Municipality of North Grenville
County of Leeds and Grenville

Table of Contents

| | |
|--|----|
| Executive Summary | 1 |
| Project Personnel | 3 |
| Table of Contents | 4 |
| 1.0 Introduction | 6 |
| 1.1 Methodology | 6 |
| 1.2 Study Personnel and Professional Qualifications | 6 |
| 2.0 Current Conditions / Introduction to Development Site | 7 |
| 2.1 Development Context | 7 |
| 2.2 Input from the Municipality of North Grenville | 7 |
| 2.3 Site Visit | 8 |
| 3.0 Background Research and Analysis | 8 |
| 3.1 Historical Context | 8 |
| 3.1.1 Study Area Specific History | 9 |
| 3.2 Previously Identified Built Heritage Resources | 9 |
| 4.0 Description of Proposed Development | 10 |
| 5.0 Guidance on Assessment of Impacts | 11 |
| 6.0 Impact of Proposed Development | 12 |
| 6.1 General Impacts | 12 |
| 6.2 Positive Heritage Impacts | 12 |
| 6.3 Adverse Heritage Impacts | 13 |
| 7.0 Alternatives and Mitigation Measures | 14 |
| 7.1 Mitigation Measures Already Proposed by R.W. Tomlinson Ltd. | 14 |
| 7.2 Additional Recommended Mitigation Measures | 17 |
| 8.0 Conclusion | 18 |
| 9.0 Figures | 19 |
| 10.0 Maps | 29 |
| 11.0 Sources | 32 |
| 11.1 Heritage Process Guidance | 32 |
| 11.2 Archaeology and History | 32 |
| Appendix A: R.W. Tomlinson Ltd. Plans, East Oxford Pit | 34 |

| | |
|---|----|
| Appendix B: Oxford-on-Rideau Township LACAC Heritage Buildings Summary Sheet, 1506 O'Neill Road | 39 |
| Appendix C: CV – Natalie Anderson Rathwell | 43 |

1.0 Introduction

Matrix Heritage has been retained by R.W. Tomlinson to prepare a Heritage Impact Assessment (HIA) for a project located at 1486 O'Neill Road, Oxford Mills, Ontario (the project area) in support of a proposed aggregate resource license application process required as per the *Aggregate Resources Act*. The study area is the full area required for the aggregate resources site plan, namely, the subject property and the buffer area extending 120.0m around the property (see 10.0 Maps).

A Cultural Heritage Evaluation Report (CHER) was prepared by Matrix Heritage in June 2023 in advance of this HIA. The CHER identified 1506 O'Neill Road, a former schoolhouse, and 805 Pattersons Corners Road, a log house, as cultural heritage resources (CHRs) of cultural heritage value or interest, in the category of built heritage resources (BHRs). The purpose of the HIA is to consider potential adverse (negative) and positive impacts on CHRs resulting from the project. Archaeological resources are subject to separate requirements and reporting. The HIA identifies considered alternatives and proposed mitigation measures.

1.1 Methodology

This HIA follows guidance provided by the Ministry of Tourism, Cultural and Sport in *InfoSheet #5 – Heritage Impact Assessments and Conservation Plans (2006) and Information Bulletin 3 - Heritage Impact Assessments for Provincial Heritage Properties (2017)*, as well as the *Standards and Guidelines for the Conservation of Historic Places in Canada (2010)*. *Bulletin 3* is focused on properties owned by the Province of Ontario, but the guidance is relevant for other types of properties.

Research included an overview of the properties' geographic context and history, a visual inspection, including photographic documentation. A site visit to the study area was undertaken on February 19, 2026.

1.2 Study Personnel and Professional Qualifications

Natalie Anderson Rathwell, Senior Architectural Historian and Heritage Consultant for Matrix Heritage, led and authored this report. She is a professional member of the Canadian Association of Heritage Professionals (CAHP). She holds a BA and MA in Art History, including studies in architectural history, from Carleton University, and undertook doctoral studies (ABD) in architectural history at York University. Her experience includes seven years in cultural heritage reporting providing Cultural Heritage Screenings, Cultural Heritage Evaluation Reports, Heritage Impact Assessments, Cultural Landscape Studies, histories, and other related research projects for federal, municipal, and private sector clients, and fifteen years of related experience in the fields of history, art and architectural history. In addition to professional membership with CAHP, she is a current member of the board of the Society for the Study of Architecture in Canada.

Giulia Santocono, Junior Heritage Consultant for Matrix Heritage, assisted with research and report preparation. She holds an MArch from Toronto Metropolitan University.

2.0 Current Conditions / Introduction to Development Site

- Location Plan of the Subject Property: **Map 1**
- Aerial Map: **Map 2**
- Historic Mapping: **Map 3**
- Tomlinson East Oxford Pit Plans **Appendix A**

2.1 Development Context

The project area is located at 1486 O'Neill Road, west of Oxford Station and south of Oxford Mills and Kemptville (Map 1) including part of Lot 13, and Lot 14, Concession 8, in the Geographic Township of Oxford, in the United Counties of Leeds and Grenville. 1486 O'Neill Road currently functions as a rural agricultural parcel characterized by a mixture of open fields, treed areas, and wetland, with a collection of buildings that were once part of an operational farmstead – house, barn, and outbuildings – towards the north-east corner of Lot 14. The study area is currently zoned under a combination of Mineral Aggregate Preservation (MXAP), Rural (RU), and Agriculture (A1), reflecting its status as a resource rich area (see Appendix A). The study area includes the project area and facing properties along O'Neil Road and Pattersons Corners Road. The intersection of these two roads is called Pattersons Corners.

The project area is situated 5km by road west of the populated centre of Oxford Station and 5.9km south of the village of Oxford Mills. The project area is 44.1-hectares (109 acres) in size. The property is bounded to the north by O'Neill Road, to the east by Pattersons Corners Road, to the south by Leeds and Grenville Road #20, and to the west by the agricultural fields of the neighbouring farm. The perimeter of the property along O'Neill Road and Patterson Corners Road is treed, with a line of deciduous and coniferous trees along O'Neill Road, and a line of coniferous trees along Patterson Corners Road in the northeast corner of Lot 14 in proximity to the farmstead (See 9.0 Figures). The northeastern most corner of the property is occupied by a field, bordered by two packed-earth driveways entering the property at right angles to each other from O'Neill Road and Patterson Corners Road and meeting between the house and large barn. The driveway along Pattersons Corners Road is located opposite of the property at 805 Pattersons Corners Road.

A Cultural Heritage Evaluation Report was completed for 1486 O'Neill Road by Matrix Heritage in 2023.

2.2 Input from the Municipality of North Grenville

As part of the CHER for 1486 O'Neill Road, the Municipality of North Grenville was contacted to confirm whether any properties within the study area are considered to be of cultural heritage value or interest.¹ The municipality has appointed a Heritage Advisory Committee advise Council on cultural and natural heritage matters. On 6 January 2022, the Heritage Advisory Committee of the Municipality of North Grenville produced a list of properties that have been full

¹ Email correspondence, Debbie Wood, Planning Clerk, Municipality of North Grenville and Julie Harris, Matrix Heritage, 11 May 2023.

designated under the provisions of the Ontario Heritage Act, properties included on the municipalities Heritage Register, and properties that appear to have been reviewed for potential designation or for the register.² Two properties, 1505 O'Neill Road and 1506 O'Neill Road, are located in the study area. 1505 O'Neill Road had an older building on the property, but it was demolished and replaced with a new clubhouse for the Kemptville Snowmobile Klub sometime after 2013.³ 1506 O'Neill Road is a former schoolhouse built in 1879 and currently used as a private residence.

Further engagement with the municipality and public is planned be undertaken by R.W. Tomlinson Ltd. following on the finding of this and related reports.

2.3 Site Visit

A site visit of the study area was conducted by Natalie Anderson Rathwell, MA, CAHP, Senior Architectural Historian for Matrix Heritage, on February 19, 2026. The site visit included a visual inspection and photography of the study area, including general conditions, the perimeter of the project area, and 1506 O'Neill Road, a former schoolhouse, and 805 Pattersons Corners Road, a log house, from a vehicle and on foot. Photographs were taken from along O'Neil Road, Patterson Corners Road, and Leeds and Grenville Road #20.

3.0 Background Research and Analysis

3.1 Historical Context

For a more complete history of the Anishinabe Algonquin and settlement history of the area please see the *Stage 3 Archaeological Assessment, J. McAvoy Site* (Matrix Heritage, 2024).

Archaeological information suggests that ancestral Anishinabe Algonquin people lived in the region for at least 8,000 years before the Europeans arrived in North America. This traditional territory is generally considered to encompass the Ottawa Valley on both sides of the river, in Ontario and Quebec, from the Rideau Lakes to the headwaters of the Ottawa River.

The Geographic Township of Oxford was first surveyed in 1791, and while most of the township was granted by 1801, only one family was living there, the remaining patent holders were Officers residing in the fronting townships. The modern town of Oxford Mills now stands on the land originally granted to William Snyder in 1802. The community took its name from the saw and grist mills built in the center of the township taking advantage of the sizeable Kemptville Creek, (historically a southern branch of the Rideau River), to power their operations. The township was incorporated in 1850 and then included the communities of Acton's Corners, Bedell (Kempton), Bishop's Mills, Beckett's Landing, Burritt's Rapids, Christies Corners, East

² Corporation of the Municipality of North Grenville, Heritage Advisory Committee Meeting Agenda, 6 January 2022, online at <https://pub-northgrenville.escribemeetings.com/FileStream.ashx?DocumentId=21246>, accessed 9 May 2023.

³ Google Maps Streetview (Sep. 2013). <https://maps.app.goo.gl/4sdXxw7MKnhRq4qq7>

Oxford, Millar's Corners, Newmanville, Oxford Mills, Oxford Station, Patterson's Corners, and Swan Station. Kemptville was part of the township until its incorporation in 1857.

In 1998, Oxford-on-Rideau Township, South Gower Township, and the Town of Kemptville amalgamated to form the Municipality of North Grenville.

3.1.1 Study Area Specific History

The project area is located at 1486 O'Neill Road, west of Oxford Station and south of Oxford Mills and Kemptville (Map 1) including part of Lot 13 and Lot 14, Concession 8, in the Geographic Township of Oxford, in the United Counties of Leeds and Grenville. The historic mapping for the area from 1861 (Map 3) depicts a house in the northeastern portion of the lot belonging to J. McAvoy, and a house in the southern portion of the lot along County Road 20 attributed to W. Dougherty.⁴ 1506 O'Neill Road is indicated as "S.H.No. 13" for School House Number 13, and the house at 805 Pattersons Corners Road is marked with "J. Patterson". The schoolhouse is also indicated on the 1879 *New Topographical Atlas of the Province of Ontario, Canada Upper Grenville County* by Miles and Co. (Figure 18).

The Crown patent for the north half of Lot 14, Concession 8 (1486 O'Neill Road) was in 1855 to John McAvoy. Twelve years later, in 1867, McAvoy sold the property to James Anderson for \$2,000. Another twelve years passed, and Anderson sold the land to Albert Buker in 1879. In 1887, Buker sold one acre in the northeastern portion to the municipal council of the Township of Oxford for a gravel pit for public use. Upon his death in 1918, Albert Buker's widow Letitia quit her claim in preference to Emmaline Crawford and Annie Bailey, her stepdaughters. In 1920 Emmaline and Annie and their husbands sold the land to Stanley John Sanderson. In 1955 Sanderson sold the property to William E. Brown Construction Ltd.⁵

3.2 Previously Identified Built Heritage Resources

The CHER for 1486 O'Neill Road determined that none of the extant buildings on the property at 1486 O'Neill Road are of cultural heritage value or interest and the property as a whole has no characteristics that would warrant its consideration as a cultural landscape of heritage value or interest. Evaluation of the property against the criteria of Ontario Regulation 9/06 identified some contextual value for the property under criterion 8, *The property has contextual value because it is physically, functionally, visually or historically linked to its surroundings*, noting: "Yes. The mature vegetation along the perimeter of the subject property on O'Neill and Pattersons Corners roads helps retain the rural appearance of the surroundings."

Two buildings in the study area for the CHER – 1506 O'Neill Road and 805 Pattersons Corners Road – were determined through information provided by the Municipality of North Grenville (specifically concerning 1506 O'Neill Road)⁶ and through the survey for the CHER (specifically 805 Pattersons Corners Road) to be of cultural heritage value or interest.

⁴ Walling, *Plan of the Counties of Stormont, Dundas, Glengarry, Prescott & Russell*, 1862.

⁵ LRO (015), "Ontario Land Registry Records - Grenville (LRO 015)," n.d.

⁶ Email correspondence, Debbie Wood, Planning Clerk, Municipality of North Grenville and Julie Harris, Matrix Heritage, 11 May 2023.

1506 O'Neill Road

1506 O'Neill Road is a former one room schoolhouse, built in 1879 according to the date stone (see Appendix B), and currently used as a private residence. The building is constructed in red brick with buff brick accents, rectangular massing and gable roof, with a central front lobby or vestibule and roundel window above the lobby in the centre of the front wall. It possibly follows an 1857 building plan issued by the provincial education department, *The school house, its architecture, external and internal arrangements*, Plan No. 6.⁷ As the schoolhouse is indicated on the Walling Map of 1861 (see detail Map 3) the current brick building will have replaced an earlier wooden structure. The former schoolhouse is a representative example of later 19th century rural schoolhouse.

805 Pattersons Corners Road

Located on the north-east side of Pattersons Corners Road, one property south of the intersection with O'Neill Road, the property at 805 Pattersons Corners Road is a log house residential dwelling that appears on the Walling Map of 1861 (Map 3, Figure 11, Figure 12). Its position on the property appears to be original. The house likely dates to the c. 1830s and is an example of rural vernacular architecture of this period. It is one-and-a-half storeys with a rectangular footprint and a gable metal roof.

4.0 Description of Proposed Development

R.W. Tomlinson Ltd. Is seeking a Class “A” License for the East Oxford Pit, a category that authorizes the removal of more than 20,000 tonnes of aggregate annually. The proposed development, located at 1486 O'Neill Road, encompasses a total license area of 44.1-hectares, with a designated limit of extraction covering 37.2-hectares. The project is designed as a “below-water” operation, meaning extraction will extend beneath the established groundwater table to bring the depth of the pit floor to a depth of 8-13 meters below grade of 107.3 meters above sea level, assumed to reach a maximum predicted pit floor elevation of approximately 94.3 meters above sea level. Operational infrastructure on-site will include a wash plant, diesel generators, internal haul roads, and a scale house to facilitate a maximum annual tonnage of 1,000,000 tonnes. The site is organized into five distinct phases of progressive extraction and rehabilitation, ultimately transitioning the land from its current agricultural and rural-residential state into a naturalized 18.1-hectare lake with a rehabilitated shoreline designed to enhance the local natural heritage system, and 17.0-hectares of potential development area. The potential development area will be backfilled to grade. All planting and seeding will consist of native species, “restored to “cultural meadows” ...until such time as they may be developed in accordance with municipal planning approvals at that time.”⁸ See Appendix A for further details.

⁷ J. George Hodgins, Ed, Superintendent of Education for Upper Canada, “Plan No. 6” *The school house, its architecture, external and internal arrangements* (Toronto: Lovell and Gibson, 1857), 49-50. Online at <https://www.canadiana.ca/view/oocihm.59365/2>.

⁸ R.W. Tomlinson Ltd. Plans, East Oxford Pit, “Rehabilitation Plan” (January 2026), 4. Included as Appendix A.

5.0 Guidance on Assessment of Impacts

To assess the potential impacts of the undertaking, identified BHRs and CHLs are considered against a range of possible negative impacts, based on the *Ontario Heritage Tool Kit Info Sheet #5: Heritage Impact Assessments and Conservation Plans* (Ministry of Tourism and Culture, 2006), and *Standards & Guidelines for Conservation of Provincial Heritage Properties - Information Bulletin 3* (2017). Per the latter, these include but are not limited to:

Direct Adverse impacts:

- Removal or demolition of all or part of any *heritage attribute*.
- Removal or demolition of any building or structure on the property whether or not it contributes to the cultural heritage value or interest of the property (i.e. non-contributing buildings).
- Any land disturbance, such as a change in grade and/or drainage patterns that may adversely affect a heritage property, including archaeological resources.
- Alterations to the property in a manner that is not sympathetic, or is incompatible, with cultural heritage value or interest of the property. This may include necessary alterations, such as new systems or materials to address health and safety requirements, energy-saving upgrades, building performance upgrades, security upgrades or servicing needs.
- Alterations for access requirements or limitations to address such factors as accessibility, emergency egress, public access, security.
- Introduction of new elements that diminish the integrity of the property, such as a new building, structure or addition, parking expansion or addition, access or circulation roads, landscape features.
- Changing the character of the property through removal or planting of trees or other natural features, such as a garden, or that may result in the obstruction of significant views or vistas within, from, or of built and natural features.
- Change in use for the property that could result in permanent, irreversible damage or negates the property's cultural heritage value or interest.

Indirect Adverse impacts:

- Shadows that alter the appearance of a heritage attribute or change the visibility of an associated natural feature or plantings, such as a tree row, hedge or garden.
- Isolation of a heritage attribute from its surrounding environment, context or a significant relationship.
- Vibration damage to a structure due to construction or activities on or adjacent to the property.
- Alteration or obstruction of a significant view of or from the property from a key vantage point.

Positive Impacts:

- Changes or alterations that are consistent with accepted conservation principles, such as those articulated in *Eight Guiding Principles in the Conservation of Historic Properties*, *Heritage Conservation Principles for Land Use Planning* (former Ministry of Tourism, Culture, and Sport, now Ministry of Citizenship and Multiculturalism), and Parks Canada's *Standards and Guidelines for the Conservation of Historic Places in Canada*.
- Adaptive re-use of a property – alteration of a property to fit new uses or circumstances of the of property in a manner that retains its cultural heritage value of interest.
- Public interpretation or commemoration.

The InfoSheet provides direction on mitigation and avoidance, as does Parks Canada's *Standards and Guidelines for the Conservation of Historic Places in Canada* (2010).

6.0 Impact of Proposed Development

6.1 General Impacts

The proposed development at 1486 O'Neill involves the establishment of a Class A aggregate pit for the 44.1-hectares license area. This transformation includes the removal of up to 1,000,000 tonnes of aggregate annually, which will permanently alter the existing agricultural landscape and topography. Extraction is planned to occur both above and below the groundwater table, eventually lowering the pit floor to a maximum depth of approximately 94.3 meters above sea level from approximately 107.0m above sea level. The project will introduce a wash plant, diesel generators, internal haul roads, and associated scale facilities. Following rehabilitation, the project will result in the long-term creation of an 18.1-hectare post-extraction lake and 17.0-hectares of potential development area. All planting and seeding associated with rehabilitation will consist of native species, establishing "cultural meadows, with the potential to be developed in accordance with municipal planning approvals in future.⁹ Future use of the site following rehabilitation for rural residential properties would be in keeping with the facing properties along Pattersons Corners Road and O'Neil Road.

6.2 Positive Heritage Impacts

No positive heritage impacts are anticipated for the identified built heritage resources. Archaeological resources have been addressed in separate reporting, however, the preservation of the J. McAvoy Archaeological Site through the establishment of a buffer zone is a positive impact in keeping with Principle 3 of the Ontario Heritage Trust's *Eight guiding principles in the conservation of built heritage properties*, "Respect for historical material", and Standards 1 and 6 of the *Standards and Guidelines for the Conservation of Historic Places in Canada*: "1. Conserve the *heritage value* of an *historic place*;" "6. Protect and, if necessary, stabilize an *historic place* until any subsequent *intervention* is undertaken. Protect and preserve

⁹ R.W. Tomlinson Ltd. Plans, East Oxford Pit, "Rehabilitation Plan" (January 2026), 4. Included as Appendix A.

archaeological resources in place. Where there is potential for disturbing archaeological resources, take mitigation measures to limit damage and loss of information.”

6.3 Adverse Heritage Impacts

Direct Adverse Heritage Impacts:

- Any land disturbance, such as a change in grade and/or drainage patterns that may adversely affect a heritage property, including archaeological resources.
- Changing the character of the property through removal or planting of trees or other natural features, such as a garden, or that may result in the obstruction of significant views or vistas within, from, or of built and natural features.

Land disturbances from aggregate extraction at 1486 O'Neill Road have the potential to directly impact the properties at 1506 O'Neill Road and 805 Pattersons Corners Road if those disturbances impact the well water of the properties in a manner that adversely impacts the buildings or their abilities to be used. Drainage patterns are not anticipated to be in the direction of 1506 O'Neill Road and 805 Pattersons Corners Road.

1486 O'Neil Road will become a large pit, surrounded by berms, with corresponding extraction activities. Although one acre in the northeaster portion of 1486 O'Neil Road was historically the site of a municipal gravel pit for public use,¹⁰ the proposed extraction activities will be considerably more extensive. While views of the extraction site will be shielded by foliage and berms this has some potential to adversely impact the rural context of facing properties at 1506 O'Neill Road and 805 Pattersons Corners Road.

Indirect Adverse Heritage Impacts:

- Potential noise impacts.

Potential indirect adverse impacts to the built heritage resources of the former schoolhouse at 1506 O'Neill Road and log house at 805 Pattersons Corners Road include noise impacts to these buildings (See 7.1). *Vibration damage to a structure due to construction or activities on or adjacent to the property* is not anticipated.

¹⁰ Albert Buker purchased Lot 14, Concession 8 in 1879. In 1887, Buker sold one acre in the northeastern portion of his property to the municipal council of the Township of Oxford for a gravel pit for public use. Ontario Land Registry Records - Grenville (LRO 015).

The history of the ownership of the land is taken from the archaeology study that examined land registry records, historic mapping and census records: Matrix Heritage, “Stage 1: Archaeological Assessment: 1486 O'Neill Road, Part Lots 13 and 14, Concession 8, Geographic Township of Oxford, North Grenville Township, United Counties of Leeds and Grenville, Oxford Station, Ontario,” Prepared for R.W. Tomlinson Limited, December 2022.

7.0 Alternatives and Mitigation Measures

7.1 Mitigation Measures Already Proposed by R.W. Tomlinson Ltd.

To mitigate the identified adverse heritage impacts on the surrounding rural residential properties, the project plans to implement various structural and operational strategies designed to screen industrial activity while preserving the existing character of the area. For the full text of mitigation measures already proposed please see Appendix A and the reports to which it refers. Mitigation measures relevant to adverse heritage impacts are:

Site Layout and Physical Barriers

- Extraction will occur no closer than 92.0m from 1506 O'Neill Road and 63.0m from 805 Pattersons Corners Road. The distance from heritage structures to processing plant area is 692.0m from 1506 O'Neill Road and 637.0m from 805 Pattersons Corners (Figure 19).
- Aggregate extraction is proposed to progress in phases from south to north, with south being furthest from the identified CHRs. The heritage structures are located closest to Phase 5 which is last phase of operation.
- The Central Processing Area, including wash plant, product stockpiles, recycling area and scrap storage, is proposed for a location towards the centre of the property, the greatest distance from all surrounding residential properties. The distance from heritage structures to processing plant area is 692.0m from 1506 O'Neill Road and 637.0m from 805 Pattersons Corners (Figure 19).
- The main access point for aggregate extraction activities is proposed for Leeds and Grenville Road #20, the location furthest from the identified cultural heritage resources, the Kemptville Snowmobile Klub, and other residential properties. This location also limits the use of the unpaved O'Neill Road and the dust that would be associated with increased traffic on this road.
- Acoustic berms between 4.0m and 6.0m high are proposed for the perimeter of the project area along O'Neill Road, behind the J. McAvoy Archaeological Site, part of Patterson Corners Road, including opposite the former schoolhouse at 1506 O'Neill Road and log house at 805 Pattersons Corners Road, and along Leeds and Grenville Road #20.
- A heavy-duty sediment fencing and permanent turtle exclusion fencing will be installed and inspected monthly during active seasons.
- Fencing will be added around the 10.0m protective buffer of the J. McAvoy archaeological site and additional recommendations of the Stage 1, Stage 2, and Stage 3 Archaeological Assessments (Matrix Heritage, 2022, 2023, 2024) will be followed.

Vegetation

- Existing mature vegetation is to be retained along the full length of O'Neill Road, Pattersons Corners Road, Leeds and Grenville Road #20.¹¹
- Vegetated acoustic berms will be created along the north and south perimeter of the site, particularly adjacent to the residential properties along O'Neill Road and Pattersons Corner Road. All berms will be constructed out of on-site topsoil and will be seeded in low-maintenance native seeds consisting of grasses and legumes to create a visual profile and to prevent erosion.

Sound & Vibrations

- 1506 O'Neil Road and 805 Pattersons Corners Road are identified in *Table 1: Point of Reception Summary Table*¹² as Point of Reception (POR) 1 and 2.
- Heavy trucks will access the site from Leeds and Grenville Road #20, not from Pattersons Corners Road or O'Neil Road.
- Portable construction equipment used for site preparation (e.g. land clearing and construction of berms) and rehabilitation shall be fitted with exhaust mufflers and shall comply with noise standards to be met by construction equipment in Ontario. Site preparation and rehabilitation activities shall take place only during daytime hours (07:00 - 19:00) and are not to occur on Sundays or Statutory Holidays.
- Vegetated berms along the north and south perimeter of the site are designed to be an acoustic barrier. Noise barriers and berms are to be solid, having no gaps, and are to have a surface density of no less than 20 kg/m². POR 1 and 2 are identified as requiring site berms to shield these properties from sounds from extraction equipment prior to the commencement of extraction operations in Phase 4 and Phase 5.
- The operation of the loaders may take place on a twenty-four-hour basis (24-hour) and shall comply with the following:
 - During the daytime period (07:00 to 19:00): A maximum of three loaders or excavators may be in operation concurrently with a maximum of two loaders or excavators in operation at the extraction face except as noted for below water extraction and as follows:

¹¹ R.W. Tomlinson Ltd. Plans, East Oxford Pit, "Sequence of Operation" (January 2026), 2. Included as Appendix A.

Diagrams provided in Appendix A show the removal of some of the trees along Patterson Corners Road and Leeds and Grenville Road #20. These are being updated to show retention of these mature trees.

¹² R.W. Tomlinson Ltd. Plans, East Oxford Pit, Table 1 (January 2026), 3. Included as Appendix A.

- When operating less than 250.0m from an identified receptor, a maximum of two loaders or excavators may be in operation concurrently with a maximum of one loader or excavator in operation at the extraction face.
- During the evening and nighttime period (19:00 to 07:00): A maximum of one loader or excavator may be in operation concurrently carrying out loading and stockpiling operations. Extraction by loader and excavator is not to occur during the evening and nighttime period.
- The delivery of raw material from the extraction face to the wash plant using aggregate trucks and delivery and shipping of product using highway trucks may take place on a twenty-four-hour basis (24-hour) and shall comply with the following:
 - When operating on-site, highway trucks shall not exceed 30 km/h and shall not use compression braking (Jake Brakes).

Water

- The following water level monitoring program shall be implemented:
 - Quarterly water levels shall be collected from groundwater monitoring wells (see Appendix A for specifics on locations) and surface water staff gauge locations (during ice free conditions) once aggregate extraction proceeds below the groundwater table. Dataloggers will be installed to record water level measurements at least once per day during ice free conditions.
 - In the event of a well interference complaint, the Licensee shall implement the Complaints Response Program outlined in Section 7 of the "Level 1 and Level 2 Water Report - Proposed East Oxford Pit" (WSP Canada Inc, December 2025).

Restoration

- The project site will utilize a rehabilitation model that restores disturbed areas on a phase-by-phase (Five phases total) basis, eventually transitioning the future industrial site to a man-made naturalized 18.1-hectare lake with a diverse shoreline of newly created wetlands, and 17.0-hectares of meadow, seeded with native species, with the potential for future development.

7.2 Additional Recommended Mitigation Measures

The following mitigation measures for identified CHRs are recommended in addition to those presented above in section 7.1:

Vegetation

- Any dead or dying trees along Pattersons Corners Road that are part of the line of trees screening the 1506 O'Neil Road, and 805 Pattersons Corners Road from the project area (acting as a hedgerow; example Figure 14) should be replaced with vegetation suited to the same purpose and location, provided such replacement does not interfere with identified archaeological resources.

The recommendations found in this section and section 7.1 support the following Standards of the *Standards and Guidelines for the Conservation of Historic Places in Canada*:

1. Conserve the *heritage value* of an *historic place*. Do not remove, replace or substantially alter its intact or repairable *character defining elements*. Do not move a part of an historic place if its current location is a character-defining element.
2. Conserve changes to an *historic place* that, over time, have become *character-defining elements* in their own right.
6. Protect and, if necessary, stabilize an *historic place* until any subsequent *intervention* is undertaken. Protect and preserve archaeological resources in place. Where there is potential for disturbing archaeological resources, take mitigation measures to limit damage and loss of information.
7. Evaluate the existing condition of *character-defining elements* to determine the appropriate *intervention* needed. Use the gentlest means possible for any intervention. Respect *heritage value* when undertaking an intervention.
8. Maintain *character-defining elements* on an ongoing basis. Repair character-defining elements by reinforcing their materials using recognized conservation methods. Replace in kind any extensively deteriorated or missing parts of character-defining elements, where there are surviving *prototypes*.

8.0 Conclusion

Direct and indirect adverse impacts are anticipated for the previously identified cultural heritage resources at 1506 O'Neill Road and 805 Pattersons Corners Road, from the development and operations proposed for the property at 1486 O'Neill Road. These include:

- Land disturbances, such as a change in grade and/or drainage patterns that may adversely affect a heritage property;
- Changes to the character of the property through removal or planting of trees or other natural features, or that may result in the obstruction of significant views or vistas within, from, or of built and natural features;
- Potential noise impacts.

An extensive program of mitigation measures is already planned for the site, including measures addressing:

- Site layout and physical barriers;
- Vegetation;
- Sound;
- Water; and
- Restoration of the site.

These planned mitigation measures will safeguard the identified cultural heritage resources and address adverse heritage impacts by orienting the site away from the identified cultural heritage resources, maintaining the mature vegetation that retains the rural appearance of the surroundings, creating visual and auditory buffers, and monitoring conditions on an ongoing basis.

Additional mitigation measures recommended or suggested by this HIA (see section 0) address:

- Vegetation;

These mitigation measures, in addition to those already planned, will limit adverse heritage impacts on the built heritage resources at 1506 O'Neill Road and 805 Pattersons Corners Road.

9.0 Figures



Figure 1. Pattersons Corners, looking south towards 1486 O'Neill Road. Matrix Heritage, 19 Feb 2026.



Figure 2. Pattersons Corners, looking south-west across Pattersons Corners Rd. towards O'Neill Rd. Matrix Heritage, 19 Feb 2026.



Figure 3. View looking south-west along O'Neill Rd. from Pattersons Corners Rd. 1486 O'Neill Rd. at left. Matrix Heritage, 19 Feb 2026.



Figure 4. Looking south-west along O'Neill Rd. from 1455 O'Neill Rd. 1486 O'Neill Rd. at left. Matrix Heritage, 19 Feb 2026.



Figure 5. Logging operation underway on Lot 13, Concession 7, with piles of timber behind 1411 O'Neill Rd. 1486 O'Neill Rd. property opposite, at far left. Matrix Heritage, 19 Feb 2026.



Figure 6. Looking north-east along O'Neill Rd. towards Pattersons Corners Rd. 1486 O'Neill Rd. at right. Matrix Heritage, 19 Feb 2026.



Figure 7. Kemptville Snowmobile Klub at Pattersons Corners. Matrix Heritage, 19 Feb 2026.



Figure 8. Looking south-east along Pattersons Corners Rd, from intersection with O'Neill Rd. 1486 O'Neill Rd. at right. Matrix Heritage, 19 Feb 2026.



Figure 9. 1506 O'Neill Rd. Former schoolhouse, 1879, at south-east corner of Pattersons Corners. Matrix Heritage, 19 Feb 2026.



Figure 10. Current access to 1486 O'Neill Rd., from Pattersons Corners Rd, south-east of intersection with O'Neill Rd. Matrix Heritage, 19 Feb 2026.



Figure 11. 805 Pattersons Corners Rd. Matrix Heritage, 19 Feb 2026.



Figure 12. 805 Pattersons Corners Rd. Looking north-west along Pattersons Corners Rd. Matrix Heritage, 19 Feb 2026.



Figure 13. Relationship of driveway to 805 Pattersons Corners Rd. to current entrance to 1486 O'Neill Rd, looking northwest along Pattersons Corners Rd. Matrix Heritage, 19 Feb 2026.



Figure 14. Some gaps in the row of trees along Pattersons Corners Rd, looking at 1486 O'Neill Rd. Matrix Heritage, 19 Feb 2026.



Figure 15. South-east corner of the project area, looking north from Leeds and Grenville Rd 20. Matrix Heritage, 19 Feb 2026.



Figure 16. Intersection of Pattersons Corners Rd. and Leeds and Grenville Rd. 20, looking south-east towards East Oxford. Matrix Heritage, 19 Feb 2026.



Figure 17. Looking south-west along Leeds and Grenville Rd. 20, project area at right. Matrix Heritage, 19 Feb 2026.



Figure 18. Detail, 1879 New Topographical Atlas of the Province of Ontario, Canada Upper Grenville county (Miles and Co.), 75, showing the schoolhouse at 1506 O'Neill Road at the corner of Lot 15, Concession VIII (8).

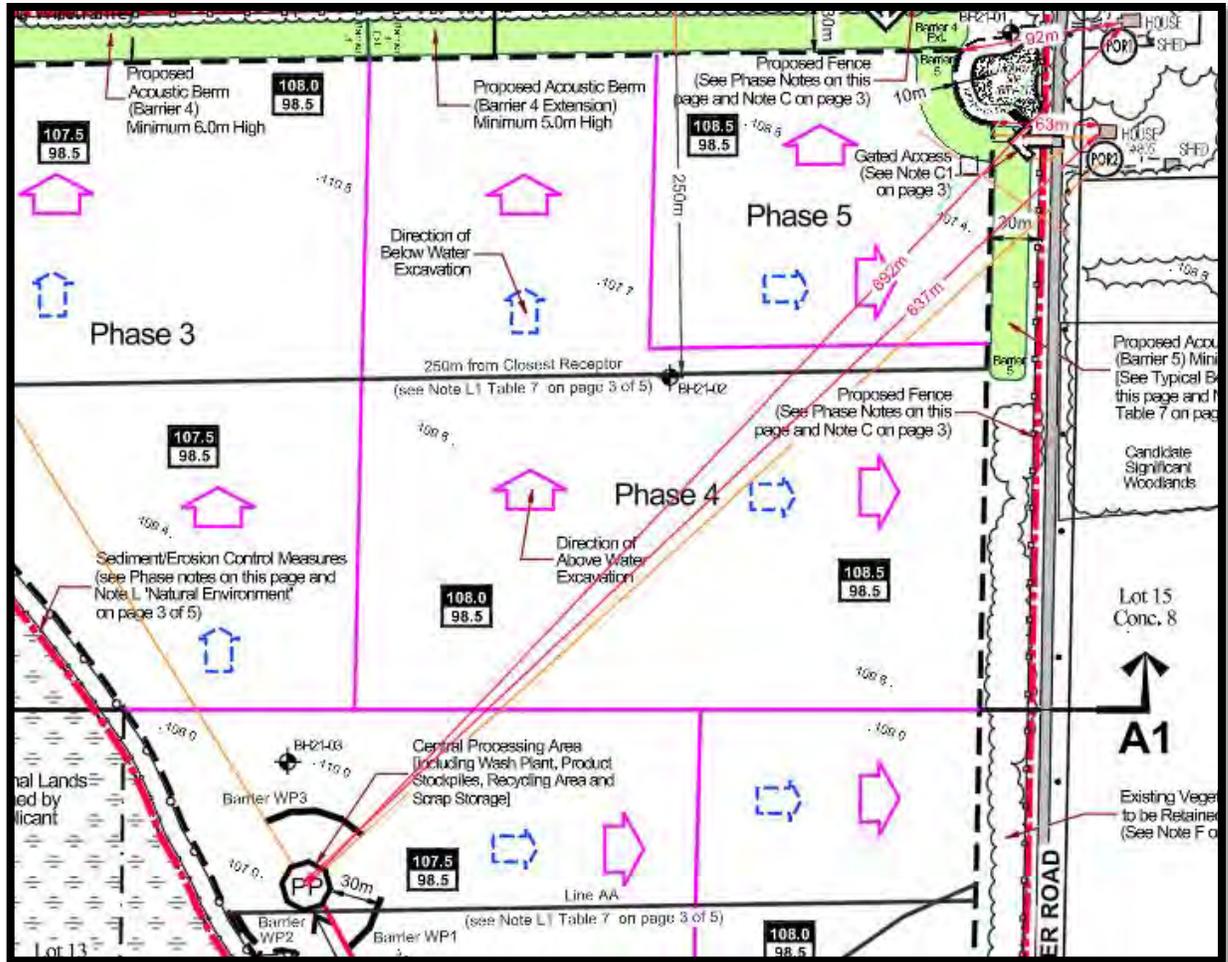
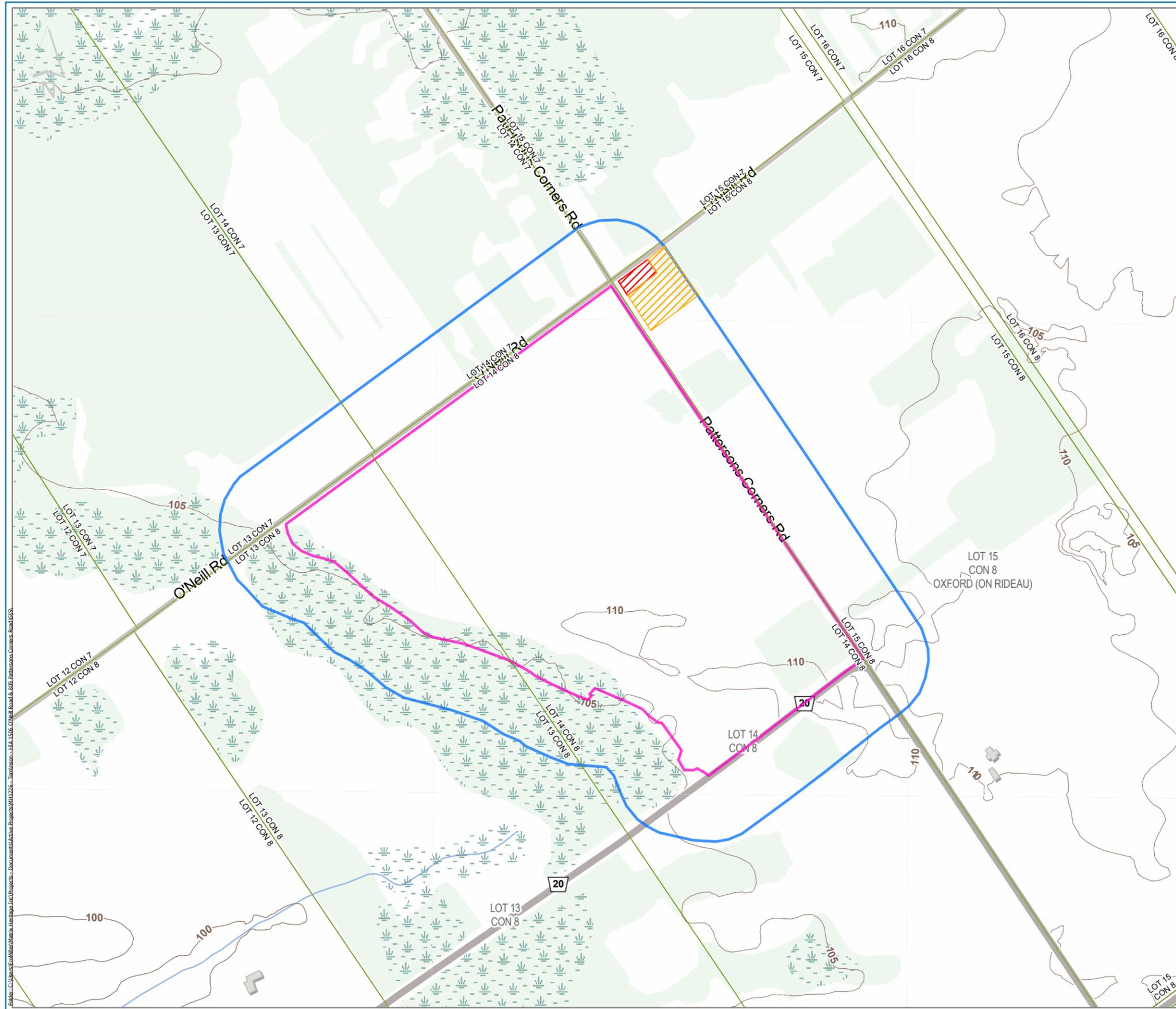


Figure 19. Detail of site plan showing distances of heritage properties to extraction and the processing plant area. R.W. Tomlinson Ltd, February 2026.



LEGEND

- STUDY AREA
- PROJECT AREA
- PROPERTIES OF INTEREST**
- 1506 O'NEILL ROAD
- 805 PATTERSON'S CORNER ROAD



Matrix



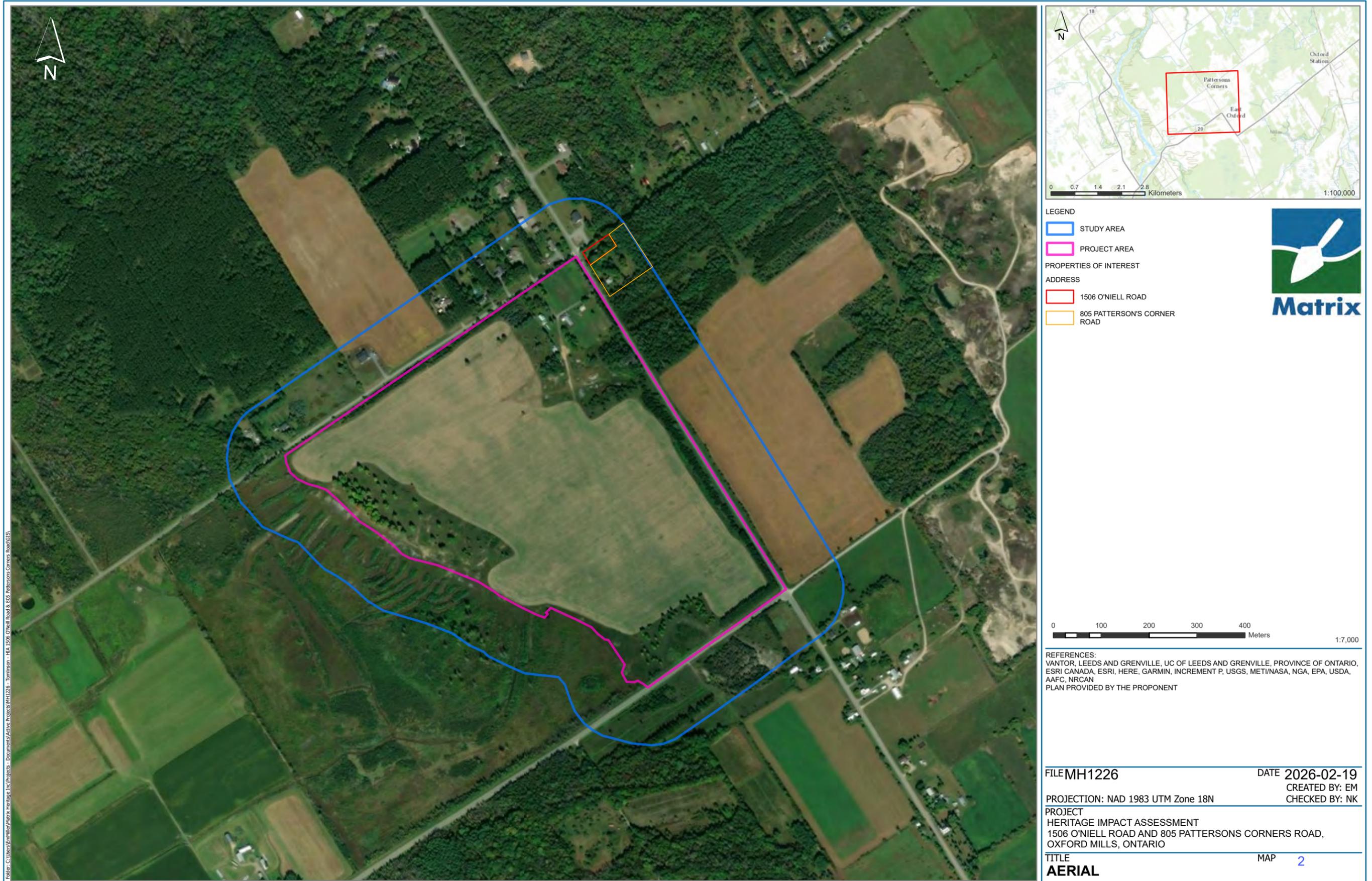
REFERENCES:
[HTTPS://WWW.ONTARIO.CA/PAGE/OPEN-GOVERNMENT-LICENCE-ONTARIO](https://www.ontario.ca/page/open-government-licence-ontario) , VANTOR, LEEDS AND GRENVILLE, UC OF LEEDS AND GRENVILLE, ONTARIO BASE MAP, PROVINCE OF ONTARIO, ESRI CANADA, ESRI, © OPENSTREETMAP CONTRIBUTORS, HERE, GARMIN, USGS, NGA, EPA, USDA, NPS, AAFC, NRCAN

FILE MH1226 DATE 2026-02-19

PROJECTION: NAD 1983 UTM Zone 18N CREATED BY: EM

PROJECT HERITAGE IMPACT ASSESSMENT CHECKED BY: NK
 1506 O'NEILL ROAD AND 805 PATTERSONS CORNERS ROAD, OXFORD MILLS, ONTARIO

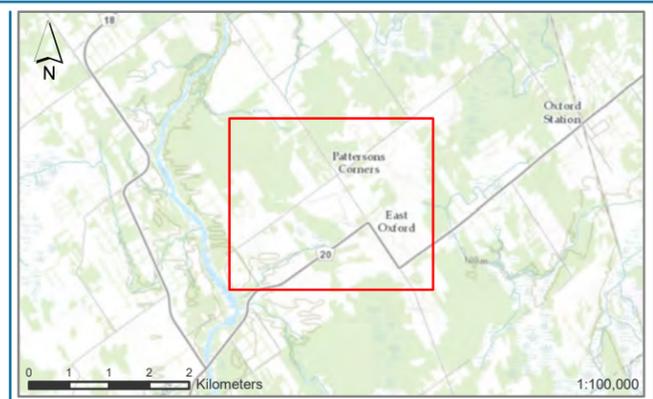
TITLE MAP 1
LOCATION





Folder: C:\Users\Emilia\Public\Heritage\Projects\Documents\Active Projects\MH1226 - Tomlinson - HA_1506 O'Neill Road & 805 Patterson's Corners Road\GIS

WALLING 1861



- LEGEND**
- STUDY AREA
 - PROJECT AREA
- PROPERTIES OF INTEREST**
- ADDRESS**
- 1506 O'NIELL ROAD
 - 805 PATTERSON'S CORNER ROAD



REFERENCES:
 LEEDS AND GRENVILLE, UC OF LEEDS AND GRENVILLE, PROVINCE OF ONTARIO, ESRI CANADA, ESRI, HERE, GARMIN, INCREMENT P, USGS, METI/NASA, NGA, EPA, USDA, AAFC, NRCAN, LEEDS AND GRENVILLE, UC OF LEEDS AND GRENVILLE, PROVINCE OF ONTARIO, ESRI CANADA, ESRI, HERE, GARMIN, INCREMENT P, INTERMAP, USGS, METI/NASA, EPA, USDA, AAFC, NRCAN

SEGMENT OF WALLING 1861 MAP OF THE COUNTIES OF LEEDS AND GRENVILLE, OXFORD TOWNSHIP, CANADA WEST FROM ACTUAL SURVEYS UNDER THE DIRECTION OF H.F. WALLING

FILE MH1226 DATE 2026-02-19
 PROJECTION: NAD 1983 UTM Zone 18N CREATED BY: EM
 CHECKED BY: NK

PROJECT
 HERITAGE IMPACT ASSESSMENT
 1506 O'NIELL ROAD AND 805 PATTERSONS CORNERS ROAD,
 OXFORD MILLS, ONTARIO

TITLE MAP 3
HISTORIC

11.0 Sources

11.1 Heritage Process Guidance

- Ontario. Aggregate Resources of Ontario: Site Plan Standards, August 2020.
- Ontario. Aggregate Resources of Ontario: Technical Reports and Information Standards, August 2020.
- Ontario. *Ontario Heritage Act*, R.S.O. 1990, c.O.18 [as Amended in 2023].
- Ontario Ministry of Citizenship and Multiculturalism. 2025. *Ontario Heritage Took Kit*. Online at: <https://www.ontario.ca/page/ontario-heritage-tool-kit>
- Ontario Ministry of Heritage, Sport, Tourism and Culture Industries. 2006. *Ontario Heritage Tool Kit*.
- Ontario Ministry of Heritage, Sport, Tourism and Culture Industries. *Standards and Guidelines for Conservation of Provincial Heritage Properties: Standards & Guidelines*. Online at: www.mtc.gov.on.ca/en/publications/Standards_Consevation.pdf.
- Ontario Ministry of Heritage, Sport, Tourism and Culture Industries. *Standards and Guidelines for Conservation of Provincial Heritage Properties: Information Bulletin 3 - Heritage Impact Assessments for Provincial Heritage Properties*. 2017.
- Ontario Ministry of Heritage, Sport, Tourism and Culture Industries. 2016. *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes, A Checklist for the Non-Specialist*. Online at: <https://forms.mgcs.gov.on.ca/dataset/30990b3f-c2f7-451e-90f9-10bef98ea9e2/resource/992f3844-62a5-4091-9e08-ce406dc57850/download/0500e.pdf>.
- Ontario Ministry of Heritage, Sport, Tourism and Culture Industries. 2007. *Eight Guiding Principles in the Conservation of Built Heritage Resources*. Online at: <https://www.ontario.ca/page/eight-guiding-principles-conservation-built-heritage-properties>.
- Ontario Ministry of Municipal Affairs and Housing. 2024. Provincial Planning Statement, 2024. Online at: <https://www.ontario.ca/files/2024-10/mmah-provincial-planning-statement-en-2024-10-23.pdf>
- Parks Canada, *Standards and Guidelines for the Conservation of Historic Places in Canada*, 2nd Edition, 2010.

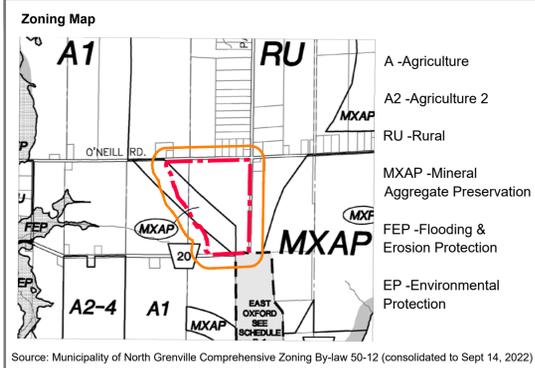
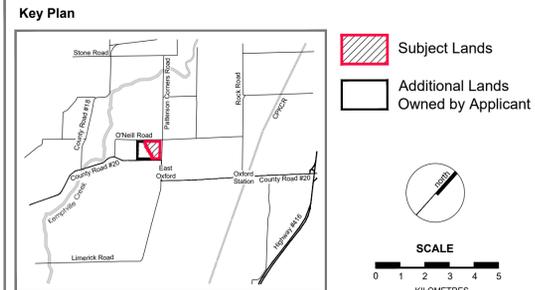
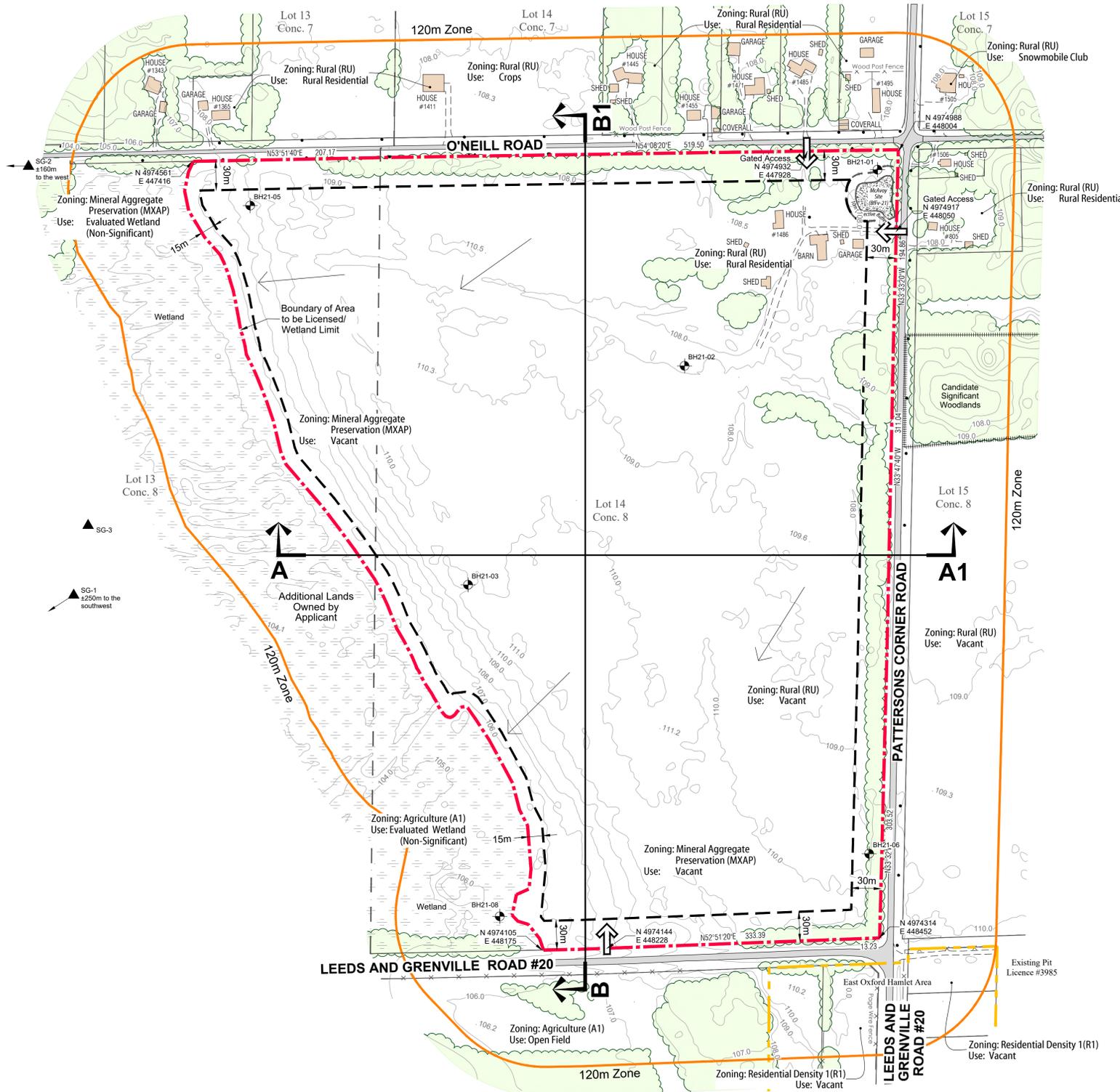
11.2 Archaeology and History

- Hodgins, J. George Ed., Superintendent of Education for Upper Canada, "Plan No. 6" *The school house, its architecture, external and internal arrangements*. Toronto: Lovell and Gibson, 1857. Online at <https://www.canadiana.ca/view/occihm.59365/2>
- Humphreys, Barbara A. *The Architectural Heritage of the Rideau Corridor*, Ottawa: National Historic Parks and Sites Branch, Parks Canada, 1974. Online at <http://parkscanadahistory.com/series/chs/10/chs10-1a.htm>.
- Matrix Heritage, "Stage 1: Archaeological Assessment: 1486 O'Neill Road, Part Lots 13 and 14, Concession 8, Geographic Township of Oxford, North Grenville Township, United Counties of

Leeds and Grenville, Oxford Station, Ontario," Prepared for R.W. Tomlinson Limited, December 2022 (submitted for review.)

Library and Archives Canada, Censuses Database for: 1842 Census, Canada West; 1851 Census; 1861 Census; 1871 Census, Canada; 1881 Census Canada; 1891 Census, Canada; 1911 Census, Canada; and 1921 Census, Canada.

Walling. *Plan of the Counties of Stormont, Dundas, Glengarry, Prescott & Russell.* 1862.



Legal Description
PART OF LOTS 13 AND 14
CONCESSION 8
(geographic township of Oxford on Rideau)
MUNICIPALITY OF NORTH GRENVILLE
COUNTY OF LEEDS AND GRENVILLE

Legend

| | | | |
|--|---|--|---|
| | Boundary of Area to be Licensed | | Limit of Extraction ALL SETBACKS ARE DRAWN TO SCALE AND SHOW LABELLED DISTANCES |
| | Existing Fence PAGE WIRE FENCE UNLESS OTHERWISE NOTED | | Contour with Elevation METRES ABOVE SEA LEVEL |
| | Public Road (Paved) | | Existing Spot Elevation METRES ABOVE SEA LEVEL |
| | Public Road (Gravel) | | Building/Structure LOCATION AND USE FOR BUILDINGS ON-SITE AND WITHIN 120m ARE SHOWN ON THIS PAGE |
| | Private Laneway | | Direction of Surface Drainage (IF ANY) |
| | Field Access | | Archaeological Site SITE RECOMMENDED FOR FURTHER ARCHAEOLOGICAL FIELD WORK |
| | Existing Vegetation | | Parcel Fabric |
| | Hydro Pole | | Lot and Concession |
| | Evaluated Wetland (Non-Significant) WSP 2025 | | Hamlet Boundary |
| | Candidate Significant Woodlands WSP 2025 | | |
| | Monitoring Well Locations | | |
| | Staff Gauge Locations WSP 2025 | | |
| | Cross Sections SEE PAGE 5 OF 5 FOR EXISTING AND REHABILITATED CROSS SECTIONS | | |

- A. General**
- This site plan is prepared under the Aggregate Resources Act (ARA) for a Class A licence for a pit below the ground water table and follows the Aggregate Resources of Ontario: Site Plan Standards August 2020, and for this page Existing Features for all sites (Numbers 1-26 in the standards).
 - Area Calculations:
Licence Area: 44.1 hectares (109.0 acres)
Limit of Extraction: 37.2 hectares (91.9 acres)
 - All measurements shown are in metres unless specified otherwise.
- B. References**
- Topographic information compiled by GeoOptic (a division of Aeon Egmond Ltd.) produced from aerial photography flown October 27, 2022. Mapping is produced in real world scale and coordinates (NAD83 UTM Zone 18N), Contour interval is 1m. All elevations are geodetic (CGVD2013 HT2).
 - Property boundary from Plan of Survey provided by H.A. Ken Shipman Surveying Ltd., December 2022. Adjacent parcel fabric from vUMap (First Base Solutions online mapping subscription) and is approximate.
 - The subject site is zoned: Mineral Aggregate Preservation (MXAP), Rural (RU) and Agriculture (A1) in the Municipality of North Grenville Comprehensive Zoning By-law 50-12 (consolidated to September 14, 2022).
 - Land use information compiled from 2024 imagery and client input.
- C. Drainage**
- Surface drainage on and within 120 metres of the licence boundary is by overland flow in the directions shown by arrows on the plan view or by infiltration.
- D. Groundwater**
- Based on the available groundwater elevation data, the maximum predicted water table on the site is 107.3 metres asl on the northeastern corner (as measured at 21-01). Based on the groundwater elevation data measured at 21-03, 21-05 and 21-08 located along the western boundary of the Site, the water table slopes downwards from the northeast to the southwest within the sand unit, and the maximum predicted water table on the western side of the Site is approximately 105.5 metres asl.
- E. Site Access and Fencing**
- There are three existing field accesses to the site, in the locations shown on the plan view.
 - Post and wire fencing (unless noted otherwise) exists in the locations shown.
- F. Aggregate Related Site Features**
- There are no existing aggregate operations or features on-site such as processing areas with stationary or portable equipment, stockpiles, recyclable materials, scrap, haul roads, fuel storage, berms or excavation faces.
- G. Significant Natural Features**
- On-site: None
 - Off-site within 120m: Candidate Significant Woodlands
- H. Significant Human-made Features**
- On-site: House (vacant) and other associated buildings
 - Off-site within 120m: Houses and other associated buildings, Roads
- I. Cross Sections**
- As shown on this page. Detailed sections are shown on page 5 of 5.
 - Cross section locations are identified on the plan view for each drawing.
- J. Report References**
- Noise: "Acoustic Assessment for the Proposed East Oxford Pit" December 10, 2025 (Source: Freefield Ltd.)
 - Natural Environment: "Natural Environment Report and Environmental Impact Study" December 9, 2025 (Source: WSP Canada Inc.)
 - Archaeology: "Stage 3 Archaeological Assessment L.Russell Site [BIFV-22]" September 3, 2024 and "Stage 3 Archaeological Assessment J.McAvoy Site [BIFV-21]" July 2024 (Source: Matrix Heritage Inc.)
 - Hydrogeology: "Level 1 and Level 2 Water Report" December 2025 (Source: WSP Canada Inc.)
 - Maximum Predicted Water Table Report: "Maximum Predicted Water Table Report" December 4, 2025 (Source: WSP Canada Inc.)
 - Cultural Heritage: "Heritage Impact Assessment" xxxxxx, 2026 (Source: Matrix Heritage Inc.)
 - Traffic: "R.W. Tomlinson East Oxford Extraction Site Traffic Impact Study" xxxxxx, 2026 (Source: Castleglenn Consultants Ltd.)

Site Plan Amendments

| No. | Date | Description | By |
|-----|------|-------------|----|
| | | | |
| | | | |
| | | | |

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
200-540 BINGEMAN CENTRE DR., KITCHENER, ON, N2B 3X9 | P: 519.576.3650 | WWW.MHBCPLAN.COM

MNR Approval Stamp

Applicant
TOMLINSON
R. W. Tomlinson Limited
100 CitiGate Drive
Ottawa, Ontario K2J 6K7
Tel: (613) 822-1867

R. W. Tomlinson
R.W. Tomlinson Limited
Vice President Planning and Development

Project
East Oxford Pit

ARA Licence Reference No. _____ Pre-approval review: _____

Plan Scale 1:2,500 (Arch D) For Client Review - January 2026
Plot Scale 1:2.5 [1mm = 2.5 units] MODEL

SCALE
50 0 50 100 METRES

Drawn By D.G.S. File No. 9137AR
Checked By N.D.

File Name **EXISTING FEATURES PLAN**
Drawing No. **1 OF 5**

K:\9137AR-Tomlinson-East Oxford\A\Tomlinson East Oxford Pit Exfeplan1of5 January2026.dwg

SEQUENCE OF OPERATIONS

Scale: 1:2,500

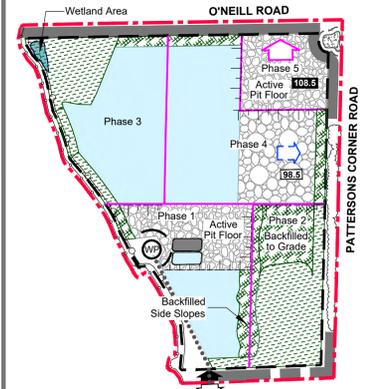
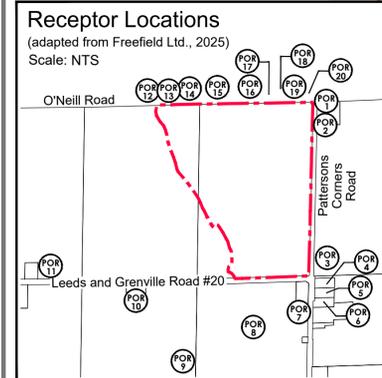
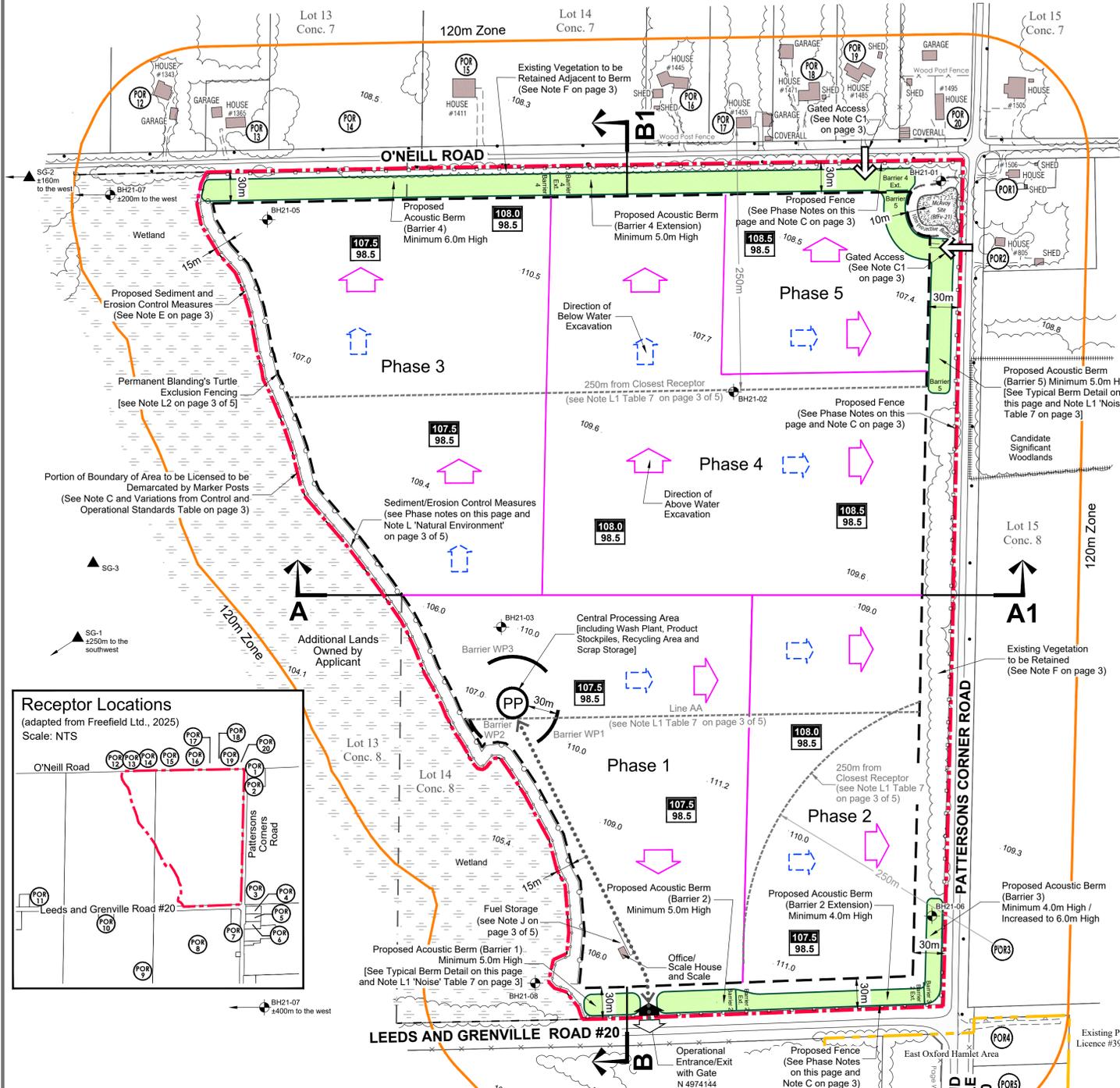
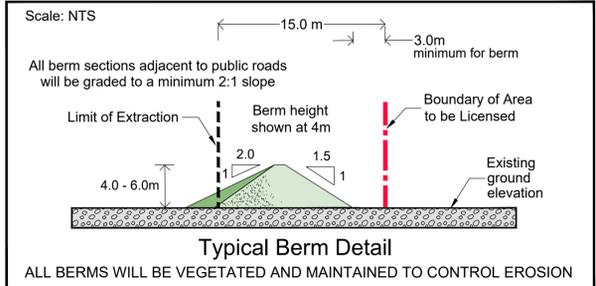


Diagram 5

- Continue with Phase 4 below water extraction in the direction and to the depth as shown.
- Continue above water extraction in Phase 5.
- Initiate progressive rehabilitation of above water side slopes in the north part of Phase 4.
- Continue progressive and final rehabilitation activities (backfill to grade) in Phase 2 and 3.
- Create wetland area in Phase 3.

Not Shown on Phase Diagrams

- The wash plant will remain on site until the final stages of the plant and the unextracted area in Phase 1.
- Removal of material in area of 'Internal Haul Road' will occur.
- Remove any equipment, scrap, haul roads and buildings on site.
- Finalize rehabilitation of site (see Rehabilitation Plan on page 4 of 5 for details).



PHASE DIAGRAMS

Scale: 1:7,500

| | | | | | |
|--|------------|--|------------------------|--|----------------------------|
| | Water Body | | Extraction Above Water | | Progressive Rehabilitation |
| | Stripping | | Extraction Below Water | | Final Rehabilitation |

Diagram 1

(Phase 1 & 2 Above Water)

- Site preparation in Phase 1 to include: install 1.2m marker posts on west portion of licensed boundary where there is no fencing, install Blanding's Turtle exclusion fencing and sediment/erosion control measures along west side of licensed boundary; install 1.2m high fencing along north, east and south portions of the site; install fencing around protective buffer of Archaeological site; removal of vegetation where applicable; initial stripping of overburden/topsoil and constructing berms (see page 3 of 5 L1 'Noise') as shown; and establishing operational entrance/exit.
- Build office/scale house and scale as required on-site.
- Establish fuel storage and equipment parking/highway truck parking areas on-site.
- Begin Phase 1 above water extraction around the wash plant area and in the direction and to the depth as shown.
- Barrier 1 only required when carrying out extraction operations south of Line AA following development of a noise sensitive use at POR 8.
- Barrier 2 only required when carrying out extraction operations south of Line AA and shielding to POR 5 and 8 only required following development of a noise sensitive use.
- Construct wash plant. Source/settling ponds may be created during Phase 1 extraction in the approximate areas as shown.
- Initiate progressive rehabilitation of above water side slopes in Phase 1 as shown.
- Establish scrap area in the vicinity of the wash plant.
- Commence site preparation in Phase 2 and begin Phase 2 above water extraction

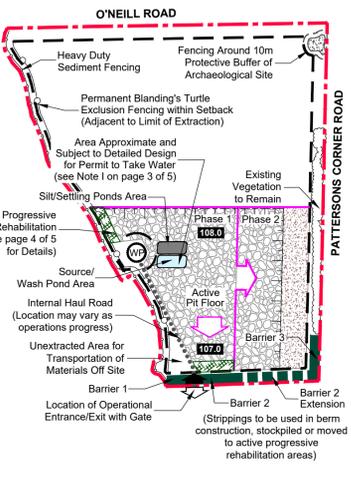


Diagram 2

(Phase 2 Below Water & Phase 3 Above Water)

- Site preparation in Phase 3 to include: initial stripping of overburden/topsoil and constructing berm (see page 3 of 5 L1 'Noise') as shown.
- Begin Phase 3 above water extraction in the direction and to the depth as shown.
- Extraction below water to occur in the southern portion of Phase 1, in a southerly direction, and in the western portion of Phase 2, in an easterly direction.
- Shielding (Barrier 4) to POR 14 only required following development of a noise sensitive use.
- Continue progressive rehabilitation activities of above water side slopes in Phase 2. Initiate progressive rehabilitation in Phase 3
- Commence site preparation in Phase 4.

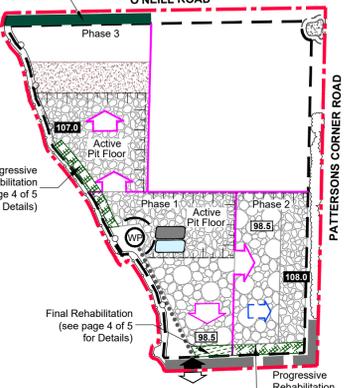


Diagram 3

(Phase 3 Below Water & Phase 4 Above Water)

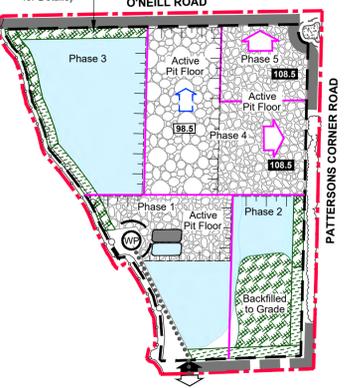
- Site preparation in Phase 4 to include: initial stripping of overburden/topsoil and constructing berms (see page 3 of 5 L1 'Noise') as shown.
- Begin Phase 3 below water extraction in the direction and to the depth as shown.
- Extraction below water to occur in the southern portion of Phase 1, in a southerly direction, and in the western portion of Phase 2, in an easterly direction.
- Continue progressive rehabilitation activities in Phase 2. Continue progressive rehabilitation of above water side slopes in Phase 3.
- Commence site preparation in Phase 5.



Diagram 4

(Phase 4 Below Water & Phase 5 Above Water)

- Site preparation in Phase 5 to include stripping of overburden/topsoil.
- Begin Phase 4 below water extraction in the direction and to the depth as shown.
- Initiate Phase 5 above water extraction in the direction and to the depth as shown.
- Above water extraction to continue in Phase 4
- Continue progressive rehabilitation activities in Phase 2 and 3.
- Continue progressive rehabilitation of above water side slopes in Phase 3.



Legal Description
PART OF LOTS 13 AND 14
CONCESSION 8
(geographic township of Oxford on Rideau)
MUNICIPALITY OF NORTH GRENVILLE
COUNTY OF LEEDS AND GRENVILLE

Legend

| | | | |
|--|---|--|---|
| | Boundary of Area to be Licensed | | Limit of Extraction ALL SETBACKS ARE DRAWN TO SCALE AND SHOW LABELLED DISTANCES |
| | Existing Fence PAGE WIRE FENCE UNLESS OTHERWISE NOTED | | Operational Entrance/Exit MAINTAINED BY A GATE WHICH WILL BE CLOSED WHEN PIT IS NOT IN OPERATION |
| | Existing Spot Elevation METRES ABOVE SEA LEVEL | | Direction of Above Water Excavation SEE NOTES ON THIS PAGE/PAGE 3 OF 5 |
| | Building/Structure LOCATION AND USE FOR BUILDINGS ON-SITE AND WITHIN 120m ARE SHOWN ON THIS PAGE | | Direction of Below Water Excavation SEE NOTES ON THIS PAGE/PAGE 3 OF 5 |
| | Field Access | | Elevation ABOVE WATER DEPTH OF EXTRACTION MAXIMUM DEPTH OF BELOW WATER EXTRACTION/PIT FLOOR |
| | Existing Vegetation | | Proposed Fence 1.2m HIGH POST & WIRE FENCE UNLESS OTHERWISE NOTED |
| | Evaluated Wetland (Non-Significant) WSP 2025 | | Acoustic Berm SEE 'TYPICAL BERM DETAIL' ON THIS PAGE AND NOTES ON PAGE 3 OF 5 |
| | Monitoring Well Locations Staff Gauge Locations WSP 2025 | | Receptor Locations WITHIN 120m OF THE SITE |
| | Hamlet Boundary | | Sediment/Erosion Control Measures |
| | Archaeological Site SITE RECOMMENDED FOR FURTHER ARCHAEOLOGICAL FIELD WORK | | Turtle Exclusion Fencing |
| | Cross Sections SEE PAGE 5 OF 5 FOR EXISTING AND REHABILITATED CROSS SECTIONS | | Internal Haul Road INITIAL TYPICAL LOCATION. LOCATION TO VARY AS OPERATIONS PROGRESS |

Site Plan Amendments

| No. | Date | Description | By |
|-----|------|-------------|----|
| | | | |

PLANNING URBAN DESIGN & LANDSCAPE
MHBC
200-540 BINGEMANS CENTRE DR. KITCHENER, ON, N2B 3X9 | P: 519.576.3650 | WWW.MHBCPLAN.COM

MNR Approval Stamp

Stamp

Applicant
TOMLINSON
R. W. Tomlinson Limited
100 CitiGate Drive
Ottawa, Ontario K2J 6K7
Tel: (613) 822-1867

Rob Pierce
R.W. Tomlinson Limited
Vice President Planning and Development

Project
East Oxford Pit

ARA Licence Reference No. _____ Pre-approval review: _____

Plan Scale: See Diagrams Plot Scale: 1:2.5 [1mm = 2.5 units] MODEL

Drawn By: D.G.S. File No.: 9137AR

Checked By: N.D.

File Name: **OPERATIONAL PLAN**

Drawing No.: **2 OF 5**

K:\9137AR-Tomlinson-East Oxford\A\Tomlinson - East Oxford Pit Operational2of5 January2026.dwg

A. General

- This site plan is prepared under the Aggregate Resources Act (ARA) for a Class A licence for a pit below the ground water table and this page of the site plans follows the Aggregate Resources of Ontario: Site Plan Standards August 2020, specifically Operations for all sites (Numbers 33-56 in the Standards).
- Area Calculations:
 - Licence Area: 44.1 hectares (109.0 acres) Limit of Extraction: 37.2 hectares (91.9 acres)
- The maximum number of tonnes of aggregate to be removed from this site is 1,000,000 tonnes in any calendar year.
- An office/scale house, scale and processing plant (including wash plant) will be located on the site as shown on the Sequence of Operations drawing on page 2 of 5.
- Setbacks will be as shown and labelled on the Sequence of Operations Diagram (page 2 of 5) and on the Existing Features Plan (page 1 of 5).
- Agricultural production will continue in areas not under extraction.
- Source Water Protection: The site is located in the Mississippi-Rideau Source Water Protection Region. The site lies outside of the Wellhead Protection Zones. No proposed on-site activities are considered to be significant drinking water threats (See also "Hydrogeology" notes on this page).
- There is a archaeological site (McAvoy Site BFFv-21) located in the northeast corner of the site, outside of the Limit of Extraction and shall remain undisturbed.

B. Hours of Operation

- Daytime Operations (07:00-19:00)
 - One wash plant and associated diesel generator
 - Up to three loaders or excavators used for extraction, loading and stockpiling operations
 - One cutter suction dredge or one additional excavator with large boom or dragline
 - On-site truck movements to deliver material to the central processing areas and haul the product off-site
- Evening and Nighttime Operations (19:00-07:00)
 - One wash plant and associated diesel generator
 - Up to one loader or excavator used for loading and stockpiling operations
 - On-site truck movements to haul product off-site

C. Site Access and Fencing

- The existing field accesses may be utilized for monitoring, setback maintenance and agricultural access. The accesses shall be gated, kept closed during hours of non-operation and shall be maintained throughout the life of the licence. Aggregate trucks shall not be permitted to access the site at these locations.
- For aggregate haulage off-site, the site shall be accessed through the operational entrance/exit off County Road #20 and it will be gated. Trucks will not be permitted to use the existing accesses on O'Neill Road and Pattersons Corner Road.
- There is no fencing on-site (existing conditions). The south, east and north licence boundaries will be fenced. The western boundary will not be fenced (see Note M 'Variations from Control and Operation Standards'). Where there is no fencing, 1.2m marker posts will be installed that are visible from one to the other.
- Heavy duty sediment fencing shall be installed at the edge of the wetland prior to site preparation. The heavy duty sediment fence will remain for the duration of operations on site. Permanent Blanding's Turtle Habitat Fencing will be installed at the edge of the 15m wide wetland setback. The fencing will be installed prior to April 1 the year that site preparation occurs. See Note L2 'Natural Environment' for additional details.

D. Drainage

- Drainage of undisturbed areas will continue and be in the directions shown on the Existing Features drawing on page 1 of 5. During above water excavation, surface drainage from active pit areas will be detained within the pit area. For below water excavation, drainage will be directed toward the pond area. Drainage will also percolate naturally through the soil.

E. Site Preparation

- Prior to site preparation, a Spills Contingency Plan shall be developed to address any potential spills from equipment on-site.
- Prior to development of the pit, all setbacks from natural heritage features shall be clearly marked under the direction of a qualified ecologist.
- Excess topsoil and overburden not required for immediate use in the construction of acoustic berms or rehabilitation, may be temporarily stockpiled within the limit of extraction. Topsoil and overburden stockpiles shall remain a minimum of 30 metres from the licence boundary and 90 metres from the licence boundary where adjacent residential is located.
- Temporary topsoil and overburden stockpiles shall be vegetated with locally sourced native plantings/seed mixture to control erosion.

F. Berms and Screening

- Berms shall be constructed as specified in the locations shown on the Sequence of Operations (see also 'Phase Diagrams' on page 2 of 5). The heights shown are the minimum required for acoustic berms.
- Berm side slopes shall not exceed 1.5:1 on the interior (extraction) side and 2:1 on the exterior side facing a public road. See 'Typical Berm Detail' on page 2 of 5.
- Berms shall not be located within three (3.0) metres of the licence boundary.
- All proposed berms will be constructed in accordance with the 'Typical Berm Detail' on page 2 of 5 and will be vegetated and maintained to control erosion using a low maintenance grass/legume native seed mixture.
- Existing vegetation within the setbacks shall be maintained except where noise attenuation berms are required.
- Berms that encroach within the limit of extraction shall be removed, and the underlying aggregate may be extracted, as part of final extraction/rehabilitation of the site.

G. Extraction Sequence

- The operational plan depicts a schematic operations sequence for this property. Phases do not represent any specific or equal time period. The direction of extraction will be in accordance with the Sequence of Operations diagram shown on page 2 of 5. All extraction, processing and transportation equipment operating within these Phases shall comply with the restrictions identified in Note L1 'Noise'.
- Rehabilitation will be progressive and proceed as limits of extraction (area and depth) are reached. Any deviations from the operations sequence shown (extraction, stripping and rehabilitation areas) will require the approval of MNR.
- See Phase Diagrams on page 2 of 5 for details.

H. Extraction Details

- The maximum depth of extraction is as shown as spot elevations and extraction will occur in up to 1 lift above water and 1 lift below water (maximum lift height of 13m) through the five phases as shown on the Sequence of Operations Diagram on page 2 of 5 and in accordance with the Ministry of Labour requirements. The proposed pit floor will be located at an elevation of 98.5 masl 8 m to 13 m below the existing ground surface.
- Aggregate stockpiles will be located on the pit floor (interim elevations) and will move throughout the life of the operations of the pit. Stockpiles will not be located within 30m of the licence boundary and 90 metres from the licence boundary where adjacent residential is located.
- Internal haul road locations will vary as extraction progresses and will be located on the above water table (interim) pit floor.

I. Equipment and Processing

- The equipment used on site for aggregate operations and may include: one Wash Plant and associated Diesel Generator, up to three Extraction Loaders and Excavators with buckets, one Cutter Suction Dredge or one additional Excavator with large boom or Dragline and Haulage Trucks. Portable equipment for site preparation and rehabilitation including excavators, hydraulic shovels, dozers and scrapers.
- The wash plant including associated activities (e.g. source pond, silt pond etc.) is to be located in Phase 1 subject to detailed design and applicable Permit to Take Water.

J. Fuel Storage

- Fuel storage or the storage of associated products shall be permitted on site. See Sequence of Operations drawing on page 2 of 5 for location. The licensee or permittee shall ensure that fuel storage tanks are installed and maintained in accordance with the *Technical Standards and Safety Act, 2000*.

K. Scrap and Recycling

- Temporary scrap storage will be located within the processing plant area (Central Processing Area). Scrap will only include materials derived from the operation of the pit such as scrap metal or lumber, discarded machinery and equipment. Scrap will not be located within 30m of any body of water or within 30m of the boundary of the site. All scrap will be removed on an ongoing basis. The property will be kept in an orderly condition.
- Recycling activities:
 - Recycling of concrete and asphalt will be permitted on this site.
 - Recyclable asphalt materials will not be stockpiled within:
 - 30m of any water body or man-made pond; or 2 m of the surface of the established water table.
 - Any rebar and other structural metal must be removed from the recycled material during processing and placed in a designated scrap pile on site which will be removed on an on-going basis.
 - Removal of recycled aggregate is to be ongoing.
 - Once the aggregate on site has been depleted there will be no further importation of recyclable materials permitted.
 - Once final rehabilitation has been completed and approved in accordance with the site plan, all recycling operations must cease.
 - Shall not interfere with the operational phases of the site or rehabilitation of the site.

L. Report Recommendations

- Noise: "Acoustic Assessment for the Proposed East Oxford Pit" December 10, 2025 (Source: Freefield Ltd.)**

A. Noise Barriers and Berms

- Noise barriers and berms are to be provided as per Table 7 below.
 - Noise barriers shielding receptors on vacant lots zoned for potential noise sensitive use are only required following development of a noise sensitive use.
- Noise shielding portable equipment shall be progressively established to shield line of site from equipment operation to the identified receptors.
- Noise barriers and berms are to be solid, having no gaps, and are to have a surface density of no less than 20 kg/m². Examples of suitable barriers or berms are as follows:
 - Lift face or existing terrain;
 - Earth, gravel or aggregate berms or stockpiles;
 - Concrete or brick walls;
 - Commercial Noise Barriers;
 - Shipping containers or buildings

B. Wash Plant

- The operation of the wash plant and associated diesel generator may take place on a twenty-four-hour basis (24-hour) and shall comply with the following:
- The wash plant is to be located on the pit floor at a maximum elevation of 107 mASL in locations shown in Figure 2, except as provided in G below.
 - Noise barriers are to be provided as per Table 7 below.
 - The generator used to provide power to the wash plant is to be fitted with an exhaust silencer that meets the minimum insertion loss requirements listed in Table 8 below. The silencer is to be located inside the enclosures or as close as possible to the location where the exhaust exits the enclosures with the duct material between the silencer and the generator constructed of 16-gauge weather resistant metal. The silencers shall have a high transmission loss casing.
 - Item iii. above does not apply to the wash plant if hydro is used to provide power to the plant

C. Loaders and Excavators

- The operation of the loaders may take place on a twenty-four-hour basis (24-hour) and shall comply with the following:
- During the daytime period (07:00 to 19:00): A maximum of three loaders or excavators may be in operation concurrently with a maximum of two loaders or excavators in operation at the extraction face except as noted in D below and as follows:
 - When operating less than 250m from an identified receptor, a maximum of two loaders or excavators may be in operation concurrently with a maximum of one loader or excavator in operation at the extraction face.
 - During the evening and nighttime period (19:00 to 07:00): A maximum of one loader or excavator may be in operation concurrently carrying out loading and stockpiling operations. Extraction by loader and excavator is not to occur during the evening and nighttime period.

D. Below Water Extraction

- Below water extraction shall take place only during the daytime period (07:00 to 19:00) and shall comply with the following:
- One additional excavator fitted with a large boom or dragline OR a dredge may be in operation carrying out below water extraction concurrently with other pit operations except as provided below.
 - Below water extraction is not to occur concurrently with above water extraction within 250m from an identified receptor
 - If a dredge is utilized on-site, the dredge is to be fitted with an exhaust silencer on the engine exhausts, acoustic louvers on the radiator doors and a vented acoustic enclosure around the jet pump that meets the minimum insertion loss requirements listed in Table 8. The silencer is to be located inside the engine enclosure or as close as possible to the location where the exhaust exists the enclosures with the duct material between the silencer and the generator constructed of 16-gauge weather resistant metal. The silencer shall have a high transmission loss casing. The acoustic louvers and enclosure shall be constructed of weather resistant material. Mitigation measures to be confirmed by a qualified acoustical consultant prior to commissioning.

E. Trucks

- The delivery of raw material from the extraction face to the wash plant using aggregate trucks and delivery and shipping of product using highway trucks may take place on a twenty-four-hour basis (24-hour) and shall comply with the following:
- When operating on-site, highway trucks shall not exceed 30 km/h and shall not use compression braking (Jake Brakes).

F. Portable Construction Equipment

- Portable construction equipment used for site preparation (e.g. land clearing and construction of berms) and rehabilitation shall be fitted with exhaust mufflers and shall comply with MECP Publication NPC-115, Construction Equipment, August 1978. (This publication gives noise standards to be met by construction equipment in Ontario.) Site preparation and rehabilitation activities shall take place only during daytime hours (07:00 - 19:00) and are not to occur on Sundays or Statutory Holidays.

G. New or Modified Process

- If a new process is introduced to the site, or the processing plant is relocated from the location shown, then this new process and/or new location of operation shall be assessed by a qualified acoustical consultant prior to commissioning. Noise mitigation measures shall be reviewed, and altered, if necessary, to ensure that MECP sound level limits are met at all points of reception.

Table 1: Point of Reception Summary Table

| Point of Reception | Location | Point of Reception | Location | Point of Reception | Location |
|--------------------|----------------------------------|--------------------|--------------------------|--------------------|-----------------------|
| POR 1 | 1506 Pattersons Corners Rd | POR 6 | 1469 County Rd #20 | POR 11 | 1295 County Rd #20 |
| POR 2 | 805 Pattersons Corner Rd | POR 7 | 1476 County Rd #20 | POR 12 | 1343 O'Neill Rd |
| POR 3 | Vacant Lot Pattersons Corners Rd | POR 8 | Vacant Lot County Rd #20 | POR 13 | 1365 O'Neill Rd |
| POR 4 | Vacant Lot County rd #20 | POR 9 | 1380 County Rd #20 | POR 14 | Vacant Lot O'Neill Rd |
| POR 5 | Vacant Lot County Rd #20 | POR 10 | Vacant Lot County Rd #20 | POR 15 | 1411 O'Neill Rd |
| | | | | POR 16 | 1445 O'Neill Rd |
| | | | | POR 17 | 1455 O'Neill Rd |
| | | | | POR 18 | 1471 O'Neill Rd |
| | | | | POR 19 | 1485 O'Neill Rd |
| | | | | POR 20 | 1495 O'Neill Rd |

Table 7: Recommended Noise Barriers

| Barrier | Minimum Height (m) | Minimum Length* (m) | Maximum Distance from Source (m) | Required to shield Line of Sight from Identified Source ID | Required to shield Line of Sight to Identified Receptor | Description* |
|---------------------|--------------------|---------------------|----------------------------------|--|--|--|
| Barrier_1 | 5 | 50 | Not applicable | Extraction Equipment | POR_8** | New barrier (site berm) - Only required when carrying out extraction operations south of Line AA following development of a noise sensitive use at POR 8. |
| Barrier_2 | 5 | 78.5 | Not applicable | Extraction Equipment | POR_5** POR_6 POR_7 POR_8** | New barrier (site berm) - Shielding to POR 5 and 8 only required following development of a noise sensitive use - Shielding to POR 6 and 7 only required following development of a noise sensitive use |
| Barrier_2_Extension | 4 | 178.5 | Not applicable | Extraction Equipment | POR_4** POR_5 POR_6 POR_7 POR_8** | New barrier (site berm) - Only required when carrying out extraction operations south of Line AA in Phase 2 - Shielding to POR 4 and 8 only required following development of a noise sensitive use |
| Barrier_3 | 4 (6) | 100 (260) | Not applicable | Extraction Equipment | POR_3** (POR_4**) (POR_5**) | New barrier (site berm) - Required prior to commencement of extraction operations in Phase 1 - Required to be increased to 6m in height and extended to 200m in length when carrying out extraction operations in Phase 2 - Only required following development of a noise sensitive use at POR 3, 4 or 5 |
| Barrier_4 | 6 | 330 | Not applicable | Extraction Equipment | POR_12 POR_13 POR_14** POR_15 | New barrier (site berm) - Required prior to commencement of extraction operations in Phase 3 - Shielding to POR 14 only required following development of a noise sensitive use |
| Barrier_4_Extension | 6 | 350 | Not applicable | Extraction Equipment | POR_16 POR_17 POR_18 POR_19 POR_20 | New barrier (site berm) - Required prior to commencement of extraction operations in Phase 4 and Phase 5 |
| Barrier_5 | 6 | 215 | Not applicable | Extraction Equipment | POR_1 POR_2 | New barrier (site berm) - Required prior to commencement of extraction operations in Phase 4 and Phase 5 |
| Barrier_WP1 | 8 | 30 | 30 | Wash Plant | POR_3* POR_4* POR_5* POR_6* POR_7* POR_8* | New barrier (stockpile) - Required prior to commencement wash plant operations - Shielding to POR 3, 4, 5 and 8 only required following development of a noise sensitive use |
| Barrier_WP2 | 8 (9) | 12 | 30 | Wash Plant | POR_10** | New barrier (stockpile) - Only required following development of a noise sensitive use at POR 10 - Required to be increased to 9m high when operating the wash plant during the evening and nighttime period (19:00-07:00) |
| Barrier_WP3 | 8 | 43.5 (20) | 30 | Wash Plant | POR_1 POR_2 POR_12 POR_13 POR_14** POR_15 POR_16 POR_17 POR_18 POR_19 POR_20 | New barrier (stockpile) - Only required when operating the wash plant during the evening and nighttime period (19:00-07:00). May be reduced to 20m in length and only shield POR 1, 2, 16, 17, 18, 19 and 20 following establishment of Barrier_4_Extension, Barrier_5 and Barrier_6 |

*Barriers (site berms) shielding extraction equipment may be progressively established to shield line of sight (LOS) from location of equipment operation to the identified receptors.
**Noise barriers shielding receptors on vacant lots zoned for potential noise sensitive use are only required following development of a noise sensitive use.

Table 8: Minimum Insertion Loss for Generator Exhaust Silencer

| Name | Octave Band Centre Frequency, Hz | | | | | | | | Rw |
|--|----------------------------------|-----|-----|-----|------|------|------|------|----|
| | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | |
| Silencer* to be installed at: Generator exhaust (Source: Generator), Dredge engine exhausts (Source: Dredge) | 10 | 30 | 38 | 30 | 25 | 20 | 20 | 20 | 24 |
| Acoustic louvers* to be installed at: Dredge Radiator Doors (Source: Dredge) | 11 | 13 | 15 | 22 | 28 | 26 | 25 | 23 | 25 |
| Acoustic enclosure* to be installed at: Dredge Jet Pump (Source: Dredge) | -- | 17 | 23 | 34 | 47 | 55 | 57 | -- | 35 |

- Octave Band Centre Frequency, Hz, with minimum dynamic insertion loss in dB or dBA units Re 10-12 Watts. Alternative levels at each frequency band permissible providing the overall insertion loss meets the overall insertion loss (Rw) as noted above and is not tonal in character.
- Insertion loss based on Silix Silencer Model JB 6. Refer to manufacturers data Appendix 3.
- Insertion loss based on VibroAcoustics Acoustic Louvre Model ALV-MV-24. Refer to manufacturers data Appendix 3.
- Insertion loss based on Kinetics Noise Control Noise Block Acoustic Enclosure Model STL-2. Refer to manufacturers data Appendix 3.

- Natural Environment: "Natural Environment Report and Environmental Impact Study - Proposed East Oxford Pit" December 9, 2025 (Source: WSP Canada Inc.)**

- Setbacks are to be clearly demarcated and respected. Existing natural vegetation communities will be retained within the setbacks, except where acoustic berms are required.
- Implement sediment and erosion control measures along the limit of disturbance prior to site preparation wherever a grade exists such that movement of sediment into adjacent natural areas could occur, particularly along the setback to the wetland.
- To comply with the Migratory Birds Convention Act, no clearing of vegetation shall occur within the core breeding bird season (April 1 – August 31) unless a nesting survey has been completed by a qualified biologist within 24 hours of the clearing, and no active nests were observed. If an active nest is observed, the area must be buffered and vegetation clearing at that location postponed until the nest is no longer active.
- To deter Blanding's turtle from entering the Site, turtle exclusion fencing is to be installed along the western edge of the Site prior to April 1st in the year that site preparation occurs and remain in place for the duration of the operational lifespan of the pit. The exclusion fencing will consist of metal or wooden frame with wire mesh. The fencing will be designed to be heavy-duty and suitable for long-term use. Installation methods will follow MNR guidance (MNR 2021), including:
 - Minimum height of 0.6 m
 - Minimum buried depth of 0.1 m
 - Back-filled and compacted soil on both sides
 - Install turn-arounds at the ends of each fence segment of at least 0.5 m wide and 2.0 m long
- Designated staff from the licensee will inspect the permanent fencing once a month throughout the turtle active season (between April 15th and October 15th each year). Any deficiencies will be addressed immediately.
- Implement a SAR Training Program and Encounter Protocol. The SAR Training Program is to be provided for all new on-Site staff as part of orientation training. The Training Program will include:
 - Information / training on identifying SAR
 - What to do if a SAR or any wildlife is observed (Encounter Protocol)
 - How to protect a turtle or bird nest
 - Information on how to report a SAR sighting
- Standard best management practices shall be implemented to reduce dust and noise and shall be continued during operation of the project.
- Undertake rehabilitation as outlined in the Rehabilitation Plan.

- Hydrogeology: "Level 1 and Level 2 Water Report - Proposed East Oxford Pit" December 2025 (Source: WSP Canada Inc.)**

- The following water level monitoring program shall be implemented by the Licensee.
- Quarterly water levels shall be collected from groundwater monitoring wells 21-01, 21-03, 21-04, 21-05, 21-06, 21-07, 21-08 and surface water staff gauge locations SG-1, SG-2 and SG-3 (during ice free conditions) once aggregate extraction proceeds below the groundwater table. Dataloggers will be installed at SG-1 and SG-3 to record water level measurements at least once per day during ice free conditions.
 - In the event of a well interference complaint, the Licensee shall implement the Complaints Response Program outlined in Section 7 of this report.
 - Maximum Predicted Water Table: "Maximum Predicted Water Table Report" December 4, 2025 (WSP Canada Inc.)**
 - Based on the available groundwater elevation data, the maximum predicted water table on the site is 107.3 metres asl on the northern corner (as measured at 21-01). Based on the groundwater elevation data measured at 21-03, 21-05 and 21-08 located along the western boundary of the Site, the water table slopes downwards from the northeast to the southwest within the sand unit, and the maximum predicted water table on the western side of the Site is approximately 105.5 metres asl.

- Archaeology: "Stage 1 Archaeological Assessment 1486 O'Neill Road" December 2022, "Stage 2 Archaeological Assessment 1486 O'Neill Road" November 2023, "Stage 3 Archaeological Assessment J.McAvoy Site (BFFv-21)" July 2024 and "Stage 3 Archaeological Assessment L.Russell Site (BFFv-22)" September 3, 2024 (Source: Matrix Heritage Inc.)**

- The J. McAvoy Site (BFFv-21) archaeological site (Map 1, SD Map 1) is recommended to be of further CHVI and will be subject to long term protection and avoidance through the formal Site Plan registration under the ARA (Map 2, SD Map 2).
- The J. McAvoy Site (BFFv-21) and a 10-metre protective buffer zone shall be formally included as a protected area on the Site Plan under the ARA to prevent future encroachment.
- Routine agricultural use of the land may continue at existing levels, including the same practices and crop types, with the following restrictions:
 - No new drainage tiles, deep ploughing, or other invasive improvements.
 - No tree planting or crops requiring deep-rooted systems.
 - No irrigation systems requiring trenching or deep excavation.
- The ARA Site Plan must explicitly prohibit all other disturbance to the J. McAvoy Site and the buffer, including:
 - No stockpiling of overburden.
 - No heavy equipment operation.
 - No ground disturbance beyond the continuation of ongoing agricultural practices.
- To ensure that the J. McAvoy Site (BFFv-21) is protected and not altered, the following shall be implemented:
 - Prior to grading or other soil-disturbing activities extending to the limits of the protected area, excluding routine agricultural use, erect a barrier (i.e., fence) around the 10 m protective buffer zone.
 - Issue "no-go" instructions to all on-site construction crews, engineers, architects, or others involved in day-to-day decisions during construction.
 - Show the location of the area to be avoided on all Site Plans, when applicable. Include explicit instructions or labelling to avoid that area.
 - A letter must be provided by the proponent stating they are aware of the presence of the archaeological site within the limits of the ARA licence and that they are aware of the restrictions on alteration of an archaeological site under further CHVI as per the condition on their ARA licence as per Section 48 of the Ontario Heritage Act.
 - The protected archaeological site and its associated 10-metre buffer shall be clearly identified and incorporated into the final rehabilitation section of the Site Plan under the ARA. The rehabilitation plan must designate the archaeological site as excluded from any future disturbance or land alteration and ensure its long-term protection in accordance with its status as a site of further CHVI.
- A licensed archaeologist must be present to monitor grading or other soil-disturbing activities extending to the limits of the protective buffer to ensure the J. McAvoy Site (BFFv-21) and its protective area are not altered in any way. Routine agricultural operations within permitted use parameters do not require archaeological monitoring.
- Despite the rigorous nature of archaeological assessments, there remains a possibility that some cultural material may not have been identified. If any artifacts of Indigenous interest or human remains are encountered anywhere within the subject property, including the J. McAvoy Site (BFFv-21) and its protective buffer, all work must cease immediately, and the appropriate authorities must be contacted including:
 - The Ministry of Citizenship and Multiculturalism;
 - A licensed consultant archaeologist;
 - The police and coroner's office (in the case of human remains);
 - The Registrar, Funeral, Burial and Cremation Services Act (as applicable).

- Traffic: "R.W. Tomlinson Extraction Site Traffic Impact Study" xxxxxxxx, 2026 (Source: Castleglenn Consultants Ltd.)**

- Heritage: "Heritage Impact Assessment 1486 O'Neill Road" xxxxxxxx, 2026 (Source: Matrix Heritage Inc.)**

Legal Description

PART OF LOTS 13 AND 14
CONCESSION 8
(geographic township of Oxford on Rideau)
MUNICIPALITY OF NORTH GRENVILLE
COUNTY OF LEEDS AND GRENVILLE

M. Variations from Control and Operation Standards

| No. | O Reg 244/97 Section 0.13 | Variation | Rationale |
|-----|---------------------------|---|--|
| 1 | (1)9 | Grading may occur within the setback area in the west portion of the site for rehabilitated grades. | Site alteration for the construction of rehabilitated feature along west portion of site. |
| 2 | (1)13.1 | Overburden materials may be stored and stockpiling of aggregate, topsoil, and operation of wash plant may occur within 30m of licence boundary (along west portion of licence boundary), next to Additional Lands Owned by Applicant. | Adjacent portion of property to the west is owned by Tomlinson. |
| 3 | (1)19i | Below water side slopes may vary from a slope that is at least three horizontal metres for every vertical metre (3:1). These will slope at minimum to the natural angle of repose. | Slopes will be no steeper than a 2:1 slope below water or the natural angle of repose. |
| 4 | (3)a) | Fencing is not required along the west portion of the boundary. | These boundaries will be demarcated by 1.2m high marker posts that are visible from one to the other. Adjacent portion of property is a wetland and is owned by Applicant. |

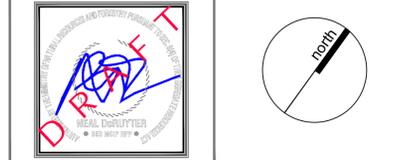
Site Plan Amendments

| No. | Date | Description | By |
|-----|------|-------------|----|
| | | | |
| | | | |
| | | | |
| | | | |



**PLANNING
URBAN DESIGN
& LANDSCAPE
ARCHITECTURE**

200-540 BINGEMANS CENTRE DR., KITCHENER, ON, N2B 3X9 | P: 519.576.3650 | WWW.MHBCPLAN.COM

MNR Approval Stamp**Applicant**

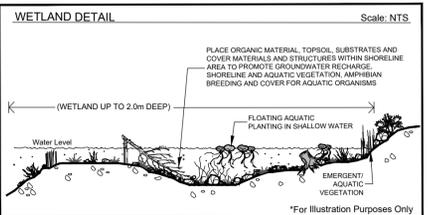
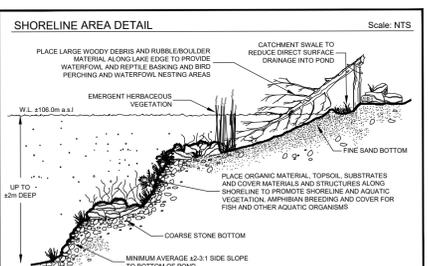
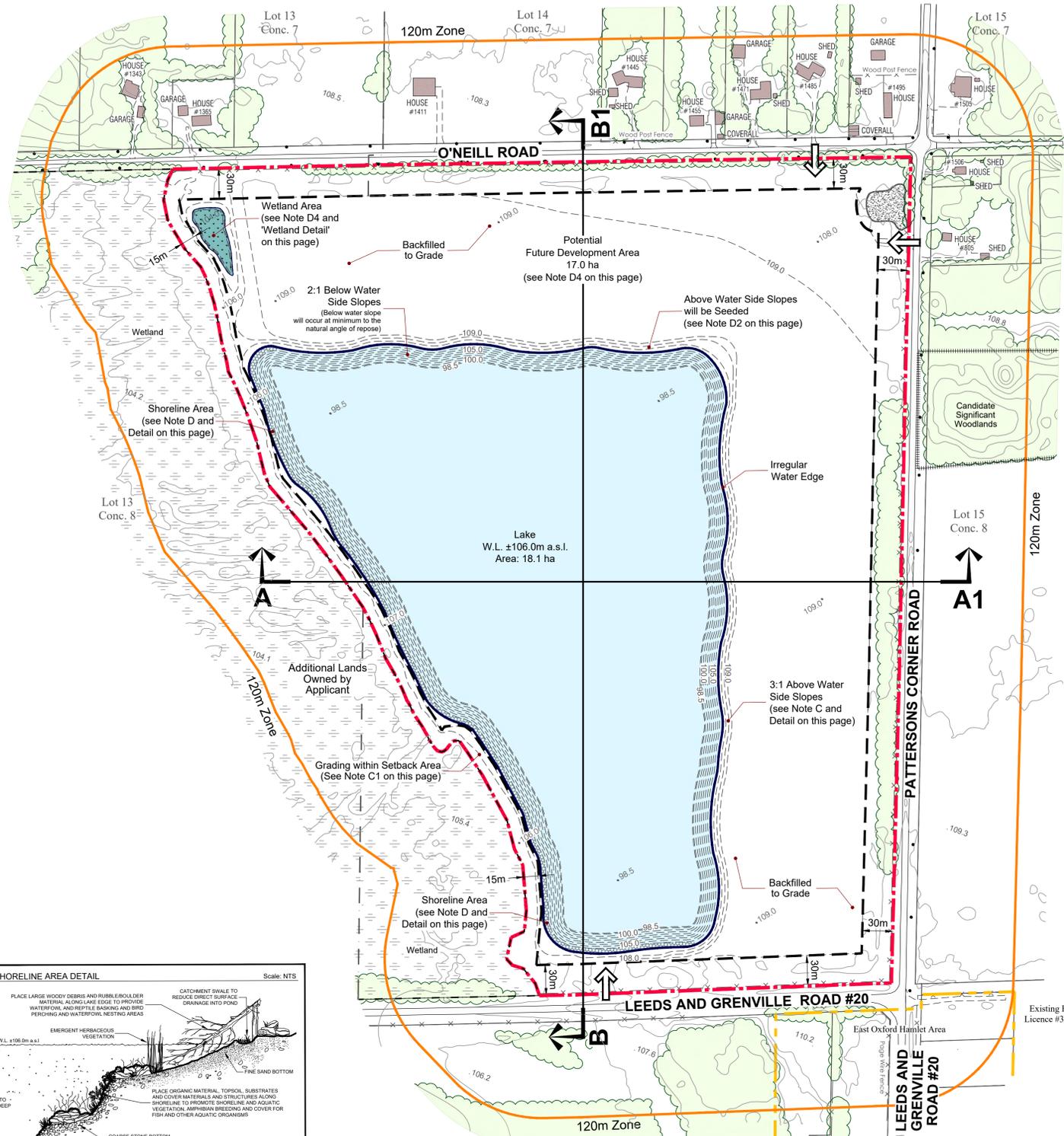
TOMLINSON

R. W. Tomlinson Limited
100 Cit/Gate Drive
Ottawa, Ontario, K2J 6K7
Tel: (613) 822-1867

Rob Pearce
R.W. Tomlinson Limited
Vice President Planning and Development

Project**East Oxford Pit**

| | | |
|---------------------------|---|------------------|
| ARA Licence Reference No. | Pre-approval review: | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Plan Scale: NTS | For Client Review - January 2026 | |
| | Plot Scale: 1:2.5 [1mm = 2.5 units] MODEL | |
| | Drawn By: D.G.S. | File No.: 9137AR |
| | Checked By: N.D. | |
| File Name | OPERATIONAL NOTES PLAN | |
| Drawing No. | 3 OF 5 | |



This site plan is prepared under the Aggregate Resources Act (ARA) for a Class A licence for a pit below the ground water table and follows the Aggregate Resources of Ontario: Site Plan Standards August 2020, specifically Rehabilitation for all sites (Numbers 59-67 in the standards).

- A. General**
- The rehabilitated landform of this site will include: a lake, shoreline area, wetland area, above water and below water side slopes and backfilled areas.
 - No buildings/structures or internal haul roads will remain on site upon completion of rehabilitation.
- B. Phasing**
- Rehabilitation will be on a progressive basis, corresponding to the operational progression of the pit excavation, to form a lake and above water table area at final rehabilitation. Side slopes (Above and below water) will be interim in nature in the areas that will be backfilled to grade.
 - As the pit is excavated to its maximum, or any other/lesser terminal limits, both horizontally and vertically on a lift-by-lift basis, progressive rehabilitation will follow provided the subject area is of an appropriate area to undergo rehabilitation (See Phase Diagrams on Page 2 of 5 and Note G on page 3 of 5 for details).
 - The excavation perimeter will be fully side sloped at a maximum 2:1 below water (from original ground to floor), which is the natural angle of repose and a maximum of 3:1 for the above water portion. Sloping will occur as the limits of the pit excavation are reached. See Rehabilitation Plan drawing and Note C on this page.
 - Side slopes will be vegetated where located above the final water level of the pit lake and will include plantings in the setback areas and above water table final grades in order to enhance a diversity of native vegetation types and species that are anticipated to spread around the rehabilitated side slopes (see Note C and 'Nodal Planting Detail' on this page).
- C. Slopes and Grading**
- Topsoil and overburden will be used in the progressive rehabilitation of the side slope areas. Side slopes above the water table will be established using a combination of backfill and/or cut and fill methods using on-site overburden, unmarketable material (fill), and/or imported materials. Side slopes will be irregular with an average top to bottom grade not steeper than 3:1. Above water side slope areas that will be vegetated will be covered with a minimum 15 cm of topsoil/organic matter prior to planting. Grading may occur in the setback area along the western limit of extraction to keep elevation of the proposed grade in this area to 107m a.s.l. or 1m above lake level.
 - Importation of fill/excess soil:
 - Excess soil, as defined in Ontario Regulation 244/97 may be imported to this site to facilitate the following rehabilitation:
 - Establish final grades
 - Top dressing to establish vegetation
 - Liquid soil, as defined in Ontario Regulation 406/19 under the Environmental Protection Act, is not authorized for importation to the site.
 - The quality of excess soil imported to the site for final placement must be equivalent to or more stringent than the applicable excess soil quality standards as determined in accordance with Ontario Regulation 244/97 as amended from time to time and must be consistent with the site conditions and the end use identified in the approved rehabilitation plan.
 - Where a qualified person is retained or required to be retained in accordance with Ontario Regulation 244/97, the quality, storage, and final placement of excess soils shall be done according to the advice of the qualified person.
 - Excess soil imported to facilitate rehabilitation as described on this site plan shall be undertaken in accordance with Ontario Regulation 244/97 under the Aggregate Resources Act, as amended from time to time.
 - The cumulative total amount of excess soil that may be imported to this site for rehabilitation purposes is 2,000,000 m³
- D. Proposed Vegetation and Rehabilitated Features**
- Rehabilitation of this site involves the creation of 18.1 ha of lake area, 17.0 ha of potential development area (backfilled to grade area), 1.6 ha of above water side slope area, 0.6 ha of shoreline area and 0.1 ha of wetland. The final pit landform will be in accordance with the drawing as shown on this page.
 - All planting and seeding will consist of native species. All ground covers on side slopes will be established as part of the phased stripping operations that proceed extraction and will be maintained and replaced as soon as possible if the vegetative cover fails to establish itself to control erosion.
 - Progressive Rehabilitation**
 - Rehabilitation will be progressive following the direction of extraction and proceed as limits of extraction (area and depth) are reached. The sequence of rehabilitation will follow the "Sequence of Operations" diagram located on page 2 of 5. Minor deviations/variations in operational/rehabilitation sequence will be permitted in order to adjust for any variable resource and market conditions. Any major deviations from the operations sequence shown will require approval from MNR.
 - Topsoil will be used in the progressive rehabilitation of the above water side slope areas. Side slope areas will be covered with a minimum 150mm of topsoil/organic matter. Overburden will be used to backfill pit faces to desired finished grades (i.e. 3:1 slope).
 - Wetland Area**
A 0.1 ha wetland area shall be created in the northwest part of the rehabilitated landform. This area will be backfilled to the desired elevations and plants shall be established by broadcast seeding an Ontario Native Wetland/Riparian Restoration Seed Mix (see "Wetland Detail" on this page).
 - Future Potential Development**
These areas shall be restored to cultural meadows (i.e. CUM1-1 communities) until such time as they may be developed in accordance with municipal planning approvals at that time
- E. Drainage**
- Final surface drainage will follow the rehabilitated contours as shown.
- F. Final Rehabilitation**
- No buildings or structures associated with aggregate operations will remain on site.
 - The water level of the proposed lake (±106.0m a.s.l.) and the post-extraction ground water table, are as shown on pages 1, 4 and 5 of 5 as per hydrogeological/ hydrological assessment.

Legal Description
PART OF LOTS 13 AND 14
CONCESSION 8
(geographic township of Oxford on Rideau)
MUNICIPALITY OF NORTH GRENVILLE
COUNTY OF LEEDS AND GRENVILLE

Legend

| | | | |
|--|--|--|---|
| | Boundary of Area to be Licensed | | Limit of Extraction <small>ALL SETBACKS ARE DRAWN TO SCALE AND SHOW LABELLED DISTANCES</small> |
| | Contour with Elevation <small>METRES ABOVE SEA LEVEL</small> | | Proposed Contour <small>METRES ABOVE SEA LEVEL</small> |
| | Existing Spot Elevation <small>METRES ABOVE SEA LEVEL</small> | | Proposed Elevation <small>REHABILITATED ELEVATION</small> |
| | Building/Structure <small>LOCATION AND USE FOR BUILDINGS ON-SITE AND WITHIN 120m ARE SHOWN ON THIS PAGE</small> | | Post Extraction Lake |
| | Existing Fence <small>PAGE WIRE FENCE UNLESS OTHERWISE NOTED</small> | | Proposed Wetland Area <small>(SEE DETAIL ON THIS PAGE)</small> |
| | Field Access | | Proposed Shoreline Area <small>(SEE DETAIL ON THIS PAGE)</small> |
| | Existing Vegetation | | |
| | Evaluated Wetland (Non-Significant) <small>WSP 2025</small> | | |
| | Candidate Significant Woodlands <small>WSP 2025</small> | | |
| | Archaeological Site | | |
| | Cross Sections <small>SEE PAGE 5 OF 5 FOR EXISTING AND REHABILITATED CROSS SECTIONS</small> | | |

Site Plan Amendments

| No. | Date | Description | By |
|-----|------|-------------|----|
| | | | |
| | | | |
| | | | |

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
200-540 BINGEMANS CENTRE DR. KITCHENER, ON. N2B 3X9 | P: 519.576.3650 | WWW.MHBCPLAN.COM

MNR Approval Stamp

Applicant
TOMLINSON
R. W. Tomlinson Limited
100 CitiGate Drive
Ottawa, Ontario K2J 6K7
Tel: (613) 822-1867

Rob Tomlinson
R. W. Tomlinson Limited
Vice President Planning and Development

Project
East Oxford Pit

ARA Licence Reference No. _____ Pre-approval review: _____

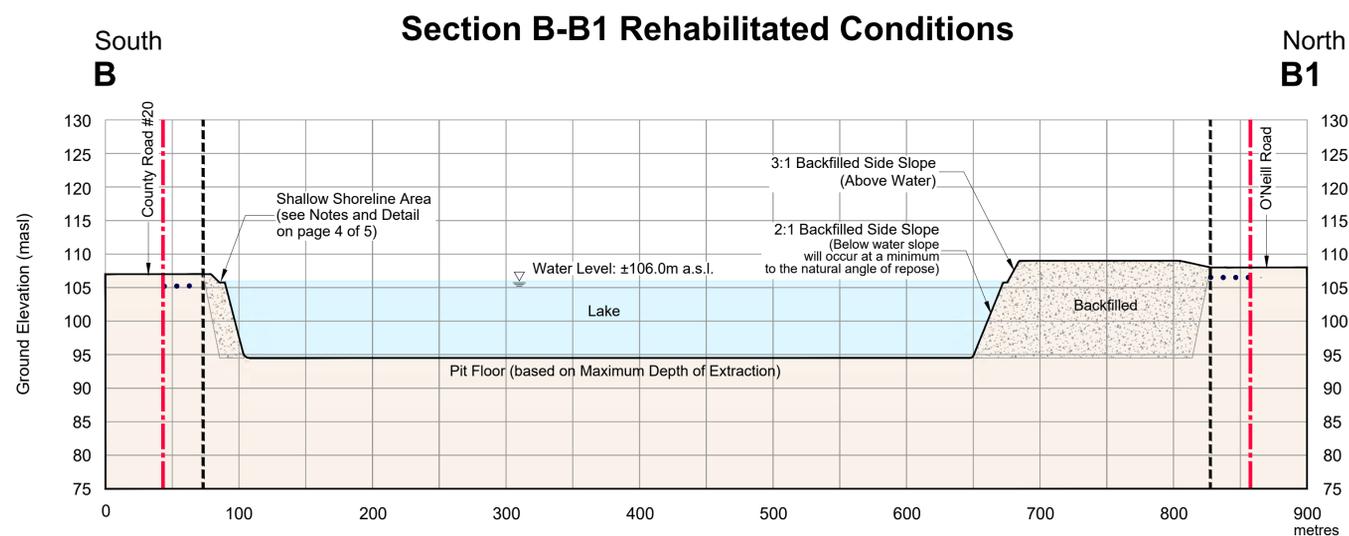
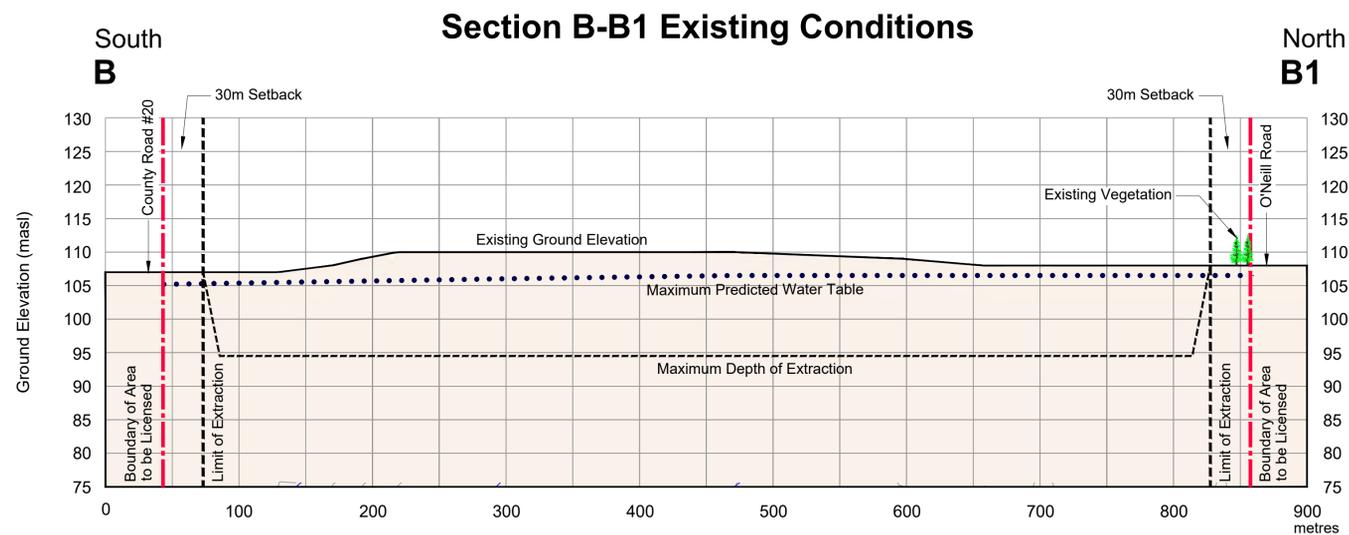
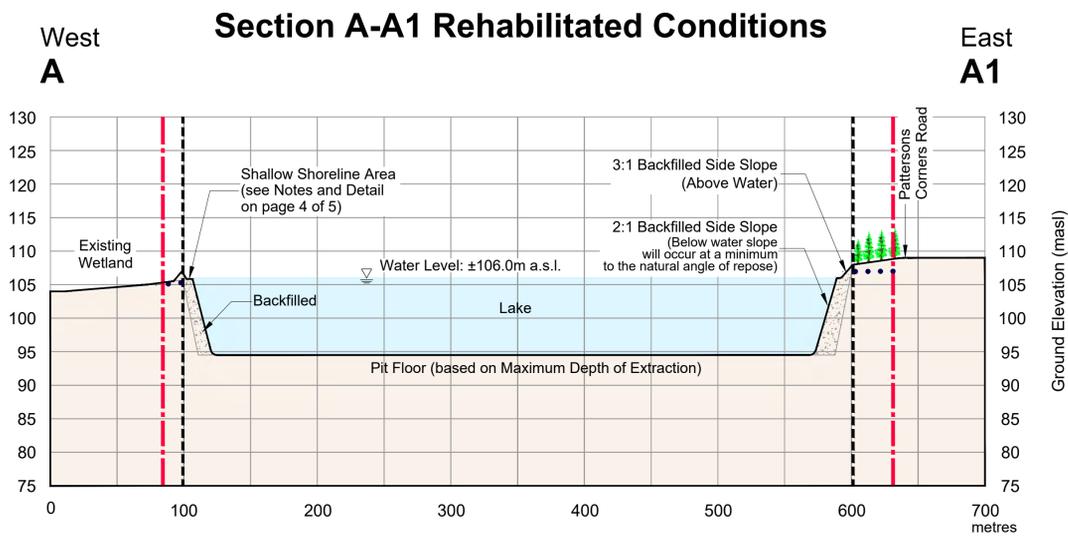
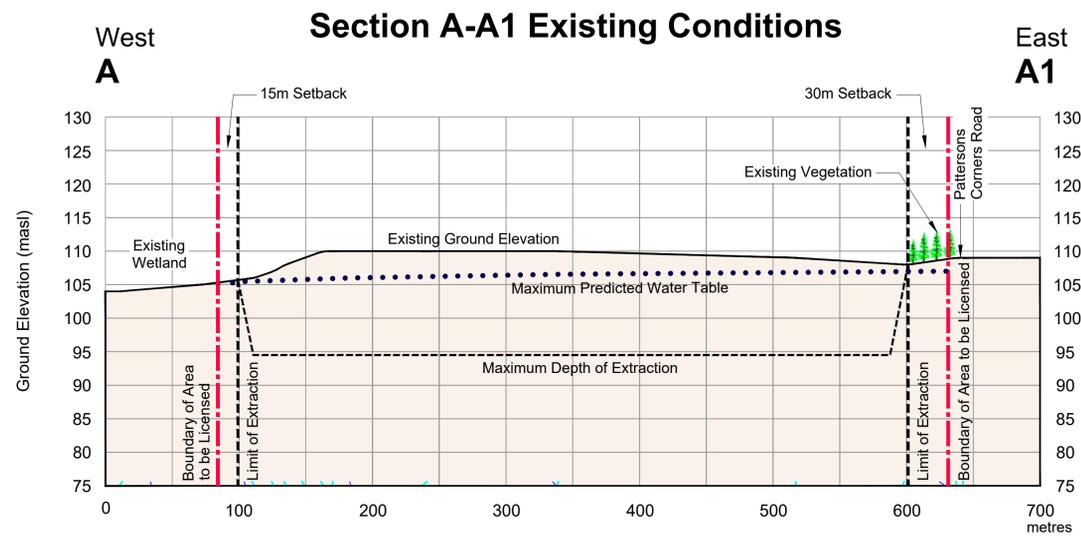
Plan Scale 1:3,000 (Arch D) Plot Scale 1:2.5 [1mm = 2.5 units] MODEL

SCALE
50 0 50 100 METRES

Drawn By D.G.S. File No. 9137AR
Checked By N.D.

File Name **REHABILITATION PLAN**
Drawing No. **4 OF 5**

K:\9137AR-Tomlinson-East Oxford\A\Tomlinson East Oxford Pit Rehapian4of5 January2026.dwg



Legal Description
 PART OF LOTS 13 AND 14
 CONCESSION 8
 (geographic township of Oxford on Rideau)
 MUNICIPALITY OF NORTH GRENVILLE
 COUNTY OF LEEDS AND GRENVILLE

Legend

- Boundary of Area to be Licensed
- Maximum Depth of Extraction
- Limit of Extraction
- Vegetation/Trees (EXISTING AND/OR PROPOSED AS INDICATED ON CROSS SECTIONS)
- Maximum Predicted Water Table (SEE NOTE D1 ON PAGE 1 OF 5 AND NOTE L2 ON PAGE 3 OF 5)

Cross Sections
 SEE PAGES 1, 2 & 4 OF 5 FOR PLAN VIEW LOCATION OF CROSS SECTIONS

Site Plan Amendments

| No. | Date | Description | By |
|-----|------|-------------|----|
| | | | |
| | | | |

MNR Approval Stamp

Applicant

TOMLINSON

R. W. Tomlinson Limited
 100 CitiGate Drive
 Ottawa, Ontario K2J 6K7
 Tel: (613) 822-1867

Rob Preece
 R.W. Tomlinson Limited
 Vice President Planning and Development

Project

East Oxford Pit

ARA Licence Reference No. _____ Pre-approval review: _____

Plan Scale: Horizontal 1:2,500 Vertical: 5x Exaggeration Plot Scale: 1:2.5 [1mm = 2.5 units] MODEL

HORIZONTAL SCALE
 50 0 50 100 METRES

For Client Review - January 2026

Drawn By: D.G.S. File No.: 9137AR
 Checked By: N.D.

CROSS SECTIONS PLAN

5 OF 5

OXFORD-ON-RIDEAU TOWNSHIP LACAC

HERITAGE BUILDINGS

SUMMARY SHEET

LOT 15 CON 8

TAX ROLL NO. 30-060-00

ADDRESS 1506 O'NEILL ROAD

GEOCODE NO. 800 A144

OWNER SPENCE

BUILDING NAME _____

PHOTOGRAPH



FILM NO. XII NEG. NO. 17-19

DATE OF CONSTRUCTION 1879 FACTUAL X

ESTIMATED _____

SOURCE DATE STONE

(2)

ARCHITECT OR BUILDER

ORIGINAL OWNER

ORIGINAL TENANT(S)

USES

BOARD OF EDUCATION

S.S. NO. 13

RESIDENTIAL

PRESENT CONDITION AS OF

SUMMER 1993 - GOOD

OUTBUILDINGS AND SETTING AS OF

SUMMER 1993 - GARDEN

SHED

ARCHITECTURAL FEATURES AND SIGNIFICANCE

HISTORICAL SIGNIFICANCE

ORIGINALLY A SCHOOLHOUSE

SOURCES OF INFORMATION:

- A) TAX ASSESSMENT MAPS _____
- B) ABSTRACT INDEX - REGISTRY OFFICE _____
- C) LEGAL INSTRUMENTS _____
- D) OTHER _____



TOWNSHIP OF OXFORD-ON-RIDEAU LACAC
Building for Protection Worksheet

Building Name: School House

Lot 15 Conc. 8

Tax Roll # 30-060-00

Street 1506 O'Neill Rd.

Geocode 800 A144

Present Owner: Spence

Present Use: residential

Original Owner: Board of Education

Original Use: school house

Date of Construction: 1879 (date stone)

Architect or Builder: _____

Other Owners/Uses Known: _____

Person/Source to Contact: _____



Natalie Anderson Rathwell, M.A., C.A.H.P. Senior Architectural Historian & Heritage Consultant

Natalie Anderson Rathwell is a Senior Architectural Historian and Heritage Consultant at Matrix Heritage. She has seven years of experience in cultural heritage reporting, working on behalf of federal, provincial, municipal and private sector clients, and 15 years of related professional experience in the fields of art and architectural history. Natalie gained a breadth of experience in Canadian architectural history working with experts Dr. Peter Coffman (Carleton University), and Dr. Malcolm Thurlby (York University), and in cultural heritage under the direction of expert Julie Harris (Contentworks; Matrix Heritage). She is a professional member of the Canadian Association of Heritage Professionals (C.A.H.P.) and a current member of the board for the Society for the Study of Architecture in Canada.

Natalie has completed projects ranging from large scale cultural heritage landscape studies of sites under federal jurisdiction, to heritage impact assessments of components of municipal infrastructure, and cultural heritage evaluations of single unit residential properties. Her experience related to development, transportation, and infrastructure projects includes development of the Cultural Heritage Risk Management Plan for the Ontario Line Don Valley Crossings, **extensive reporting in conjunction with the redevelopment of the Tunney's Pasture** Federal campus in Ottawa, and cultural heritage evaluation reports and histories for municipal and inter-provincial bridges. Whether delving into the local archives, or taking pictures from an icy bridge, Natalie approaches her work with interest and enthusiasm for the history of each place. Her expertise and tact are a valuable addition to the teams of professionals required to make plans for renovations, development, redevelopment, or rehabilitation involving built heritage resources or cultural heritage landscapes a reality.

EDUCATION

PhD Candidate (incomplete) Art History and Visual Culture; Focus on 19th century architecture in Canada – York University, Toronto, ON

M.A. 2013, Art History – Carleton University, Ottawa, ON

B.A. 2011, Art History, Minor in History (Highest Hons) – Carleton University, Ottawa, ON

PROFESSIONAL AFFILIATIONS

Professional Member
Canadian Association of Heritage Professionals

Board Member, Society for the Study of Architecture in Canada

YEARS OF EXPERIENCE

7 – Cultural Heritage Reporting
15 – Research, Writing, Teaching, and Analysis in Art and Architectural History

SELECT LIST OF PROJECTS

- **Tunney's Pasture**, Ottawa (Heritage Consulting, History, Commemoration and Interpretation Planning, Stakeholder Presentations)
- Ontario Line Don Valley Crossings, Toronto (Cultural Heritage Risk Management Plan)
- Rideau Canal Cultural Landscape Study, Ottawa (Research, Writing, Public and Stakeholder Engagement)
- Earnscliffe, Ottawa (HIA research)
- Pakenham Bridge, Pakenham (HIA and Stakeholder Presentations)
- Renfrew Post Office (HIA)
- King George Street development site, Ottawa (HIA)
- Sweetland Avenue development site, Ottawa (CHER)
- Lemieux Island Pipe Bridge, Ottawa (CHER for MCEA)
- Burnley Bridge, Burnley (CHER for MCEA)
- West Block, Parliament, Lighting Study (History and Assessment)
- Block2, Ottawa (Research for compendium in support of development of architectural competition)
- Hydro Road, Ottawa (Cultural Heritage Screening)

PROFESSIONAL EXPERIENCE

May 2024 to Present, Senior Architectural Historian & Heritage Consultant, Matrix Heritage Inc., Ottawa, Ontario

- Conduct research and produce reports (including HIAs, CHERs, cultural landscape studies, cultural heritage screenings, cultural heritage risk management plans, interpretation and commemoration strategies and histories; site visit photography) for federal, provincial, municipal, and private sector clients.
- Project management
- Stakeholders Presentations

Apr. 2023 to May 2024, Architectural Historian, Matrix Heritage, Ottawa, Ontario

- Conducted research and produced reports (including HIAs, CHERs, cultural landscape studies, and histories; site visit photography) for federal, municipal, and private sector clients.
- Stakeholders Presentations
- Public Engagement

Jun. 2019 to Apr. 2023, Researcher, Built Heritage, CONTENTWORKS Inc., Ottawa, Ontario

- Conducted research and produced reports (including CHIS, CHERs, and other compendiums) for federal, municipal, and private sector clients, including reports on:
 - the National Capital Commission Heritage Inventory Project
 - Block 2 redevelopment project
 - the West Block lighting plan
 - Earnscliffe
 - The Chief William Commanda Bridge

Sep. 2016 to Feb. 2018; Sep. 2020 to Apr. 2021; Sep. 2022 to Apr. 2023

Teaching Assistant, York University, Toronto, Ontario

- Led in-person and online tutorial sessions; developed teaching materials; assignment grading and grading spreadsheet development.
 - Courses:**
 - Art in the City (Dr. Sarah Parsons; Dr. Natasha Bissonauth)
 - Early Medieval Art and Architecture (Dr. Malcolm Thurlby)
 - Islamic Art and Architecture (Dr. Tammer El-Sheikh)
 - Introduction to Art History (Dr. Malcolm Thurlby; Dr. Jessica Mace)

Dec. 2013 to Aug. 2016, Assistant Curator | Gallery Associate, Wall Space Gallery, Ottawa, Ontario

Sept. 2011 to May 2013, Teaching Assistant, Carleton University, Ottawa, Ontario

- Courses:**
 - Medieval Art & Architecture (Morgan Currie; Dr. Peter Coffman)
 - Art & Society, Renaissance to the Present (Dr. Brian Foss)
 - European Art of the 17th Century (Dr. Mitchell Frank)

Sep. 2011 to Apr. 2012, Research Intern, Canadian War Museum, Ottawa, Ontario



Sep. 2009 to Dec. 2009, Cataloguing & Research Intern, Library and Archives Canada – Art and Photography Department, Ottawa, Ontario

May 2009 to Dec. 2011, Decorating Consultant & Sales Associate, **Randall’s Decorating Centre**, Ottawa, Ontario

- Trained in refinishing techniques, materials, paint and stain mixing, application, theory.

SELECTED PUBLICATIONS

“Heritage Value in Ottawa’s Dominion-Chalmers United Church: History, Community, Sight, and Sound.” *Journal of the Society for the Study of Architecture in Canada*, Vol. 43, no. 1 (2018): 47-56. <https://doi.org/10.7202/1049407ar>

SELECTED CONFERENCE & WORKSHOP PRESENTATIONS

Conference organizer, 50th Annual Conference of the Society for the Study of Architecture in Canada, Ottawa, May 2025.

“Mother Church of Ottawa Methodism’ – The Significance and Loss by Fire of Dominion United Church.” *Religious Architecture*. 50th Annual Conference of the Society for the Study of Architecture in Canada, Ottawa, May 2025.

“Federal Properties in Transition: Tunney’s Pasture and Confederation Heights.” *Reshaping Communities*. 2025 Ontario Architects Association Conference, Ottawa, May 2025. Tour Sponsored by Heritage Ottawa. Joint speakers, Victoria Angel (ERA Architects) and Katherine Constantine (CLC).

“Understanding Your Older Home: Its history, local context and evolution.” *Introductory Workshop – Who Can Help Me With This Old House?* Heritage Ottawa, Ottawa, 14 October 2023.

“Churches by Alexander C. Hutchison - Current Research.” *48th Conference of the Society for the Study of Architecture in Canada; Cast in Place*, Calgary, May 2023.

“Identifying Trends Towards Early Amphitheatre Plan Churches in Quebec.” *45th Conference of the Society for the Study of Architecture in Canada; Heritage, Diversity, and Belonging*, Halifax, May 2019.

“Byzantine in Ottawa; Dominion-Chalmers United Church.” *43rd Conference of the Society for the Study of Architecture in Canada; Layered Histories*, Niagara on the Lake, May 2017.

SELECTED HONOURS & AWARDS

| | |
|---------------|---|
| Federal | SSHRC Doctoral Fellowship, 2020 - 2021, 2022 -2023 |
| Provincial | Ontario Graduate Scholarship, 2011, 2012, 2016, 2017, 2019 |
| Graduate | York University Graduate Fellowship – Domestic, 2016 - 2017 Carleton University Graduate Scholarships, 2011 |
| Undergraduate | Landen Dominic Burnett Memorial Award (Art History), 2010 Jack Barwick and Douglas Duncan Memorial Scholarship in Art History, 2009 Rosemarie Hoey Award in English, 2008 |

