
Appendix B

MCM Screening Forms and
Archaeological Assessment Reports
(ARA)

The **purpose of the checklist** is to determine:

- if a property(ies) or project area may contain archaeological resources i.e., have archaeological potential
- it includes all areas that may be impacted by project activities, including – but not limited to:
 - the main project area
 - temporary storage
 - staging and working areas
 - temporary roads and detours

Processes covered under this checklist, such as:

- *Planning Act*
- *Environmental Assessment Act*
- *Aggregates Resources Act*
- *Ontario Heritage Act* – Standards and Guidelines for Conservation of Provincial Heritage Properties

Archaeological assessment

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a licensed consultant archaeologist (see page 4 for definitions) to undertake an archaeological assessment.

The assessment will help you:

- identify, evaluate and protect archaeological resources on your property or project area
- reduce potential delays and risks to your project

Note: By law, archaeological assessments **must** be done by a licensed consultant archaeologist. Only a licensed archaeologist can assess – or alter – an archaeological site.

What to do if you:

- **find an archaeological resource**

If you find something you think may be of archaeological value during project work, you must – by law – stop all activities immediately and contact a licensed consultant archaeologist

The archaeologist will carry out the fieldwork in compliance with the *Ontario Heritage Act* [s.48(1)].

- **unearth a burial site**

If you find a burial site containing human remains, you must immediately notify the appropriate authorities (i.e., police, coroner's office, and/or Registrar of Cemeteries) and comply with the *Funeral, Burial and Cremation Services Act*.

Other checklists

Please use a separate checklist for your project, if:

- you are seeking a Renewable Energy Approval under Ontario Regulation 359/09 – [separate checklist](#)
- your Parent Class EA document has an approved screening criteria (as referenced in Question 1)

Please refer to the Instructions pages when completing this form.

Project or Property Name

Markdale Wastewater Treatment Plant Municipal Class EA

Project or Property Location (upper and lower or single tier municipality)

Markdale, Municipality of Grey Highlands

Proponent Name

Municipality of Grey Highlands

Proponent Contact Information

Contact: Shawn Moyer, Director of Environmental Services Email: moyers@greyhighlands.ca

Screening Questions

	Yes	No
1. Is there a pre-approved screening checklist, methodology or process in place?	☐	☒

If Yes, please follow the pre-approved screening checklist, methodology or process.

If No, continue to Question 2.

	Yes	No
2. Has an archaeological assessment been prepared for the property (or project area) and been accepted by MTCS?	☐	☒

If Yes, do **not** complete the rest of the checklist. You are expected to follow the recommendations in the archaeological assessment report(s).

The proponent, property owner and/or approval authority will:

- summarize the previous assessment
- add this checklist to the project file, with the appropriate documents that demonstrate an archaeological assessment was undertaken e.g., MTCS letter stating acceptance of archaeological assessment report

The summary and appropriate documentation may be:

- submitted as part of a report requirement e.g., environmental assessment document
- maintained by the property owner, proponent or approval authority

If No, continue to Question 3.

	Yes	No
3. Are there known archaeological sites on or within 300 metres of the property (or the project area)?	☐	☒

	Yes	No
4. Is there Aboriginal or local knowledge of archaeological sites on or within 300 metres of the property (or project area)?	☐	☒

	Yes	No
5. Is there Aboriginal knowledge or historically documented evidence of past Aboriginal use on or within 300 metres of the property (or project area)?	☐	☒

	Yes	No
6. Is there a known burial site or cemetery on the property or adjacent to the property (or project area)?	☐	☒

	Yes	No
7. Has the property (or project area) been recognized for its cultural heritage value?	☐	☒

If Yes to any of the above questions (3 to 7), do **not** complete the checklist. Instead, you need to hire a licensed consultant archaeologist to undertake an archaeological assessment of your property or project area.

If No, continue to question 8.

	Yes	No
8. Has the entire property (or project area) been subjected to recent, extensive and intensive disturbance?	☐	☒

If Yes to the preceding question, do **not** complete the checklist. Instead, please keep and maintain a summary of documentation that provides evidence of the recent disturbance.

An archaeological assessment is not required.

If No, continue to question 9.

	Yes	No
9. Are there present or past water sources within 300 metres of the property (or project area)?	☒	☐

If Yes, an archaeological assessment is required.

If No, continue to question 10.

	Yes	No
10. Is there evidence of two or more of the following on the property (or project area)?	☐	☐

- elevated topography
- pockets of well-drained sandy soil
- distinctive land formations
- resource extraction areas
- early historic settlement
- early historic transportation routes

If Yes, an archaeological assessment is required.

If No, there is low potential for archaeological resources at the property (or project area).

The proponent, property owner and/or approval authority will:

- summarize the conclusion
- add this checklist with the appropriate documentation to the project file

The summary and appropriate documentation may be:

- submitted as part of a report requirement e.g., under the *Environmental Assessment Act*, *Planning Act* processes
- maintained by the property owner, proponent or approval authority

Instructions

Please have the following available, when requesting information related to the screening questions below:

- a clear map showing the location and boundary of the property or project area
 - large scale and small scale showing nearby township names for context purposes
- the municipal addresses of all properties within the project area
- the lot(s), concession(s), and parcel number(s) of all properties within a project area

In this context, the following definitions apply:

- **consultant archaeologist** means, as defined in Ontario regulation as an archaeologist who enters into an agreement with a client to carry out or supervise archaeological fieldwork on behalf of the client, produce reports for or on behalf of the client and provide technical advice to the client. In Ontario, these people also are required to hold a valid professional archaeological licence issued by the Ministry of Tourism, Culture and Sport.
- **proponent** means a person, agency, group or organization that carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.

1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may be already in place for identifying archaeological potential, including:

- one prepared and adopted by the municipality e.g., archaeological management plan
- an environmental assessment process e.g., screening checklist for municipal bridges
- one that is approved by the Ministry of Tourism, Culture and Sport under the Ontario government's [Standards & Guidelines for Conservation of Provincial Heritage Properties](#) [s. B.2.]

2. Has an archaeological assessment been prepared for the property (or project area) and been accepted by MTCS?

Respond 'yes' to this question, if all of the following are true:

- an archaeological assessment report has been prepared and is in compliance with MTCS requirements
 - a letter has been sent by MTCS to the licensed archaeologist confirming that MTCS has added the report to the Ontario Public Register of Archaeological Reports (Register)
- the report states that there are no concerns regarding impacts to archaeological sites

Otherwise, if an assessment has been completed and deemed compliant by the MTCS, and the ministry recommends further archaeological assessment work, this work will need to be completed.

For more information about archaeological assessments, contact:

- approval authority
- proponent
- consultant archaeologist
- Ministry of Tourism, Culture and Sport at archaeology@ontario.ca

3. Are there known archaeological sites on or within 300 metres of the property (or project area)?

MTCS maintains a database of archaeological sites reported to the ministry.

For more information, contact MTCS Archaeological Data Coordinator at archaeology@ontario.ca.

4. Is there Aboriginal or local knowledge of archaeological sites on or within 300 metres of the property?

Check with:

- Aboriginal communities in your area
- local municipal staff

They may have information about archaeological sites that are not included in MTCS' database.

Other sources of local knowledge may include:

- property owner
- [local heritage organizations and historical societies](#)
- local museums
- [municipal heritage committee](#)
- published local histories

5. Is there Aboriginal knowledge or historically documented evidence of past Aboriginal use on or within 300 metres of the property (or property area)?

Check with:

- Aboriginal communities in your area
- local municipal staff

Other sources of local knowledge may include:

- property owner
- [local heritage organizations and historical societies](#)
- local museums
- [municipal heritage committee](#)
- published local histories

6. Is there a known burial site or cemetery on the property or adjacent to the property (or project area)?

For more information on known cemeteries and/or burial sites, see:

- Cemeteries Regulation Unit, Ontario Ministry of Consumer Services – for [database of registered cemeteries](#)
- Ontario Genealogical Society (OGS) – to [locate records of Ontario cemeteries](#), both currently and no longer in existence; cairns, family plots and burial registers
- Canadian County Atlas Digital Project – to [locate early cemeteries](#)

In this context, ‘adjacent’ means ‘contiguous’, or as otherwise defined in a municipal official plan.

7. Has the property (or project area) been recognized for its cultural heritage value?

There is a strong chance there may be archaeological resources on your property (or immediate area) if it has been listed, designated or otherwise identified as being of cultural heritage value by:

- your municipality
- Ontario government
- Canadian government

This includes a property that is:

- designated under *Ontario Heritage Act* (the OHA), including:
 - individual designation (Part IV)
 - part of a heritage conservation district (Part V)
 - an archaeological site (Part VI)
- subject to:
 - an agreement, covenant or easement entered into under the OHA (Parts II or IV)
 - a notice of intention to designate (Part IV)
 - a heritage conservation district study area by-law (Part V) of the OHA
- listed on:
 - a municipal register or inventory of heritage properties
 - Ontario government’s list of provincial heritage properties
 - Federal government’s list of federal heritage buildings
- part of a:
 - National Historic Site
 - UNESCO World Heritage Site
- designated under:
 - *Heritage Railway Station Protection Act*
 - *Heritage Lighthouse Protection Act*
- subject of a municipal, provincial or federal commemorative or interpretive plaque.

To determine if your property or project area is covered by any of the above, see:

- Part A of the MTCS Criteria for Evaluating Potential for Built Heritage and Cultural Heritage Landscapes

Part VI – Archaeological Sites

Includes five sites designated by the Minister under Regulation 875 of the Revised Regulation of Ontario, 1990 (Archaeological Sites) and 3 marine archaeological sites prescribed under Ontario Regulation 11/06.

For more information, check [Regulation 875](#) and [Ontario Regulation 11/06](#).

8. Has the entire property (or project area) been subjected to recent extensive and intensive ground disturbance?

Recent: after-1960

Extensive: over all or most of the area

Intensive: thorough or complete disturbance

Examples of ground disturbance include:

- quarrying
- major landscaping – involving grading below topsoil
- building footprints and associated construction area
 - where the building has deep foundations or a basement
- infrastructure development such as:
 - sewer lines
 - gas lines
 - underground hydro lines
 - roads
 - any associated trenches, ditches, interchanges. **Note:** this applies only to the excavated part of the right-of-way; the remainder of the right-of-way or corridor may not have been impacted.

A ground disturbance does **not** include:

- agricultural cultivation
- gardening
- landscaping

Site visits

You can typically get this information from a site visit. In that case, please document your visit in the process (e.g., report) with:

- photographs
- maps
- detailed descriptions

If a disturbance isn't clear from a site visit or other research, you need to hire a licensed consultant archaeologist to undertake an archaeological assessment.

9. Are there present or past water bodies within 300 metres of the property (or project area)?

Water bodies are associated with past human occupations and use of the land. About 80-90% of archaeological sites are found within 300 metres of water bodies.

Present

- Water bodies:
 - primary - lakes, rivers, streams, creeks
 - secondary - springs, marshes, swamps and intermittent streams and creeks
- accessible or inaccessible shoreline, for example:
 - high bluffs
 - swamps
 - marsh fields by the edge of a lake
 - sandbars stretching into marsh

Water bodies not included:

- man-made water bodies, for example:
 - temporary channels for surface drainage
 - rock chutes and spillways
 - temporarily ponded areas that are normally farmed
 - dugout ponds
- artificial bodies of water intended for storage, treatment or recirculation of:
 - runoff from farm animal yards
 - manure storage facilities
 - sites and outdoor confinement areas

Past

Features indicating past water bodies:

- raised sand or gravel beach ridges – can indicate glacial lake shorelines
- clear dip in the land – can indicate an old river or stream
- shorelines of drained lakes or marshes
- cobble beaches

You can get information about water bodies through:

- a site visit
- aerial photographs
- 1:10,000 scale [Ontario Base Maps](#) - or [equally detailed and scaled maps](#).

10. Is there evidence of two or more of the following on the property (or project area)?

- elevated topography
- pockets of well-drained sandy soil
- distinctive land formations
- resource extraction areas
- early historic settlement
- early historic transportation routes

• **Elevated topography**

Higher ground and elevated positions - surrounded by low or level topography - often indicate past settlement and land use.

Features such as eskers, drumlins, sizeable knolls, plateaus next to lowlands, or other such features are a strong indication of archaeological potential.

Find out if your property or project area has elevated topography, through:

- site inspection
- aerial photographs
- [topographical maps](#)

• **Pockets of well-drained sandy soil, especially within areas of heavy soil or rocky ground**

Sandy, well-drained soil - in areas characterized by heavy soil or rocky ground - may indicate archaeological potential

Find out if your property or project area has sandy soil through:

- site inspection
- [soil survey reports](#)

- **Distinctive land formations**

Distinctive land formations include – but are not limited to:

- waterfalls
- rock outcrops
- rock faces
- caverns
- mounds, etc.

They were often important to past inhabitants as special or sacred places. The following sites may be present – or close to – these formations:

- burials
- structures
- offerings
- rock paintings or carvings

Find out if your property or project areas has a distinctive land formation through:

- a site visit
- aerial photographs
- 1:10,000 scale [Ontario Base Maps](#) - or [equally detailed and scaled maps](#).

- **Resource extraction areas**

The following resources were collected in these extraction areas:

- food or medicinal plants e.g., migratory routes, spawning areas, prairie
- scarce raw materials e.g., quartz, copper, ochre or outcrops of chert
- resources associated with early historic industry e.g., fur trade, logging, prospecting, mining

Aboriginal communities may hold traditional knowledge about their past use or resources in the area.

- **Early historic settlement**

Early Euro-Canadian settlement include – but are not limited to:

- early military or pioneer settlement e.g., pioneer homesteads, isolated cabins, farmstead complexes
- early wharf or dock complexes
- pioneers churches and early cemeteries

For more information, see below – under the early historic transportation routes.

- **Early historic transportation routes** - such as trails, passes, roads, railways, portage routes, canals.

For more information, see:

- historical maps and/or historical atlases
 - for information on early settlement patterns such as trails (including Aboriginal trails), monuments, structures, fences, mills, historic roads, rail corridors, canals, etc.
 - [Archives of Ontario](#) holds a large collection of historical maps and historical atlases
 - digital versions of historic atlases are available on the [Canadian County Atlas Digital Project](#)
- commemorative markers or plaques such as local, [provincial](#) or [federal](#) agencies
- [municipal heritage committee](#) or other [local heritage organizations](#)
 - for information on early historic settlements or landscape features (e.g., fences, mill races, etc.)
 - for information on commemorative markers or plaques

Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes

A Checklist for the Non-Specialist

The **purpose of the checklist** is to determine:

- if a property(ies) or project area:
 - is a recognized heritage property
 - may be of cultural heritage value
- it includes all areas that may be impacted by project activities, including – but not limited to:
 - the main project area
 - temporary storage
 - staging and working areas
 - temporary roads and detours

Processes covered under this checklist, such as:

- *Planning Act*
- *Environmental Assessment Act*
- *Aggregates Resources Act*
- *Ontario Heritage Act* – Standards and Guidelines for Conservation of Provincial Heritage Properties

Cultural Heritage Evaluation Report (CHER)

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a qualified person(s) (see page 5 for definitions) to undertake a cultural heritage evaluation report (CHER).

The CHER will help you:

- identify, evaluate and protect cultural heritage resources on your property or project area
- reduce potential delays and risks to a project

Other checklists

Please use a separate checklist for your project, if:

- you are seeking a Renewable Energy Approval under Ontario Regulation 359/09 – [separate checklist](#)
- your Parent Class EA document has an approved screening criteria (as referenced in Question 1)

Please refer to the Instructions pages for more detailed information and when completing this form.

Project or Property Name

Markdale Wastewater Treatment Plant Municipal Class EA

Project or Property Location (upper and lower or single tier municipality)

Markdale, Municipality of Grey Highlands

Proponent Name

Municipality of Grey Highlands

Proponent Contact Information

Contact: Shawn Moyer, Director of Environmental Services Email: moyers@greyhighlands.ca

Screening Questions

	Yes	No
1. Is there a pre-approved screening checklist, methodology or process in place?	☐	☒

If Yes, please follow the pre-approved screening checklist, methodology or process.

If No, continue to Question 2.

Part A: Screening for known (or recognized) Cultural Heritage Value

	Yes	No
2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?	☐	☒

If Yes, do **not** complete the rest of the checklist.

The proponent, property owner and/or approval authority will:

- summarize the previous evaluation and
- add this checklist to the project file, with the appropriate documents that demonstrate a cultural heritage evaluation was undertaken

The summary and appropriate documentation may be:

- submitted as part of a report requirement
- maintained by the property owner, proponent or approval authority

If No, continue to Question 3.

	Yes	No
3. Is the property (or project area):		
a. identified, designated or otherwise protected under the <i>Ontario Heritage Act</i> as being of cultural heritage value?	☐	☒
b. a National Historic Site (or part of)?	☐	☒
c. designated under the <i>Heritage Railway Stations Protection Act</i> ?	☐	☒
d. designated under the <i>Heritage Lighthouse Protection Act</i> ?	☐	☒
e. identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office (FHBRO)?	☐	☒
f. located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?	☐	☒

If Yes to any of the above questions, you need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report, if a Statement of Cultural Heritage Value has not previously been prepared or the statement needs to be updated

If a Statement of Cultural Heritage Value has been prepared previously and if alterations or development are proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No, continue to Question 4.

Part B: Screening for Potential Cultural Heritage Value

	Yes	No
4. Does the property (or project area) contain a parcel of land that:		
a. is the subject of a municipal, provincial or federal commemorative or interpretive plaque?	☐	☒
b. has or is adjacent to a known burial site and/or cemetery?	☐	☒
c. is in a Canadian Heritage River watershed?	☐	☒
d. contains buildings or structures that are 40 or more years old?	☐	☒

Part C: Other Considerations

	Yes	No
5. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area):		
a. is considered a landmark in the local community or contains any structures or sites that are important in defining the character of the area?	☐	☒
b. has a special association with a community, person or historical event?	☐	☒
c. contains or is part of a cultural heritage landscape?	☐	☒

If Yes to one or more of the above questions (Part B and C), there is potential for cultural heritage resources on the property or within the project area.

You need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report (CHER)

If the property is determined to be of cultural heritage value and alterations or development is proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No to all of the above questions, there is low potential for built heritage or cultural heritage landscape on the property.

The proponent, property owner and/or approval authority will:

- summarize the conclusion
- add this checklist with the appropriate documentation to the project file

The summary and appropriate documentation may be:

- submitted as part of a report requirement e.g. under the *Environmental Assessment Act*, *Planning Act* processes
- maintained by the property owner, proponent or approval authority

Instructions

Please have the following available, when requesting information related to the screening questions below:

- a clear map showing the location and boundary of the property or project area
 - large scale and small scale showing nearby township names for context purposes
- the municipal addresses of all properties within the project area
- the lot(s), concession(s), and parcel number(s) of all properties within a project area

For more information, see the Ministry of Tourism, Culture and Sport's [Ontario Heritage Toolkit](#) or [Standards and Guidelines for Conservation of Provincial Heritage Properties](#).

In this context, the following definitions apply:

- **qualified person(s)** means individuals – professional engineers, architects, archaeologists, etc. – having relevant, recent experience in the conservation of cultural heritage resources.
- **proponent** means a person, agency, group or organization that carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.

1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may already be in place for identifying potential cultural heritage resources, including:

- one endorsed by a municipality
- an environmental assessment process e.g. screening checklist for municipal bridges
- one that is approved by the Ministry of Tourism, Culture and Sport (MTCS) under the Ontario government's [Standards & Guidelines for Conservation of Provincial Heritage Properties](#) [s.B.2.]

Part A: Screening for known (or recognized) Cultural Heritage Value

2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?

Respond 'yes' to this question, if all of the following are true:

A property can be considered not to be of cultural heritage value if:

- a Cultural Heritage Evaluation Report (CHER) - or equivalent - has been prepared for the property with the advice of a qualified person and it has been determined not to be of cultural heritage value and/or
- the municipal heritage committee has evaluated the property for its cultural heritage value or interest and determined that the property is not of cultural heritage value or interest

A property may need to be re-evaluated, if:

- there is evidence that its heritage attributes may have changed
- new information is available
- the existing Statement of Cultural Heritage Value does not provide the information necessary to manage the property
- the evaluation took place after 2005 and did not use the criteria in Regulations 9/06 and 10/06

Note: Ontario government ministries and public bodies [prescribed under Regulation 157/10] may continue to use their existing evaluation processes, until the evaluation process required under section B.2 of the Standards & Guidelines for Conservation of Provincial Heritage Properties has been developed and approved by MTCS.

To determine if your property or project area has been evaluated, contact:

- the approval authority
- the proponent
- the Ministry of Tourism, Culture and Sport

3a. Is the property (or project area) identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value e.g.:

- i. designated under the *Ontario Heritage Act*
 - individual designation (Part IV)
 - part of a heritage conservation district (Part V)

Individual Designation – Part IV

A property that is designated:

- by a municipal by-law as being of cultural heritage value or interest [s.29 of the *Ontario Heritage Act*]
- by order of the Minister of Tourism, Culture and Sport as being of cultural heritage value or interest of provincial significance [s.34.5]. **Note:** To date, no properties have been designated by the Minister.

Heritage Conservation District – Part V

A property or project area that is located within an area designated by a municipal by-law as a heritage conservation district [s. 41 of the *Ontario Heritage Act*].

For more information on Parts IV and V, contact:

- municipal clerk
 - [Ontario Heritage Trust](#)
 - local land registry office (for a title search)
-

ii. subject of an agreement, covenant or easement entered into under Parts II or IV of the *Ontario Heritage Act*

An agreement, covenant or easement is usually between the owner of a property and a conservation body or level of government. It is usually registered on title.

The primary purpose of the agreement is to:

- preserve, conserve, and maintain a cultural heritage resource
- prevent its destruction, demolition or loss

For more information, contact:

- [Ontario Heritage Trust](#) - for an agreement, covenant or easement [clause 10 (1) (c) of the *Ontario Heritage Act*]
 - municipal clerk – for a property that is the subject of an easement or a covenant [s.37 of the *Ontario Heritage Act*]
 - local land registry office (for a title search)
-

iii. listed on a register of heritage properties maintained by the municipality

Municipal registers are the official lists - or record - of cultural heritage properties identified as being important to the community.

Registers include:

- all properties that are designated under the *Ontario Heritage Act* (Part IV or V)
- properties that have not been formally designated, but have been identified as having cultural heritage value or interest to the community

For more information, contact:

- municipal clerk
 - municipal heritage planning staff
 - municipal heritage committee
-

iv. subject to a notice of:

- intention to designate (under Part IV of the *Ontario Heritage Act*)
- a Heritage Conservation District study area bylaw (under Part V of the *Ontario Heritage Act*)

A property that is subject to a **notice of intention to designate** as a property of cultural heritage value or interest and the notice is in accordance with:

- section 29 of the *Ontario Heritage Act*
- section 34.6 of the *Ontario Heritage Act*. **Note:** To date, the only applicable property is Meldrum Bay Inn, Manitoulin Island. [s.34.6]

An area designated by a municipal by-law made under section 40.1 of the *Ontario Heritage Act* as a **heritage conservation district study area**.

For more information, contact:

- municipal clerk – for a property that is the subject of notice of intention [s. 29 and s. 40.1]
 - [Ontario Heritage Trust](#)
-

- v. included in the Ministry of Tourism, Culture and Sport's list of provincial heritage properties

Provincial heritage properties are properties the Government of Ontario owns or controls that have cultural heritage value or interest.

The Ministry of Tourism, Culture and Sport (MTCS) maintains a list of all provincial heritage properties based on information provided by ministries and prescribed public bodies. As they are identified, MTCS adds properties to the list of provincial heritage properties.

For more information, contact the MTCS Registrar at registrar@ontario.ca.

3b. Is the property (or project area) a National Historic Site (or part of)?

National Historic Sites are properties or districts of national historic significance that are designated by the Federal Minister of the Environment, under the *Canada National Parks Act*, based on the advice of the Historic Sites and Monuments Board of Canada.

For more information, see the [National Historic Sites website](#).

3c. Is the property (or project area) designated under the *Heritage Railway Stations Protection Act*?

The *Heritage Railway Stations Protection Act* protects heritage railway stations that are owned by a railway company under federal jurisdiction. Designated railway stations that pass from federal ownership may continue to have cultural heritage value.

For more information, see the [Directory of Designated Heritage Railway Stations](#).

3d. Is the property (or project area) designated under the *Heritage Lighthouse Protection Act*?

The *Heritage Lighthouse Protection Act* helps preserve historically significant Canadian lighthouses. The Act sets up a public nomination process and includes heritage building conservation standards for lighthouses which are officially designated.

For more information, see the [Heritage Lighthouses of Canada](#) website.

3e. Is the property (or project area) identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office?

The role of the Federal Heritage Buildings Review Office (FHBRO) is to help the federal government protect the heritage buildings it owns. The policy applies to all federal government departments that administer real property, but not to federal Crown Corporations.

For more information, contact the [Federal Heritage Buildings Review Office](#).

See a [directory of all federal heritage designations](#).

3f. Is the property (or project area) located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?

A UNESCO World Heritage Site is a place listed by UNESCO as having outstanding universal value to humanity under the Convention Concerning the Protection of the World Cultural and Natural Heritage. In order to retain the status of a World Heritage Site, each site must maintain its character defining features.

Currently, the Rideau Canal is the only World Heritage Site in Ontario.

For more information, see Parks Canada – [World Heritage Site website](#).

Part B: Screening for potential Cultural Heritage Value

4a. Does the property (or project area) contain a parcel of land that has a municipal, provincial or federal commemorative or interpretive plaque?

Heritage resources are often recognized with formal plaques or markers.

Plaques are prepared by:

- municipalities
- provincial ministries or agencies
- federal ministries or agencies
- local non-government or non-profit organizations

For more information, contact:

- [municipal heritage committees](#) or local heritage organizations – for information on the location of plaques in their community
- Ontario Historical Society's [Heritage directory](#) – for a list of historical societies and heritage organizations
- Ontario Heritage Trust – for a [list of plaques](#) commemorating Ontario's history
- Historic Sites and Monuments Board of Canada – for a [list of plaques](#) commemorating Canada's history

4b. Does the property (or project area) contain a parcel of land that has or is adjacent to a known burial site and/or cemetery?

For more information on known cemeteries and/or burial sites, see:

- Cemeteries Regulations, Ontario Ministry of Consumer Services – for a [database of registered cemeteries](#)
- Ontario Genealogical Society (OGS) – to [locate records of Ontario cemeteries](#), both currently and no longer in existence; cairns, family plots and burial registers
- Canadian County Atlas Digital Project – to [locate early cemeteries](#)

In this context, adjacent means contiguous or as otherwise defined in a municipal official plan.

4c. Does the property (or project area) contain a parcel of land that is in a Canadian Heritage River watershed?

The Canadian Heritage River System is a national river conservation program that promotes, protects and enhances the best examples of Canada's river heritage.

Canadian Heritage Rivers must have, and maintain, outstanding natural, cultural and/or recreational values, and a high level of public support.

For more information, contact the [Canadian Heritage River System](#).

If you have questions regarding the boundaries of a watershed, please contact:

- your conservation authority
- municipal staff

4d. Does the property (or project area) contain a parcel of land that contains buildings or structures that are 40 or more years old?

A 40 year 'rule of thumb' is typically used to indicate the potential of a site to be of cultural heritage value. The approximate age of buildings and/or structures may be estimated based on:

- history of the development of the area
- fire insurance maps
- architectural style
- building methods

Property owners may have information on the age of any buildings or structures on their property. The municipality, local land registry office or library may also have background information on the property.

Note: 40+ year old buildings or structure do not necessarily hold cultural heritage value or interest; their age simply indicates a higher potential.

A building or structure can include:

- residential structure
- farm building or outbuilding
- industrial, commercial, or institutional building
- remnant or ruin
- engineering work such as a bridge, canal, dams, etc.

For more information on researching the age of buildings or properties, see the Ontario Heritage Tool Kit Guide [Heritage Property Evaluation](#).

Part C: Other Considerations

5a. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) is considered a landmark in the local community or contains any structures or sites that are important to defining the character of the area?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has potential landmarks or defining structures and sites, for instance:

- buildings or landscape features accessible to the public or readily noticeable and widely known
- complexes of buildings
- monuments
- ruins

5b. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) has a special association with a community, person or historical event?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has a special association with a community, person or event of historic interest, for instance:

- Aboriginal sacred site
- traditional-use area
- battlefield
- birthplace of an individual of importance to the community

5c. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) contains or is part of a cultural heritage landscape?

Landscapes (which may include a combination of archaeological resources, built heritage resources and landscape elements) may be of cultural heritage value or interest to a community.

For example, an Aboriginal trail, historic road or rail corridor may have been established as a key transportation or trade route and may have been important to the early settlement of an area. Parks, designed gardens or unique landforms such as waterfalls, rock faces, caverns, or mounds are areas that may have connections to a particular event, group or belief.

For more information on Questions 5.a., 5.b. and 5.c., contact:

- Elders in Aboriginal Communities or community researchers who may have information on potential cultural heritage resources. Please note that Aboriginal traditional knowledge may be considered sensitive.
- [municipal heritage committees](#) or local heritage organizations
- Ontario Historical Society's "[Heritage Directory](#)" - for a list of historical societies and heritage organizations in the province

An internet search may find helpful resources, including:

- historical maps
- historical walking tours
- municipal heritage management plans
- cultural heritage landscape studies
- municipal cultural plans

Information specific to trails may be obtained through [Ontario Trails](#).

Purpose

The **purpose of this checklist** is to help proponents determine:

- if a property or project area may contain marine archaeological resources or have marine archaeological potential

A marine archaeological site is fully or partially submerged, or lies below or partially below the high-water mark of any body of water.

The property or project area includes all submerged areas that may be impacted by project activities, including, but not limited to:

- the main project area
- temporary storage and stockpiling locations
- staging and work areas, such as docking platforms and dredging locations
- temporary features such as access routes, anchors, moorings and cofferdams.

Please refer to the **instructions** on pages 4 through 9 when completing this checklist

Processes covered

- *Planning Act*
- *Environmental Assessment Act*
- *Aggregate Resources Act*
- *Ontario Heritage Act*
 - Standards & Guidelines for Conservation of Provincial Heritage Properties
- *Canadian Environmental Assessment Act*
- *Canada Shipping Act*

Marine archaeological assessment

The assessment will help you:

- identify, evaluate and protect marine archaeological resources on your property or project area
- reduce potential delays and risks to your project

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a licensed marine archaeologist (defined on page 5) to undertake a marine archaeological assessment.

Note: Under Part VI of the *Ontario Heritage Act*, all marine archaeological assessments **must** be done by a licensed marine archaeologist. Only a licensed marine archaeologist can assess – or alter – a marine archaeological site.

Have you found a site?

If you find something you think may be of marine archaeological value during project work, you **must** – by law – stop all activities immediately and contact a licensed marine archaeologist. The marine archaeologist will carry out the fieldwork in compliance with the *Ontario Heritage Act*.

Have you found human remains?

If you find remains (e.g., bones) that could be of human origin, you **must** – by law - immediately notify the appropriate authorities (police, coroner's office, or Registrar of Cemeteries) and comply with the *Funeral, Burial and Cremation Services Act*.

Other Checklists

Please use a separate checklist for your project if:

- your Parent Class EA document has approved screening criteria
- your ministry's or prescribed public body's approved Identification and Evaluation Process includes approved screening criteria

Project or Property Name

Markdale Wastewater Treatment Plant Municipal Class EA

Project or Property Location (upper and lower or single tier municipality)

Markdale, Municipality of Grey Highlands

Proponent Name

Municipality of Grey Highlands Contact: Shawn Moyer, Director of Environmental Services

Proponent Contact Information

Telephone Number

519-986-1216

Fax Number

Email Address

moyers@greyhighlands.ca

Screening Questions

1. Is there a government-authorized, pre-approved screening checklist, methodology or process in place?

☐ Yes ☒ No

If **Yes**, please follow the pre-approved screening checklist, methodology or process. Do not complete the rest of this checklist.

If **No**, continue to Question 2.

2. Has a marine archaeological assessment been prepared for the property or project area and been entered by MTCS into the Ontario Public Register of Archaeological Reports?

☐ Yes ☒ No

If **Yes**, do **not** complete the rest of the checklist. You are expected to follow the recommendations in the marine archaeological assessment report(s).

The proponent and/or approval authority will:

- summarize the previous marine archaeological assessment
- follow any recommendations for further marine archaeological assessment work, as applicable
- add this checklist to the project file, with the appropriate documents that demonstrate a marine archaeological assessment was undertaken (e.g. MTCS letter that states that the report has been entered into the Ontario Public Register of Archaeological Reports)

The summary and appropriate documentation may be:

- submitted as part of a report requirement, e.g. environmental assessment document
- maintained by the proponent or approval authority

If **No**, continue to Question 3.

3. Are there known marine or land-based archaeological sites on or within 500 metres of the property or project area?

☐ Yes ☒ No

4. Is there Aboriginal or local knowledge of marine or land-based archaeological sites on or within 500 metres of the property or project area?

☐ Yes ☒ No

5. Is there Aboriginal knowledge or historically documented evidence of past Aboriginal use on or within 500 metres of the property or project area?

☐ Yes ☒ No

6. Is there a known burial site or cemetery on the property or adjacent to the property or project area?

☐ Yes ☒ No

7. Has the property or project area been recognized for its cultural heritage value?

☐ Yes ☒ No

If **Yes** to any of questions 3 to 7, do **not** complete the checklist. Your property or project area could contain marine archaeological resources: please hire a licensed marine archaeologist to conduct a marine archaeological assessment.

If **No**, continue to Question 8.

8. Has the entire property or project area been subjected to recent, extensive and intensive disturbance?

☐ Yes ☒ No

If **Yes**, do **not** complete the checklist. Instead, please keep and maintain a summary of documentation that provides evidence of the recent disturbance. A marine archaeological assessment is not required.

If **No**, continue to Question 9.

9. Are there two or more reported or registered ship wreck sites or reports of lost ships within a five kilometre radius of the property or project area?
☐ Yes ☒ No
 If **Yes**, a marine archaeological assessment is required.
 If **No**, continue to Question 10.

10. Is the property or project area within one kilometre of an active or historic harbour, seaplane or floatplane base, tunnel, ferry route, marine terminal, or winter road?
☐ Yes ☒ No
 If **Yes**, a marine archaeological assessment is required.
 If **No**, continue to Question 11.

11. Where the project impacts fourth order or higher watercourses, are there existing narrows, rapids, waterfalls or does the watercourse enter or leave a body of water within 300 metres of the property or project area?
☐ Yes ☒ No
 If **Yes**, a marine archaeological assessment is required.
 If **No**, continue to Question 12.

12. Are there potential built heritage or cultural heritage landscape resources that may be of cultural heritage value or interest adjacent to the watercourse or water body?
☐ Yes ☒ No
 If **Yes**, a marine archaeological assessment is required.
 If **No**, continue to Question 13.

13. Are there inundated beaches, bluffs, lakeshores, streams or river banks within 300 metres of the property or project area?
☒ Yes ☐ No
 If **Yes**, a marine archaeological assessment is required.
 If **No**, continue to Question 14.

14. Are there inundated beaches, lakeshores or river/creek banks beyond 300 metres and at greater depth than the project area with evidence of two or more of the following in the project area?

- elevated bathymetric features such as drumlins, eskers, kames, ridges, etc.
- pockets of sandy lakebed
- distinctive bathymetric formations such as escarpments, shoals, promontories, reefs, etc.
- inundated resource extraction areas (quarry, fishery)
- inundated historical settlement including built heritage resources or cultural heritage landscapes
- inundated historical transportation routes

☐ Yes ☐ No

If **Yes**, a marine archaeological assessment is required.
 If **No**, there is low potential for marine archaeological resources at the property (or project area).
 The proponent, property owner and/or approval authority will:

- summarize the conclusion
- add this checklist with the appropriate documentation to the project report or file

The summary and appropriate documentation may be:

- submitted as part of a report requirement, e.g. under the *Environmental Assessment Act, Planning Act* processes
- maintained and retained by the property owner, proponent or approval authority

Instructions

Please have the following available, when requesting information related to the screening questions:

- a clear map or chart showing the location and boundary of the property or project area
 - large scale and small scale maps/charts showing nearby islands or township names for context
- the municipal addresses of all properties or water lots within or adjacent to the project area, if any
- the lot, concession, parcel number or mining claims of any properties within the project area

In this context, the following definitions apply:

- **licensed marine archaeologist** means an archaeologist who has a valid marine archaeology licence issued by the Ministry of Tourism, Culture and Sport to practice in Ontario. As a consultant, a licensed marine archaeologist enters into an agreement with a client to carry out or supervise marine archaeological work on behalf of the client, produce reports for or on behalf of the client and provide technical advice to the client.
- **proponent** means a person, agency, group or organization that carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.

1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may be already in place to identify marine archaeological potential, including:

- one prepared and adopted by the municipality, such as an archaeological management plan
- an environmental assessment process, such as a screening checklist for municipal bridges
- projects being reviewed under the Canadian *Environmental Assessment Act*.
- one that is approved by the Ministry of Tourism, Culture and Sport under the Ontario government's [Standards & Guidelines for Conservation of Provincial Heritage Properties](#) [s. B.2.]

2. Has a marine archaeological assessment been prepared for the property or project area and been entered into the Ontario Public register of Archaeological Reports?

Respond 'yes' to this question, if all of the following are true:

- a marine archaeological assessment report has been prepared and complies with MTCS requirements
 - a letter has been sent by MTCS to the licensed marine archaeologist confirming that MTCS has entered the report into the Ontario Public Register of Archaeological Reports (Register)
- the report contains a recommendation stating that there are no further concerns regarding impacts to marine archaeological sites

If a marine archaeological assessment report has been completed and deemed compliant by MTCS, and the report contains a recommendation that further marine archaeological assessment work be undertaken, this work will need to be completed.

For more information about previously conducted marine archaeological assessments, contact:

- approval authority (such as a municipality or conservation authority)
- proponent for whom the marine archaeological assessment was carried out
- consultant archaeologist qualified to hold a marine archaeology licence in Ontario
- Ministry of Tourism, Culture and Sport at archaeology@ontario.ca

3. Are there known marine or land-based archaeological sites on or within 500 metres of the property or project area?

MTCS maintains a database of marine and land-based archaeological sites reported to the ministry. Land-based archaeological sites may extend into adjacent waterbodies.

For more information, contact MTCS Archaeological Data Coordinator at archaeology@ontario.ca.

4. Is there Aboriginal or local knowledge of marine or land-based archaeological sites on or within 500 metres of the property or project area?

Check with:

- Aboriginal communities in your area
- local municipal staff

Aboriginal communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Aboriginal communities includes a discussion about known or potential cultural heritage resources that are of value to these communities. Aboriginal communities and local municipal staff may have information about marine archaeological sites that are not included in the MTCS database or reported to the ministry.

Other sources of local knowledge include the following:

- property owner
- [local heritage organizations and historical societies](#), [Association for Great Lakes Maritime History](#)
- local and provincial dive organizations ([Save Ontario Shipwrecks](#), [Ontario Underwater Council](#)), [Preserve Our Wrecks](#), Ontario Marine Heritage Committee)
- local dive shops
- local amateur divers and diving associations
- local museums
- [municipal heritage committees](#)
- published local histories

5. Is there Aboriginal knowledge or historically documented evidence of past Aboriginal use on or within 500 metres of the property or project area?

Check with:

- Aboriginal communities in your area
- local municipal staff

Other sources of local knowledge include the following:

- property owner
- [local heritage organizations and historical societies](#)
- local museums
- [municipal heritage committees](#)
- published local histories

6. Is there a known burial site or cemetery on the property or adjacent to the property or project area?

For more information on known cemeteries or burial sites contact the following:

- Cemeteries Regulation Unit, Ontario Ministry of Consumer Services – for [database of registered cemeteries](#)
- Ontario Genealogical Society (OGS) – [to locate records of Ontario cemeteries](#), both currently and no longer in existence; cairns, family plots and burial registers
- Canadian County Atlas Digital Project – to [locate early cemeteries](#)

In this context, 'adjacent' means 'contiguous', or as otherwise defined in a municipal official plan.

When wrecks are associated with a loss of life, the area in the vicinity of the wreck may be established as a cemetery.

7. Has the property or project area been recognized for its cultural heritage value?

There is a strong chance there may be marine archaeological resources on the property or project area if it has been listed, designated or otherwise identified as being of cultural heritage value by:

- Municipal government
- Ontario government
- Canadian government

This includes a property that is:

- designated under *Ontario Heritage Act* (the OHA), including:
 - individual designation (Part IV)
 - part of a heritage conservation district (Part V)
 - a land or marine archaeological site (Part VI)
- subject to:
 - an agreement, covenant or easement entered into under the OHA (Parts II or IV)
 - a notice of intention to designate (Part IV)
 - a heritage conservation district study area by-law (Part V) of the OHA
- included on:
 - a municipal register or inventory of heritage properties
 - Ontario government's list of provincial heritage properties
 - Federal government's list of federal heritage buildings
- part of a:
 - National Historic Site
 - UNESCO World Heritage Site
- designated under:
 - *Heritage Railway Station Protection Act*
 - *Heritage Lighthouse Protection Act*
- subject of a municipal, provincial or federal commemorative or interpretive plaque.

To determine if your property or project area is covered by any of the above, see:

- Part A of the MTCS [Criteria for Evaluating Potential for Built Heritage and Cultural Heritage Landscapes](#)

Part VI – Archaeological Sites

Includes three marine archaeological sites prescribed under Ontario Regulation 11/06 and five terrestrial archaeological sites designated by the Minister under Regulation 875 of the Revised Regulation of Ontario, 1990.

For more information, refer to [Regulation 875](#) and Ontario [Regulation 11/06](#).

8. Has the entire property or project area been subjected to recent, extensive and intensive disturbance?

Recent: after-1960

Extensive: over all or most of the area

Intensive: thorough or complete disturbance

Examples of ground disturbance include:

- quarrying
- dredging
- structural footprints and associated construction areas
 - where the structure has deep foundations or footings
- infrastructure development such as:
 - dams
 - pipelines, hydro lines or other utility trenches
 - causeways
 - bridges

Note: this applies only to the excavated part of the right-of-way or corridor as the remainder may not be impacted

A ground disturbance does not include:

- aqua-cultural activities, such as a fish farm
- areas of traditional or commercial harvesting of fish, shellfish or water-based vegetation
- traditional agricultural areas that have been inundated

Property (Project Area) Inspection

Some documentation may provide evidence of prior disturbance, such as:

- photographs
- maps
- detailed descriptions and blueprints of prior projects

If complete disturbance isn't clear from documents available, an archaeologist licensed for marine archaeology can be hired to undertake an underwater and/or remote-sensing inspection of the study area to determine whether there is any remaining marine archaeological potential.

9. Are there two or more reported or registered ship wreck sites or reports of lost ships within a five kilometre radius of the property or project area?

The presence of two or more ship wreck sites or reports of lost ships in the vicinity may indicate increased marine archaeological potential for additional marine wrecks.

10. Is the property or project area within one kilometre of an active or historic harbour, seaplane or floatplane base, tunnel, ferry route, marine terminal, or winter road?

Focussed areas of marine activity on- and off-shore are indicators for potential marine archaeology due to:

- deliberate structures built in or on the water, such as:
 - mooring and anchoring structures
 - weirs, piers, docks, cribwork
 - groynes, breakwaters, artificial reefs
 - vessels scuttled for utilitarian or other purposes
 - infrastructure related to the construction or operation of a facility like marine railways
- incidental features, such as:
 - beached or sunken vessels or aircraft
 - dropped objects

As a result, there is potential for marine archaeological features or artifacts.

11. Where the project impacts fourth order or higher watercourses, are there existing narrows, rapids, waterfalls or does the watercourse enter or leave a body of water within 300 metres of the property or project area?

Fourth order and higher watercourses (on the Strahler scale) have potential association with human activity around narrows, rapids, waterfalls and proximity to waterbodies such as lakes due to:

- fish harvesting and related dams or weirs
- portage locations for navigable waterways
- early historical fording locations
- early historical water power sources for mills

These activities may result in marine archaeological features or artifacts.

12. Are there potential built heritage or cultural heritage landscape resources that may be of cultural heritage value or interest adjacent to the watercourse or water body?

Euro-Canadian settlement immediately adjacent to water bodies or watercourses may be focussed on the water for specific industrial, commercial or residential uses resulting in marine archaeological features or artifacts. For guidance, see the MTCS [Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes](#)

13. Are there inundated beaches, bluffs, lakeshores, streams or river banks within 300 metres of the property or project area?

The margins of water bodies are associated with past human occupations and use of the land. About 80-90% of archaeological sites are found within 300 metres of water bodies.

- water body types:
 - primary - lakes, rivers, streams, creeks
 - secondary - springs, marshes, swamps and intermittent streams and creeks
- water bodies can include constructed water bodies or watercourses, such as:
 - temporary channels for surface drainage
 - rock chutes and spillways
- Accessible or inaccessible shorelines can also have archaeological potential, for example:
 - high bluffs or cliffs
 - sandbars

You can get information about inundated shoreline features through:

- a site visit
- aerial photographs
- bathymetric data
- geological and physiographic studies

14. Are there inundated beaches, lakeshores or river/creek banks beyond 300 metres and at greater depth than the project area with evidence of two or more of the following in the project area?

- elevated bathymetric features such as drumlins, eskers, kames, ridges, etc.
- pockets of sandy lakebed
- distinctive bathymetric formations such as escarpments, shoals, promontories, reefs, etc.
- inundated resource extraction areas (quarry, fishery)
- inundated historical settlement including built heritage resources or cultural heritage landscapes
- inundated historical transportation routes

Landforms associated with past human occupations that have later been inundated, as historically documented or demonstrated through water-level chronologies, retain their archaeological potential.

- **Elevated bathymetric features**

Higher ground and elevated positions, surrounded by low or level topography, often indicate past settlement and land use. Features such as eskers, drumlins, sizeable knolls, plateaus next to lowlands or other such features are a strong indication of archaeological potential.

Find out if your property or project area had elevated topography prior to inundation through:

- nautical charts
- bathymetric data

- **Pockets of sandy lakebed**

Areas of sandy soil, prior to being inundated, that would be well-drained and in areas characterized by heavy soil or rocky ground may indicate archaeological potential

Find out if your property or project area had sandy soil through:

- site visits
- lakebed studies and sediment borehole data

- **Distinctive bathymetric formations**

Distinctive land formations include – but are not limited to:

- waterfalls
- rock outcrops or faces
- caverns
- mounds

Prior to inundation such features were often important to past inhabitants as special or sacred places. The following sites may be present at – or close to – these formations:

- burials
- structures
- offerings
- rock paintings or carvings

Find out if your property or project area has a distinctive land formation through:

- site visits
- aerial photographs
- bathymetric data

- **Inundated resource extraction areas**

Prior to inundation, the following resources were collected in these extraction areas:

- food or medicinal plants e.g. migratory routes, spawning areas, prairie
- scarce raw materials e.g. quartz, copper, ochre or outcrops of chert
- resources associated with early historic industry e.g. fur trade, logging, prospecting, mining

Aboriginal communities may hold traditional knowledge about their past use or resources in the area.

- **Inundated early historic settlement**

Early Euro-Canadian settlements include – but are not limited to:

- early military or pioneer settlement, e.g. pioneer homesteads, isolated cabins, farmstead complexes
- early wharf or dock complexes
- pioneers churches and early cemeteries

- **Inundated early historic transportation routes** - such as trails, passes, roads, railways, portage routes, canals.

For more information, see:

- historical maps or atlases
 - for information on early settlement patterns such as trails (including Aboriginal trails), monuments, structures, fences, mills, historic roads, rail corridors, canals, etc.
 - [Archives of Ontario](#) holds a large collection of historical maps and atlases
 - digital versions of historical atlases are available on the [Canadian County Atlas Digital Project](#)
- commemorative markers or plaques such as those posted by local, [provincial](#) or [federal](#) agencies
- [municipal heritage committees](#) or [other local heritage organizations](#)
 - for information on early historic settlements or landscape features (e.g. fences, mill races)
 - for information on commemorative markers or plaques

**Stage 1 Archaeological Assessment
31254-002 Markdale WWTP
775342 Highway 10
Municipality of West Grey
Various Lots and Concessions
Geographic Township of Glenelg
County of Grey**

Prepared for
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Licensed under
P. Racher
MCM Licence #P007
PIF # P007-1576-2024
ARA File #2024-0130

29/01/2025

Original Report

EXECUTIVE SUMMARY

Under a contract awarded in March 2024, Archaeological Research Associates Ltd. (ARA) carried out a Stage 1 assessment of lands with the potential to be impacted by the expansion of an existing wastewater treatment plant located northwest of Markdale, Ontario. The assessment was completed in support of the Environmental Study Report (ESR) for a Schedule “C” Municipal Class Environmental Assessment (EA) for the proposed Wastewater Treatment Plant (WWTP) expansion in accordance with the Environmental Assessment Act. This report documents the background research and fieldwork involved in the investigation and presents conclusions and recommendations pertaining to archaeological concerns.

The Stage 1 assessment was conducted in June 2023 under Project Information Form # P007-1576-2024. The investigation encompassed the development boundary. Legal permission to enter and conduct all necessary fieldwork activities within the assessed lands was granted by the property owner. At the time of assessment, the study area consisted of wooded areas, clearings, and water treatment facilities.

The Stage 1 assessment determined that the study area comprised a mixture of areas of archaeological potential and areas of no archaeological potential. It is recommended that the areas determined to have archaeological potential be subject to Stage 2 archaeological assessment in accordance with Section 2.1 of the 2011 *Standards and Guidelines for Consultant Archaeologists*.

Given that there are still outstanding archaeological concerns within the subject lands, no ground alterations or development of any kind may occur until the required investigation is complete, a recommendation that the lands require no further archaeological assessment is made, and the associated report is entered into the Ontario Public Register of Archaeological Reports.

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ABBREVIATIONS

ARA – Archaeological Research Associates Ltd.
MCM– Ministry of Citizenship and Multiculturalism
PIF – Project Information Form
S&Gs – Standards and Guidelines for Consultant Archaeologists

PERSONNEL

Project Archaeologist: T. Taylor (#R1126)
Field Director: T. Taylor
Cartographers: M. Johnson
Report Writer: T. Taylor

ENGAGED GROUPS

Métis Nation of Ontario
Contacts: P. Coture, E. Roy
Field Representative: None

Saugeen Ojibway Nation
Contacts: Natalie Kuipers, Kove Sartor
Field Representative: None

Beausoleil First Nation
Contacts: Lua Mondor
Field Representative: None

Chippewas of Georgina First Nation
Contacts: J.L. Porte
Field Representative: None

Chippewas of Rama First Nation
Contacts: Ben Benson
Field Representative: None

1.0 PROJECT CONTEXT

1.1 Development Context

Under a contract awarded in March 2024, Archaeological Research Associates Ltd. (ARA) carried out a Stage 1 assessment of lands with the potential to be impacted by the expansion of an existing wastewater treatment plant located northwest of Markdale, Ontario. The assessment was completed in support of the Environmental Study Report (ESR) for a Schedule “C” Municipal Class Environmental Assessment (EA) for the proposed Wastewater Treatment Plant (WWTP) expansion in accordance with the *Environmental Assessment Act*. This report documents the background research and fieldwork involved in the investigation and presents conclusions and recommendations pertaining to archaeological concerns.

The study area consists of an irregular parcel of land with an area of 31.86 ha (Map 1). This parcel is generally bounded by agricultural land to the east, and forest in the north, south, and west. In legal terms, the study area comprises part of Lots 94-96, Range 1 West of Toronto & Sydenham Road the Township of Glenelg, Grey County. The Crown obtained these lands as part of the Saugeen Tract Purchase (Treaty 45 ½) in 1836.

The Stage 1 assessment was conducted in June 2024 under Project Information Form (PIF) #P007-1576-2024. The investigation encompassed the expansion boundary. Legal permission to enter and conduct all necessary fieldwork activities within the assessed lands was granted by the property owner. In compliance with the objectives set out in Section 1.0 of the 2011 *Standards and Guidelines for Consultant Archaeologists (S&Gs)*, this investigation was carried out to:

- Provide information concerning the geography, history and current land condition of the study area;
- Determine the presence of known archaeological sites in the study area;
- Present strategies to mitigate project impacts to such sites, if they are located;
- Evaluate in detail the archaeological potential of the study area; and
- Recommend appropriate strategies for Stage 2 archaeological assessment, if some or all of the study area has archaeological potential.

The Ministry of Citizenship and Multiculturalism (MCM) is asked to review the results and recommendations presented herein and enter the report into the Ontario Public Register of Archaeological Reports. A Record of Indigenous Engagement is included in the project report package in accordance with the requirements set out in Section 7.6.2 of the 2011 S&Gs. The additional directions provided in the 2011 *Conducting Archaeology within the Traditional Territory of the Saugeen Ojibway Nation* were considered throughout the investigation.

1.2 Historical Context

After a century of archaeological work in southern Ontario, scholarly understanding of the historical usage of the area has become very well-developed. With occupation beginning in the Palaeo period approximately 11,000 years ago, the greater vicinity of the study area comprises a complex chronology of Pre-Contact and Euro-Canadian histories. Section 1.2.1 summarizes the region's settlement history, whereas Section 1.2.2 documents the study area's past and present land uses. Two previous archaeological reports containing relevant background information were identified during the research component of the study. These reports are summarized in Section 1.3.3, and the references (including title, author and PIF number) appear in Section 7.0.

1.2.1 Settlement History

1.2.1.1 Pre-Contact

The Pre-Contact history of the region is lengthy and rich, and a variety of Indigenous groups inhabited the landscape. Archaeologists generally divide this vibrant history into three main periods: Palaeo, Archaic and Woodland. Each of these periods comprise a range of discrete sub-periods characterized by identifiable trends in material culture and settlement patterns, which are used to interpret past lifeways. The principal characteristics of these sub-periods are summarized in Table 1.

Table 1: Pre-Contact Settlement History
(Wright 1972; Ellis and Ferris 1990; Warrick 2000; Munson and Jamieson 2013)

Sub-Period	Timeframe	Characteristics
Early Palaeo	9000–8400 BC	Gainey, Barnes and Crowfield traditions; Small bands; Mobile hunters and gatherers; Utilization of seasonal resources and large territories; Fluted points
Late Palaeo	8400–7500 BC	Holcombe, Hi-Lo and Lanceolate biface traditions; Continuing mobility; Campsite/Way-Station sites; Smaller territories are utilized; Non-fluted points
Early Archaic	7500–6000 BC	Side-notched, Corner-notched (Nettling, Thebes) and Bifurcate traditions; Growing diversity of stone tool types; Heavy woodworking tools appear (e.g., ground stone axes and chisels)
Middle Archaic	6000–2500 BC	Stemmed (Kirk, Stanly/Neville), Brewerton Side- and Corner-Notched traditions; Reliance on local resources; Populations increasing; More ritual activities; Fully ground and polished tools; Net-sinkers common; Earliest copper tools
Late Archaic	2500–900 BC	Narrow Point (Lamoka), Broad Point (Genesee) and Small Point (Crawford Knoll) traditions; Less mobility; Use of fish-weirs; True cemeteries appear; Stone pipes emerge; Long-distance trade (marine shells and galena)
Early Woodland	900–400 BC	Meadowood tradition; Crude cord-roughened ceramics emerge; Meadowood cache blades and side-notched points; Bands of up to 35 people
Middle Woodland	400 BC–AD 600	Local Saugeen-like tradition; Others argue for Point Peninsula tradition; Ceramics continue but many are undecorated; Seasonal settlements and resource utilization; Each watershed may have had a unique tradition; Regional patterns poorly understood at this time
Middle/Late Woodland Transition	AD 600–900	Princess Point tradition; Cord roughening, impressed lines and punctate designs on pottery; Adoption of maize horticulture at the western end of Lake Ontario; Oval houses and 'incipient' longhouses; First palisades; Villages with 75 people
Late Woodland (Early)	AD 900–1300	Glen Meyer tradition; Settled village-life based on agriculture; Small villages (0.4 ha) with 75–200 people and 4–5 longhouses; Semi-permanent settlements
Late Woodland (Middle)	AD 1300–1400	Uren and Middleport traditions; Classic longhouses emerge; Larger villages (1.2 ha) with up to 600 people; More permanent settlements (30 years)
Late Woodland (Late)	AD 1400–1600	Pre-Contact Neutral tradition; Larger villages (1.7 ha); Examples up to 5 ha with 2,500 people; Extensive croplands; Also, hamlets, cabins, camps and cemeteries; Potential tribal units; Fur trade begins ca. 1580; European trade goods.

Although Iroquoian-speaking populations tended to leave a much more obvious mark on the archaeological record and are therefore emphasized in the Late Woodland entries above, it must be understood that Algonquian-speaking populations also represented a significant presence in southern Ontario. Due to the sustainability of their lifeways, archaeological evidence directly associated with the Anishinaabeg remains elusive, particularly when compared to sites associated with the more sedentary agriculturalists. Many artifact scatters in southern Ontario were likely camps, chipping stations or processing areas associated with the more mobile Anishinaabeg, utilized during their travels along the local drainage basins while making use of seasonal resources. This part of southern Ontario represents the ancestral territory of various Indigenous groups, each with their own land use and settlement pattern tendencies.

1.2.1.2 Post-Contact

The arrival of European explorers and traders at the beginning of the 17th century triggered widespread shifts in Indigenous lifeways and set the stage for the ensuing Euro-Canadian settlement process. Documentation for this period is abundant, ranging from the first sketches of Upper Canada and the written accounts of early explorers to detailed township maps and lengthy histories. The Post-Contact period can be effectively discussed in terms of major historical events; the principal characteristics associated with these events are summarized in Table 2.

Table 2: Post-Contact Settlement History
(Smith 1846; Irwin & Burnham 1867; Coyne 1895; Nelles 1905; Lajeunesse 1960; Johnston 1964; Phelps 1972; Ellis and Ferris 1990; Surtees 1994; AO 2015)

Historical Event	Timeframe	Characteristics
Early Exploration	Early 17 th century	Brûlé explores southern Ontario in 1610/11; Champlain travels through in 1613 and 1615/1616, making contact with a number of Indigenous groups (including the Algonquin, Huron-Wendat and other First Nations); European trade goods become increasingly common and begin to put pressure on traditional industries
Increased Contact and Conflict	Mid- to late 17 th century	Conflicts between various First Nations during the Beaver Wars result in numerous population shifts; European explorers continue to document the area, and many Indigenous groups trade directly with the French and English; ‘The Great Peace of Montreal’ treaty established between roughly 39 different First Nations and New France in 1701
Fur Trade Development	Early to mid-18 th century	Growth and spread of the fur trade; Peace between the French and English with the Treaty of Utrecht in 1713; Ethnogenesis of the Métis; Hostilities between French and British lead to the Seven Years’ War in 1754; French surrender in 1760
British Control	Mid- to late 18 th century	<i>Royal Proclamation</i> of 1763 recognizes the title of the First Nations to the land; Numerous treaties subsequently arranged by the Crown; First land cession under the new protocols is the Seneca surrender of the west side of the Niagara River in 1764; The Niagara Purchase (Treaty 381) in 1781 included this area
Loyalist Influx	Late 18 th century	United Empire Loyalist influx after the American Revolutionary War (1775–1783); British develop interior communication routes and acquire additional lands; John Collins acquires the northern part of the Toronto Carrying Place in 1785 (subject to a confirmatory surrender in the Williams Treaties of 1923); Constitutional Act of 1791 creates Upper and Lower Canada
County Development	Late 18 th to early 19 th century	Nominally became part of Kent County in 1792 and Simcoe County in 1798; Additional land cessions included the Penetanguishene Purchase (Treaty 5) in 1798, Lake Simcoe Purchase (Treaty 16) in 1815 and Nottawasaga Purchase (Treaty 18) in 1818; All townships surveyed by the mid-1830s; Townships ceded to Waterloo County in 1837 and York County in 1838; Simcoe County independent after the abolition of the district system in 1849

Historical Event	Timeframe	Characteristics
Township Formation	Late 18 th to early 19 th century	Township surveyed in 1850 by Mr. Dennis and was named Glenelg after the town in Scotland; Population mainly comprised Irish and Scottish immigrants; John Jessiman was the first settler in the township
Township Development	Mid-19 th to early 20 th century	1848 first mill was built on the Rocky Saugeen; the First school, Union School, was established in 1850; Post office established in 1853; Additional flour Mill in operation by 1857; Sawmills in operation by 1857; Most prominent community is Markdale

1.2.2 Past and Present Land Use

1.2.2.1 Overview

During Pre-Contact and Early Contact times, the vicinity of the study area would have comprised a mixture of coniferous trees, deciduous trees and open areas. Indigenous communities actively utilized the land and its resources well into Post-Contact times, and they would have managed the landscape to varying degrees (e.g., establishing clearings for campsites, plant cultivation, etc.). During the mid-19th century, Euro-Canadian settlers arrived in the area and began to clear the forests for agricultural and settlement purposes. The study area was located northwest of the historical limits of Markdale. The land was in use a waste water treatment plant during the time of the assessment.

1.2.2.2 Mapping and Imagery Analysis

In order to gain a general understanding of the study area's past land uses, one historical settlement map, one topographic map and one aerial image were examined during the research component of the study. Specifically, the following resources were consulted:

- *Township of Holland* (1880) (MU 2001);
- Topographic maps from 1945 (OCUL 2022); and
- Aerial images from 1954 (MAC 2022; U of T 2022).

The limits of the study area are shown on georeferenced versions of the consulted historical resources in Map 2–Map 4.

The *Township of Holland* (1880) depicts the Toronto, Grey & Bruce Railway, as well as the Tock Saugeen River crossing the study area. No occupants or structures are identified (Map 2).

The topographic map from 1945 suggests that much of the study area consists of wetland and forest. Additionally, the railway and Rocky Saugeen River are depicted as well (Map 3). The aerial image from 1954 depict similar results as the topographic map. (Map 5).

1.3 Archaeological Context

The Stage 1 assessment (property inspection) was conducted on June 13, 2024, under PIF # P007-1576-2024. The limits of the study area were confirmed using georeferenced aerial imagery showing artificial and natural formations in relation to the subject lands.

The archaeological context of any given study area must be informed by 1) the condition of the property as found (Section 1.3.1), 2) a summary of registered or known archaeological sites located within a minimum 1 km radius (Section 1.3.2) and 3) descriptions of previous archaeological fieldwork carried out within the limits of, or immediately adjacent to the property (Section 1.3.3).

1.3.1 Condition of the Property

The study area lies within the Great Lakes–St. Lawrence forest region, which is a transitional zone between the southern deciduous forest and the northern boreal forest. This forest extends along the St. Lawrence River across central Ontario to Lake Huron and west of Lake Superior along the border with Minnesota, and its southern portion extends into the more populated areas of Ontario. This forest is dominated by hardwoods, featuring species such as maple, oak, yellow birch, white and red pine. Coniferous trees such as white pine, red pine, hemlock and white cedar commonly mix with deciduous broad-leaved species, such as yellow birch, sugar and red maples, basswood and red oak (MNR 2022).

In terms of local physiography, the subject lands fall within the Horseshoe Moraines. This region consists of a horseshoe-shaped area flanking the upland adjacent to the highest part of the Niagara Escarpment as well as associated meltwater stream deposits. It is characterized by two principal landform components: 1) irregular, stony knobs and ridges which are composed mostly of till with some sand and gravel deposits (kames); and 2) more-or-less pitted sand and gravel terraces and swampy valley floors. The ‘toe’ falls on the highest part of the upland south of Georgian Bay, whereas the two ‘heels’ extend towards lower elevations in the southwest and southeast (Chapman and Putnam 1984:127–129).

The soils within the study area consist of a variety of types listed in Table 3. All soils in the area have a generally smooth topography and are documented as very stony. (Hoffman et al. 1962:Soil Map).

Table 3: Soil Types

Soil Type	Parent Materials	Drainage
Donnybrook Sandy Loam	Sandy Loam	Good
Pike Lake Loam	Loam	Good
Muck	-	Poor

The subject lands fall within the Rocky Saugeen River watershed, which is under the jurisdiction of the Saugeen Valley Conservation Authority (SVCA 2022). Specifically, the study is traversed by the Rocky Saugeen River and an unnamed wetland. At the time of assessment, the study area consisted of open field, forest, wetland and existing water treatment area.

1.3.2 Registered or Known Archaeological Sites

The Ontario Archaeological Sites Database and the Ontario Public Register of Archaeological Reports were consulted to determine whether any registered or known archaeological resources occur within a 1 km radius of the study area. The data search indicated that there is one registered site located within the specified distance. The site is summarized in Table 4.

Table 4: Registered or Known Archaeological Sites

Borden No. / ID No.	Site Name / Identifier	Time Period	Affinity	Site Type	Distance from Study Area
BdHc-6	-	Post-Contact	Euro-Canadian	Farmstead	300 m–1 km

One site is located within 1 km of the study area and must be considered as relevant features of archaeological potential.

1.3.3 Previous Archaeological Work

Reports documenting assessments conducted within the subject lands and assessments that resulted in the discovery of sites within adjacent lands were sought during the research component of the study. In order to ensure that all relevant past work was identified, an investigation was launched to identify reports involving assessments within 50 m of the study area. The investigation determined that there are no available reports documenting previous archaeological fieldwork within the specified distance.

2.0 STAGE 1 BACKGROUND STUDY

2.1 Background

The Stage 1 assessment involved background research to document the geography, history, previous archaeological fieldwork and current land condition of the study area. This desktop examination included research from archival sources, archaeological publications and online databases. It also included the analysis of a variety of historical maps and aerial imagery. The results of the research conducted for the background study are summarized below.

With occupation beginning approximately 11,000 years ago, the greater vicinity of the study area comprises a complex chronology of Pre-Contact and Post-Contact histories (Section 1.2). Artifacts associated with Palaeo, Archaic, Woodland and Early Contact traditions are well-attested in the Township of Glenelg, and Euro-Canadian archaeological sites dating to pre-1900 and post-1900 contexts are likewise common. The presence of one previously identified site in the surrounding area demonstrates the desirability of this locality for early settlement (Section 1.3.2). The investigation confirmed that this site does not extend into the subject lands. Background research identified one area of previous assessment within the study area (Section 1.3.3).

The natural environment of the study area would have been attractive to both Indigenous and Euro-Canadian populations as a result of proximity to the Georgian Bay and its tributaries. The soils would have been ideal for agriculture, and the diverse local vegetation would also have encouraged

settlement throughout Ontario's lengthy history. Euro-Canadian populations would have been particularly drawn to the adjacent historical thoroughfare.

In summary, the background study included an up-to-date listing of sites from the Ontario Archaeological Sites Database (within at least a 1 km radius), the consideration of previous local archaeological fieldwork (within at least a 50 m radius), the analysis of historical maps (at the most detailed scale available) and the study of aerial imagery. ARA therefore confirms that the standards for background research set out in Section 1.1 of the 2011 S&Gs were met.

2.2 Field Methods (Property Inspection)

In order to gain first-hand knowledge of the geography, topography and current condition of the study area, a property inspection was conducted on June 13, 2024. Environmental conditions were ideal during the inspection, with partly cloudy skies, bright lighting, and a temperature of 25 °C. ARA therefore confirms that fieldwork was carried out under weather and lighting conditions that met the requirements set out in Section 1.2 Standard 2 of the 2011 S&Gs.

The study area was subjected to a systematic visual inspection in accordance with the requirements set out in Section 1.2 of the 2011 S&Gs. Specifically, the inspection began on the north side of the property and continued along the east, south, then west sides. The inspection confirmed that all surficial features of archaeological potential were present where they were previously identified and did not result in the identification of any additional features of archaeological potential not visible on mapping (e.g., relic water channels, patches of well-drained soils, etc.).

The inspection determined that parts of the study area were disturbed by past construction activities (Images 1–4). Additionally, some of the lands were found to be permanently wet (Image 5–Image 6). No natural features (e.g. sloped lands, overgrown vegetation, heavier soils than expected, etc.) or significant built features (e.g., heritage structures, landscapes, plaques, monuments, cemeteries, etc.) that would affect assessment strategies were identified.

2.3 Analysis and Conclusions

In addition to relevant historical sources and the results of past archaeological assessments, the archaeological potential of a property can be assessed using its soils, hydrology and landforms as considerations. Section 1.3.1 of the 2011 S&Gs recognizes the following features or characteristics as indicators of archaeological potential: previously identified sites, water sources (past and present), elevated topography, pockets of well-drained sandy soil, distinctive land formations, resource areas, areas of Euro-Canadian settlement, early transportation routes, listed or designated properties, historic landmarks or sites, and areas that local histories or informants have identified with possible sites, events, activities or occupations.

The Stage 1 assessment resulted in the identification of numerous features of archaeological potential in the vicinity of the study area (Map 6); The closest and most relevant indicators of archaeological potential (i.e., those that would directly affect survey interval requirements) include three primary water sources (Rocky Saugeen River, and two unnamed waterbodies), one previously identified site (BdHd-6), and one historical railway (Toronto, Grey & Bruce Railway).

Background research did not identify any features indicating that the study area has potential for deeply buried archaeological resources.

Although proximity to a feature of archaeological potential is a significant factor in the potential modelling process, current land conditions must also be considered. Section 1.3.2 of the 2011 S&Gs emphasizes that 1) quarrying, 2) major landscaping involving grading below topsoil, 3) building footprints and 4) sewage/infrastructure development can result in the removal of archaeological potential, and Section 2.1 states that 1) permanently wet areas, 2) exposed bedrock and 3) steep slopes ($> 20^\circ$) in areas unlikely to contain pictographs or petroglyphs can also be evaluated as having no or low archaeological potential. Areas previously assessed and not recommended for further work also require no further assessment.

Background research did not identify any previously assessed areas of no further concern within the study area. ARA's property inspection, coupled with the analysis of historical sources and digital environmental data, resulted in the identification of a combination of areas archaeological potential and no archaeological potential. The forested lands have potential for Indigenous and Euro-Canadian archaeological materials and require test pit survey.

In summary, the Stage 1 assessment determined that the study area has archaeological potential. The potential modelling results are presented in Map 6. The limits of the study area are depicted as a layer in this map.

3.0 RECOMMENDATIONS

The Stage 1 assessment determined that the study area comprised a mixture of areas of archaeological potential and areas of no archaeological potential. It is recommended that the areas determined to have archaeological potential be subject to Stage 2 archaeological assessment in accordance with Section 2.1 of the 2011 S&Gs.

The forested lands must be assessed using the test pit survey method. A survey interval of 5 m will be required due to the proximity of the lands to the identified features of archaeological potential. Each test pit must be excavated into at least the first 5 cm of subsoil, and the resultant pits must be examined for stratigraphy, potential features and/or evidence of fill. The soil from each test pit must be screened through mesh with an aperture of no greater than 6 mm and examined for archaeological materials. If archaeological materials are encountered, all positive test pits must be documented, and intensification may be required. If any in-water work is planned within the Twelve Mile Creek, the *Criteria for Evaluating Marine Archaeological Potential Checklist* should be consulted.

Given that there are still outstanding archaeological concerns within the subject lands, no ground alterations or development of any kind may occur until the required investigation is complete, a recommendation that the lands require no further archaeological assessment is made, and the associated report is entered into the Ontario Public Register of Archaeological Reports.

4.0 IMAGES



Image 1: Disturbed Lands
(June 13, 2024; Facing Southwest)



Image 2: Disturbed Lands
(June 13, 2024; Facing North)



Image 3: Disturbed Lands
(June 13, 2024; Facing North)



Image 4: Disturbed Lands
(June 13, 2024; Facing North)



Image 5: Permanently Wet Area
(June 13, 2024; Facing Southeast)



Image 6: Permanently Wet Area
(June 13, 2024; Facing South)



Image 7: Area of Potential
(June 13, 2024; Facing Southwest)



Image 8: Area of Potential
(June 13, 2024; Facing Northwest)



Image 9: Area of Potential
(June 13, 2024; Facing Southwest)



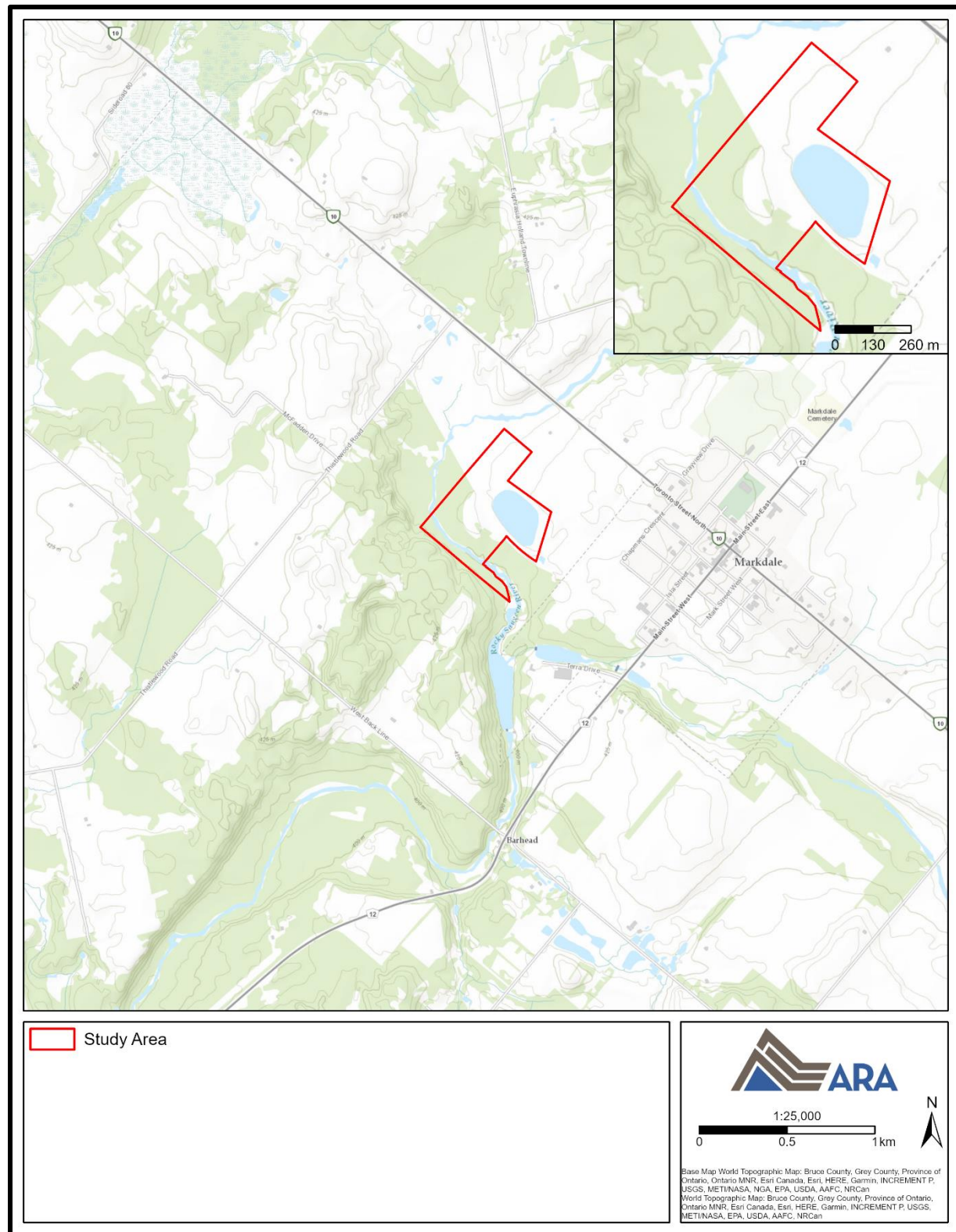
Image 10: Area of Potential
(June 13, 2024; Facing Southwest)

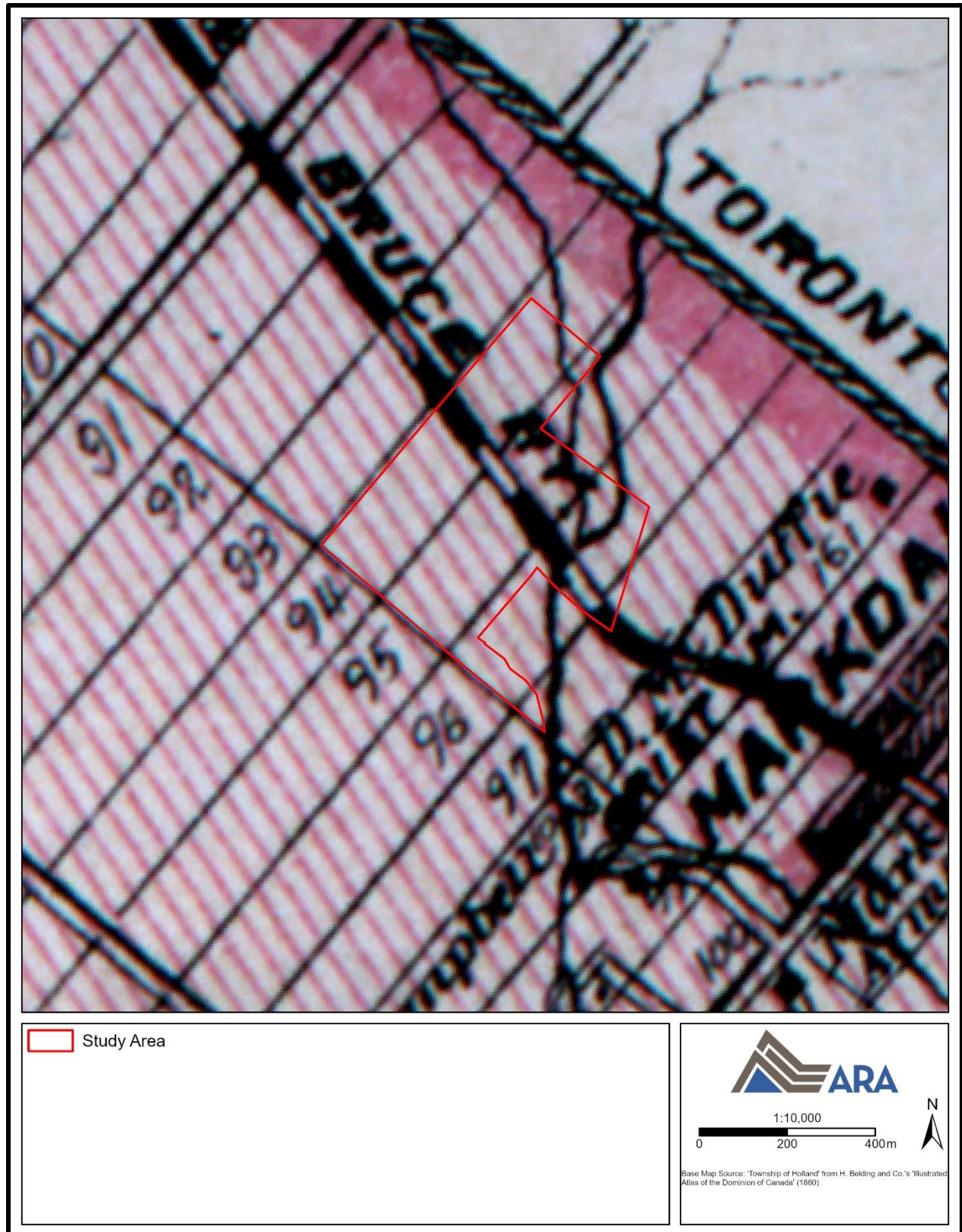
5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

Section 7.5.9 of the 2011 S&Gs requires that the following information be provided for the benefit of the proponent and approval authority in the land use planning and development process:

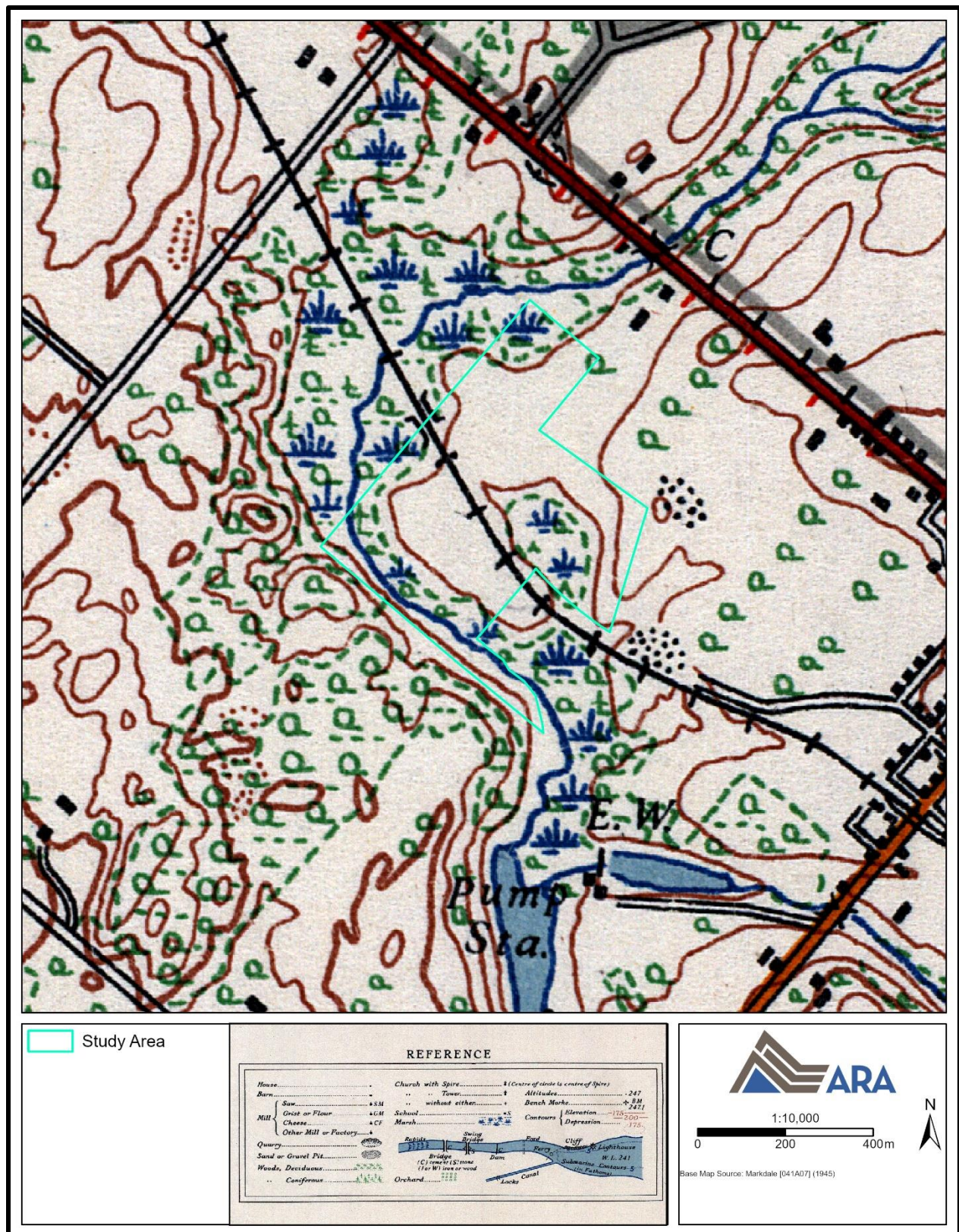
- This report is submitted to the Minister of Citizenship and Multiculturalism as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the MCM, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.
- It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.
- Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.
- The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the police or coroner and the Registrar at the Ministry of Public and Business Service Delivery.

6.0 MAPS

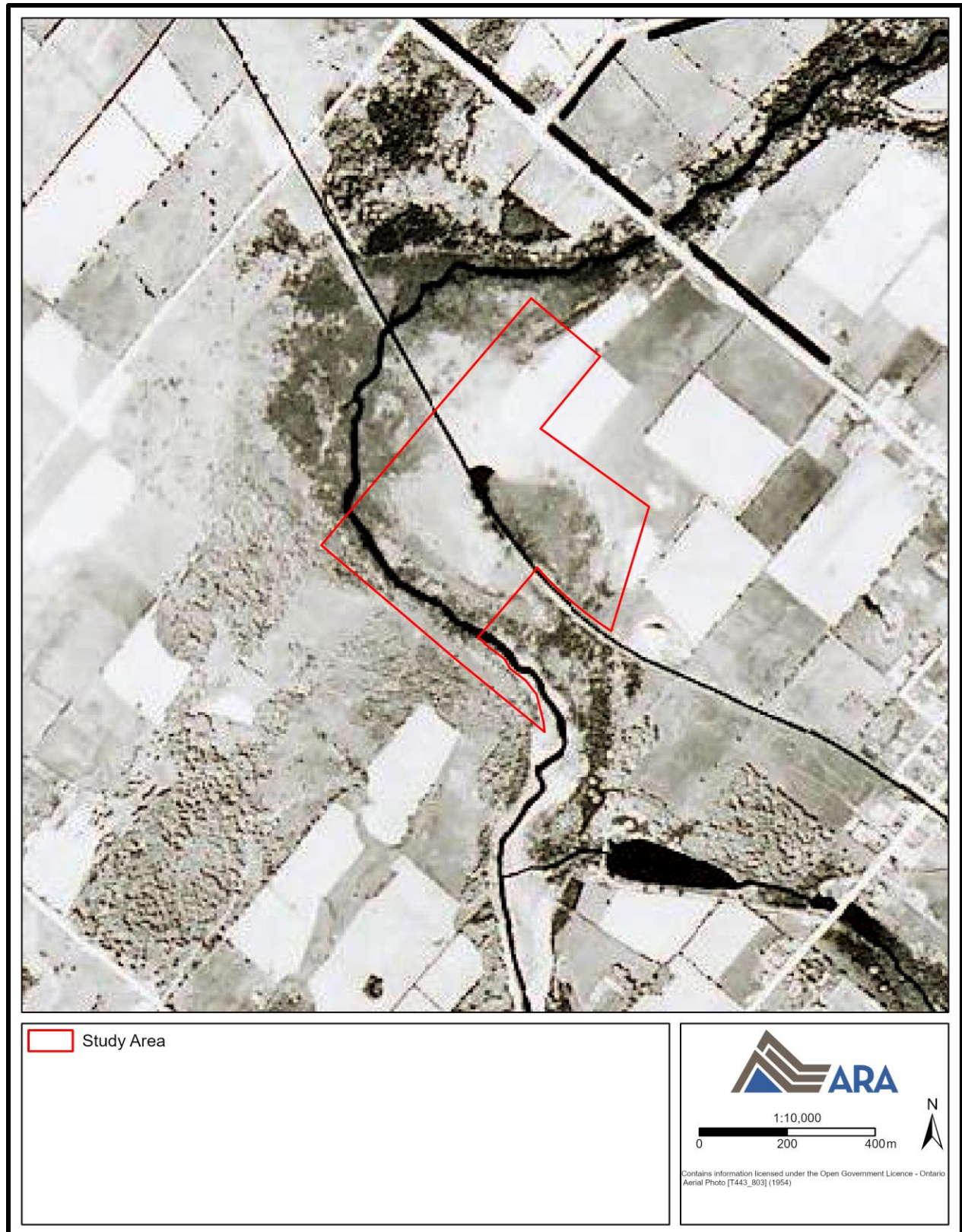




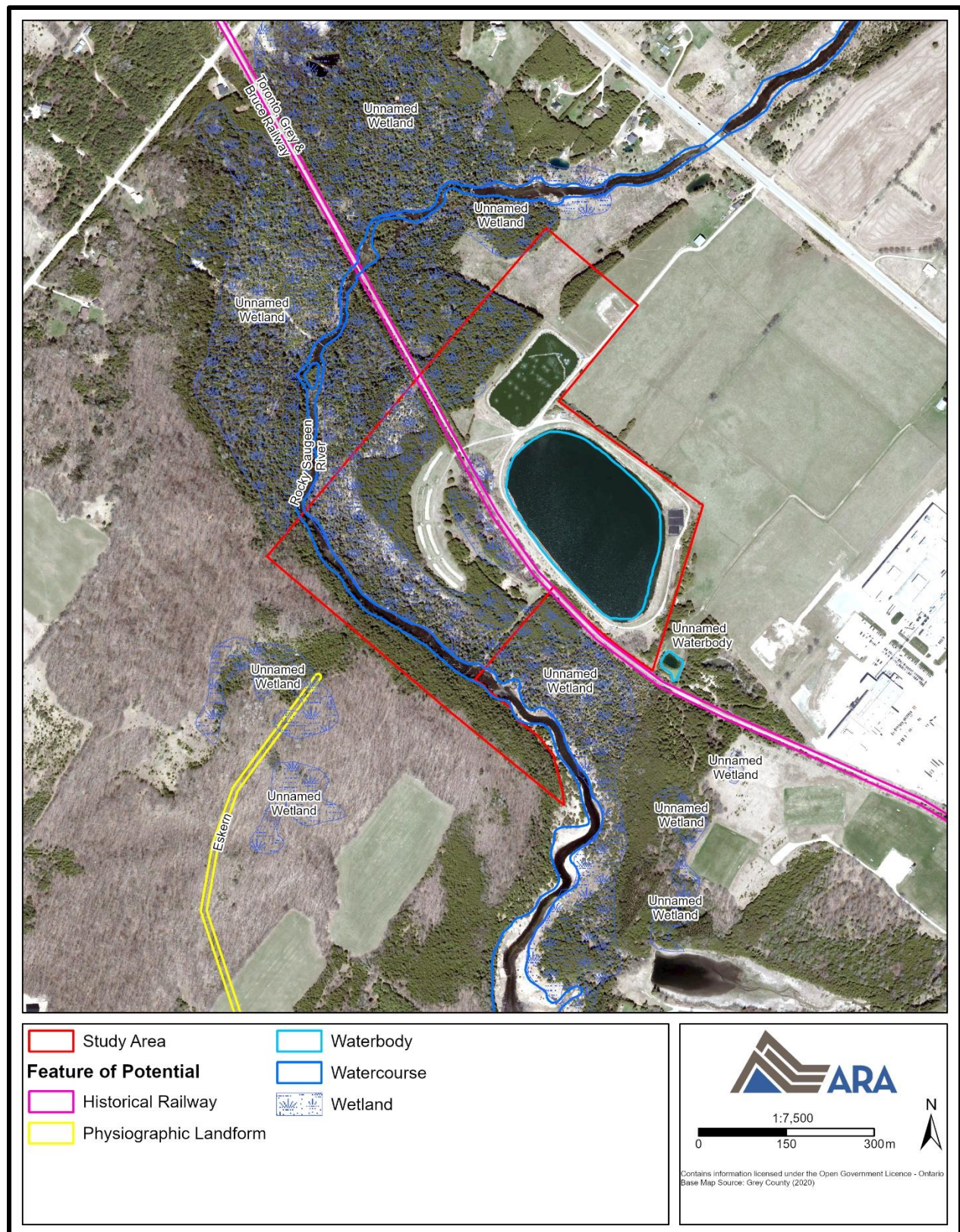
Map 2: Map of the Township of Holland (1880)
(Produced under licence using ArcGIS® software by Esri, © Esri; OHCMP 2019)

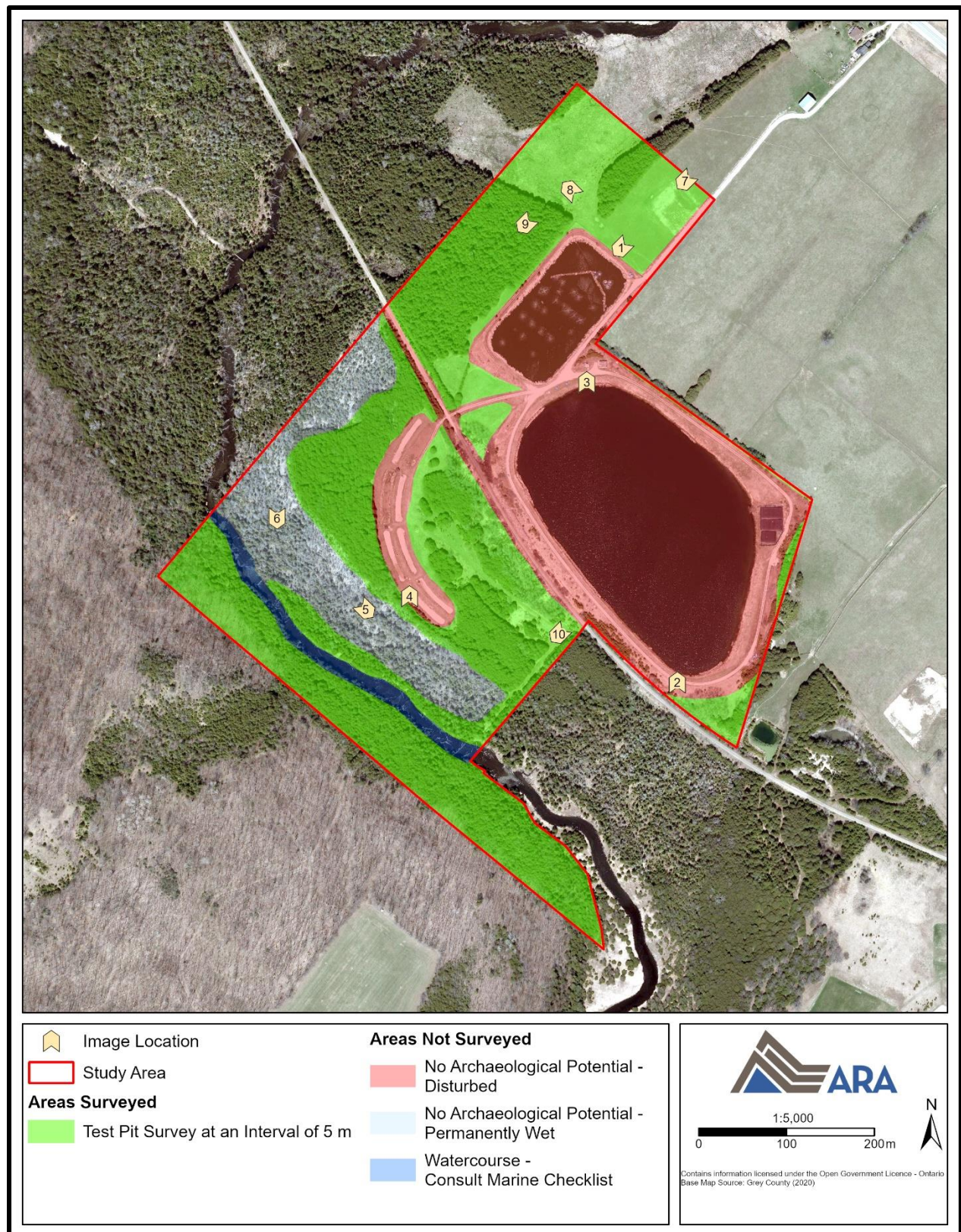


Map 3: Topographic Map (1945)
(Produced under licence using ArcGIS® software by Esri, © Esri; MU 2001)



Map 4: Aerial Image (1954)
(Produced under licence using ArcGIS® software by Esri, © Esri; OCUL 2022)





Map 6: Assessment Results
(Produced under licence using ArcGIS® software by Esri, © Esri; U of T 2022)

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**Stage 2 Archaeological Assessment
31254-002 Markdale WWTP
775342 Highway 10
Municipality of West Grey
Various Lots and Concessions
Geographic Township of Glenelg
County of Grey**

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ARA File #2024-0462

11/03/2026

Original Report

EXECUTIVE SUMMARY

Under a contract awarded in January 2025, Archaeological Research Associates Ltd. (ARA) carried out a Stage 2 assessment of lands with the potential to be impacted by the expansion of an existing wastewater treatment plant located northwest of Markdale, Ontario. The assessment was completed in support of the Environmental Study Report (ESR) for a Schedule “C” Municipal Class Environmental Assessment (EA) for the proposed Wastewater Treatment Plant (WWTP) expansion in accordance with the Environmental Assessment Act. This report documents the background research and fieldwork involved in the investigation and presents conclusions and recommendations pertaining to archaeological concerns.

The Stage 2 assessment was conducted in July and November 2025 under Project Information Form # P007-1643-2025. The investigation was limited to the project area as impacts beyond the project area will not occur. Legal permission to enter and conduct all necessary fieldwork activities within the assessed lands was granted by the property owner. At the time of assessment, the study area consisted of wooded areas, clearings, and water treatment facilities.

The Stage 2 assessment did not result in the identification of any archaeological materials. It is recommended that no further land-based assessment be required within the project area. If any impacts are planned outside of the assessed are, further assessment will be required.

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ABBREVIATIONS

ARA – Archaeological Research Associates Ltd.
MCM– Ministry of Citizenship and Multiculturalism
PIF – Project Information Form
S&Gs – Standards and Guidelines for Consultant Archaeologists

PERSONNEL

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ENGAGED GROUPS

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Field Representative: None

Saugeen Ojibway Nation

Contacts: R. Martin

Field Representative: None

Beausoleil First Nation

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Field Representative: None

Chippewas of Georgina First Nation

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1.0 PROJECT CONTEXT

1.1 Development Context

Under a contract awarded in January 2025, Archaeological Research Associates Ltd. (ARA) carried out a Stage 2 assessment of lands with the potential to be impacted by the expansion of an existing wastewater treatment plant located northwest of Markdale, Ontario. The assessment was completed in support of the Environmental Study Report (ESR) for a Schedule “C” Municipal Class Environmental Assessment (EA) for the proposed Wastewater Treatment Plant (WWTP) expansion in accordance with the Environmental Assessment Act. This report documents the background research and fieldwork involved in the investigation and presents conclusions and recommendations pertaining to archaeological concerns.

The project area consists of an irregular parcel of land with an area of 2.82 ha (Map 1). This parcel is generally bounded by agricultural land to the east, and forest in the north, south, and west. In legal terms, the study area comprises part of Lots 94-96, Range 1 West of Toronto & Sydenham Road the Township of Glenelg, Grey County. The Crown obtained these lands as part of the Saugeen Tract Purchase (Treaty 45 ½) in 1836.

The Stage 2 assessment was conducted in July and November 2025 under Project Information Form (PIF) # P007-1643-2025. The investigation was limited to the project area as impacts outside of the project area will not occur. Legal permission to enter and conduct all necessary fieldwork activities was granted by the property owner. As set out in Section 1.0 of the 2011 *Standards and Guidelines for Consultant Archaeologists (S&Gs)*, the investigation was carried out to achieve the following objectives:

- Document all archaeological resources within the study area;
- Determine whether there are sites requiring further assessment; and
- Recommend appropriate strategies for Stage 3 assessment, if necessary.

The Ministry of Citizenship and Multiculturalism (MCM) is asked to review the results and recommendations presented herein and enter the report into the Ontario Public Register of Archaeological Reports. A Record of Indigenous Engagement is included in the project report package in accordance with the requirements set out in Section 7.6.2 of the 2011 S&Gs. The additional directions provided in the 2011 *Conducting Archaeology within the Traditional Territory of the Saugeen Ojibway Nation* were considered throughout the investigation.

1.2 Historical Context

After a century of archaeological work in southern Ontario, scholarly understanding of the historical usage of the area has become very well-developed. With occupation beginning in the Palaeo period approximately 11,000 years ago, the greater vicinity of the study area comprises a complex chronology of Pre-Contact and Euro-Canadian histories. Section 1.2.1 summarizes the region's settlement history, whereas Section 1.2.2 documents the study area's past and present land uses. One previous archaeological report containing relevant background information was identified during the research component of the study. This report is summarized in Section 1.3.3, and the references (including title, author and PIF number) appear in Section 7.0.

1.2.1 Settlement History

1.2.1.1 Pre-Contact

The Pre-Contact history of the region is lengthy and rich, and a variety of Indigenous groups inhabited the landscape. Archaeologists generally divide this vibrant history into three main periods: Palaeo, Archaic and Woodland. Each of these periods comprise a range of discrete sub-periods characterized by identifiable trends in material culture and settlement patterns, which are used to interpret past lifeways. The principal characteristics of these sub-periods are summarized in Table 1.

Table 1: Pre-Contact Settlement History
(Wright 1972; Ellis and Ferris 1990; Warrick 2000; Munson and Jamieson 2013)

Sub-Period	Timeframe	Characteristics
Early Palaeo	9000–8400 BC	Gainey, Barnes and Crowfield traditions; Small bands; Mobile hunters and gatherers; Utilization of seasonal resources and large territories; Fluted points
Late Palaeo	8400–7500 BC	Holcombe, Hi-Lo and Lanceolate biface traditions; Continuing mobility; Campsite/Way-Station sites; Smaller territories are utilized; Non-fluted points
Early Archaic	7500–6000 BC	Side-notched, Corner-notched (Nettling, Thebes) and Bifurcate traditions; Growing diversity of stone tool types; Heavy woodworking tools appear (e.g., ground stone axes and chisels)
Middle Archaic	6000–2500 BC	Stemmed (Kirk, Stanly/Neville), Brewerton Side- and Corner-Notched traditions; Reliance on local resources; Populations increasing; More ritual activities; Fully ground and polished tools; Net-sinkers common; Earliest copper tools
Late Archaic	2500–900 BC	Narrow Point (Lamoka), Broad Point (Genesee) and Small Point (Crawford Knoll) traditions; Less mobility; Use of fish-weirs; True cemeteries appear; Stone pipes emerge; Long-distance trade (marine shells and galena)
Early Woodland	900–400 BC	Meadowood tradition; Crude cord-roughened ceramics emerge; Meadowood cache blades and side-notched points; Bands of up to 35 people
Middle Woodland	400 BC–AD 600	Local Saugeen-like tradition; Others argue for Point Peninsula tradition; Ceramics continue but many are undecorated; Seasonal settlements and resource utilization; Each watershed may have had a unique tradition; Regional patterns poorly understood at this time
Middle/Late Woodland Transition	AD 600–900	Princess Point tradition; Cord roughening, impressed lines and punctate designs on pottery; Adoption of maize horticulture at the western end of Lake Ontario; Oval houses and 'incipient' longhouses; First palisades; Villages with 75 people
Late Woodland (Early)	AD 900–1300	Glen Meyer tradition; Settled village-life based on agriculture; Small villages (0.4 ha) with 75–200 people and 4–5 longhouses; Semi-permanent settlements
Late Woodland (Middle)	AD 1300–1400	Uren and Middleport traditions; Classic longhouses emerge; Larger villages (1.2 ha) with up to 600 people; More permanent settlements (30 years)
Late Woodland (Late)	AD 1400–1600	Pre-Contact Neutral tradition; Larger villages (1.7 ha); Examples up to 5 ha with 2,500 people; Extensive croplands; Also, hamlets, cabins, camps and cemeteries; Potential tribal units; Fur trade begins ca. 1580; European trade goods.

Although Iroquoian-speaking populations tended to leave a much more obvious mark on the archaeological record and are therefore emphasized in the Late Woodland entries above, it must be understood that Algonquian-speaking populations also represented a significant presence in southern Ontario. Due to the sustainability of their lifeways, archaeological evidence directly associated with the Anishinaabeg remains elusive, particularly when compared to sites associated with the more sedentary agriculturalists. Many artifact scatters in southern Ontario were likely camps, chipping stations or processing areas associated with the more mobile Anishinaabeg, utilized during their travels along the local drainage basins while making use of seasonal resources. This part of southern Ontario represents the ancestral territory of various Indigenous groups, each with their own land use and settlement pattern tendencies.

1.2.1.2 Post-Contact

The arrival of European explorers and traders at the beginning of the 17th century triggered widespread shifts in Indigenous lifeways and set the stage for the ensuing Euro-Canadian settlement process. Documentation for this period is abundant, ranging from the first sketches of Upper Canada and the written accounts of early explorers to detailed township maps and lengthy histories. The Post-Contact period can be effectively discussed in terms of major historical events; the principal characteristics associated with these events are summarized in Table 2.

Table 2: Post-Contact Settlement History
(Smith 1846; Irwin & Burnham 1867; Coyne 1895; Nelles 1905; Lajeunesse 1960; Johnston 1964; Phelps 1972; Ellis and Ferris 1990; Surtees 1994; AO 2015)

Historical Event	Timeframe	Characteristics
Early Exploration	Early 17 th century	Brûlé explores southern Ontario in 1610/11; Champlain travels through in 1613 and 1615/1616, making contact with a number of Indigenous groups (including the Algonquin, Huron-Wendat and other First Nations); European trade goods become increasingly common and begin to put pressure on traditional industries
Increased Contact and Conflict	Mid- to late 17 th century	Conflicts between various First Nations during the Beaver Wars result in numerous population shifts; European explorers continue to document the area, and many Indigenous groups trade directly with the French and English; ‘The Great Peace of Montreal’ treaty established between roughly 39 different First Nations and New France in 1701
Fur Trade Development	Early to mid-18 th century	Growth and spread of the fur trade; Peace between the French and English with the Treaty of Utrecht in 1713; Ethnogenesis of the Métis; Hostilities between French and British lead to the Seven Years’ War in 1754; French surrender in 1760
British Control	Mid- to late 18 th century	<i>Royal Proclamation</i> of 1763 recognizes the title of the First Nations to the land; Numerous treaties subsequently arranged by the Crown; First land cession under the new protocols is the Seneca surrender of the west side of the Niagara River in 1764; The Niagara Purchase (Treaty 381) in 1781 included this area
Loyalist Influx	Late 18 th century	United Empire Loyalist influx after the American Revolutionary War (1775–1783); British develop interior communication routes and acquire additional lands; John Collins acquires the northern part of the Toronto Carrying Place in 1785 (subject to a confirmatory surrender in the Williams Treaties of 1923); Constitutional Act of 1791 creates Upper and Lower Canada
County Development	Late 18 th to early 19 th century	Nominally became part of Kent County in 1792 and Simcoe County in 1798; Additional land cessions included the Penetanguishene Purchase (Treaty 5) in 1798, Lake Simcoe Purchase (Treaty 16) in 1815 and Nottawasaga Purchase (Treaty 18) in 1818; All townships surveyed by the mid-1830s; Townships ceded to Waterloo County in 1837 and York County in 1838; Simcoe County independent after the abolition of the district system in 1849

Historical Event	Timeframe	Characteristics
Township Formation	Late 18 th to early 19 th century	Township surveyed in 1850 by Mr. Dennis and was named Glenelg after the town in Scotland; Population mainly comprised Irish and Scottish immigrants; John Jessiman was the first settler in the township
Township Development	Mid-19 th to early 20 th century	1848 first mill was built on the Rocky Saugeen; the First school, Union School, was established in 1850; Post office established in 1853; Additional flour Mill in operation by 1857; Sawmills in operation by 1857; Most prominent community is Markdale

1.2.2 Traditional Knowledge

The study area occupies lands that fall within the treaty, traditional and/or ancestral territories of numerous Indigenous peoples and communities. Indeed, this area was used and shared by many groups over the millennia; each with their own traditions as to how they arrived, how they lived and the major events that punctuated their time there. At the time of writing, the Chippewas of Rama First Nation have provided traditional knowledge for inclusion in archaeological reports. These contributions are reproduced in Table 3. It should be noted that one group's traditional knowledge does not necessarily reflect the views of other groups, or the consultant archaeologist.

Table 3: Chippewas of Rama First Nation History
(Provided by Chippewas of Rama First Nation)

Rama First Nation History
<p>The Chippewas of Rama First Nation are an Anishinaabe (Ojibway) community located at Rama First Nation, ON. As Anishinaabeg, our history begins with a beautiful creation story. Lowered to Shkakmii-Kwe (Mother Earth), our ancestors became a part of creation and lived in harmony with all of their relations. For a long time, this is how it was.</p> <p>Going back tens of thousands of years, our ancestors and the ancestors of many other Nations were the only people on Turtle Island (North America). Our ancestors co-existed with other Nations. There were times of peace and there were times of war. Alliances were formed, trade networks established, social norms, ceremonies, customs, and tools were adapted and evolved. Much of our history before the arrival of Europeans remains only in ancestral memory and aadzookaanag (sacred stories) – stories which we are still learning.</p> <p>As First Nations people and as Anishinaabeg, we have always relied on Shkakmii-Kwe. Our ancestors followed seasonal cycles of food and resource harvesting, which were all a part of the natural laws our ancestors understood.</p> <p>In Niibin (summer) our ancestors travelled to fisheries and Mnjikaning (the place of the fish fence), harvesting large amounts of tikmeg (whitefish), kewis (herring), gnoozhe (pike), ogaa (walleye), and nmebin (suckers). These giigoonyag (fish) were smoked and added to food stock for surviving winter. Mshkikiwan (medicines) and berries such as odeminan (strawberries), datgaagminag (blackberries), miinan (blueberries) and mskominag (raspberries) were picked throughout the summer.</p> <p>Beginning late Niibin into Dgwaagi (fall), our ancestors harvested from their small and large gtigaanan (gardens). While our ancestors didn't farm on the same scale as other Nations, they did grow important root vegetables. Late Niibin also saw the harvest of mnoominan (wild rice). Our ancestors harvested mnoominan from the many lakes it grew upon, and mnoominan was arguably our most important food, sustaining our people through the barren winter months.</p> <p>Dgwaagi started the migration into Misko Aki (Muskoka) and other ndawenjge ki (hunting lands). Kwewag (women) and binoojiinyag (children) typically stayed behind as the niniwag (men) and shkinweg (young men) travelled to ndawenjgewag. The waawaashkeshi (deer), mooz (moose), amik (beaver), wabooz (rabbit), gaag (porcupine), zhaashk (muskrat), and zhiishiib (duck) were and still today are hunted throughout our ndawenjge kiing. All parts of the animal are used, and for most of our history, have provided our clothing, bags, ceremonial items, and mshkikiwan.</p> <p>In Bboon (winter), families overwintered together, and we sometimes even stayed with allied Nations. Bboon was a time for rest, storytelling, teachings, and family. There was dawenjgewag and our ancestors also fished through the ice at times too. Our ancestors largely relied on their preparations from summer and fall to survive the winter. Their kinship, trading, ndawenjgewag, and harvesting determined whether they could survive Bboon or not.</p> <p>The welcome melt of snow meant ziisbaakwad (maple sugar). Entire communities mobilized to harvest sap from the sacred ninaatig (maple tree), which we spent weeks boiling down into ziisbaakwad. Ziisbaakwad was added to our mijjim (food); a welcome treat after a long Bboon. Mnookmi (spring) started the visiting of fisheries during the early giigoonh (fish) runs,</p>

Rama First Nation History

planting our gtigaanan, and harvesting first mshkikiwan. It was a time to repair tools, weapons, and resources, to visit with other families and trade with other Nations, and to visit

These seasonal patterns reflected the natural laws to which our ancestors were bound and to which we live our lives today. Our ancestors knew that in not following these laws, they and their relations would struggle. They relied on their adherence to these laws and vast traditional ecological knowledge to survive. Today we see these laws reflected in medicine wheel teachings and through our worldview as Anishinaabeg.

Our history in Ontario begins with a great migration from the East Coast of Canada into the Great Lakes region. With no Western concepts of property ownership nor borders, Nations self-governed by wampum agreements, doodemnaan (clans) and political alliances. Throughout a period of several hundred years, our direct ancestors again migrated to the north and eastern shores of Lake Huron and Georgian Bay.

Our Elders say that we made room in our territory for our allies, the Wendat Nation, during their times of war with the Haudenosaunee. Following the dispersal of the Wendat Nation from the region in the mid-1600s, our stories say that we reclaimed our territories in what today is known as Muskoka and Simcoe County. Several major battles with the Haudenosaunee culminated in peace being agreed between the Anishinaabe and the Haudenosaunee, after which the Haudenosaunee agreed to leave the region and remain in southern Ontario. Since the early 18th century, much of central Ontario into the lower parts of northern Ontario has been Anishinaabeg territory.

The more recent history of Rama First Nation begins with the creation of the “Coldwater Narrows” reserve, one of the first reserves in Canada. The Crown intended to relocate our ancestors to the Coldwater reserve and ultimately assimilate our ancestors into Euro-Canadian culture. Underlying the attempts to assimilate our ancestors were the plans to take possession of our vast hunting and harvesting territories. Feeling the impacts of increasingly widespread settlement, many of our ancestors moved to the Coldwater reserve in the early 1830s. Our ancestors built homes, mills, and farmsteads along the old portage route which ran through the reserve, connecting Lake Simcoe to Georgian Bay (this route is now called “Highway 12”). After a short period of approximately six years, the Crown had a change of plans. Frustrated at our ancestors continued exploiting of hunting territories (spanning roughly from Newmarket to the south, Kawartha Lakes to the east, Meaford to the west, and Lake Nipissing to the north), as well as unsuccessful assimilation attempts, the Crown reneged on the promise of reserve land. Three of our Chiefs, including Chief Yellowhead, went to York (Toronto) under the impression they were signing documents affirming their ownership of land and buildings. The Chiefs were misled, and allegedly surrendered the Coldwater reserve back to the Crown.

Our ancestors, then known as the Chippewas of Lakes Simcoe and Huron, were left landless. Earlier treaties, such as Treaty 16 (1815) and Treaty 18 (1818), had already resulted in nearly 2,000,000 acres being allegedly surrendered to the Crown. The Chippewas made the decision to split into three groups. The first followed Chief Snake to Snake Island and Georgina Island (today known as the Chippewas of Georgina Island). The second group followed Chief Aissance to Beausoleil Island, and later to Christian Island (Beausoleil First Nation). The third group, led by Chief Yellowhead, moved to the Narrows between Lakes Simcoe and Couchiching and eventually, Rama (Chippewas of Rama First Nation).

A series of purchases using Rama’s own funds, resulted in Chief Yellowhead purchasing approximately 1,600 acres of abandoned farmland in Rama Township. This land makes up the core of the Rama Reserve today, and we have called it home since the early 1840’s. Our ancestors began developing our community, clearing fields for farming and building homes. They continued to hunt and harvest in their ndawenjge ki (hunting grounds) up until the early 1920’s. In 1923, the Williams Treaties were signed, surrendering 12,000,000 acres of previously unceded land to the Crown. Once again, our ancestors were misled, and they were informed that in surrendering the land, they gave up their right to access their seasonal traditional hunting and harvesting territories.

With accessing territories difficult, our ancestors turned to other ways to survive. Niniwag (men) guided tourists around their former family ndawenjge ki in Misko Aki (Muskoka), showing them places to fish and hunt. Others worked in lumber camps and mills. Kwewag (women) made crafts such as porcupine quill baskets and black ash baskets, and sold them to tourists visiting Simcoe and Muskoka. The children were forced into Indian Day School, and some were taken away to Residential Schools. Church on the reserve began to indoctrinate our ancestors. Our community, along with every other First Nation in Canada, entered a dark period of attempted genocide at the hands of Canada and the Crown.

With incredible strength, our ancestors persevered, and they kept our culture, language, and community alive. Today, our community has grown to approximately 2,200 members, and is a bustling place, home to approximately 1,100 people living on reserve. We have passed through the darkest part of our history and are now reclaiming our history, ceremonies, language, harvesting, and all of the beautiful things that make us Anishinaabeg. We are a proud and progressive First Nation community.

1.2.3 Past and Present Land Use

1.2.3.1 Overview

During Pre-Contact and Early Contact times, the vicinity of the study area would have comprised a mixture of coniferous trees, deciduous trees and open areas. Indigenous communities actively utilized the land and its resources well into Post-Contact times, and they would have managed the landscape to varying degrees (e.g., establishing clearings for campsites, plant cultivation, etc.). During the mid-19th century, Euro-Canadian settlers arrived in the area and began to clear the forests for agricultural and settlement purposes. The study area was located northwest of the historical limits of Markdale. The land was in use a wastewater treatment plant during the time of the assessment.

1.2.3.2 Mapping and Imagery Analysis

In order to gain a general understanding of the study area's past land uses, one historical settlement map, one topographic map and one aerial image were examined during the research component of the study. Specifically, the following resources were consulted:

- *Township of Holland* (1880) (MU 2001);
- Topographic maps from 1945 (OCUL 2022); and
- Aerial images from 1954 (MAC 2022; U of T 2022).

The limits of the study area are shown on georeferenced versions of the consulted historical resources in Map 2–Map 4.

The *Township of Holland* (1880) depicts the Toronto, Grey & Bruce Railway, as well as the Tock Saugeen River crossing the study area. No occupants or structures are identified (Map 2).

The topographic map from 1945 suggests that much of the study area consists of wetland and forest. Additionally, the railway and Rocky Saugeen River are depicted as well (Map 3). The aerial image from 1954 depicts similar results as the topographic map. (Map 5).

1.3 Archaeological Context

The Stage 2 assessment was conducted in July and November 2025 under PIF #P007-1643-2025. ARA utilized an Apple iPhone SE with a built-in GPS/GNSS receiver during the investigation (UTM17/NAD83). The limits of the study area were confirmed using project-specific GIS data translated into GPS points for reference in the field, in combination with aerial imagery showing physical features in relation to the subject lands.

The archaeological context of any given study area must be informed by 1) the condition of the property as found (Section 1.3.1), 2) a summary of registered or known archaeological sites located within a minimum 1 km radius (Section 1.3.2) and 3) descriptions of previous archaeological fieldwork carried out within the limits of, or immediately adjacent to the property (Section 1.3.3).

1.3.1 Condition of the Property

The study area lies within the Great Lakes–St. Lawrence forest region, which is a transitional zone between the southern deciduous forest and the northern boreal forest. This forest extends along the St. Lawrence River across central Ontario to Lake Huron and west of Lake Superior along the border with Minnesota, and its southern portion extends into the more populated areas of Ontario. This forest is dominated by hardwoods, featuring species such as maple, oak, yellow birch, white and red pine. Coniferous trees such as white pine, red pine, hemlock and white cedar commonly mix with deciduous broad-leaved species, such as yellow birch, sugar and red maples, basswood and red oak (MNR 2022).

In terms of local physiography, the subject lands fall within the Horseshoe Moraines. This region consists of a horseshoe-shaped area flanking the upland adjacent to the highest part of the Niagara Escarpment as well as associated meltwater stream deposits. It is characterized by two principal landform components: 1) irregular, stony knobs and ridges which are composed mostly of till with some sand and gravel deposits (kames); and 2) more-or-less pitted sand and gravel terraces and swampy valley floors. The ‘toe’ falls on the highest part of the upland south of Georgian Bay, whereas the two ‘heels’ extend towards lower elevations in the southwest and southeast (Chapman and Putnam 1984:127–129).

The soils within the study area consist of a variety of types listed in Table 3. All soils in the area have a generally smooth topography and are documented as very stony. (Hoffman et al. 1962:Soil Map).

Table 4: Soil Types

Soil Type	Parent Materials	Drainage
Donnybrook Sandy Loam	Sandy Loam	Good
Pike Lake Loam	Loam	Good
Muck	-	Poor

The subject lands fall within the Rocky Saugeen River watershed, which is under the jurisdiction of the Saugeen Valley Conservation Authority (SVCA 2022). Specifically, the study is traversed by the Rocky Saugeen River and an unnamed wetland. At the time of assessment, the study area consisted of open field, forest, wetland and existing water treatment area.

1.3.2 Registered or Known Archaeological Sites

The Ontario Archaeological Sites Database and the Ontario Public Register of Archaeological Reports were consulted to determine whether any registered or known archaeological resources occur within a 1 km radius of the study area. The data search indicated that there is one registered site located within the specified distance. The site is summarized in Table 4.

Table 5: Registered or Known Archaeological Sites

Borden No. / ID No.	Site Name / Identifier	Time Period	Affinity	Site Type	Distance from Study Area
BdHc-6	-	Post-Contact	Euro-Canadian	Farmstead	300 m–1 km

One site is located within 1 km of the study area and must be considered as relevant features of archaeological potential.

1.3.3 Previous Archaeological Work

Reports documenting assessments conducted within the subject lands and assessments that resulted in the discovery of sites within adjacent lands were sought during the research component of the study. In order to ensure that all relevant past work was identified, an investigation was launched to identify reports involving assessments within 50 m of the study area. The investigation determined that there is one available report documenting previous archaeological fieldwork within the specified distance.

1.3.3.1 Markdale WWTP Stage 1 - (ARA)

In 2024, ARA conducted a Stage 1 assessment of the Markdale WWTP property under PIF# P007-1576-2024, entitled “*Stage 1 Archaeological Assessment, 31254-002 Markdale WWTP, 775342, Highway 10, Municipality of West Grey, Various Lots and Concessions, Geographic Township of Glenelg, County of Grey*”. This assessment encompassed the entire project area of this report. The assessment found the study area comprised of a mix of areas of archaeological potential and no archaeological potential. Stage 2 assessment was recommended for areas with archaeological potential.

2.0 STAGE 2 PROPERTY ASSESSMENT

2.1 Field Methods

The Stage 2 assessment consisted of a visual inspection and test pit survey. Environmental conditions were ideal during the investigation, permitting good visibility of land features and providing an increased chance of finding evidence of archaeological resources. A breakdown of the specific fieldwork activities, weather and lighting conditions appears in Table 5. Although there was an instance of intermittent rain, there was no reduction in the ability to observe features of potential or identify archaeological resources. ARA therefore confirms that fieldwork was carried out under weather and lighting conditions that met or exceeded the requirements set out in Section 1.2 Standard 2 and Section 2.1 Standard 3 of the 2011 *S&Gs*.

Table 6: Fieldwork Activities and Environmental Conditions

Date	Activity	Field Director	Lighting	Cloud Cover	Precipitation	Temperature (°C)
29/07/2025	Test pit survey	SB	Bright	None	None	32
30/07/2025	Test pit survey	SB	Bright	Partial	None	27
31/07/2025	Test Pit Survey	SB	Diffuse	Partial	None	22
26/11/2025	Test Pit Survey	TT	Diffuse	Overcast	None	6

The identified areas of archaeological potential were subjected to a systematic visual inspection in accordance with the requirements set out in Section 1.2 of the 2011 *S&Gs*. This component of the

investigation was conducted concurrently with the property survey. The inspection confirmed that all surficial features of archaeological potential were present where they were previously identified and did not result in the identification of any additional features of archaeological potential not visible on mapping (e.g., relic water channels, patches of well-drained soils, etc.). The visual inspection did not identify any areas of deep disturbance. No additional natural features (e.g., permanently wet lands, sloped lands, overgrown vegetation, heavier soils than expected, etc.) or significant built features (e.g., heritage structures, landscapes, plaques, monuments, cemeteries, etc.) that would affect assessment strategies were identified.

The test pit survey method was utilized to complete the assessment because ploughing was not possible or viable. Using this method, ARA crewmembers hand excavated small regular test pits with a minimum diameter of 30 cm at prescribed intervals in accordance with Section 2.1.2 of the 2011 S&Gs. Since the areas to be tested were located less than 300 m from any feature of archaeological potential, a maximum interval of 5 m was warranted (Image 5–Image 7). Disturbed soils resulting from the modern alterations due to grading and installation of infrastructure were encountered in the northern and central parts of the study area. A combination of visual inspection and test pit survey was utilized to confirm the extent of disturbance in accordance with Section 2.1.8 of the 2011 S&Gs. Test pits were excavated according to professional judgement to verify that these areas had no archaeological potential (Image 8). As per a general request from the guidelines by SON, the sloped areas were also tested.

Each test pit was excavated into at least the first 5 cm of subsoil, and the resultant pits were examined for stratigraphy, potential features and/or evidence of fill. Most test pits contained dark brown sandy loam topsoil with medium compaction over light orange sandy subsoil, whereas the disturbed test pits consisted of a heavy mixed strata with modern inclusions.. All soils were screened through mesh with an aperture of no greater than 6 mm and examined for archaeological resources. No locations of archaeological materials were encountered during the test pit survey. The test pits were backfilled upon completion.

The utilized field methods are presented in Map 6. The project area is depicted as a layer in these maps. A breakdown of field methods appears in Table 6.

Table 7: Field Methods

Category	Breakdown
Pedestrian survey at an interval of 5 m	0.00% (0.00 ha)
Test pit survey at an interval of 5 m	68.77% (1.94 ha)
Test pit survey at an interval of 10 m	0.00% (0.00 ha)
Test pit survey at a modified interval due to physical constraint	0.00% (0.00 ha)
Combination of visual inspection and test pit survey to confirm disturbance	15.25% (0.43 ha)
Not assessed due to physical constraint	0.00% (0.00 ha)
Not assessed due to permanently wet areas	7.06% (0.2 ha)
Not assessed due to exposed bedrock	0.00% (0.00 ha)
Not assessed due to sloped areas	0.00% (0.00 ha)
Not assessed due to disturbed areas	7.74% (0.22 ha)
Previously Assessed, no further concerns	0.00% (0.00)
Total	100.00% (2.82 ha)

2.2 Record of Finds

The investigation did not result in the discovery of any archaeological materials. An inventory of the documentary record generated in the field is presented in Table 7.

Table 8: Documentary Record

Category	Total	Nature	Location
Field notes	2	Digital	50 Nebo Road, Unit 1, Hamilton
Maps	2	Digital	50 Nebo Road, Unit 1, Hamilton
Photographs	44	Digital	50 Nebo Road, Unit 1, Hamilton

2.3 Analysis and Conclusions

No archaeological sites were identified within the assessed lands.

3.0 RECOMMENDATIONS

The Stage 2 assessment did not result in the identification of any archaeological materials. It is recommended that no further assessment be required within the project area.

4.0 IMAGES



Image 1: Field Conditions
(July 30, 2025; Facing Southeast)



Image 2: Field Conditions
(July 29, 2025; Facing Southwest)



Image 3: Permanently Wet Area
(July 31, 2025; Facing Northwest)



Image 4: Permanently Wet Area
(July 31, 2025; Facing North)



Image 5: Test Pit Survey
(July 29, 2025; Facing South)



Image 6: Test Pit Survey
(November 26, 2025; Facing Southeast)



Image 7: Natural Test Pit
(November 26, 2025; Facing North)



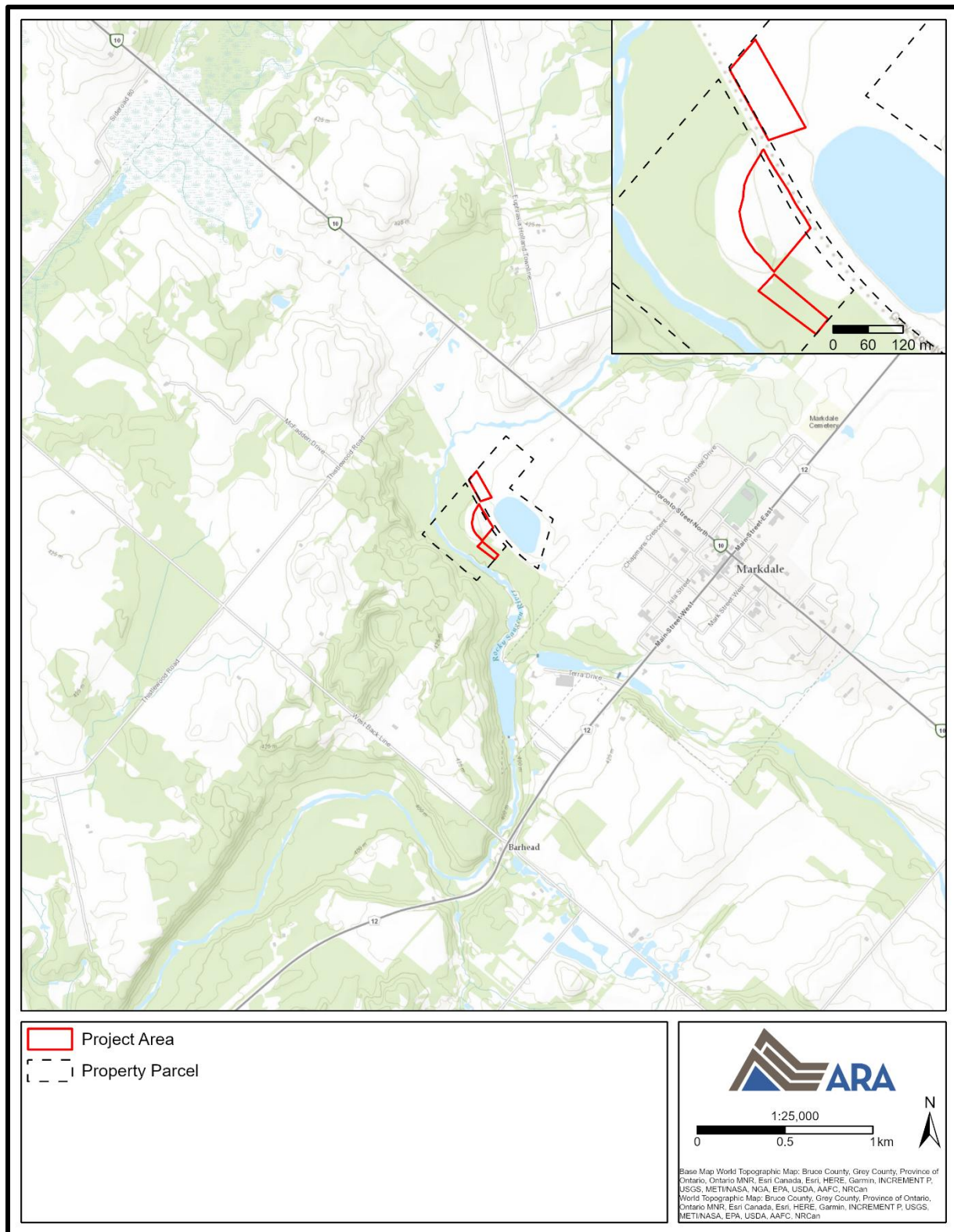
Image 8: Disturbed Test Pit
(November 26, 2025; Facing North)

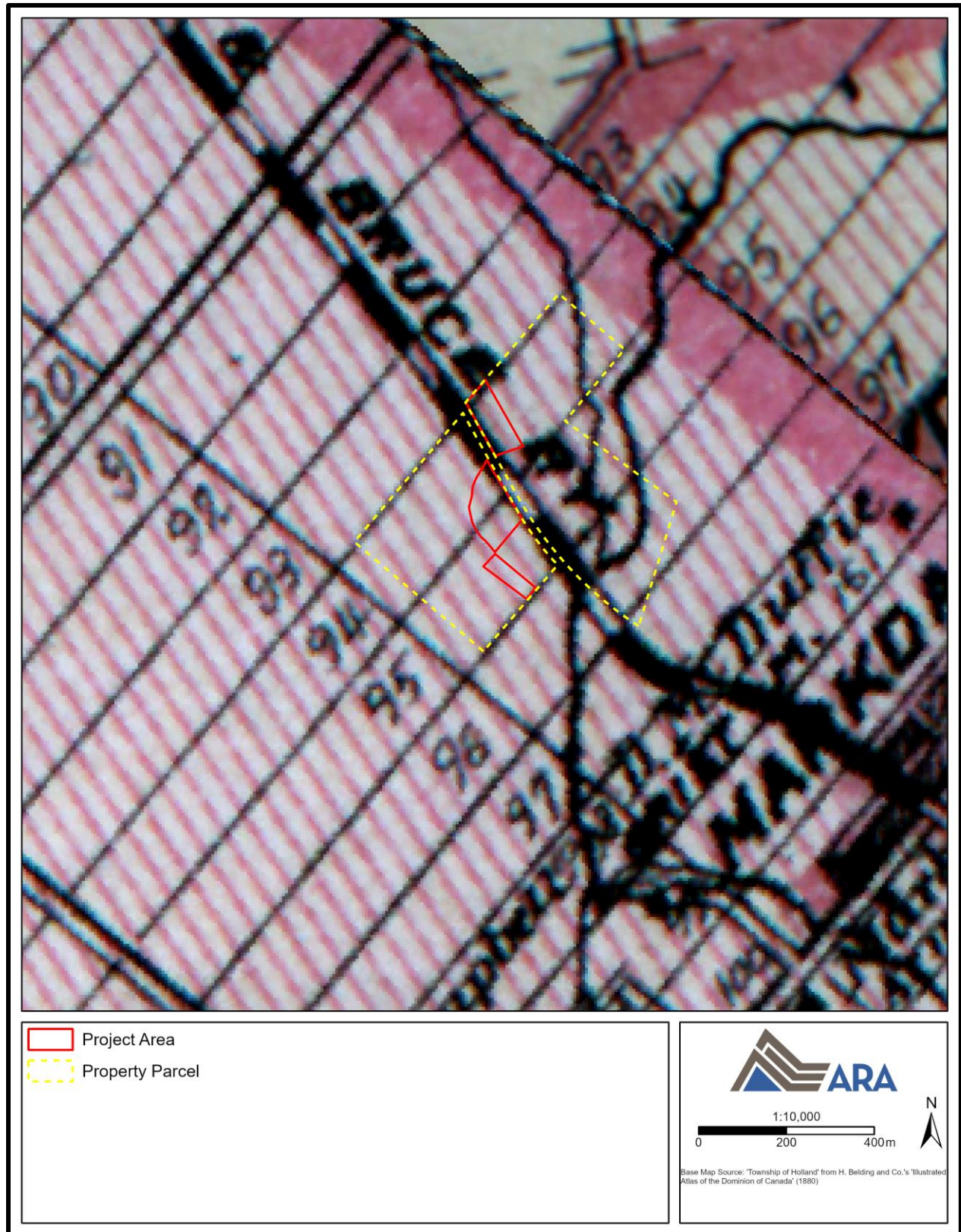
5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

Section 7.5.9 of the 2011 *S&Gs* requires that the following information be provided for the benefit of the proponent and approval authority in the land use planning and development process:

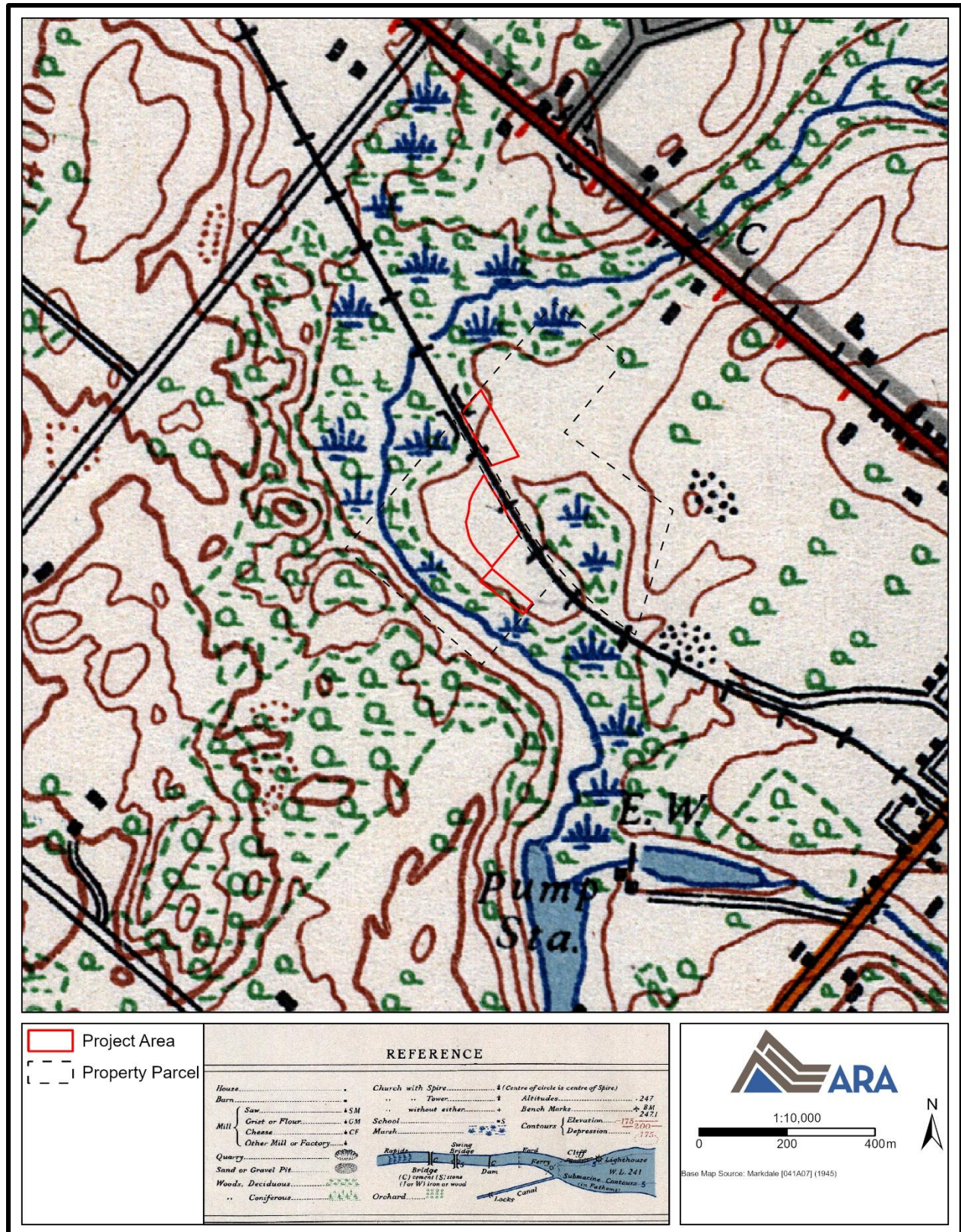
- This report is submitted to the Minister of Citizenship and Multiculturalism as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the MCM, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.
- It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.
- Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.
- The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the police or coroner and the Registrar at the Ministry of Public and Business Service Delivery.

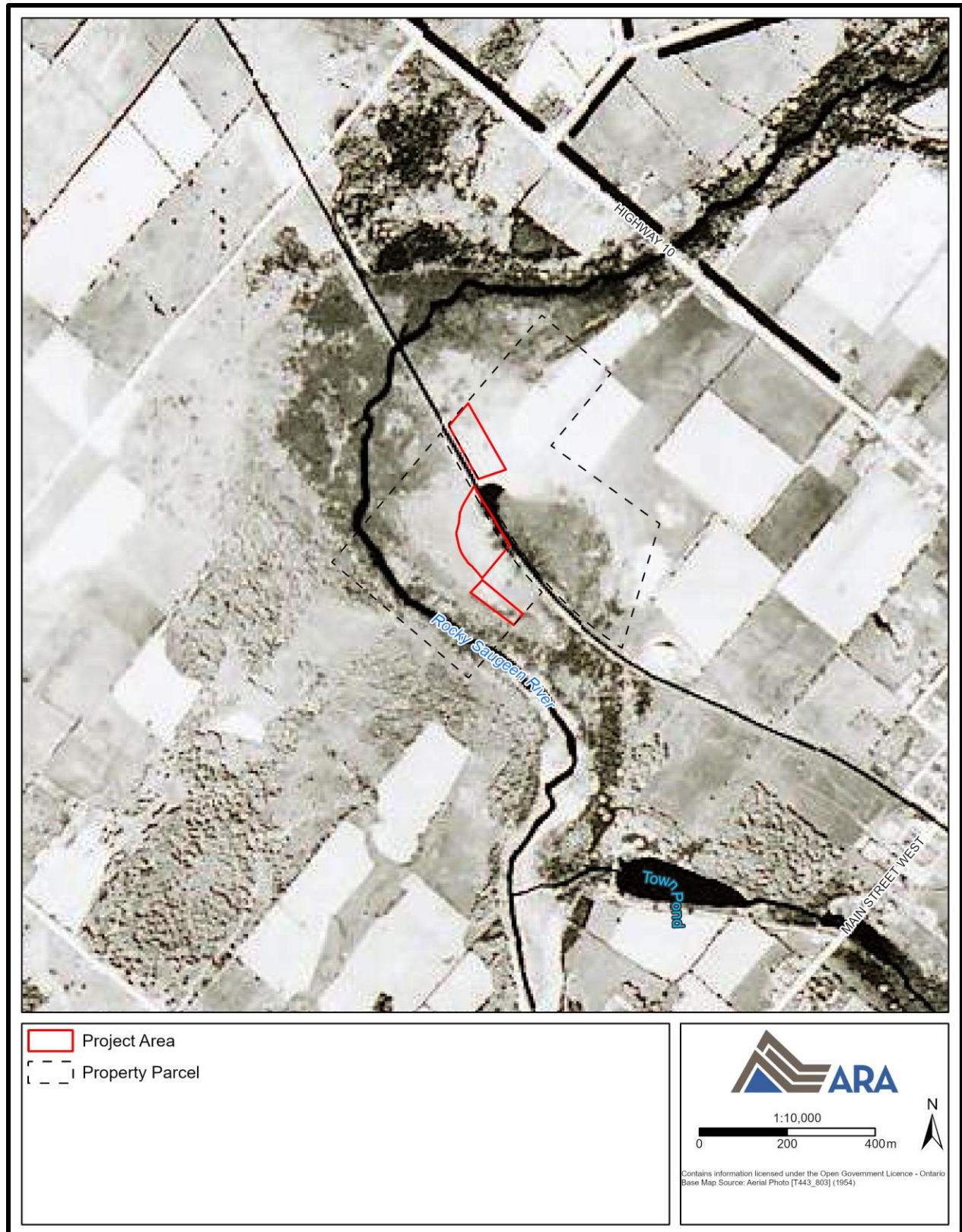
6.0 MAPS



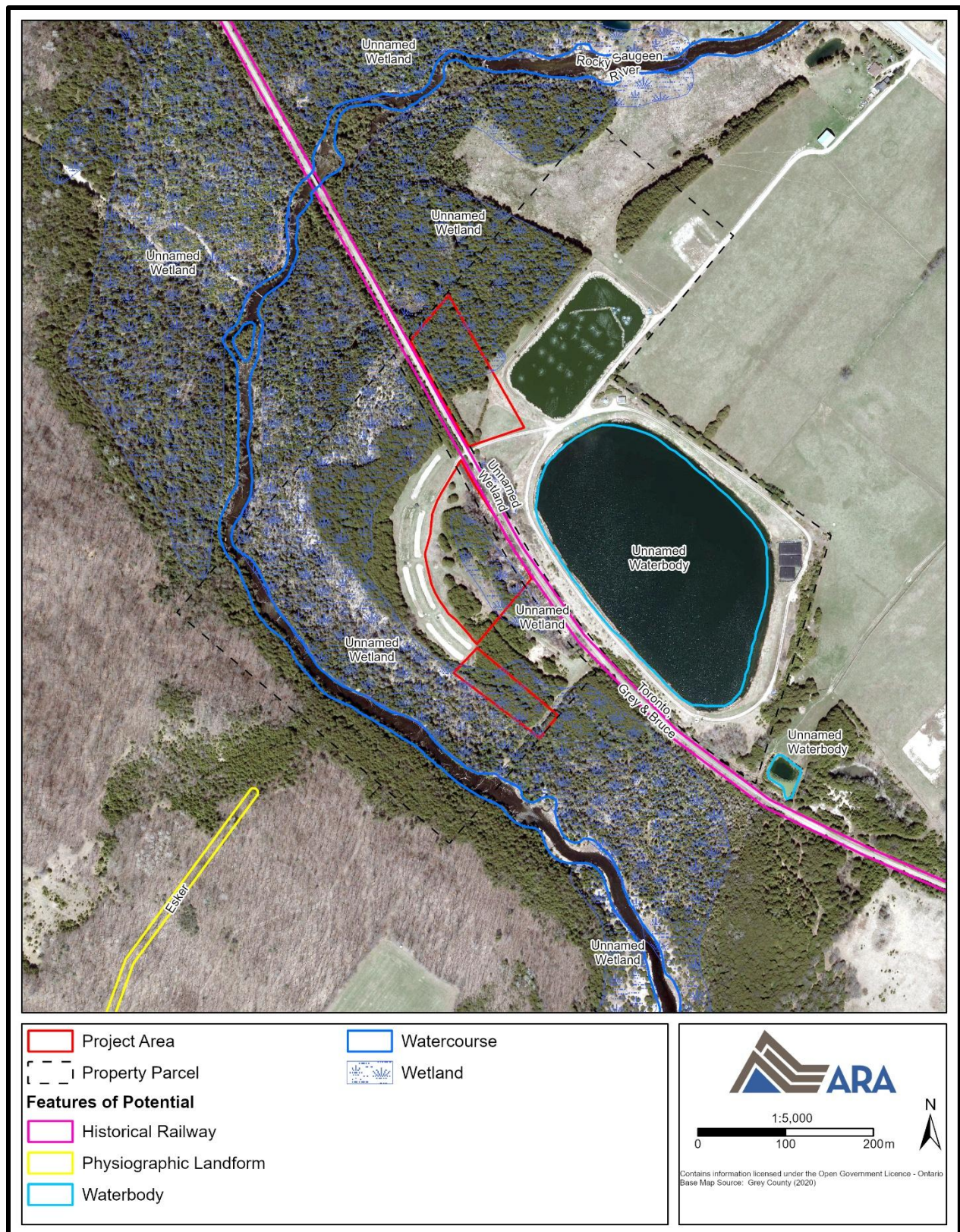


Map 2: Map of the Township of Holland (1880)
(Produced under licence using ArcGIS® software by Esri, © Esri; OHCMP 2019)





Map 4: Aerial Image (1954)
(Produced under licence using ArcGIS® software by Esri, © Esri; OCUL 2022)



Map 5: Features of Potential
(Produced under licence using ArcGIS® software by Esri, © Esri; MAC 2022)



Map 6: Assessment Results
(Produced under licence using ArcGIS® software by Esri, © Esri; U of T 2022)

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