ORIGINAL REPORT

WOODLAND HERITAGE NORTHEAST LIMITED

STAGE 1 ARCHAEOLOGICAL ASSESSMENT OF A PROPOSED AGGREGATE PIT IN LOTS 10 AND 11, CONCESSION 9, IN FERRIS TOWNSHIP, MUNICIPALITY OF EAST FERRIS, DISTRICT OF NIPISSING, ONTARIO

Prepared for:

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Submitted by:

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Province of Ontario Archaeological Licence #P1040
Our Project # R2021-08

February 1, 2021

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Stage 1 Archaeological Assessment of a Proposed Aggregate Pit in Lots 10 and 11, Concession 9, in Ferris Township, Municipality of East Ferris, District of Nipissing, Ontario

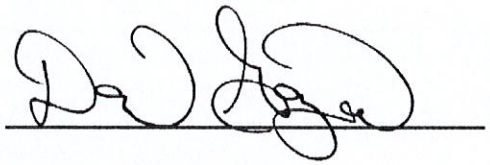
Please find attached a copy of the Archaeological Resource Assessment report for the above captioned project.

As required by archaeological licence regulations, we will file a digital copy in the specified format via the Ministry of Heritage, Sport, Tourism and Culture Industries' (MHSTCI) Past Portal for review on your behalf.

We were pleased to have assisted you with this project and hope to be of continuing service with your future undertakings.

Yours truly,

WOODLAND HERITAGE NORTHEAST LIMITED



David Gadzala, M.A.
DG/dg, Enclosures

Executive Summary

Timbercraft Consultation Inc. retained Woodland Heritage Northeast Limited for the purpose of undertaking a Stage 1 archaeological assessment in advance of the development of an aggregate site in Lots 10 and 11, Concession 9, Ferris Township, in the Municipality of East Ferris, District of Nipissing, Ontario (Map 1). The licencing boundary of the proposed aggregate extraction area was provided by Timbercraft prior to the fieldwork (Map 2), and was used as the study area limits for the Stage 1 assessment (Map 3).

The purpose of this Stage 1 archaeological assessment was to determine if any areas of archaeological potential were present in the proposed aggregate site. A background study was undertaken in advance of the property inspection and examined current, historical, geological, and environmental mapping (Maps 4 to 7), the Ontario Archaeological Sites Database, and land title records.

After the background research, a property inspection was carried out to determine whether discrete features of archaeological potential were present on the subject property which the Stage 1 background research did not locate (Images 1 to 13 and Map 9). This inspection examined the study area and its periphery for any feature may indicate archaeological potential, including modern water sources, as well as features which might indicate the presence of relict waterbodies or early Euro-Canadian settlement.

Neither the background research nor the property inspection identified any ancient or modern waterbodies, features of conspicuous artifacts indicating the presence of early Euro-Canadian settlers, or any other features of archaeological potential in the study area. Furthermore, an extensive area of low archaeological potential was found to be associated with the existing aggregate site operations.

As features of archaeological potential were not located during the Stage 1 assessment, and as much of the study area has undergone intensive and extensive land alterations, the study area is considered to have low archaeological potential (Map 8). Accordingly, Stage 2 archaeological assessment is not recommended.

All of the work was undertaken in accordance with the Ministry of Heritage, Sport, Tourism and Culture Industries' (MHSTCI) *2011 Standards and Guidelines for Consultant Archaeologists*.

The following has been excerpted from sub-section 3.0 – Stage 1 Recommendations:

1. As no areas of archaeological potential were identified during the Stage 1 archaeological assessment of the study area (Map 8), it is recommended that no further archaeological assessment work be required in advance of the development of the proposed aggregate expansion area in Lots 10 and 11, Concession 9, Ferris Township, Municipality of East Ferris, District of Nipissing, Ontario.

Readers are advised to examine the "limitations to this report" section following the Table of Contents.

Project Personnel

Ryan Primrose, M.A. P208	- Report Author, Project Manager
David Gadzala, M.A. P1040	- Report Author, Licensee, Field Director
Josée Boulanger, B.A.	- Compliance Officer

Acknowledgements

Woodland Heritage Northeast Limited would like to acknowledge the help of Timbercraft Consultation Inc. for providing maps, coordinates and background information.

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Limitations to this report

Some information in this report may be confidential, including any photos, maps, texts of narrative information concerning First Nation communities and / or private informants. The Freedom of Information and Protection of Privacy Act requires that this information be kept secure and not be distributed to unauthorized parties, save for those parties directly involved in the permitting of the project as detailed in the title.

Further, the MHSTCI *2011 Standards and Guidelines for Consultant Archaeologists*, Section 7.3.3 requires that such information is not contained in reports which may be entered into the Ontario Public Register of Archaeology Reports. As such, this information, although available to the report author, may not be transmitted as part of the report package except as required for Ministry of Tourism, Culture and Sport review.

Some information in this report may be sensitive, including the location of registered archaeological sites. Policy developed under the Ontario Heritage Act requires that this information be kept secure and not be distributed to unauthorized parties. Further, the MHSTCI *2011 Standards and Guidelines for Consultant Archaeologists*, Section 7.6.1, standard 1 requires that any information that identifies the location of an archaeological site be presented only in the supplementary documentation to the report. The supplementary documentation is excluded from the Ontario Public Register of Archaeology Reports. As such, this information, although available to the report author, may not be transmitted as part of the report package except as required for Ministry of Tourism, Culture and Sport review.

This report has been generated for the proponent named on the cover page of this report for their exclusive use, and for the explicit purposes defined in the Executive Summary. Further distribution, modification or publication of this report, beyond its intended use, is not permitted without prior written agreement from Woodland Heritage Northeast Limited. While this document is believed to contain correct information, neither Woodland Heritage Northeast Limited, nor its affiliates makes any warranty, either expressed or implied, or assumes any legal responsibility for the completeness or usefulness of any results or any information disclosed. The interpretation of this and any other data related to this report is solely the responsibility of the client.

As set out in the Ontario Heritage Act and associated Regulations, archaeological assessment has as its focus only material remains of past human use and occupation of landscapes. Archaeological assessments completed under the terms and conditions of a licence issued under the authority of the Ontario Heritage Act do not directly involve documenting Native values, traditional land use, traditional ecological knowledge or traditional territories. While this information is at times valuable in evaluating archaeological potential or interpreting archaeological sites, the use of such information does not render it part of the archaeological record. Control over the recording and use of this information rests solely with the individuals and communities wherein the knowledge resides.

1.0 PROJECT CONTEXT

This section of the project report provides the context for the archaeological fieldwork. The project background section covers three areas: development context (including regulatory context), historical context, and archaeological context.

1.1 Development context

Woodland Heritage Northeast Limited was retained by Timbercraft Consultation Inc. to complete a Stage 1 archaeological resource assessment on a proposed aggregate extraction area in Lots 10 and 11, Concession 9, in Ferris Township, Municipality of East Ferris, District of Nipissing (Map 1). A development map showing the proposed aggregate permit area was provided by the proponent in advance of the fieldwork activities (Map 2). The maximum extent of the proposed aggregate pit extension was used as the study area for this Stage 1 archaeological assessment (Map 3).

All of the archaeological assessment work was undertaken in advance of any new ground-disturbing activities.

1.1.1 Regulatory Context

This archaeological resource assessment study was undertaken within the context of the Ontario Aggregate Resources Act (1996) and amendments as implemented by the Ministry of Natural Resources, and the Provincial Standards issued under that Act (1997). Ontario's categorized system of aggregate permits and licenses, as regulated by the Aggregate Resources Act, has defined a Category 3, Class A aggregate permit as follows.

- Category 3: Class "A" licence for a pit operation which is restricted to extracting aggregate material no closer than 1.5 metres above the established groundwater table.

1.1.2 Responsibilities Under the Ontario Heritage Act

Four stages of archaeological assessment exist in the Province and are administered under the Ontario Heritage Act. Generally, archaeological resource assessment studies are classified as Stage 1 through Stage 4, as follows:

→ **Stage 1**: Stage 1 archaeological assessments define areas of archaeological potential within the subject property and evaluate whether additional archaeological work is required.

- **Stage 2**: Stage 2 archaeological resource assessments test those areas of archaeological potential identified during the Stage 1 assessment using sub-surface or pedestrian surveys.
- **Stage 3**: Stage 3 site-specific assessments aim to determine the physical characteristics of an archaeological site and to evaluate its relative cultural heritage value or interest.
- **Stage 4**: Stage 4 site-specific assessments generally involve mitigation through excavation, or avoidance and protection, if recommended.

Under the Ontario Heritage Act, (R.S.O. 1990) anyone wishing to carry out archaeological fieldwork in Ontario must meet the following criteria:

- Have a licence from the Ministry of Tourism, Culture and Sport.
- File a report with the Ministry of Tourism, Culture and Sport containing details of the fieldwork that has been done for each project.
- File information about the archaeological site with the Ministry of Tourism, Culture and Sport for each project.

Under Ontario Regulation 8/06 of the Ontario Heritage Act, "consultant archaeologist" means "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".

Refer to Section 4.0 of this report titled, "Advice on compliance with legislation" for more information.

1.2 Historical context

In pre-contact and early post-contact times prior to the arrival of Europeans, First Nations Peoples were active in the study area. Evidence of human activity in Northeastern Ontario can be traced back to the retreat of the last series of glaciers. Below is an overview of the relevant archaeological periods in northeastern Ontario.

1.2.1 Archaeological Overview

Archaeologists generally divide the historic sequence in Ontario into pre-European contact and post-European contact. The pre-contact historical sequence is further subdivided into

temporal/cultural periods based on material culture traits and settlement patterns derived from archaeological data. The pre-contact sequence is divided as follows:

Late Paleo-Indian (before 8,500 B.P.[1])
Shield Archaic (circa 8,500–2,500 B.P.)
Early and Middle Woodland (circa 2,500–800 B.P.)
Late Woodland (circa 800–350 B.P.)

Archaeologists' understanding of the post-European contact period is based in both archaeological and documentary research. The post-contact historical sequence can be described in terms of significant themes relating to the consecutive waves of influence from, primarily, eastern Canada. The post-contact historic sequence is generally subdivided according to the main Euro-Canadian economic or political trends. The major post-contact periods in northeastern Ontario are divided as follows:

Early post-contact (circa 350–85 B.P.)
Survey and Development (circa 85–10 B.P.)

Late Paleo-Indian. As a result of recent work carried out in northeastern Ontario, it is suspected that there is a Late Paleo-Indian Period (>8,500 B.P.) component of human occupation in this part of Ontario (WHS 2017). This is in contrast to earlier efforts, which seemed to suggest that the Shield Archaic Period represented the first peopling of the area. At this time, very little is known about the details of the Late Paleo-Indian Period of Northeastern Ontario, although if similar to those reports outside of the region, the period may be characterised by finely worked projectile point forms (e.g. Agate Basin), and the predation of large game such as Barren Land Caribou (*Rangifer tarandus groenlandicus*). Elsewhere, Late Paleo-Indian people predated the ancient Bison (*Bison antiquus*), though its presence in Northeastern Ontario has yet to be confirmed.

Paleo-Indian peoples also supplemented their diets with locally available boreal subsistence resources such as woodland caribou, moose, beaver, hare, fish, and waterfowl. Faunal data from archaeological sites in the upper Great Lakes region suggests that Late Paleo-Indian and Early Archaic populations had already developed a generalized foraging strategy, employing a broad variety of faunal resources from a range of ecological settings, including large and small mammals, waterfowl, and fish (Kuehn 1988, Jackson and Hinshelwood 2004).

[1] *Before Present (B.P.) refers to the years before A.D. 1950.*

Shield Archaic. Formerly believed to be the earliest known inhabitants of Northeastern Ontario some 2,500–8,500 years ago were the Shield Archaic Peoples. Up until recently, Paleo-Indian materials were seen to be "largely restricted to the northwest, suggest[ing] that the major penetration into Ontario and eastward took place after the transition from an Agate Basin culture to a Shield Archaic culture," (Wright 1981:88).

In northern Ontario, this period represents about 6,000 years of occupation in an area stretching from Manitoba to Quebec. The Shield Archaic Period may have evolved directly out of the preceding Late Paleo-Indian period, although there are several key differences in material culture. Shield Archaic quarry/workshop and habitation sites demonstrate a shift from higher quality toolstone toward the exploitation of greater percentages of metasediments such as greywacke. Additionally, it is during the Shield Archaic Period where the first groundstone tools come into use. The flaking of the Shield Archaic tools appears to drop in quality as the period progresses, a change that can be seen from the highly refined points of the early Shield Archaic through to the smaller side notched points of the Late Shield Archaic Period. The changing projectile point technology yields to a wider variety of projectile point styles in contrast to the Late Paleo-Indian Period, including various forms of stemmed and notched points. Of interest in northern Ontario is the rise in the use of native copper in the production of tools and decorative items (Wright 1972a; Pollock 1975, 1976, 1984).

The initial Shield Archaic peoples appear to have been wide ranging big game hunters. As the environment stabilised following the glacial retreat, these people shifted to an economy of smaller game and fishing which required smaller tools and a more local, territorial seasonal round to exploit resources at different times of the year. This trend from big game to more diverse, local resources appears to have continued through the Shield Archaic period to about 2,000 years ago.

Early Shield Archaic sites may be more closely associated with post glacial landscape features such as relict shorelines. As the environment stabilised, sites became more widely distributed, and associated with suitable occupation locations on modern lakes and rivers.

Early Woodland (Meadowood). Earlier interpretations of archaeology in the northeast suggested that a true Early Woodland period was absent, with the exception of some artifacts located sporadically and seldom featured at archaeological sites in the northeast. Recent excavations in northeastern Ontario and northwestern Quebec challenge this earlier interpretation and suggest that northern cultures formed part of the Meadowood Interaction Sphere (WHS 2011; WHS 2017; Taché 2008). It is now believed that an Early Woodland presence persisted in the

north as evidenced by a number of Meadowood artifacts and habitation sites, one of the markers of the Early Woodland Period.

Middle Woodland (Laurel). In terms of material culture, the Middle Woodland was similar to the preceding Shield Archaic, but with the addition of fired clay pottery. As clay is a more plastic and malleable material than stone, distinct surface variations in decoration and structural variations in vessel construction allow archaeologists to develop refined distinctions between different ceramic types. Middle Woodland pottery vessels are characteristically thin-walled, with straight sided rims and pointed bases and decorations made using plain tool impressions (Wright 1967).

The Middle Woodland economy appears to have been similar to the Shield Archaic, with seasonal exploitation of a variety of subsistence resources the norm. Based on the distribution of sites, it is understood that extended family groups traversed hunting, fishing or gathering territories in pursuit of large and small game, and fish for subsistence during most of the year. In the summer, these groups may have come together into larger bands on larger lakes or rivers. The presence of a series of large ceremonial mounds containing burials, centred on the Rainy River in northwestern Ontario, also suggests that during some years, larger ceremony based gatherings also occurred (Arthurs 1986; Reid and Rajnovich 1991).

Other than the summer group campsites, Laurel sites are generally small, possibly reflecting the establishment of a seasonal round which saw the Laurel people break up into individual families during the fall, winter and spring periods of the year to more effectively exploit available resources. Laurel site distribution and settlement patterns differ from the inland site pattern noted for the Archaic period and set the pattern for settlement in the following Terminal Woodland period. Laurel peoples showed a preference for large lakes and rivers with preferred campsites on sandy bays, portage ends, points, peninsulas, and locations near waterfalls, below rapids and at river mouths. These locations served for the establishment of small, seasonal hunting and fishing camps.

Late Woodland (Blackduck and Selkirk). The Middle Woodland (Laurel) material culture appears to have gradually evolved into the late Woodland. This transition is not as evident in the lithic and copper artifacts, but the pottery makes a notable change to thin walled, globular pots with constricted necks and widened lips decorated using a combination of plain and 'cord-wrapped' object impressions. Two main pottery types are noted by archaeologists who have speculated that a more southerly type (Blackduck) represents early Ojibwe culture, while the more northerly type (Selkirk) represents a Cree culture (Wright 1972b; MacNeish 1958).

Data from northern Ontario suggests a trend toward a growth in population during the Terminal Woodland period reflected in an increased frequency of sites recovered during archaeological surveys. Archaeological evidence suggests that a seasonal cycle of travelling to resource exploitation areas may have been well established during this era. Site locations follow an established pattern with preference given to level places on islands, peninsulas, narrow parts of lakes, sandy beaches and portage ends, as well as rapids and waterfalls on rivers. These people were the ancestors of present day regional cultural/social groups.

Early Post-Contact (Fur Trade). European contact in northern Ontario was disruptive to the natural evolution of material culture, traditional land use and subsistence practice among indigenous populations. It is understood that traditional material cultural items were supplanted quite rapidly by corresponding trade items imported from Europe. As the pursuit of furs became increasingly important to the purchase and replacement of trade items, subsistence practices became displaced by exploitation of fur resources. Settlement patterns also changed, although more gradually, trading trips to fur trade posts were introduced, and in some cases settlement occurred at or near fur trade posts or, later, near the railways.

Historical documents also begin to name the indigenous occupants of the region. The northern interior shield areas were inhabited by Anishnabeg Peoples (Ojibwa and Algonquin). Farther north in Ontario was the traditional territory of the Cree. Their first contact with Europeans was with the Récollets and Jesuit missionaries and other French explorers and traders during the period 1616 to 1649 (Lytwyn 2002).

It should be noted that one or more First Nation or Métis populations live and use the land in, and around the study area. It is not within the scope of a technical archaeological report to comment on the various First Nations and their respective involvement, land-use and traditional territories. Recent and modern First Nation histories are best addressed by the First Nations themselves.

1.2.2 Land Use and Settlement History

No detailed information is available for the land use and settlement history for the specific study area examined during this Stage 1 assessment. A land title search was undertaken in an attempt to identify the historical chain of ownership for Lots 10 and 11, Concession 9 in the Township of Ferris, but the records were unavailable. However, an examination of survey records has provided insights into the history of the area.

The region was first surveyed in the late 1850s by Provincial Land Surveyors Duncan Sinclair and Hugh Savigny, who had surveyed several townships east of Lake Nipissing in a new 640-acre township plan as well as several potential colonization roads between Mattawa and Lake Nipissing (Sebert 1983). The initial road and township surveys proved unsuccessful, and as the region remained unsettled through the 1860s and early 1870s, the survey lines had grown over. As a result, the surveys of the 1850s were annulled and new townships were surveyed. According to the field notes of Alexander Niven, who surveyed Ferris Township in 1880, "with reference to the Survey of Road lines made in 1856-7 by P.L.S. Duncan Sinclair, I have to state that no land has been taken up [settled] in accordance with that survey and that I saw no traces of it." [2]

By 1880, as Euro-Canadian settlement moved further north and access to the region improved, access into Ferris Township was "by the Mattawaw [*sic.*] River from the East and the Rosseau and Nipissing Road from the West but the numerous Railway schemes in contemplation will no doubt in time afford ample means of access for the settlement of the Township."[3] At this time, six families had already settled elsewhere in the township, though no settlers were located on the property (Map 4). During their survey of the lots, the surveyors recorded a stream flowing through a swamp vegetated with tamarack, hemlock, alder, spruce, and cedar to the south of the property, as well as rocky uplands along the eastern boundary of Lot 11.

No additional details are available regarding the settlement history of the property.

1.3 Archaeological context

1.3.1 Registered Archaeological Sites

The site files and catalogued reports at Woodland Heritage Northeast Limited and the offices of the Archaeological Data Coordinator, Ministry of Heritage, Sport, Tourism and Culture Industries were consulted to determine if any pre- or post-contact archaeological sites had been previously recorded either within or near the study area.

No registered archaeological sites are located within two kilometres of the study area.

1.3.2 Previous Archaeological Fieldwork

Neither Woodland Heritage Northeast Limited, Woodland Heritage Services Limited, nor Settlement Surveys Limited have conducted archaeological assessments within two kilometres

[2] Field Notes of the Township of Ferris, 1880, by A. Niven. p. 6
[3] Field Notes of the Township of Ferris, 1880, by A. Niven. p. 6

of the proposed study area. According to the available information, archaeological fieldwork has not previously been undertaken within two kilometres of the study area.

2.0 STAGE 1 ASSESSMENT

This section provides information on the Stage 1 background assessment, the general field methods, assessment strategies, data management procedures, and the results of the Stage 1 property inspection of the study area.

2.0.1 Permission to Enter

Woodland Heritage Northeast Limited received permission to enter onto the property to carry out all activities related to archaeological assessments.

2.0.2 Fieldwork Dates

Fieldwork was carried out on November 12, 2021 with David Gadzala (P1040) as the designated field director.

2.0.3 Weather Conditions and Fieldwork Constraints

The Stage 1 and 2 archaeological fieldwork was undertaken under appropriate weather and lighting conditions. Weather during the assessment in was partly cloudy, with good visibility and temperatures between 5 to 20 degrees Celsius. Fieldwork would have been suspended when weather and lighting conditions reduced the ability to identify and document any part of the subject lands, although no adverse weather conditions impeded the fieldwork activities.

2.1 Stage 1 Background Assessment

2.1.1 Current Land Use

The lands directly associated with the central portion of the study area are currently occupied by an aggregate pit, areas surrounding this extraction site are the subject of the proposed expansion. The surrounding lands are currently forested and do not appear to be in use by significant economic or recreational purposes.

2.1.2 Geologic Terrain and Landforms

According to Northern Ontario Engineering Geology Terrain Study (NOEGTS) Map 5041, the study area is located within a broader area composed of bedrock knobs overlain with glacial drift. Please refer to Map 5.

The study area is in the Laurentian province of the Canadian Shield physiographic region, an expansive region of predominantly Precambrian igneous and metamorphic rock which forms the geological core geological core of the North American continent (Map 6) (Bostock 1967).

2.1.3 Vegetation

The study area is located within the North Bay ecodistrict (Ecodistrict 5E-5) of the Georgian Bay ecoregion (Crins et al. 2009, Wester et al. 2018). This ecodistrict is found within the Great Lakes-St. Lawrence forest zone and is typically dominated by sugar maple, red maple, American beech, American basswood, yellow birch, eastern hemlock, and eastern white pine. In wet areas, species such as black ash, black spruce, eastern white cedar, American elm, balsam poplar, and American larch abound while on dry bedrock ridges, white pine, red pine, jack pine, and northern red oak are common. In areas which have been previously farmed, harvested, or burned, trembling aspen and paper birch make up a large part of the forest community. In many areas, bog and fen complexes are found on the organic sediments which have accumulated in low-lying areas along watercourses or in bedrock depressions (Wester et al. 2018).

More specifically, according to the MNRF Forest Resource Inventory (FRI) database, the study area supports several ecosites (Map 7). These primarily include ecosite G197X, consisting of disturbed areas with little to no vegetation; ecosite G054, a pine forest on coarse, dry soils; G055, an aspen-birch forest on dry, moderately deep soils; and G058, a maple hardwood forest over coarse, dry soils. Smaller ecosites are also present in poorly drained bedrock depressions, notably ecosite G139, a poor fen dominated by sedges growing on strongly acidic soils.

2.1.4 Environmental Setting

Located in Ferris Township, the study area is situated in an upland area at the interface of the Great Lakes and Ottawa River watersheds. While no watercourses or waterbodies are found within the study area, a small, channelized stream flows a short distance south while several nearby swamps occupy local depressions in the bedrock. Waters in Ferris Township generally flow either westwards into small feeder streams emptying into Callander Bay on Lake Nipissing, eventually flowing into Lake Huron via the French River, or eastwards into Lake Nosbonsing, the Mattawa River, and eventually the Ottawa River.

The area has been heavily influenced by glacial activity during the Wisconsin glaciation. The Laurentide ice sheet covered the Lake Nipissing area until approximately 10,000 B.P. (11,470 cal B.P.) (Lewis et al. 2008). As the glacier retreated northwards, a series of outlets near North Bay were unblocked, causing the waters of Lake Algonquin to flood the area and flow southeastwards into the Ottawa Valley towards the Champlain Sea. The North Bay outlet became the sole outlet

for the entire Upper Great Lakes for most of the following 5,000 (5,760 cal) years, dramatically lowering the water levels of modern Lake Michigan, Lake Huron, and Georgian Bay (Lewis et al. 2008). Continued isostatic rebound in northern areas caused the water levels of the Upper Great Lakes to rise, eventually reaching a maximum around 4,700 B.P. (5,350 cal B.P.) and transferring the discharge from the North Bay outlet to outlets at Chicago and Port Huron (Lewis and Anderson 1989). After the waters of the Upper Great Lakes were redirected towards the southern outlets, isostatic rebound hydrologically separated Lake Nipissing entirely from the Ottawa Valley, the lake became a tributary of Georgian Bay, and the water levels in the area stabilized. Over time, isostatic uplift also caused the land to gradually rise out of the water, further exposing the former shoreline features (Gartner 1979, 1980).

2.2 General Fieldwork Methods

2.2.1 General Approach for the Property Inspection

The Stage 1 fieldwork was undertaken according to the criteria outlined in Section 1.2 of the MHSTCI *2011 Standards and Guidelines for Consultant Archaeologists*. The entire study area and its periphery was systematically inspected in order to identify any areas of archaeological potential and to determine the limits of the past disturbances associated with the operation of the aggregate pit. The archaeological potential of the property was assessed using criteria outlined in Sections 1.3.1 and 1.3.2 of the MHSTCI *2011 Standards and Guidelines for Consultant Archaeologists*. As the proposed aggregate project is located on the Canadian Shield (Map 6), Section 1.3.3 was used to refine the archaeological potential of the study area. In northern Ontario, archaeological potential generally exists in undisturbed, well-drained, low-sloping areas proximal to lakes and streams (both ancient and modern) of a sufficient width to allow the passage of watercraft.

This property inspection also served to examine the variety of landforms and characteristics of the landscapes, as well as to locate features that would affect assessment strategies such as former shorelines, disturbed areas, saturated areas, rocky areas, and steep slopes. Due to the complex glacial history of the area, additional efforts were made to identify features associated with relict water sources which are not visible on mapping, such as beaches and scarps, or features indicating the potential for early Euro-Canadian settlement, such as structural foundations and conspicuous artifacts or features.

2.2.2 Spatial Control

For the purposes of ensuring spatial control through data collection, GPS coordinates were obtained to document the locations of the crossings and other on-ground features located during the assessment. GPS coordinates were taken using one Garmin GPSmap 64s GPS unit with an error rated (with WAAS) to ± five metres on average. All coordinates are in UTM 17 T NAD 83.

2.2.3 Inventory of Field Documentation

The bulk of the field documentation collected was in the form of photographs, GPS waypoints and tracks, as well as field notes.

Field maps were drawn on-site and subsequently digitized. Field notes were collected to record the assessment process, to document the archaeological potential of the area, and to record photographic information.

Representative photographs were taken of the project area, of the study area landforms and vegetation, of the areas to be impacted, and the field conditions encountered at the time of the assessment (Images 1 to 13). Additionally, photographs in the report are referenced by site or locale, but also carry the photographic record number that is embedded in the digital file. Thus, an image in this report may be indicated as "Image 1", and include a reference to "Photograph 018", indicating both the position of the photograph in the report and the number designating the photograph (assigned by the camera), and maintained within the documentation generated during fieldwork and analysis.

The record created includes photographs, maps, field notes, GPS waypoints, and this report as part of the Stage 1 assessment. The documentation includes the following:

Table 1. Documentary records for this project.

Documentation	*N*	*Description*	*Location*
Photographs	280	Digital images	Digital storage
GPS readings (Waypoints)	50	Context, property survey	Digital storage
GPS readings (Tracks)	1200(1)	Context, property survey	Digital storage
Field notes	1	Pages of notes	Digital storage
Report	1	Copy (.pdf)	Digital storage

All documentation is stored in trust at the Woodland Heritage Northeast Limited storage facility in New Liskeard. The digital records relating to this project are stored on a source hard drive and

on an off-site backup drive. Digital records are backed up periodically from the source drive to ensure long term stability. Digital records will be maintained in contemporary software formats, updated as Woodland Heritage Northeast Limited updates software or storage media.

2.0 STAGE 1 ASSESSMENT BACKGROUND

This section of the report details the Stage 1 work and the determination of archaeological potential. It is composed of the assessment background, analysis and conclusions and recommendations.

2.3.1 Property Assessment

According to Section 1.3.1 of the MHSTCI *2011 Standards and Guidelines for Consultant Archaeologists*, several factors are considered to be indicators of archaeological potential. These include previously identified archaeological sites, past and present primary (*i.e.* lakes, rivers, streams, *etc.*) and secondary (*i.e.* springs, marshes, swamps, etc.) water sources, elevated topography (*i.e.* hills, eskers, knolls, *etc.*), pockets of well-drained sandy soil, distinctive land formations (*i.e.* potentially spiritual places such as waterfalls, caverns, mounds, etc.), resource-gathering areas, areas of early Euro-Canadian settlement, early transportation routes (*i.e.* portages, overland routes along eskers, colonization routes, and railways), and properties with historic landmarks or which have been identified with historic sites and events.

An examination of modern topographic maps as well as satellite imagery does not suggest the presence of modern sources of water within the study area or in its immediate vicinity. This was supported by the field assessment which did not locate any natural watercourses within the study area. One narrow drainage stream was documented west of the existing aggregate pit, although it appears to be an recently constructed watercourse created to facilitate the pit's drainage (Image 1). Furthermore, while the background research indicates elements of past glacial waterbodies were present in the region, no relict waterbodies were documented within the study area. Similarly, the field assessment did not identify any relict beaches, scarps, ridges, or other land features indicating the potential presence of former shorelines.

As modern and ancient water sources are not present within or proximal to the study area, the focus of the assessment shifted towards documenting potential early Euro-Canadian settlement. As previously noted, post-contact archaeological potential is often associated with water sources or with early transportation routes such as colonisation roads and railways. The background research indicates that Ferris Township was initially accessed along the Rosseau and Nipissing Colonization Road, located several kilometres further west towards Callander Bay. Access was later improved along the Canadian Pacific Railway, constructed through Ferris Township around 1880, although it is located over 750 metres east of the study area (Map 4). Although the title records are not available for Lots 10 and 11, Concession 9, the background research did not uncover any information suggesting the study area was settled early in the history of Ferris Township. Lastly, the field assessment did not identify any artifacts or features which indicate the presence of post-contact archaeological potential in the study area. As both water sources

and early transportation routes into Ferris Township are located a significant distance from the property, and as the field assessment did not identify any features of archaeological potential, the study area is considered to have low archaeological potential (Map 8).

As no features of archaeological potential were identified within the study area, the remainder of this occasionally steep and rocky property (Images 11 to 13) is located beyond the limits of northern testing, outlined by Section 2.1.5 of the MHSTCI *2011 Standards and Guidelines for Consultant Archaeologists* as areas within 50 metres from modern water sources. As such, these areas are considered to have low archaeological potential. Please refer to Maps 8 and 9.

2.3.2 Disturbances Observed

While the characteristics outlined in Section 1.3.1 of this report are important in assessing the archaeological potential of the study area, the MHSTCI S&Gs also notes that current land conditions must be considered. Section 1.3.2 notes that disturbances and deep land alterations may have removed the archaeological potential of an area. These disturbances include quarrying, major landscaping involving grading below topsoil, building footprints, and sewage and infrastructure development. Disturbances associated with the aggregate operations were both evident and extensive (Images 2 to 4). More localized disturbances associated with historical aggregate extraction operations were also noted, including aggregate test pits (Images 5 to 7), overgrown roads (Image 8), groundwater testing sites (Image 9) and a dumping area (Image 10). These disturbances are considered to have removed the archaeological potential of these areas (Map 8).

2.3.3 Analysis and Conclusions

No evidence of pre- or post-contact archaeological potential was located through the background study and property inspection of the study area in Lots 10 and 11, Concession 9, in Ferris Township, District of Nipissing. Both ancient and modern water sources as well as early historical transportation routes were not present within the study area. Furthermore, much of the central portion of the study area has been heavily impacted by the operation of the aggregate pit and therefore has had its archaeological potential removed. As such, the overall aggregate expansion area is considered to have low archaeological potential (Map 8).

3.0 STAGE 1 RECOMMENDATIONS

1. As no areas of archaeological potential were identified during the Stage 1 archaeological assessment of the study area (Map 8), it is recommended that no further archaeological assessment work be required in advance of the development of the proposed aggregate expansion area in Lots 10 and 11, Concession 9, Ferris Township, Municipality of East Ferris, District of Nipissing, Ontario.

4.0 ADVICE ON COMPLIANCE WITH LEGISLATION

1. Advice on compliance with legislation is not part of the archaeological record. However, for the benefit of the proponent and approval authority in the land use planning and development process, the report must include the following standard statements:

a. This report is submitted to the Minister of Tourism and Culture 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 Ministry of Tourism and Culture, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sitesby the proposed development.

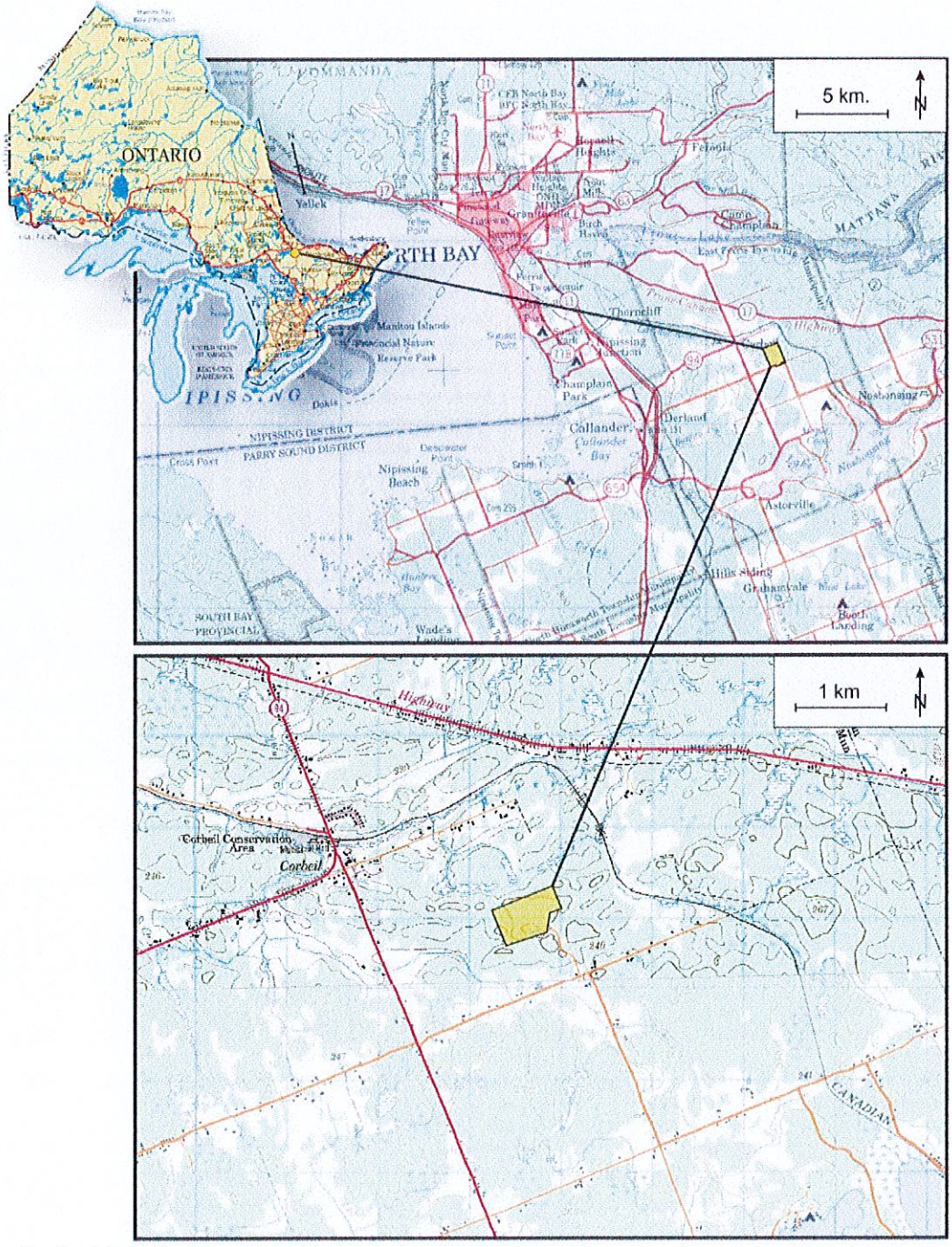
b. It is an offence under Sections 48 and 69 of the Ontario Heritage Act for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed 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 Archaeological Reports referred to in Section 65.1 of the Ontario Heritage Act.

c. Should previously undocumented archaeological resources be discovered, they may be a newarchaeological 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.

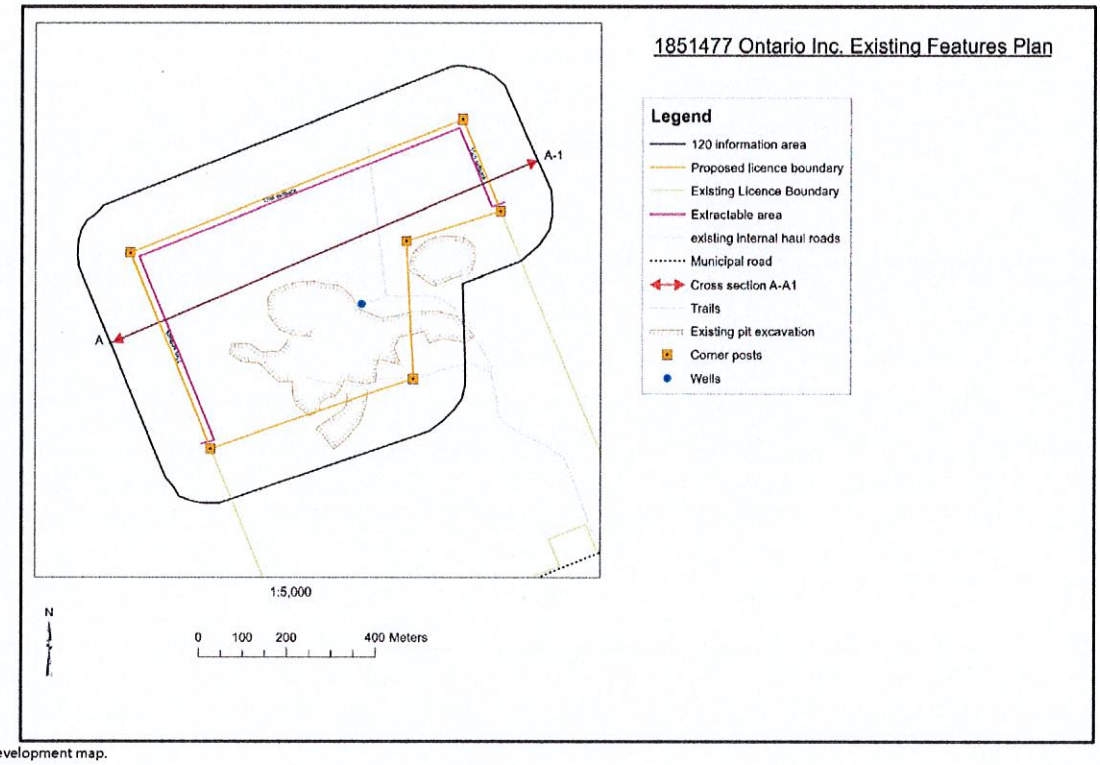
d. The Cemeteries Act, R.S.O. 1990 c. C.4 and the Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

2. Reports recommending further archaeological fieldwork or protection for one or more archaeological sites must include the following standard statement: "Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the Ontario Heritage Act and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence."

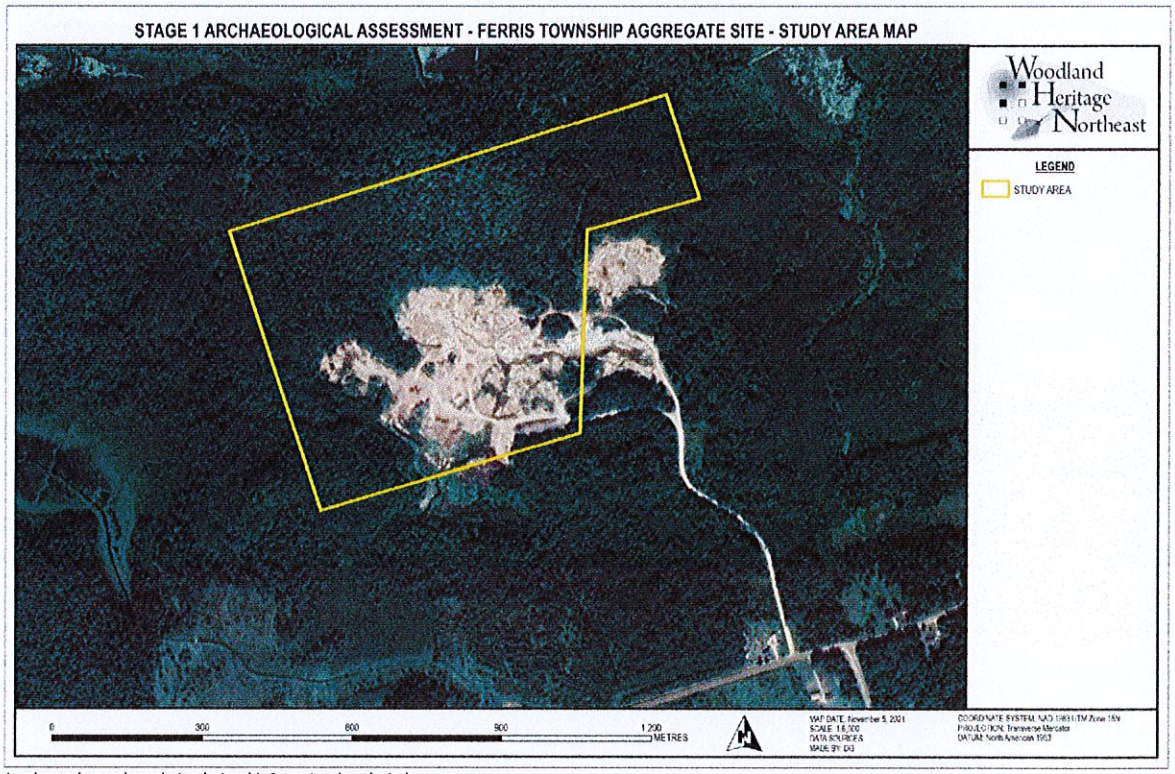
5.0 MAPS



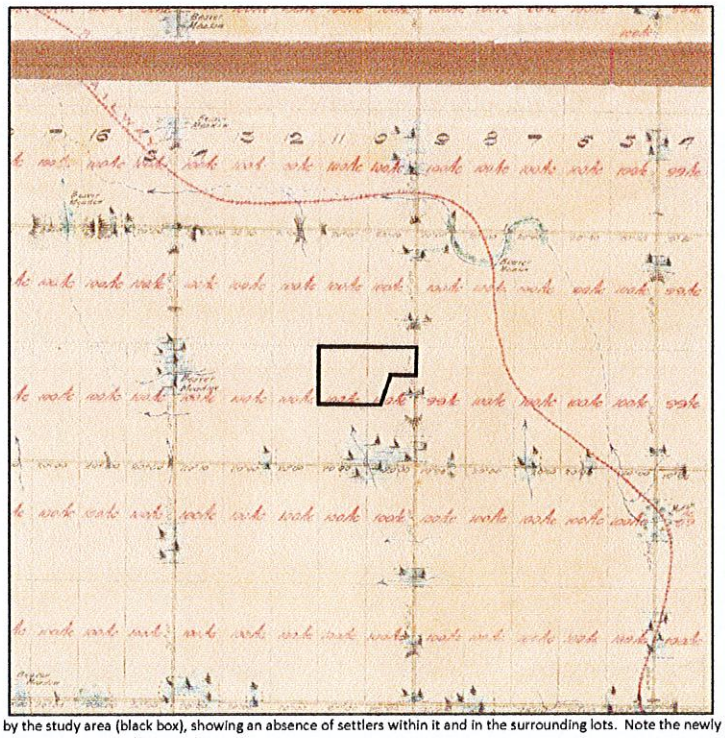
Map 1. Project location map.



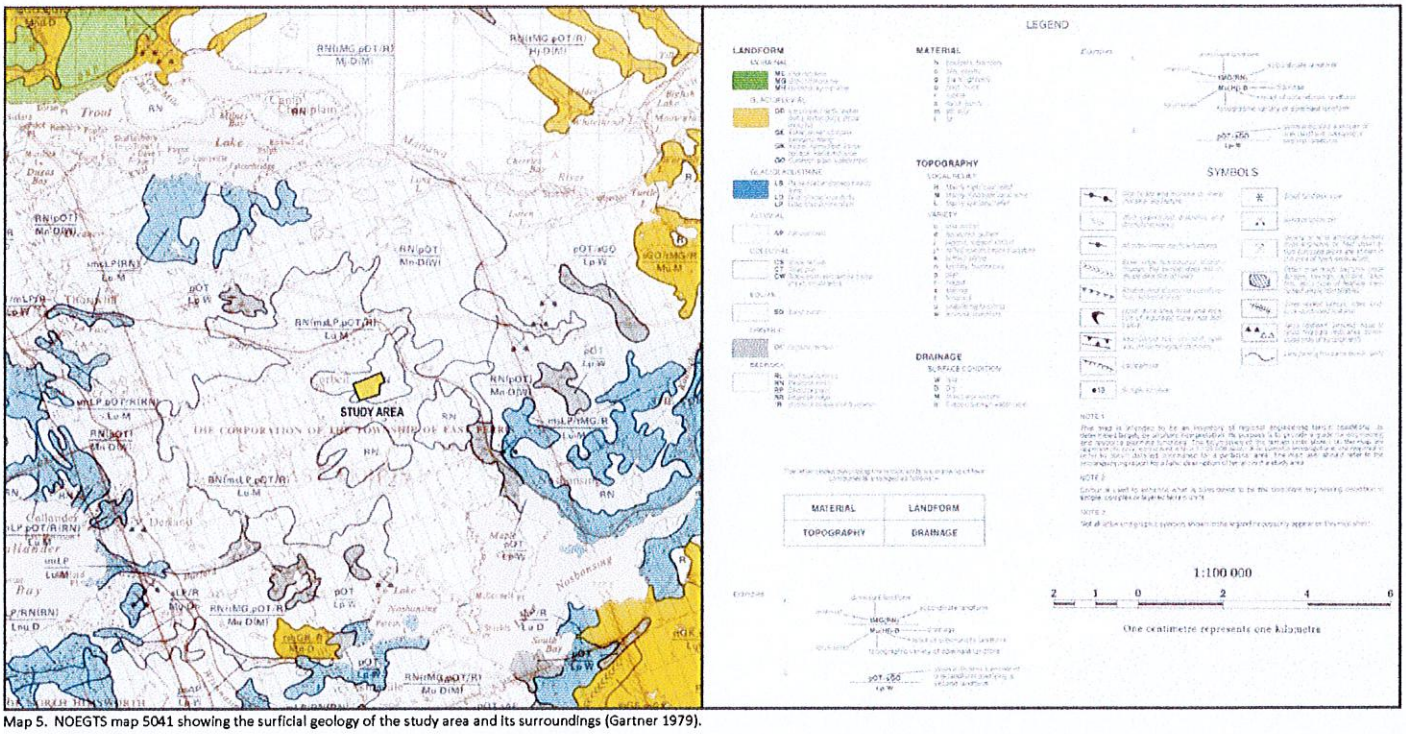
Map 2. Unmodified development map.



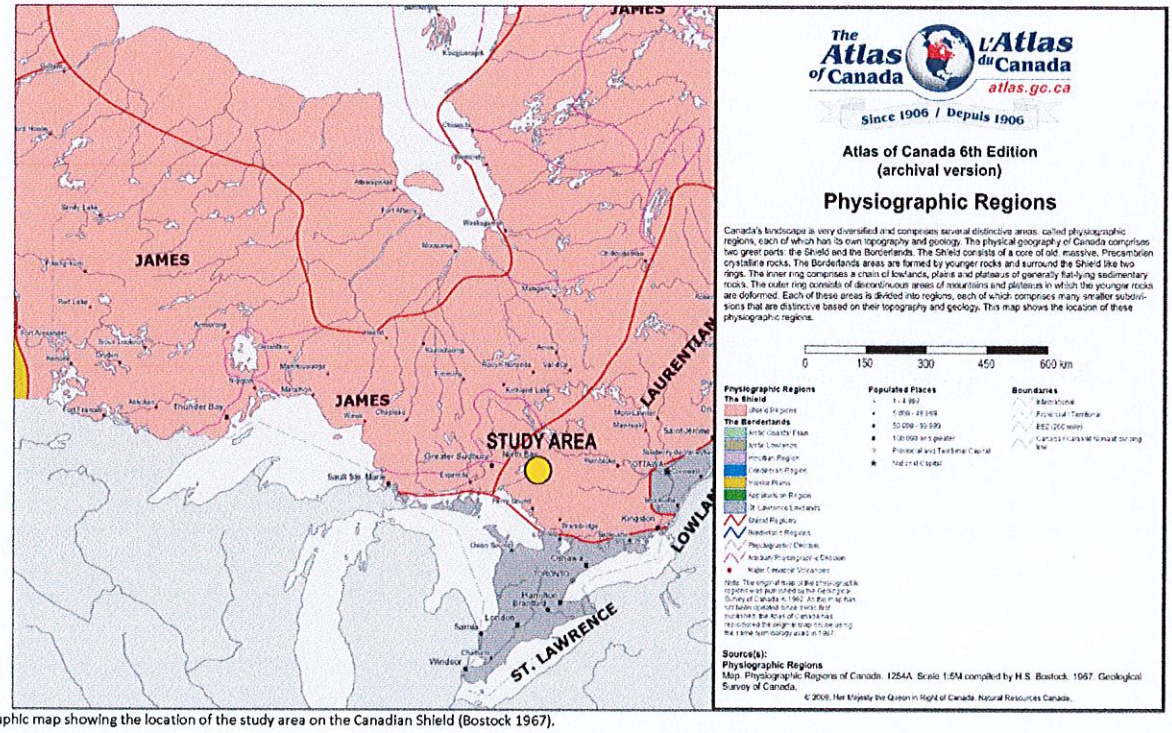
Map 3. Map showing the study area boundaries during this Stage 1 archaeological assessment.



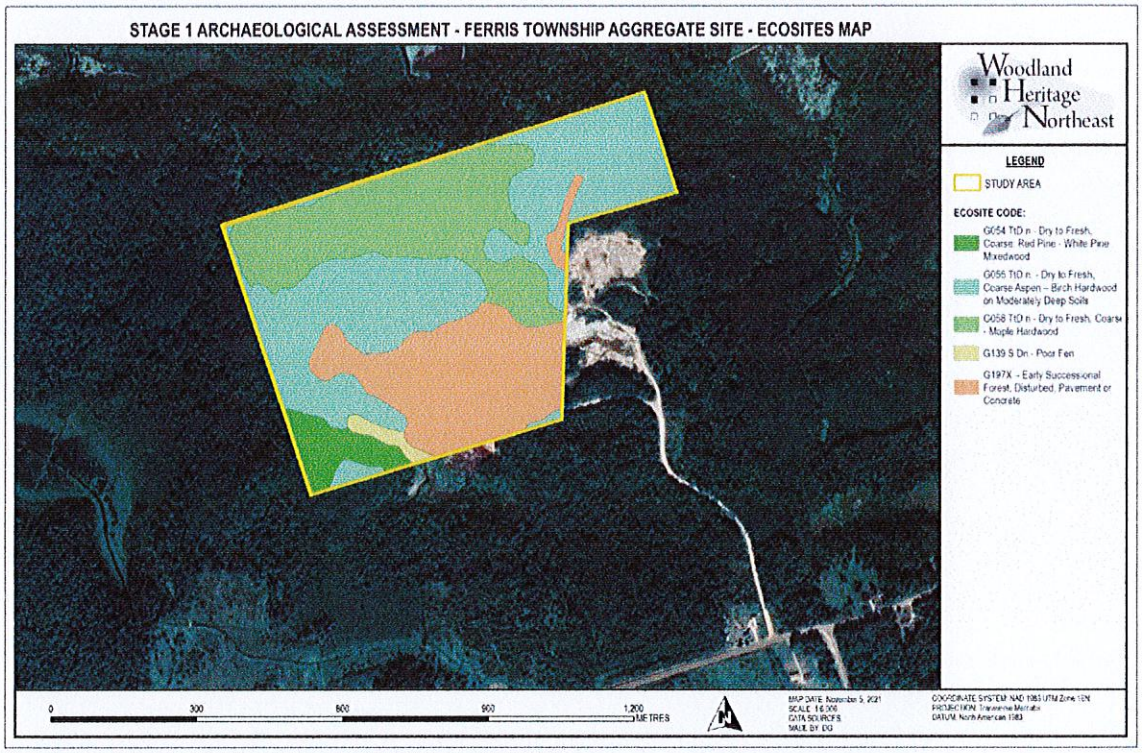
Map 4. Cropped township survey from 1880 overlain by the study area (black box), showing an absence of settlers within it and in the surrounding lots. Note the newly laid route of the Canadian Pacific Railway passing nearly a kilometre east of the study area, the only transportation route in the immediate area.



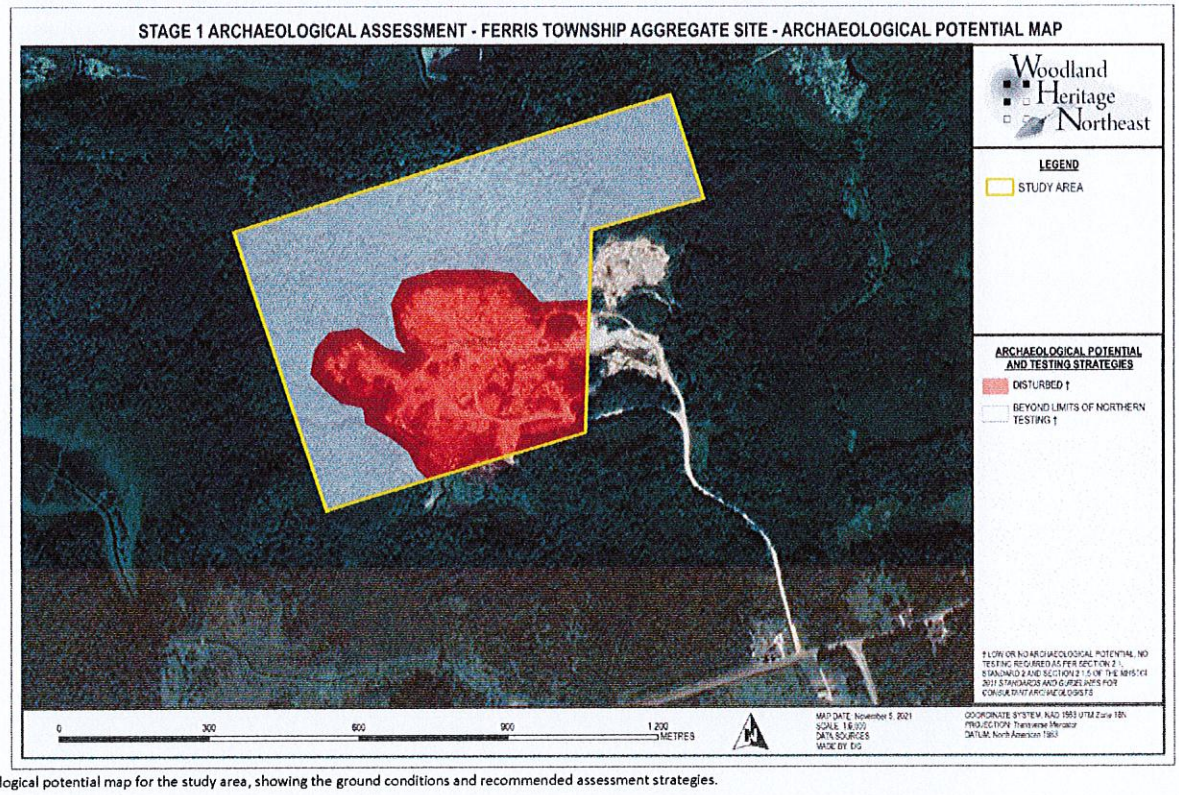
Map 5. NOEGTS map 5041 showing the surficial geology of the study area and its surroundings (Gartner 1979).



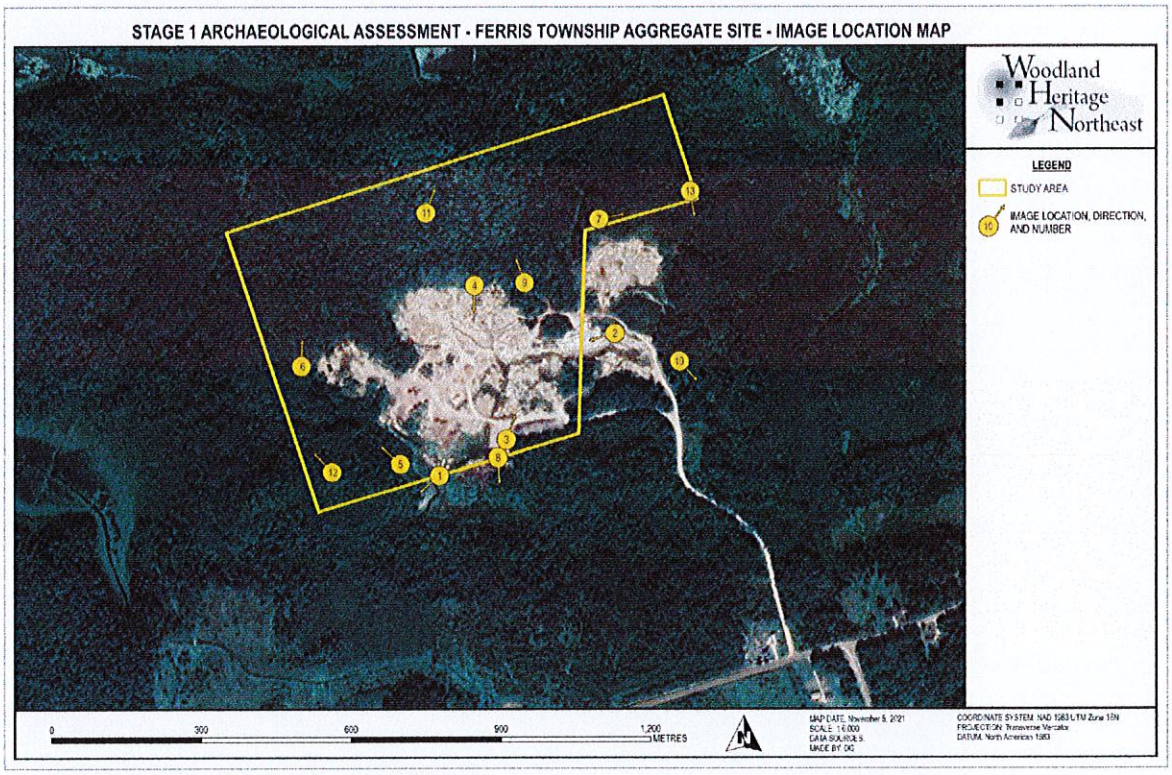
Map 6. Physiographic map showing the location of the study area on the Canadian Shield (Bostock 1967).



Map 7. Map showing the various ecosites located within the study area, according to data from the MNRF FRI.



Map 8. Archaeological potential map for the study area, showing the ground conditions and recommended assessment strategies.



Map 9. Image location map showing the locations and directions of images used in this report.

6.0 IMAGES

Image 1. Photograph 5394 of aggregate pit runoff draining through a small, artificial stream west of the existing aggregate pit.

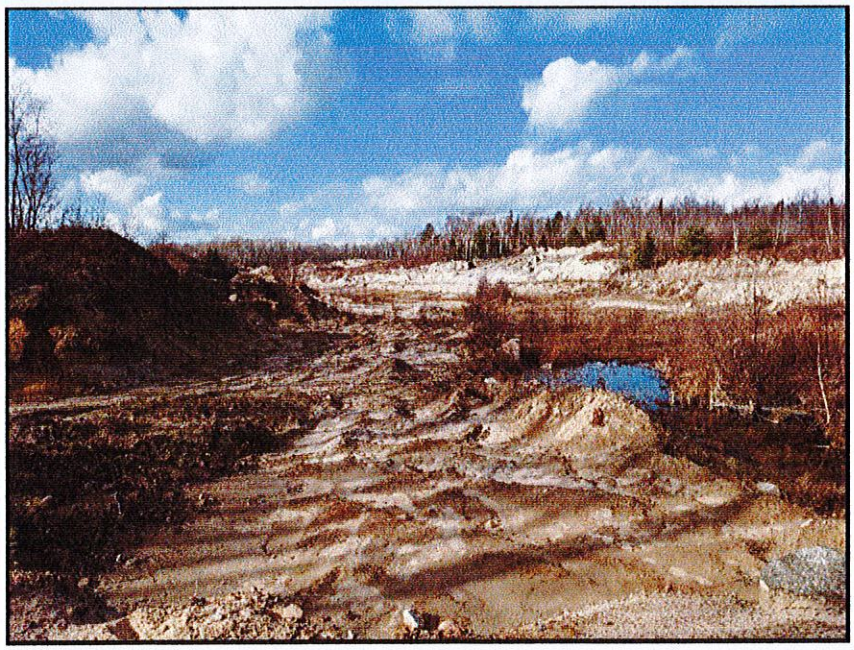


Image 2. Photograph 7836 of the extensive and intensive disturbances associated with the aggregate pit.

Image 3. Photograph 9583 of the extensive and intensive disturbances associated with the aggregate pit.

Image 4. Photograph 1783 of the extensive and intensive disturbances associated with the aggregate pit.

Image 5. Photograph 3836 of a deep, disturbed soil testing pit near the periphery of the existing aggregate pit.

Image 6. Photograph 0608 of a deep, disturbed soil testing pit near the periphery of the existing aggregate pit.

Image 7. Photograph 1894 of a deep, disturbed soil testing pit near the periphery of the existing aggregate pit.

Image 8. Photograph 8757 of an abandoned access road passing through the study area.

Image 9. Photograph 0983 of a groundwater well located near the periphery of the existing aggregate pit.

Image 10. Photograph 7637 showing a pile of recent historical remains in a dumping area on the east side of the aggregate pit.

Image 11. Photograph 7907 showing the ground conditions typical of the remainder of the study area.

Image 12. Photograph 2673 showing the ground conditions typical of the remainder of the study area.

Image 13. Photograph 0905 showing the ground conditions typical of the remainder of the study area.

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