Original Report

Stage 1 and Stage 2 Archaeological Assessment for CarbonFree Rainy River Ltd. Lot 4 and Lot 5 CON 6, Township of Chapple, District of Rainy River, Ontario

Archaeological Licencee

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Project Information

PIF#'s: P307-0214-2025
WHNW Project #2511-01

Proponent Information

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Date Completed: December 8th, 2025

WOODLAND
HERITAGE NORTHWEST

Signatures

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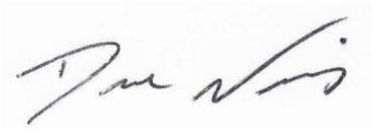

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Limitations

The information in this report documents methods and data collection that were conducted in a manner consistent with a level of care and skill commonly exercised by members of the professional archaeological community licenced to conduct archaeology in Ontario. No other warranty expressed or implied is made.

The fieldwork and information contained within has been prepared for the specific project as described to Woodland Heritage Northwest by CarbonFree Rainy River Ltd. The data contained in this report, interpretations and recommendations provided are intended for CarbonFree Rainy River Ltd. and the work completed on Lot 4 and Lot 5 CON 6, Township of Chapple, District of Rainy River, Ontario and are not intended for any other site or location. Unless otherwise stated the interpretation, descriptions and recommendations given in this report are intended only for the guidance of the Client in the design of this specific project.

It should be noted that any sampling and/or testing program employed, other than complete excavation, may fail to detect all or certain archaeological resources. The assessment strategies that were employed for the use in this project comply and adhere to those outlined in the Ministry of Citizenship and Multiculturalism's *Standards and Guidelines for Consultant Archaeologists* (MCM 2011)

Executive Summary

To support the Renewable Energy Approval (REA) process under Sections 19-23 (Protected Properties, Archaeological, and Heritage Resources) of O. Reg. 359/09 and the Ontario Heritage Act, a Stage 1/2 Archaeological Assessment is required for a location that is situated 37 km northwest of Fort Frances called the Rainey River 71 parcel. This parcel totals approximately 150 ha in size.

Presently the landscape appears to be grazing lands for cattle with one small section forested and a wetland to the east. The landscape is not surrounded by any development, but there is a meandering river to the northwest of the property.

The Stage 1 and Stage 2 Archaeological Assessment consisted of archival research, review of local history, aerial imagery, historic and topographic maps, and a field inspection with a shovel testing program that adhered to Section 2.1.5 of the Standards and Guidelines. The database for known archaeological sites registered in the province was queried to identify previous sites within the development and within 1 km of the surrounding location. All archaeological consulting activities were performed under the Professional Archaeological Licence of David Norris (P307) as the Field Director, under PIF #P307-0214-2025.

Archaeological recommendations have been made based on the background historic research, physical property inspection, location of known or registered archaeological sites, previous archaeological assessments, and indicators of archaeological potential. These recommendations are summarized as follows:

- No archaeological resources were observed during the Stage 1 and Stage 2 assessment therefore It is recommended that no further Archaeological Assessment be required for Lot 4 and Lot 5 CON 6, Township of Chapple, District of Rainy River, Ontario (Map 7).
- Should there be any alteration to the plans of this development, additional archaeological assessment may be required based on the presence of archaeological potential as outlined in the *2011 Standards and Guidelines Section 1.3.1*.

The Ontario Ministry of Citizenship and Multiculturalism (MCM) is asked to review the results presented and to accept this report into the Ontario Public Register of Archaeological Reports. 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 with local First Nation community authorization.

Project Personnel

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Acknowledgements

Woodland Heritage Northwest would like to extend its appreciation and thanks CarbonFree Rainy River Ltd. for the opportunity to allow Woodland Heritage Northwest to be involved in the solar farm project.

Thank you
David Norris
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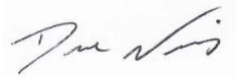

Abbreviations

ASL	Above sea level
CE	Common Era
CHVI	Cultural Heritage Value or Interest
BP	Before Present
BCE	Before Common Era
HBC	Hudson Bay Company
MCM	Ministry of Citizenship and Multiculturalism
NOEGTS	Northern Ontario Engineering Geology Terrain Study
NWC	North West Company
OASD	Ontario Archaeological Sites Database
WHNW	Woodland Heritage Northwest

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1 Project Context

1.1 Development Context

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1.2 Objectives of Archaeological Assessment

The objectives of a Stage 1 archaeological assessment, as outlined by the Standards and Guide- lines for Consultant Archaeologists (MCM, 2011a), are as follows:

- To provide information about the property's geography, history, previous archaeological fieldwork, and current land condition.
- To evaluate in detail the property's archaeological potential, which will support recommendations for Stage 2 survey for all or parts of the property if required: and
- To recommend appropriate strategies for Stage 2 survey if necessary.

The Stage 1 assessment can include a property inspection, which is a visit to the property to gain first-hand knowledge of its geography, topography, and current land condition, and to evaluate and map archaeological potential. It is a visual inspection only and does not include excavation or the collection of archaeological resources. What it does allow is for a more accurate determination of archaeological potential that often allows for a more refined scope for further archaeological assessment, when required.

The objectives of a Stage 2 archaeological assessment, as outlined by the Standards and Guidelines for Consultant Archaeologists (MCM, 2011), are as follows:

· To document all archeological resources on the property.

· To determine whether the property contains archaeological resources requiring further assessment; and

· To recommend appropriate Stage 3 assessment strategies for archaeological sites identified.

The purpose of a Stage 2 Archaeological Assessment is to confirm the presence or absence of archaeological resources within areas identified as having archaeological potential during the Stage 1 assessment. This is achieved through systematic fieldwork, which involves either a pedestrian survey in ploughed fields or a test pit survey in areas with intact soil. The survey follows provincial guidelines to ensure thorough coverage of the study area. Any artifacts or features encountered during the assessment are documented, mapped, and analyzed to determine their cultural significance. Based on the findings, recommendations are made regarding whether further investigation (Stage 3 assessment) is required or if the area may be cleared for development.

1.3 Historical Context

The history for northern Ontario has been reconstructed from the documentation of archaeological sites and recovered material remains which has been compiled and categorized to represent several periods of pre-history.

In northwestern Ontario, the archaeological record is divided into periods: (1) Paleoindigenous period (10,000 to 7,000 B.P.); (2) Middle period (7,000 to 2,500 B.P.); (3) Woodland period (2,500 to 300 B.P.); and (4) Historic period (300 B.P. to Present). The first three periods are categorized into the Pre-Contact period and are based on differences in artifact content that represent technological and cultural changes through time. The latter is categorized into the Post-Contact period since it involves the contact and introduction of Europeans and their material culture.

1.3.1 Pre-Contact Period

The Pre-Contact Period of northwestern Ontario covers the time prior to significant European contact with and influence on local Indigenous populations. Through archaeological investigations, three major cultural periods have been established based on similarities and then changes in material cultural that can be observed in the archaeological record (i.e., the material that survives taphonomic processes). The earliest period, the Paleoindigenous period, encompasses the first cultural groups in the region, who were generally highly mobile, big game hunter gatherers with finely manufactured lanceolate point technology. This was followed by the Middle period, where mobility is reduced, lithic selection more local and of more varying quality, and the introduction of notched projectile points and ground stone tools. In some areas, copper technology is also introduced. The change from the Middle period to the Woodland period is observed by the introduction of pottery technology in the archaeological record. These periods are expanded on in the following sections.

1.3.1.1 Paleoindigenous Period

The Paleoindigenous period represents the earliest known human occupation of northwestern Ontario. The date range for this period will vary across the province but is generally considered to be from 10,000 BP to 7,000 BP for northwestern Ontario. In addition, while southern Ontario has evidence of cultures attributed to the Early Paleoindigenous period (11,000 B.P. to 10,000 B.P.), only Late Paleoindigenous groups have been identified in northwestern Ontario. Prior to 10,000 B.P., the Laurentide Ice Sheet covered the region. As deglaciation occurred and the glacier retreated northward, a tundra environment formed. This landscape was suitable for big game species (e.g., caribou herds), which attracted mobile groups of hunter-gatherers into the area. As the glacier melted, proglacial and glacial lakes formed, some of which were short-term or changing as new drainage channels would open as isostatic rebound occurred (Boyd, 2024).

Around 7,000 B.P., a pine-birch forest developed, which likely contributed to the change in material culture from the Paleoindigenous period to the Middle period (Hamilton, 1981).

Sites that are of a Paleoindigenous cultural affiliation are rare in northwestern Ontario, and research on them is limited. Fox (1975) assessed Paleoindigenous sites in the Thunder Bay area and identified a cultural entity known as the “Lakehead Complex”. It is a discrete and temporal cluster of Late Paleoindigenous sites, which are associated with the middle, and late development stages of Lake Minong (Fox, 1975). Similar sites have been found across a broad area extending from east of Lake Nipigon to as far west as the Manitoba border, with three other complexes being suggested to accompany the Lakehead Complex. Ross (1995) named these additional complexes as follows: Lake of the Woods/Rainy River Complex, Quetico/Superior Complex, and Reservoir Lakes Complex. He also named the collection of the four complexes as the Interlakes Composite.

Many of these sites within the Lakehead Complex tend to cluster along the Gunflint formation, which is a broad band of siliceous rock, which extends west from Pass Lake to Gunflint Lake (Adams, 1993). It should be noted that since Fox’s (1975) assessment of Paleoindigenous sites in northern Ontario, there has been very little research into the presence of Paleoindigenous sites in northern Ontario. The current understanding of the Lakehead Complex Paleoindigenous artifact assemblage is limited to non-organic materials, primarily stone tools. Manufactured artifacts from materials such as taconite and silicified sandstone are what remain, offering a limited glimpse into the culture.

Due to the antiquity of the sites and the relative acidic nature of boreal forest soils, wood, bone, skins, bark, and other natural materials which were commonly used are rarely preserved on such sites, eliminating valuable evidence that can be used to interpret the early lifeways of the people occupying the sites. This also produces a problem when trying to place sites into a chronological sequence. With sparse organic materials surviving the archaeological record, there is little material for radiometric absolute dating and other dating techniques have not been attempted until recently. Therefore, establishing a firm chronology of the occupation of northern Ontario is not possible at the present time. Fortunately, the association of many Paleoindigenous sites with the shorelines of Lake Minong and Lake Agassiz indicates that these sites cannot predate the formation of these features. This is not to say that there are no sites inland, along smaller lakes and rivers. However, beaches, bay mouth bars, and spits of post-glacial shorelines permitted easy movement of people and provided access to ample subsistence resources, so sites are most often found on these types of landforms.

1.3.1.2 Middle Period

The Middle period in northwestern Ontario dates approximately from 7,000 B.P. to 2,500 B.P. and is generally divided into the Early and Late phases. The change from the Paleoindigenous period to the Middle period represents a transition from big game hunting to a broader, more generalized subsistence strategy better suited to the forested environment. In the archaeological record, the Middle period is characterized by the following traits (Ellis et al., 1990): (1) an increase in stone tool variation and greater reliance on local stone sources; (2) the emergence of notched and stemmed projectile point morphologies; (3) a reduction in extensively flaked tools; (4) the use of native copper; (5) the use of bone tools for hooks, gorges, and harpoons; (6) an increase in extensive trade networks; (7) the production of ground stone tools. It is important to note that not all these traits are expressed by more northern Middle period cultures (Hamilton, 1991).

In the subarctic region of Ontario, the Shield culture is the most prevalent throughout the Middle period. Unfortunately, the Shield culture is more of a 'catch-all' term used to categorize the archaeological material for the various Middle period cultures spread across the Canadian Shield. Similarities in stone tool assemblages is likely the product of similar environmental adaptations. Current interpretation for this period is that people operated in small nomadic kin-based units who moved around between various locations based on available resources and seasonal requirements. A broad-spectrum foraging strategy was adapted to survive in the harsh and fluctuating dependency of the boreal forest. Representative toolkits for the Shield culture in northwestern Ontario include side-notched lanceolate projectile points and a wide variety of unifacial scrapers (Hamilton, 1991; Wright, 1972).

1) The Early Middle Period

In northern Ontario, the term Early Middle period is used to describe the time between the end of the Late Paleoindigenous period (ca. 7,000 B.P.) and the beginning of the Late Middle period (ca. 4,700 B.P.). It is a transitory period whereby some characteristics of the Late Paleoindigenous period still appear, but it is mixed with new types of technology not previously seen.

The earliest phases of the Middle period that succeeded the Late Paleoindigenous period are poorly known. Most of what is known is surmised from areas outside of northwestern Ontario, thus the information presented here is subject to change.

Lake levels in northwestern Ontario were constantly changing due to the retreat of the Laurentide ice sheet. As the ice margin retreated further to the north, new exposed land became available for groups of people as well as animals and plants to utilize.

Groups of people that were concentrated to the south along the ice margin followed this retreat north into the new exposed landscape. As this happened, different types of technology began to appear. The reliance on a few, high quality stone tool materials is abandoned in the Early Middle period for the use of cobble cherts of lesser quality stone. The trihedral adze appears as a tool for woodworking. Although the period that these artifacts were used during has not been well dated, it seems to coincide with a period of warming in northwestern Ontario; a period when large white pines are known to have been common in the boreal forests. Such tools may have been used in the manufacturing of dugout canoes, or for other heavy duty woodworking tasks. Projectile points (spearpoints) also change in shape. What were once long, lanceolate shaped tools, become smaller with corner or side notching along the bottom portions. This is an indication that hafting technology is changing, becoming different across the landscape.

About 8,500 B.P., people started to make use of copper, which was cold hammered to form spear points, knives, gaff hooks and elaborate jewelry. One of the most complete copper assemblages for northwestern Ontario comes from a cache south of Lake Nipigon that was uncovered in the 1960s (Griffin & Quimby, 1961).

2) The Late Middle Period

In northern Ontario, the late Middle period is usually defined as having occurred between the time lake levels temporarily stabilized at Nipissing levels, and the time when pottery was first introduced into northwestern Ontario. It includes the 'Old Copper' complex during the early part of the period. The Late Middle is generally accepted as having occurred between approximately 4,700 B.P. and 2,500 B.P.

Reliable dates from archaeological sites of this period are comparatively rare; most have been dated by their position relative to the Nipissing (or later) shoreline features. Fortunately, in a few rare instances such as those at the Renshaw Site on the shores of Lake Superior (~5,300–5,000 cal. B.P.) and South Fowl Lake (~6,800 cal. B.P), adequate dating evidence has been acquired (Boyd, 2024).

During the later phases of the Late Middle period (ca. 3,500 - 2,500 B.P.) declining lake levels in the Lake Superior basin exposed some lake shore zones which had formerly been submerged under the highwater levels of post glacial Lake Nipissing. Although specific research into sites of this period is still limited, there is some evidence to suggest that, in keeping with what was occurring elsewhere in the region - particularly to the south, populations were gradually increasing, and new influences and contacts were being made at this time.

When differences in lake level are considered, archaeological sites of this period are generally found in similar locations to those of both earlier and later periods. The lands surrounding river mouths, inshore islands and small bays behind sandy beaches appear to have been favoured site locations suggesting that site selection criteria were essentially unchanged.

1.3.1.3 Woodland Period

Perhaps the most active period in precontact history, the Woodland period represents a vast technological revolution with the introduction of pottery, the shift from spear points to the bow and arrow, and the large-scale use of wild rice as a staple food. The Woodland period is divided into Early, Middle, and Late phases and each designation is represented by more advanced technological innovation.

1) Early Woodland

In northern Ontario, there is little to no evidence of Early Woodland cultures. Either sites haven't been found, or the criteria used to identify Early Woodland sites are not present in the region. Criteria for establishing Early Woodland sites include the presence of pottery and projectile points which are small, well-shaped and used with bow and arrow hunting rather than as spear points.

2) Middle Woodland

The Middle Woodland period is represented in northern Ontario by the appearance of pottery assigned to the Laurel Configuration (after Reid & Rajnovich, 1991). This type of pottery is thought to have diffused into Northwestern Ontario from the southwest in Minnesota (Wright, 1999). Geographically, the distribution of Laurel sites ranges from northeast central Saskatchewan, through a large portion of central Manitoba and northern Minnesota to northern Michigan and northern Ontario (a central-west appearance in Saskatchewan was identified by Dr. David Meyer (per comm. 2004).

The first appearance of Laurel pottery comes from Minnesota (Wilford, 1955); thus, it appears to represent a migration of peoples or ideas north into Ontario. The broad distribution means that there are many styles of pottery representing regional expressions. Reid and Rajnovich (1991) summarized Laurel pottery into three main complexes: (1) Manitoba Lakes; (2) Boundary Waters, and (3) Superior. Characteristics of Laurel pottery include thick, conoidal vessels made by coiling with pseudo-scallop and linear stamping in short vertical motifs around the upper portions and smoothed out bodies on the remaining portions of the vessel (Reid & Rajnovich, 1991). Although the chronological span of Laurel pottery is contentious, it is estimated to have

begun in approximately 100 B.C. and lasted to approximately 1300 A.D. (Reid & Rajnovich, 1991).

3) Late Woodland

The Late Woodland period in northern Ontario represents a wide dispersal of technological traits in terms of pottery styles and manufacturing techniques that did not occur uniformly across northwestern Ontario and surrounding regions. The most predominate pottery style is from the Blackduck horizon. The geographical distribution of Blackduck pottery ranges from west-central Saskatchewan, through Manitoba, into Minnesota, northwest Michigan, and northern Ontario (Lenius & Olinyk, 1990). Blackduck vessels are typically thin-walled globular vessels (made by paddle and anvil technique) with constricted necks, wedge-shaped lips, and out-flaring rims. They have textile-impressed globular bodies with the neck, rim, and lip areas often decorated with complex and highly variable patterns of cord wrapped object impressions, punctates, and/or bosses that may be found on the exterior, on the lip, and sometimes on the interior of the vessel. Some vessels also have vertically oriented combing as the surface finish (Hamilton et al., 2012). Anfinson (1979) suggests that Blackduck first emerges at A.D. 800 and lasts until approximately 1400. However, Lenius and Olinyk (1990) reviewed C^{14} dates and suggest that an appearance around A.D. 500 to A.D. 1000 is more appropriate.

After the disappearance of Blackduck pottery, there were many different styles which began to appear in the Late Woodland. Although a discussion of these styles is beyond the scope of this report, the taxonomy should be mentioned as these cultures are important to the history of northern Ontario.

Lenius and Olinyk (1990) discuss the designation of the Western Woodland Algonquian Configuration emerging from antecedent cultures, Laurel and Blackduck. This configuration includes two composites, Selkirk, and Rainy River. The Selkirk composite includes several northern regional expressions, while the Rainy River composite includes the Duck Bay, Bird Lake and Winnipeg River types or complexes. Each of these composites consists of shared social, political, and custom activities, which were important in the development of the precontact environment in northern Ontario.

The settlement pattern for this period consisted of more frequent movement during the spring, summer, and fall months, with summer being the main season for major cultural gatherings and congregations. The abundance of food resources and stable weather allowed Indigenous people to come together for trade, conduct ceremonies, and to socialize, fostering connections between family groups (Hamilton, 2013). During these warmer months habitation and shelter most likely consisted of structures made from wood and animal hide supplemented with other natural implements such as birch bark and/or pitch (Wright, 1999). Remnants of these structures show up in the archaeological record as post moulds, hearth features, and weight stones. In the winter months, Indigenous populations would separate and break up into extended families moving back into the dense boreal forest for shelter. This decreases site size, as structures become smaller as community groups became a fraction of the size. From an archaeological perspective, winter sites in northern Ontario are difficult to define, identify and find.

**Note: this history is based off material remains found within an archaeological context, discussions and engagement with local Indigenous Communities could result in a more robust or altered narrative of the history of the area.

1.3.2 Post-Contact Period

The Post-Contact period for Ontario is generally considered to begin ca. 1650 C.E. However, at a regional level this period truly begins following the settlement of an area by European colonizers, or in the least regular interaction between Indigenous populations and Euro-Canadians. A transitory period exists, termed the Protocontact, that represents the period when European impacts or influence begin to appear at Indigenous sites (e.g., metal cookware, trade items, firearms, European diseases), but before more intense European-Indigenous interaction took place. In northwestern Ontario, the Protocontact period correlates to the time of European exploration and early fur trade endeavours, while the Historic period correlates to the more established fur trade era (the Late Fur Trade) and Euro-Canadian colonization and industrial pursuits of the 19th and 20th centuries.

1.3.3 Protocontact Period

The Protocontact period of Ontario begins at the end of the Pre-Contact period with the expeditions of Jacques Cartier down the St. Lawrence River. Cartier embarked on three exploration voyages, with minimal settlement efforts in Quebec along the St. Lawrence. The first voyage in 1534 C.E. explored the Gulf of the St. Lawrence, where he encountered Iroquoian-speaking people attending to their annual seal hunt and began trade relations with the Iroquoian-speaking community of Stadacona (modern Quebec City). His second voyage in 1535-1536 saw him return to Stadacona, then travel further upriver to Hochelaga (modern Montreal). His third and final voyage lasted from 1541-1542 and was the first attempt to establish a colony along the St. Lawrence, under the direction of Sieur de Roberval. The colony was established at the confluence of the Cap Rouge and St. Lawrence Rivers, upriver from Stadacona. Conflict with the people from Stadacona forced Cartier to abandon the settlement in May of 1542 (Allaire, 2013). Roberval took over the colony but was ordered to abandon the fort and return to France in 1543 (Allaire, 2008).

The next major attempts at exploration came from the voyages of Samuel de Champlain. Champlain first arrived at the St. Lawrence River in 1603, where he encountered Algonquin people, rather than Iroquoian. He explored the east coast for a few years before being ordered to establish the settlement of Quebec (Quebec City) (Trudel & d'Avignon, 2013).

In 1613, Champlain reached the mouth of the Ottawa River, but did not explore further until his expedition to Huronia (southern end of Georgian Bay and Lake Simcoe area) in 1615-1616. This expedition saw him journey up the Ottawa River, across Lake Nipissing and down the French River into Lake Huron (Trudel & d'Avignon, 2013).

Prior to these expeditions, however, Champlain sent a young Etienne Brule to live among the Algonquin people, likely in 1610, to learn the language, allowing him to act as an interpreter and intermediary. He was likely the first European to see Lakes Ontario, Huron and Superior. He visited Sault Ste. Marie – Bawating - in 1621-1622 (Marsh, 2008).

Northwestern Ontario, however, was too remote and difficult to access for Europeans, thereby delaying actual European presence and interaction with Indigenous communities. The first Europeans to traverse the waters of Lake Superior were the explorers Pierre-Espirit Radission and Medard Chouart des Groseilliers in 1662, who were led by a group of Indigenous middlemen traders. Their explorations took them up the Michipicoten River and north to James Bay, then returning south to Lake Nipigon and western Lake Superior (Beaulieu & Southcott, 2010).

After this initial exploration, more Europeans began to enter the area, utilizing the knowledge of both the lands and the environment of the First Nation guides. These earliest European explorations of north-central Canada occurred along the shores of the bays and the major river systems, with further inland exploration occurring later. Early European exploration of northern North America was explored by both the British and the French to establish commercial industries. The British focused their efforts of exploration in and around Hudson Bay and James Bay, and further inland along the watershed systems emanating from these bays. The French concentrated their efforts further south and moved inland along the St. Lawrence waterway before exploring the Great Lakes area further inland.

The Early Fur Trade followed with *couriers des bois* establishing trading posts at key locations. In 1679, Daniel Greysolon, Sieur de Lhut, established Fort Caministigoyan at the mouth of the Mission River and Kaministiquia River, in what is now called Thunder Bay. However, when Jacques de Noyon travelled to Rainy Lake by way of the Kaministiquia River heading west through Lac Des Mille Lacs in 1688, the fort was noted to be abandoned. A fort was re-established in this area in 1717 by Zacharie de la Noue, known as Fort Kaministiquia or "La Noues" fort, which operated until 1758 (Thunder Bay Museum, n.d.). For 45 years, there was no operational fur trade post at this location until the NWC decided to relocate their headquarters for Grand Portage to the Kaministiquia River. The fort was called New Fort until it was renamed Fort William in 1807 (Thunder Bay Museum, n.d.).

Under the direction of La Verendrye in 1726, fur trade posts (i.e. the *Postes du Norde*) expanded further north and west of Lake Superior to increase productivity in the Little North. The *Postes du Norde* were ceded to the British in 1763 following the defeat of France in the Seven Years War. Independent French traders likely continued to trade in this area and the Montreal-based HBC began to employ French Canadians to continue to trade in the French method. The ruins of an old French trade post were noted by later fur traders at the start of the 19th century and is indicated on Lytwyn's map of Trading Posts from 1760-1821 as belonging to St. Lawrence based traders (Figure 3, p. 24) (Coues, 1897; Lytwyn, 1981, 1986).

The HBC had successful exploration and use of natural resources by way of the aid of First Nations people beginning ca. 1610 lasting until the mid-18th century. In 1670, Charles II, the King of England, awarded the HBC with exclusive rights for British trading in Rupert's Land, which is defined as those lands drained by rivers flowing into the Hudson's Bay. This land included a number of different ecoregions including the Hudson's Bay Lowlands, that consisted of marshy lowlands with slow moving rivers as well as the Canadian Shield situated to the south. The Canadian Shield is characterized as rugged, undulating terrain with vast amounts of exposed bedrock, glacially impacted features, and hundreds of lakes (Harris, 1987).

The first of the HBC explorers, Henry Kelsey ventured into the northern part of Ontario and further east. On his second expedition (1690-1692), he explored from York Fort in Hudson Bay and extended the HBC trade west to the Saskatchewan River. Anthony, another European explorer, ventured into the *Petit Nord* of Ontario (the Little North), penetrating further west and well into the Prairies. The boundaries of the *Petit Nord* are approximately described as being James Bay and Hudson Bay to the north, the divide between the Moose and the Albany River drainages to the east, Lake Superior and the boundary waters between Lake Superior and Lake Winnipeg to the south and Lake Winnipeg and the Hayes River system to the west (Hackett, 2002).

During their explorations, the Europeans recorded their observations of both the land and the people who lived there. This information has been compiled and presented on a series of Canada-wide maps to provide a broad overview. The three maps represent information correlating to 1630, 1740, and 1823, and represent the change in Indigenous populations and linguistics over time (Geographical Services Division, 1988a, 1988b, 1990). As of 1630, northwestern Ontario remained largely unknown to Europeans, with exploration not extending west of Bawating, and knowledge through Indigenous accounts extending as far west as Long Lac. Archaeological sites in the region of the study area that are depicted on this map are defined as part of the Blackduck culture of the Late Woodland period.

By 1740, northwestern Ontario had been explored by Europeans from the Albany River to Lake Nipigon, the shoreline of Lake Superior, and a wide swath of land along the boundary waters, around Lake of the Woods, and the Winnipeg River. Accounts from Indigenous contacts provided second-hand knowledge of the rest of northwestern Ontario. Indigenous populations in proximity to the study area of this project included Algonquin-speaking peoples belonging to Ojibway and Cree language groups. The closest population to the study area on this map is recorded as an Ojibway-speaking group (Oj-9: Nameouilini [Gens de la Esturgeon]) of 100-200 people.

The final map of interest depicts Canada as of 1823 and is based on census data from 1822, resulting in a fairly complete and descriptive record. By this time, direct European knowledge of northwestern Ontario expanded, covering the same basic area as the 1740 map, but extending further inland from rivers and shorelines, as well as another major trade route from the Albany River to Lac Seul, then along the English River to the Winnipeg River. Algonquin-speaking people are still depicted throughout northwestern Ontario; however, it is predominantly Ojibway, with select areas of Cree-speaking people in the far north of Ontario. The closest listed population on this map to the study area is labelled as Oj 10 – Rainy Lake Ojibwa, with a population of 480 people. The Rainy Lake Ojibwa were listed as being mobile for part of the year, gathering as a band for the other part.

1.3.4 Métis History in Northwestern Ontario

During the Post-Contact period, a new culture emerged through the ethnogenesis of European and First Nation relations. Domestic relationships were entered by European-descendent men involved in the Fur Trade and First Nation women from the communities where they operated. Despite the numerous cultural groups amongst both the First Nations (e.g., Ojibwe, Cree, etc.) and Europeans (e.g., French, English, Scottish), the Métis culture emerged as a distinct entity, separate from either founding culture (Gaudry et al., 2023; Métis Nation of Ontario, n.d.-h; Supernant, 2018)

Métis identity is a complex topic, both politically and socially. During the 19th century the Métis Nation emerged out of western Canada as a political entity. The Métis National council formed to represent the Métis Nation and defines Métis as “a person who self-identifies as Métis, is distinct from other Aboriginal peoples, is of historic Métis Nation ancestry and who is accepted by the Métis Nation.” Those who are members of the Métis Nation are connected by an extensive kin-relations network, a common culture and the *Michif* language, as well as common history and political tradition (Gaudry et al., 2023).

Relations between First Nation women and European men likely began following the initial European exploration of North America. However, it was not until the start of the fur trade and

early European settlement attempts that it became common enough for ethnogenesis to occur. This resulted in several families of mixed ancestry forming. At this time, however, the term Métis, although sometimes used, had not been established and other terms were employed (e.g., Bois-Brules, Chicots, Acadiens, Canadiens, Settlers, Michifs, Voyageurs, etc.). With roots in the fur trade industry, many early Métis families lived adjacent to fur trade forts and posts and often worked at these establishments. However, the Métis were typically a self-sufficient people, engaging in farming, hunting, gathering, fishing, and trading (Gagnon, 2016).

The birthplace of the Métis culture, however, is recognised as the Red River Settlement, now the location of downtown Winnipeg. The Red River Settlement was established at the confluence of the Red and Assiniboine Rivers by Thomas Douglas, 5th Earl of Selkirk, in 1812, following the granting of approximately 300,000 km^2 of land in the Winnipeg Basin by the Hudson's Bay Company (HBC). The settlement was initially intended for Scottish immigrants. Shortly before this, the North West Company (NWC) established a fort in the area and several Métis families were already living in the area. As the settlement grew, the Métis population became the majority (Bumsted & Smyth, 2015).

By the end of the 19th century, however, the Métis of Red River were unsure of the protection of their rights by the newly formed Dominion of Canada, based on the lack of distinction made to Métis people in the treaties signed by the Crown and Indigenous peoples. This resulted in two resistance movements, the Red River Resistance of 1869-70 and the North-West Resistance of 1885. The outcome of the former was supposed to be the federal recognition of Métis rights in the new province of Manitoba and Métis land titles for 607,000 hectares of land (Bumsted et al., 2021). However, the resultant land scrips were ineffective in ensuring the protection of this land for the Métis (Robinson & Filice, 2019). The latter resulted in significantly more bloodshed and the permanent enforcement of Canadian law in the West (Beal et al., 2021).

Unfortunately, the negative opinion towards the Métis from their resistance resulted in some hiding their Métis heritage. However, throughout the 20th and into the 21st Century, Métis cultural resurgence and political representation had increased. During the 1930s, the first provincial Métis organization was founded, the Métis Association of Alberta, who were responsible for securing land for Métis settlements and the *Métis Population Betterment Act, 1938*. Following this act, the Saskatchewan Métis Society was also founded. During the 1960s, other provinces followed suit with the founding of provincial Métis organizations, such as the Manitoba Métis Federation, the Ontario Métis and Non-Status Indian Association, and the Louis Riel Métis Association of BC. The increased political activism led to the Métis ensuring their including as one of three Indigenous peoples recognized in Section 35 of the *Constitution Act, 1982* (Gaudry et al., 2023).

During the 20th and 21st centuries, Métis people continued to lobby for their rights, particularly for their hunting rights. These efforts culminated in the R. v. Powley case (2003) where the Supreme Court of Ontario recognized the rights of members of the Métis Nation to hunt for food that is protected under Section 35 of the *Constitution Act, 1982*. The Métis Nation of Ontario (MNO), which was established in 1993 to create a Métis-specific governance structure for Ontario Métis communities and established a centralized Métis registry, in conjunction with the Ontario Ministry of Natural Resources created the Harvester's card system for Métis hunters. In 2008, the MNO and the Government of Ontario signed a framework agreement recognizing that the Métis communities in Ontario have a unique history and way of life (Métis Nation of Ontario, n.d.-h).

1.3.4.1 Métis in Ontario

In Ontario, historic Métis communities developed near prominent fur trade posts where Métis peoples were commonly employed. Fur trade records show Métis individuals serving in several capacities, such as blacksmith, tinsmith, cooper, boat/canoe builder, interpreters, runners, winterers, or quite commonly food provisioners (acquired through fishing, hunting, trapping, agriculture, gathering, etc.). The merger of the HBC and NWC in 1821 resulted in the loss of employment for many fur trade workers at numerous forts and posts, such as Fort William. Outside of the fur trade, Métis continued to work their specializations, but also worked as guides, interpreters, in the survey and lumber industry, military and commercial fishing. Fishing, hunting, trapping, maple syrup production, farming and gathering continued to be important lifeways (Métis Nation of Ontario, n.d.-c, n.d.-h, n.d.-d, n.d.-b, n.d.-a, n.d.-g, n.d.-e, n.d.-f).

There are seven historic Métis communities within Ontario. They are: 1) Rainy River/Lake of the Woods/ Treaty 3 Historic Métis Community; 2) Northern Lake Superior Historic Métis Community; 3) Abitibi Inland Historic Métis Community; 4) Sault Ste. Marie and Environs Métis Community; 5) Killarney and Environs Historic Métis Community; 6) Georgian Bay and Environs Historic Métis Community; and 7) Mattawa/Ottawa River and Environs Historic Métis Community. In northwestern Ontario, along the shores of Lake Superior, within the Robinson Superior Treaty of 1850 lands, the Red Sky Métis Independent Nation traces land use by their citizens to this area. The following are communities related to the study area.

Rainy River/Lake of the Woods/ Treaty 3 Historic Métis Community

The Rainy River/Lake of the Woods/ Treaty 3 Historic Métis Community traces its history to the establishment of Fort Lac La Pluie (also known as Athabasca House or Rainy Lake House) by the NWC in 1787. In the 1790s, the HBC also established a post at Lac La Pluie with additional posts at Eschabitchewan House, Manitou Rapids, Rainy Lake, and Portage l'Isle. Although the HBC abandoned the area in 1796-7, they returned in 1817 re-establishing Lac La Pluie House (later renamed to Fort Frances). Following the HBC/NWC merger of 1821, HBC posts continued to operate at Rainy Lake, Vermillion Lake, and Lake of the Woods. In 1831 and 1836, the HBC established posts at Shoal Lake and Rat Portage (later renamed to Kenora), respectively. In the 1850s, additional posts were established at Keewatin, Eagle Lake (Dryden), and Dinorwic. In 1870, the Shoal Lake post moved to the North West Angle but ultimately closed in 1878. In 1873, Treaty 3 negotiations concluded, allowing for Euro-Canadian settlement of the area. In 1875, the Métis of the area successfully negotiated their adhesion to the treaty. An identifiable Métis population is identifiable from the early 1800s to the early 1900s in fur trade and census records by their common surnames. Approximately 85-100 Métis individuals from up to 20 families are referred to in the 1875 adhesion to Treaty 3 (Métis Nation of Ontario, n.d.-f).

1.3.5 Study Area Specific History

According to G.L. Nute's historical account of the Rainy River region and the "boundary waters" that demarcate the Minnesota–Ontario border, the French fur trader Jacques de Noyon is reputed to have been the first European to traverse the area, doing so in 1688. It was not until nearly a century later, in the 1770s, that the Hudson's Bay Company began dispatching traders inland to compete with the North West Company for access to the lucrative fur trade northwest of Lake Superior.

In 1731, Pierre Gaultier de Varennes, Sieur de La Vérendrye, seeking a northwest passage, petitioned the Governor of New France for permission to explore the territory between Lake

Superior and Lake of the Woods and to be granted a fur trade monopoly in the region. La Vérendrye's expedition, undertaken in search of the fabled "Sea of the West," relied on a map and guidance from a First Nations trader named Auchagah. That same year, Charles Dufrost de La Jemeraye, La Vérendrye's nephew, advanced to Lac La Pluie (now Rainy Lake) and established Fort St. Pierre—later known as the Hudson's Bay Company post Fort Frances. In 1732, La Vérendrye himself established Fort St. Charles on Lake of the Woods. Nute (1950:10) also refers to minor trading posts along this "back" route north of the Rainy River, including one on Crane Lake and another on Ball Lake near present-day Kenora.

Following the French defeat in the Seven Years' War (1756–1763), British traders and surveyors pushed into the interior from Lake Superior to Lake of the Woods. In 1801, Alexander MacKenzie surveyed the Rainy River, describing it as "one of the finest rivers in the North-West" (The Rainy River Record, July 6, 1994).

The township of Chapple, Ontario, is a community that grew up around the Upper Canada Mines, which were active from the 1920s to 1971. It served as a residential area for mine employees and was situated near Highway 66 and the Ontario Northland railway. The area also has a history of gold and copper exploration, particularly at the Upper Beaver project.

The Town of Rainy River was incorporated on December 9, 1903. It developed around a lumber mill established in 1895, which was acquired by the Beaver Mills Lumber Company in 1898. The community experienced significant growth with the construction of the Ontario and Rainy River Railway in 1901—later integrated into the Canadian Northern Railway and eventually Canadian National Railways (CNR). A major fire in 1910, originating in northern Minnesota, devastated the town. The mill was relocated, and the population declined from a peak of approximately 4,500 to its current level of around 1,000. In 1960, a bridge was opened connecting Rainy River, Ontario, to Baudette, Minnesota. As with the Township of Emo, the local economy today is largely based on agriculture, forestry, and recreational tourism related to hunting and fishing (http://www.rainyriver.ca).

Throughout the 19th century, the British Crown granted land along the Rainy River to settlers for the establishment of homesteads. Prior to the construction of railways, the river served as the principal transportation corridor. Among the earliest land grants in the current project area were parcels issued to Boer War veterans in 1907 and several "Free Grants" dating to the first major wave of settlement between 1910 and 1921 (Land Titles records). Notably, land surveys were conducted immediately prior to the issuance of grants, leaving little to no interval between survey and settlement. Consequently, the initial wave of settlers occupied the very lands they were granted, and the likelihood of pre-existing roads, trails, or informal squatters in the area was considered extremely low. While some subsistence activities such as hunting and trapping may have occurred, permanent settlement was minimal prior to the land grants.

The early pattern of homesteading typically involved clearing a designated portion of land and constructing a dwelling within the first year. Initial structures were often simple log buildings, made from round or roughly hewn logs with dovetail or saddle-notch joinery and sealed with chinking. Roofs were generally constructed from clapboard, with cedar shakes commonly used to decorate the gable ends. These gables often covered 1×8-inch (2.54 × 20.32 cm) planks laid edge-to-edge or with ship-lap joinery. Subsequent homes were typically constructed in a more refined style, utilizing clapboard and occasionally additional siding such as cedar shakes or beveled wood. These later structures were often "stick-framed"—built with dimensional lumber using either balloon or platform framing techniques.

1.4 Archaeological Context

1.4.1 Current Land Use

Presently, the study area is undeveloped consisting of forested lands and open grazing areas for cattle.

1.4.2 Physiography and Environment

The study area is situated upon the Canadian Shield, which refers to the exposed portion of continental crust that North America is situated upon. The Canadian Shield stretches from Labrador, west through northern Quebec and northern Ontario, and then northwest through Manitoba and Saskatchewan into the Northwest Territories and most of Nunavut. Much of the shield is covered by Canada's Boreal Forest, which includes thousands of lakes, and is full of various minerals. Boreal forests are dominated by coniferous trees (mostly pines and spruces), but birch trees are also common. The lakes that formed on the shield are often poorly drained, but extensive water corridors exist throughout the area that served as travel corridors for centuries.

1) Northern Ontario Engineering Geology Terrain Study (NOEGTS)

The NOEGTS Data Set is a map of engineering geology terrain studies, which are evaluations of near-surface geological conditions with a view to determining the engineering capability of the terrain. The data is at a reconnaissance level and designed to provide an overview of the terrain conditions, and a database on which to undertake more site-specific studies.

The study area is shown to be on an a glaciolacustrine plain, with a small portion of land classified as organics along the eastern border of the study area (**Error! Reference source not f ound.**). The glaciolacustrine plain is indicted to be made up of primarily clay, with silt as the secondary material. It has low relief and dry drainage. The small portion of organic terrain is made up of peat or muck, with low relief and mixed wet and dry drainage.

2) Quaternary Geology

The Quaternary Geology Data Set is a digital interpretation of surficial geology for the Province of Ontario and illustrates the general distribution of the various types of Quaternary sediments and the major landforms associated with them. Tills, glaciofluvial, glaciolacustrine, glaciomarine, fluvial, lacustrine, and organic deposits are represented by 30 distinct geological units illustrating the Quaternary stratigraphy of Ontario. Also shown are landform deposits such as drumlins, moraines, eskers, sand dunes, and glacial-related escarpments.

The western portion of the study area is shown to be within an area of Pleistocene till, consisting of undifferentiated, fine grained, predominantly silty clay to silt matrix, commonly clast poor, high matrix carbonate content (**Error! Reference source not found.**). The eastern portion of the s tudy area is described as recent organic deposits, consisting of peat, muck and marl.

3) Topography

LiDAR data from the Forest Resource Inventory was used to the create a LiDAR-derived Digital Terrain Model of the study area and the surroundings. This allowed for an assessment of the study area topography.

The elevation within the study area ranges from approximately 352 m ASL to 367 m ASL. The low-lying area exists near Mather I Creek, in the northwest portion of the study area. The rest of the study area is more elevated but relatively flat.

1.4.2.1 Water Courses and Bodies

A seasonal offshoot stream of Mather I Creek runs into the northwestern portion of the study area. Both the stream and creek are quite small watercourses. The watershed information for the study area is located in the table below.

Table 1: Watershed Information

Primary	Secondary	Tertiary	Quaternary
Nelson River	Winnipeg River	Lower Rainy River	Sturgeon Creek – Rainy River

1.4.2.2 Soils

The Ontario soil survey complex database contains descriptive information including, but not limited to, soil classification, slope, stoniness, drainage, and texture. The data is intended to be used a broad land use planning tool and not necessarily for field-level management (**Error! R eference source not found.**).

There are three soil types listed as present within the study area. From west to east these are; Organic, Crozier Clay Loam, and Innes Lake. Organic is described as undifferentiated organic material with very poor drainage, level in terms of slope, and is nonstony. Crozier Clay Loam is a Gleysol made up of calcareous clay loam with poor drainage, level slope and is nonstony. Its agricultural ability is classified as having moderately severe limitation that restrict the range of crops or require special conservation practices and as having excess water. Finally, Innes Lake is a Typic Humisol made up of humic organic material derived from grasses, sedges, reeds, moss, and wood that is greater than 160 cm thick. It has very poor drainage, is level and nonstony. Its agricultural ability is listed as having severe limitations that restrict the range of crops or require special conservation practices with low fertility and excess water (Ontario Institute of Pedology, 1984).

1.4.2.3 Ecozone and Ecoregion

The study area falls within the Agassiz Clay Plain Ecoregion (5S) of the Ontario Shield Ecozone (Crins, 2009). This ecoregion has a cool-temperate and dry climate, with a mean annual temperature of 1.4°C to 2.8°C, a mean growing season of 182 to 190 days, and a mean annual precipitation between 559 to 660 mm.

Sparse forest covers most of the landscape (22.7%), followed by pasture (16.8%) and water and deciduous forest (13.6%). Being within the Rainy River Section of the Great Lakes-St. Lawrence Forest Region, there is a mix of species from Great Lakes-St. Lawrence, boreal, and prairie ecosystems, such as red maple, white spruce and American elm (Rowe 1972). The excess wetness of much of this ecoregion also lends to many wetlands which are home to willow and white cedar, among other species. In terms of animals, the sharp-tailed grouse, white-tailed jack rabbit, and the American black bear are among the common species in the area which are a combination of southern, northern, and western species. For fish, lake trout, lake whitefish and pumpkinseed, among many others are common in the lakes and rivers (Crins et al. 2009).

1.4.3 Previous Archaeological Assessments

A review of the *Ontario Public Register of Archaeological Reports* on May 20th, 2025, determined that no archaeological assessment have been completed within 50 m of the proposed development.

1.4.4 Registered Archaeological Sites

In Ontario, information concerning archaeological sites is stored in the OASD and is maintained by MCM. A search of the OASD on May 20th, 2025, determined that no registered archaeological sites lie within 1 km of the study area.

2 Field Methodology

2.1 Desktop Analysis - Stage 1

Several factors are used to determine archaeological potential. Criteria for pre-contact archaeological potential is focused on physiographic variables that include distance from the nearest source of water, the nature of the nearest source/body of water, distinguishing features in the landscape (e.g., ridges, knolls, eskers, wetlands), the types of soils found within the area of assessment and resource availability as outlined in the *Standards and Guidelines for Consultant Archaeologists* (MCM, 2011; 22). Additionally, previously recorded archaeological sites within or in the vicinity of the study area are also used in determining archaeological potential. Historic and archival research provides the basis for determining historic archaeological potential.

As noted previously, the proposed development occurs in an undisturbed area of northwestern Ontario. This could significantly increase the archaeological potential due to undisturbed nature of the landscape. Additionally, the few archaeological investigations that have occurred in northwestern Ontario suggest that people did in fact utilize the landscape beginning about 8,000 years ago which also increases the potential for unknown sites to lie within the proposed development. Finally, criteria set out by the Ministry of Citizenship and Multiculturalism (MCM, 2011a) in *Section 1.3.1 Features indicating archaeological potential* include the following:

- Previously identified archaeological sites
- Water sources such as:
    - Primary water sources (lakes, rivers, streams)
    - Secondary water sources (intermittent streams and creeks, springs, marshes, swamps)
    - Features indicating past water sources (e.g., glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels, shorelines of drained lakes or marshes)
- Accessible or inaccessible shoreline (e.g., high bluffs, swamp, or marsh fields by edges of lakes, sandbars stretching into marsh)
- Elevated topography (e.g., eskers, drumlins, large knolls)
- Pockets of well drained sandy soils, especially near areas of soil or rocky ground
- distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings.
- resource areas, including:
    - food or medicinal plants (e.g., migratory routes, spawning areas, prairie)
    - scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert)
    - early Euro-Canadian industry (e.g., fur trade, logging, prospecting, mining)
- areas of early Euro-Canadian settlement. These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.
- early historical transportation routes (e.g., trails, passes, roads, railways, portage routes)
- property listed on a municipal register or designated under the Ontario Heritage Act or that is a federal, provincial, or municipal historic landmark or site.

- property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations.

The study area occurs in an area of northwestern Ontario that has experienced some disturbance in the form of agricultural use.

For this Stage 1 Archaeological Assessment, 100% of the proposed study area was plotted on satellite imagery using GIS software and examined. According to mapping data there appears to be possible water source situated on the northwestern side of the property. The presence of this water source necessitates at least a property inspection to confirm the mapping results.

2.2 Determination of Archaeological Potential

Table 1. provides a list of the features of archaeological potential that must be considered in determining the archaeological potential of a study area and whether they are within 50 m or 150 m of the study area. The study area is in Northern Ontario and on Canadian Shield terrain and therefore subject to the special conditions outlined in Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* (MCM, 2011a). These conditions state that test pit survey is required at 5 m intervals within 50 m of all features of archaeological potential and at 10 m intervals between 50 m and 150 m of all features of archaeological potential, except modern water sources.

Table 2: Features of archaeological potential near the study area.

Feature of Archaeological Potential	Within 50 m	Within 150 m
Previously identified archaeological sites	No	No
Modern water sources	Yes	Yes
Past water sources	No	No
Accessible or inaccessible shoreline	No	No
Elevated Topography	No	No
Pockets of well-drained sandy soils	No	No
Distinctive land formations	No	No
Resource areas	No	No
Early Euro-Canadian settlement	No	No
Early historical transportation routes	No	No
Property listed on a municipal register or designated under the Ontario Heritage Act	No	No
Property identified in local histories or by informants as having archaeological or historical potential	No	No

2.3 Interpretation

Based on the desktop analysis, one factor has been identified that suggest the area has high archaeological potential. All factors, whether present or not, and their meaning are discussed next.

1) **Previously identified archaeological sites**

There are no sites within 1 km of the study.

2) **Modern water sources including primary sources (lakes, rivers, streams) and secondary sources (intermittent streams and creeks, springs, marshes, swamps)**

A water source is situated on the northwestern side of the study area.

3) **Features indicating past water sources (e.g., glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels, shorelines of drained lakes or marshes)**

There is no evidence past shorelines within the study area.

4) **Accessible or inaccessible shoreline (e.g., high bluffs, swamp, or marsh fields by edges of lakes, sandbars stretching into marsh)**

There is no shoreline within the study area.

5) **Elevated topography (e.g., eskers, drumlins, large knolls)**

Based on the available LiDAR data and topographic data, there are no areas of elevated topography of concern within the study area.

6) **Pockets of well drained sandy soils, especially near areas of soil or rocky ground**

The soil survey data for the area is not available.

7) **Distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings.**

There is no distinctive land formations identified in the study area.

8) **Resource areas, including:**
   - **food or medicinal plants (e.g., migratory routes, spawning areas, prairie)**
   - **scarce raw materials (e.g., quartz, copper, ochre, or outcrops of chert)**
   - **early Euro-Canadian industry (e.g., fur trade, logging, prospecting, mining)**

There are no identified resource areas within the study area. However, engagement with First Nation communities might alter this.

9) **Areas of early Euro-Canadian settlement. These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.**

While the study area lies within a recreational use area today, there does not seem to be any history relating to early Euro-Canadian settlement at this location.

10) **Early historical transportation routes (e.g., trails, passes, roads, railways, portage routes)**

There are no identified early historical transportation routes within the study area though the CP railway lies 1.1 km to the northwest of the study area.

11) Property listed on a municipal register or designated under the Ontario Heritage Act or that is a federal, provincial, or municipal historic landmark or site.

There are no properties listed on a municipal register or designated under the Ontario Heritage Act in the project area.

12) Property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations.

At this stage, there have not been any specific identified areas. Engagement with local communities is encouraged to gather relevant traditional use data.

Based on the desktop assessment, modern water is the only feature of archaeological potential as identified in Section 1.3 of the *2011 Standards and Guidelines* (MCM 2011). As such, a property inspection and Stage 2 assessment will determine the presence of archaeological potential.

2.3.1 Property Inspection – Stage 1

A property inspection was completed and 100% of the study area was visually inspected for the presence of archaeological potential that might not have been present during the desk top study. Fieldwork was completed on April 29th, 2025, under the direction of David Norris, P307.

The Stage 1 Property Inspection was completed in adequate weather conditions which were suitable for conducting archaeological fieldwork with partly cloudy skies and a temperature range between 10 and 15° C.

Access was obtained from the private landowners by the client, and no restrictions were in place.

Inspection began on the east side where access was possible. Transects across the landscape were undertaken at 10 m intervals. The terrain to the west was observed as undeveloped forest adjacent to open cattle grazing lands.

Moving west, the landscape has a gentle undulation, rising slightly but remaining open lands for cattle grazing. Towards the identified area of potential near the seasonal run off on the western side of the property the landscape dips down. The landscape across the western side of the property was low and wet. Observed areas inundated with water covered a large portion of the open landscape.

Moving back east to the northern portion of the property the landscape appeared to be grasslands for cattle. Again, areas inundated with water were observed. Moving to the northeastern portion of the property, a small area had been cultivated. This area was observed to have been subjected to rainfall. This area was then inspected with pedestrian transects at 2 m intervals.

Moving back south, the landscape dips down between two pastures and was inundated with water. The land rises gently and was observed to be open pasture.

2.3.2 Test Pit Survey Stage 2

The observed stream on the northwestern side of the property exhibited potential in the form of a seasonal streambed as per Section 1.3.3. of the Standards and Guidelines and was subjected to shovel test survey.

The test pit survey was conducted in accordance with the standards outlined in Section 2.1.1 *Test pit survey* and 2.1.5 *Alternative strategies for special survey conditions: Test pit survey in northern Ontario and on Canadian Shield terrain* of the *SGCA* (MCM, 2011b). Section 2.1.1 outlines the general requirements for test pit survey, while Section 2.1.5 adjusts test pit requirements for northern Ontario and Canadian Shield terrain. When the property meets the criteria, test pit survey is only required at 5 m intervals from 0-50 m of any feature of archaeological potential and, when that feature is anything but modern water, test pits are also required at 10 m intervals from 50-150 m of the feature of archaeological potential. The test pit survey (Stage 2 Archaeological Assessment) was conducted concurrently with the Stage 1 property inspection on April 29th and 30th, 2025.

All test pits were excavated by hand and measured at least 30 cm in diameter. Test pits were excavated at least 5 cm into subsoil and all excavated soil was sieved through 6 mm mesh and examined for archaeological resources. Test pits were also examined to understand local stratigraphy and to identify the presence of cultural features or evidence of fill. All test pits were backfilled once completed. Test pit intervals were no greater than either 5 m or 10 m, depending on the distance from and type of feature of archaeological potential.

Soils from the test pits were observed to have a thin grass layer 0-5 cm below surface. Under this was a brown clay soil mixture 5-20 cm. Unsorted gravel was observed in the test pits and in areas where cattle had rubbed the grasses off the surface. No archaeological resources were observed either in the test pits or in the exposed soils on the surface.

2.4 Inventory of Documentary Records

The following documentation was collected during fieldwork:

- 4 pages of field notes
- 76 digital photographs
- GPS waypoints for observations

3 Analysis

3.1 Determination of Archaeological Potential Stage 1

The property inspection which covered 100% of the study area consisted of pedestrian transects at 10 m intervals. No other areas of potential were observed within the study area other than the identified intermittent stream during the desktop study.

3.2 Record of Finds Stage 2

No artifacts or archaeological resources were observed or collected during the Stage 2 shovel testing of the identified area.

4 Recommendations

To support the Renewable Energy Approval (REA) process under Sections 19-23 (Protected Properties, Archaeological, and Heritage Resources) of O. Reg. 359/09 and the Ontario Heritage Act, a Stage 1/2 Archaeological Assessment is required for a location that is situated 37 km northwest of Fort Frances called the Rainy River 71 parcel. This parcel totals approximately 150 ha in size.

The Stage 1 property inspection did not identify additional areas of archaeological potential and those that were identified during the Stage 1 desktop study were subjected to shovel test pit survey.

No archaeological resources were recovered during the Stage 2 test pit survey.

Archaeological recommendations are made based on the results of the Stage 2 test pit survey and are in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MCM, 2011). The recommendations are as follows:

- No archaeological resources were observed during the Stage 1 and Stage 2 assessment therefore It is recommended that no further Archaeological Assessment be required for Lot 4 and Lot 5 CON 6, Township of Chapple, District of Rainy River, Ontario (Map 7).
- Should there be any alteration to the plans of this development, additional archaeological assessment may be required based on the presence of archaeological potential as outlined in the *2011 Standards and Guidelines Section 1.3.1*.

5 Advice on Compliance with Legislation

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 for Consultant Archaeologists* (2011) 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 Citizenship and Multiculturalism, 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 Archaeological Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

Should previously undocumented archaeological resources be discovered, there 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 *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.

6 Advice on Compliance with Indigenous Communities and Métis

The following summarizes protocols and measures that need to be taken when engaging Indigenous Peoples and completing Archaeological Assessments in their homelands. These are not mandated, nor are they supported by the Ministry of Citizenship and Multiculturalism (MCM) but have been developed by Woodland Heritage Northwest in conjunction with the many First nation communities and projects that have been completed in northern Ontario. It is strongly recommended that these considerations be undertaken prior and during any assessment in northwestern Ontario.

All archaeological assessments must be completed by a licenced archaeologist with seasoned experience in northern Ontario and a boreal forest setting who is familiar with identification of artifacts originating in the north. This includes stone tools, raw material and pottery styles that are indicative of northern Indigenous peoples as well as artifacts that can be classified as Métis.

When completing fieldwork, archaeologists must maximize the use of trained Indigenous archaeologists or support staff and hire Indigenous Community Members, or Métis citizens, to assist with the field work. Progress and finds must be reported on a regular basis to the nearest Indigenous Community, including the immediate reporting of the discovery of any and all human remains. In the event that human remains are discovered, ALL WORK MUST CEASE until the appropriate measures can be taken. All artifacts and finds must be handled consistent with the nearest indigenous community protocols and may be transferred or repatriated to the community for storage and safe keeping.

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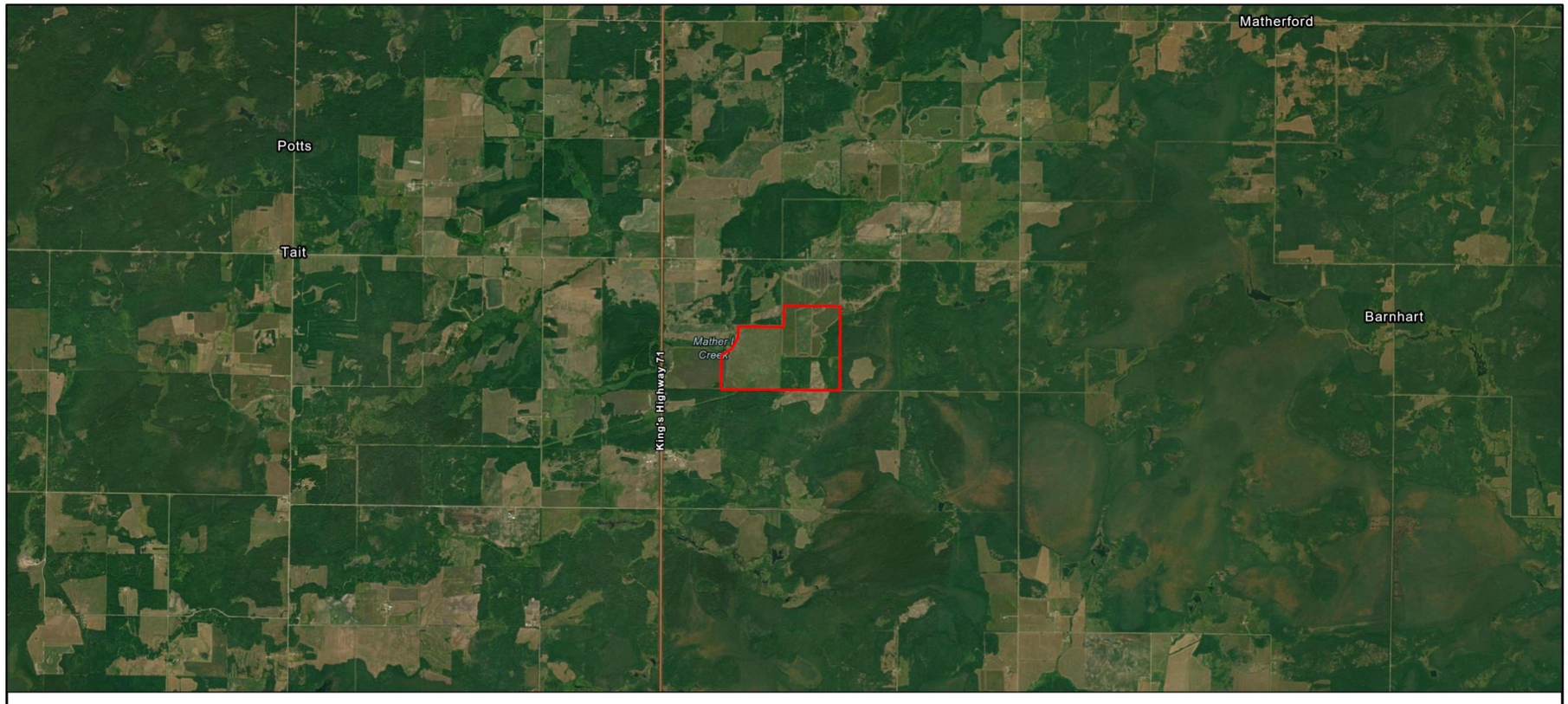
8 Maps



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PROJECT: Stage 1 and Stage 2 AA for Lot 4 and Lot 5 CON 6, Township of Chapple, District of Rainy River, Ontario

WOODLAND HERITAGE NORTHWEST

LEGEND

STUDY AREA

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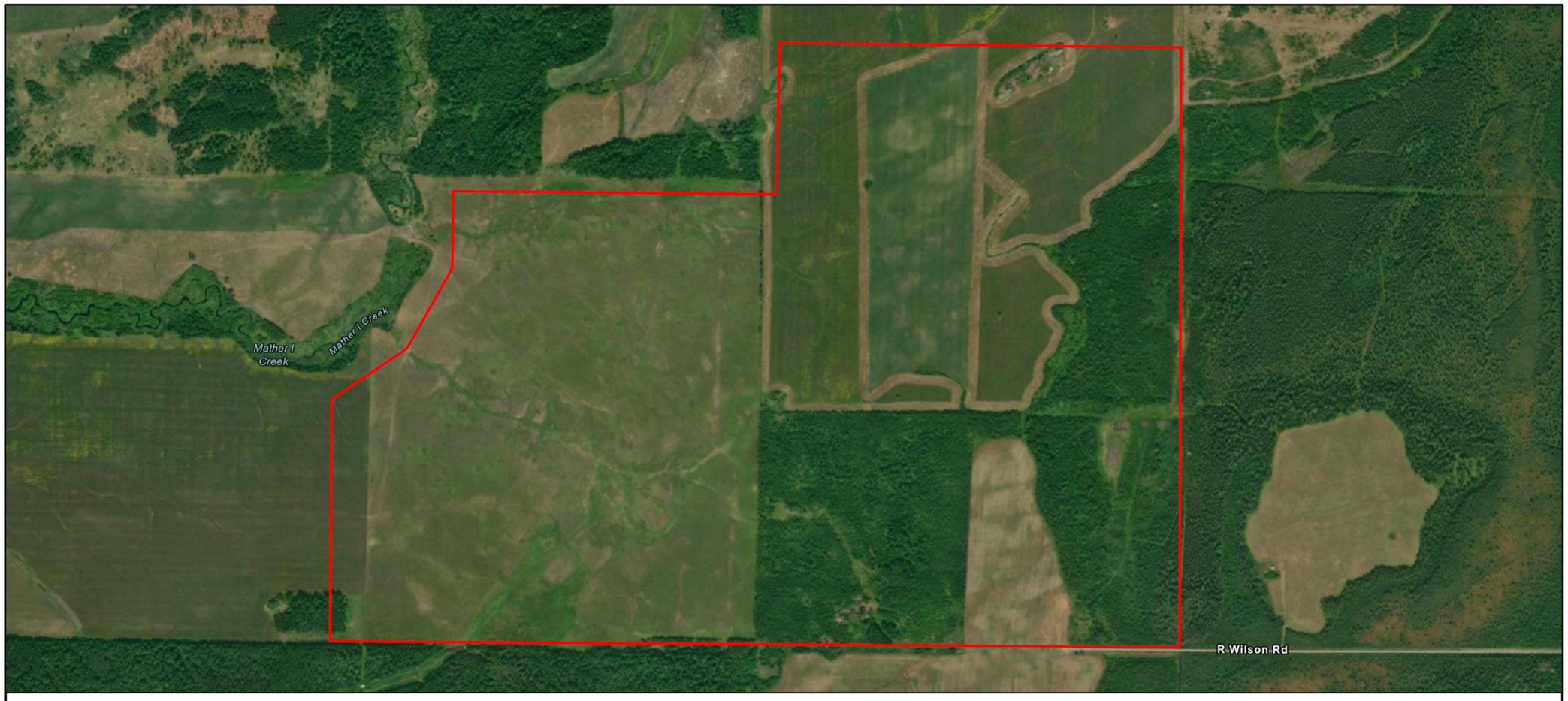
CLIENT: CARBONFREE GROUP

REFERENCES:
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS, Ontario GeoHub LIO Vector Topographic Datfector

Spatial Reference
Name: NAD 1983 UTM Zone 15N
Projection: Transverse Mercator

NOTES:
1. All locations are approximate
2. This map is intended for planning purposes
3. Development data provided by client.

Map 1: Project Location.



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LEGEND

STUDY AREA

CLIENT: CARBONFREE GROUP

REFERENCES:
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Vantor, Esri, USGS, Ontario GeoHub LIO Vector Topographic Data Cache

Spatial Reference
Name: NAD 1983 UTM Zone 15N
Projection: Transverse Mercator

NOTES:
1. All locations are approximate
2. This map is intended for planning purposes
3. Development data provided by client.

WOODLAND HERITAGE NORTHWEST

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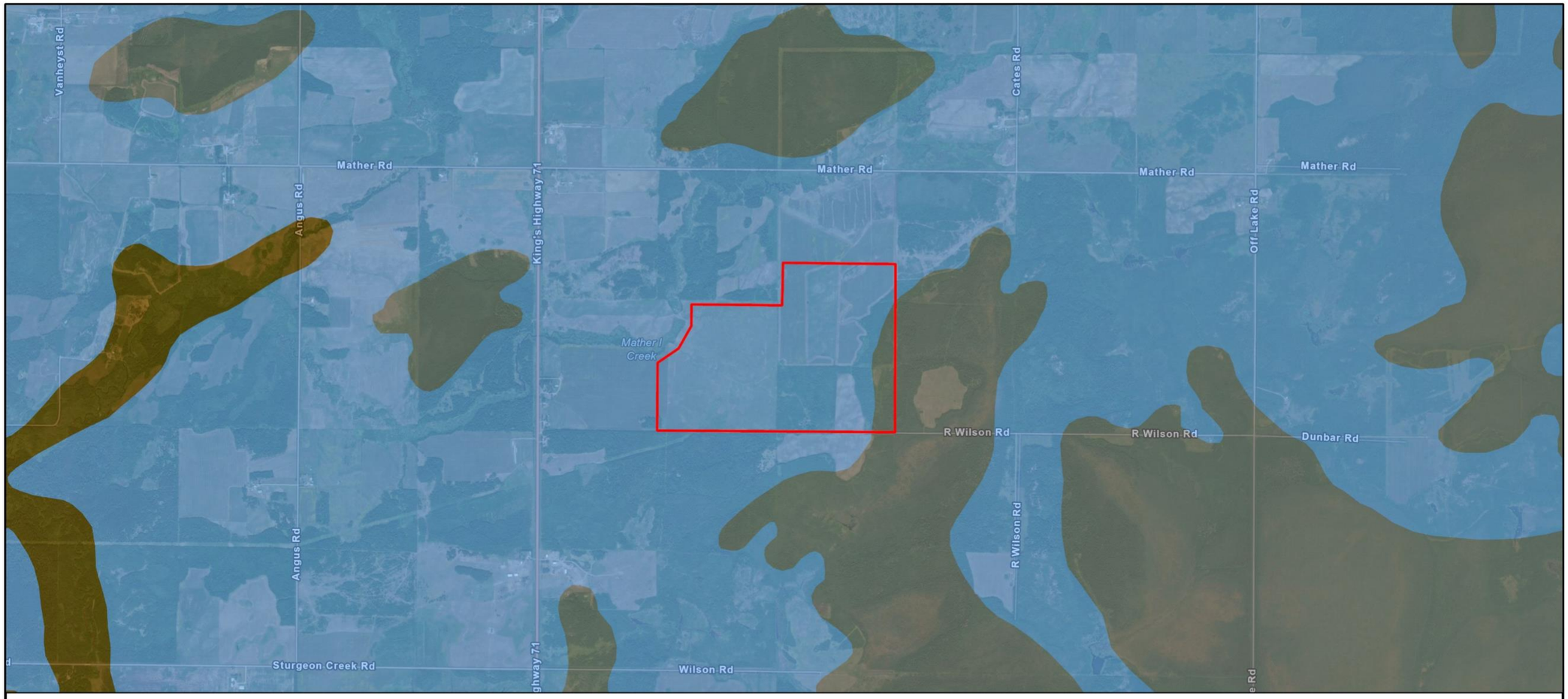

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PROJECT: Stage 1 and Stage 2 AA for Lot 4 and Lot 5 CON 6, Township of Chapple, District of Rainy River, Ontario

WOODLAND HERITAGE NORTHWEST

LEGEND

STUDY AREA

NOEGTS

LANDFORM

GLACIOLACUSTRINE PLAIN

ALLUVIAL

ORGANICS

DRAWN BY: JR | CHECKED BY: DN | DATE SAVED: 1/6/2026 4:10 PM

CLIENT: CARBONFREE GROUP

REFERENCES:
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Earthstar Geographics, Esri, CGIAR, USGS, Ontario GeoHub LIO Vector Topographic Data Cache

Spatial Reference
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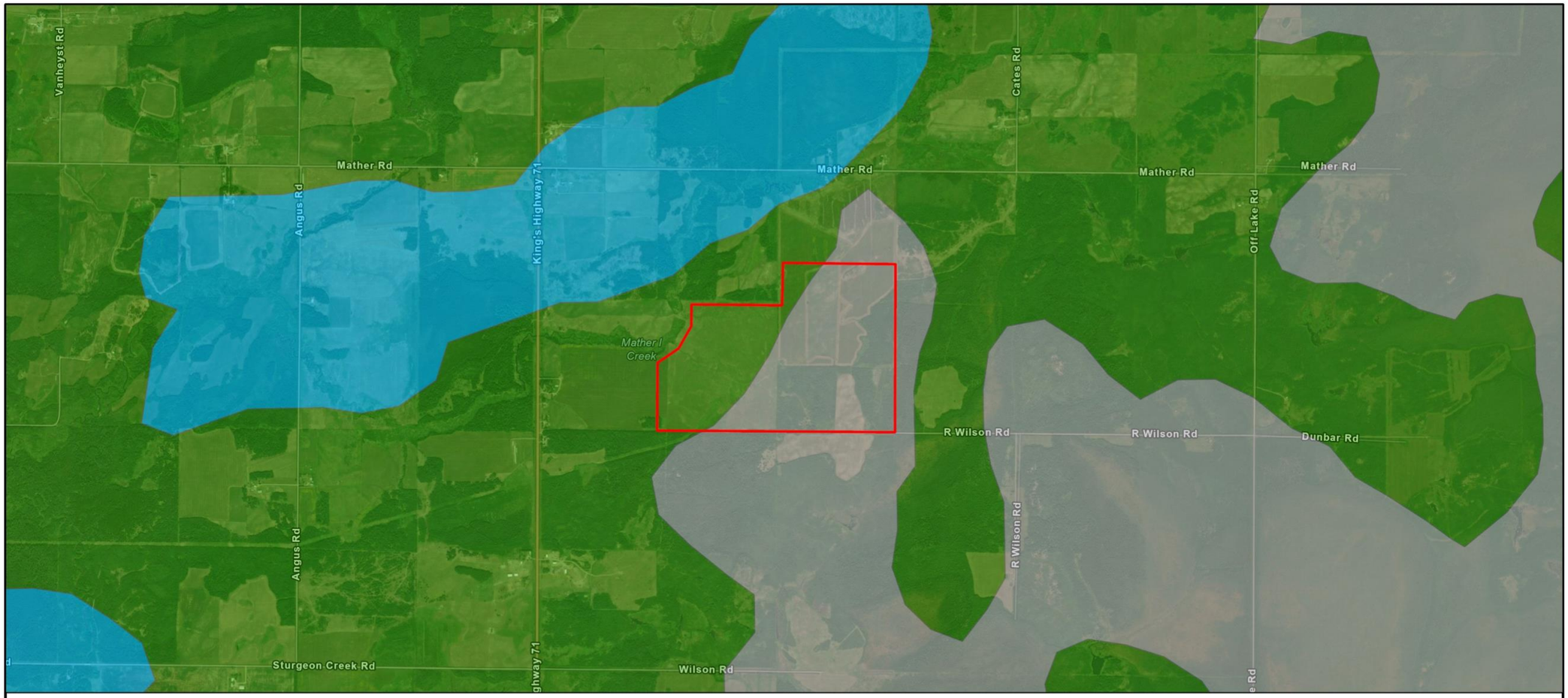
1. All locations are approximate
2. This map is intended for planning purposes
3. Development data provided by client.

Map 3: NOEGTS.



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PROJECT:
Stage 1 and Stage 2 AA for Lot 4 and Lot 5 CON 6, Township of Chapple, District of Rainy River, Ontario

WOODLAND HERITAGE NORTHWEST

LEGEND

STUDY AREA

QUATERNARY GEOLOGY

GLACIOLACUSTRINE DEPOSITS
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CLIENT:
CARBONFREE GROUP

REFERENCES:
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, CGIAR, USGS, Ontario GeoHub LIO Vector Topographector Cache

Spatial Reference
Name: NAD 1983 UTM Zone 15N
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NOTES:
1. All locations are approximate
2. This map is intended for planning purposes
3. Development data provided by client.

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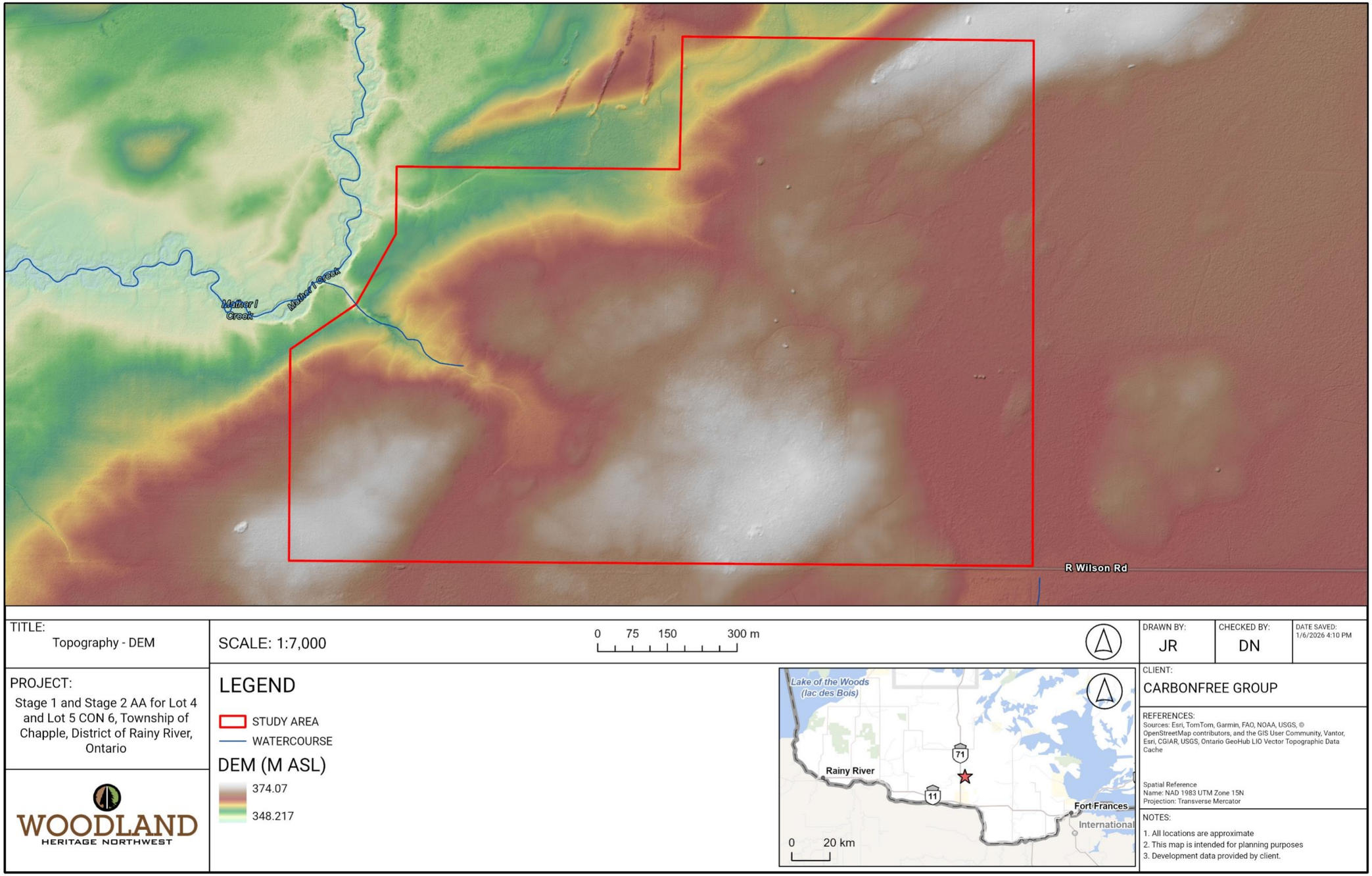

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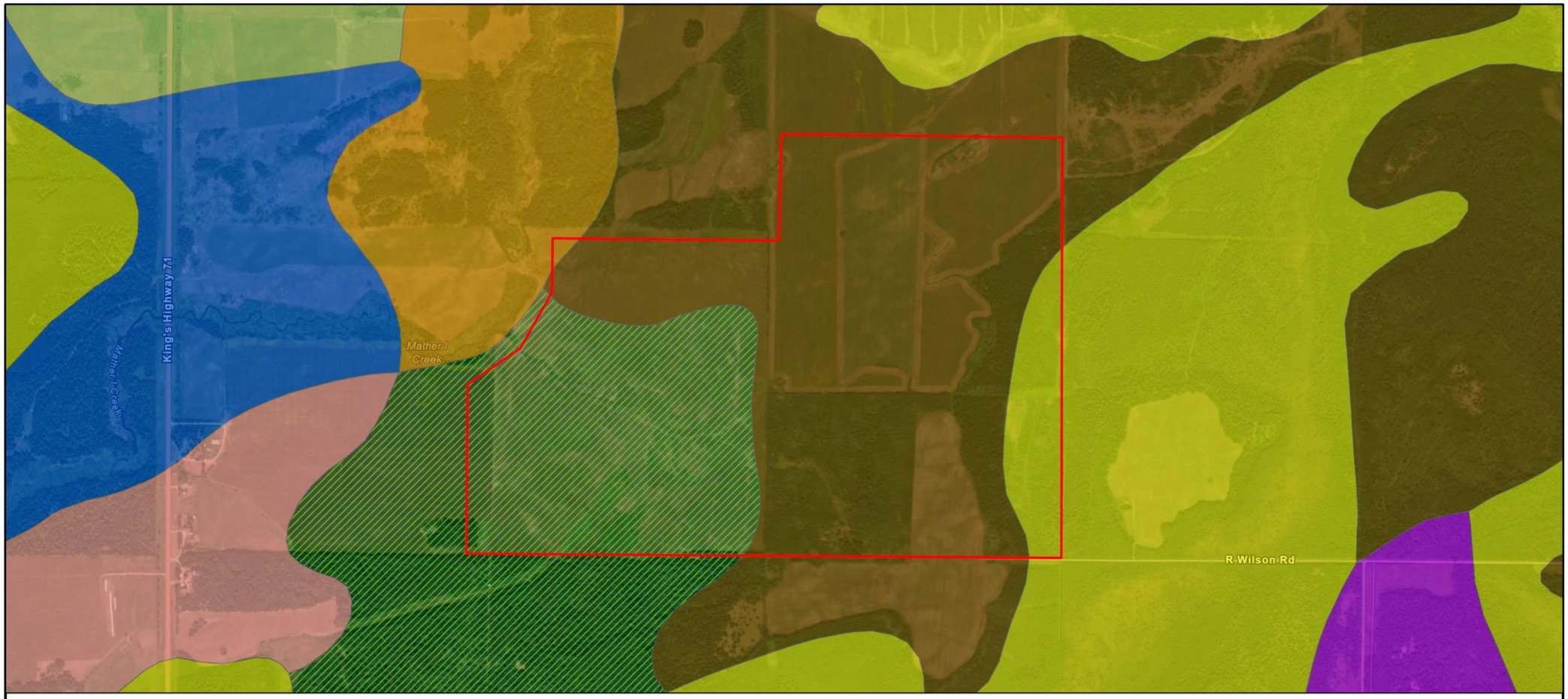

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PROJECT:
Stage 1 and Stage 2 AA for Lot 4 and Lot 5 CON 6, Township of Chapple, District of Rainy River, Ontario

CLIENT:
CARBONFREE GROUP

LEGEND

- STUDY AREA
- BLUETT CLAY LOAM
- CARPENTER CLAY
- CARPENTER CLAY LOAM
- CROZIER CLAY
- CROZIER CLAY LOAM
- DEVLIN CLAY LOAM
- INNES LAKE
- ORGANIC

WOODLAND
HERITAGE NORTHWEST

REFERENCES:
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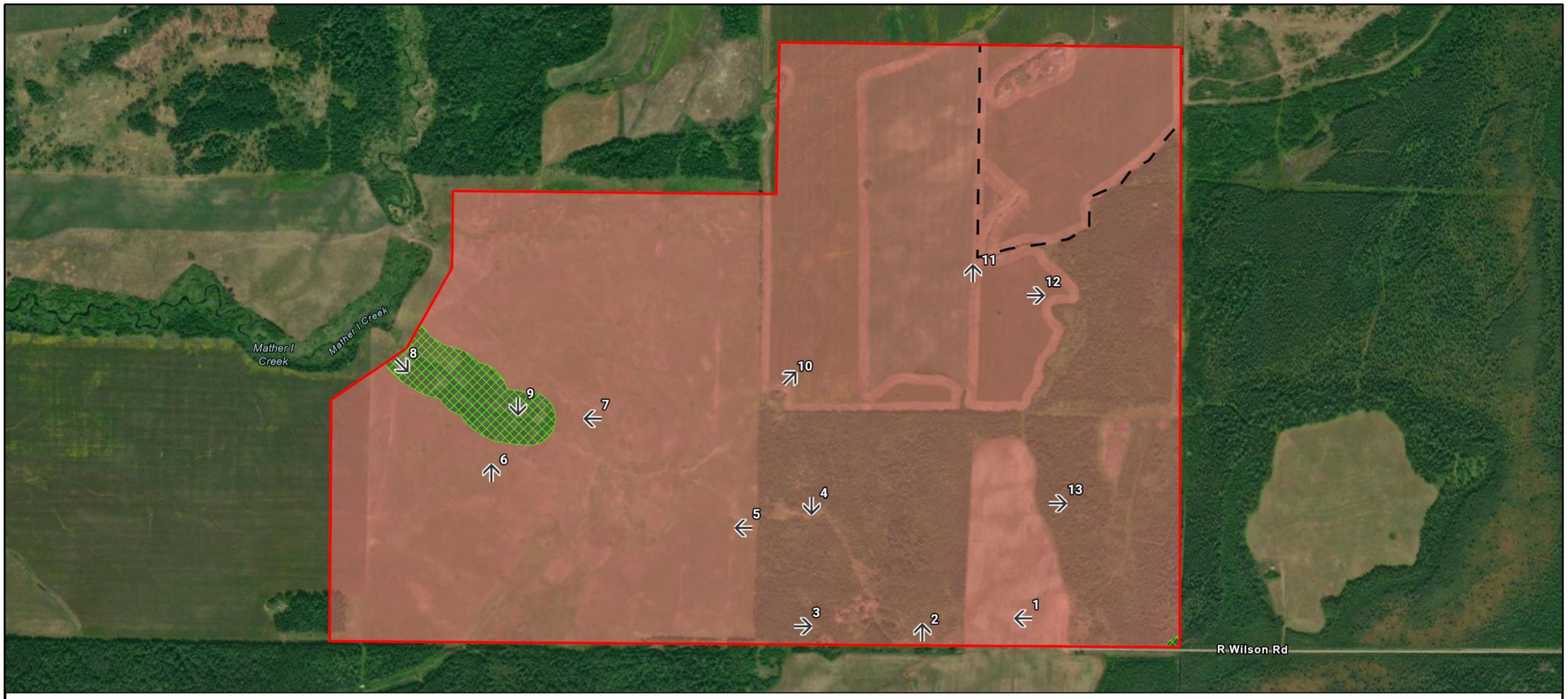
Spatial Reference
Name: NAD 1983 UTM Zone 15N
Projection: Transverse Mercator

NOTES:
1. All locations are approximate
2. This map is intended for planning purposes
3. Development data provided by client.

Map 6: Soil Survey Complex.



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Assessment Results and Photo Locations

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PROJECT:
Stage 1 and Stage 2 AA for Lot 4 and Lot 5 CON 6, Township of Chapple, District of Rainy River, Ontario

CLIENT:
CARBONFREE GROUP

WOODLAND HERITAGE NORTHWEST

LEGEND

- STUDY AREA
- TEST PIT SURVEY (5 M INTERVALS) COMPLETED
- NO ARCHAEOLOGICAL POTENTIAL BASED ON NORTHERN STANDARDS
- PLOUGHED LANDS
- PHOTO LOCATIONS AND DIRECTIONS

REFERENCES:
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Vantor, Esri, USGS, Ontario GeoHub LIO Vector Topographic Data Cache

Spatial Reference
Name: NAD 1983 UTM Zone 15N
Projection: Transverse Mercator

NOTES:
1. All locations are approximate
2. This map is intended for planning purposes
3. Development data provided by client.

Map 7: Assessment Results and Photograph Locations.

9 Photographs

Photograph 1. Example of terrain in southeastern portion of study area (looking west).

Photograph 2. Example of terrain along southern portion of study area (looking north).

Photograph 3. Forest area along the mid-portion of the study area (looking east).

Photograph 4. Open forested area along the southern side of the study area (looking south).

Photograph 5. Example of open grassland for cattle grazing (looking west).

Photograph 6. Example of open grassland on western side of study area (looking north).

Photograph 7. Example of the start of the seasonal creek with exposed soils (looking west).

Photograph 8. Example of the active seasonal creek (looking southeast).

Photograph 9. Example of soils encountered during shovel testing.

Photograph 10. Example of terrain and hay land along northern portion of study area (looking northeast).

Photograph 11. Example of cultivated landscape on the northeastern portion of the landscape, facing north.

Photograph 12. Example of low swamp lands on eastern side of study area (looking east).

Photograph 13. Example of low forested area on eastern side of study area (looking east).