Appendix R

Archaeological Assessments

Marten Falls First Nation

Stage 1 Archaeological Assessment
Community Access Road from Marten Falls to Painter Lake
Environmental Assessment and Preliminary Design Services
District of Kenora, District of Cochrane, and District of Thunder Bay

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October 29, 2025
Revised Report

Project Number: 60593122

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Revision History

Revision #	Date	Revised By:	Revision Description
0	October 21, 2020	S. Markham	Original draft submitted to the Project Team
1	December 3, 2020	S. Markham	Edits received from Project Team prior to report submission
2	May 5, 2025	K. Sherret	MCM Revisions
3	October 23, 2025	K. Sherret	MCM Revisions

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Executive Summary

AECOM was retained by Marten Falls First Nation (MFFN; the community) to conduct a Stage 1 Archaeological Assessment (AA) for the proposed Community Access Road (CAR; the Project) from Marten Falls to Painter Lake, in the Districts of Kenora, Cochrane and Thunder Bay, Ontario. MFFN is a remote First Nation community in northern Ontario, approximately 430 kilometres (km) from Thunder Bay, Ontario, located at the junction of the Albany and Ogoki rivers. The community is proposing an all-season CAR that will connect the MFFN community to the Ontario provincial highway network (**Figure 1-1, Figures 2-1 to 2-42 and Figures 3-1 to 3-10**). The proposed Project includes construction, operation and maintenance of an all-season CAR consisting of:

- approximately 140 km to 250 km of two-lane gravel all-season road on a new right-of-way (ROW);
- approximately 100 metre (m) wide ROW cleared to a width of 60 m; and
- proposed designated speed limit of 80 km/hr.

In April 2018, MFFN signed a voluntary agreement with the Ministry of Environment, Conservation and Parks (MECP) to prepare an Individual Environmental Assessment (EA) for the Project. This assessment is being completed as part of the *Environmental Assessment Act* in accordance with subsection 11(1) (Ontario Government 1990a), and as a component of the Impact Assessment (IA) required for Project review by the Impact Assessment Agency of Canada (IAAC) under the federal *Impact Assessment Act*. This Project is subject to the requirements of the *Ontario Heritage Act* (Government of Ontario 1990b) and the Ministry of Heritage, Sport, Tourism and Culture Industries' (MHSTCI) Standards *and Guidelines for Consultant Archaeologists* (Ontario Government 2011). The Stage 1 AA was completed under the Project direction and archaeological license of Samantha Markham (P438).

Study areas identify the geographic extents within which potential effects of the Project are likely to occur, and are considered in the IA/EA. The existing conditions and potential effects are documented for three study areas selected for the Project:

- **Project Study Area (PSA):** area of direct disturbance;
- **Local Study Area (LSA):** the area where direct effects of the Project are likely to occur; and
- **Regional Study Area (RSA):** the area where indirect effects of the Project are likely to occur.

The PSA encompasses the 100 m wide CAR right-of-way, temporary construction access roads, work areas, worker camps, and long-term aggregate sources and associated access roads. The LSA currently being considered within the scope of the ongoing regulatory review process consists of two alternatives within the Western Route; the Original Western Route (Alternative 1) based on the existing industrial planning work that is 193 km in length, and the Alternative Western Route (Alternative 4) based on a combination of existing industrial planning and new locations that is 178 km in length. As well, an additional section (Alternative 4 West) is included that is approximately 20.5 km in length. These right-of-way's (ROW) currently span 5 km in width. The land subject to Stage 1 AA within this report consists of the LSA.

AECOM's Stage 1 background study of the study area has determined that the potential for the recovery of archaeological resources is high, given the proximity of the study area to a variety of criteria including water sources and areas of interest provided by the MFFN community. Areas with standing water (i.e., wetlands, muskeg, fens and bogs) are not considered to have archaeological potential and may be excluded from further assessment regardless of proximity to archaeological features. However, it is important to note the presence of wetlands or marshes can elevate the archaeological potential of adjoining land if there are well drained areas of elevated topography adjacent to them.

According to Section 1.3.4, providing that the remoteness of an area can be documented in sufficient detail to show that there are practical obstacles to achieving access, based primarily on the distance to, or lack of, transportation infrastructure, it is acceptable to make recommendations that areas are low potential and will not require Stage 2 assessment, without the need for a property inspection.

The MHSTCI allows for alternative strategies for archaeological assessments in areas within the Canadian Shield and bedrock environments (Ontario Government, 2011). While Section 1.4 in the *Standards and Guidelines for Consultant Archaeologists* outlines the conditions for recommendations for the reduction of test pit survey coverage, this is superseded for the LSA by Sections 1.3.3, 1.3.4 and 2.1.5 as the land has been demonstrated to be situated entirely on Canadian Shield (Ontario Government 2011). Therefore, while the archaeological potential may be judged to be high based on proximity to a feature that contributes to archaeological potential, Stage 2 survey areas are reduced, and survey intervals are different than they would be in areas outside Canadian Shield terrain. The fluctuating water levels as a result of 20th century hydroelectric development will also need to be taken into consideration when developing Stage 2 fieldwork strategies.

In addition to the above, the modified Stage 2 survey approach for northern Ontario allows for the use of professional judgement by the licensed archaeologist to assist in the selection of survey locations. This can be completed through desktop mapping exercises, including detailed stream ordering, removal of physical landscape features of low archaeological potential (i.e., bog, wetlands) and consultation with MHSTCI. As well, once the final 100 m ROW (cleared to a width of 60 m for permanent use) with additional areas for temporary laydown areas has been determined and LIDAR has been provided, the recommended areas for Stage 2 AA will be further refined.

AECOM makes the following recommendations for the study area of this Stage 1 AA:

The Stage 2 archaeological assessment must be conducted by a licensed archaeologist and must follow the requirements set out in Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011) for special survey conditions in northern Ontario and on Canadian Shield terrain, including:

- Test pit survey is required at 5 m intervals in areas that fall within 50 m of an identified modern water source (areas outlined in yellow in **Figures 6-1** to **6-27**). Survey is not required beyond 50 m of this type of feature of archaeological potential;

- Where areas of archaeological potential include land adjacent to historic water sources (i.e., glacial shorelines), or other areas identified as having archaeological potential based on the results of the Stage 1 AA, including the AK information, test pits will be placed at a maximum of 5 m intervals between 0 and 50 m from the feature, and at 10 m intervals between 50 and 150 m from the feature. These areas are outlined in orange on **Figure 6-1** to **6-27**. Survey is not required beyond 150 m of the archaeological features; and,

- Survey is not required beyond 150m of the archaeological features due to low archaeological potential (Section 7.7.4, Standard 1.a and Section 7.7.6, Standard 3). These areas are indicated as grey crosshatching on Figure **6-1** to **6-27**; and,

- Poorly drained areas and areas of steep slope are to be mapped and photo-documented.

Archaeological investigations have the potential to reveal buried human remains. Should human remains be identified during the Stage 2 AA, the proponent will be informed immediately, and all archaeological work will halt until the proper authorities have been notified and permission to resume work has been granted, if required.

The MHSTCI is asked to accept this report into the Ontario Public Register of Archaeological Reports thereby concurring with the recommendations presented herein. As further AA is required, archaeological concerns for the Project within the study area of this Stage 1 AA have not been fully addressed.

Project Personnel

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Supplementary Documentation

1. Project Context

1.1 Development Context

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Documentary sources, Anishinaabe Knowledge (AK), detailed mapping and satellite imagery were analyzed in order to evaluate the archaeological potential found within the study area. Additionally, a flyover with helicopter was completed on September 26th and October 4th, 2019 to review the LSA. This report provides the results of the Stage 1 and recommendations.

As a part of AECOM's agreement with MFFN and in accordance with the draft technical bulletin entitled Engaging Aboriginal Communities in Archaeology (MHSTCI 2011a), MFFN community members have been involved in all aspects of the study, and AECOM is working under their direction. MFFN community member Bob Baxter was met with on September 16, 2019 to discuss strategy and approach for the Stage 1 AA as well as the use of Anishinaabe Traditional Knowledge in determining areas of archaeological knowledge. Additionally, Aroland First Nation community members Sheldon Atlookan and John Atlookan participated in the helicopter fly-over of the LSA as a part of the Stage 1 field review. Further details regarding the Aboriginal Engagement for the Stage 1 AA are provided in the Statement of Aboriginal Engagement (AECOM, under a separate cover).

1.1.1 Objectives

The objective of the Stage 1 AA is to document the archaeological potential of the LSA based on its physiological and ecological history, past and current land use, and present-day environmental conditions. This information is used to support recommendations regarding cultural heritage values or interests as well as assessment and mitigation strategies. The results of Stage 1 AA presented in this report are drawn in part from:

- Recent maps and satellite imagery of the study area;
- A review of current and past physiographic environmental conditions;
- Reports of previous AAs in proximity to the study area;
- The MHSTCI Archaeological Sites Database (OASD) for a listing of registered archaeological sites within a minimum 50 km radius of the LSA;
- A visual inspection of the existing conditions of the LSA and surroundings; and
- Archaeological management plans or other archaeological potential mapping, where available.

The Stage 1 AA has been conducted to meet the requirements of the MHSTCI *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011).

1.2 Historical Context

The study area includes portions of the Districts of Kenora, Cochrane and Thunder Bay, Ontario. Archaeological research in northern Ontario is generally limited in comparison to southern Ontario, which has resulted in less robust understanding of the pre-contact settlement history of this part of the province. The following sections provide a detailed summary of the archaeological cultures that have settled in central Ontario over the past 11,000 years. Table 1 provides a general cultural chronology for northern Ontario.

Table 1: Cultural Chronology for Northern Ontario

Archaeological Period	Culture	Time Period	General Archaeological Characteristics
Paleo	Plano	8,000 – 4,500 BC	Lanceolate bifacial tools Associated with large-game focused hunting

Archaeological Period	Culture	Time Period	General Archaeological Characteristics
			Sites often associated with relic lake shores north of the Upper Great Lakes
Archaic	Shield	5,400 – 250 BC	Broad spectrum seasonal resource exploitation Development of environmental conditions similar to the present Slight reduction in group territory size Introduction of copper tools Highly mobile Introduction of bow and arrow technology Domestication of dog
Middle Woodland	Laurel	700 BC – AD 1,000	Introduction of pottery Introduction of horticultural production, primarily through trade Development of distinctive Algonquian ceramic styles Large earthen mounds in some regions (*e.g.* western end of Lake Superior)
Late Woodland	Blackduck Selkirk	AD 750 - 1650	Diverse ceramics – out-flaring vessel rims, textile impressions, and punctates Increasing variation in regional stylistic characteristics in various lithics and ceramics Evidence of extensive long-range indigenous trade activities Communal burials Direct ancestors of modern indigenous communities
Contact First Nations	Northern Ojibway	AD 1650-1875	Early written records and treaties Participation in fur trade
Euro-Canadian	n/a	AD 1749-present	European settlement

Note: adapted from Dawson, 1984; Wright, 1981

1.2.1.1 The Paleo Period

Much of northwestern Ontario lies within the Pre-Cambrian (Canadian) Shield and is covered in boreal forest. This part of the province is rugged and is speckled with lakes, bogs, and streams. The first people to inhabit northwestern Ontario are referred to as Paleo people, a general term to refer to the first indigenous occupants in the region in the post glacial period. They reached the north shore of Glacial Lake Minong/Duluth (the pre-cursers to Lake Superior) in about 9,500 B.P. (Before Present). after the glaciers had retreated. During the immediate post-glacial period, the portions on the province that were available for human occupation had a tundra-like ecological and climate regime. Given these conditions, Paleo-Indian groups lived in relatively small nomadic groups that followed larger, migratory game (notably caribou), across the landscape, preferring to camp on high ground, immediately adjacent to water sources, such as glacial lakes or spillways, where smaller game and plant food would have also been harvested. Although there were initial occupations dating back to *ca.* 9,500 BP immediately northwest of modern Lake Superior, the central interior of northern Ontario did not become available for human occupation until roughly 7,500 B.P. Thus, the earliest known sites north of the Great Lakes date to this period but are all situated south of the study area and in relatively close proximity to the modern shores of Lakes Superior and Huron. Tool assemblages appear to be dominated by finely made lanceolate-shaped, sometimes fluted, projectile points, or spear tips. Raw materials obtained from bedrock outcrops or glacial cobbles were used in the production of tools such as distinctive unfluted, ribbon flaked, lanceolate spear points and knives (Dawson 2004).

1.2.1.2 The Archaic Period

The next major cultural period following the Paleo is termed the Shield Archaic. The transition to the Archaic lifeway was directly related to changing environmental conditions to those more closely approximating the present. This change is best seen in changes in technological and stylistic characteristics of the overall lithic toolkit including projectile point styles and assemblage composition. The Archaic period (ca. 7,000 – 3,000 B.P.) in northwestern Ontario is defined by notched projectile points, the use of native copper, and more frequent recovery of woodworking tools such as wedges and adzes (Wright 1972; Dawson 1983; Fox 1977; Hinshelwood 2004). Throughout the Archaic period the natural environment warmed, and vegetation changed from closed conifer-dominated vegetation cover, to mixed coniferous and deciduous forest to the mixed coniferous and deciduous forest in the north and deciduous vegetation in the south we see in Ontario today (Wright 1972). During the Archaic period there are indications of increasing populations and decreasing size of territories exploited during annual rounds; fewer moves of residential camps throughout the year and longer occupations at seasonal campsites; continuous use of certain locations on a seasonal basis over many years; increasing attention to ritual associated with the deceased; and, long range exchange and trade systems for the purpose of obtaining valued and geographically localized resources (Wright 1972; Hinshelwood 2004).

1.2.1.3 The Woodland Period

The beginning of the Woodland period in northwestern Ontario approximately 3,500 years ago is distinguished from the Late Archaic period primarily by the addition of ceramic technology, which provides a useful demarcation point for archaeologists but is expected to have made less difference in the lives of the Woodland peoples. The Woodland period of northern Ontario is divided into two distinct phases, the Initial and Terminal Woodland periods.

The introduction of pottery within the Initial Woodland period beginning ca. 2,200 years ago (700 B.C. – A.D. 1,000) is believed to have occurred in northern Ontario through trade and other influences from the southwest and east, creating the Laurel culture within the Boreal Shield stretching from Saskatchewan to Northern Quebec. Laurel ceramics was dominated by conical style tapered base pottery manufactured using the coil method adorned with decoration across the upper portion of the vessel’s exterior surface. The overall Laurel ceramic tradition appears to be related to a broader Initial Woodland pattern known across much of eastern North America and bears strong resemblances to the Saugeen and Point Peninsula traditions in southern Ontario and the northeastern United States.

During the Initial Woodland groups would come together into large macro-bands through the spring-summer at lakeshore or marshland areas to take advantage of spawning fish; in the fall inland river valleys were occupied for deer and nut harvesting and groups split into small micro-bands for winter survival. Few Laurel sites have been securely dated, but archaeologists believe that the style persisted until about 1,000 years ago (Hamilton 2013).

A Woodland tradition present in southern Ontario, the Rainy River District in northern Ontario, and southeastern Manitoba consists of burial mound ceremonialism (Kenyon 2012). These impressive mounds represent the internment of multiple humans within a single dirt structure. In southern Ontario the most impressive mound structure is the Serpent Mound adjacent to Rice Lake. These mounds were built by the Laurel and extended into the Blackduck peoples during the Middle Woodland tradition. Most of them are low and broad structures, though one at Long Sault Rapids in the Rainy River District is the largest in Canada at 34 m in diameter and 7 m high. The mounds contained a plethora of grave goods, including furniture, clay pots, shell, bone and copper beads, which were all sprinkled with red ochre. This behavior appears to be an extension of the Adena and Hopewell Interaction Sphere from the midwest United States (Mason 1970, 1981; Kenyon 2012).

The Terminal Woodland period in northern Ontario differed significantly from the settlement and subsistence shift that occurred in southern Ontario where there was increasing reliance on maize horticulture. The climate and landscape of the Canadian Shield prohibited the agricultural shift occurring in the south with continued reliance on fish and large game as in previous periods. Population growth was also restricted by the Canadian Shield environment and settlement patterns were similar to those of the Initial Woodland with large summer camps located close to fish resources and typically located on level, well drained ground with access to canoe landing beaches.

After approximately 1,200 years ago, new technological innovations appear in the archaeological record, indicating Terminal Woodland cultural influences spread widely throughout the Boreal Forest. Archaeologists define the Terminal Woodland period by the use of the bow and arrow and by a variety of new pottery wares that differ drastically from the previous Laurel style (Hamilton 2013). Within the Terminal Woodland period three distinct cultures arise; the Blackduck Complex, the Selkirk Complex to the north, Sandy Lake Ware to the south. All three wares differ slightly in timespans and overlap geographically (Meyer and Hamilton 1994). The Blackduck Complex (ca. A.D. 800-1,400) is identified by the contrasting pottery tradition to the Laurel. Pottery vessels were large and globular, rather than conical and tapered and manufacture techniques involved a paddle and anvil technique over coiling. Decorations were also changed and are characterized by horizontal and/or oblique lines along with circular indentations (punctate) that are found on the neck, rim and inner rim of the vessel.

The Selkirk culture is also defined by its pottery style. Manufacturing techniques are similar to that of the Blackduck Complex but with a distinct variation in decoration. The decorative styles, if decorated at all, were simple and generally included either a single row of punctate indentations or impressions made with a cord-wrapped stick (Dawson 1983). Selkirk pottery is found predominantly in the northern portion of north Ontario. Sandy Lake Ware (*c*. A.D. 1,000-1750) consists of globular vessel shape, thin and fairly straight walls, grit or shell temper, and interior notched or plain decoration. Surface finish may be textile impressed, smoother, check or simple stamped (Taylor-Hollings 1999).

The Terminal Woodland period also sees the emergence of rock art as an expression of spiritual life and ritual practices. Rock paintings, or pictographs, comprised of red ochre mixed with a binding agent such as bear fat or sunflower oil, are typically found within western Ontario on the vertical faces of cliffs where they enter a body of water (Rajnovich 1994). Pictrographs constitute a form of written language, signifying sounds, objects and ideas in reference to subsistence, geography, climate, history and also sacred or religious beliefs and visions (Dewdney and Kidd 1962; Bursey et al. 2013), although they could have served a variety of cosmological functions and even political ones by marking territory (Wright 2004: 1545). The damming of lakes and rivers by the timber and hydroelectric industries may have drowned many pictograph sites and the fragile nature of the painting themselves also reduces their chances of survival. Rock etchings, or petroglyphs, are also relatively rare within the Canadian Shield, with most examples occurring within the south and east o the province. Likewise, petroforms, or artificial arrangements of stones in pits or cairns, are rare in northwestern Ontario (Dawson 1983).

1.2.2 Early European Exploration

The first arrival of Europeans into northern Ontario and Lake Superior began in the early 1600s (Stuart 2003). During the summer of 1610 two events heralded the beginnings of Indigenous and settler relations in the region. These were the passage of Etienne Brulé through the interior by canoe as far as northern Georgian Bay and the arrival of Henry Hudson in James Bay. While Hudson did not land on the western shore of the Bay, his arrival confirmed direct water access to the region from Europe was possible. Brulé's trip was the catalyst for continued forays into the interior of the continent and was a key event that sparked what would become the fur trade. The Albany River was one of the first interior waterways west of James Bay to be explored by Europeans, beginning with the French between 1657 and 1751. The British formally initiated trading in 1668, establishing Fort Rupert on the Rupert River, Moose Fort (Factory) and Fort Albany followed in 1673 and 1675, respectively. The Hudson's Bay Company (HBC) was incorporated in 1670 and a trading monopoly of the Hudson Bay watershed began. In 1743, with the establishment of the Hudson's Bay Company's first inland post, Henley House, a series of strategically positioned rival North West Trading Company and Hudson's Bay Company posts emerged along the river banks and vied for superiority in controlling the fur trade. Gloucester House at Washi Lake was the furthest inland post of the Hudson's Bay trading company on the Albany River and was in operation from 1777 to 1818 (Newton and Mountain 1980) (**Figure 4-3**).

Henley House

The first of the Hudson's Bay Company's (HBC) interior posts, fortified to deter encroaching French traders, was built in 1741 on the north shore of the Albany River and was operational until 1857. Archaeological surveys in the 1970s and 80s resulted in the identification of the fort, designated at Henley House site (EhIb-3) (Julig 1984). It is located on the north shore of the Albany River at the mouth of the Henley River, and represents the first interior fort built by the HBC (Julig 1988; Voorhis 1930). Henley House was originally built on a gravelly island that was being washed away by river activity. As a result, Henley House was moved further south in the winter of 1796-97 to the junction of the Kenogami, Nagagami, and Kabinakagami Rivers. This location is a place known in Cree and Ojibway as *Mamamattawa* or "meeting of waters" (HBC Archives B86/a/51 fo 25, 19 -22 August 1796; HBC Arch B86/a/52 fo 6, 2 October 1796).

Marten (Martin's) Falls House

This HBC post on the Albany River was established in 1794, located on the southern bank of the Albany River at the site of the first un-navigable rapids west of James Bay (Voorhis 1930:109). For several years prior to this, there had been a temporary depot at the foot of the falls built in 1782, however with an increase in trade traffic along the river it was upgraded to permanent post status (Newton and Mountain 1980). In 1905, the Marten Falls outpost was host to one of the many negotiations and signing events associated with the passing of Treaty No. 9 (Long 2010; Vyvyan 1980). The operations were moved to Ogoki, approximately 80 km east of Marten Falls in 1923. The remains of the house (EjIp-1) were located and subject to limited AA in 1975 by the Historical Planning and Research Branch of the Ontario Ministry of Culture and Recreation (Golder 2015).

Gloucester House

Gloucester House, the furthest inland post of the Hudson's Bay trading company on the Albany River, is located on the northern shore of Washi Lake. It was established in 1777 by John Kipling when he and seven men ventured inland from Fort Albany to Washi Lake (HBC PAM B78/a/2:4). A temporary log tent was erected, followed by a building of squared logs with a roof of birch rind (HBC Archives PAM B78/a/3:8). These efforts began an era of the construction of 27 structures, five palisades, bake ovens and charcoal kilns on the one-and-a-half-acre plot between the years of 1777 and 1818 (Newton and Mountain 1980). Gloucester House was the site of a large boat building programme that would also operate shuttles of goods and people between Gloucester House and Martin's Falls (Newton and Mountain 1980). By 1795, the significance of Gloucester House declined, and orders were dispatched to abandon the site and relocate to Ernest House (Martin's Falls) (HBC Archives PAM B78/a/22:16d). Gloucester House was primarily abandoned until 1812, when it again functioned to supply an outpost at Attawapiskat lake to the north (Newton and Mountain 1980). The HBC permanently abandoned the Gloucester House site on Washi Lake after 1818. In 1976 the Historical Planning and Research Branch of the Ontario Ministry of Culture and Recreation relocated the remains of the Gloucester House, including two sets of structural remains and over 200 historic artifacts (Golder 2015).

A series of events including fluctuations in the trade market, changing environmental conditions, and the ongoing North West Trading Company and HBC competition, determined the pattern of fort establishment along the Albany River and influenced the intermittent occupancy and operation of each of the companies' posts (Vyvyan 1978). By 1821, with the amalgamation of the two companies, the river became the exclusive territory of the Hudson's Bay Company.

1.2.3 Post-Contact Period

It is important to note that, when discussing the historical documentation of the movement of Indigenous people, what has been documented by early European explorers and settlers represents only a very small snap-shot in time. Where Indigenous groups were residing during the period of early European exploration and settlement is restricted to only a very short period of time and does not reflect previous and subsequent movements of these groups. Indeed, there is evidence that, in some cases, what is identified as a movement of people was really little more than a change in the name used to refer to a group as they encountered various settler groups(reference).

This brief history does not reflect the full picture of the pre- or post-contact period occupation of Indigenous groups or cultures. As such, relying on historic documentation in regard to Indigenous occupation and movement across the landscape can lead to misinterpretation. For example, historic documentation of the movement of Indigenous groups into an area may suggest to the reader that these groups had not occupied the area previously; however, this is not the case. It is clear from Indigenous oral histories and the archaeological record that pre-contact Indigenous populations were extremely mobile and not tied to any one specific area. Over the vast period of time prior to the arrival of Europeans, Indigenous groups, language families, and cultures were fluid across the landscape. Similarly, while economic activity altered the way people used the landscape, particularly at the height of the fur trade, the overall social-cultural system of kinship-based land-use and group association remained intact.

At the time of European contact, the Indigenous groups in the northwestern part of the province spoke variations of the Algonquian language group, notably Ojibway and Cree. The environmental conditions in northwestern Ontario remained vastly different from those in the south with unpredictable natural factors such as forest fires and winter icing influencing the size of human population the region could support the distribution of groups and the frequency in which they had to move. Therefore, the groups in northwestern Ontario remained small, mobile, and loosely associated with each other (Dawson 2004: 9).

1.2.4 First Nations Context

The study area falls predominantly within the shared traditional territory of MFFN and other Matawa First Nation Communities, including the Aroland First Nation in the southern end. These traditional lands extend from the Current River and Ogoki Lake in the south, Makokibaton Lake in the west, Jasper Lake and Muketei Rivers to the north and the Albany Forks to the east. The Marten Falls Indian Reserve 65, also referred to as Ogoki Post, is a remote Indigenous community in northwestern Ontario only accessible year-round by air or for 6-8 weeks in the winter by an ice road (MFFN 2014). MFFN history has deep ties to their traditional territory, which extends over an area much larger than the small reserve lands they now occupy, going back thousands of years. After the arrival of Europeans, MFFN participated in the fur trade that commenced in the 1600's. The community that coalesced around the trading post existed for over 250 years before the post was closed in 1924. The community then relocated to their current location. MFFN is comprised of two parts: the Ogoki post on the south side of the Albany River in the Cochrane District and Marten Falls on the north side in the Kenora District.

MFFN is a member of the Matawa First Nations Management Inc. (MFNMI), a regional tribal council that provides advisory services/programs to nine member Ojibway and Cree First Nations communities in the Nishnawbe Aski Territory of Northern Ontario. Matawa Tribal Council includes Aroland First Nation, Constance Lake First Nation, Eabametoong First Nation, Ginoogaming First Nation, MFFN, Neskantaga First Nation, Nibinamik First Nation and Webequie First Nation.

MFFN, along with other Matawa FN communities, share vast traditional land. The MFFN traditional land extends from the Current River and Ogoki Lake in the south, Makokibaton Lake in the west, Jasper Lake and Muketei Rivers to the north and the Albany forks to the east (Marten Falls First Nation Community Profile 2014). The traditional territory has been used by Indigenous people for trapping, hunting, trade and socializing preceding European contact (MFFN 2014).

The Aroland First Nation Reserve is located approximately 50 km south of the southern end of the study area, and their traditional lands extend into the study area. Aroland First Nation is an Ojibway and Oji-Cree band located on the Kowkash River. The community is comprised of former members of the Long Lake #58 First Nation, Long Lac 77 First Nation (now Ginoogaming First Nation), Fort Hope First Nation (now Eabametoong First Nation), Marten Falls First Nation, and Fort William First Nation (Baldwin 1957).

Located approximately 70 km west of the study area, the Eabametoong First Nation (also known as Fort Hope) is an Anishinaabe community located on the north shore of Eabamet Lake (Golder 2013). The Eabametoong reserve was set aside for the Fort Hope Band during the signing of Treaty No. 9 in 1905, although mistakenly combined with three other groups (Neskantaga, Nibinamik, Webequie). Their original settlement was at Fort Hope, the HBC post established in 1890 (Jacasum 2006).

1.2.4.1 Treaty No. 9 (1905-1906 and 1929-1930)

The study area is located in the area of Treaty No. 9 (also known as the James Bay Treaty) and Treaty 9 Adhesion 1929-1930. Treaty No. 9 covers land in northern Ontario that lies north of the Robinson-Superior and Robinson-Huron Treaties of 1850, up to the Quebec border to the east, the territory covered by Treaty 3 to the west, and Hudson Bay and James Bay to the north (**Figure 5-1**). It was written without First Nations input, and their understanding of the treaty was questionable due partly to their inability to read English (Morrison 1986). Treaty No. 9 was first signed in 1905 between various Northern Anishinaabe (Ojibway) and Mushkegowuk (Cree) communities and the Government of Canada and the Province of Ontario. The principle signings in 1905-1906 occurred at Osnaburgh House, Fort Hope, Marten Falls, and Moose Factory (AANDC 2018).

Beginning in 1923, mining activities north of the Albany River were the impetus for adhesions to Treaty No. 9, made in 1929-30, resulting in communities north of the Albany River being added as signatories (e.g., Attawapiskat). Concerning hunting, trapping and fishing by Aboriginal peoples, Treaty No. 9 provides, in part, as follows:

> *…and His Majesty the King hereby agrees with the said Indians that they shall have the right to pursue their usual vocations of hunting, trapping and fishing throughout the tract surrendered as heretofore described, subject to such regulations as may from time to time be made by the government of the country, acting under the authority of His Majesty, and saving and excepting such tracts as may be required or taken up from time to time for settlement, mining, lumbering, trading or other purposes.*
>
> AANDC 2013

1.3 Archaeological Context

1.3.1 Natural Environment

Historically, glacial Lake Agassiz encompassed the modern Lake Winnipeg, Lake Winnipegosis, and Lake Manitoba basins approximately 11,700 years ago (Teller 1985, 1995). It covered much of the province of Manitoba and northwestern Ontario. As the glaciers retreated, isostatic rebound resulted in a severely fluctuating water plane, creating relic shorelines throughout the province discussed as phases of the lake (i.e., Lockhart, Moorhead, Emerson, Nipigon and Ojibway) (Teller 1985, 1995). Between 9,300 to 8,000 B.P. Lake Agassiz began shifting northward as water drained through an outlet in northwestern Ontario that allowed overflow into Lake Nipigon and Lake Superior basins. This exposed the western half of Manitoba and northwestern Ontario east of the Lake Winnipeg basin by 8,500 years ago.

The glacial lake levels of all the early Great Lakes are complex and inter-related; each affecting the other in various ways as ice retreated and melted. The lake levels rose and fell accordingly thereby creating the deposits observed within the existing topography. These lake fluctuations resulted in the creation of moraines and beach ridges that became attractive to Paleo peoples. The current study area would have been under the Laurentian ice sheet until the glacier receded. After the recession of the ice sheet, Lake Barlow and Lake Ojibway would have covered a substantial portion of northern Ontario and northwestern Quebec. By approximately 7,700 years ago, water levels had dropped dramatically as the breakup of ice lead to catastrophic drainage north into the Tyrell Sea, which would form modern day Hudson's Bay (Teller 1985, 1995).

The retreat of the glaciers also allowed for spruce dominated boreal forests to move quickly north, occupying the once open tundra (Hinshelwood 1990; Phillips 1993). By 10,000 years ago the closed spruce forest gave way to the rapid introduction of jack pine and white birch because of the increasingly warm, dry and windy environment (Hypsithermal) (Julig 1994; Phillips 1993; Wright 1974).

1.3.1.1 Modern Natural Environment

The LSA is located in the Ontario Shield and Hudson Bay Lowlands Ecozones which are comprised of upland boreal forest and lowland forest and extensive, marsh and muskeg lowlands. The Ontario Shield is characterized largely by forest, followed by treed bogs and fens, open water, and other wetlands. The James Bay / Hudson Bay Lowlands forms the core of the third largest wetland in the world. This area is characterized largely by treed bogs and fens, followed by forest, other wetlands, and open water. Well drained areas in the lowlands are forested with spruce, poplar, birch and other boreal species.

The single most important environmental feature necessary for extended human occupation is potable water. As such, proximity to water is regarded as a useful index for the determination of potential for the presence of archaeological resources. However, as noted previously, the general RSA is dominated by wetlands (i.e. bogs, fens, swamps and marshes) of the Albany River watershed and several of its sub-watersheds. Surface water moves generally in a north-easterly direction, towards James Bay. Additionally, the Albany and Ogoki river systems have both been altered from their original state because of hydroelectric development activity in the region between 1943 and 1950 respectively (MFFN 2017). A dam at Waboose Rapids cuts off the Ogoki River, backing it up into the Ogoki Reservoir north of Lake Nipigon. On the Albany River, there is a dam at Rat Rapids near Osnaburgh House. The tertiary watershed systems in the project area include the Albany-Makokibatan, Lower Ogoki, Little Current and Upper Albany-Muswabik, which would have provided important historical travel routes. The construction of the dams have had lasting impacts along the major river systems, including the alteration of shorelines and fluctuating water levels.

The LSA provides suitable habitat for a variety of small and large mammals, as well as various amphibians, reptiles, birds and insects that are found in the Boreal Forest. The area is characterized by a combination of open and treed wetlands dominated by species such as black spruce, mosses and shrubs, and upland terrestrial habitat comprised of mixed forests with species such as jack pine, white spruce, and several poplar species.

These environmental characteristics would have provided an ideal environment for both temporary and permanent settlement throughout the pre-and post-contact periods. The water sources would have served as important pre- and post-contact transportation routes as well as sources of potable water and riverine resources, most especially abundant fish resources.

1.3.2 Previous Archaeological Work

To inform the current Stage 1 AA and further establish the archaeological context of the LSA, a search of the OASD was conducted by AECOM on March 25, 2019 to determine if any previous archeological work has been completed within the current study area or within 50 m of the study area boundaries. **Table 2** lists reports regarding previous archaeological work relevant to the study area.

Table 2: Archaeological Reports with Relevant Background Information

Year	Title	Author	PIF Number
2015	*Stage 1 Archaeological Assessment, Cliffs Natural Resources Integrated Transportation System Districts of Kenora and Thunder Bay, Ontario*	Golder	P243-240-2011

Golder completed their Stage 1 AA of Cliffs Natural Resources Integrated Transportation System between the Mine site and the proposed Cavell Transload Facility located adjacent the Canadian National Railway Company's existing rail siding in 2015. The Stage 1 determined that archaeological potential exists for precontact Indigenous and historical sites within the study area along waterways, particularly those bordered by reasonably drained soil or bedrock, by historical transportation routes, and by mining and forestry activity areas and these areas were recommended for Stage 2 AA (Golder 2015: i).

A large number of Stage 1 AAs have also been completed in and near the western edge of the project by Golder Associates for the Cliffs Natural Resources proposed pits and quarries. As this project was cancelled, they are brief reports which recommend further work prior to any additional development in those areas.

While no other AAs are known to have been completed within the current LSA, some archaeological assessment has been undertaken in the broader region, including extensive survey along portions of the Albany River System. Patrick J. Julig completed surveys of the lower Albany River in 1981 and identified 20 pre-contact Indigenous sites and a number of historic encampments (Julig 1982). These surveys along the Albany River have demonstrated the rich archaeological record of the region, including several thousand years of Anishinaabe occupation. There are four registered archaeological sites within 50 km of the study area, including the Marten (Martin) Falls House (EjIp-1) which is found on the southern bank of the Albany River, approximately 12 km east of the westernmost proposed route (Alternative 1).

To the best of our knowledge, there are no other reports concerning archaeological work conducted within or in close proximity (i.e. within 50 m) of the LSA; however, it should be noted that the MHSTCI does not maintain a database of all properties that have had past archaeological investigations and searches of the MHSTCI public register do not always result in a complete listing of all archaeological work conducted in a given area. In consequence, in some cases the only way a consulting archaeologist will know that a past assessment has been conducted in a given area is if they have personal knowledge of it, or if the assessment resulted in the discovery and registration of one or more archaeological sites.

1.3.3 Known Archaeological Sites

AECOM conducted a data search of the OASD on March 13, 2019 to determine if any registered archaeological sites are located within or adjacent to the LSA. Given the extensive geographic setting, the search of known archaeological sites was increased to 50 km of the current LSA boundaries. This search resulted in the identification of 4 registered archaeological sites. Table 3 provides details on the registered archaeological sites within 1 km of the LSA.

Table 3: Registered Archaeological Sites within 50 km of the Study Area

Borden #	Site Name	Cultural Affiliation	Site Type
EjIp-1	Marten (Martin's) Falls House	Indigenous, Euro-Canadian	Hudson's Bay Company fur trade post
EiIr-1	Baxter	Unknown	Unknown
EiIr-2	Twin Point	Unknown	Unknown
EgIk-1	Feldbruegge	Indigenous	Campsite

The Marten Falls House (EjIp-1) is located on the southern bank of the Albany River at Marten Falls. The remains of the Hudson's Bay Company fur trade post were located in 1975 by Barry Newton as they were eroding out of the bank of the river. During the survey of Martin Falls House, the site was extensively surface collected and two test pits were excavated (Vyvyan 1980). The material recovered included ceramics, glass, metal hardware, household and personal items, faunal material, and Indigenous material. The two test pits and an intensive surface survey at the only known AA conducted at this site. It is assumed that the site, if properly surveyed and mapped archaeologically, would be extensive as it was occupied for an extended period of time and archaeological materials are unlikely to be confined strictly within the post's footprint.

There are no other sites within proximity to the LSA limits due to several factors. These include the lack of development in the area as well as the effects of fluvial processes along waterways where sites would have been washed away over time as a result of natural and purposeful water level fluctuations.

Information concerning specific site locations is protected by provincial policy and is not fully subject to the *Freedom of Information and Protection of Privacy Act (FIPPA)*. The release of such information in the past has led to looting or various forms of illegally conducted site destruction. Confidentiality extends to all media capable of conveying location, including maps, drawings, or textual descriptions of a site location. The MHSTCI will provide information concerning site location to the party or an agent of the party holding title to a property, or to a licensed archaeologist with relevant cultural resource management interests.

1.3.4 Property Inspection/Helicopter Flyover

Due to the large area and the inaccessible nature of the majority of the LSA, a property inspection was not feasible. However, in order to confirm existing conditions and areas of disturbance not visible in the mapping or satellite imagery within the study area, a Stage 1 helicopter fly-over was conducted by AECOM on September 26th and October 4th, 2019 under the direction of Samantha Markham [P438].

Table 4: Weather Conditions

Date	Conditions	Temperature
September 26, 2019	Sunny	14°C
October 4, 2019	Sunny	10°C

In order to narrow down areas of archaeological potential that had been identified during the background research, a helicopter was used to fly over the LSA. Photographs were taken out of the helicopter windows to illustrate some of the existing conditions of the general project area. The conditions and results of the field inspection can be seen in **Section 6: Images**.

The route flown included the proposed western route alternatives from Painter Lake Road, following the western corridor up to the Albany River and across to Ogoki Post (Marten Falls First Nation Reserve No. 65). The return trip followed the far west route option to the Albany River, then back down the easterly option back to Painter Lake Road. The goal of the visual inspection was to evaluate the archaeological potential of the route in order to determine which areas could be identified as retaining low archaeological potential, and therefore be excluded from further work. The presence of different types of vegetation (i.e., coniferous, deciduous trees) and/or evidence of standing water (e.g., muskeg, bog, fen) was noted, which will be used to inform the fieldwork strategy for further Stage 2 work.

Coniferous trees dominate the Boreal region, because they are tolerant of shallow soil, permafrost and waterlogged areas alongside wetland plants and mosses. Black spruce was noted from above in predominantly swampy or wet areas within the LSA. The time of the year allowed for further refinement as deciduous trees were easier to identify, given the changing colours of the leaves as well as the thinning of the forest cover as the leaves began to fall. The deciduous trees, such as poplars/aspen are known to grow best in areas that consist of soil and were easily identified among the green of the coniferous trees. The proposed LSA appeared to follow the pockets of deciduous trees along the corridor.

2. Analysis and Conclusions

2.1 Determination of Archaeological Potential

Generally, archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Criteria commonly used by the MHSTCI to determine areas of archaeological potential are listed in Section 1.3.1 of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011). Distance to modern or ancient water sources is generally accepted as the most important element for past human settlement patterns and when considered alone may result in a determination of archaeological potential. There are several criteria provided by MHSTCI (Ontario Government 2011) that can be used to indicate both pre- and post-contact archaeological potential, including:

- Distance to various types of water sources;
- Soil texture and drainage;
- Elevated topography;
- Glacial geomorphology, elevated topography and the general topographic variability of the area;
- Proximity to previously identified archaeological sites;
- Resource areas including food or medicinal plants, scarce raw materials and early Euro-Canadian industry;
- Areas of early Euro- Canadian settlement and early transportation routes;
- Properties that local histories or informants have identified with possible archaeological sites, historical events, activities or occupants

It should be noted that aside from water sources, the criteria for pre-contact Indigenous resources versus post-contact Indigenous and Euro-Canadian archaeological resources differ. Some of the criteria identified by MHSTCI noted above can be used to predict the location of pre-contact Indigenous sites. The preservation and identification of pre-contact Indigenous archaeological resources in Northern Ontario is determined by a number of factors. Pre-contact Indigenous people possessed a unique worldview and certain classes of sites, used for burials or vision quests, for example, that were located primarily for ideological or aesthetic reasons would not be found within the MHSTCI criteria. Additionally, the highly mobile, multi-resource oriented, hunting and gathering lifestyle is predictive of different locations for archaeological sites. While archaeological potential can be improved with the introduction of Anishinaabe Knowledge (AK) provided by MFFN, there is also the concern that the acidity of the Canadian Shield soils has removed much of the physical organic evidence of past cultures.

In addition to the criteria outlined in Section 1.3.1, above, the criteria included in Section 1.3.3 of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011) can also be applied to the LSA for potential evaluation in the Canadian Shield. This includes considering land that may consist of small pockets (e.g., sand plains, clay plains, glacial beach ridges, etc.) that possess a higher degree of potential and differing characteristics from most of the surrounding environment that should still be considered to have potential, This was accomplished by employing stream order data, AK provided by MFFN and satellite imagery in addition to the results of the fly-over. By employing these methods, mapping was compiled to note where archaeological potential may be considered low based on the presence of different types of vegetation (i.e., coniferous, deciduous trees) and/or evidence of standing water (e.g., muskeg, bog, fen). Given the time of the year when the fly-over was carried out, it was noted during the fly-over that the proposed LSA appeared to follow the pockets of deciduous trees along the corridor. Deciduous trees, such as poplars/aspen are known to grow best in areas that consist of soil and were easily identified among the green of the coniferous trees.

Since Indigenous groups identify culturally important and sensitive areas and sites without material culture (artifacts) and features (such as ceremonial and sacred sites) associated with them, this information is relevant to the recommendations of this Stage 1 AA. Stream ordering can be used as a tool for predicting archaeological potential, as the importance of a watercourse decreases with their relative size and navigability. MFFN provided AECOM with AK data for the study area, which includes information on trapping and harvest areas (plant, fish and other wildlife), camp and campsites, spiritual/sacred places, travel routes, historical sites and historical villages, burials, and other important areas of interest. It is important to include the AK data in the archaeological potential mapping IK identifies areas that often differ from those identified with MHSTCI criteria, as noted above. Sensitive AK data is included in the supplementary documentation for this report, in **Figure 1-1 to 1-27.**

2.2 Traditional Use Areas

Ojibway and Cree homelands and traditional territories encompass a vast territory that includes the boreal region and the Hudson and James Bay lowlands. The traditional subsistence strategies of these people varied and paralleled the diversity in landscape, climate and animal and plant resources with a great deal of seasonal variability, community interconnectivity and family-based resource gathering. This is described by members of the communities through interviews by Jacasum (2007). The Indigenous populations of the subarctic as recently as the early 20th Century lived a semi-nomadic lifestyle travelling throughout their homelands to fishing grounds, favorite hunting and trapping areas, and known plant gathering locations. Seasonal rounds were organized around seasonal changes and availability of resources harvested for food, technology, and medicine as well as other needs related ceremony, kinship and trade. Over time, the seasonal round changed to accommodate the market economy introduced by the fur trade. As trading posts such as Albany and Martin's Falls increased the European and Euro-Canadian presence in the region, the seasonal cycle changed more dramatically, with trading posts becoming the more common location for seasonal gathering (Jacasum 2007).

The knowledge required to successfully understand and harvest these varied resources is still critically important to the livelihoods of modern-day communities. These activities continue to play a vital role in the lives and cultures of the modern people and communities of the region. Traditional activities continued today in the region include, but are not limited to, hunting, fishing, trapping, camping, harvesting and recreational and traditional ceremonial use. Within the proposed alternative routes, most land is used for resource harvesting and tourism. Major economic activities near the study area include forestry and mining exploration.

Specific sites such as cabins and camps may also be used to contribute to resource harvesting and these features are likely connected to communities by transportation routes. Camps and cabins may provide locations important for resource harvesting or travel throughout and beyond traditional territory. For example, trappers will often have a trapping cabin used for servicing their trapline. Indigenous landscape features contribute to the orientation of Indigenous peoples on the land. Natural boundary markers such as rivers or mountains indicated to Indigenous peoples which territory they were passing through (Manuel 2019).

2.3 Conclusions

AECOM's Stage 1 background study of the study area has determined that the potential for the recovery of archaeological resources is high, given the proximity of the study area to a variety of criteria including water sources and areas of interest provided by the MFFN community. Areas with standing water (i.e., wetlands, muskeg, fens and bogs) are not considered to have archaeological potential and may be excluded from further assessment regardless of proximity to archaeological features. However, it is important to note the presence of wetlands or marshes can elevate the archaeological potential of adjoining land if there are well drained areas of elevated topography adjacent to them.

According to Section 1.3.4, providing that the remoteness of an area can be documented in sufficient detail to show that there are practical obstacles to achieving access, based primarily on the distance to, or lack of, transportation infrastructure, it is acceptable to make recommendations that areas are low potential and will not require Stage 2 assessment, without the need for a property inspection.

The MHSTCI allows for alternative strategies for archaeological assessments in areas within the Canadian Shield and bedrock environments (Ontario Government, 2011). While Section 1.4 in the *Standards and Guidelines for Consultant Archaeologists* outlines the conditions for recommendations for the reduction of test pit survey coverage, this is superseded for the LSA by Sections 1.3.3, 1.3.4 and 2.1.5 as the land has been demonstrated to be situated entirely on Canadian Shield (Ontario Government 2011). Therefore, while the archaeological potential may be judged to be high based on proximity to a feature that contributes to archaeological potential, Stage 2 survey areas are reduced, and survey intervals are different than they would be in areas outside Canadian Shield terrain. The fluctuating water levels as a result of 20th century hydroelectric development will also need to be taken into consideration when developing Stage 2 fieldwork strategies.

In addition to the above, the modified Stage 2 survey approach for northern Ontario allows for the use of professional judgement by the licensed archaeologist to assist in the selection of survey locations. This can be completed through desktop mapping exercises, including detailed stream ordering, removal of physical landscape features of low archaeological potential (i.e., bog, wetlands) and consultation with MHSTCI. As well, once the final 100 m ROW (cleared to a width of 60 m for permanent use) with additional areas for temporary laydown areas has been determined and LIDAR has been provided, the recommended areas for Stage 2 AA will be further refined.

The areas recommended for Stage 2 AA based on the results of the Stage 1 are located in **Figures 6-1 to 6-27**. Additional areas recommended for Stage 2 AA based on the information provided by the MFFN community are located in the **Supplementary Documentation: Figures 1-1 to 1-27**.

3. Recommendations

AECOM makes the following recommendations for the study area of this Stage 1 AA:

The Stage 2 archaeological assessment must be conducted by a licensed archaeologist and must follow the requirements set out in Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011) for special survey conditions in northern Ontario and on Canadian Shield terrain, including:

- Test pit survey is required at 5 m intervals in areas that fall within 50 m of an identified modern water source (areas outlined in yellow in **Figures 6-1** to **6-27**). Survey is not required beyond 50 m of this type of feature of archaeological potential;
- Where areas of archaeological potential include land adjacent to historic water sources (i.e., glacial shorelines), or other areas identified as having archaeological potential based on the results of the Stage 1 AA including the AK information, test pits will be placed at a maximum of 5 m intervals between 0 and 50 m from the feature, and at 10 m intervals between 50 and 150 m from the feature. These areas are outlined in orange on **Figure 6-1** to **6-27**; and,
- Survey is not required beyond 150 m of the archaeological features due to low archaeological potential (Section 7.7.4, Standard 1a and Section 7.7.6, Standard 3). These areas are represented by grey cross-hatching on Figure **6-1** to **6-27**.
- Poorly drained areas and areas of steep slope are to be mapped and photo-documented.

Archaeological investigations have the potential to reveal buried human remains. Should human remains be identified during the Stage 2 AA, the proponent will be informed immediately, and all archaeological work will halt until the proper authorities have been notified and permission to resume work has been granted, if required.

The MHSTCI is asked to accept this report into the Ontario Public Register of Archaeological Reports thereby concurring with the recommendations presented herein. As further AA is required, archaeological concerns for the Project within the study area of this Stage 1 AA have not been fully addressed.

4. Advice on Compliance with Legislation

This report is submitted to the Ontario Minister of Heritage, Sport, Tourism and Culture Industries 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 Heritage, Sport, Tourism and Culture Industries, 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 fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*.

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 license.

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force in 2012) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ontario Ministry of Government and Consumer Services.

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6. Images

Photo 1: Existing conditions, note evergreens growing in wetlands, facing north

Photo 2: Lower Ogoki River (east), facing north

Photo 3: Existing conditions, note bog surrounding lake, facing north

Photo 4: Upper Ogoki River (east), facing northeast

Photo 5: Extensive wetlands between lakes, facing northwest

Photo 6: Existing conditions, note extensive wetlands, facing west

Photo 7: Poplar trees adjacent to watercourse, possibly a dry area, facing west

Photo 8: Existing conditions around Dusey River, note poplar trees along high ground, facing west

Photo 9: Existing conditions adjacent to Old Man River, note extensive wetlands, facing west

Photo 10: Albany River running east-west and Old Man River running north-south, facing north

Photo 11: Albany River, note possible high ground where poplars are and wetland to the far left, facing east

Photo 12: Typical extensive wetland, facing northwest

Photo 13: Existing conditions adjacent to a small tributary, facing north

Photo 14: Wetland adjacent to the Wabassi River, facing northwest

Photo 15: Wetland between areas of high land, facing northeast

Photo 16: Typical wet area including muskeg, facing north

Photo 17: Muskeg on either side of a tributary of Buffalo Skin River, facing east

Photo 18: Existing wetlands around lakes, facing east

Photo 19: Wetland surrounding high ground where Ogoki Post air strip is located (yellow poplars), facing south

Photo 20: Ogoki Post air strip, Marten Falls First Nation, facing north

Photo 21: Muskeg and wetland typical of the northwest option, facing west

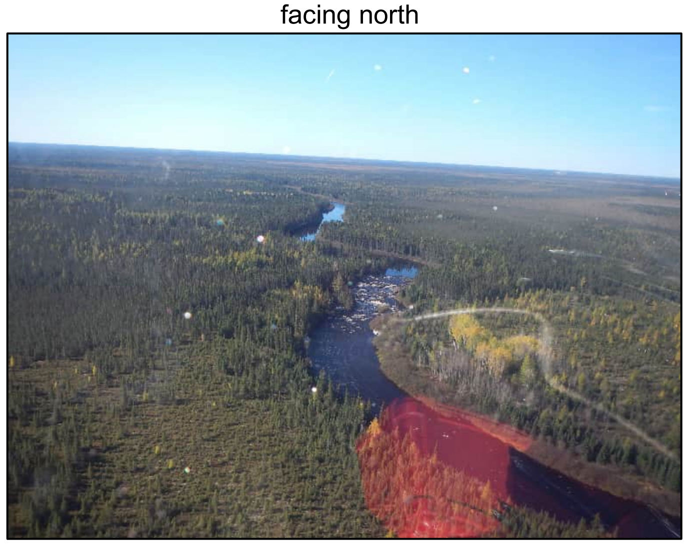


Photo 22: Rapids along the Wabassi River, note the muskeg and wetlands in every direction, facing west

Photo 23: Possible high ground surrounded by wetland, facing southwest

Photo 24: Existing conditions, possible high ground, facing southeast

Photo 25: Wetland directly adjacent to lake feature, facing west

Photo 26: Existing conditions along the western side of the Albany River, facing south

Photo 27: Existing conditions along the eastern side of Teabeau Lake, facing south

Photo 28: Possible high ground following the yellow poplars, facing south

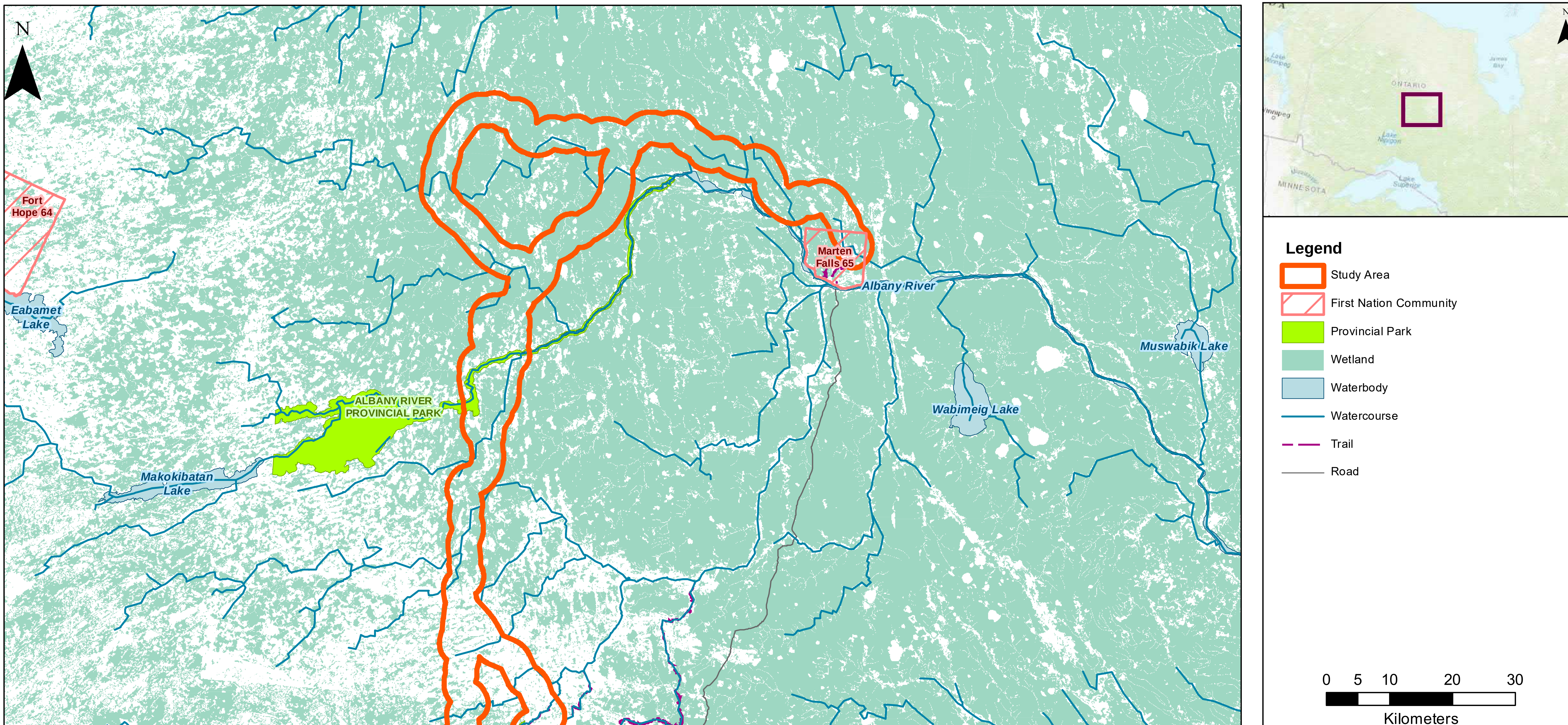
Photo 29: Existing conditions, note extensive wetland, facing west

Photo 30: Existing conditions at the western Ogoki River crossing, facing west

Photo 31: Existing conditions, note some exposed bedrock along right, facing west

7. Figures

All figures pertaining to the Stage 1 AA for the MFFN CAR from Marten Falls to Painter Lake, in the Districts of Kenora, Cochrane and Thunder Bay, Ontario, are provided on the following pages.



Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area Location

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AECOM

Figure 1

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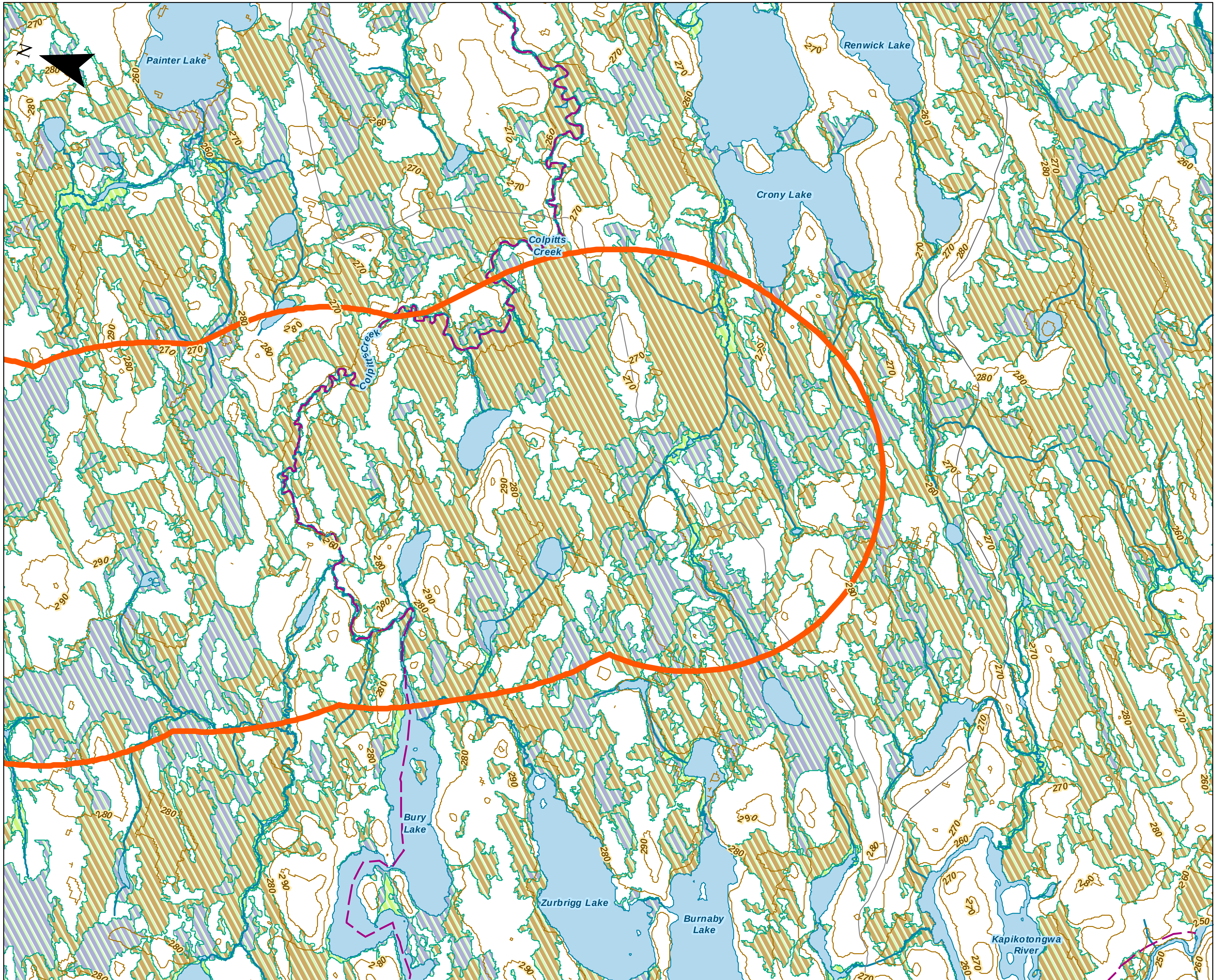

Legend

- Study Area
- Bog
- Fen
- Marsh
- Swamp
- Wetland (Unknown Type)
- Waterbody
- Watercourse
- Contour (10m intervals)
- Trail

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

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Figure 2-1

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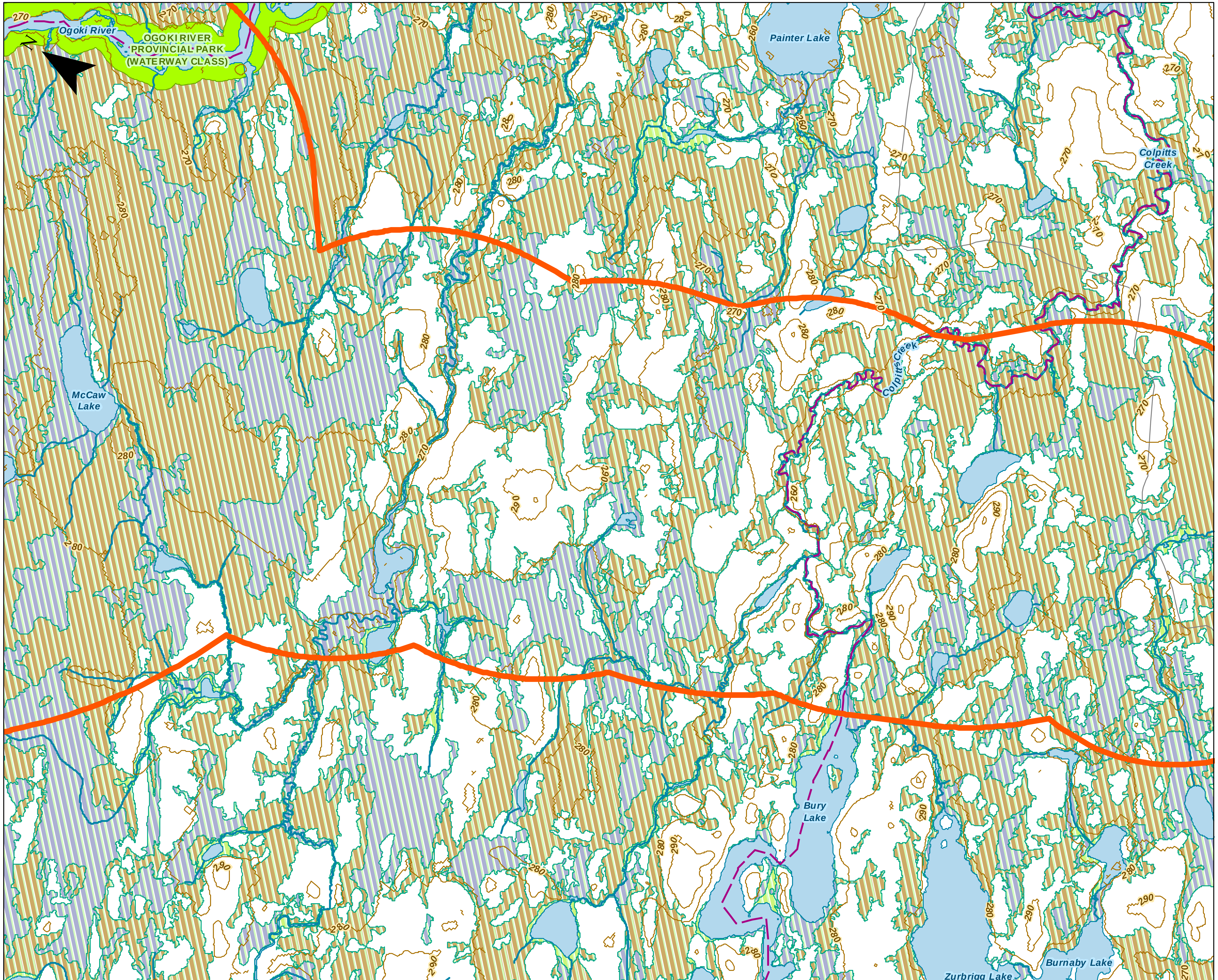

Legend

- Study Area
- Provincial Park
- Bog
- Fen
- Marsh
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)
- Trail

0 0.5 1 2 3
Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

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Figure 2-2

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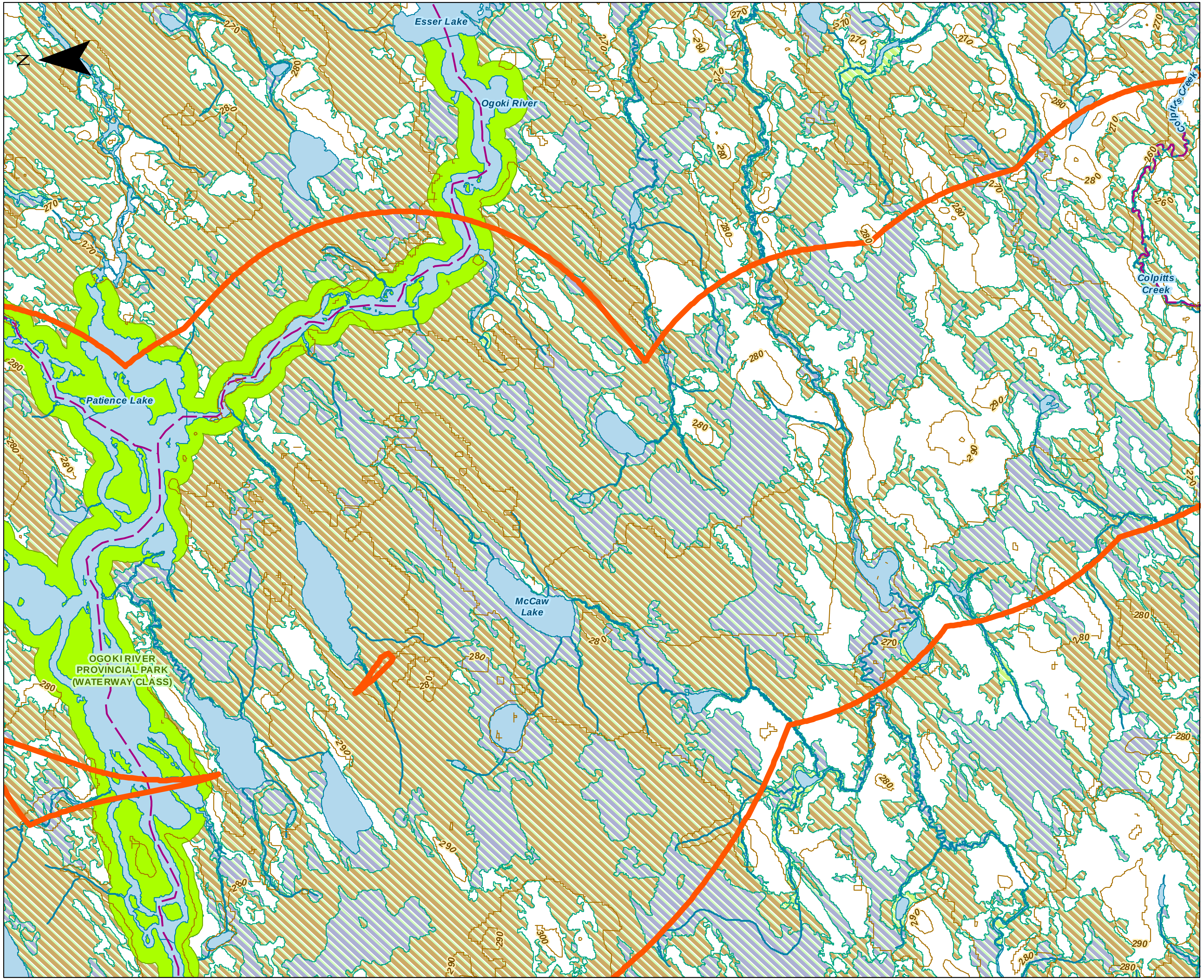

Legend

- Study Area
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- Bog
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- Marsh
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Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

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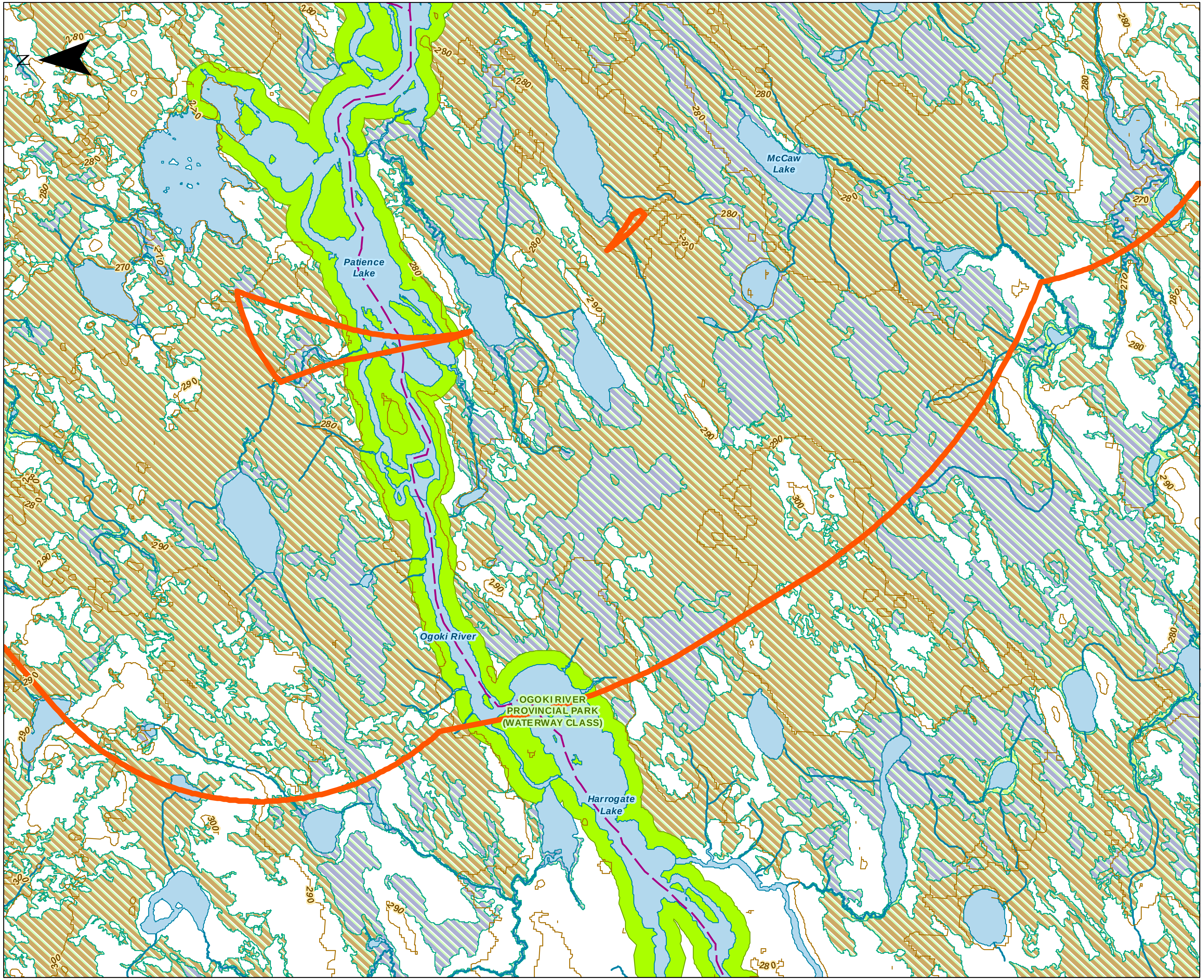

Legend

- Study Area
- Provincial Park
- Bog
- Fen
- Marsh
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)
- Trail

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Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

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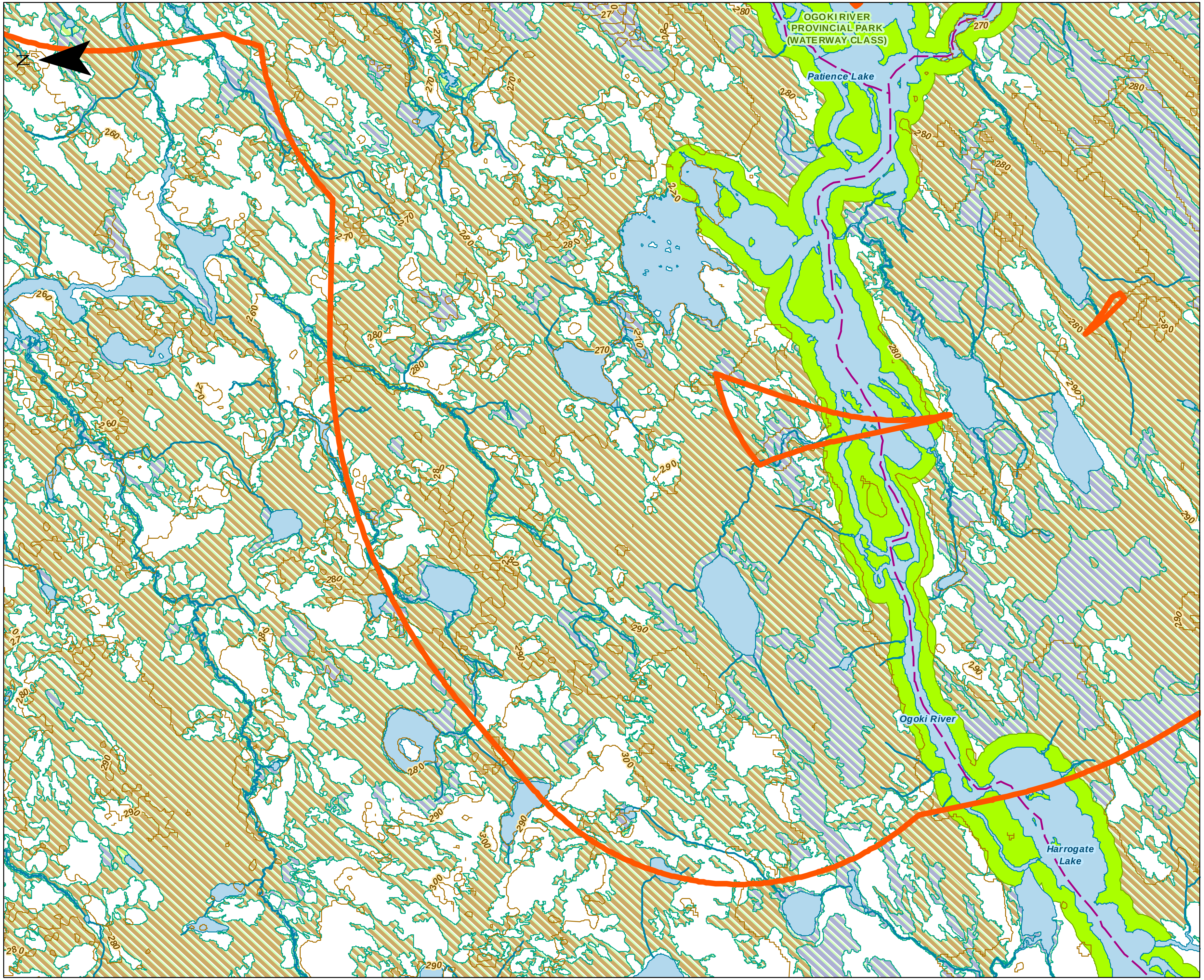

Legend

- Study Area
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- Fen
- Marsh
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)
- Trail

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Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

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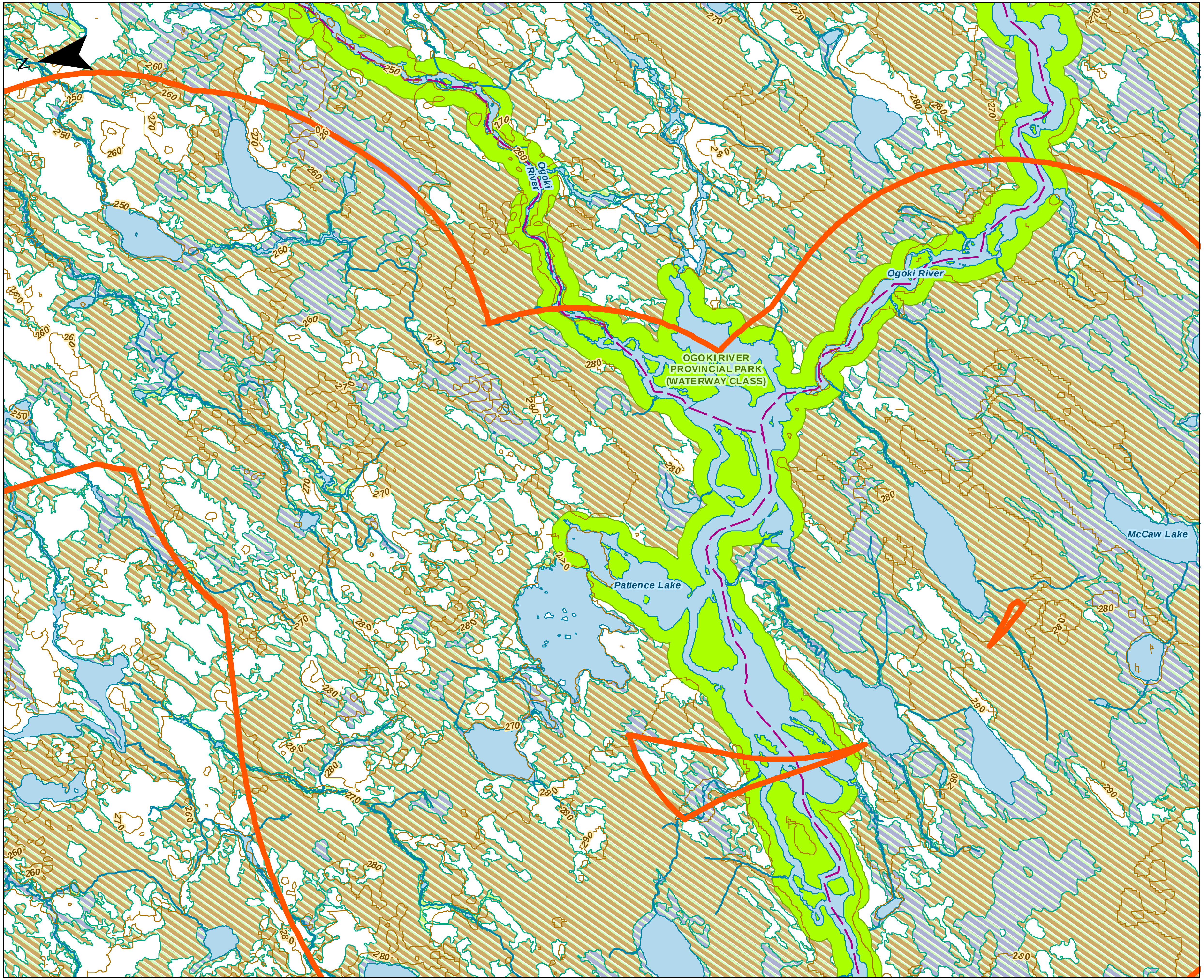

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Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

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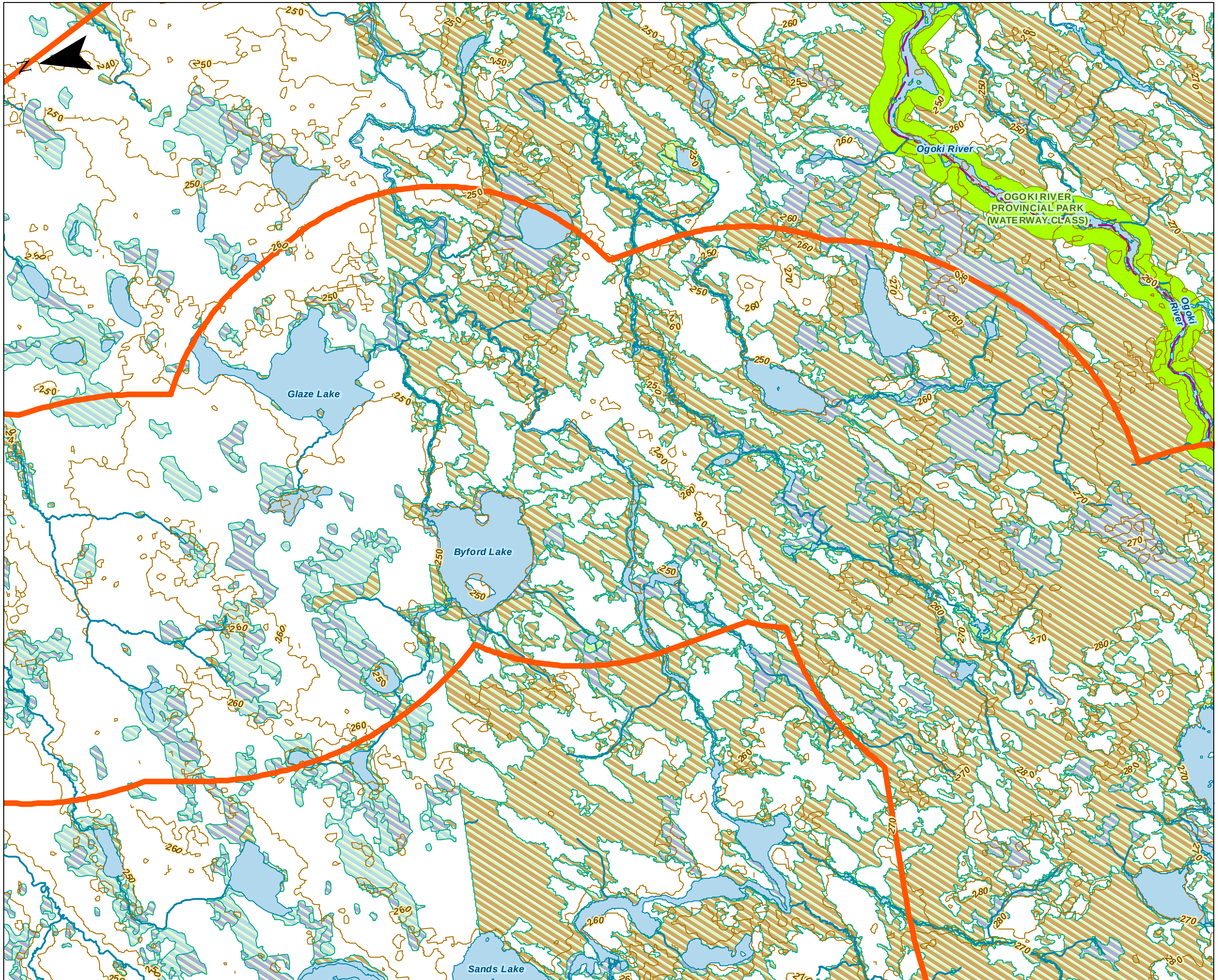

Legend

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- Swamp
- Waterbody
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- Contour (10m intervals)
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Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

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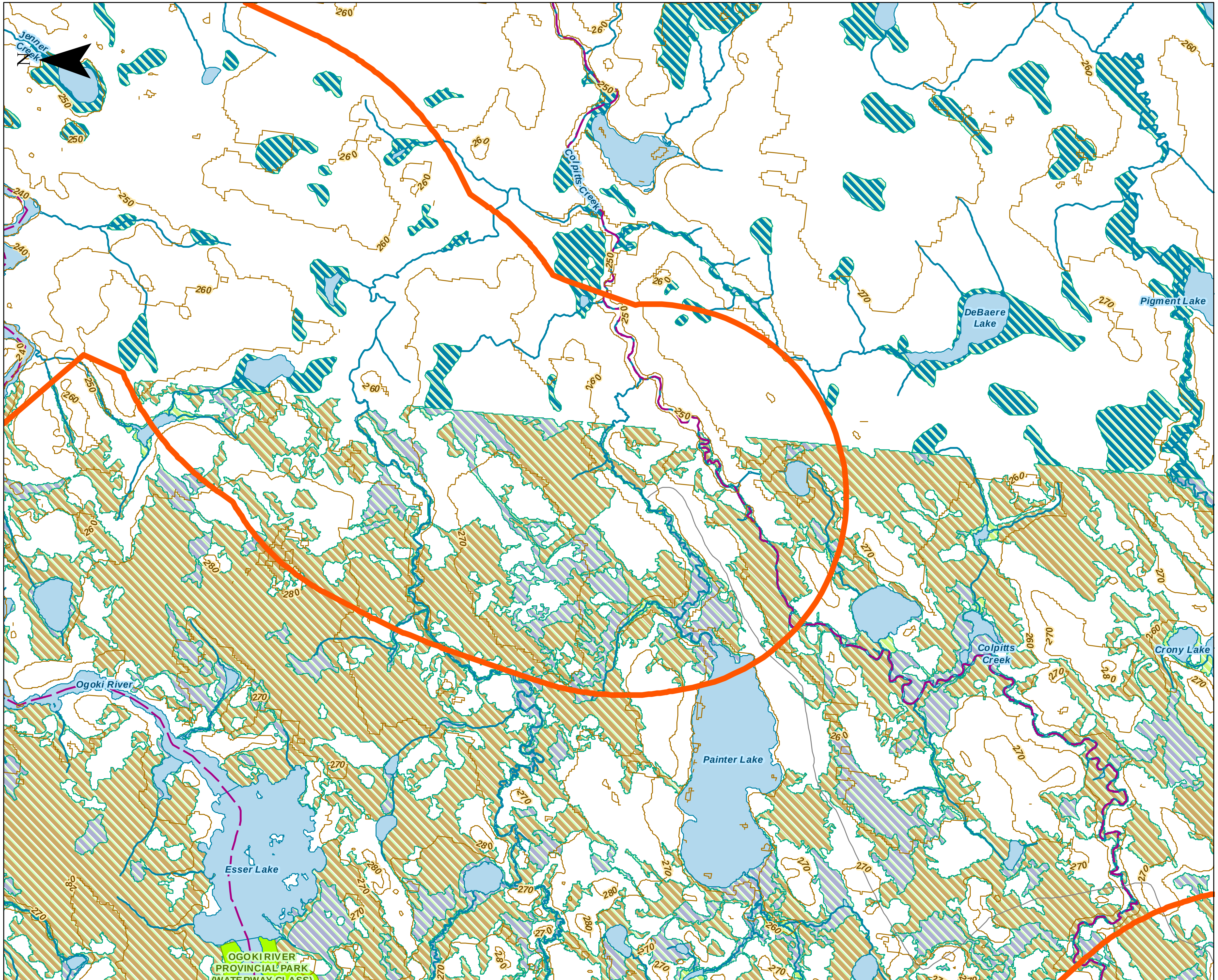

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Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

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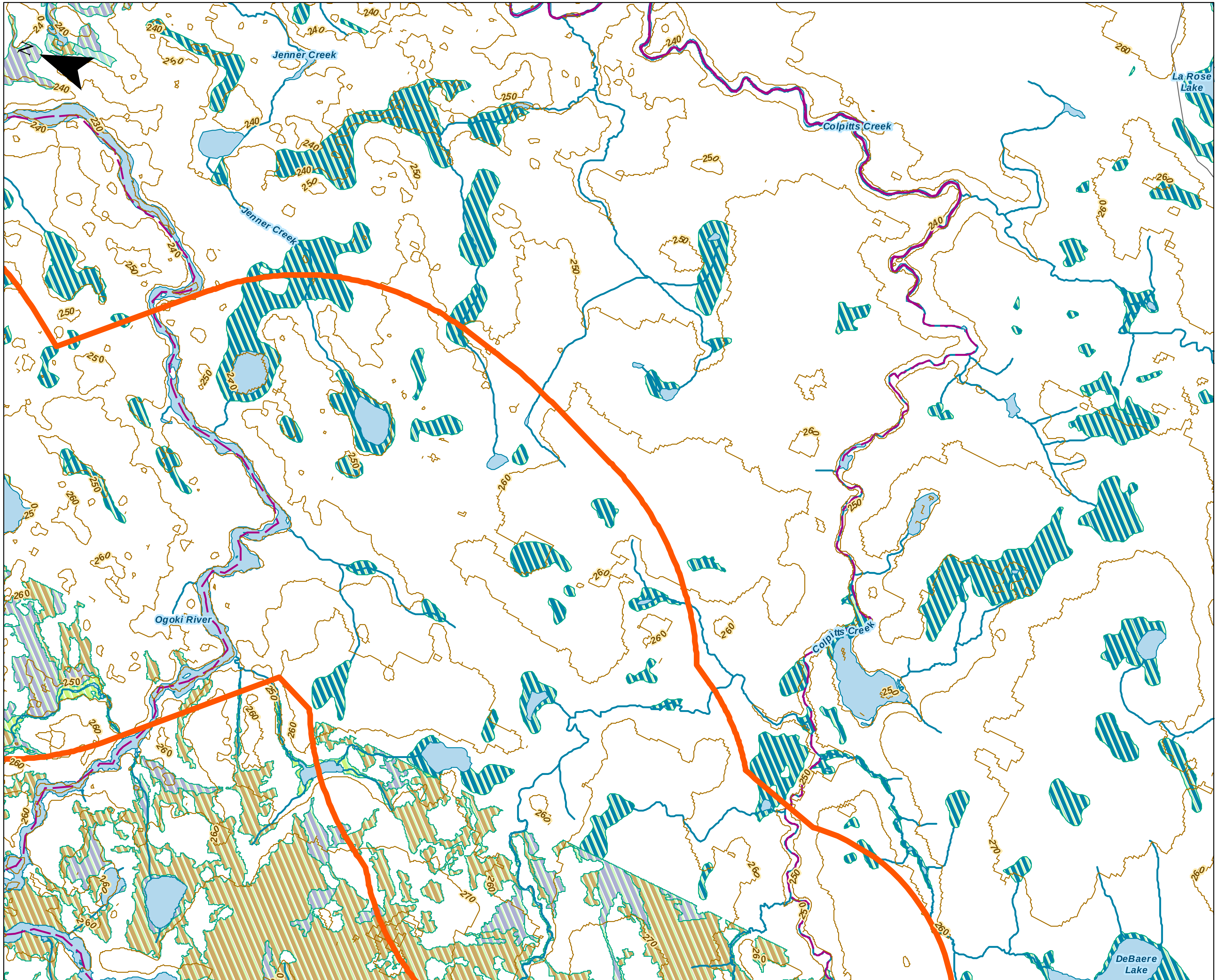

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Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

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Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

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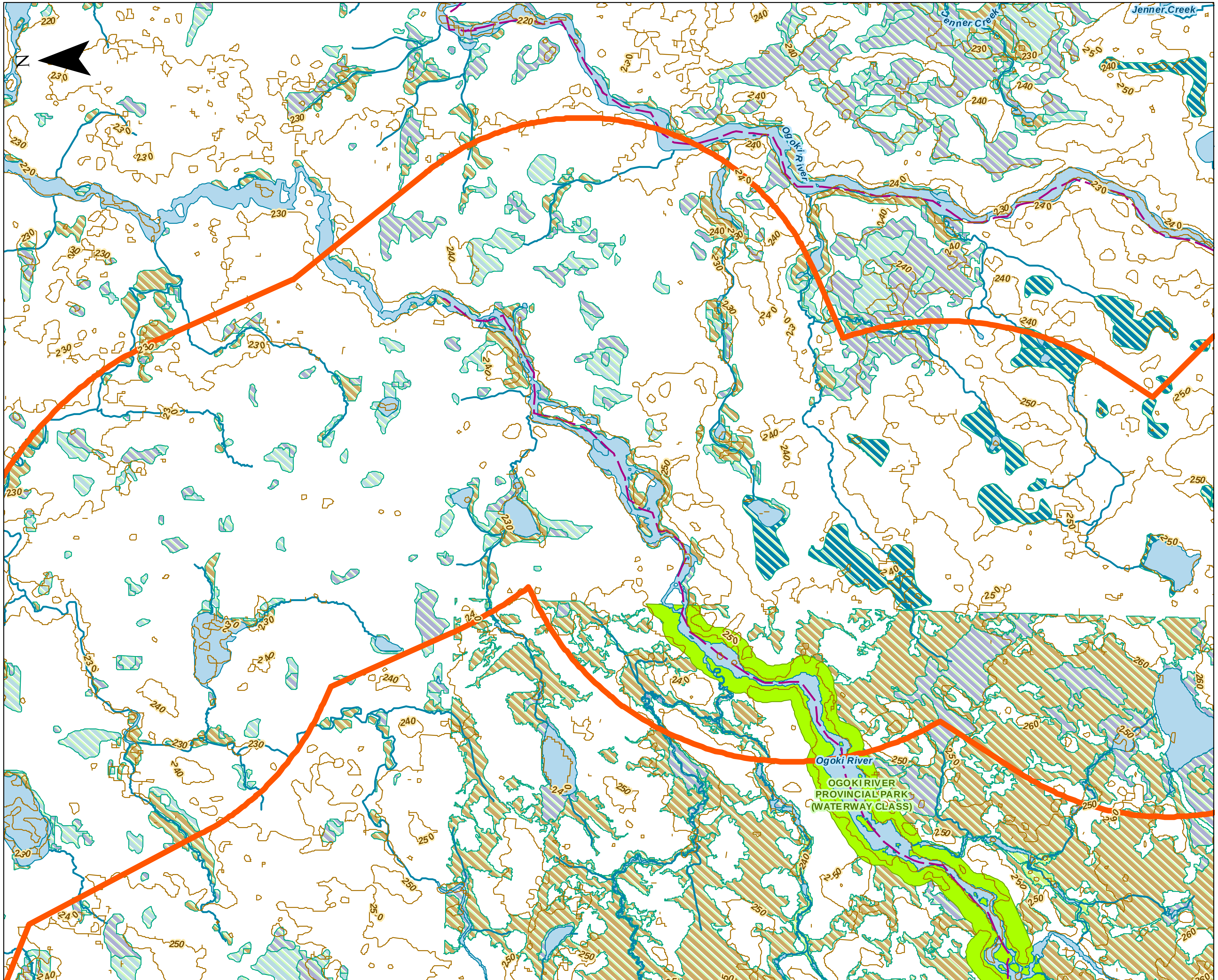

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Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

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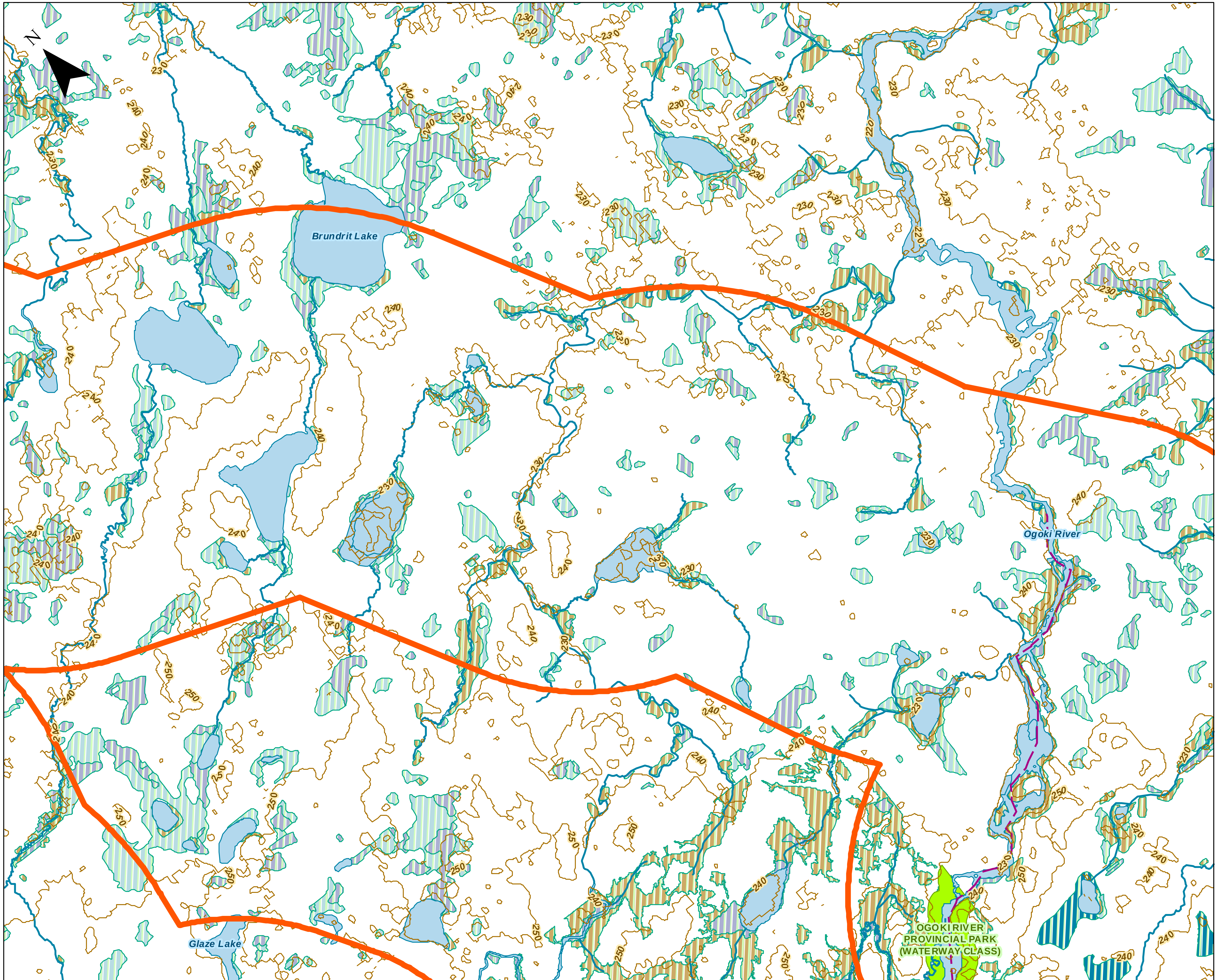

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Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

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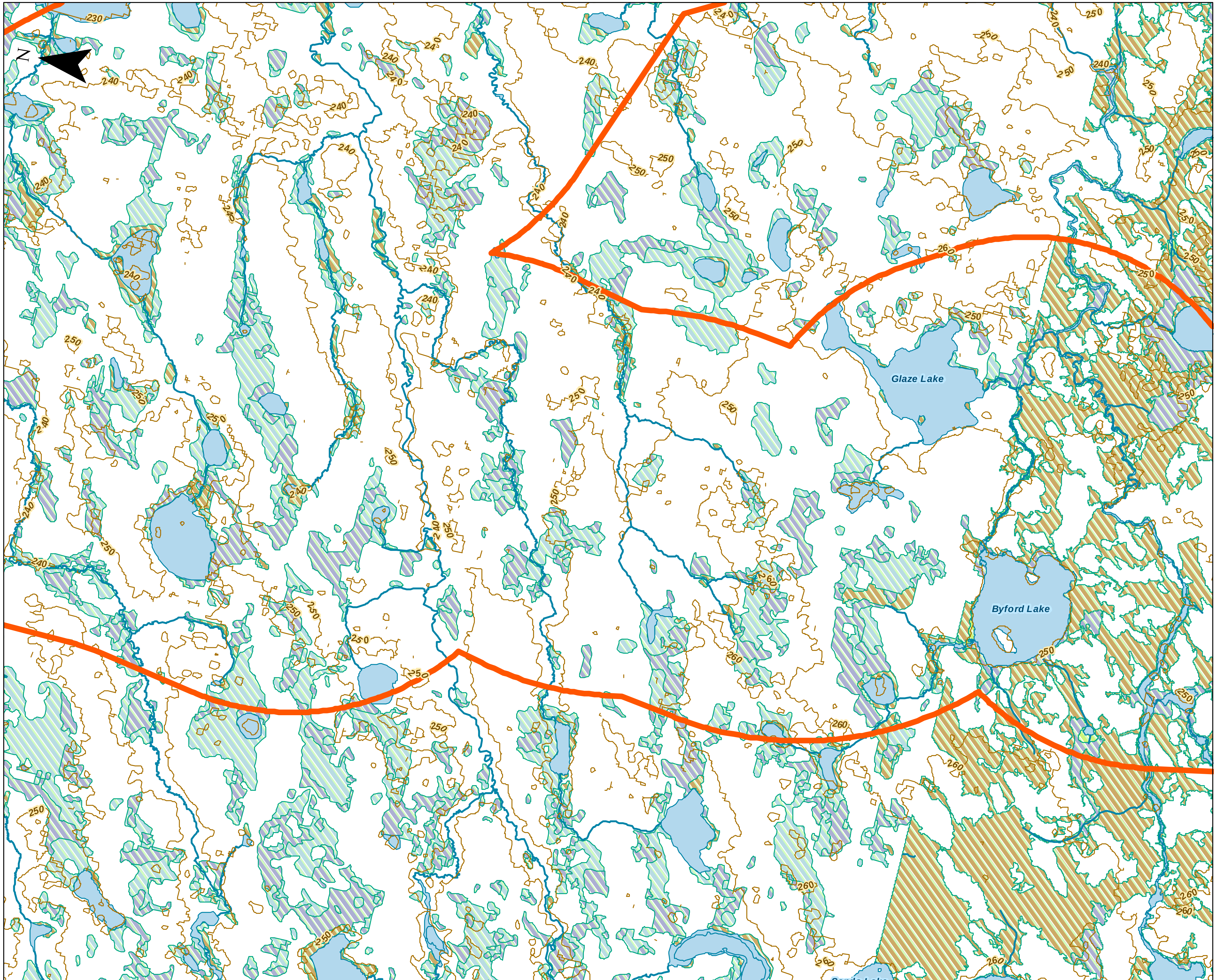

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Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

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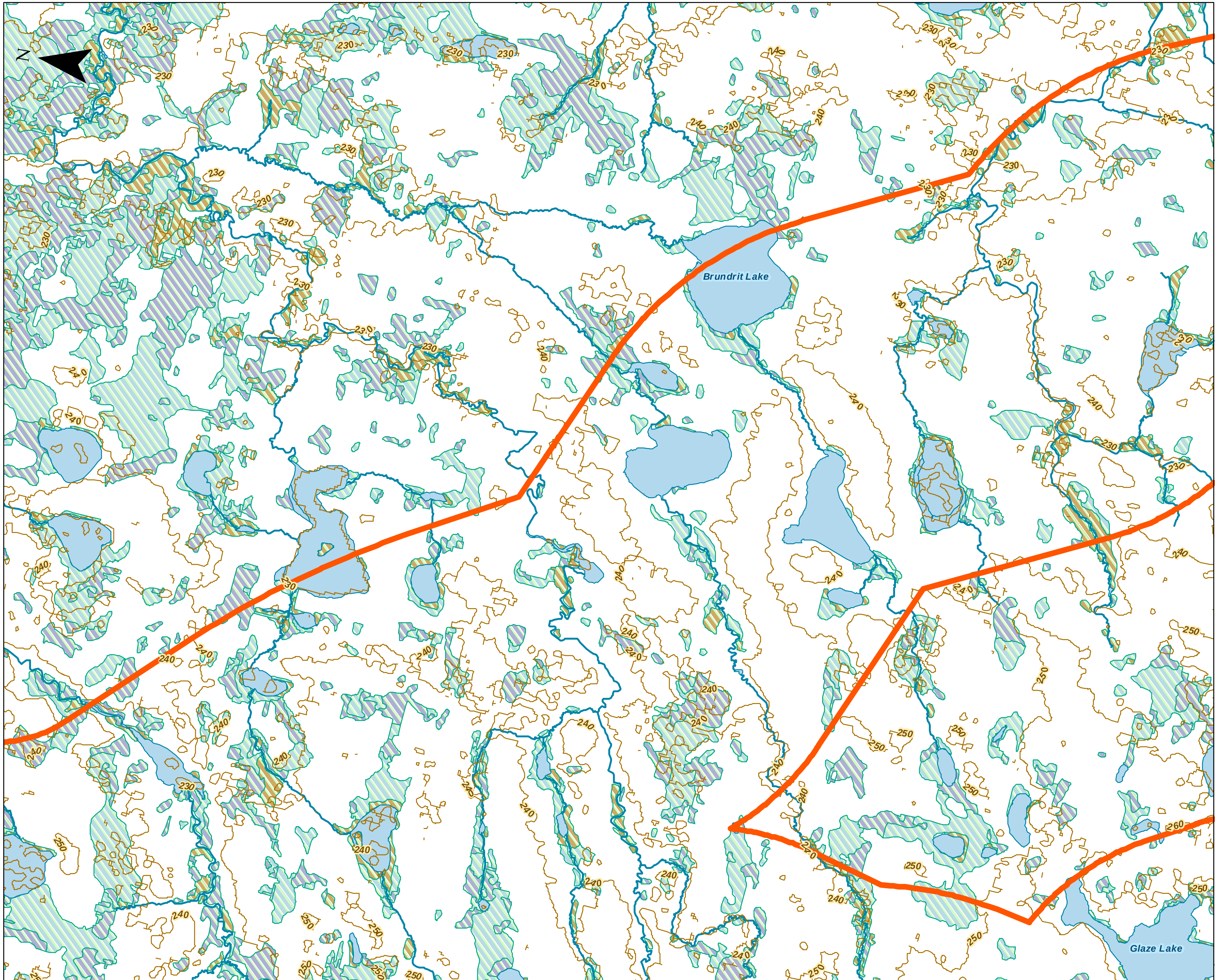

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Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

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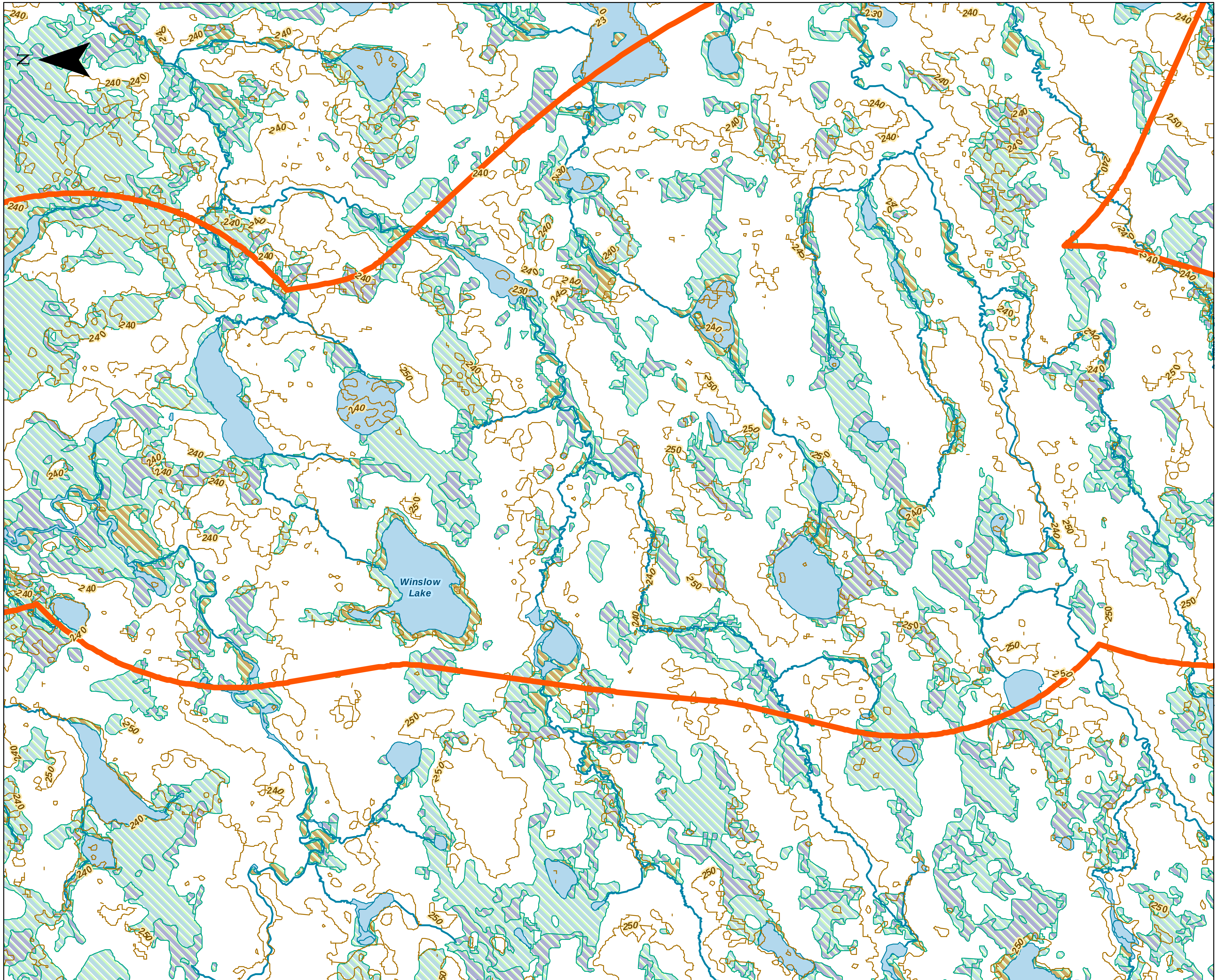

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Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

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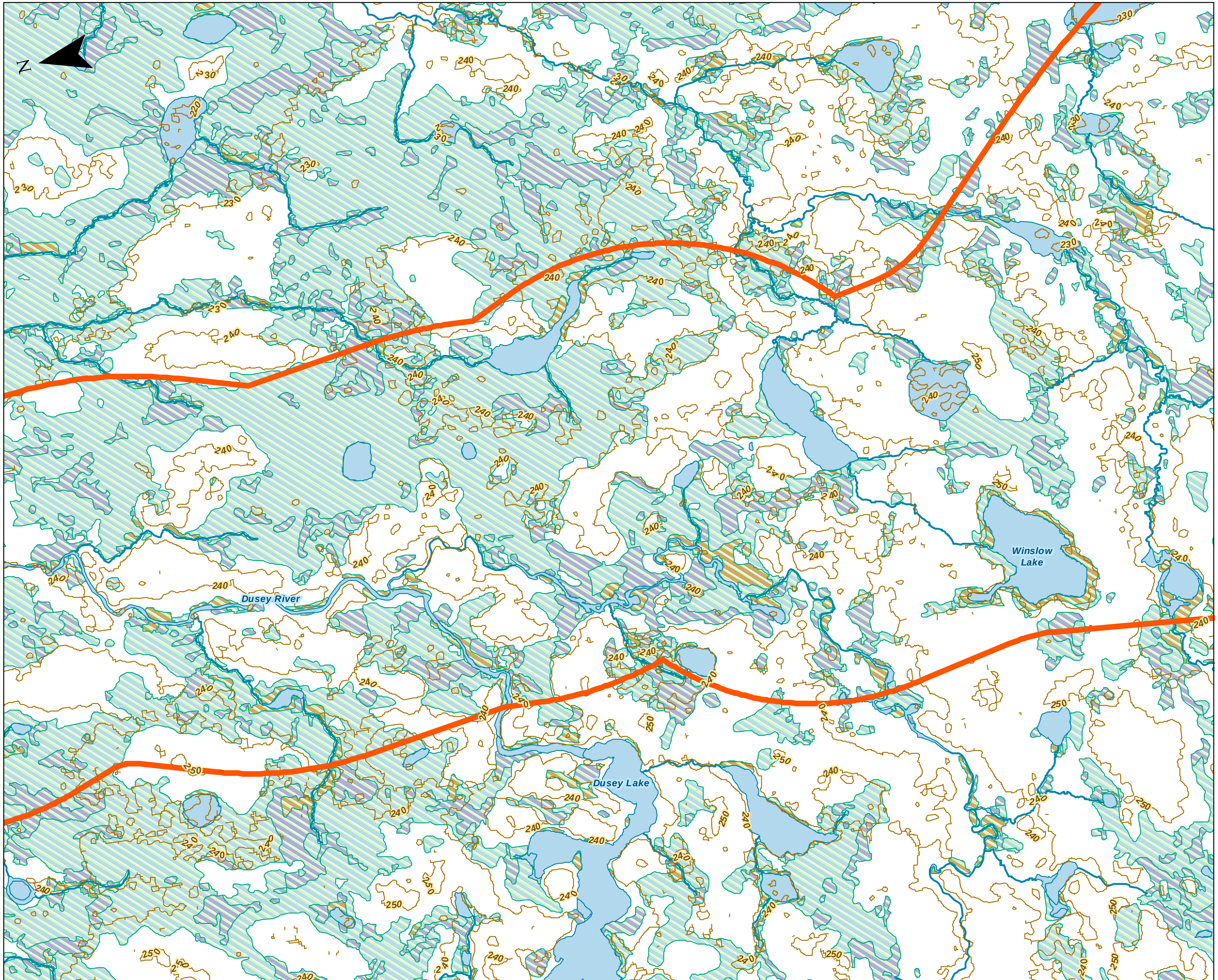

Legend

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Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

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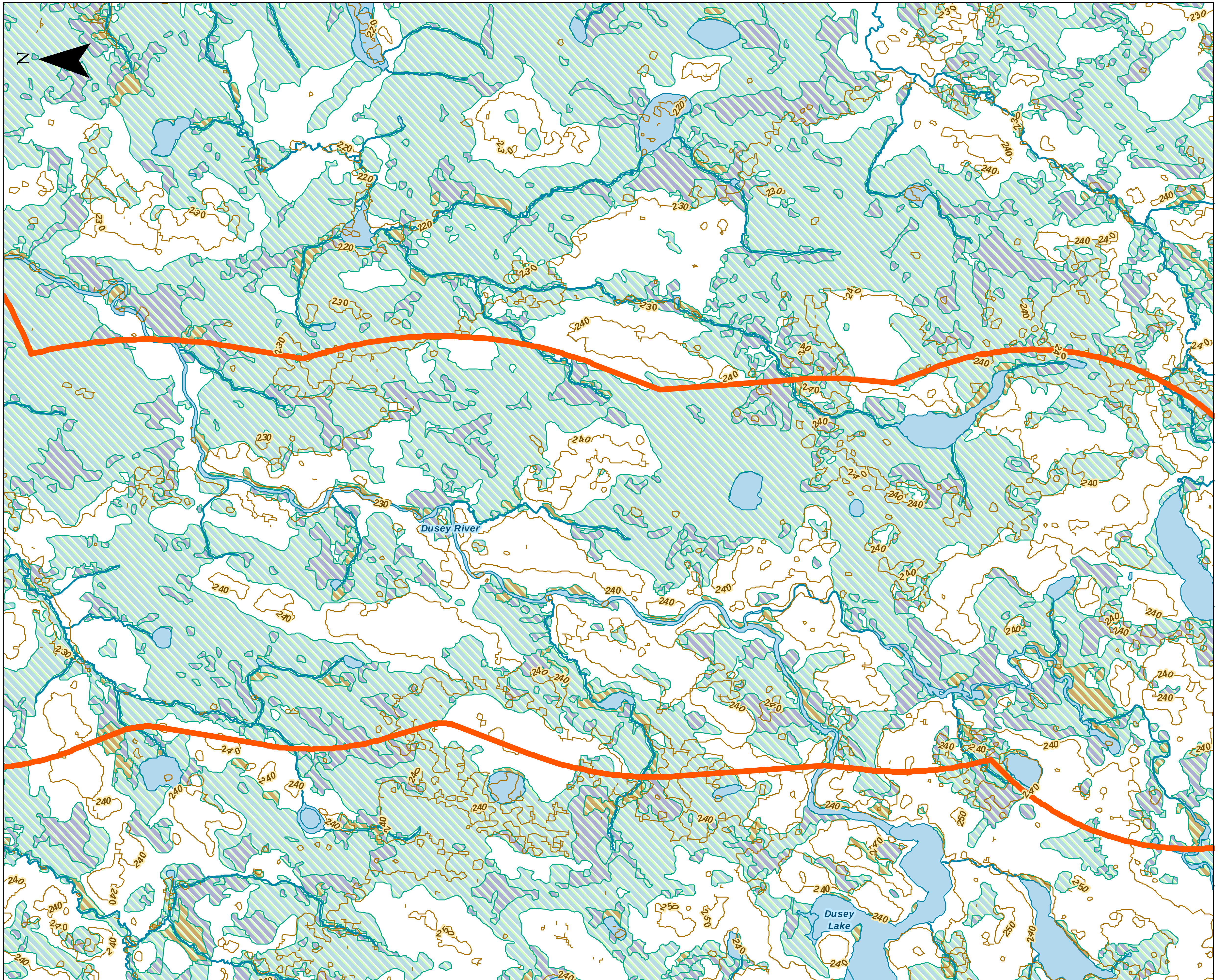

Legend

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- Bog
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- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

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Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

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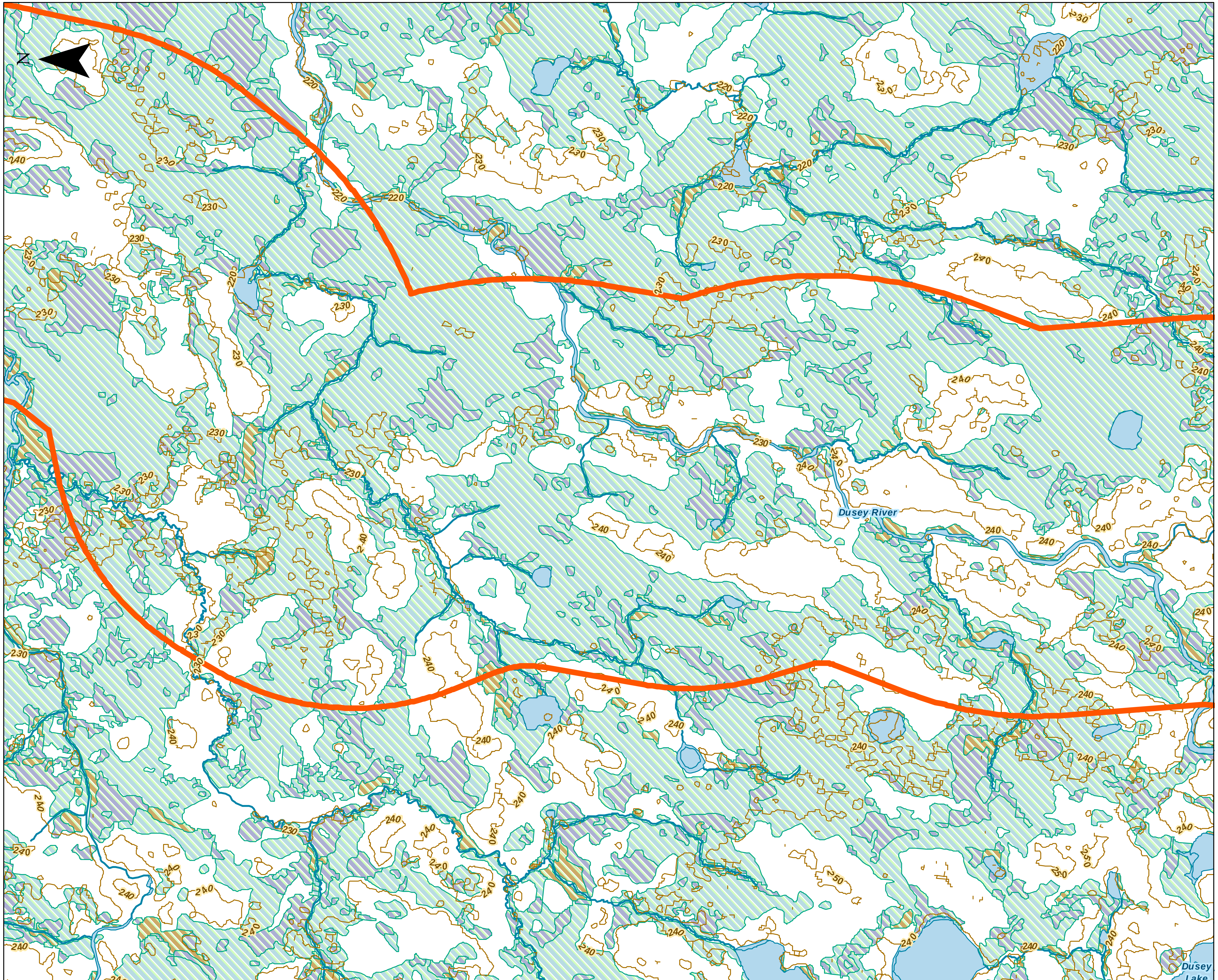

Legend

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- Swamp
- Waterbody
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- Contour (10m intervals)

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Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

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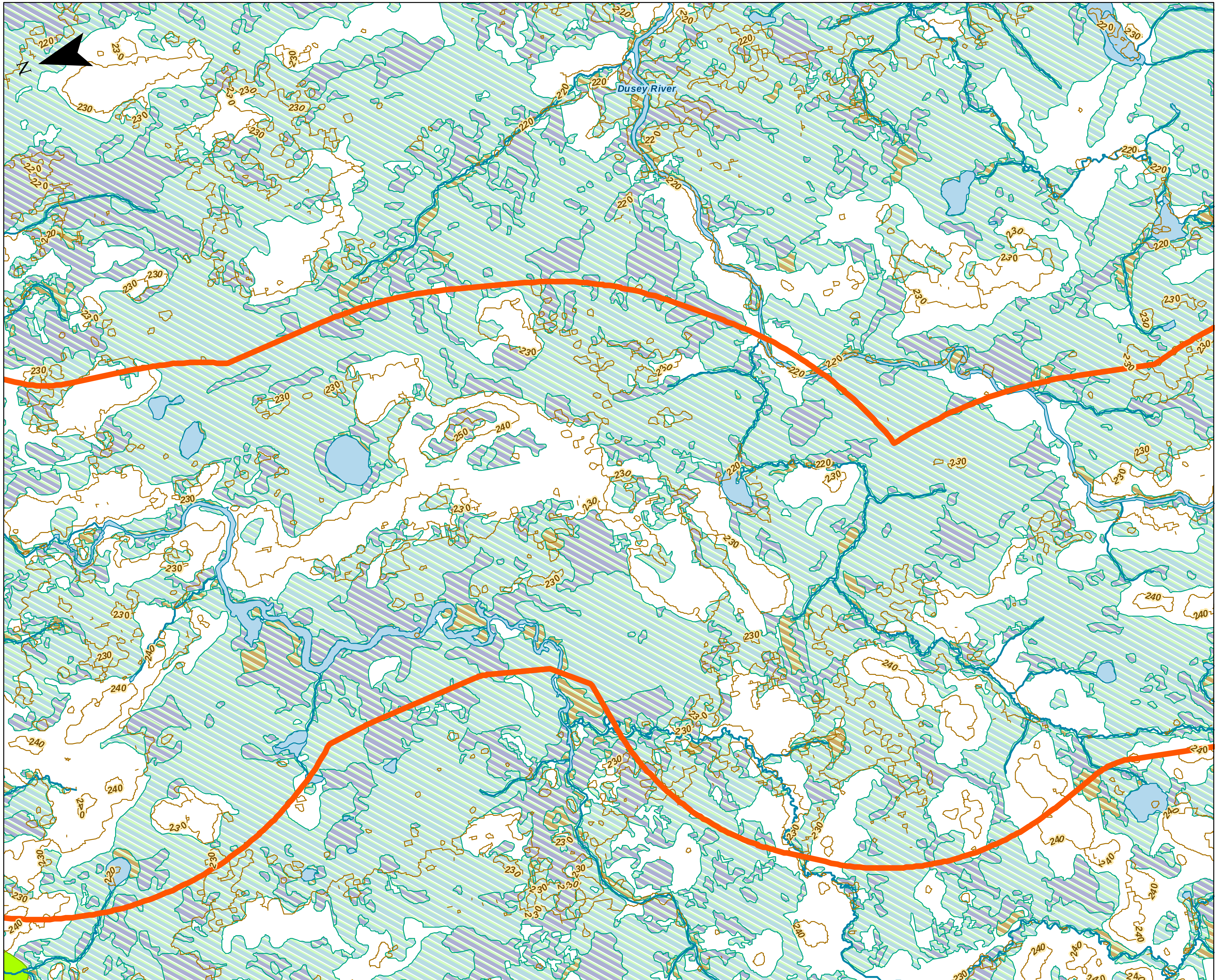

Legend

- Study Area
- Provincial Park
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-19

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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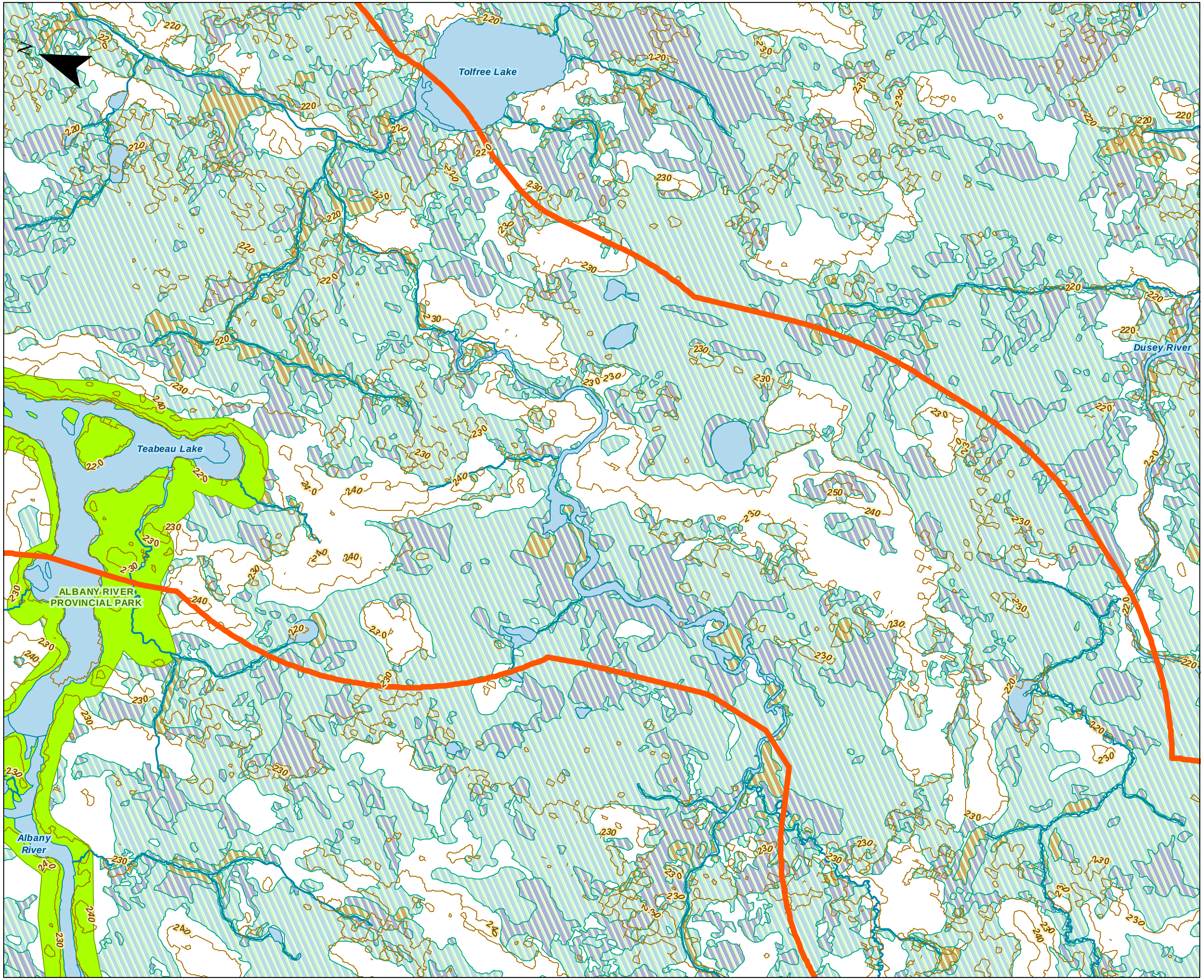

Legend

- Study Area
- Provincial Park
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-20

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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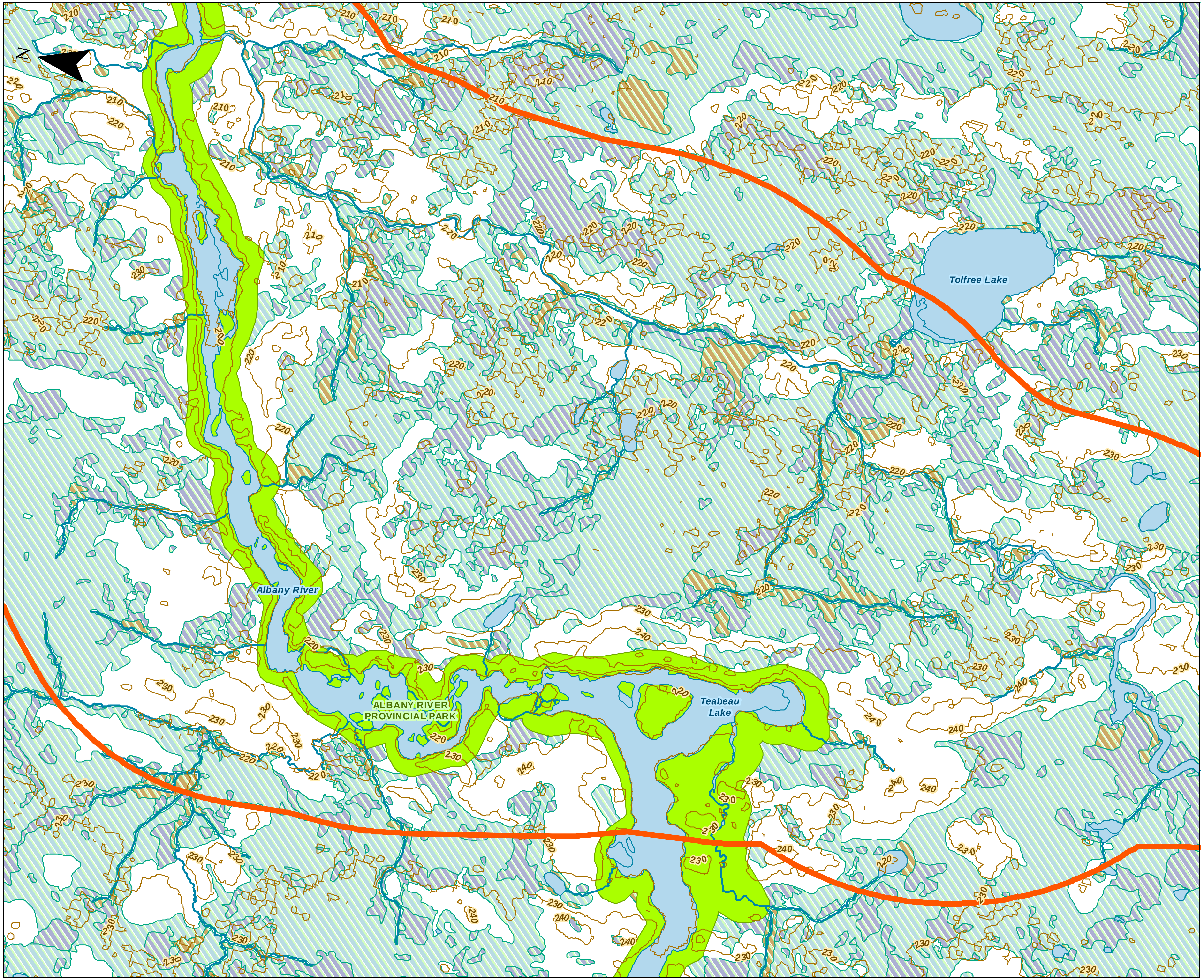

Legend

- Study Area
- Provincial Park
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-21

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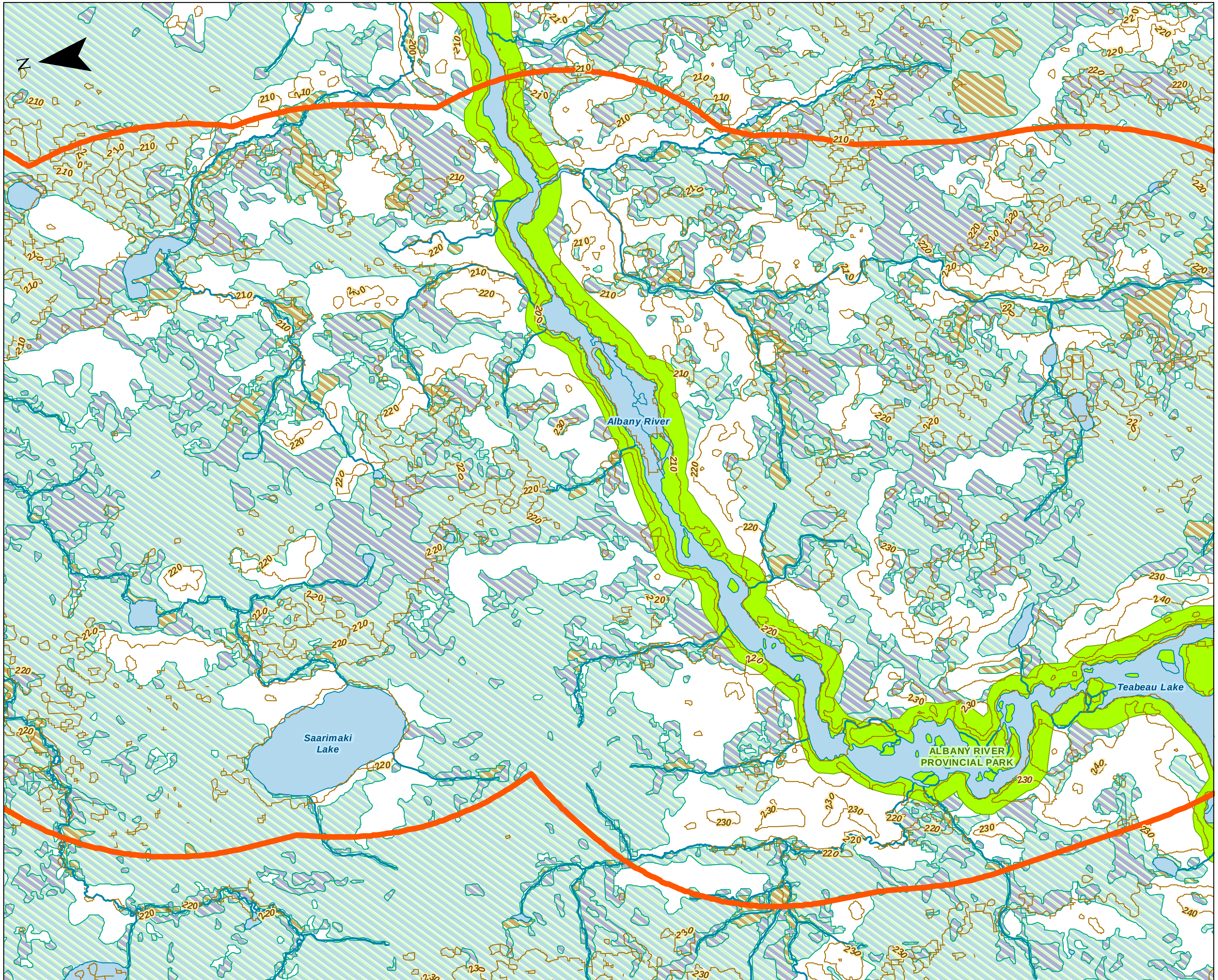

Legend

- Study Area
- Provincial Park
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-22

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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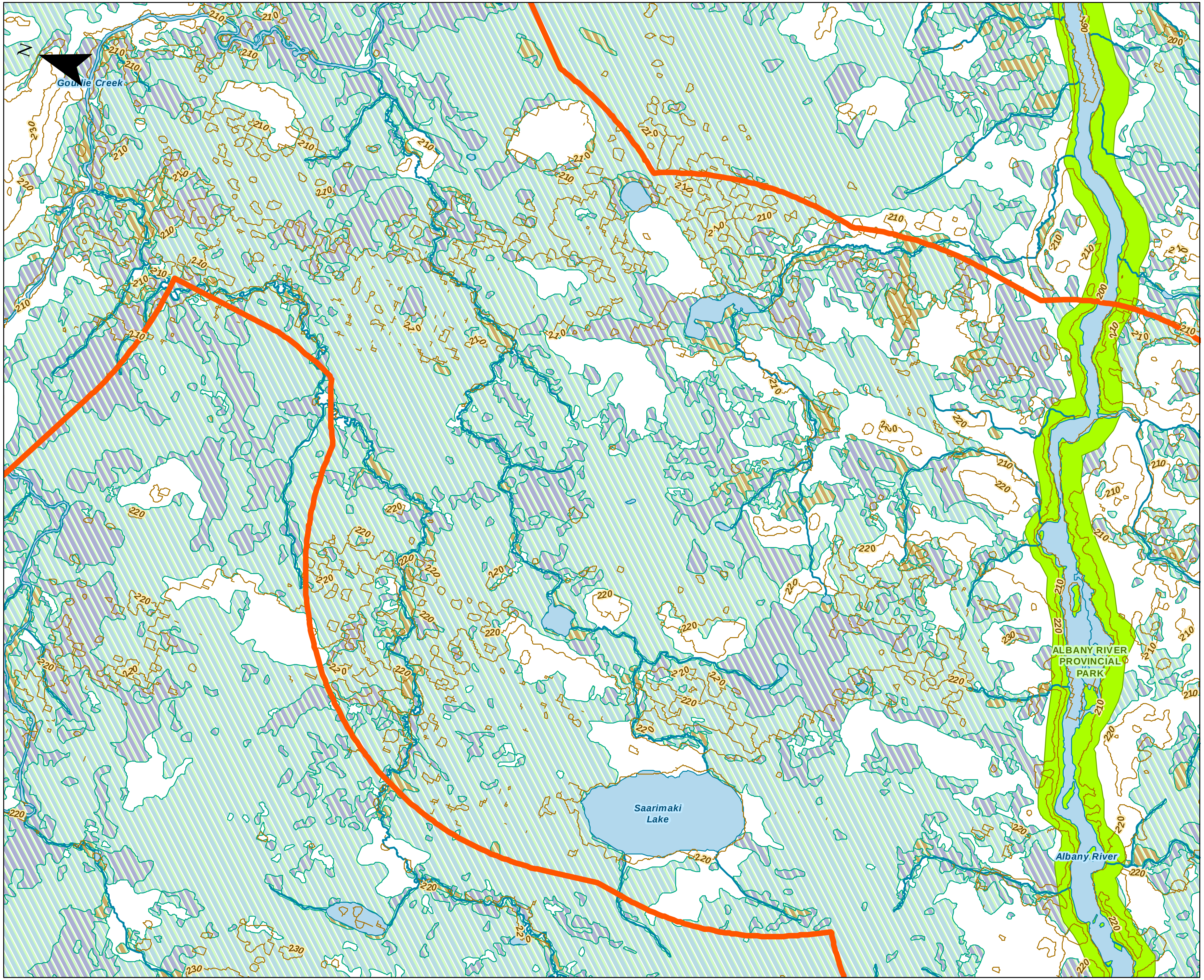

Legend

- Study Area
- Provincial Park
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3
Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-23

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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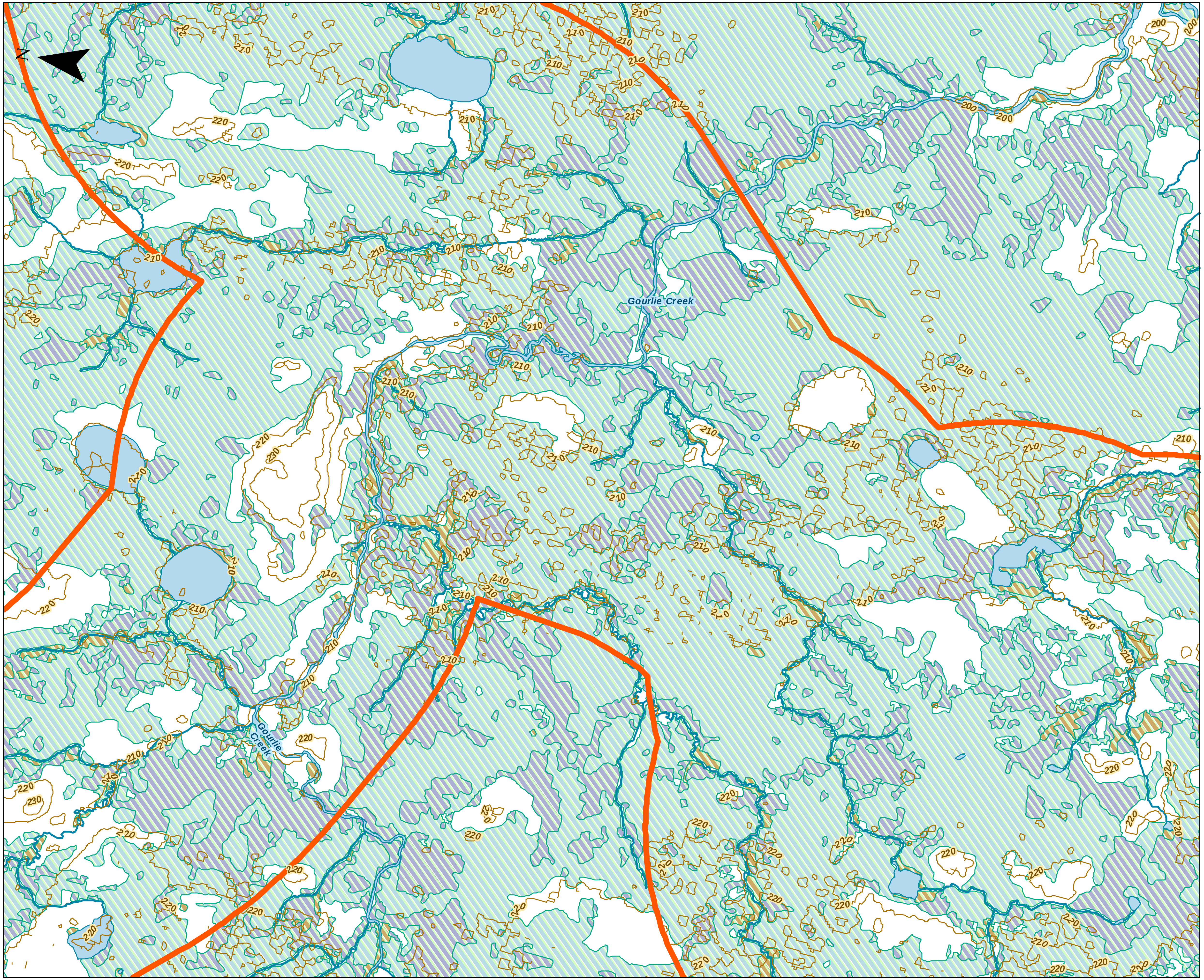

Legend

- Study Area
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3
Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-24

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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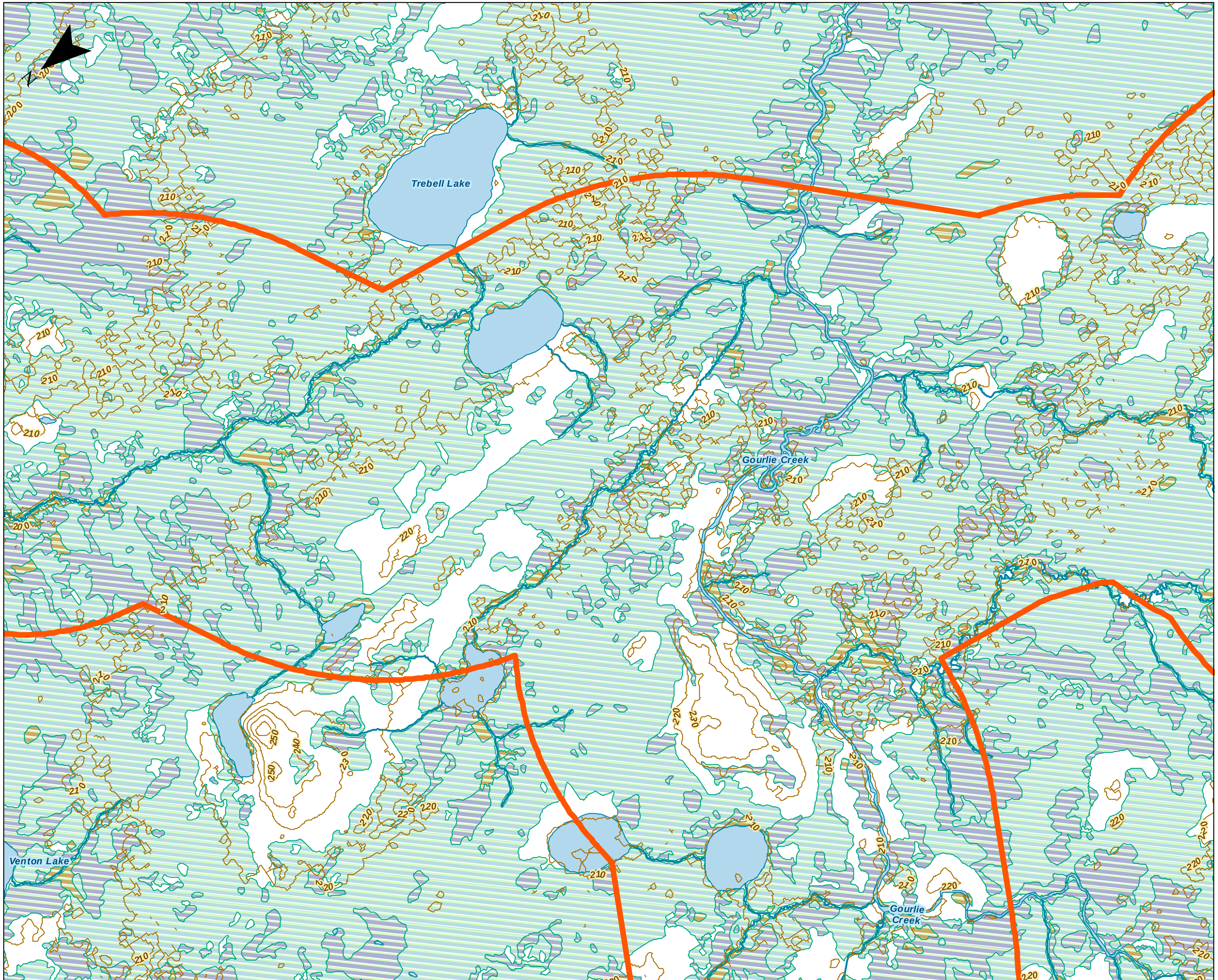

Legend

- Study Area
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

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Figure 2-25

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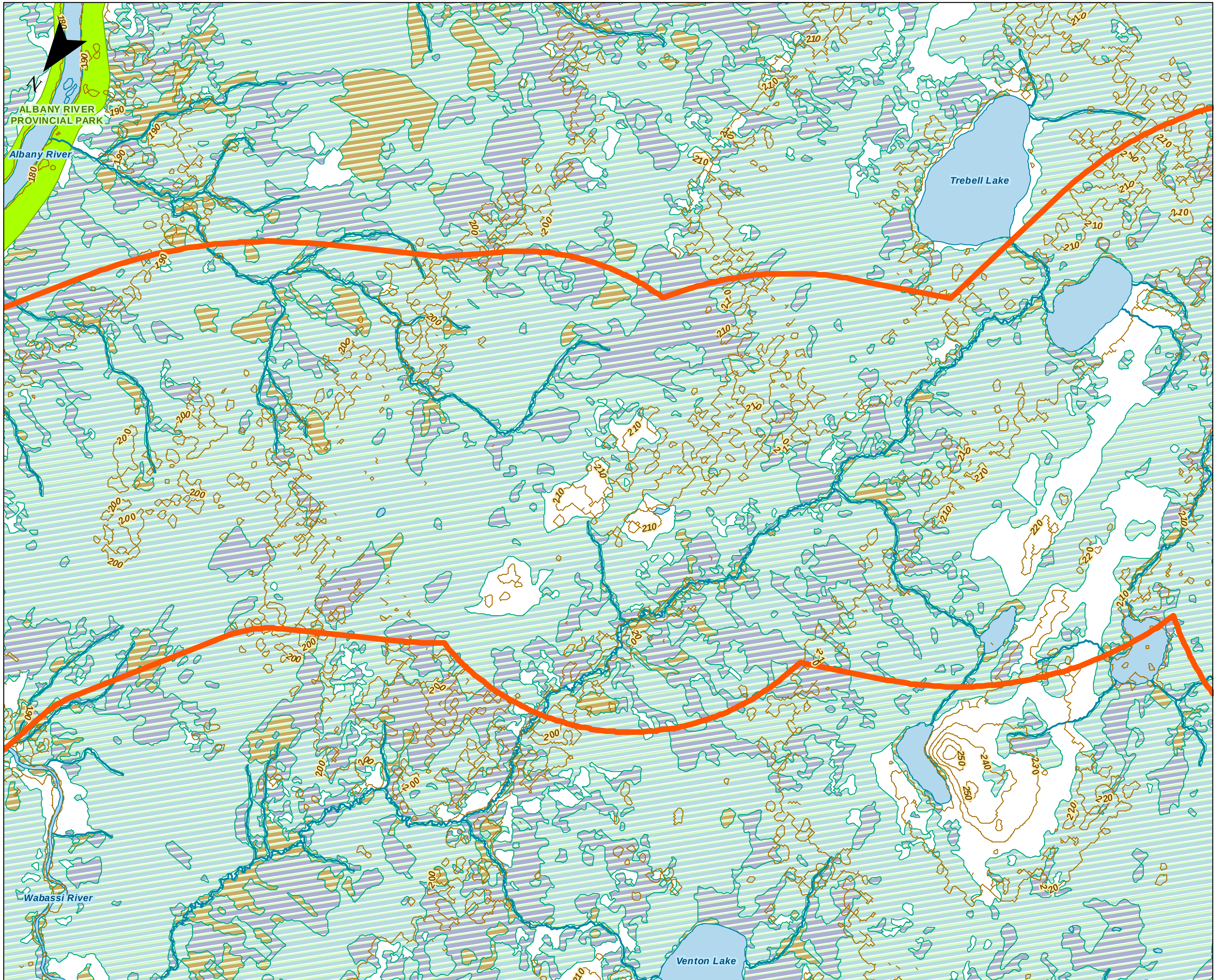

Legend

- Study Area
- Provincial Park
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3
Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-26

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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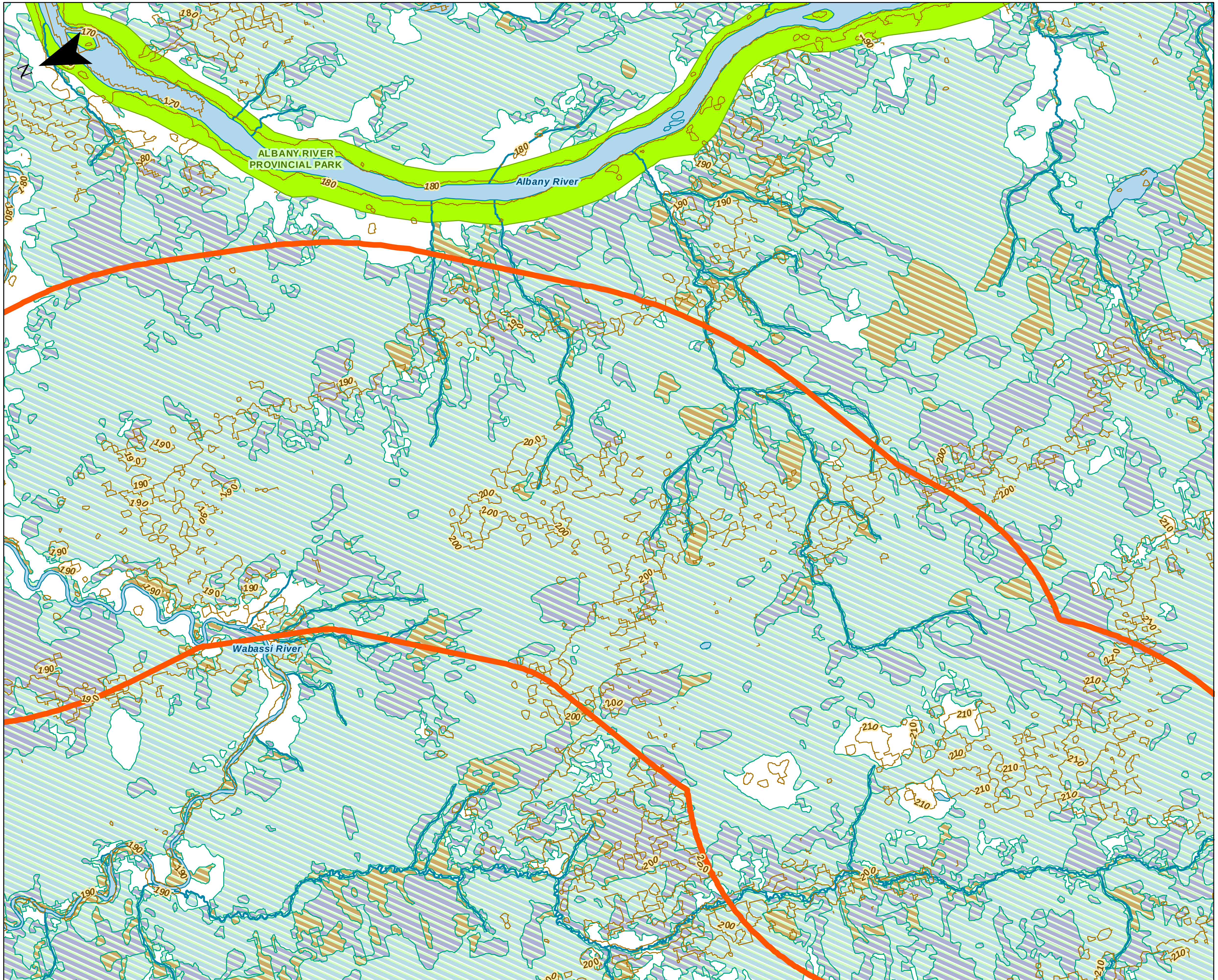

Legend

- Study Area
- Provincial Park
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-27

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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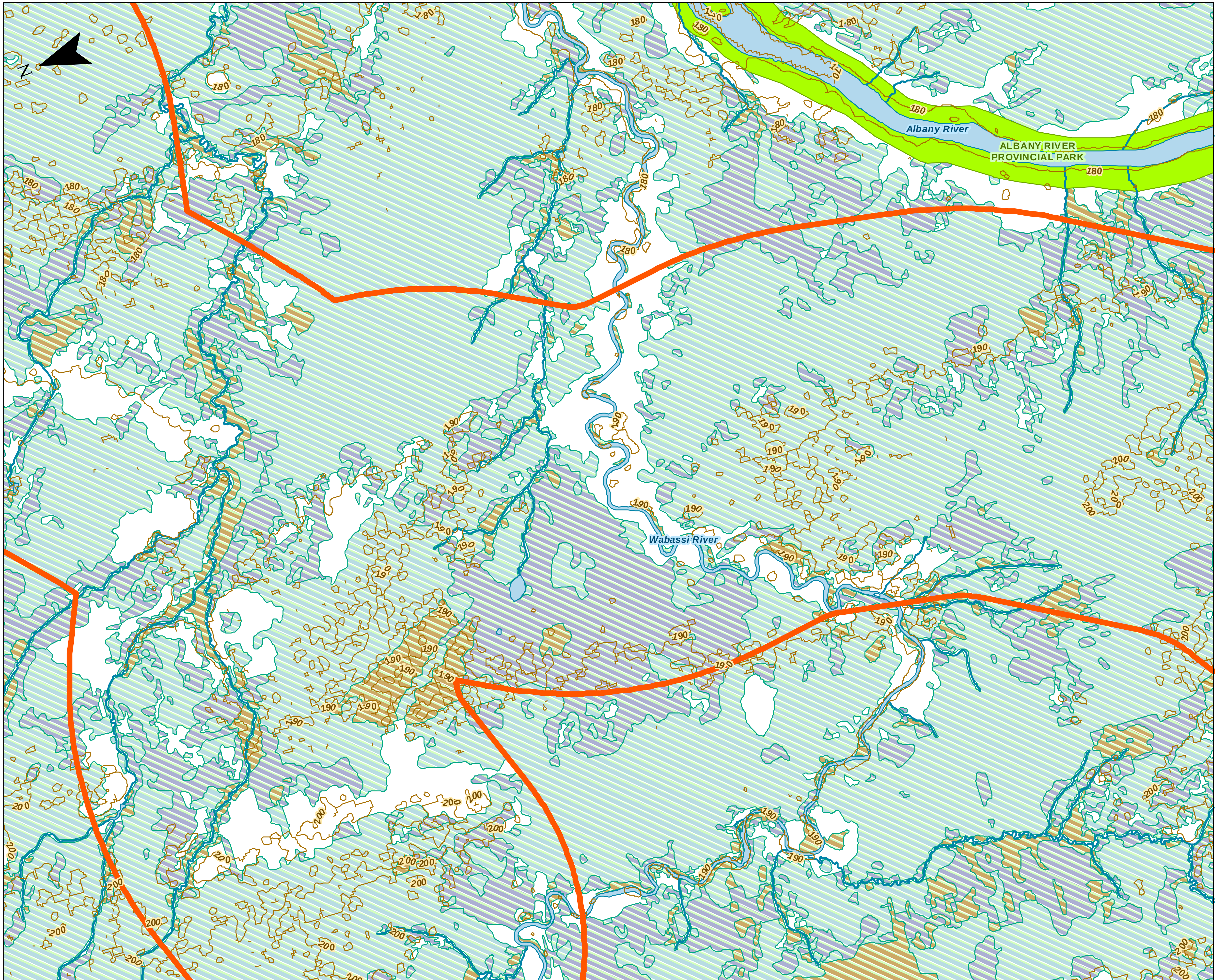

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-28

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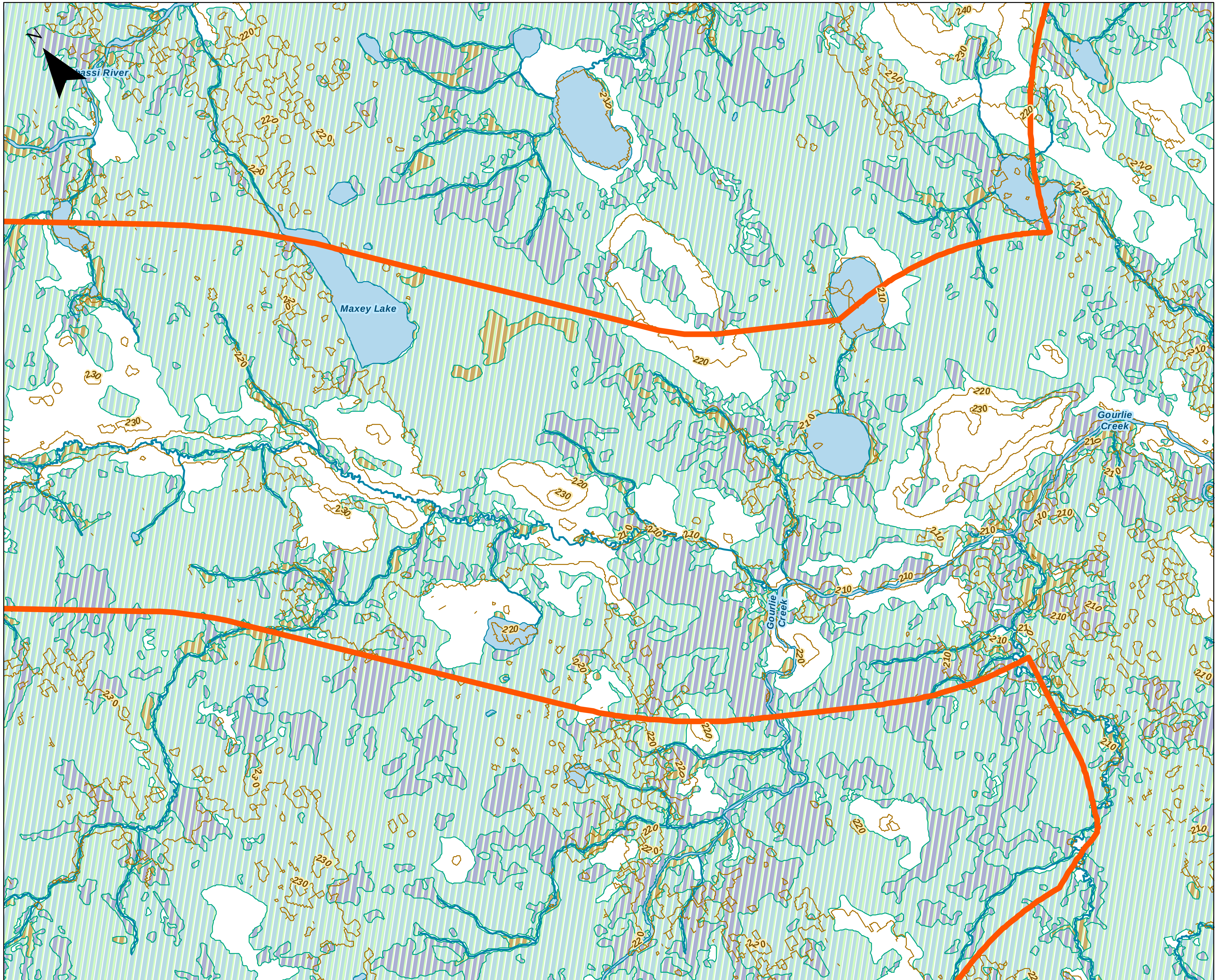


Legend

- Study Area
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3

Kilometers

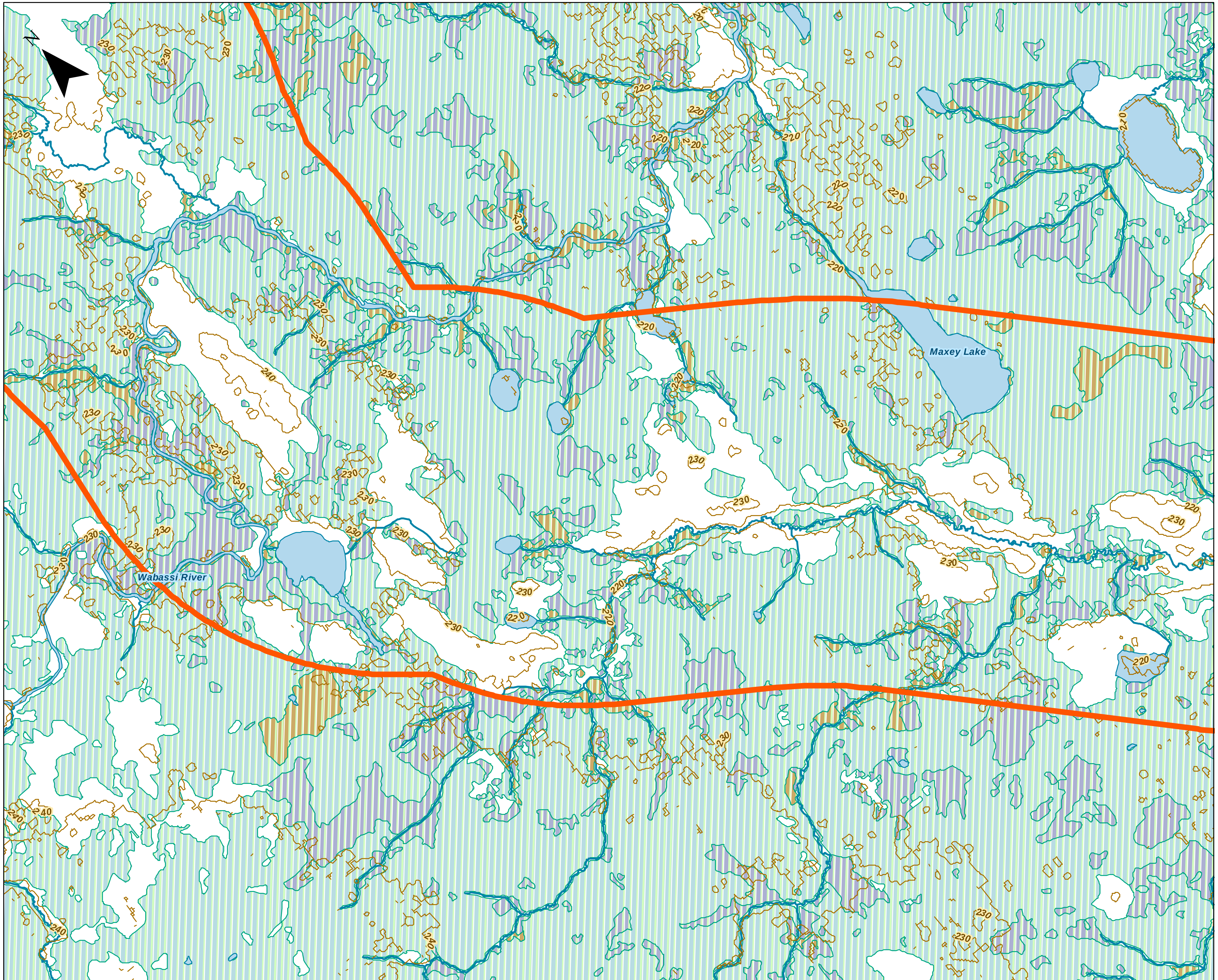
Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

Figure 2-29

Date Saved : 10/19/2020 9:25:14 AM



Legend

- Study Area
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3
Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-30

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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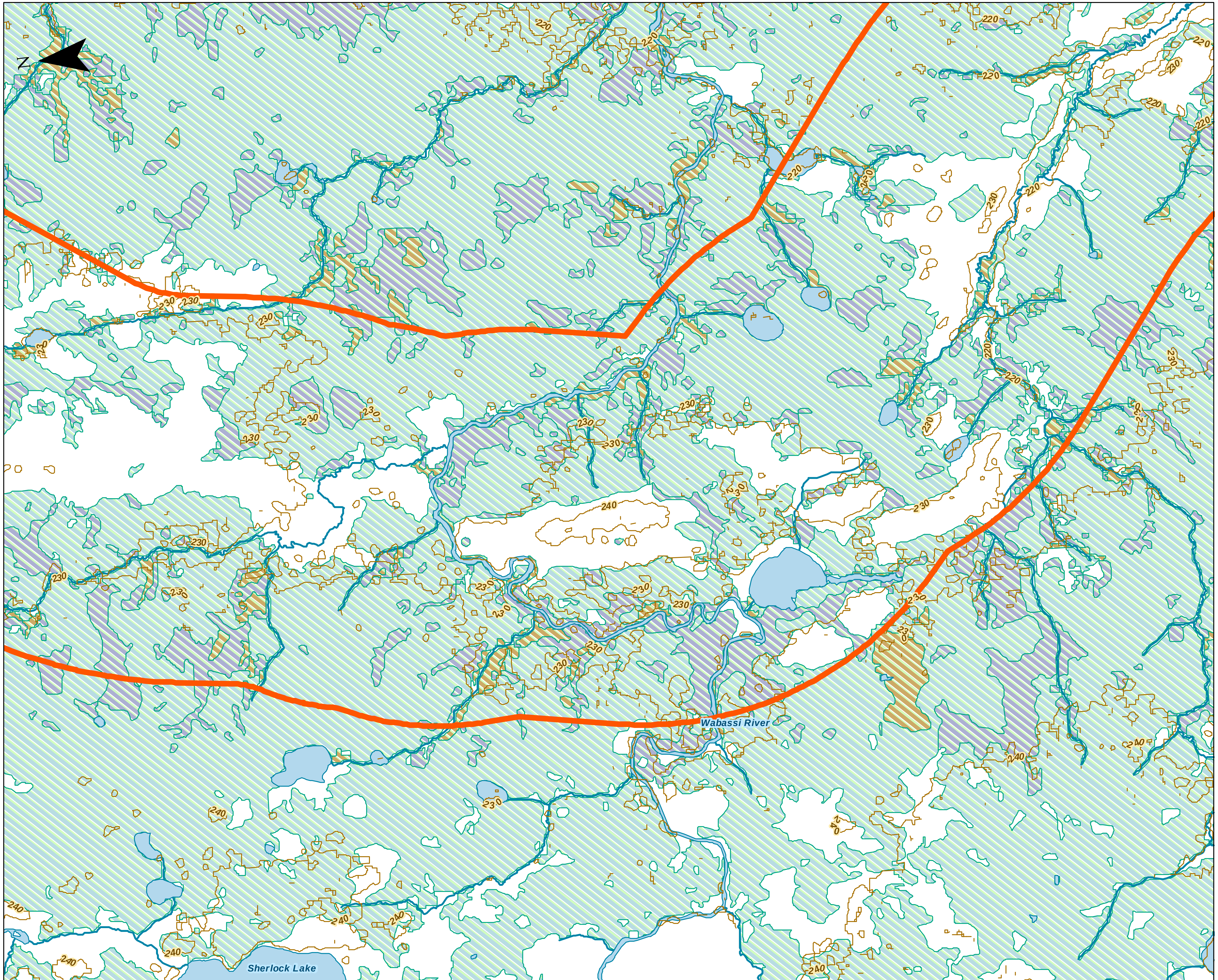

Legend

- Study Area
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

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Figure 2-31

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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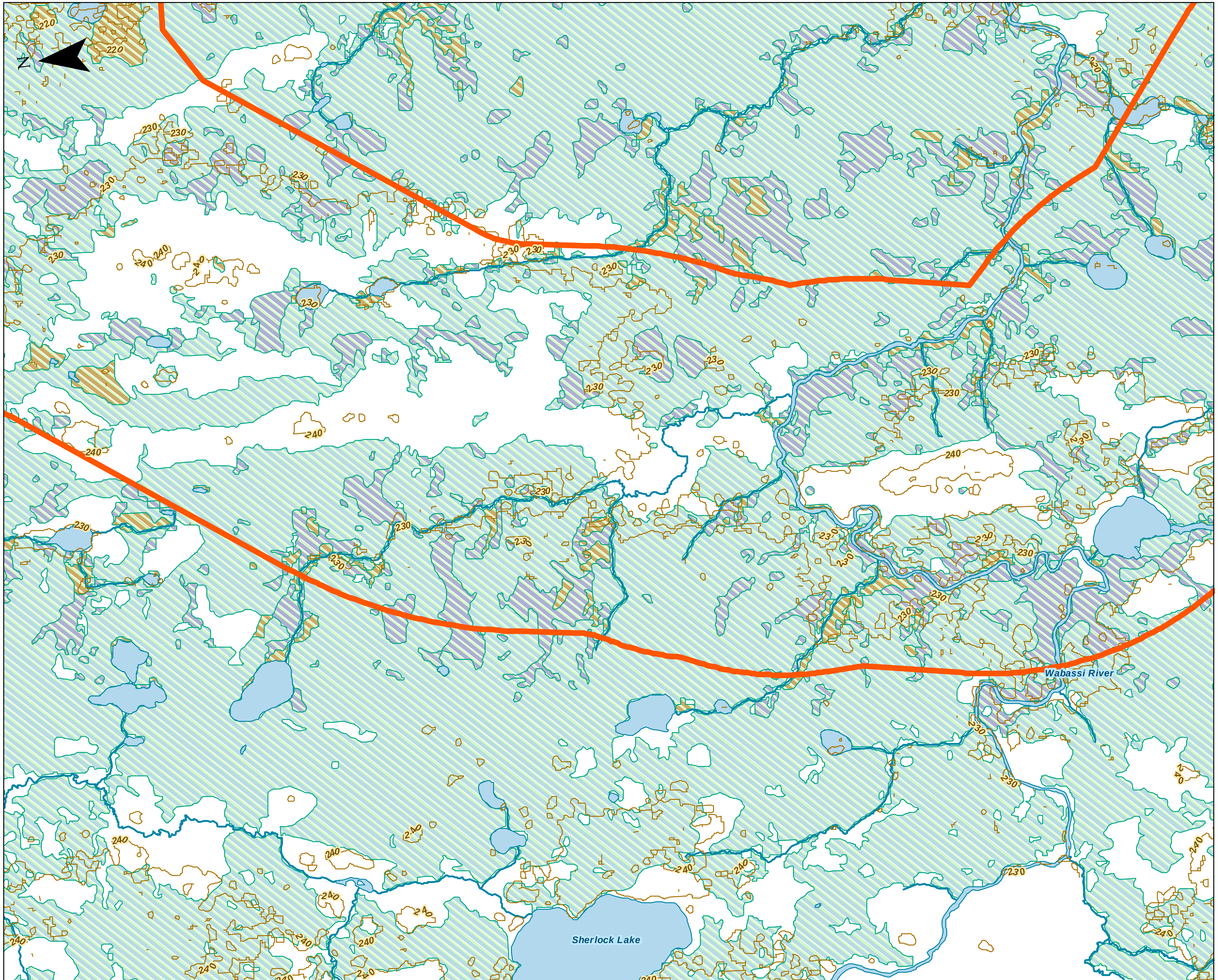

Legend

- Study Area
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-32

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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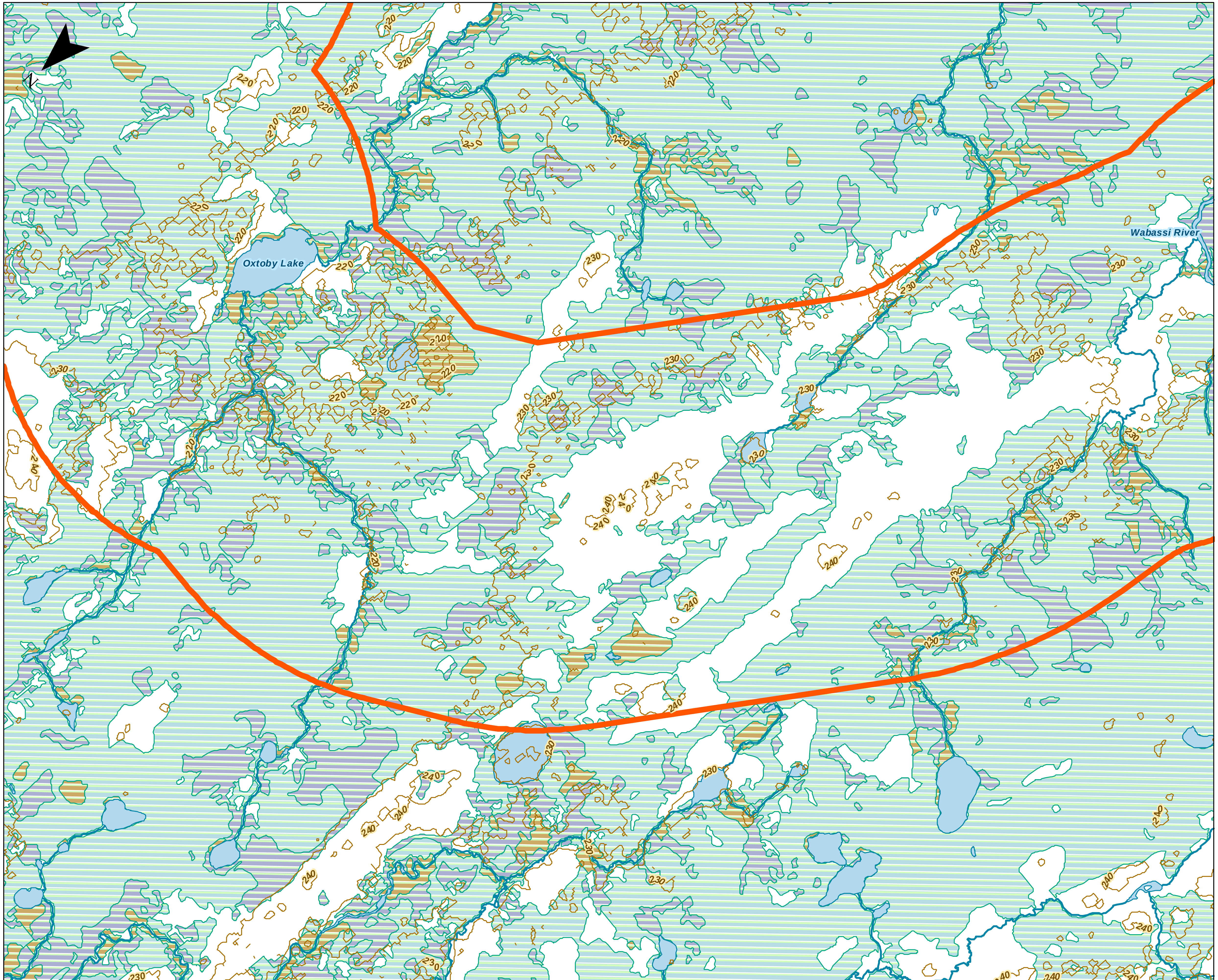

Legend

- Study Area
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-33

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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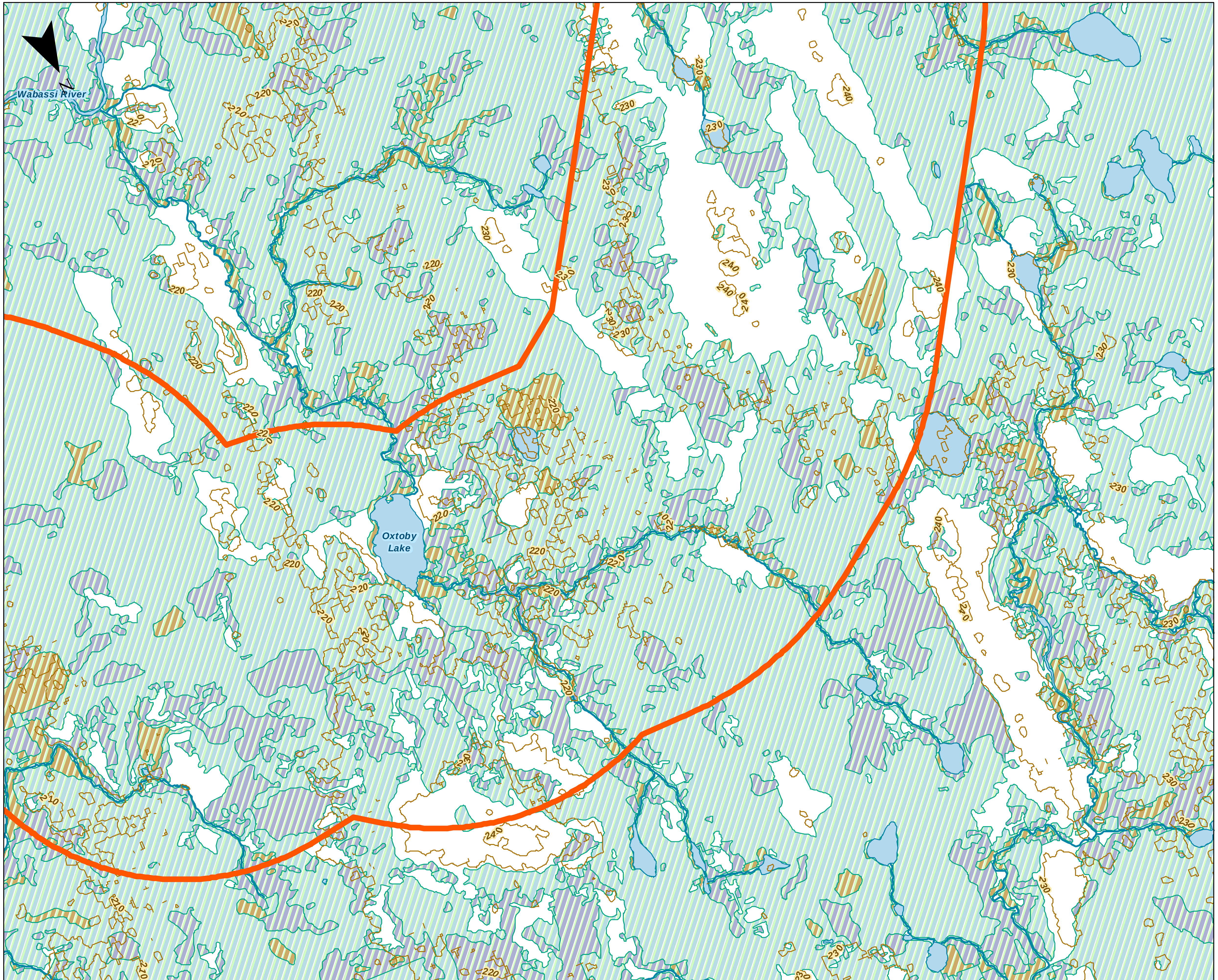

Legend

- Study Area
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3
Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-34

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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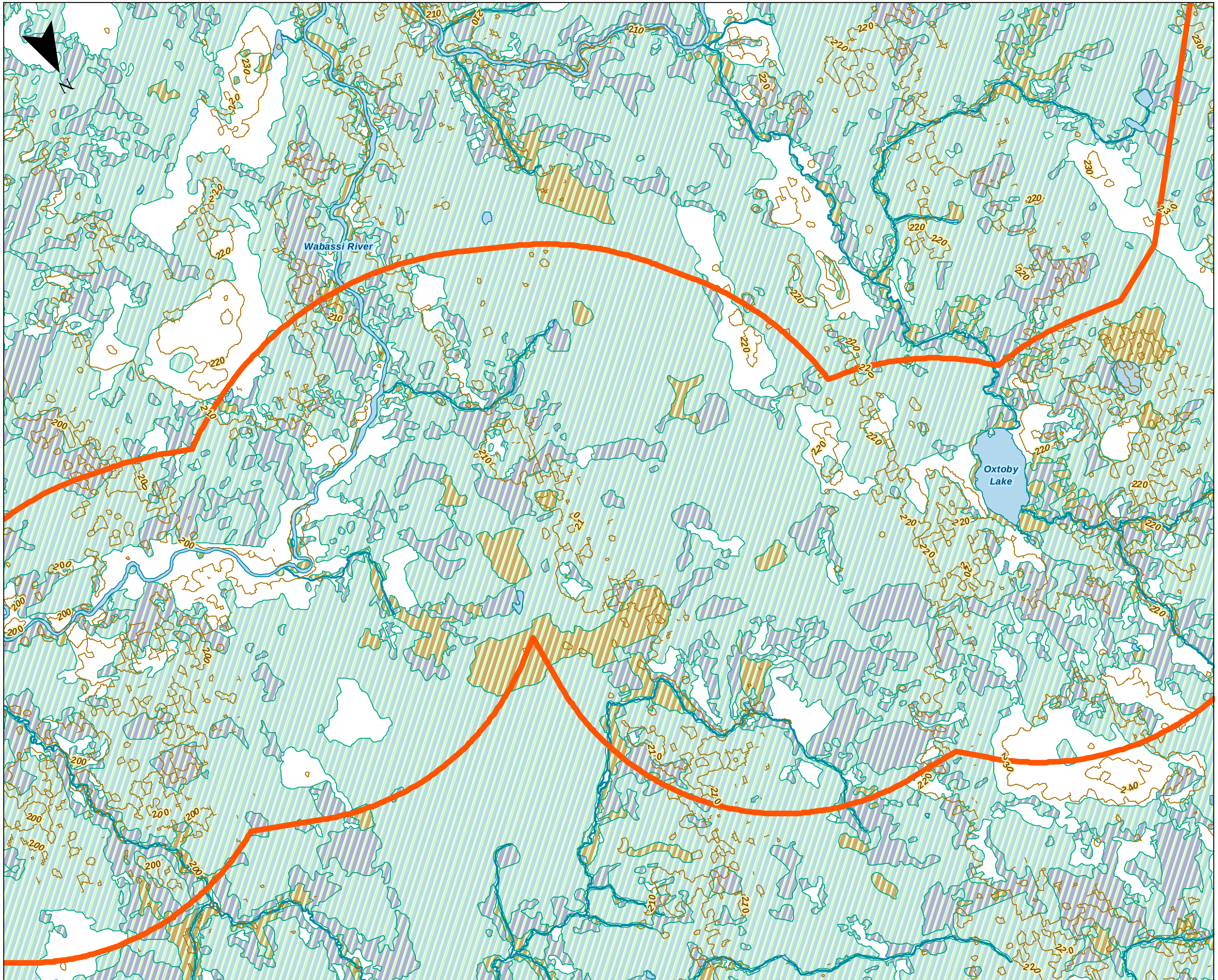

Legend

- Study Area
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment

Marten Falls First Nation

Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-35

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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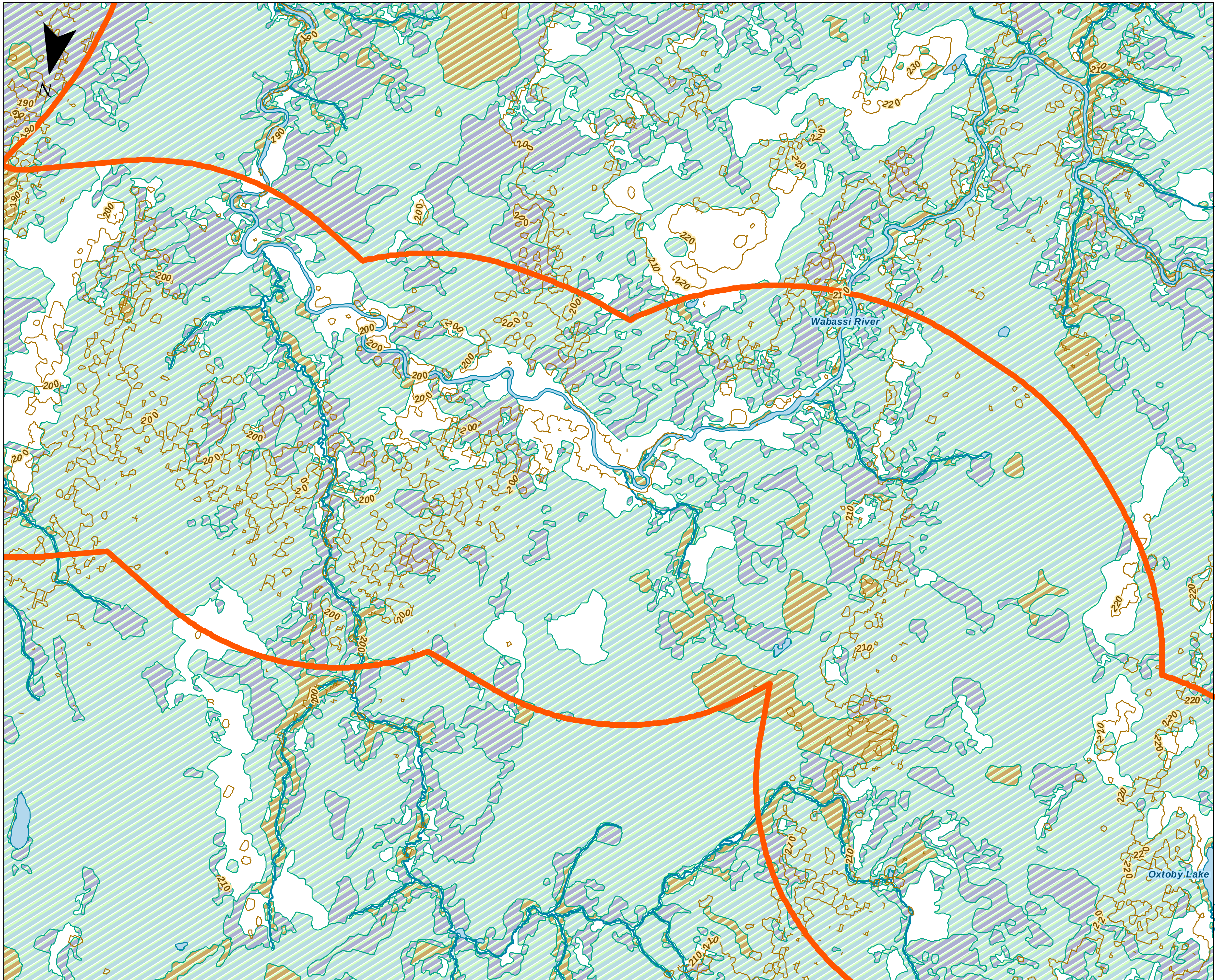

Legend

- Study Area
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment

Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

Figure 2-36

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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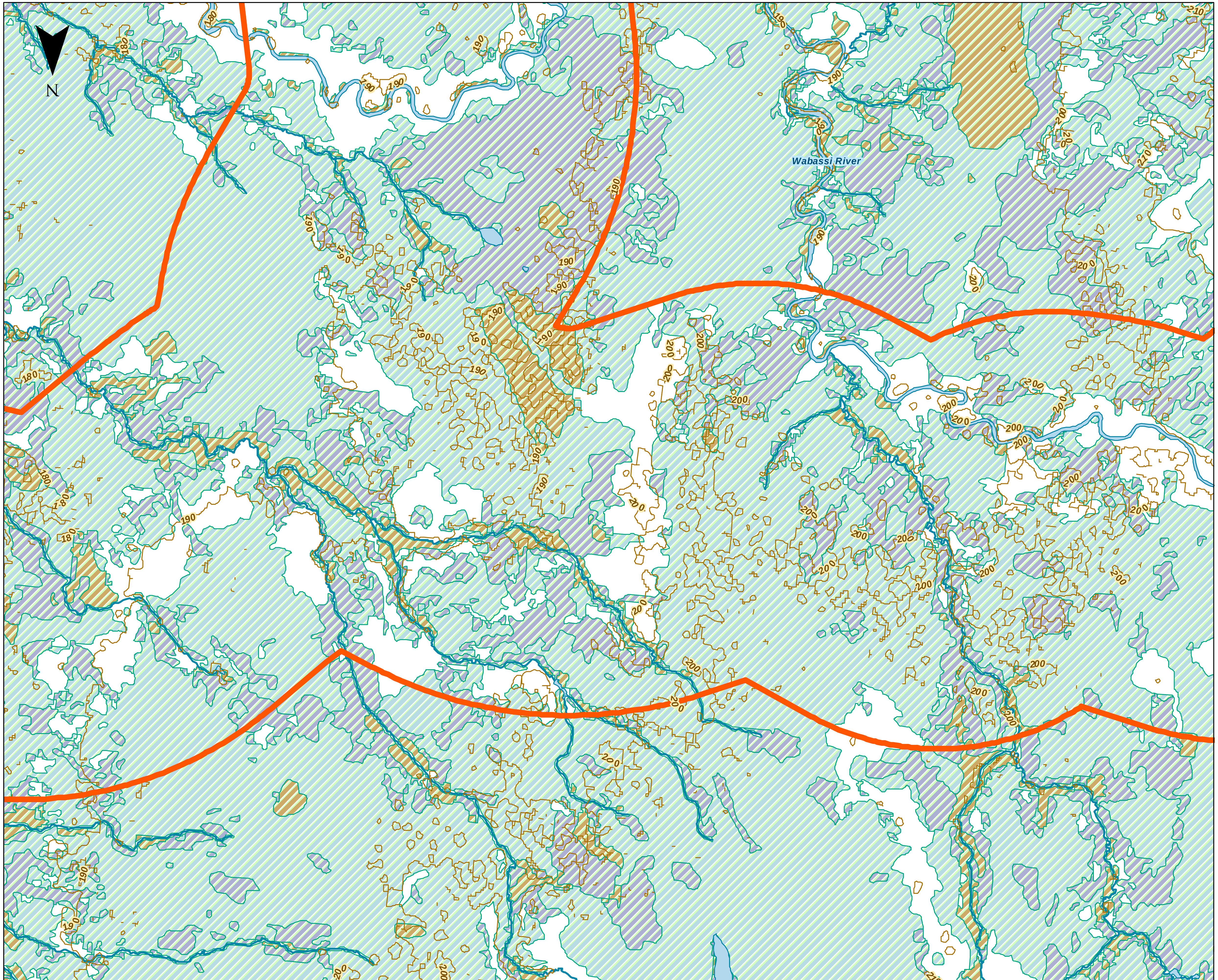

Legend

- Study Area
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-37

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
Date Saved : 10/19/2020 9:25:14 AM

Legend

- Study Area
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-38

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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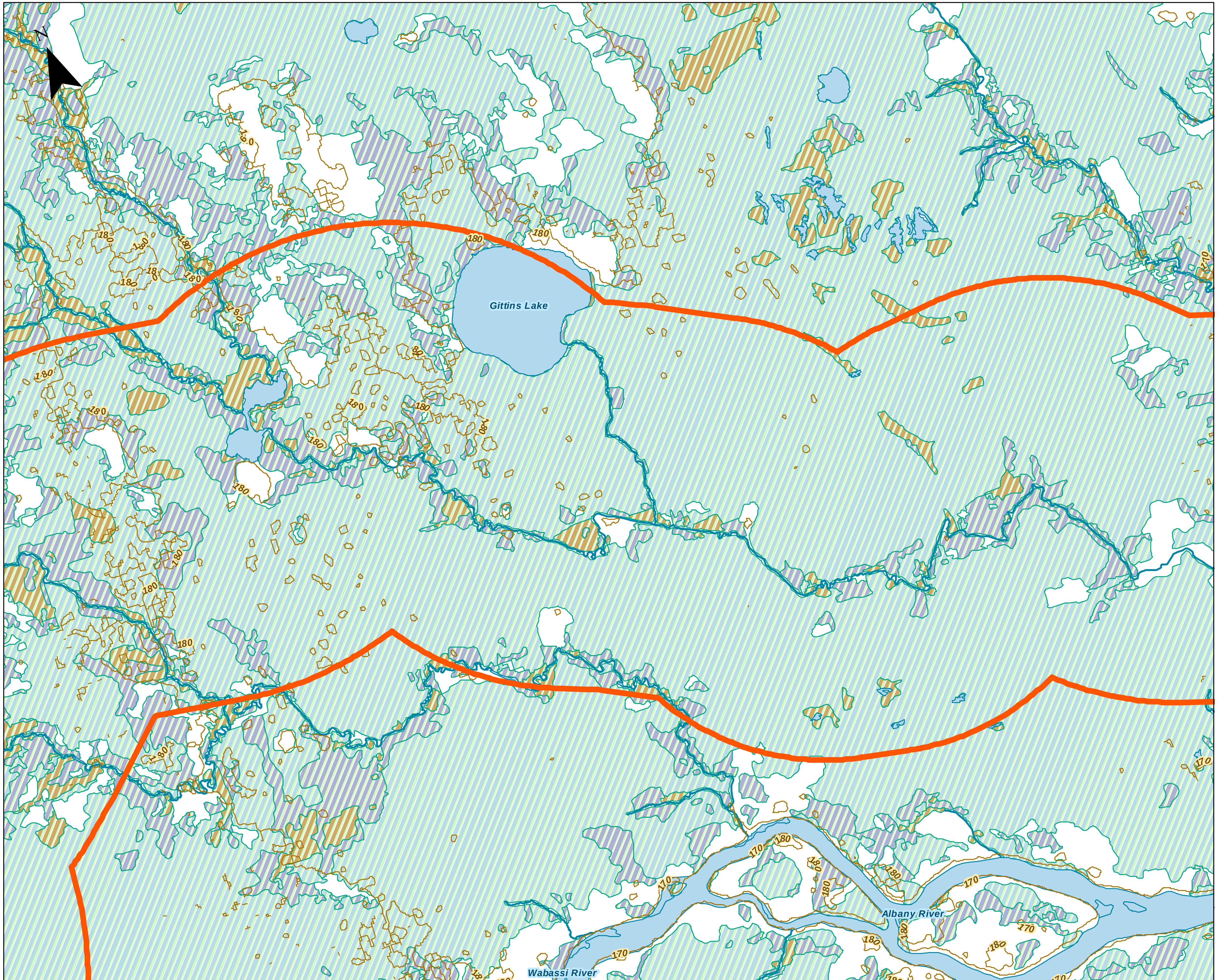

Legend

- Study Area
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-39

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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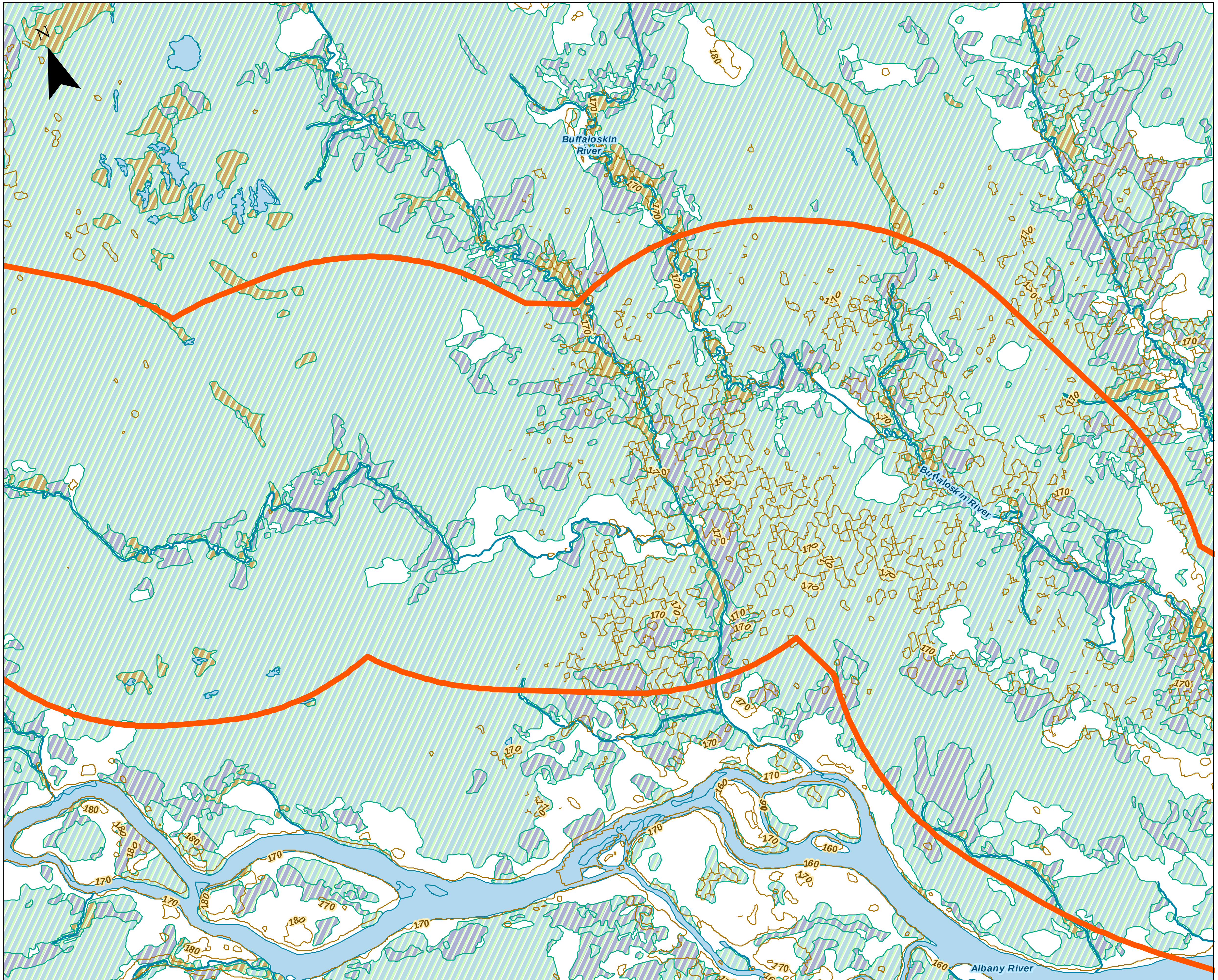

Legend

- Study Area
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3
Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-40

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
Date Saved : 10/19/2020 9:25:14 AM

Legend

- Study Area
- First Nation Community
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-41

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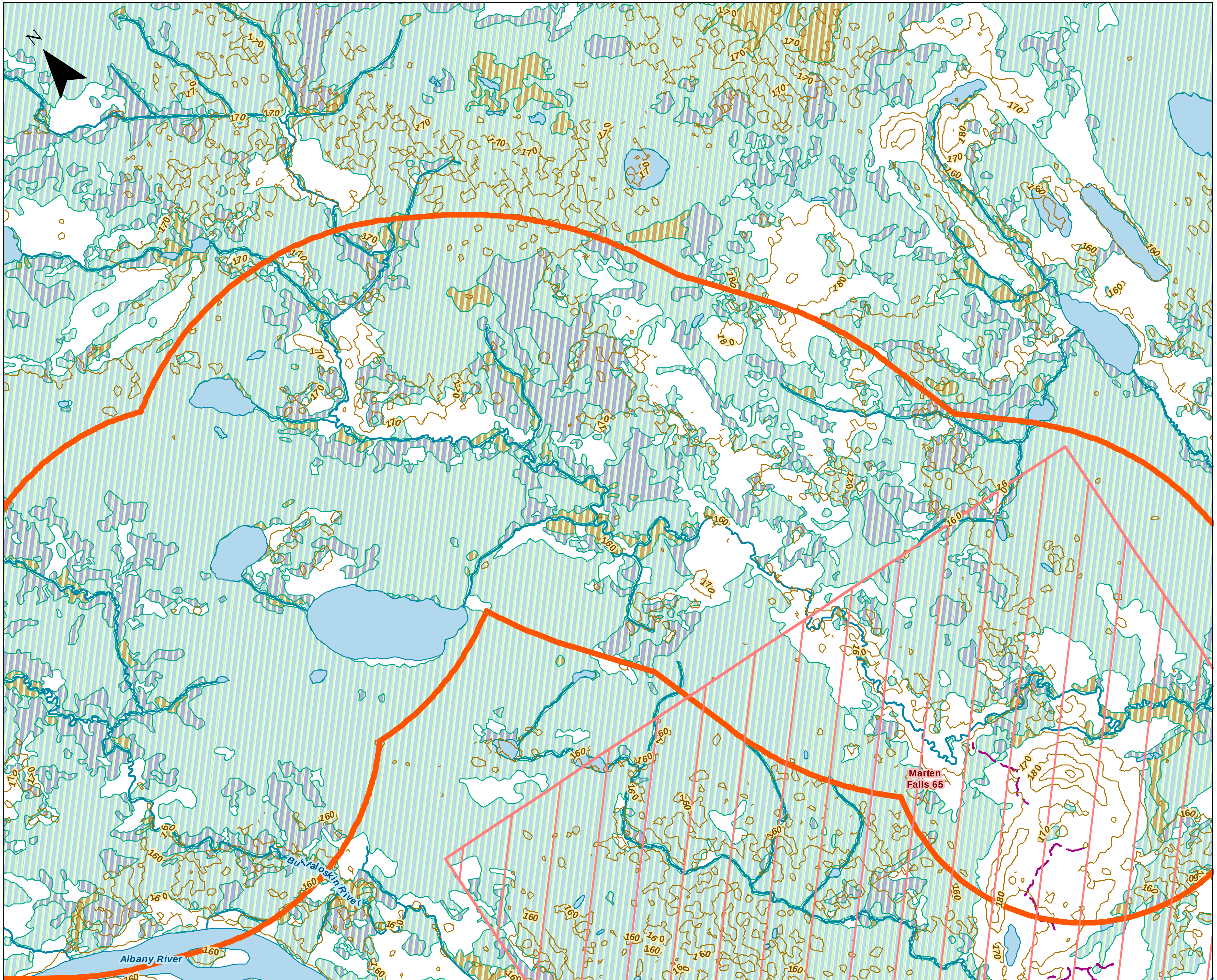


Legend

- Study Area
- First Nation Community
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)
- Trail

0 0.5 1 2 3
Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

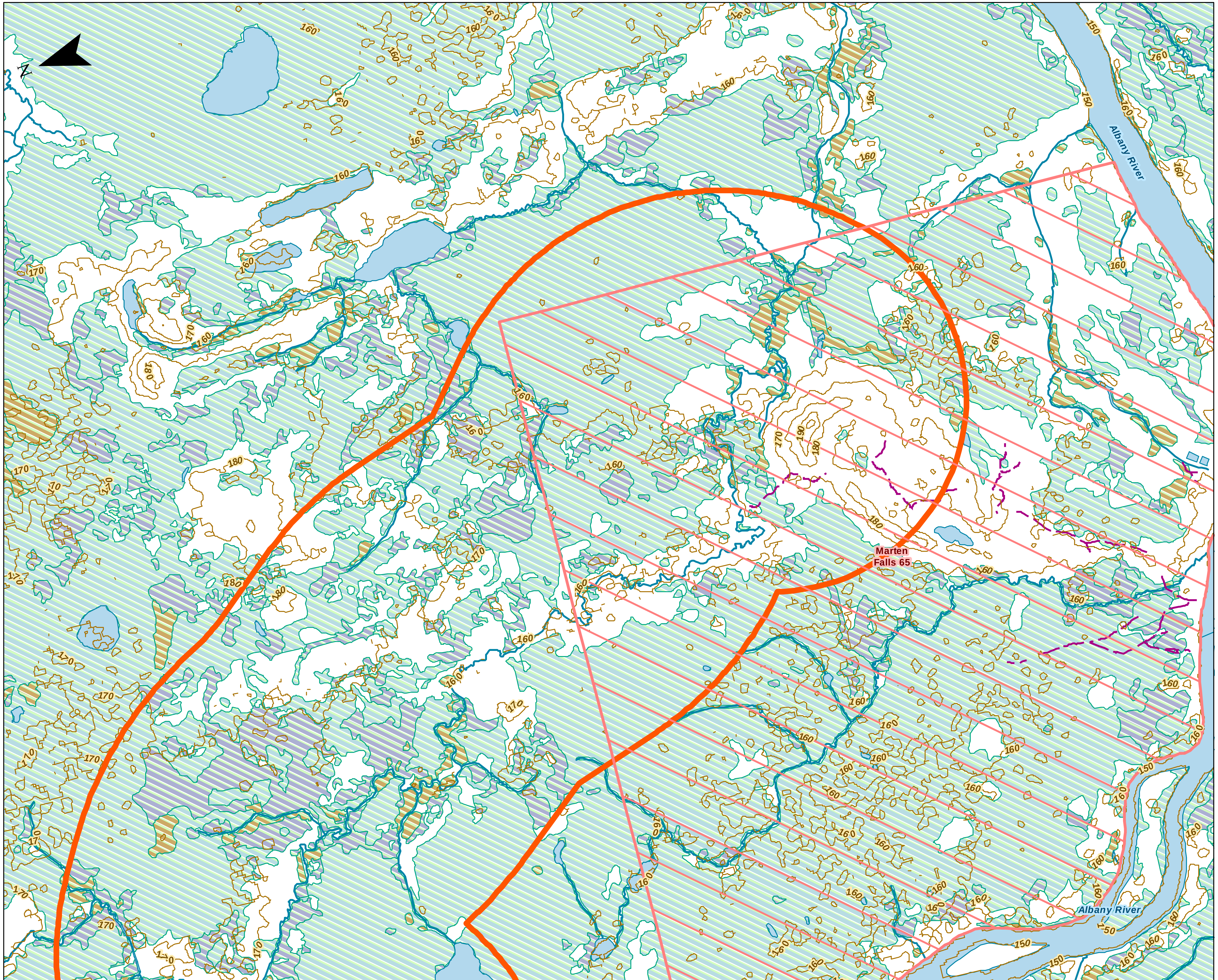
Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-42

Date Saved: 10/19/2020 9:25:14 AM



Legend

- Study Area
- First Nation Community
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)
- Trail

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-43

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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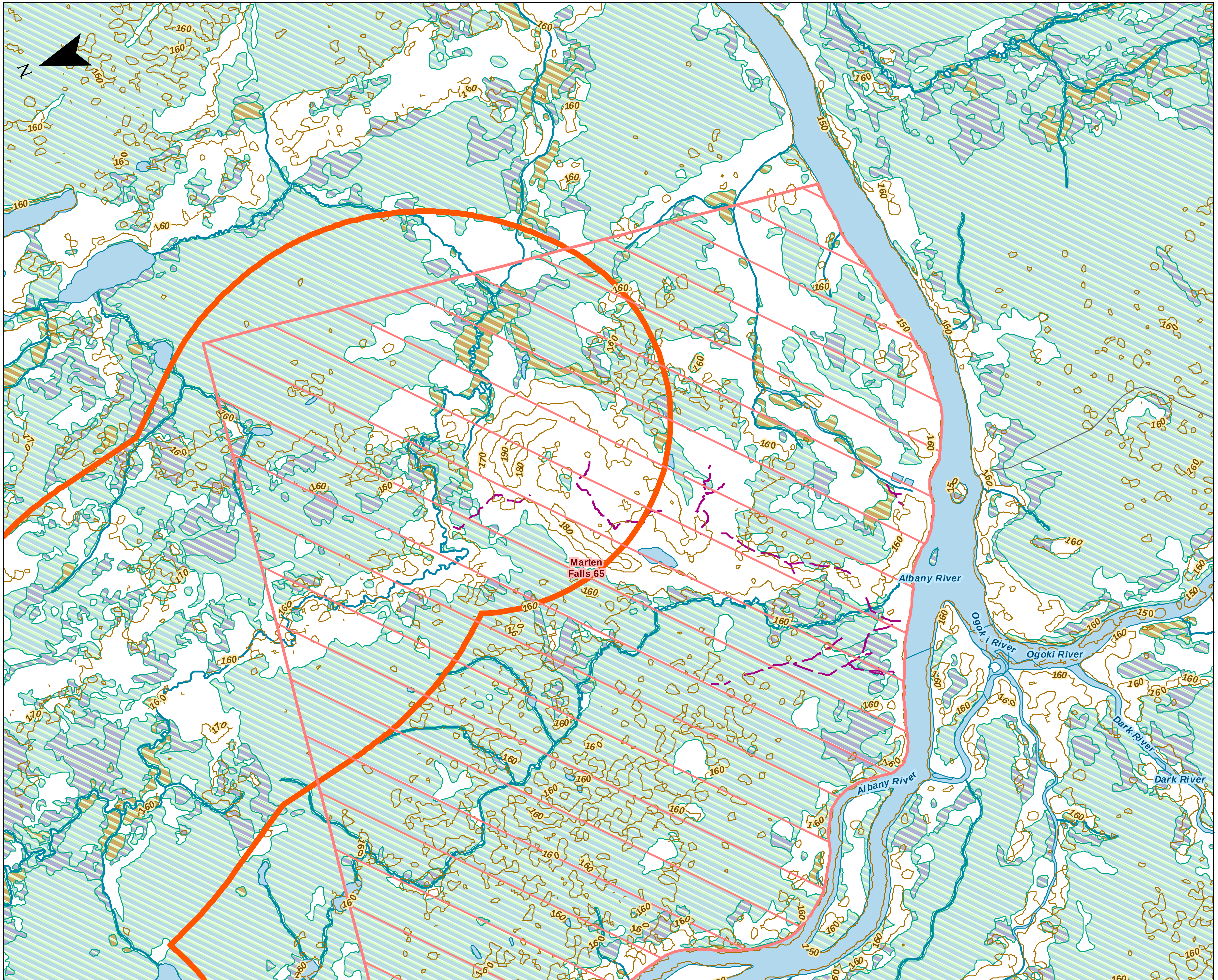

Legend

- Study Area
- First Nation Community
- Bog
- Fen
- Swamp
- Waterbody
- Watercourse
- Contour (10m intervals)
- Trail

0 0.5 1 2 3
Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-44

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure1_Topo.mxd
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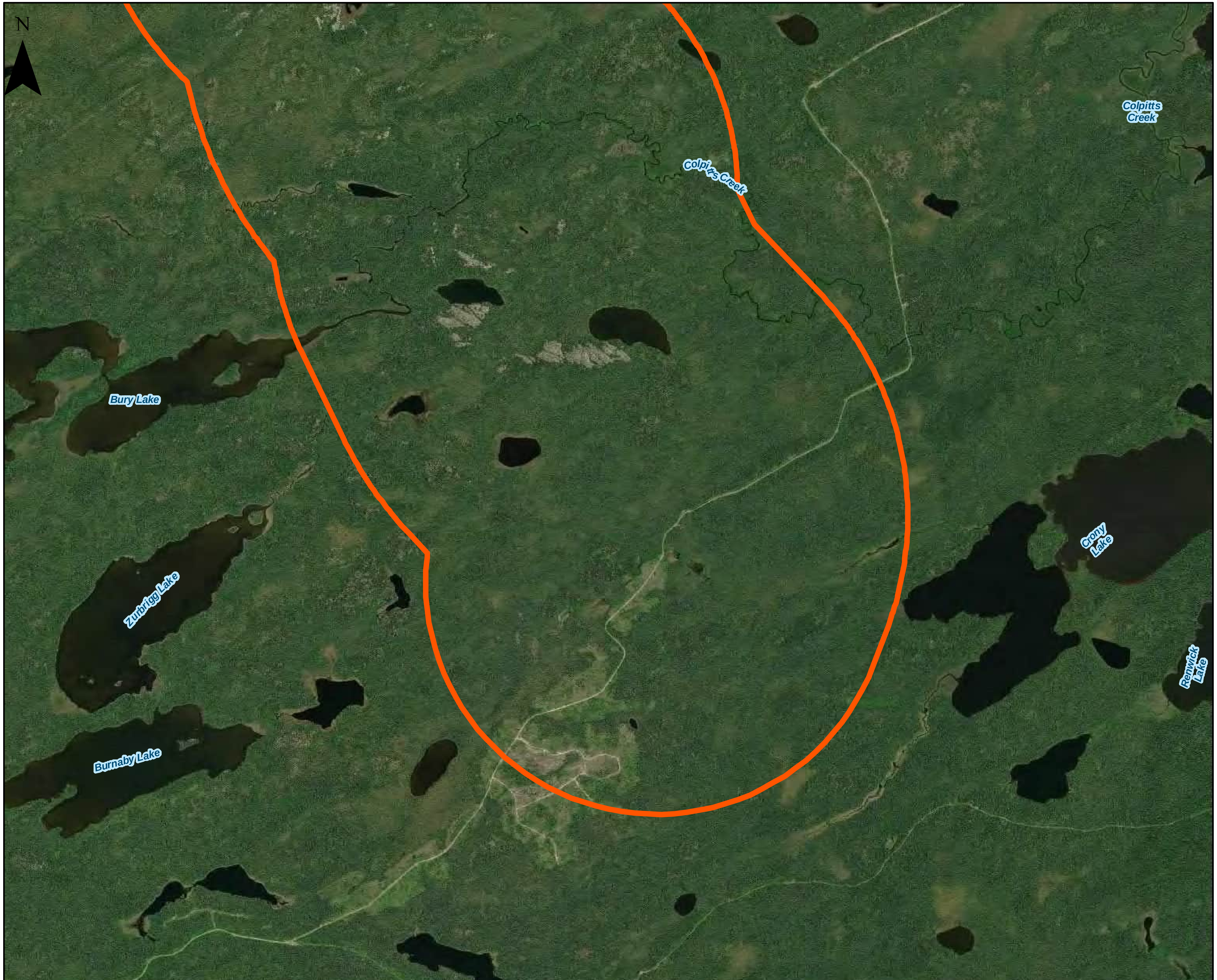

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-1

Date Saved: 10/21/2020 1:36:13 PM

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-2

Date Saved: 10/21/2020 1:36:13 PM

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-3

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60591122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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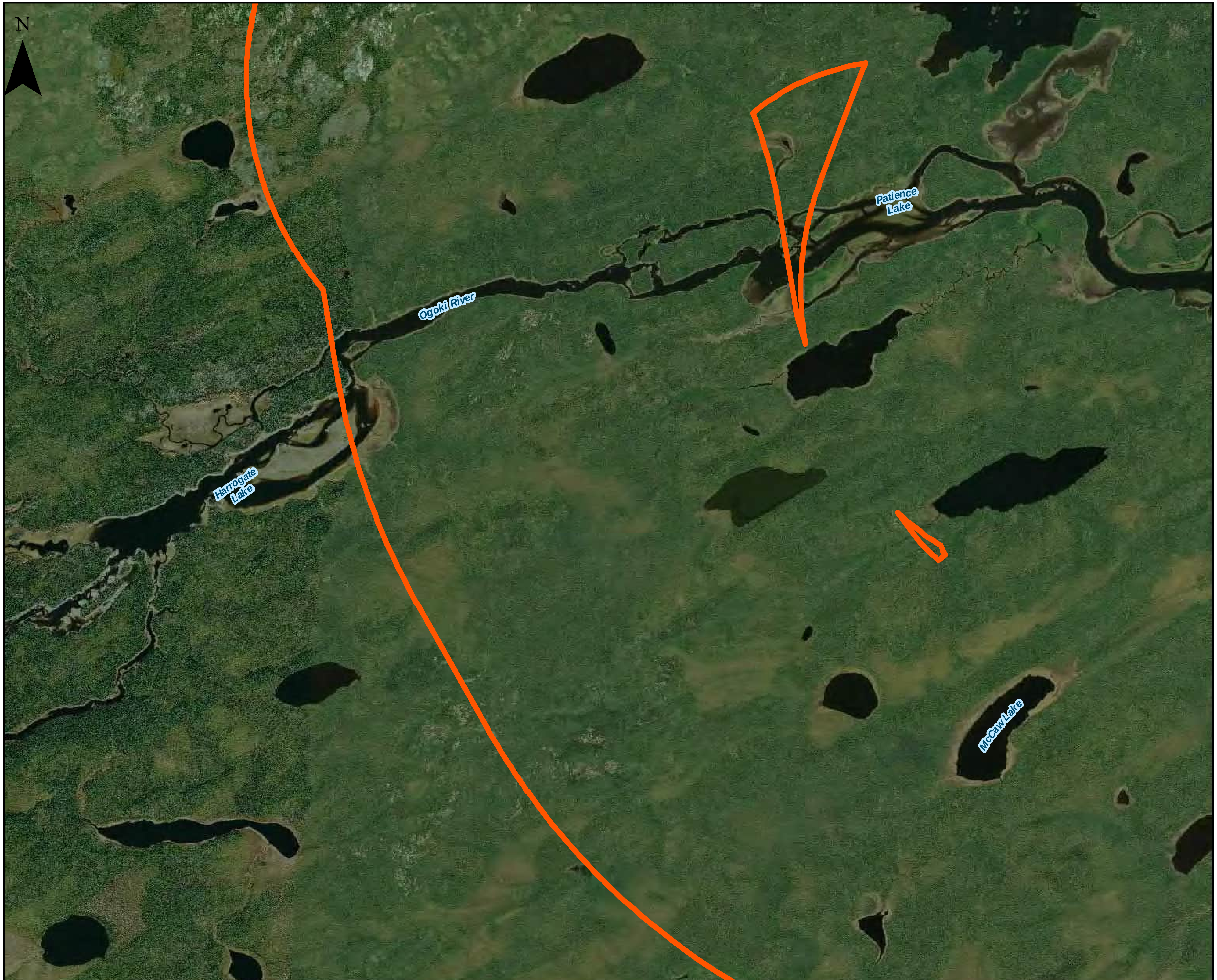

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-4

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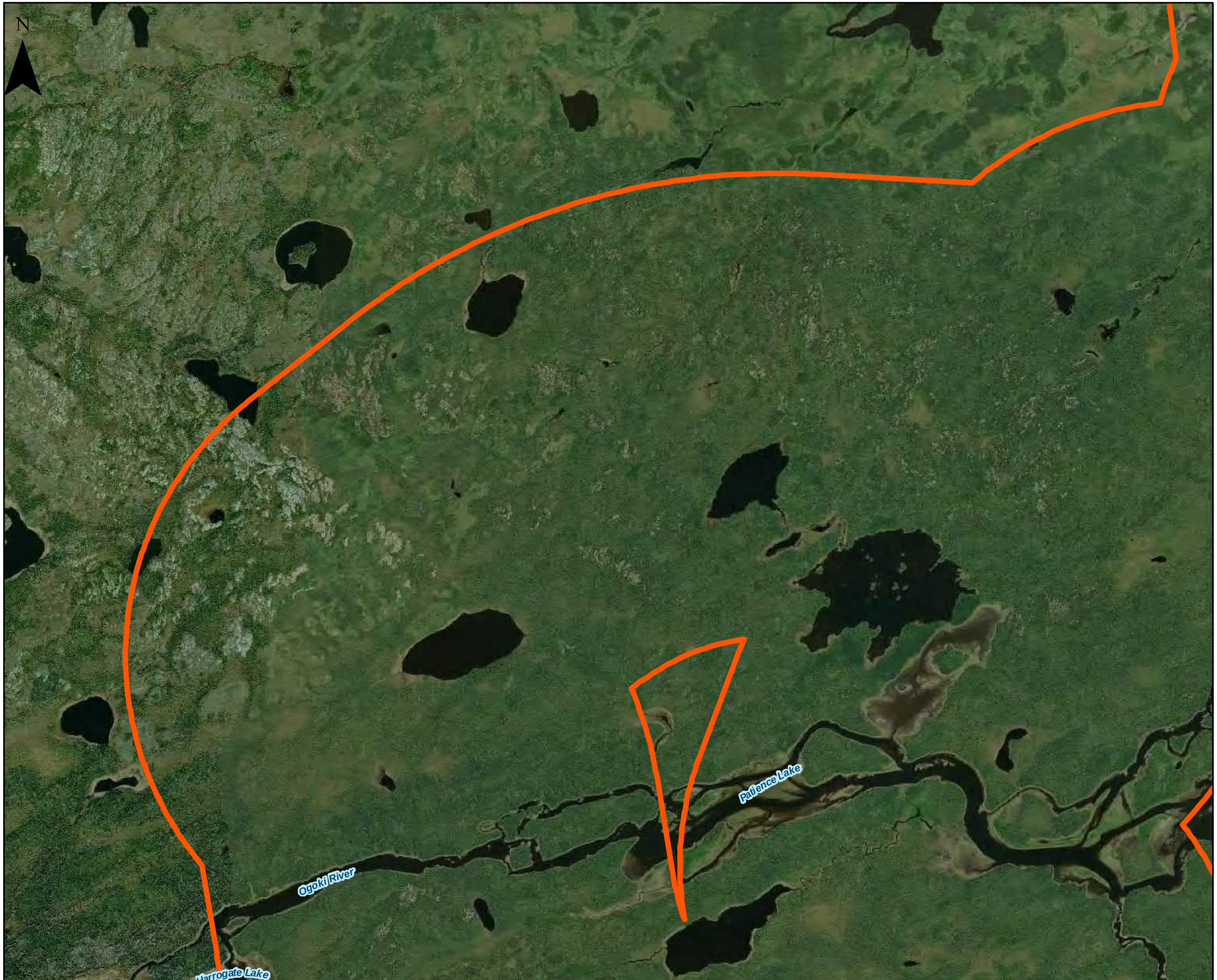

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

Figure 3-5

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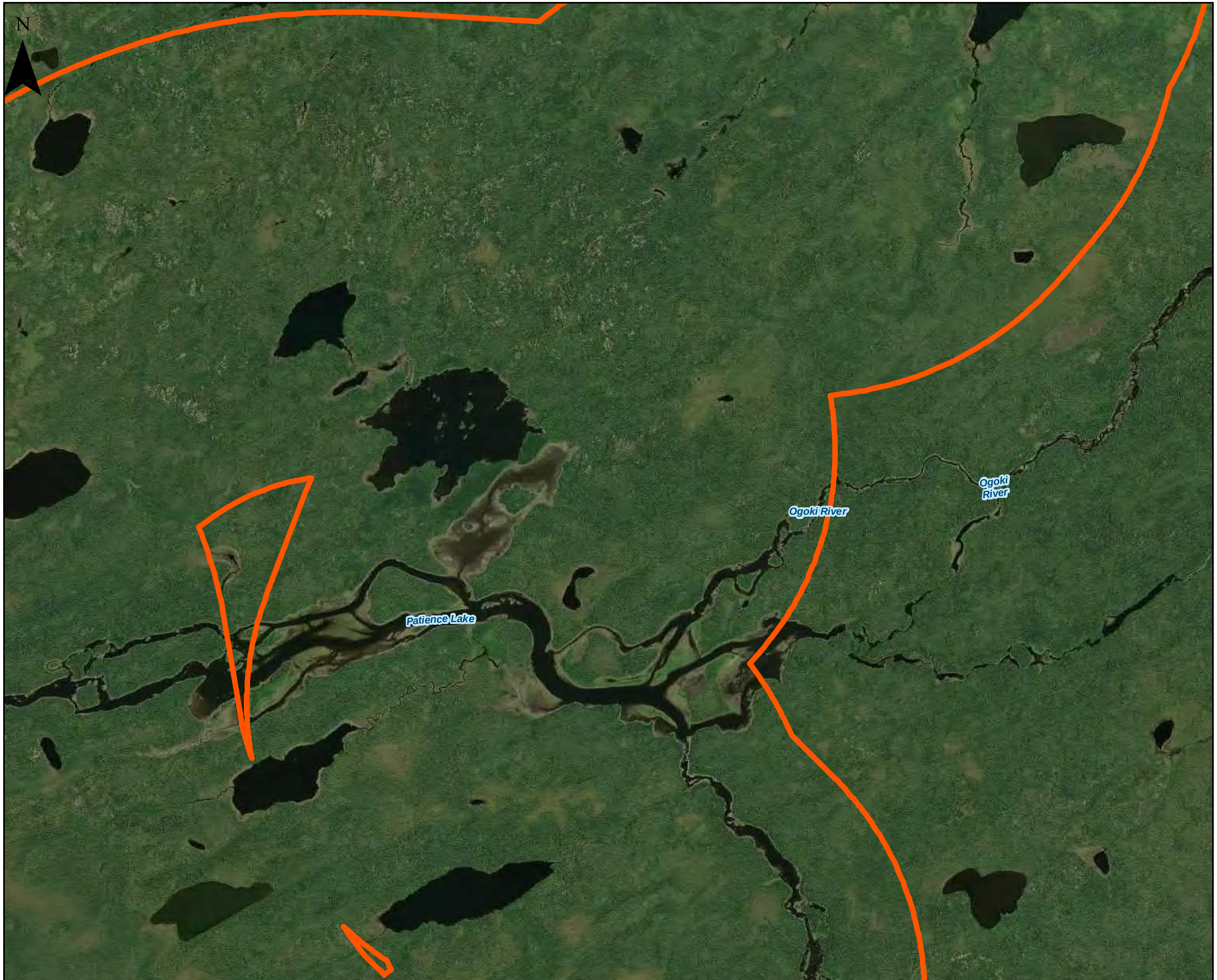

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-6

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
Date Saved: 10/21/2020 1:36:13 PM

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-7

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-8

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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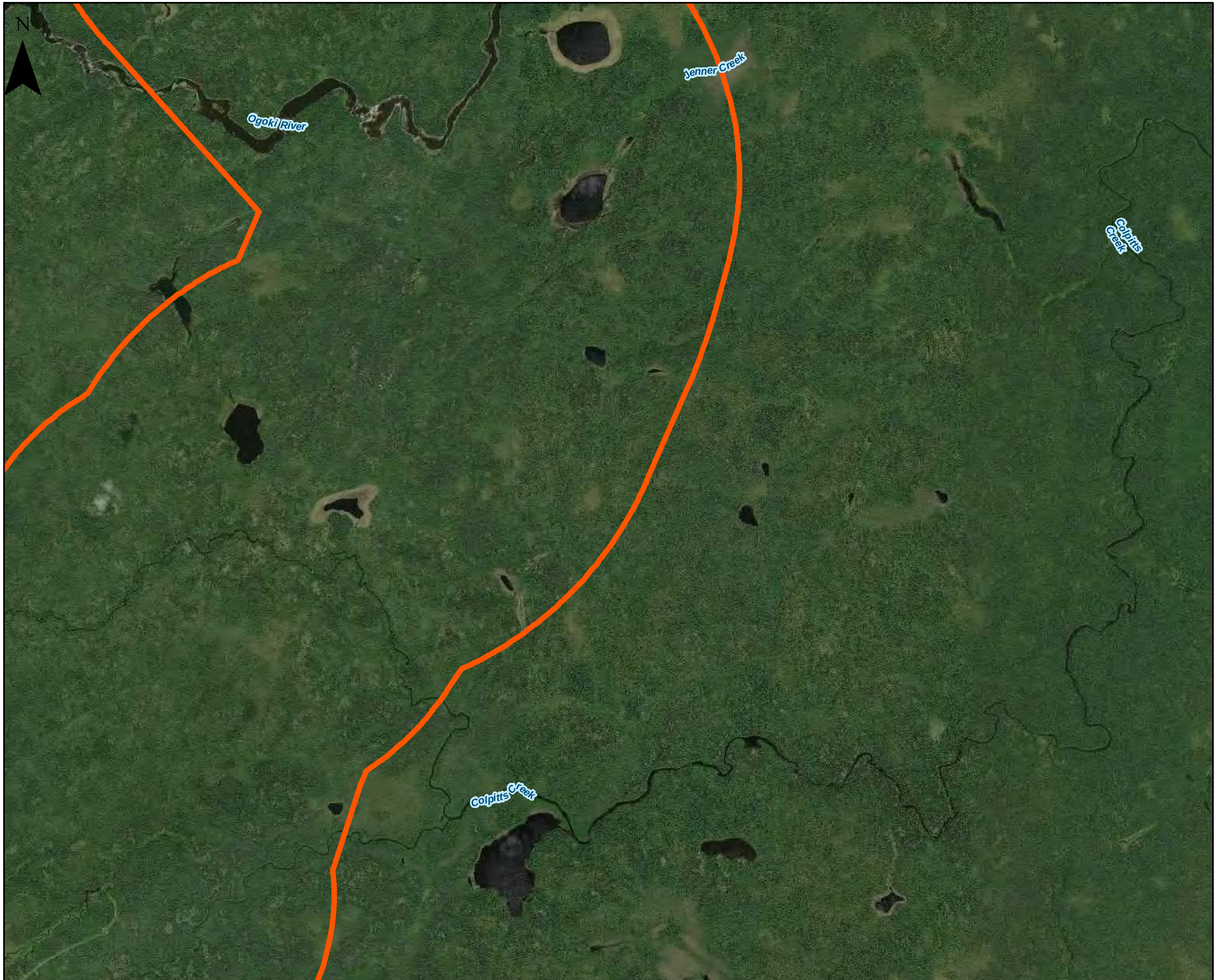

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

Figure 3-9

Date Saved: 10/21/2020 1:36:13 PM

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

Figure 3-10

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Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-11

Date Saved: 10/21/2020 1:36:13 PM

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-12

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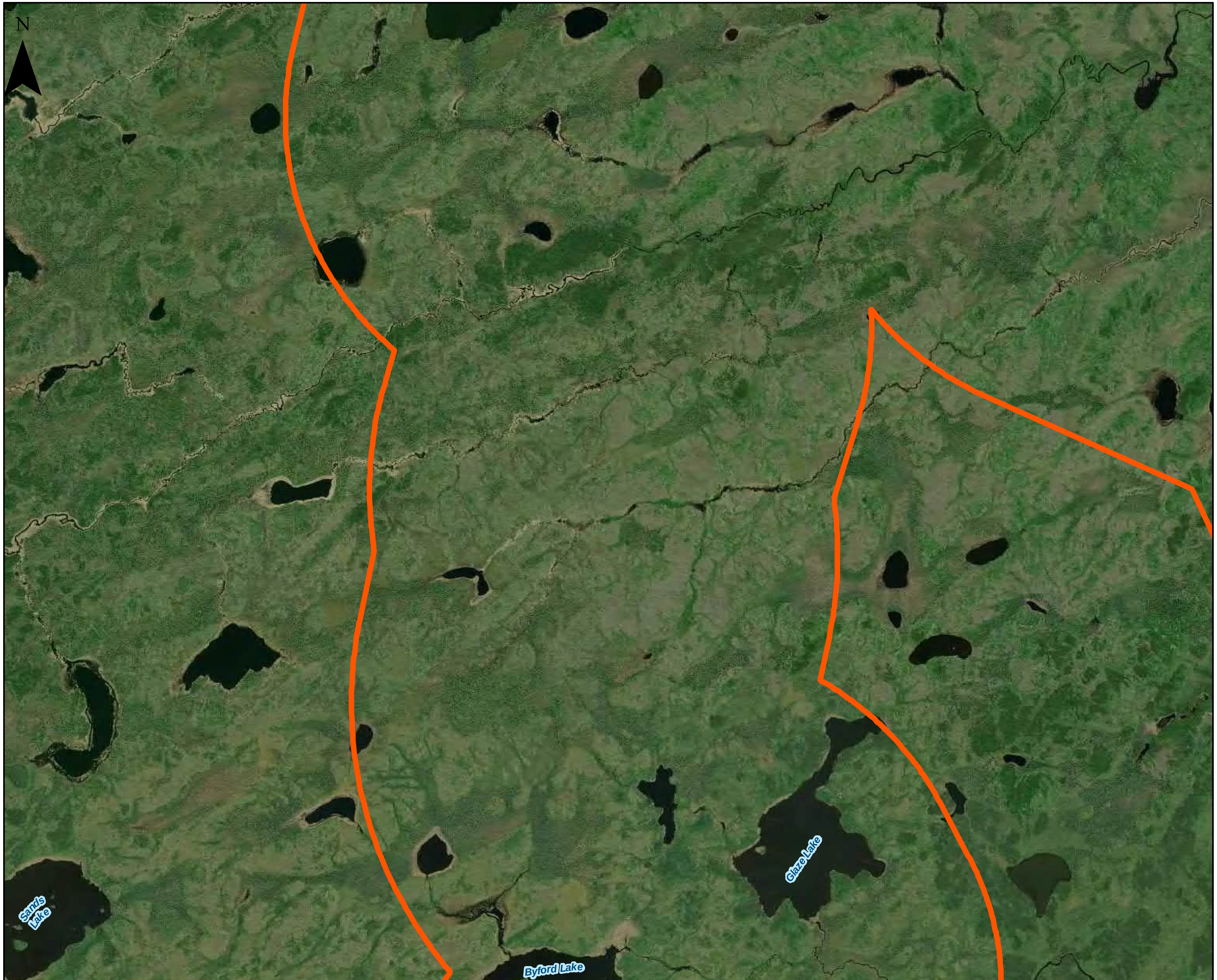

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Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-13

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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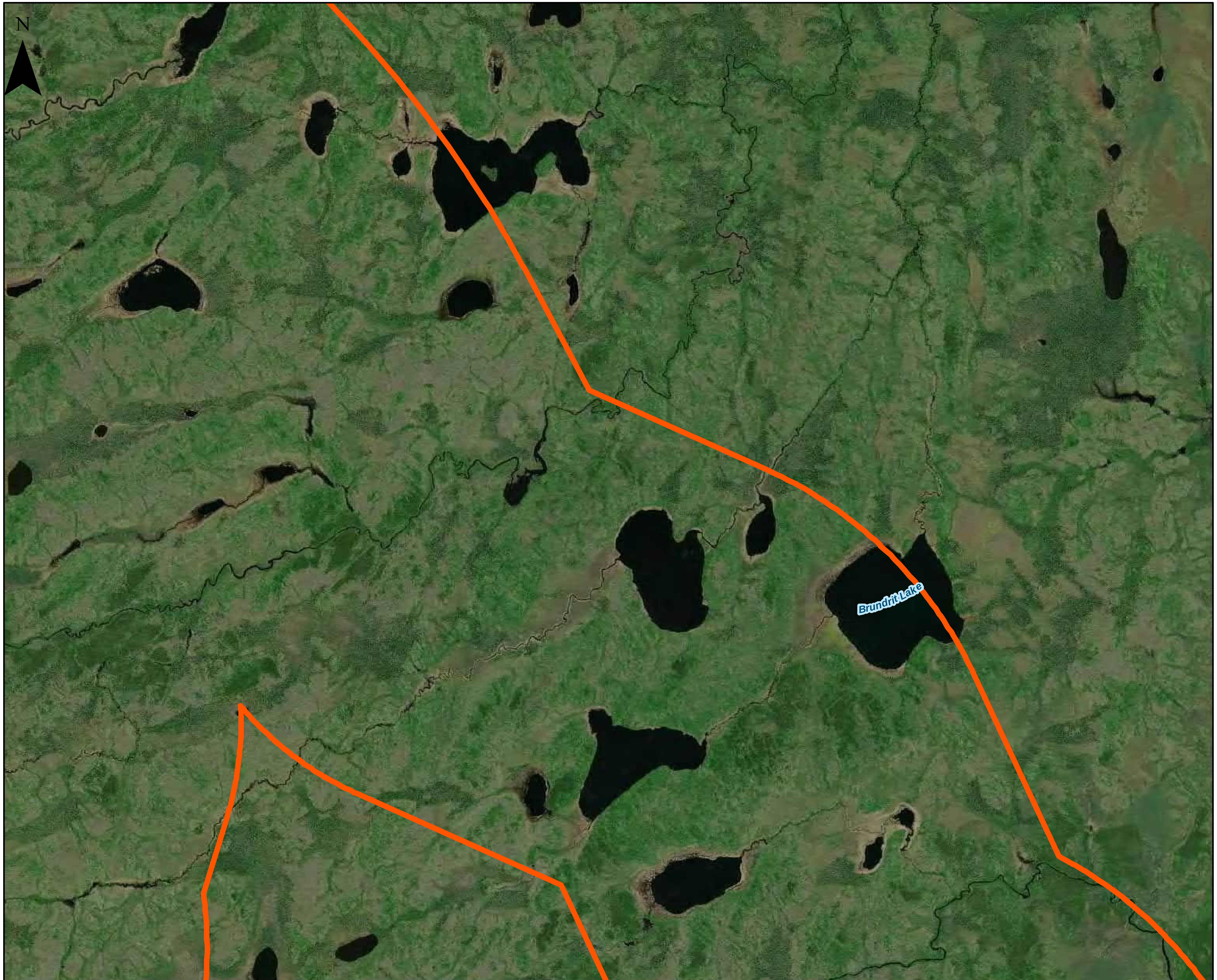

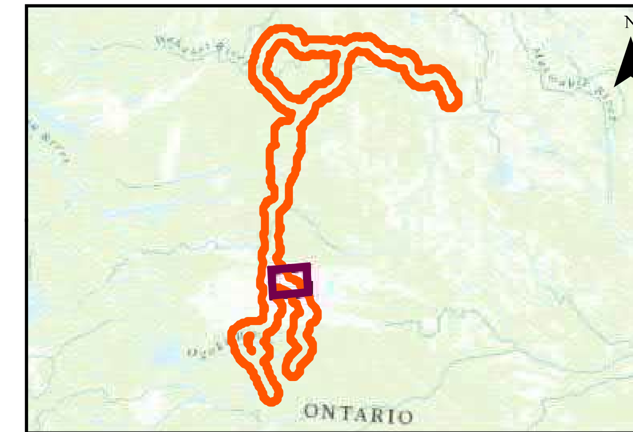

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Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-14

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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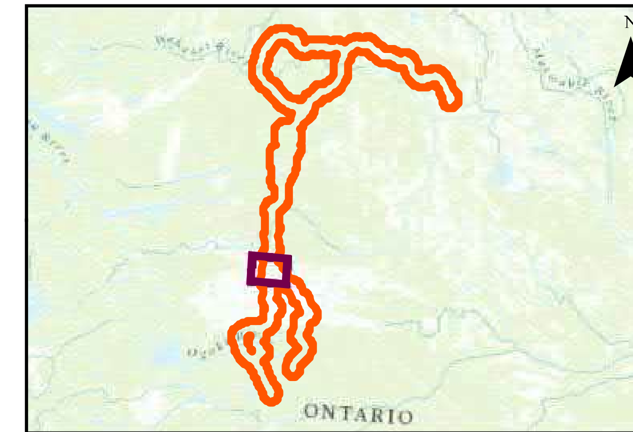

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Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-15

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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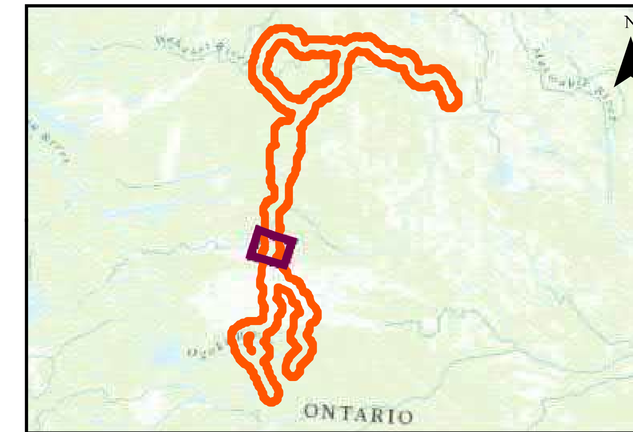

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

Figure 3-16

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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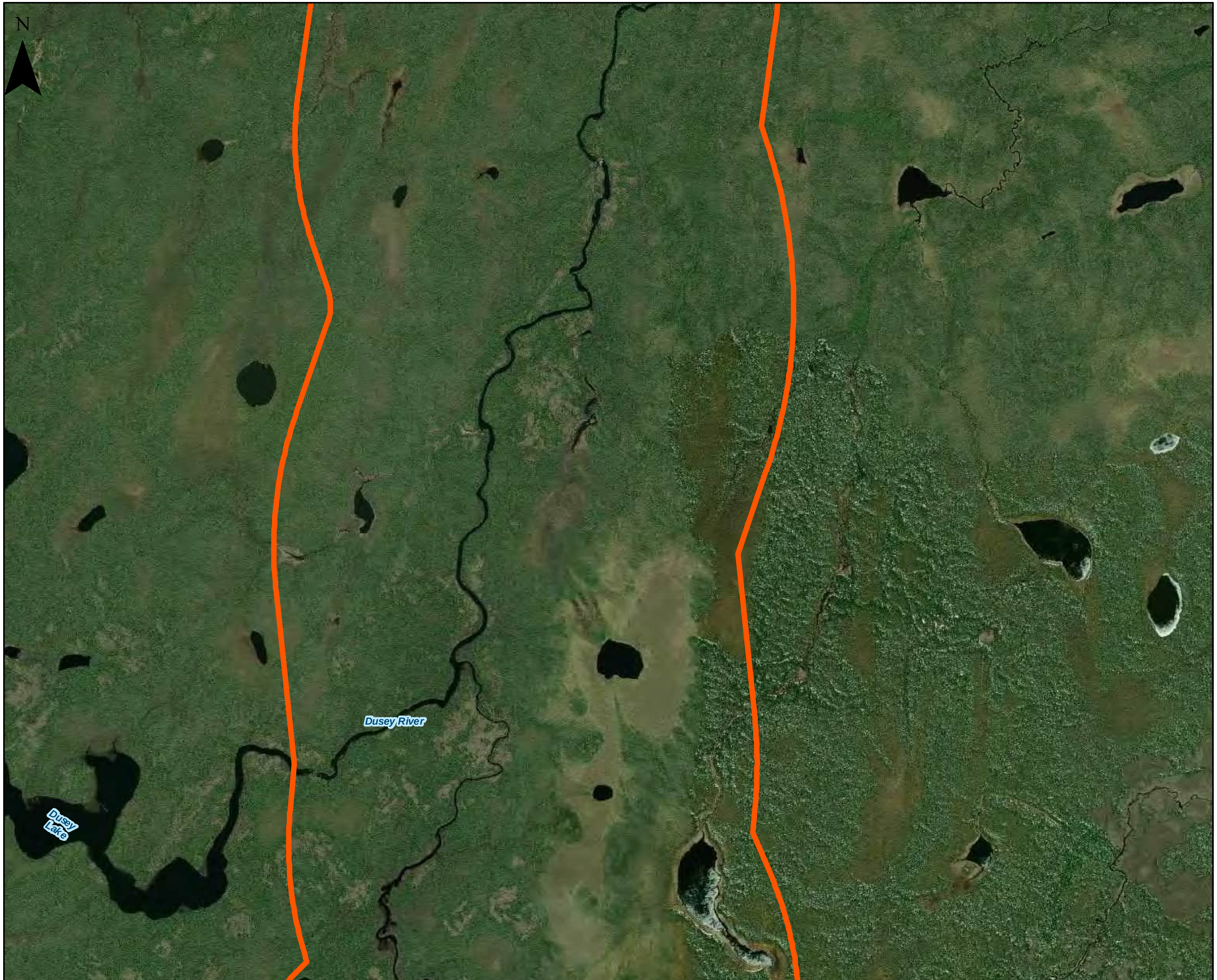

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Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-17

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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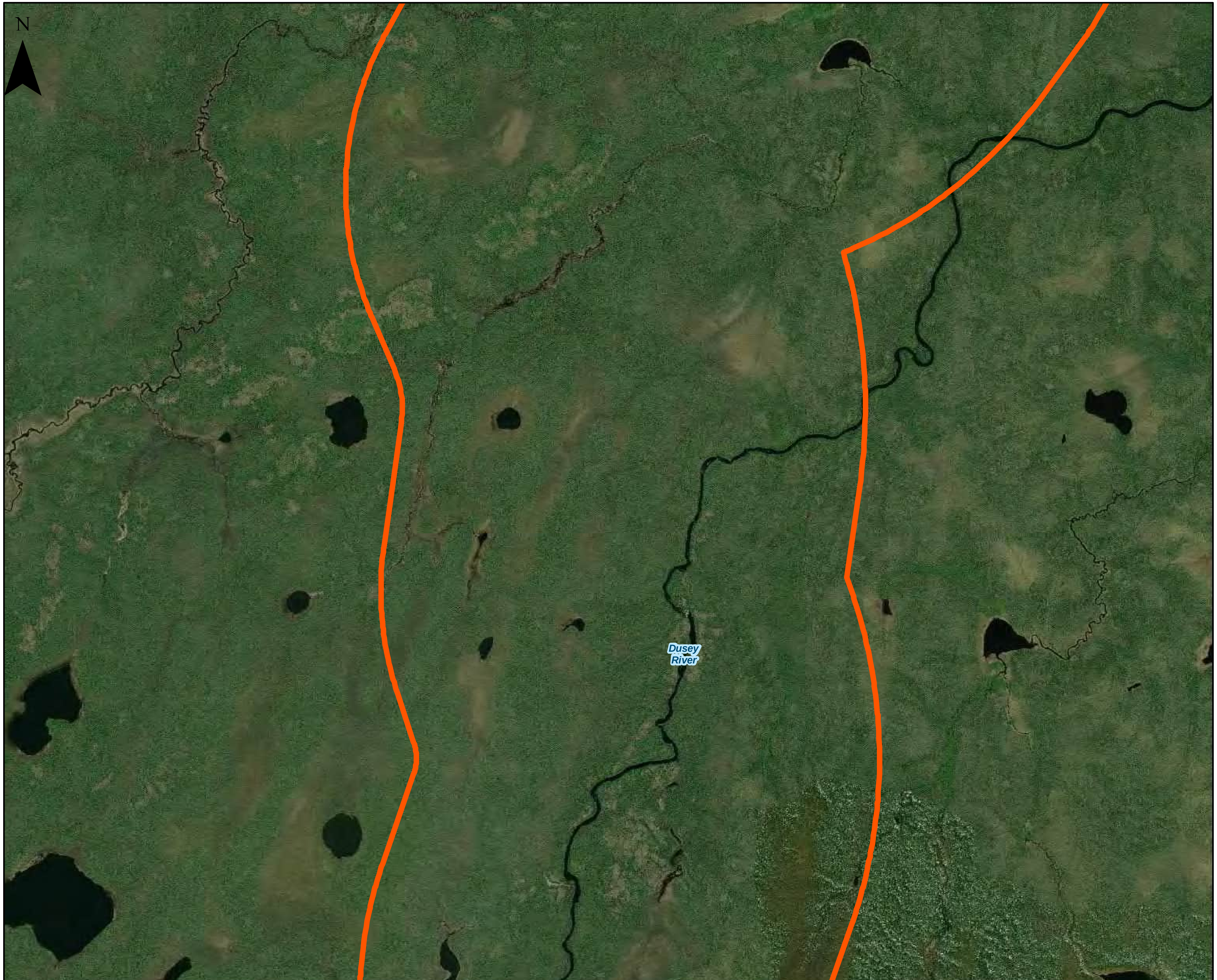

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-18

Date Saved: 10/21/2020 1:36:13 PM

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-19

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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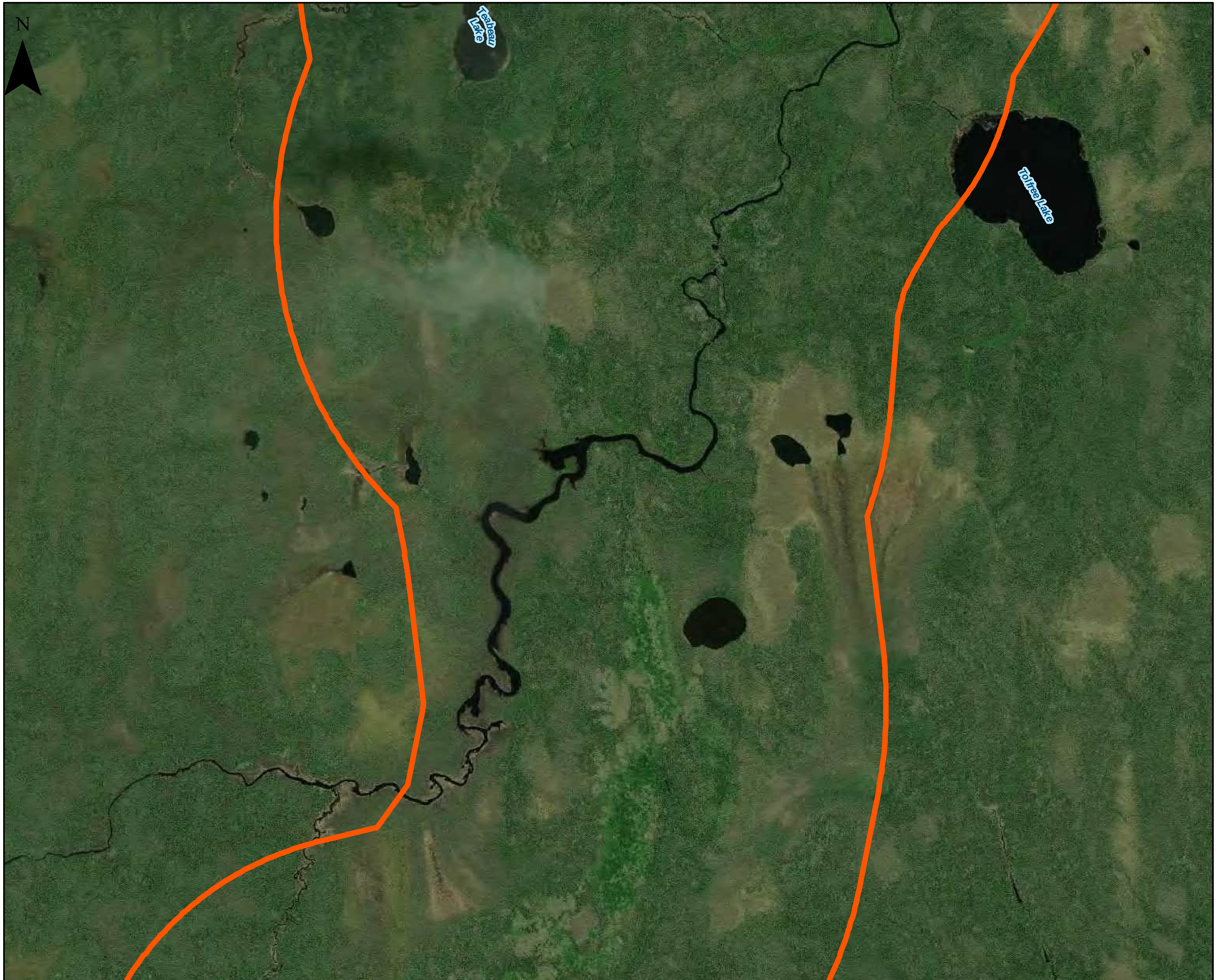

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Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-20

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60591122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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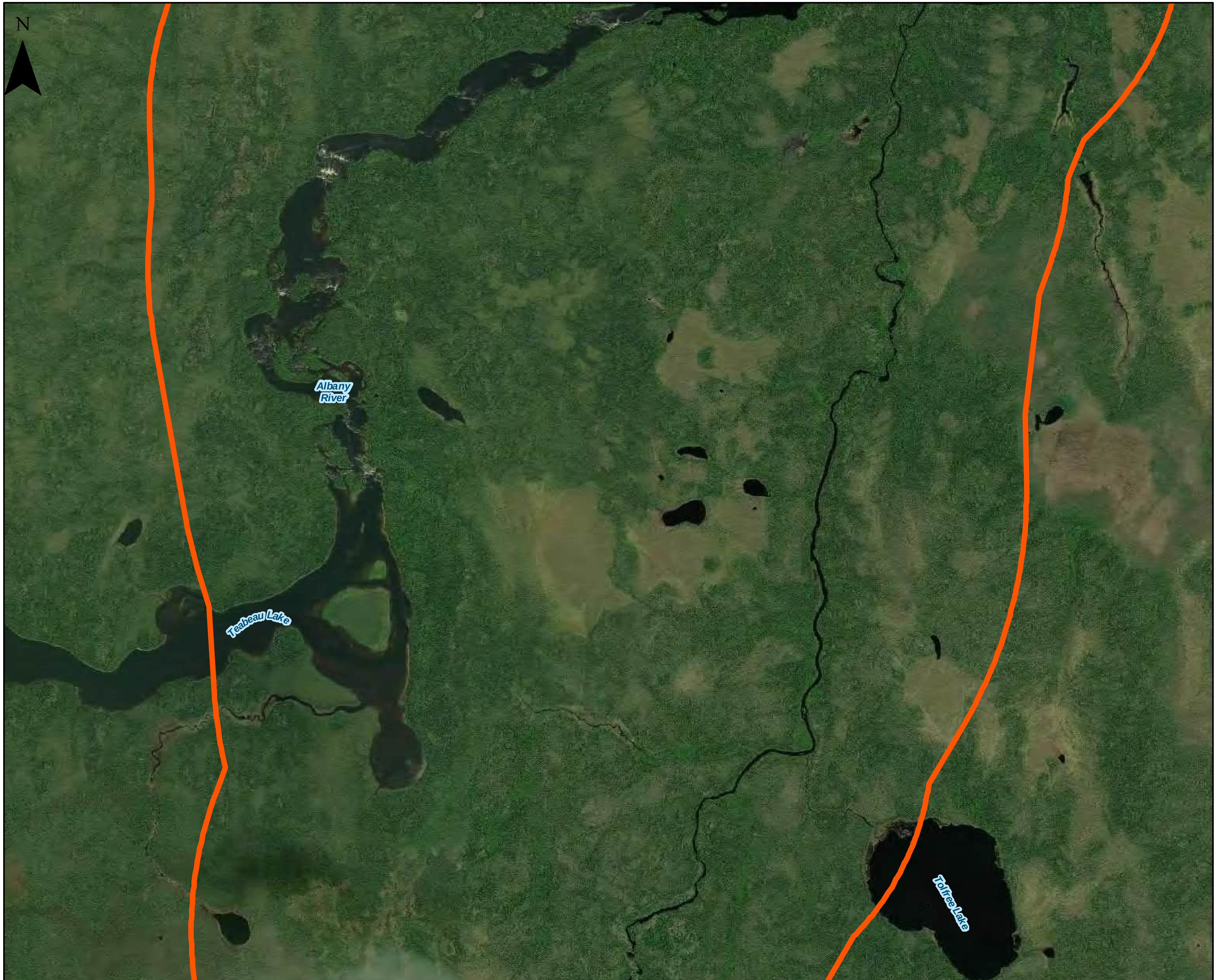

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Study Area

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-21

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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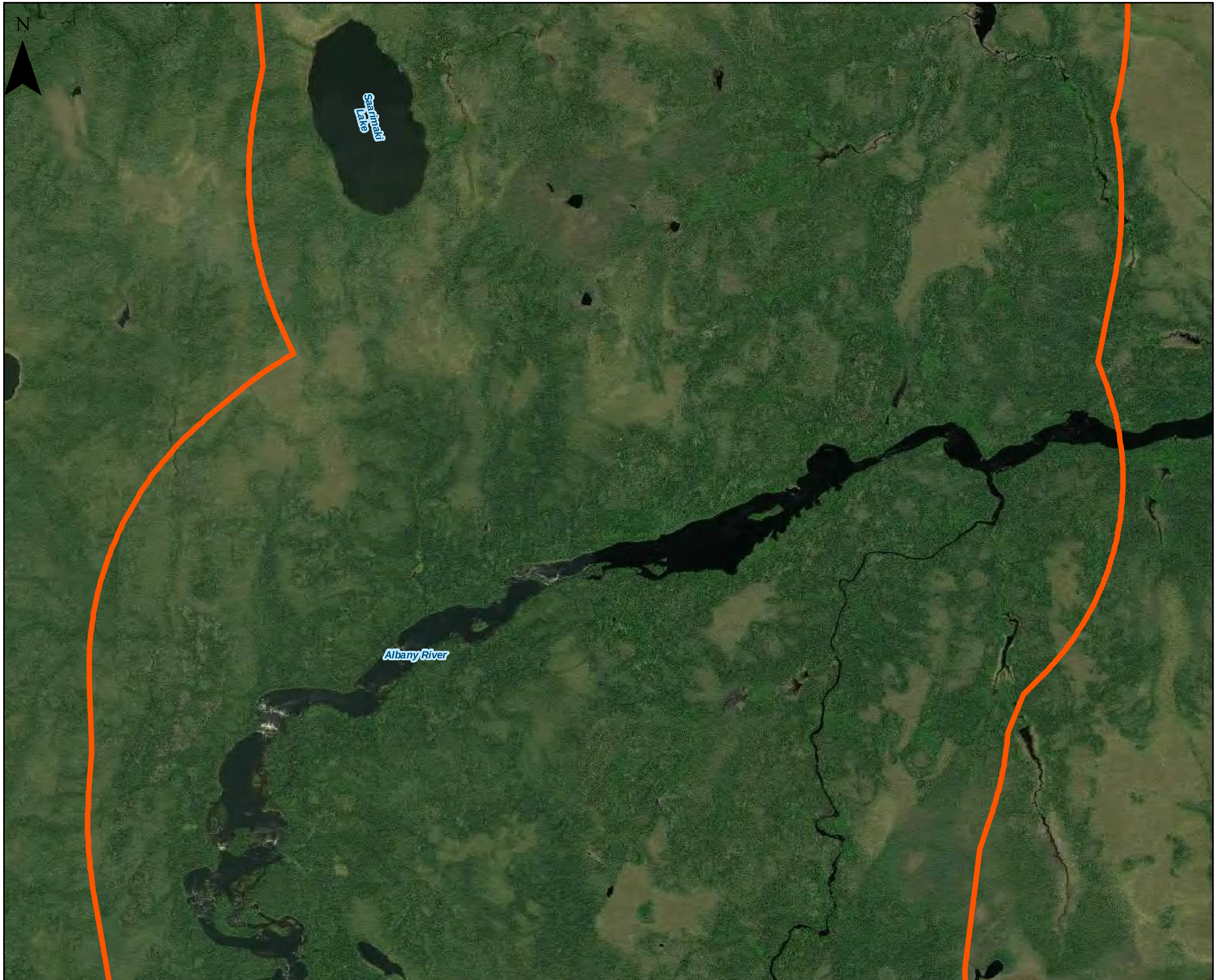

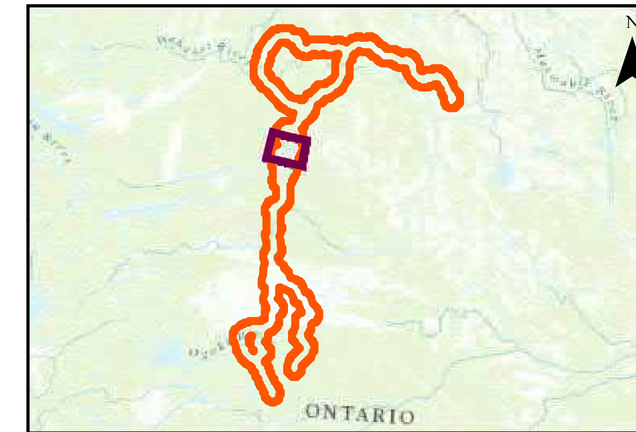

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Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

Figure 3-22

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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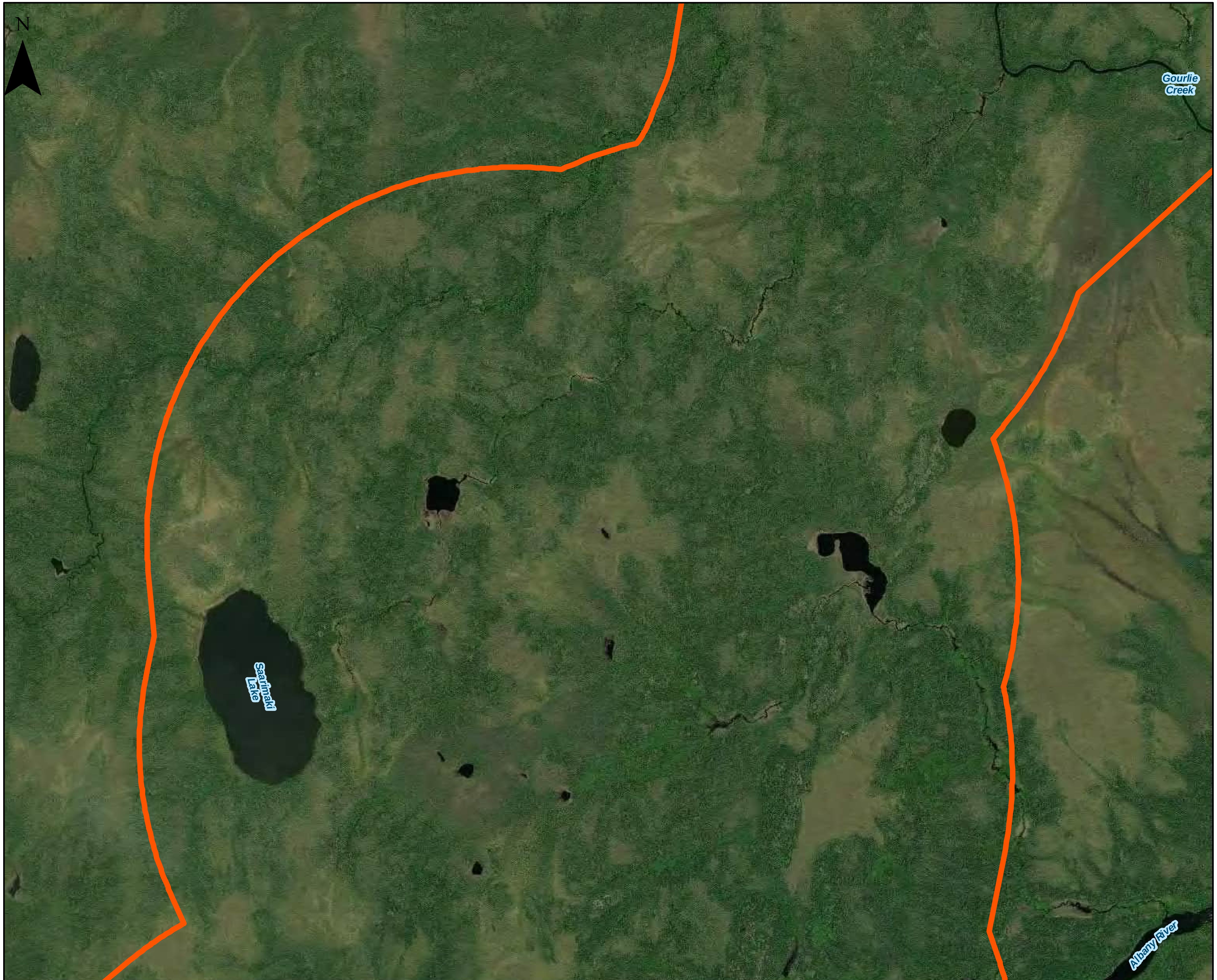

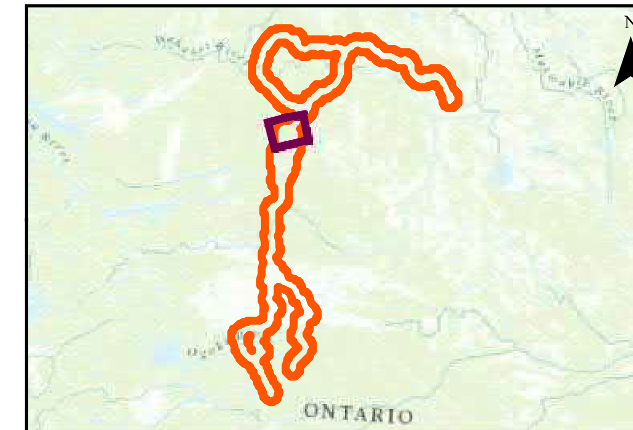

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Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-23

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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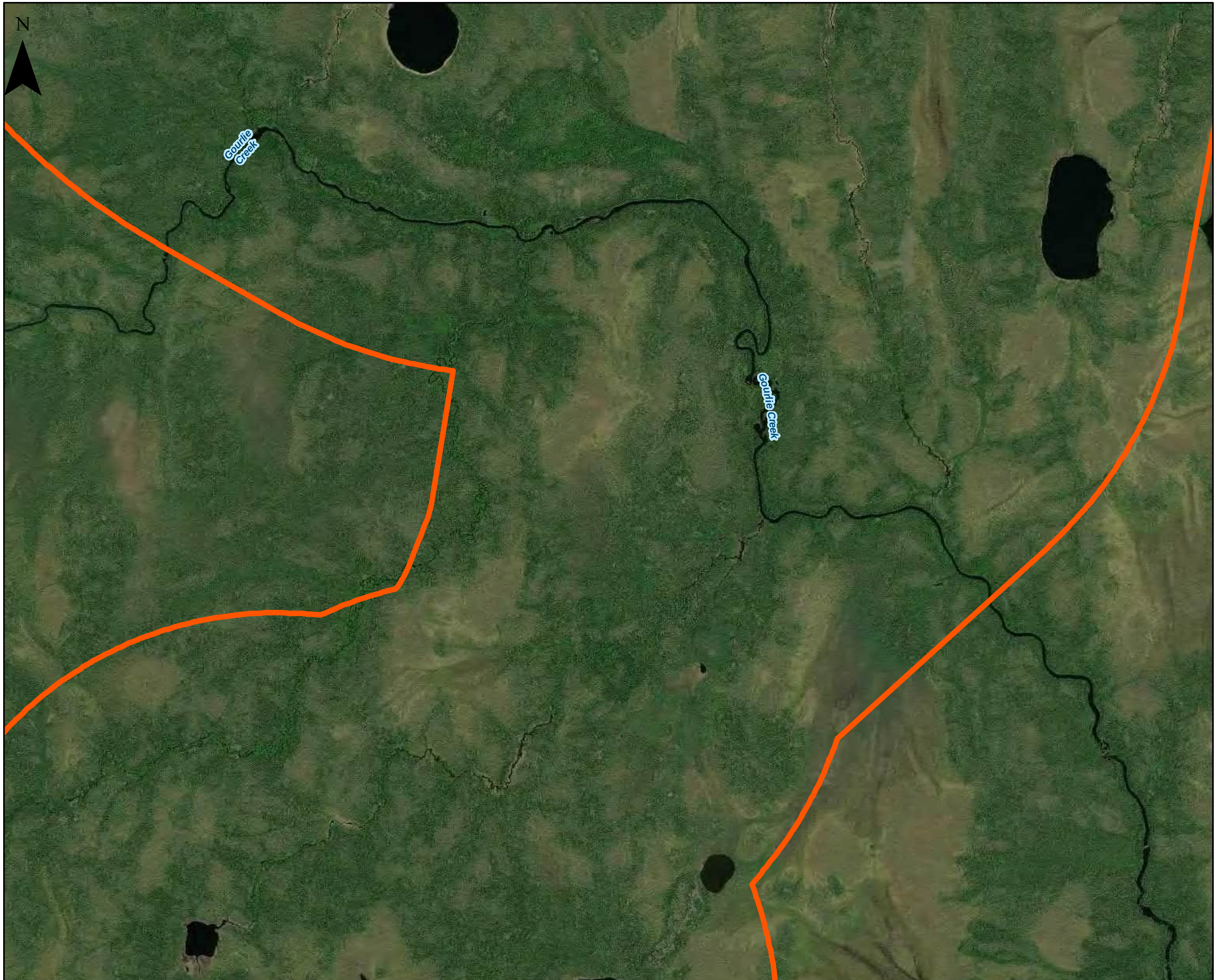

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-24

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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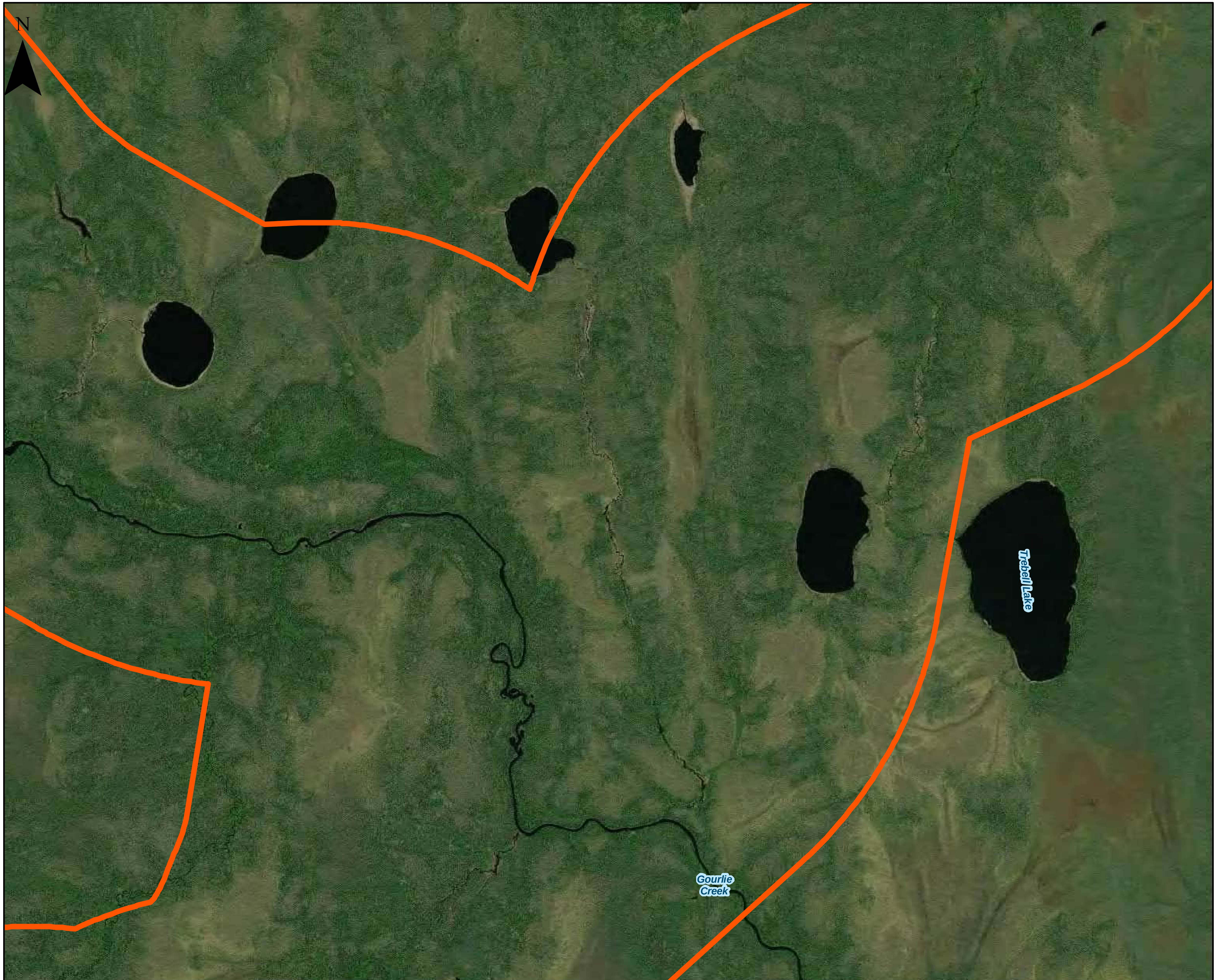

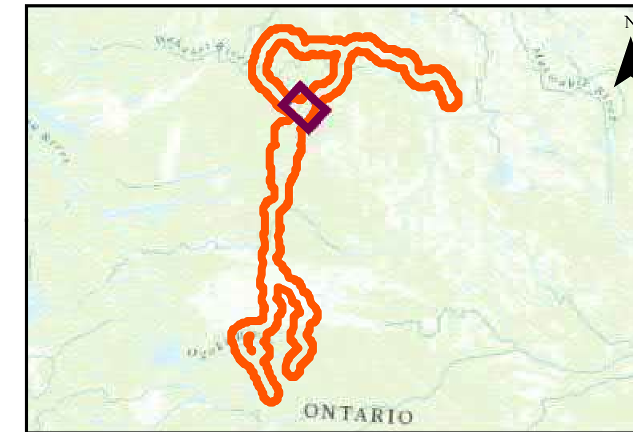

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Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-25

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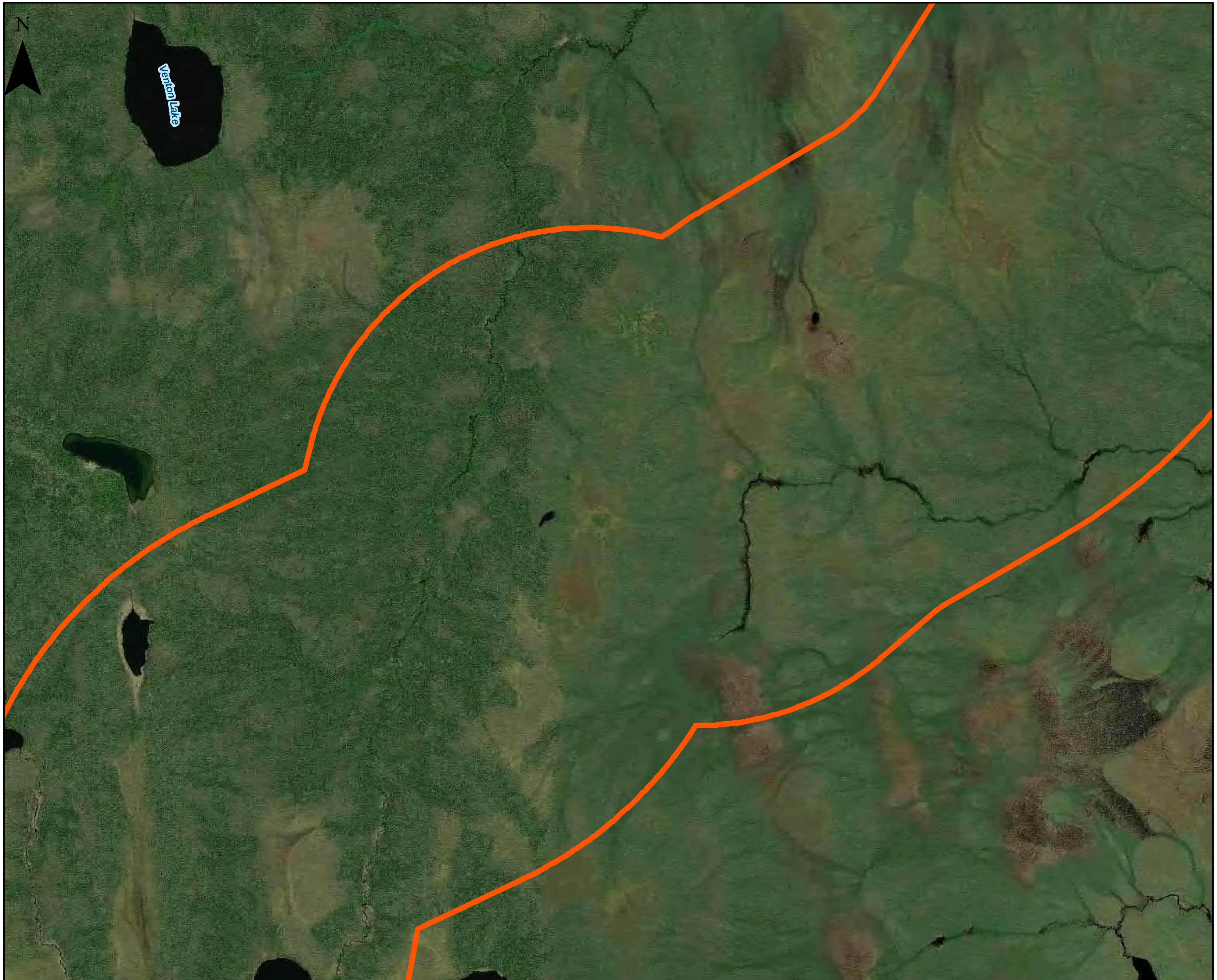

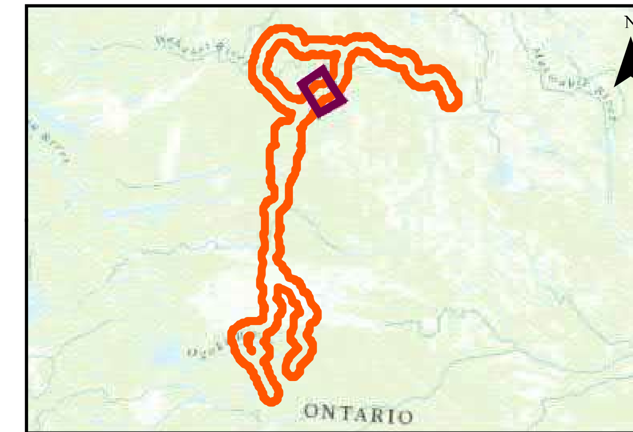

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-26

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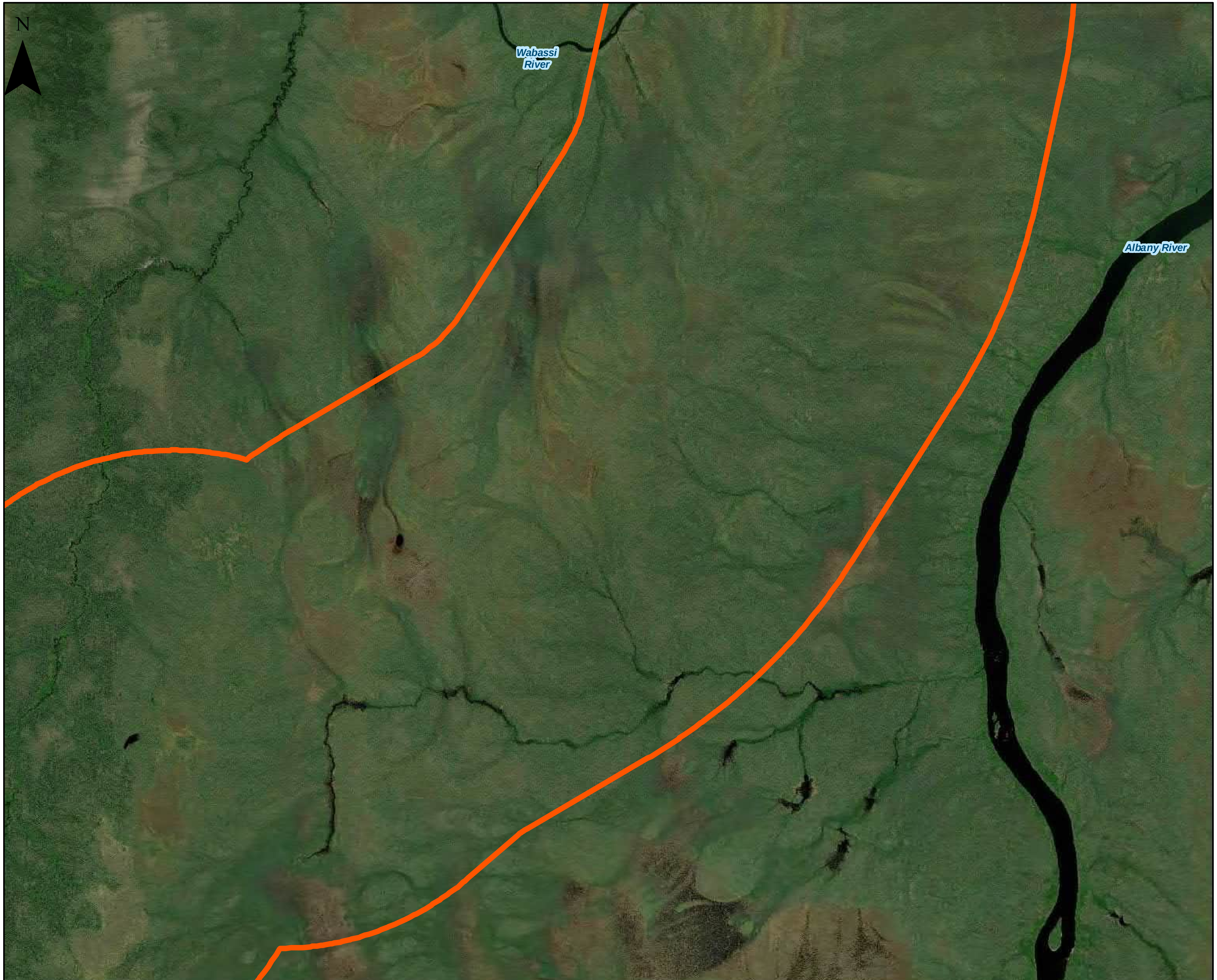

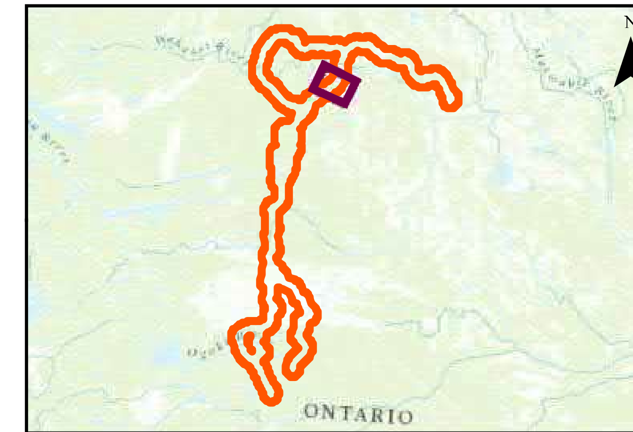

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Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-27

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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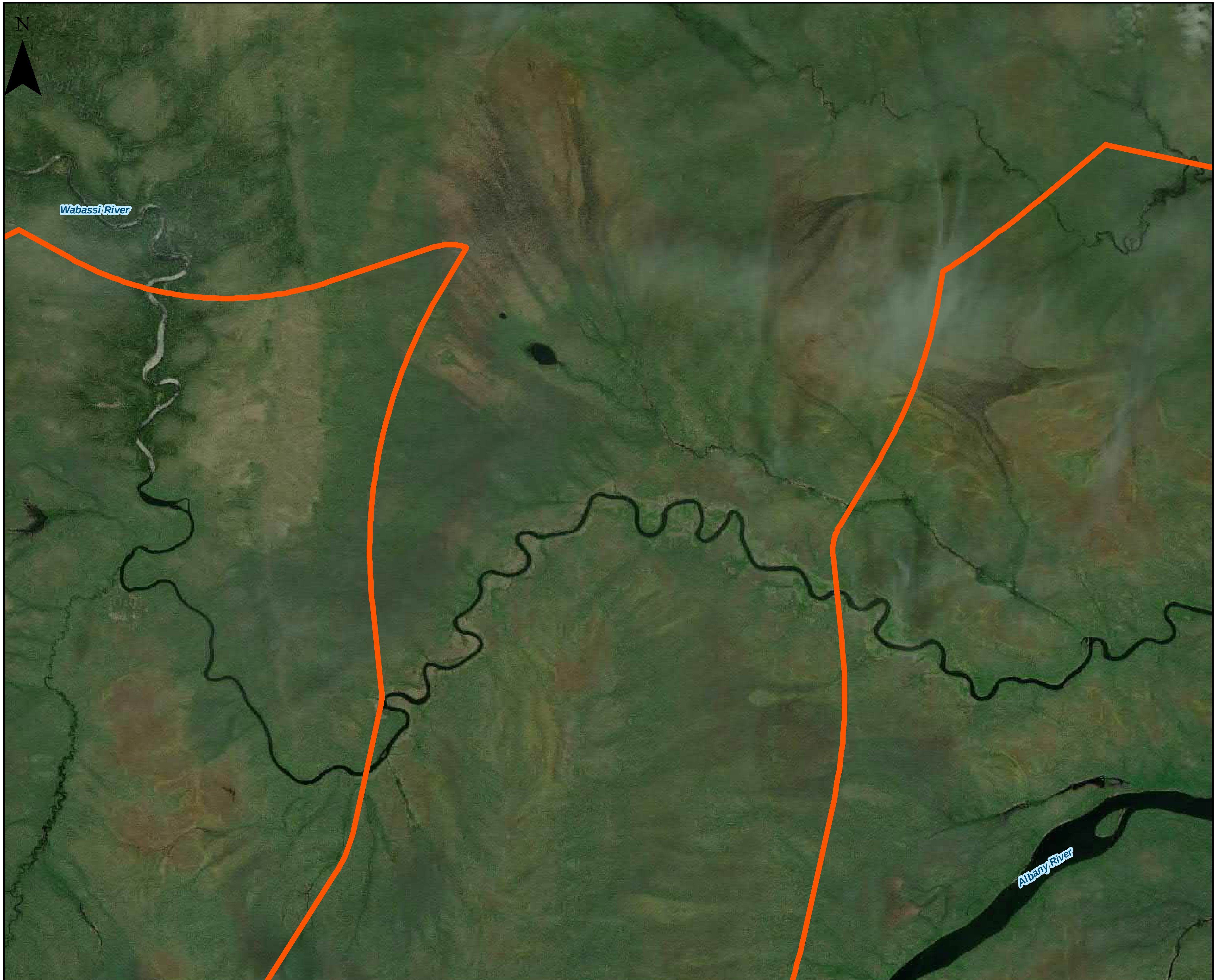

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-28

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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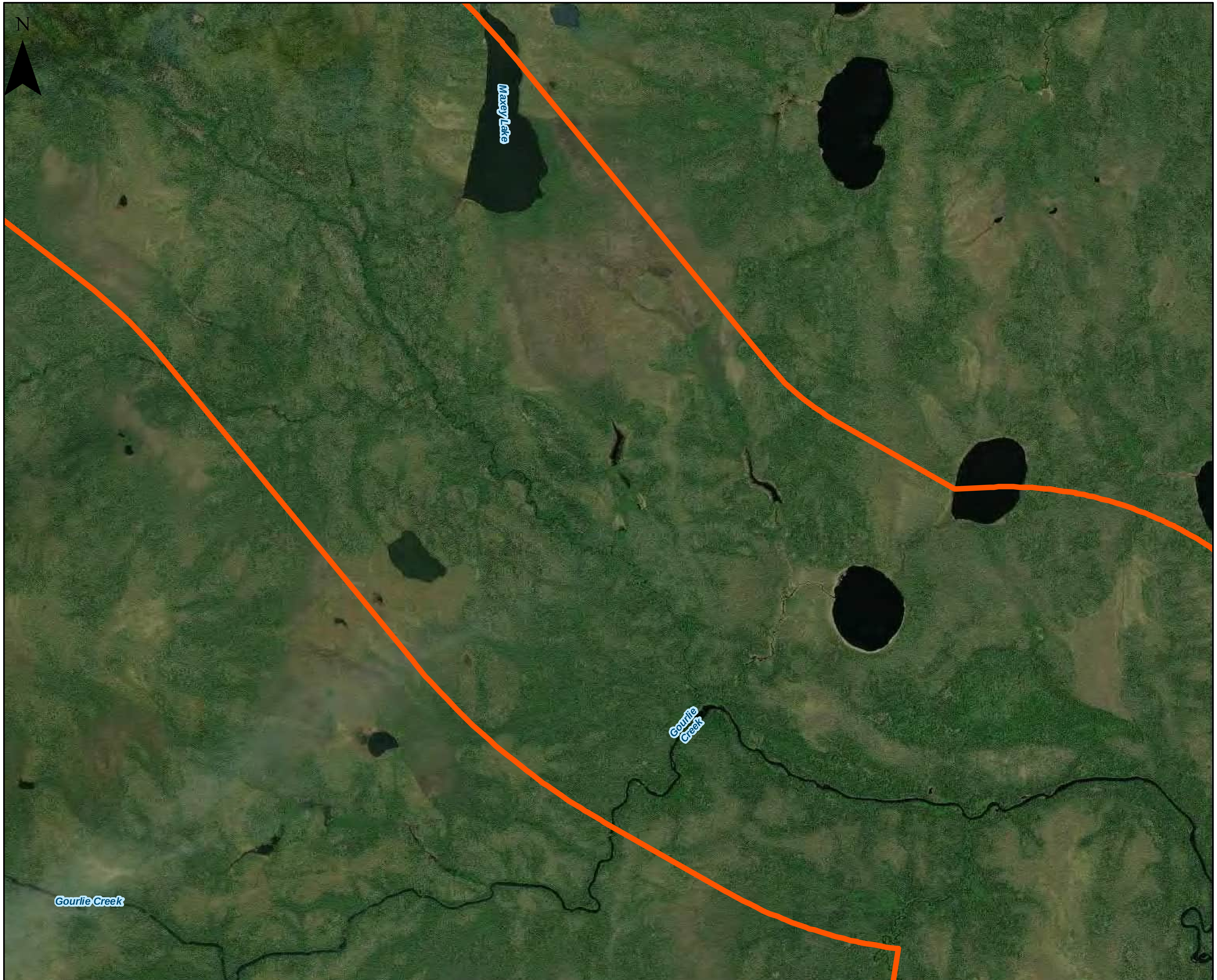

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-29

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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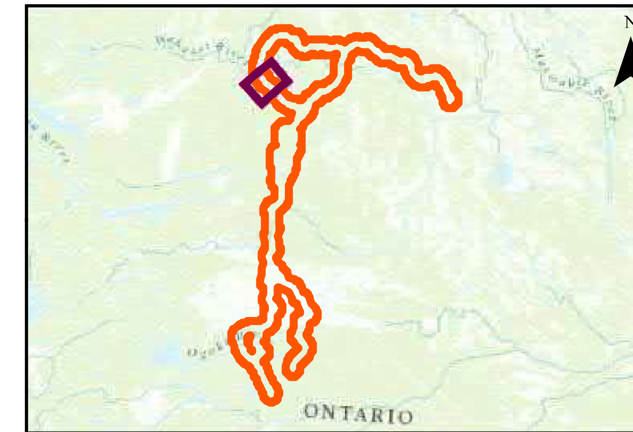

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Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-30

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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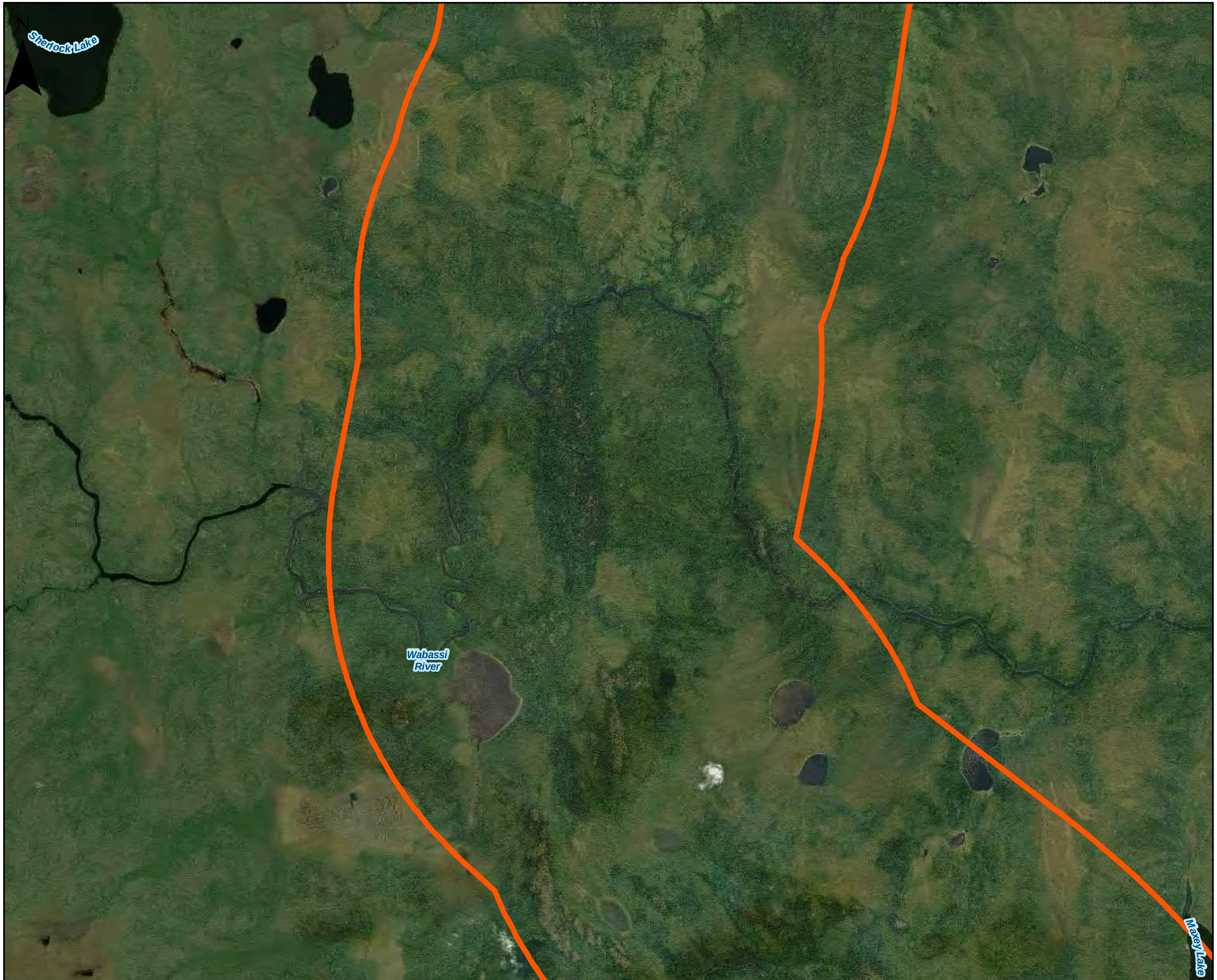

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-31

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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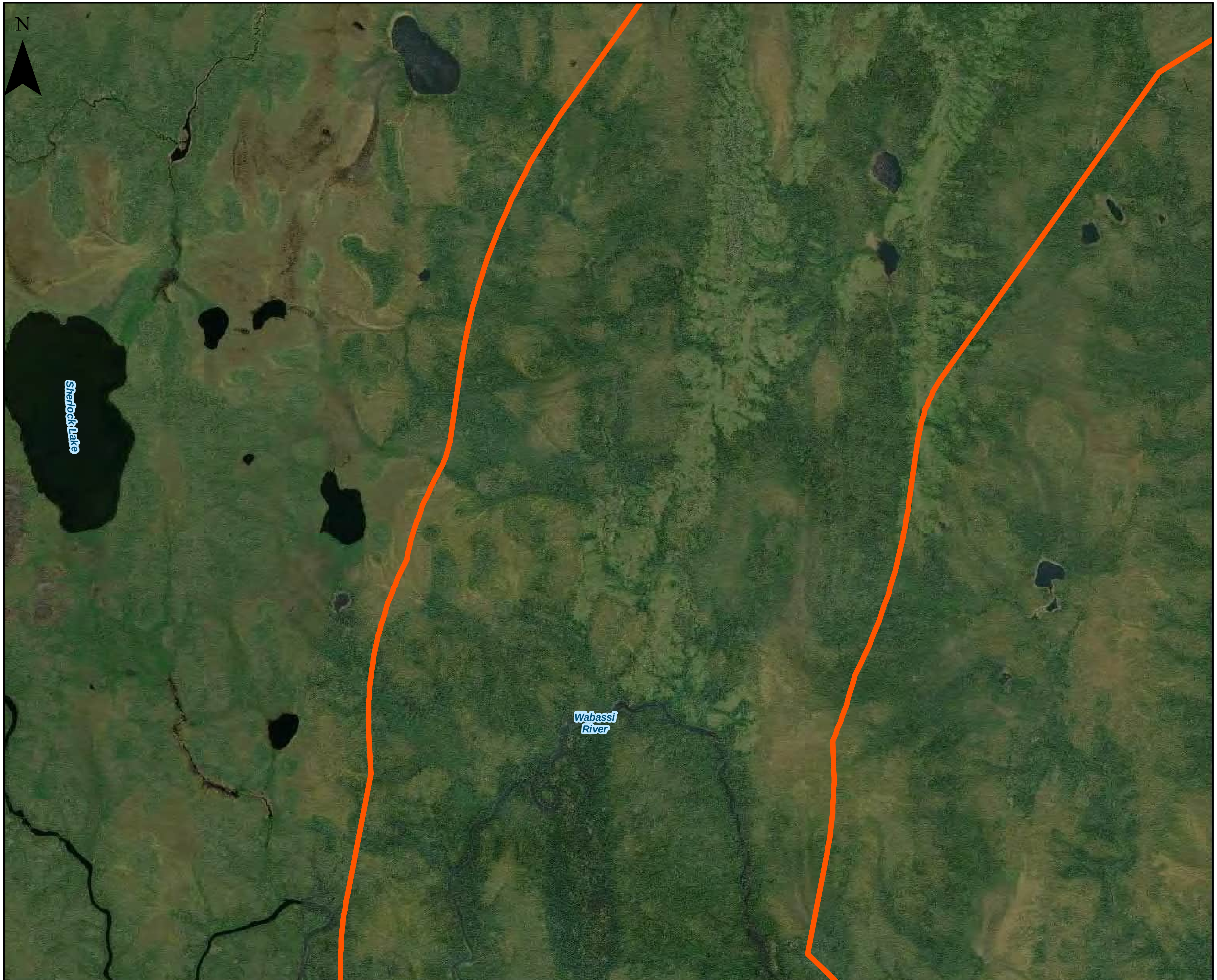

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-32

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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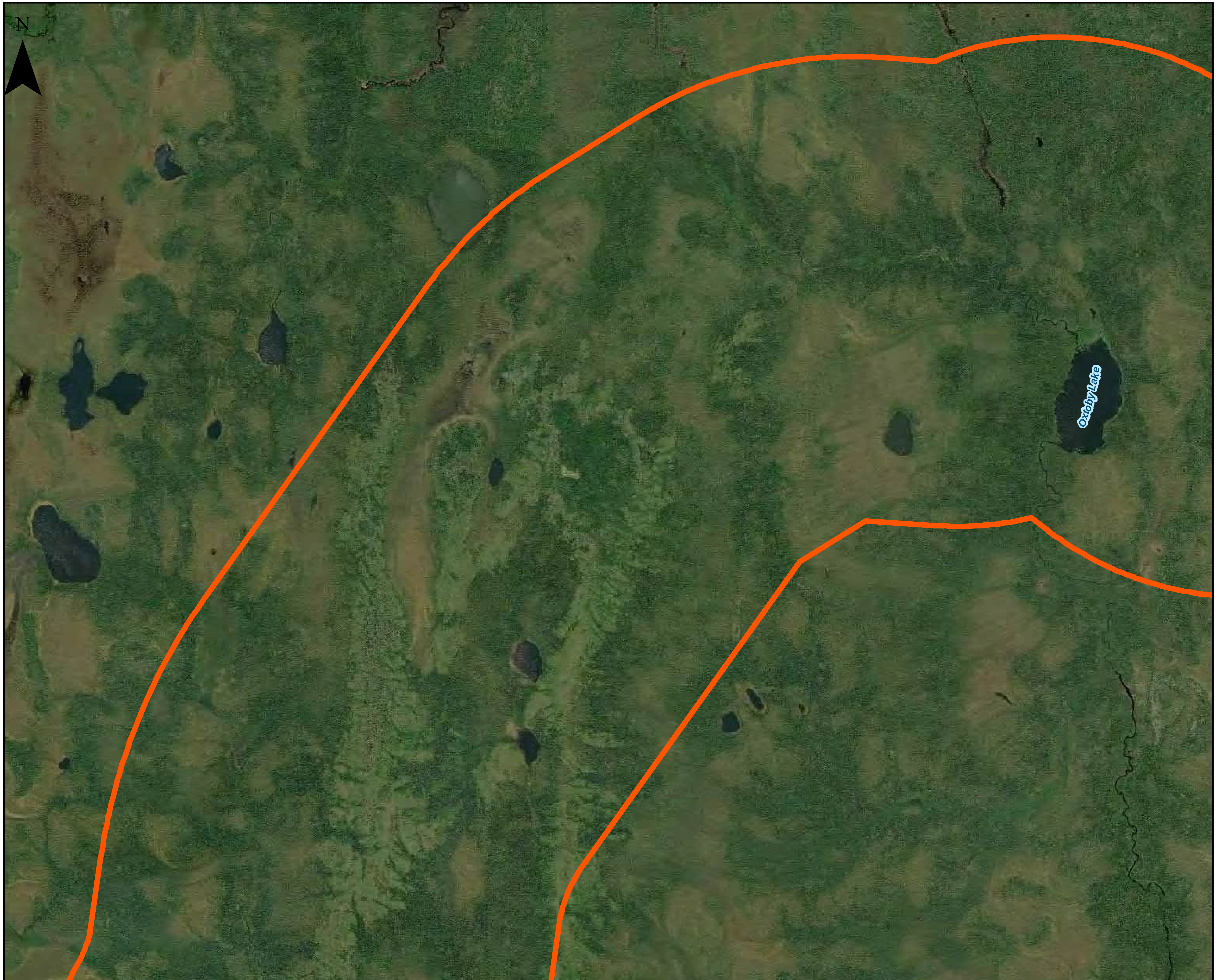

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Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-33

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-34

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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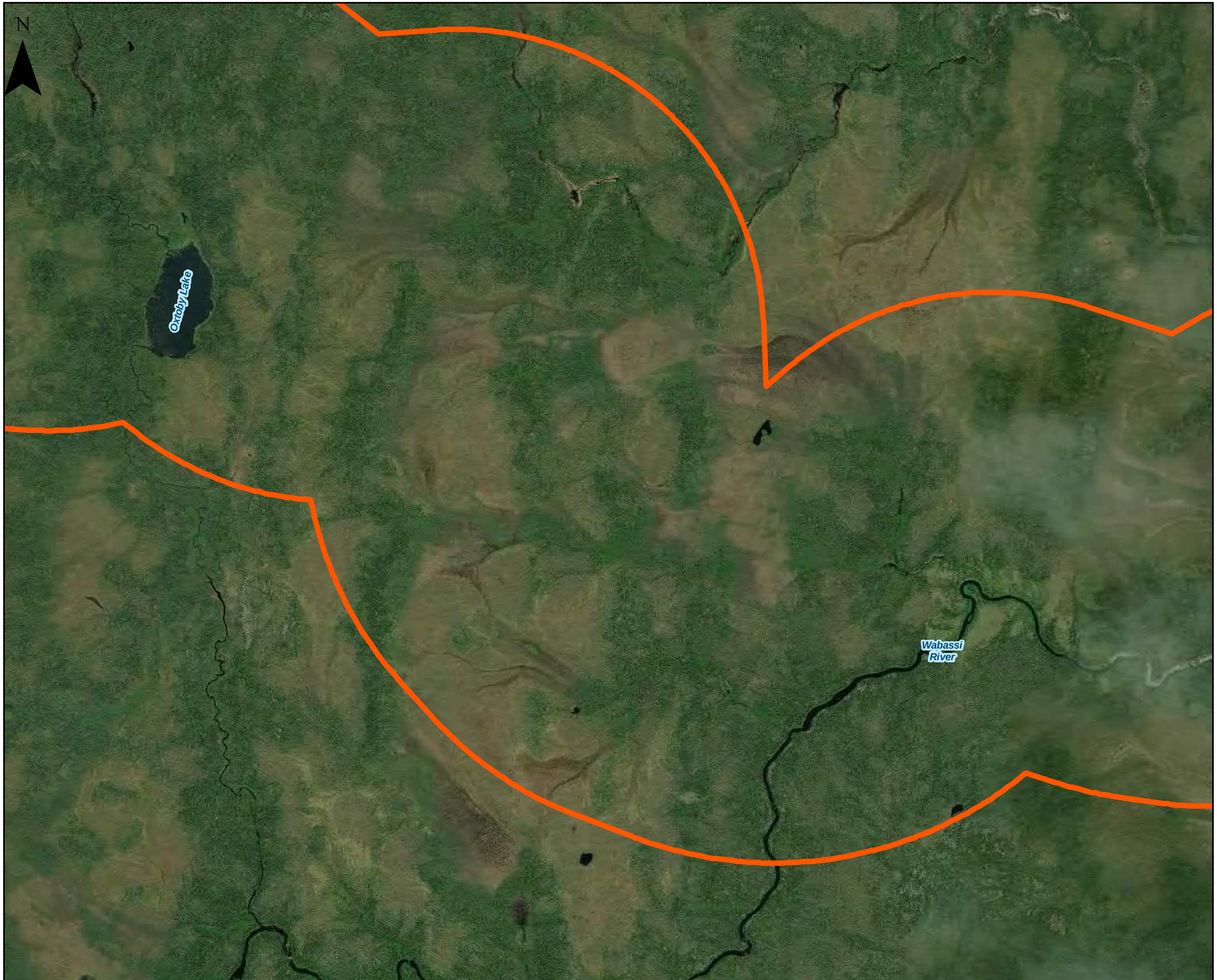


Legend

Study Area

0 0.5 1 2 3

Kilometers

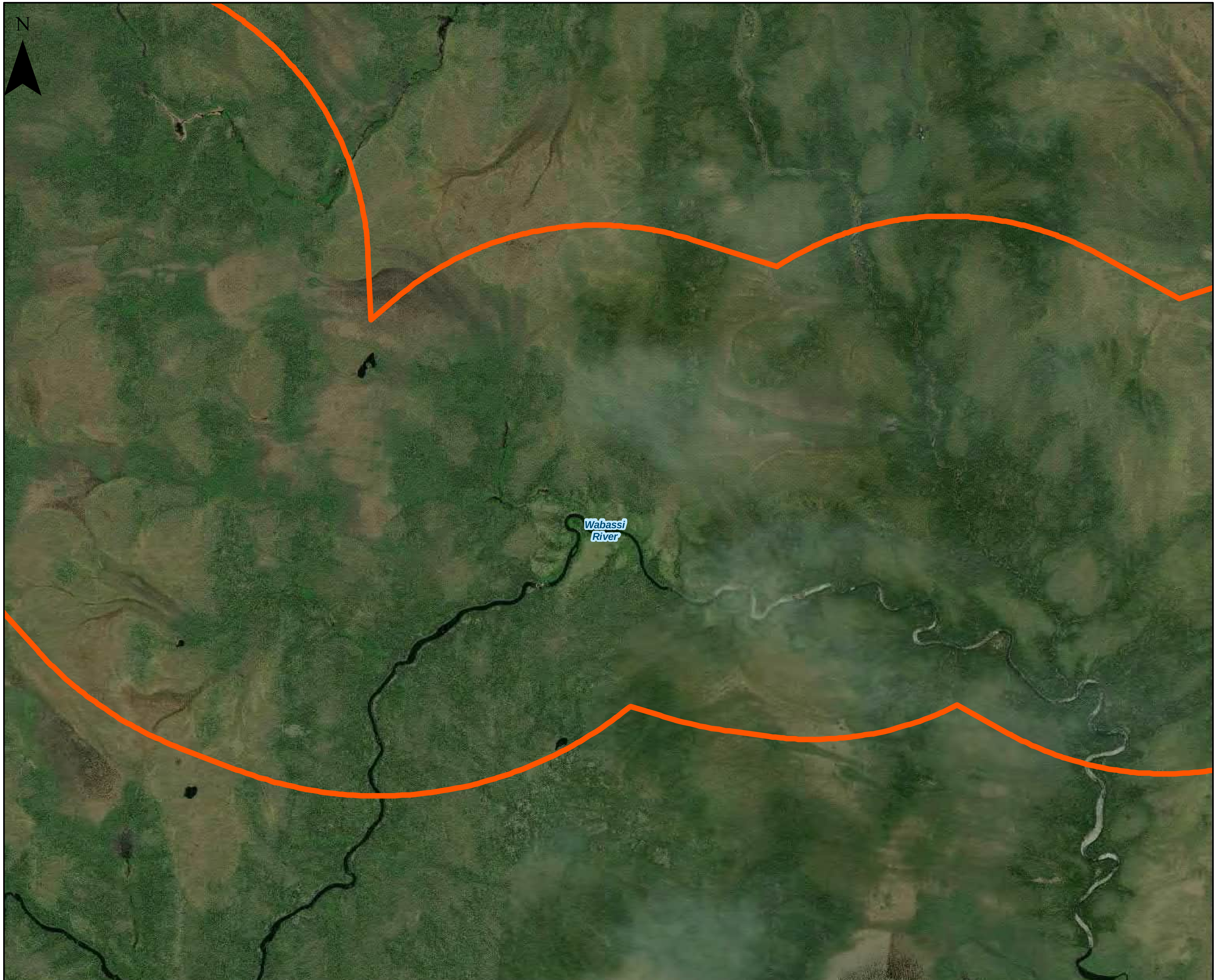
Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

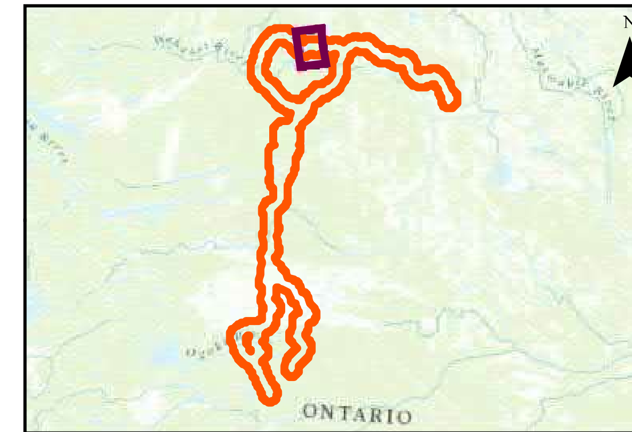
Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-35





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Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-36

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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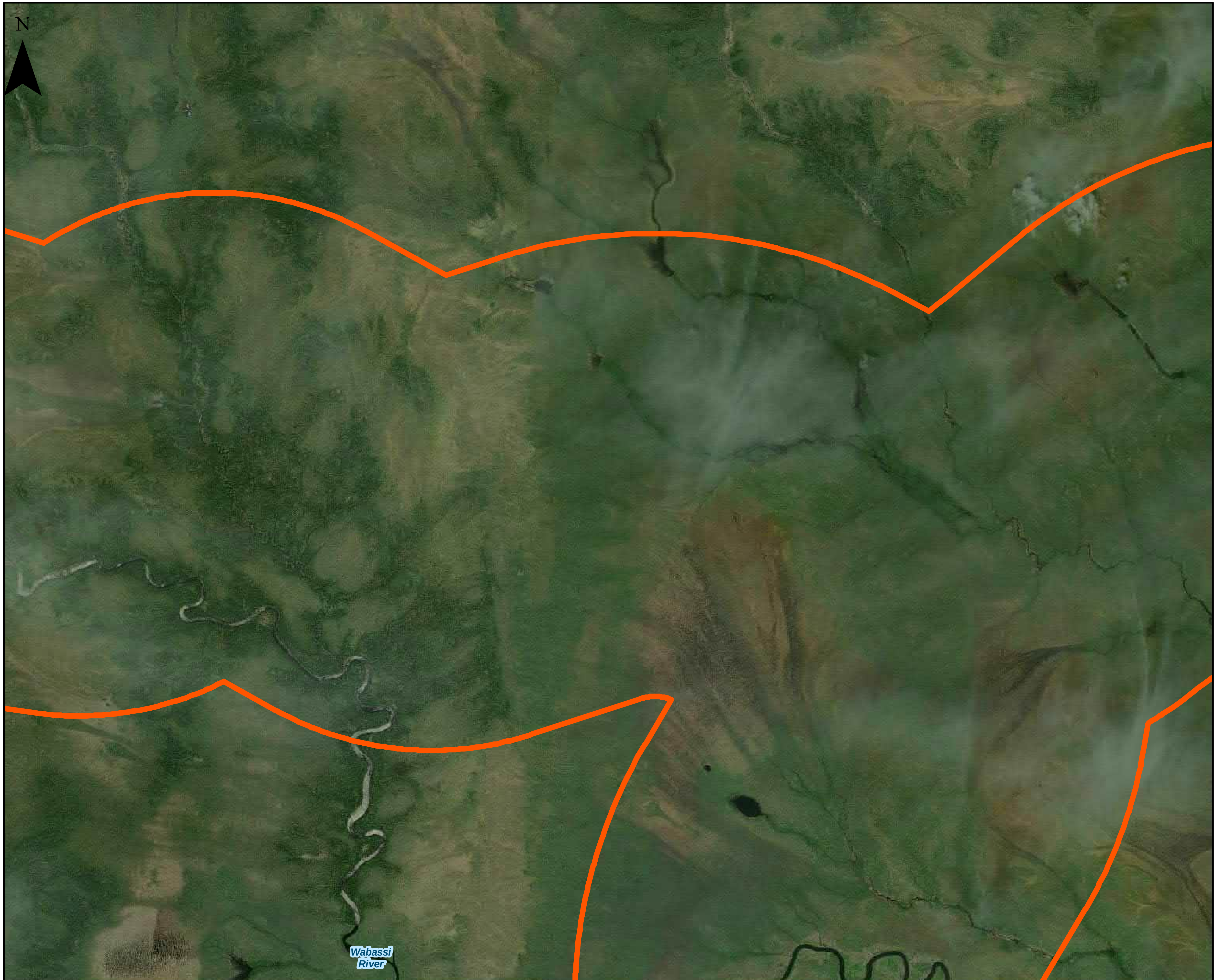

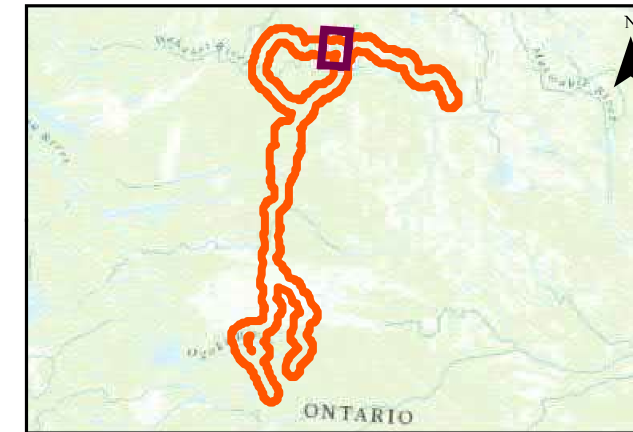

Legend

Study Area

0 0.5 1 2 3
Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-37

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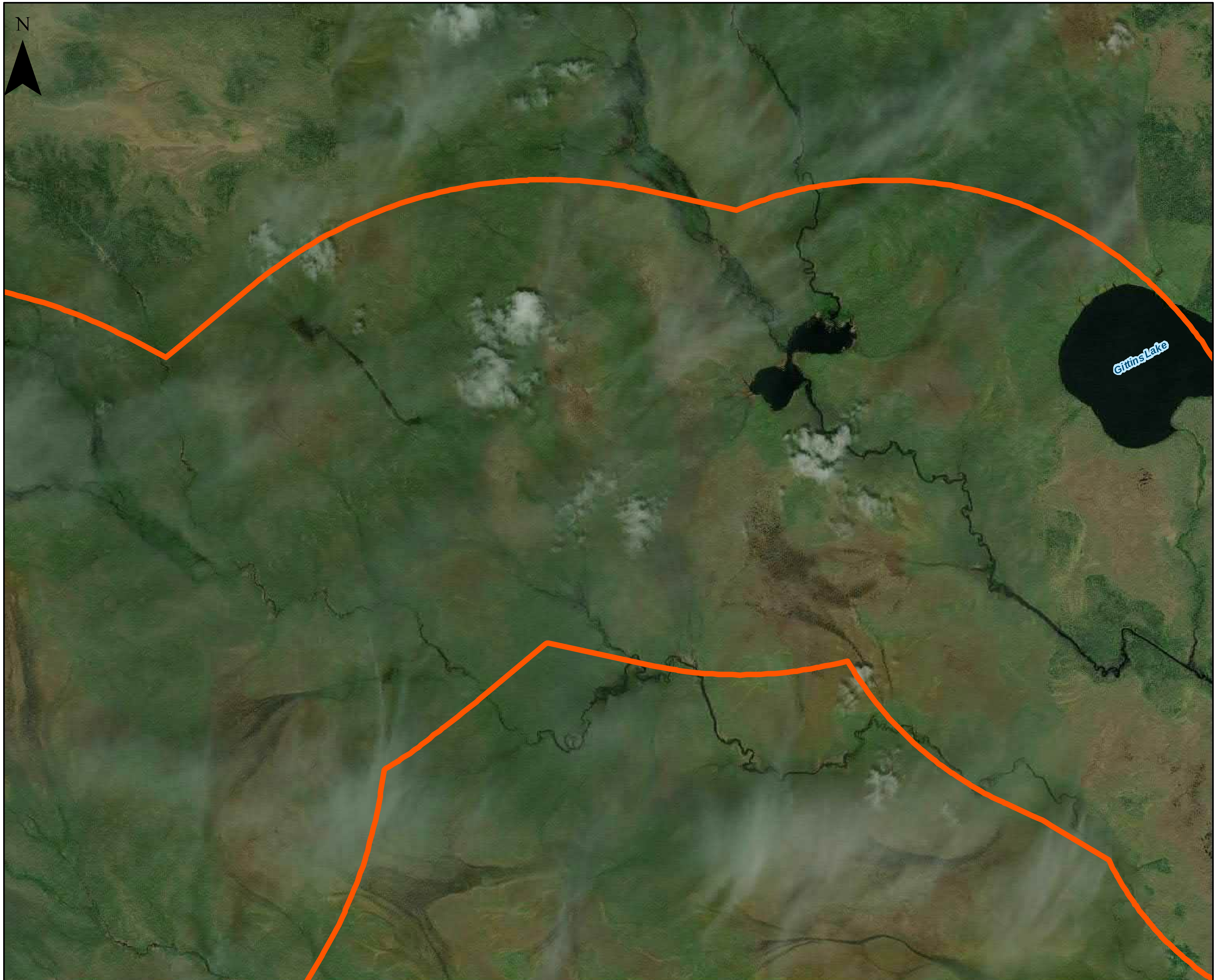

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-38

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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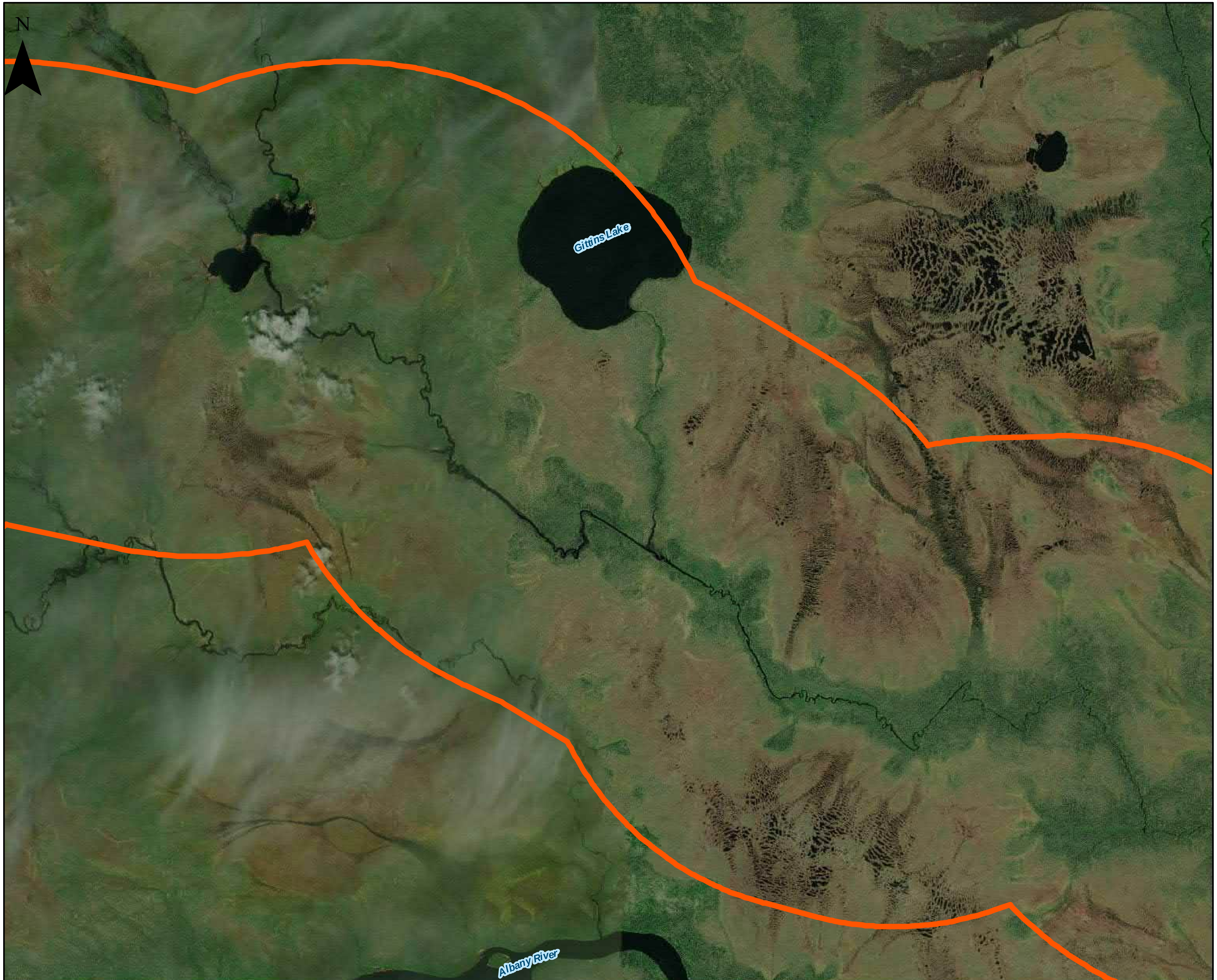

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-39

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
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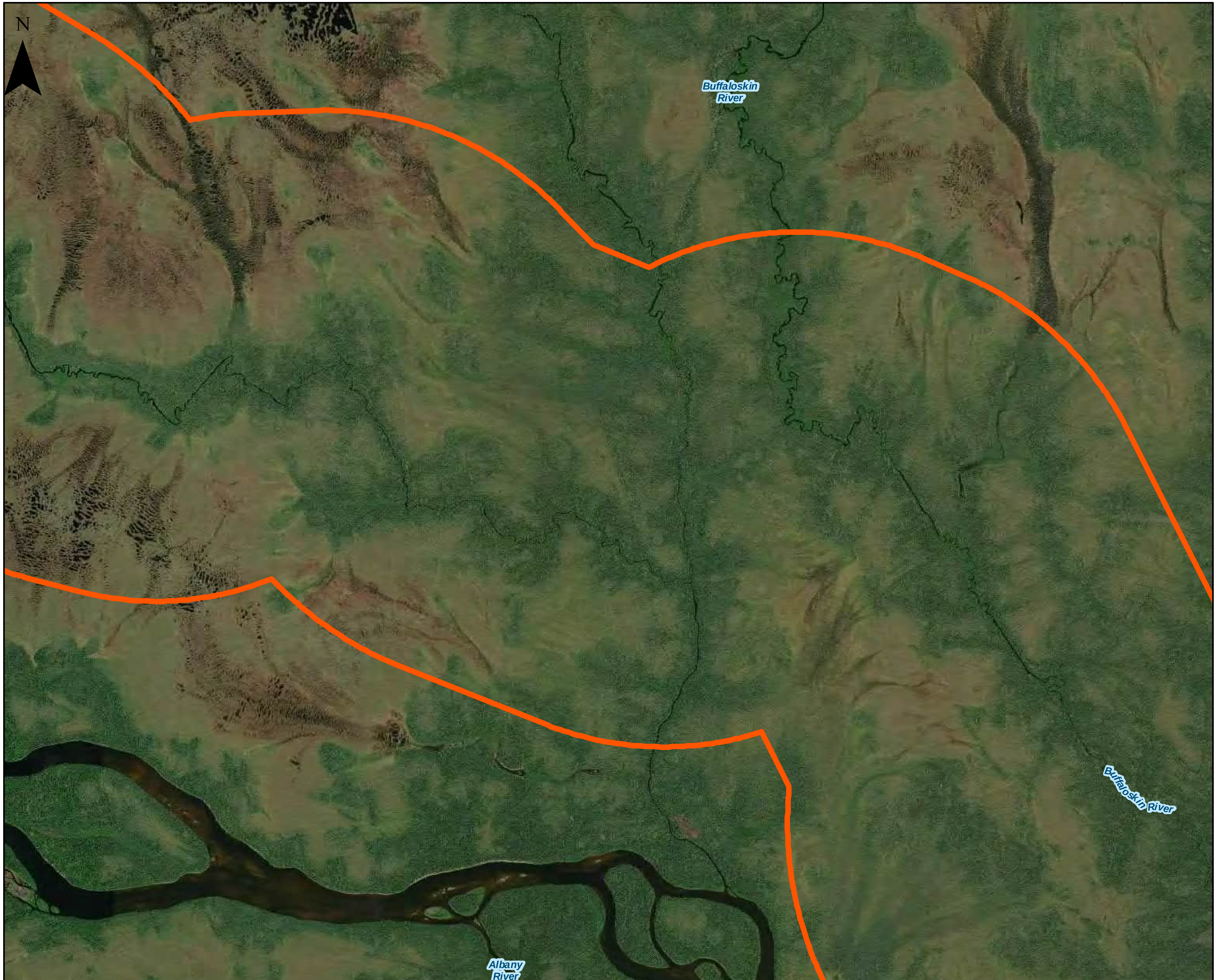

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Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

Figure 3-40

Date Saved: 10/21/2020 1:36:13 PM

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-41

Date Saved: 10/21/2020 1:36:13 PM

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-42

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure2_Aerial.mxd
Date Saved: 10/21/2020 1:36:13 PM

Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-43

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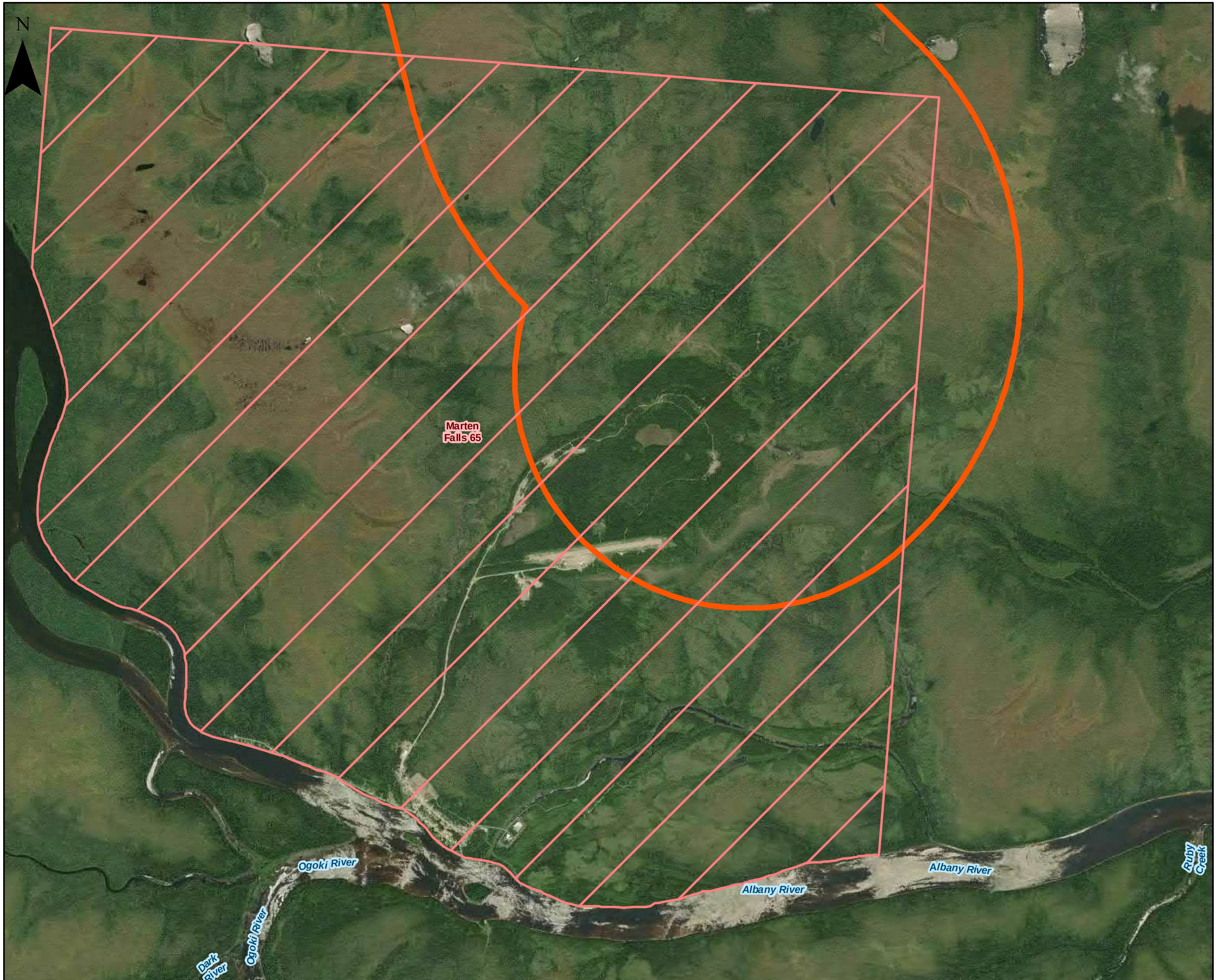


Legend

Study Area

0 0.5 1 2 3

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

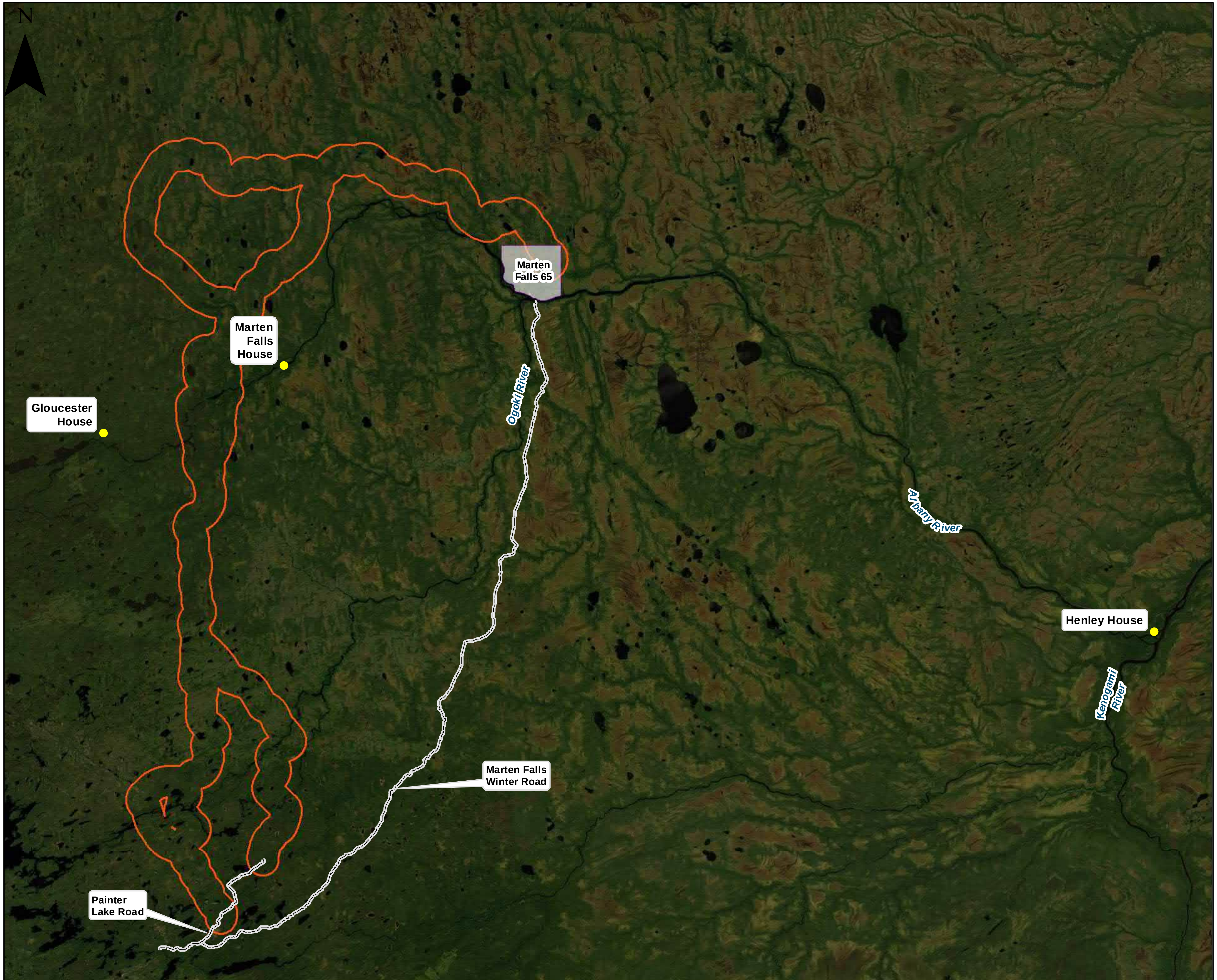
Study Area

Oct 2020	1:40,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-44

Date Saved: 10/21/2020 1:36:13 PM



Legend

- Trading Post
- Road
- Marten Falls First Nation
- Study Area

0 5 10 20 30
Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Trading Posts

Oct 2020	1:600,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 4-1

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure3_TradingPostLocations.mxd
Date Saved: 10/19/2020 10:35:39 AM

Legend

- Trading Post
- Study Area

0 250 500 1,000 1,500
Meters

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

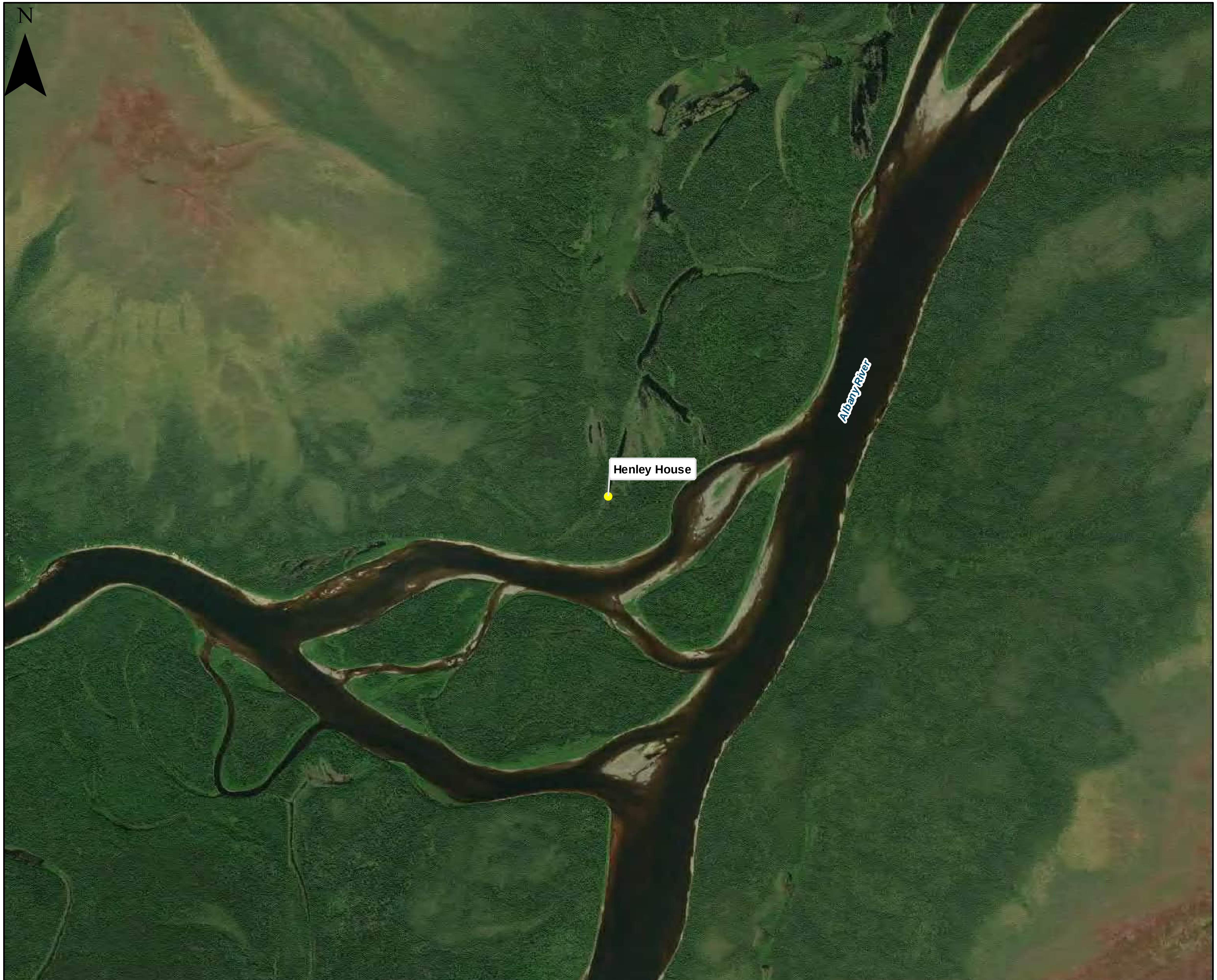
Trading Posts - Gloucester House

Oct 2020	1:25,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 4-2

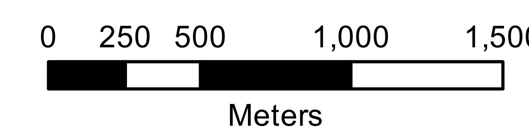
Date Saved: 10/21/2020 1:33:34 PM



Legend

Trading Post

Study Area



Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Trading Posts - Henley House

Oct 2020	1:25,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 4-3

Date Saved: 10/21/2020 1:40:19 PM

Legend

Trading Post

Study Area

0 250 500 1,000 1,500

Meters

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Trading Posts - Gloucester House

Oct 2020	1:25,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 4-4

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure3-4_MartenFallsHouse_TradingPostLocations.mxd
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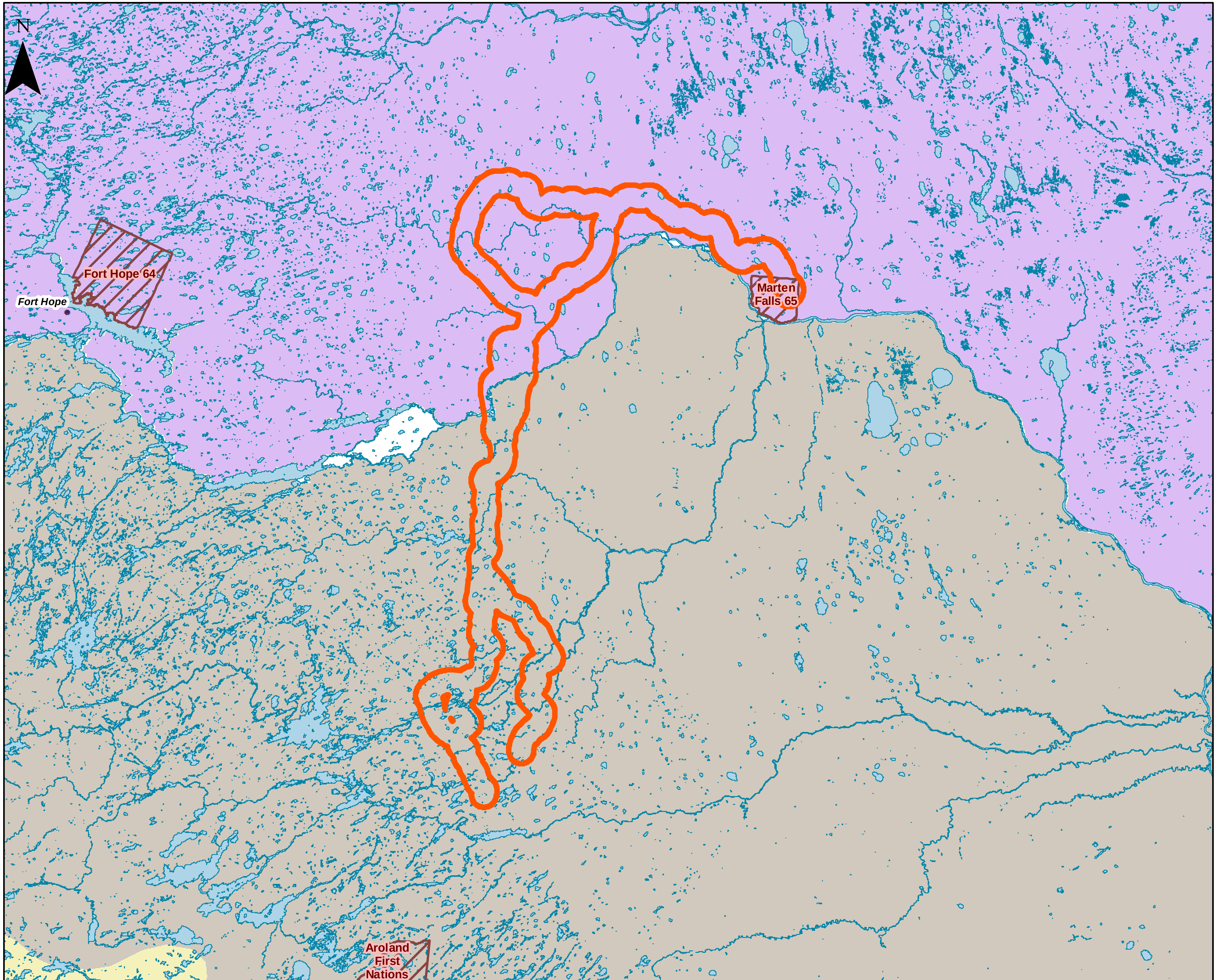

Legend

Study Area

First Nation Community

Waterbody

Treaties

Adhesion to Treaty, No. 9, 1929

Treaty No. 60, 1850

Treaty No. 9, 1905-1906

0 5 10 20 30

Kilometers

Stage 1 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Treaties in Relation to the Study Area

Oct 2020	1:750,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 5

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 1 Archaeological Assessment Report\Figure4_TreatiesAndPurchases.mxd
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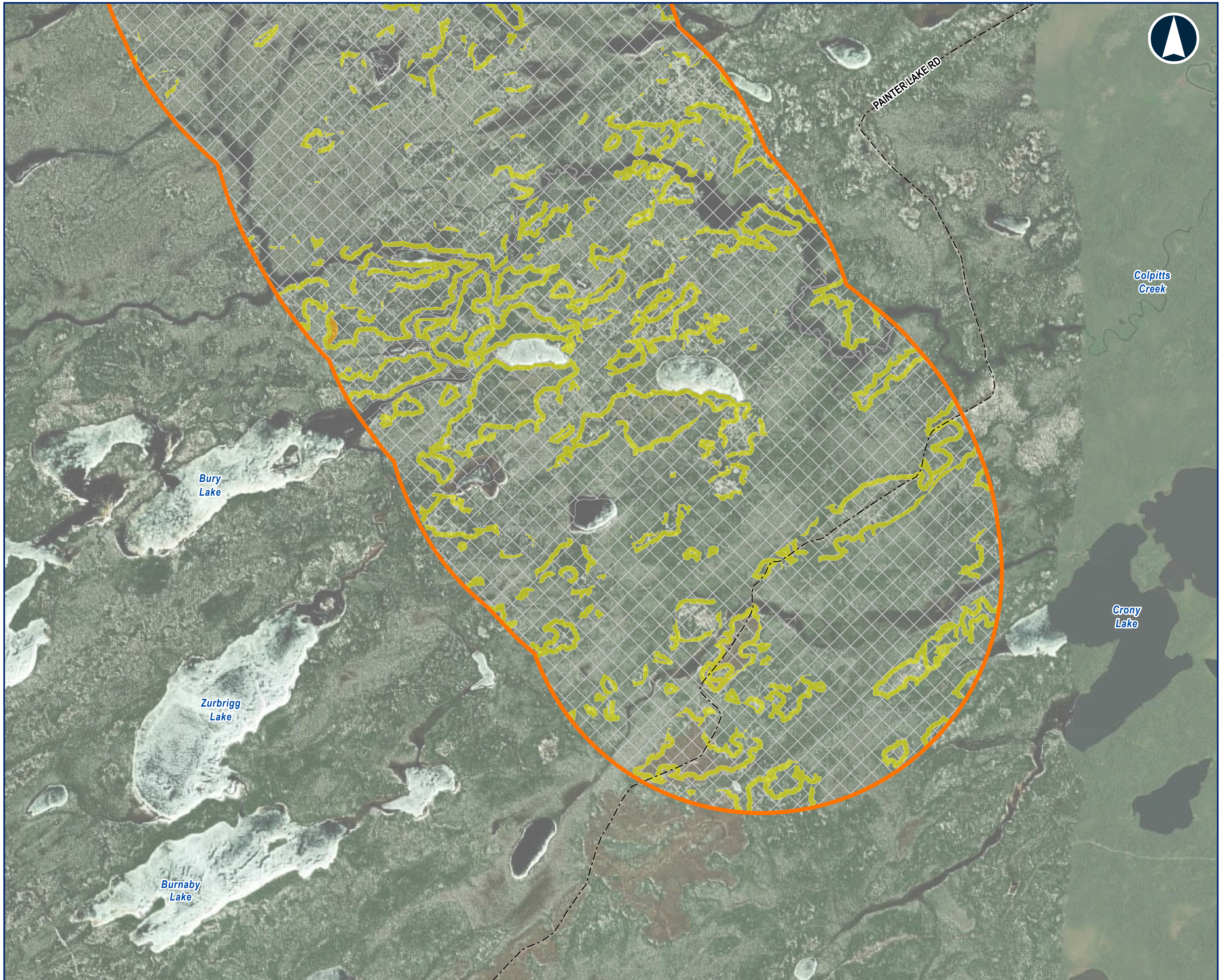

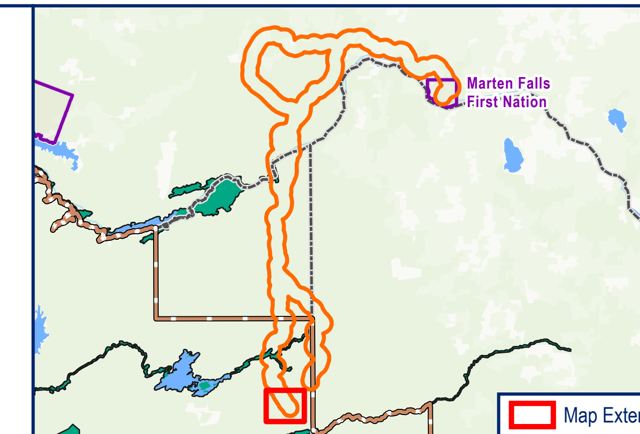

Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

DATUM: NAD 1983 CSRS UTM Zone 16N

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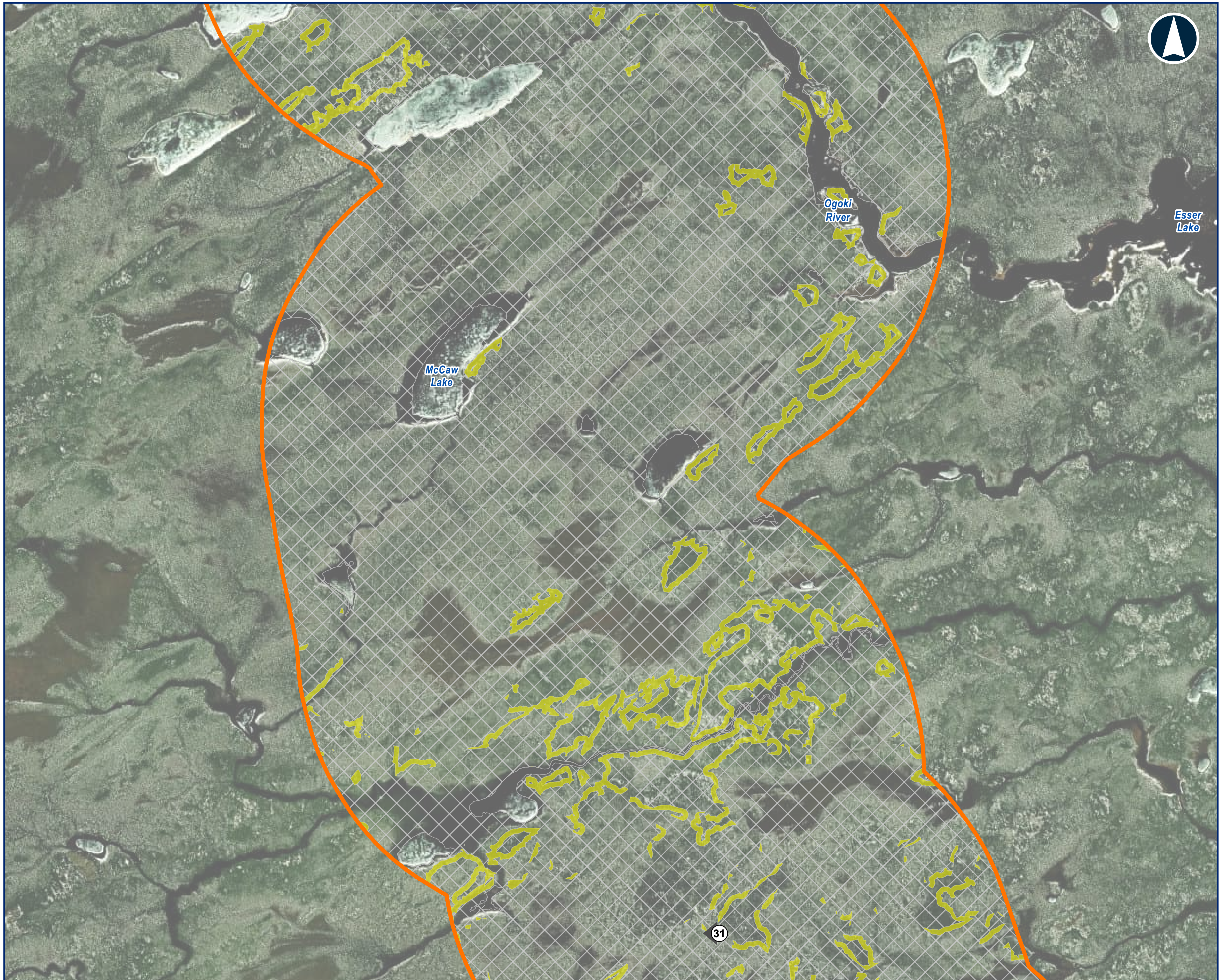
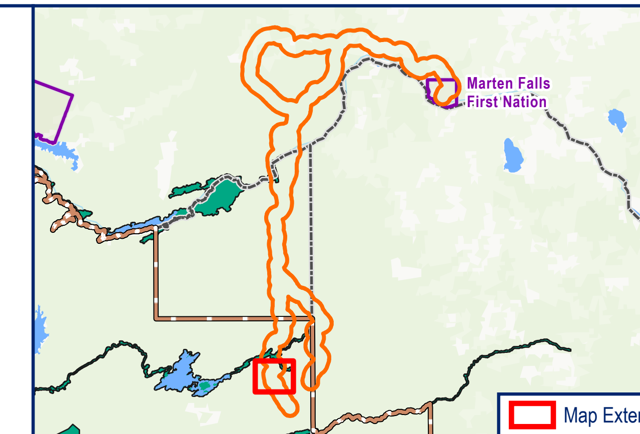
Figure 6-1





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4

Kilometres

DATUM: NAD 1983 CSRS UTM Zone 16N

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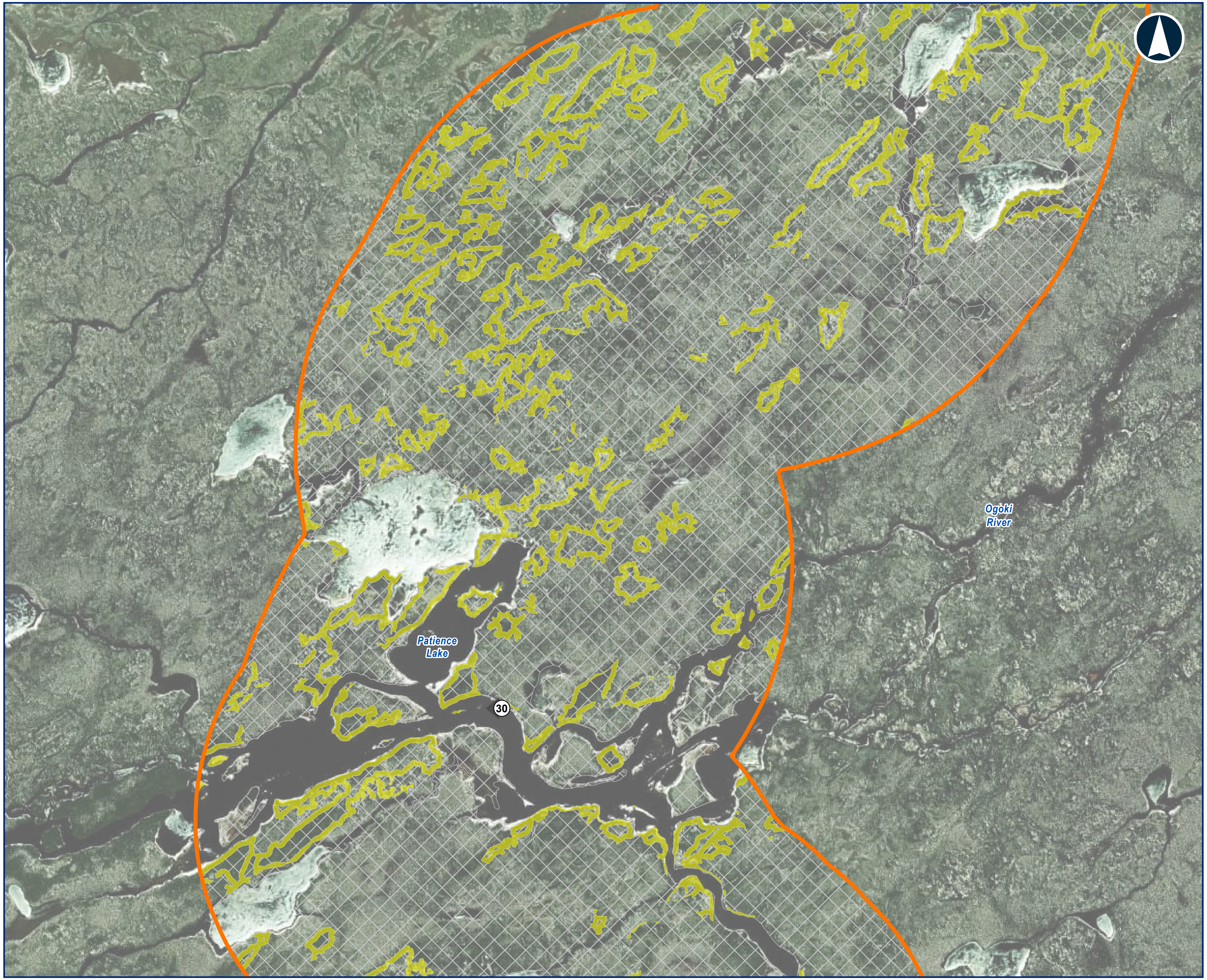
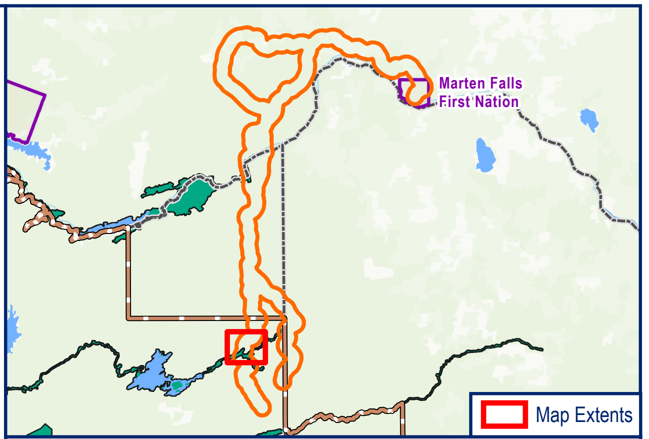
Figure 6-2





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4

Kilometres

DATUM: NAD 1983 CSRS UTM Zone 16N

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World Imagery: Maxar

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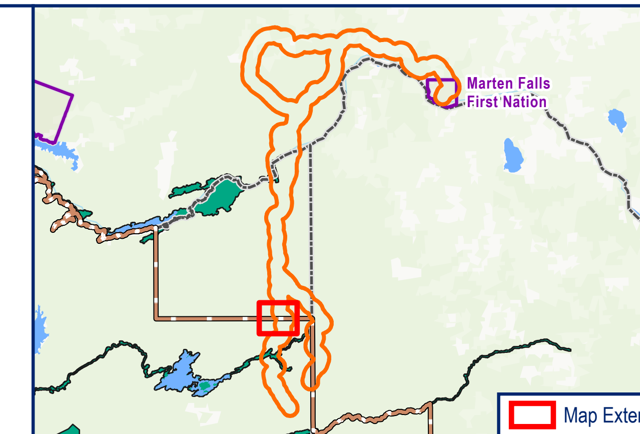
Figure 6-3

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2025\Archaeology Mapping\PRJ_MFCAR_Archaeology_60593122.aprx Figure: MAP_Fig5_Orginal2020Stage1_Results_60593122
Date Saved: 2025-07-21 User Name: Stephanie.Clark



Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

DATUM: NAD 1983 CSRS UTM Zone 16N

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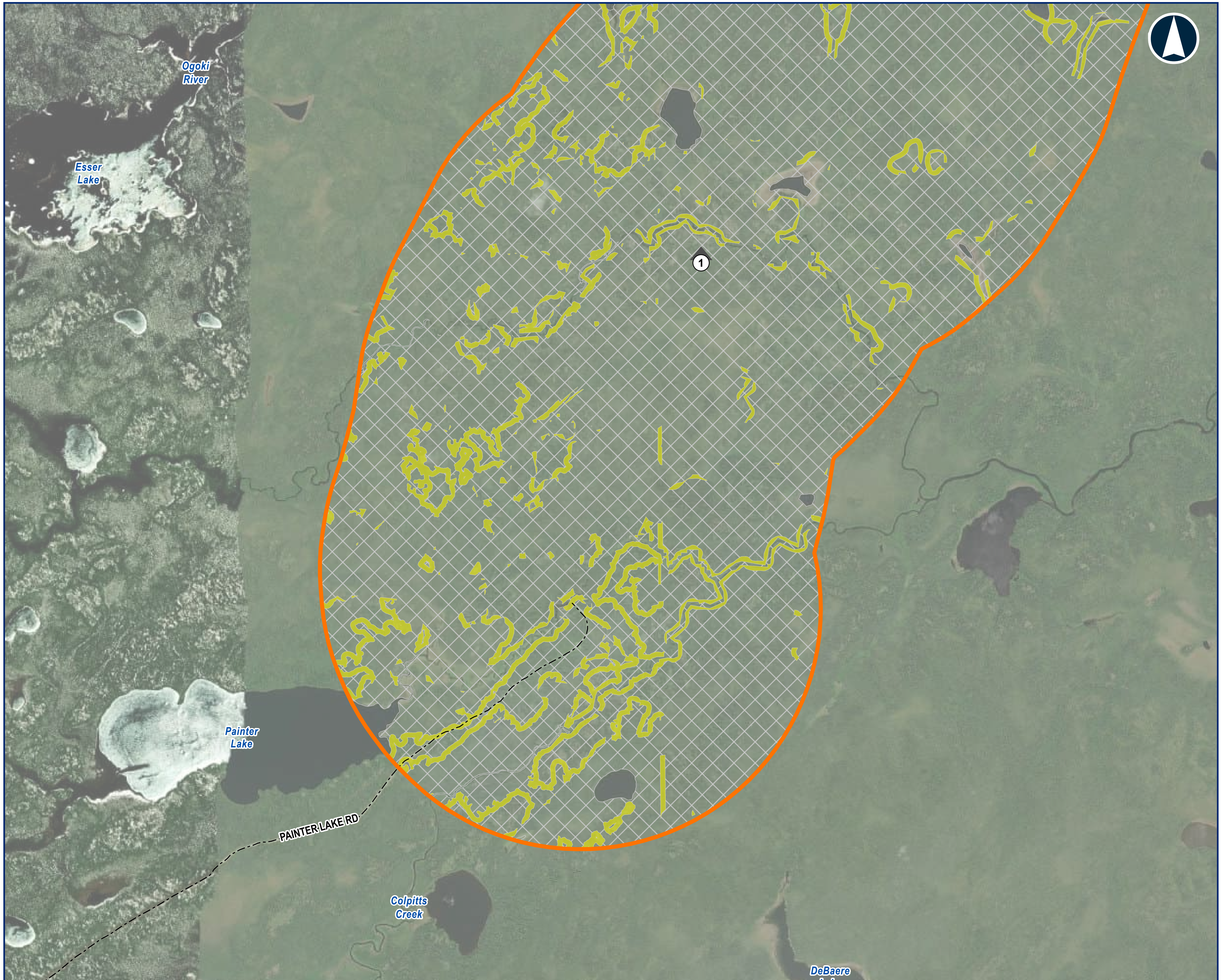
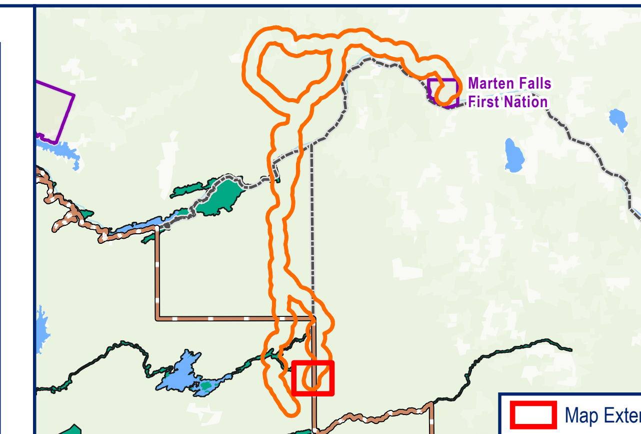
Figure 6-4





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

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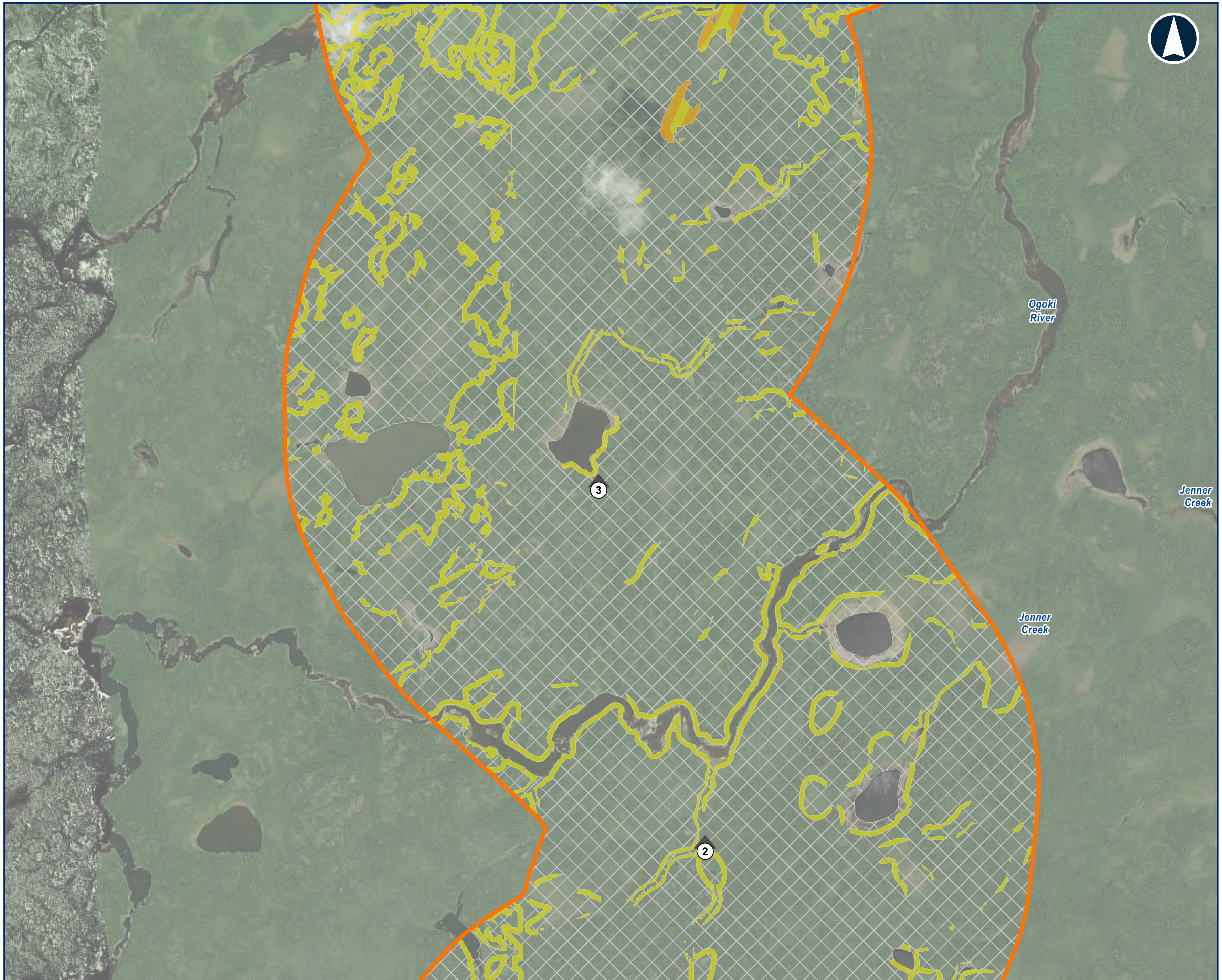
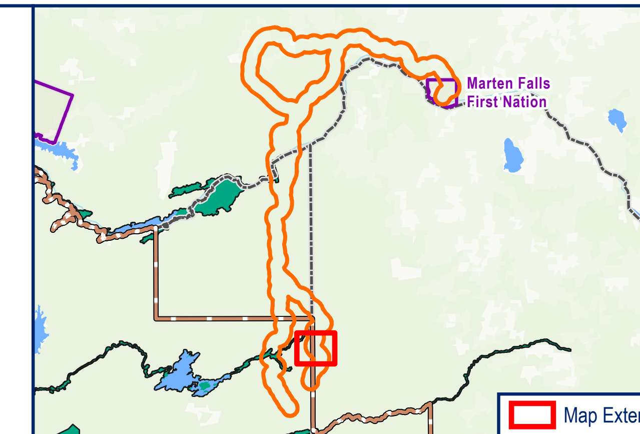
Figure 6-5





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

DATUM: NAD 1983 CSRS UTM Zone 16N

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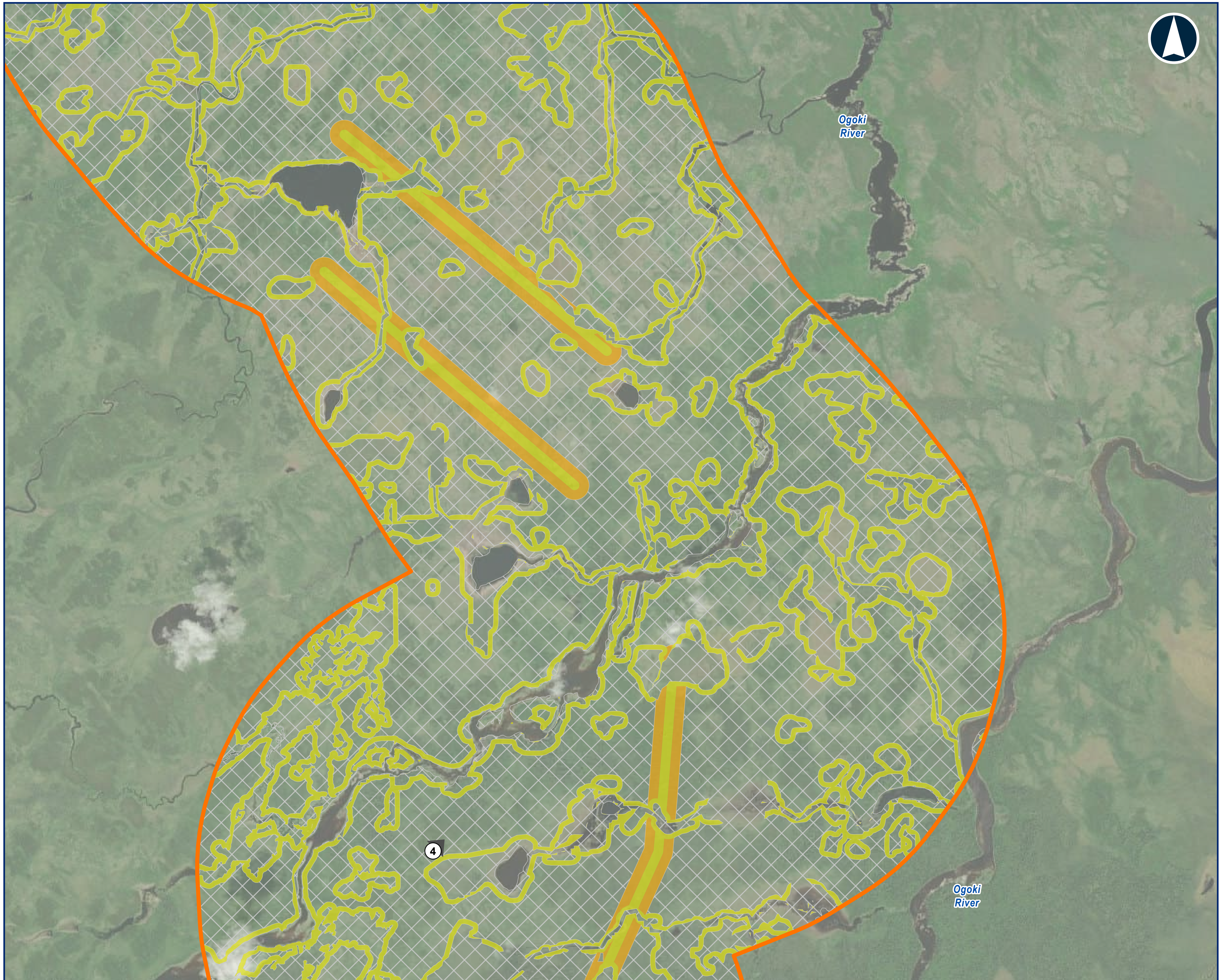
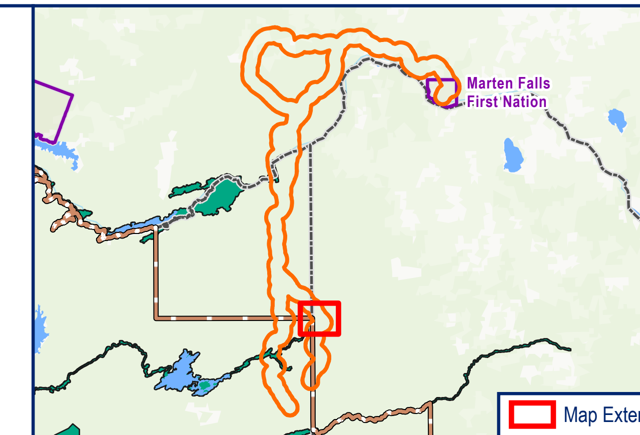
Figure 6-6

Date Saved: 2025-07-21 User Name: Stephanie.Clark





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

DATUM: NAD 1983 CSRS UTM Zone 16N

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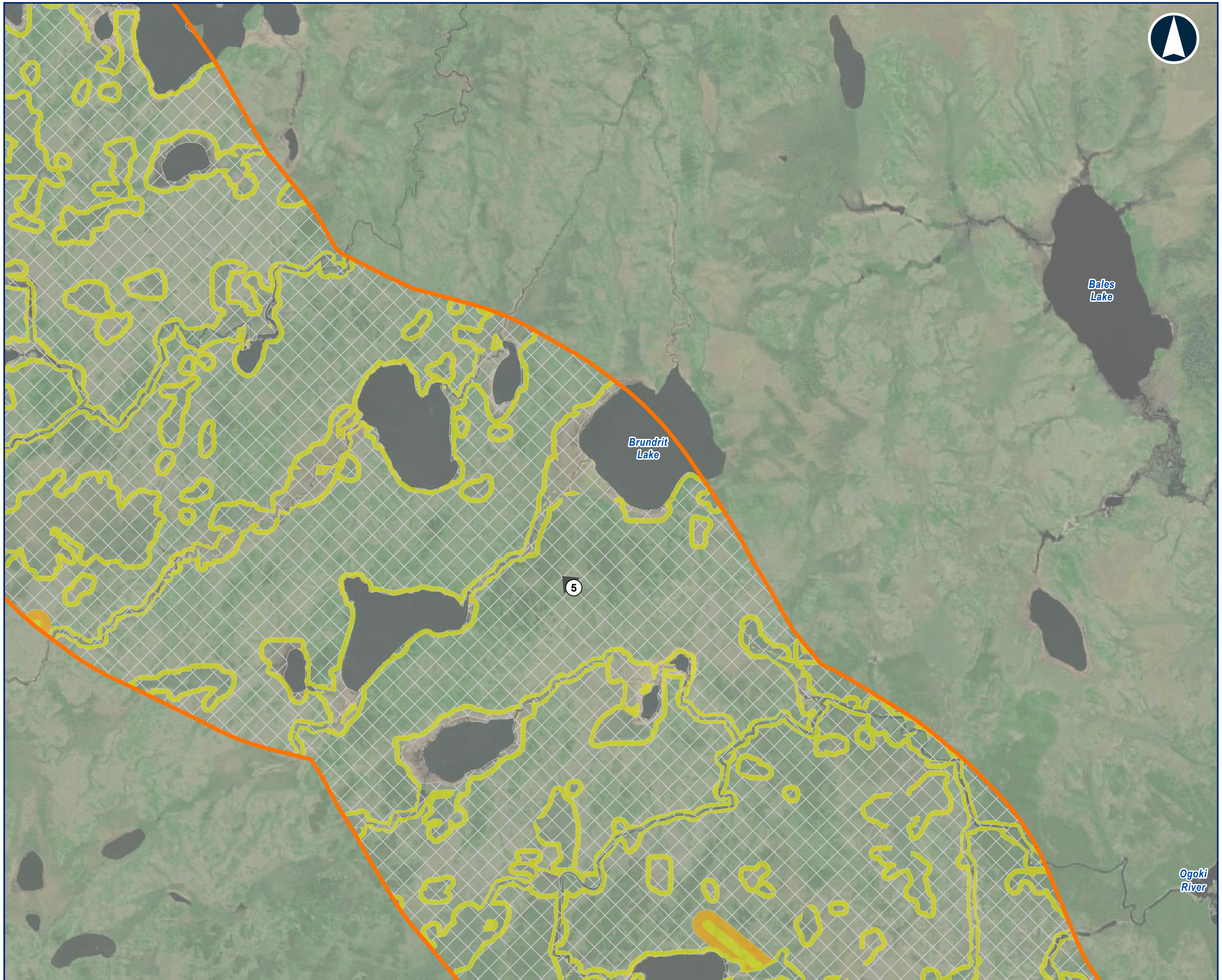
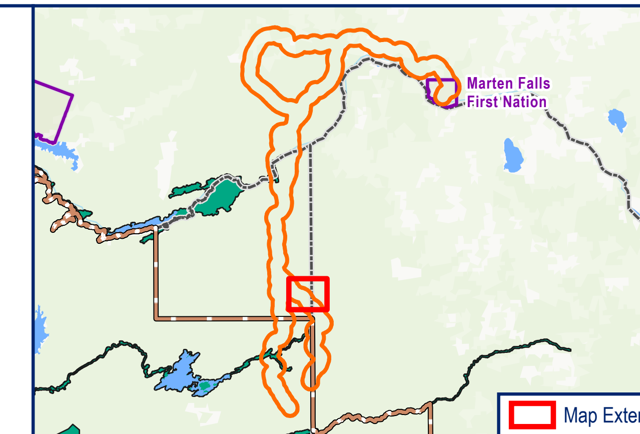
Figure 6-7





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

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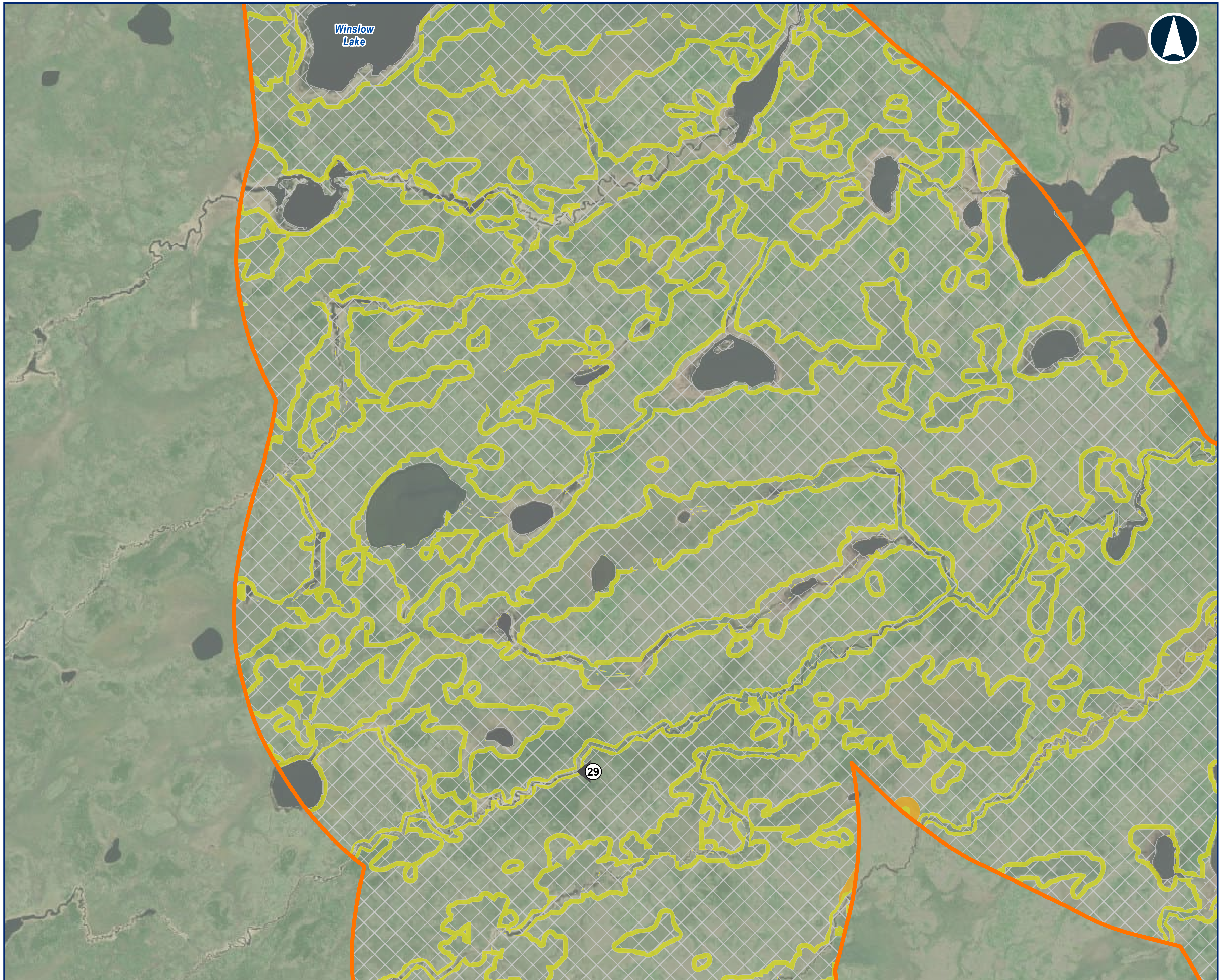
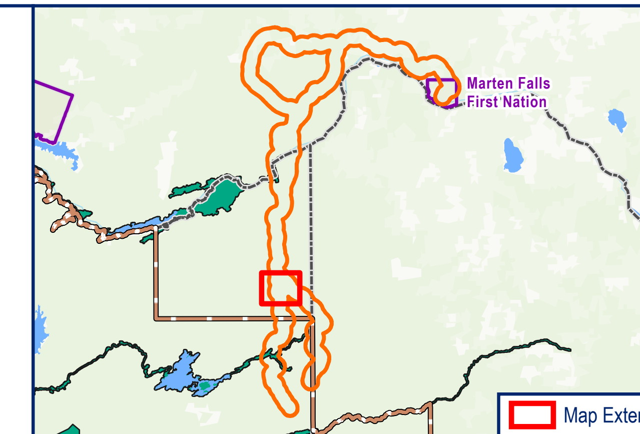
Figure 6-8





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4

Kilometres

DATUM: NAD 1983 CSRS UTM Zone 16N

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World Imagery: Maxar

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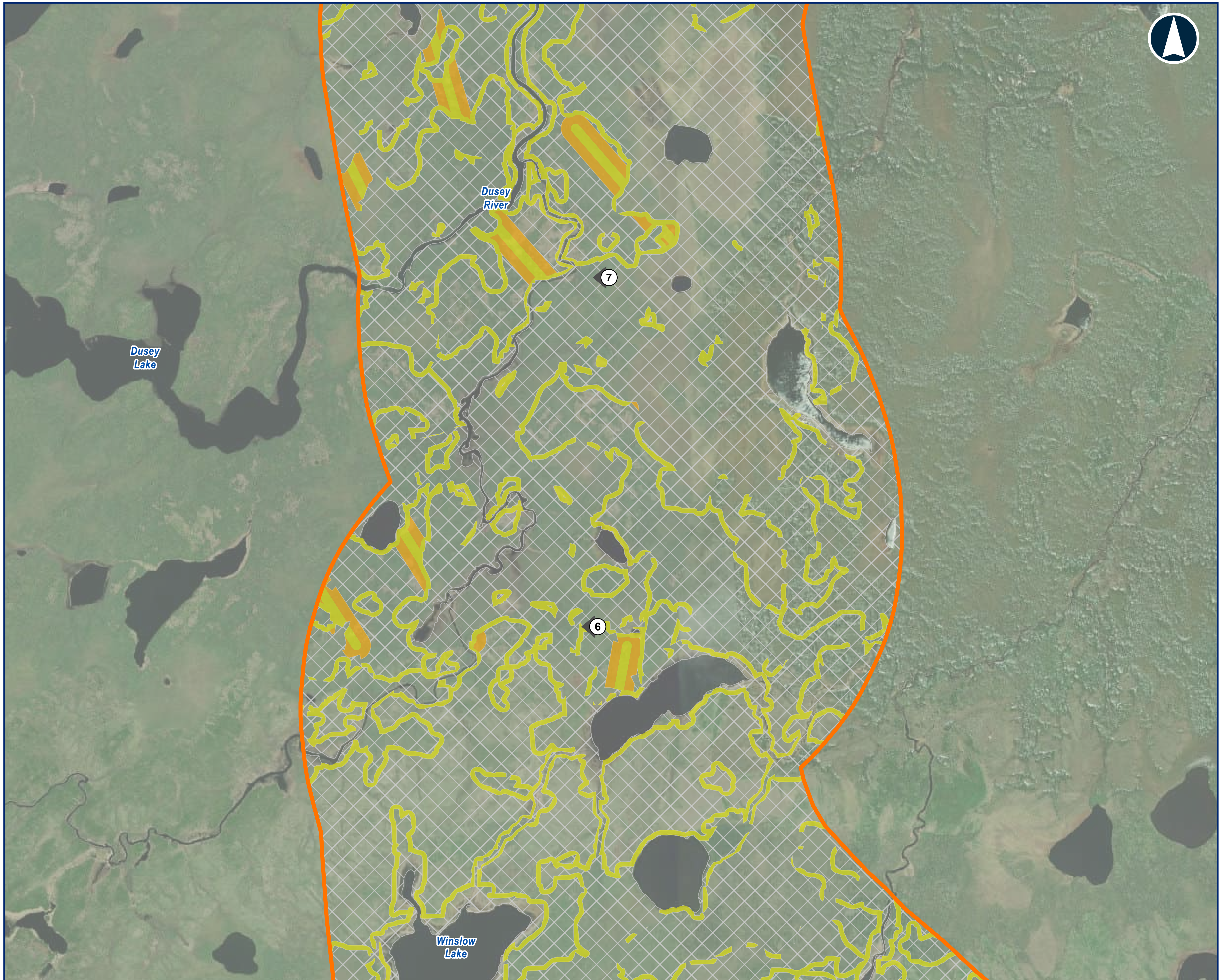
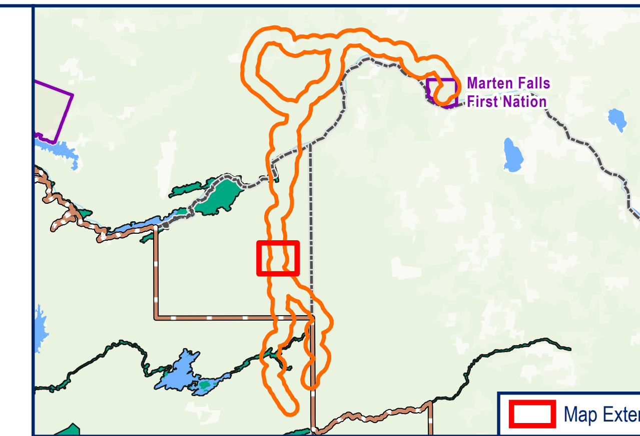
Figure 6-9





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

DATUM: NAD 1983 CSRS UTM Zone 16N

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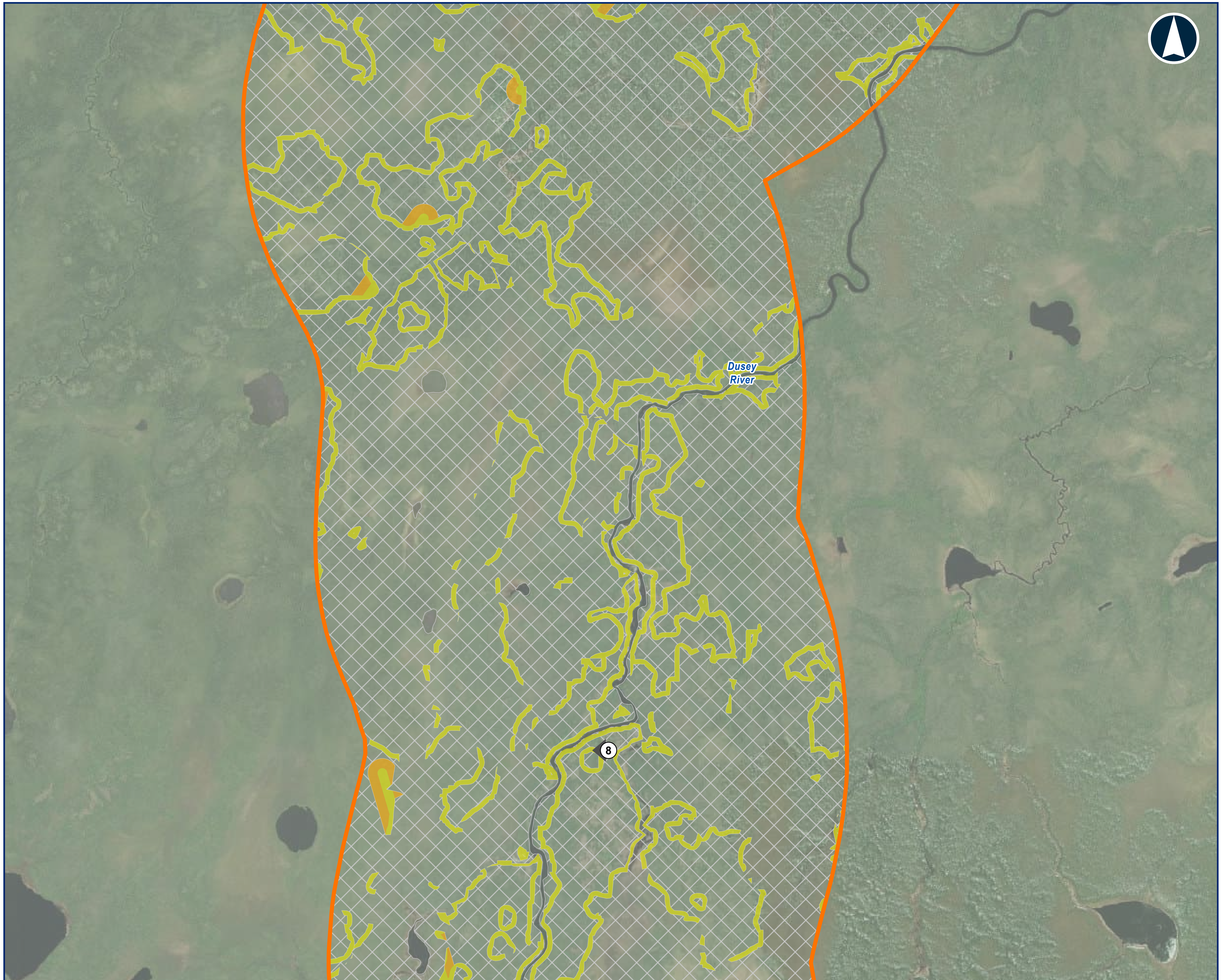
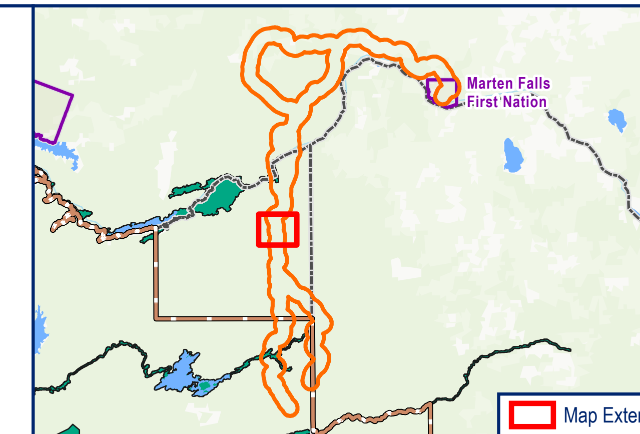
Figure 6-10

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2025\Archaeology Mapping\PRJ_MFCAR_Archaeology_60593122.aprx Figure: MAP_Fig5_Orginal2020Stage1_Results_60593122
Date Saved: 2025-07-21 User Name: Stephanie.Clark





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

DATUM: NAD 1983 CSRS UTM Zone 16N

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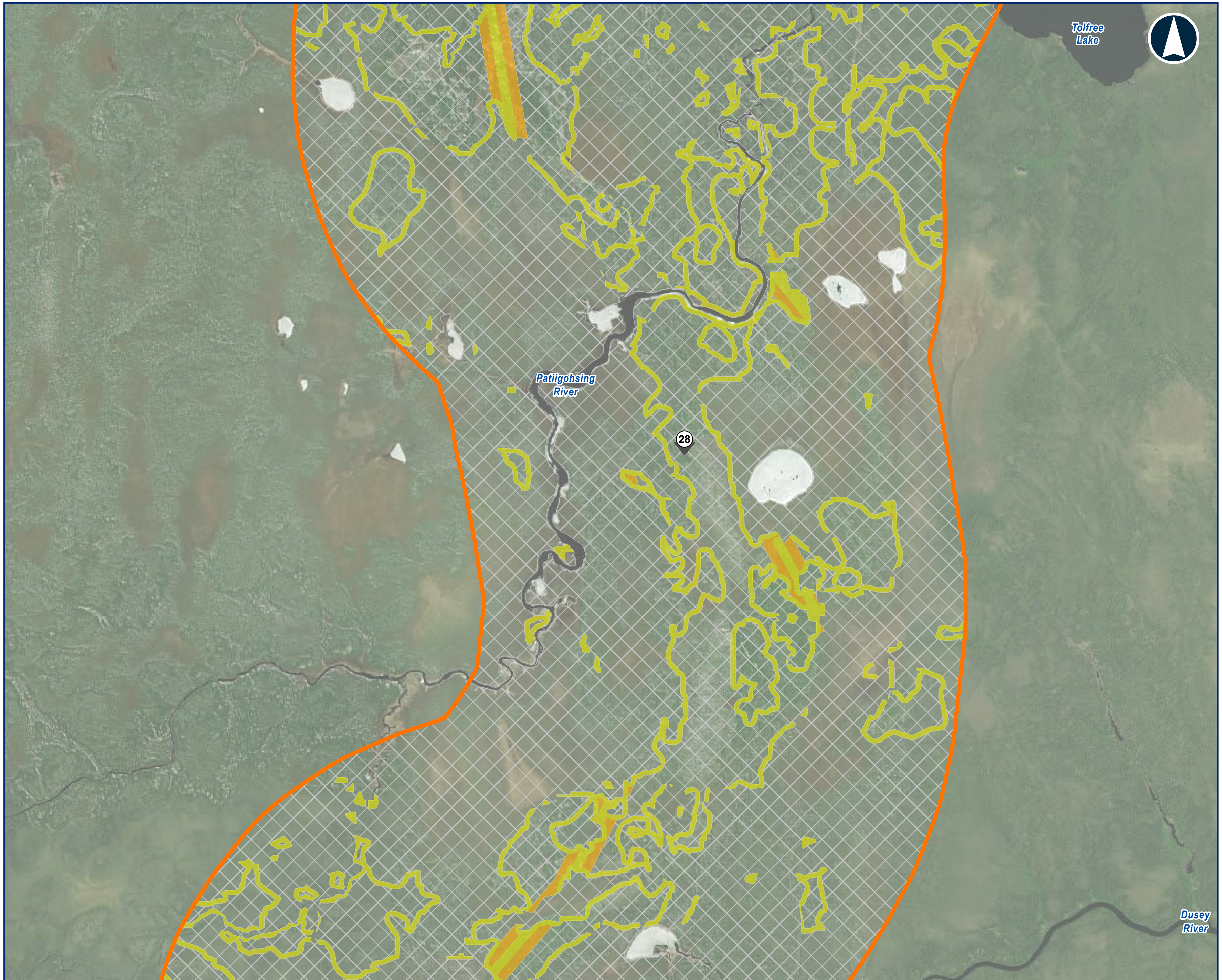
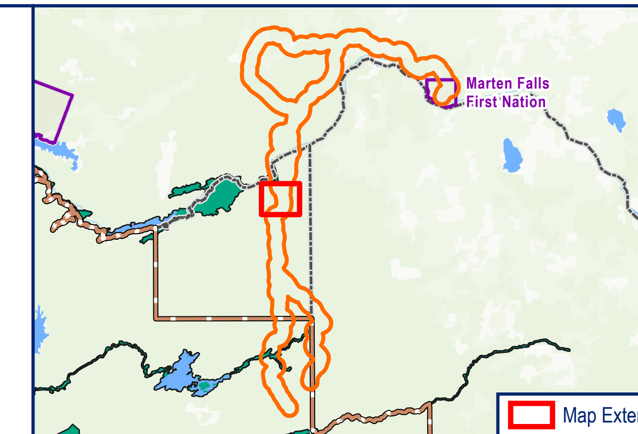
Figure 6-11





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4

Kilometres

DATUM: NAD 1983 CSRS UTM Zone 16N

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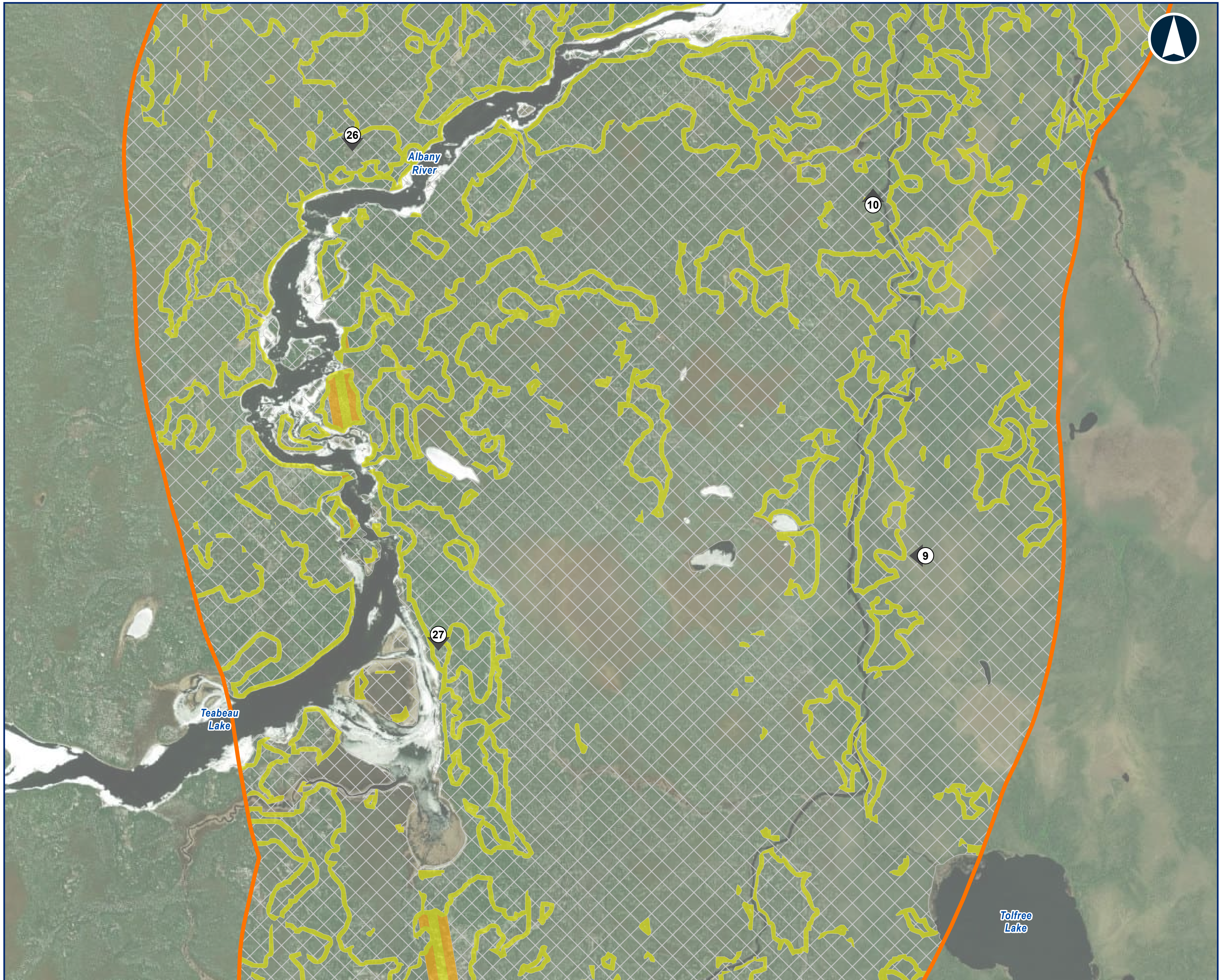
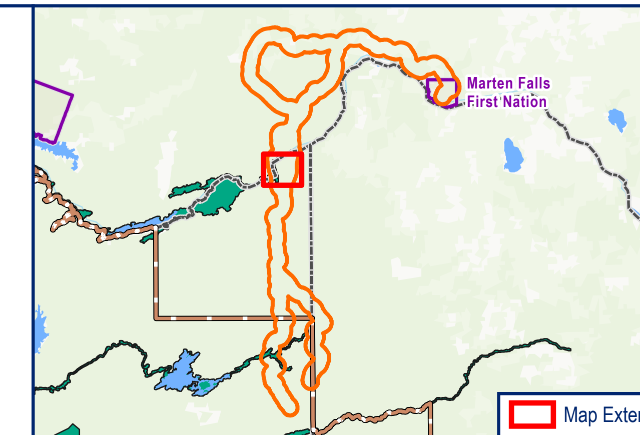
Figure 6-12





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

DATUM: NAD 1983 CSRS UTM Zone 16N

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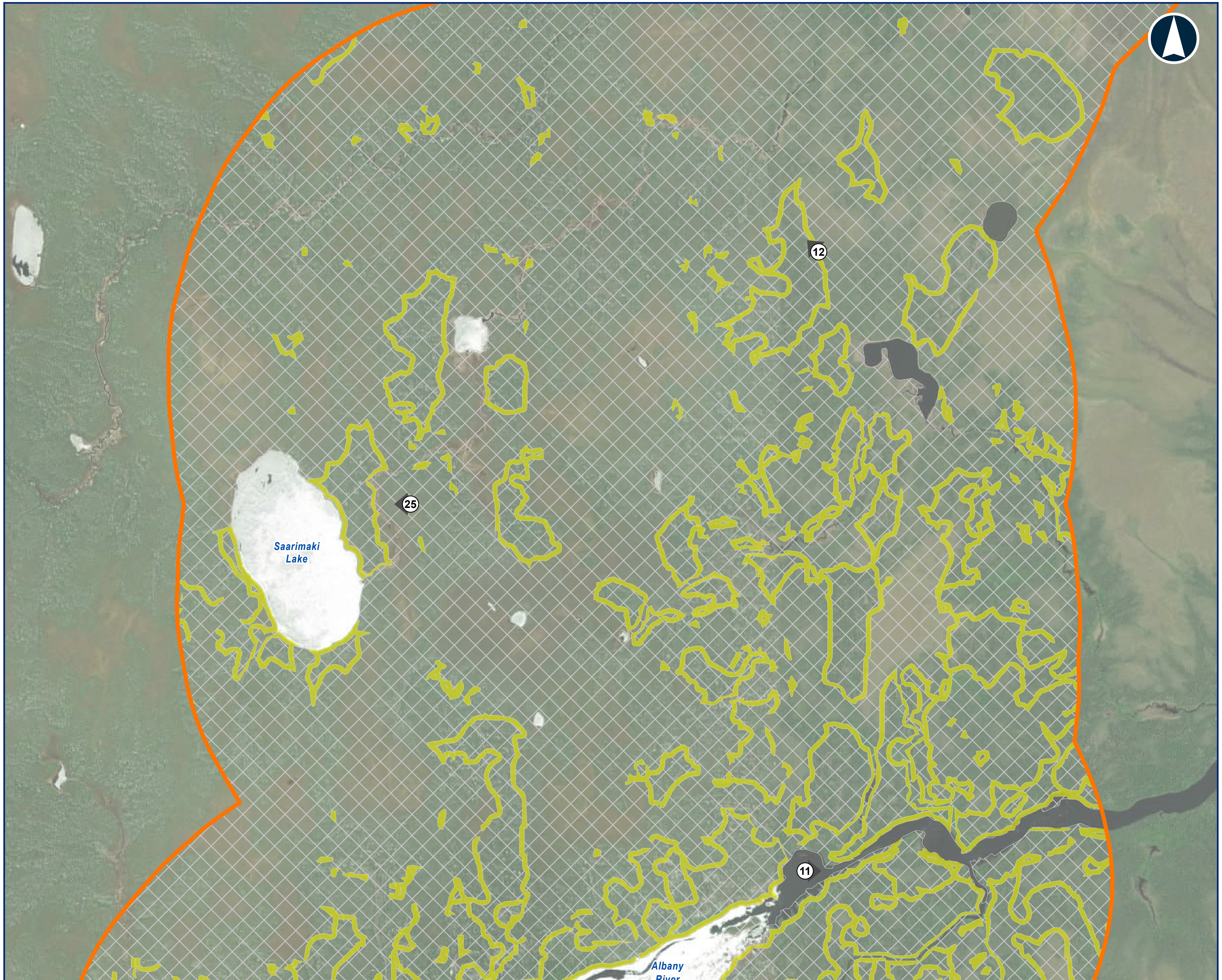
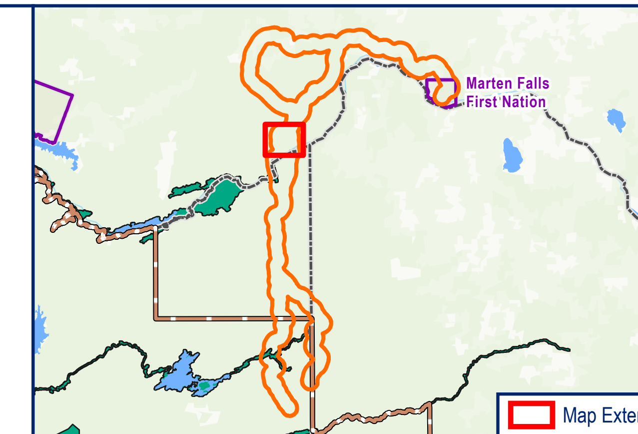
Figure 6-13





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

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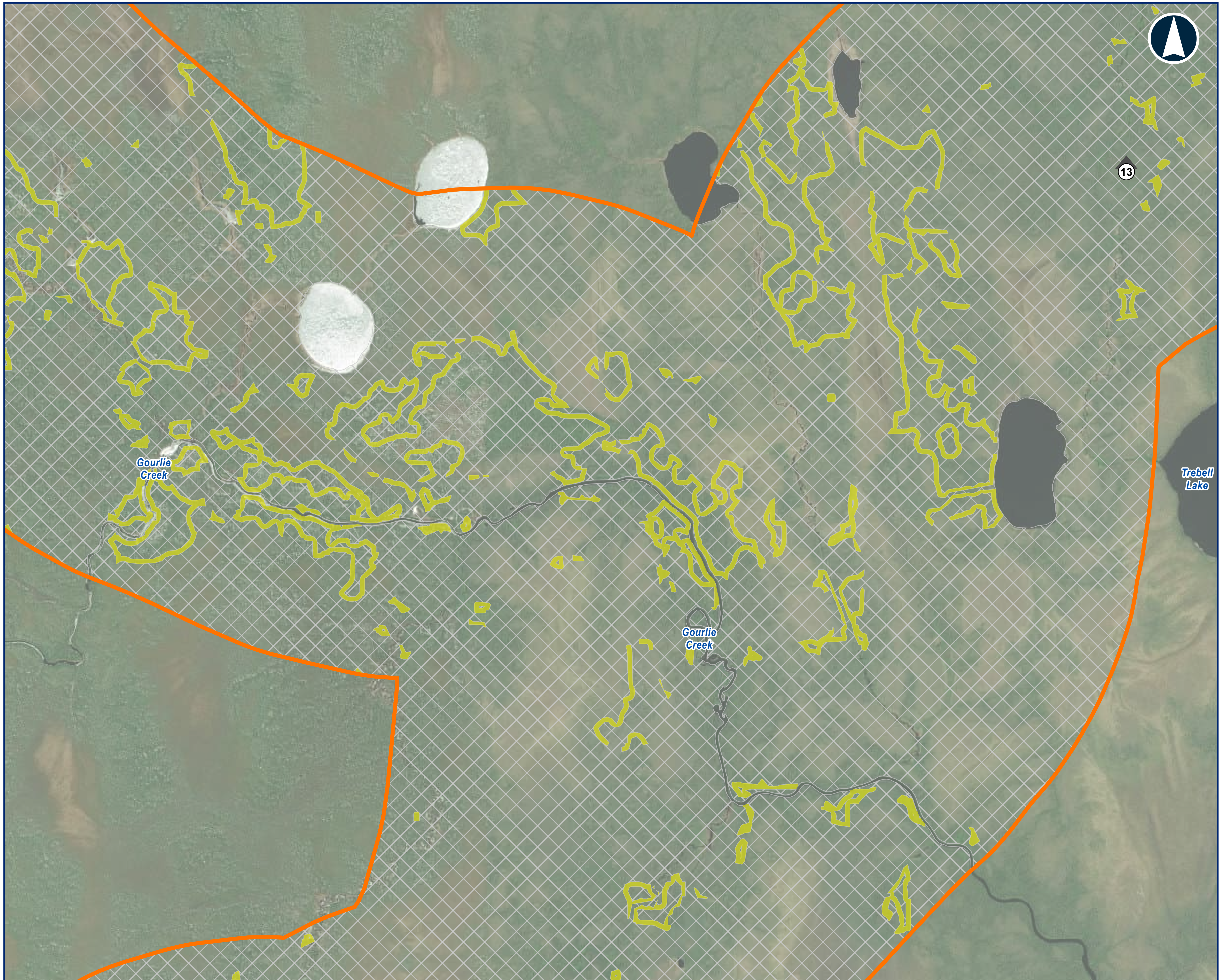
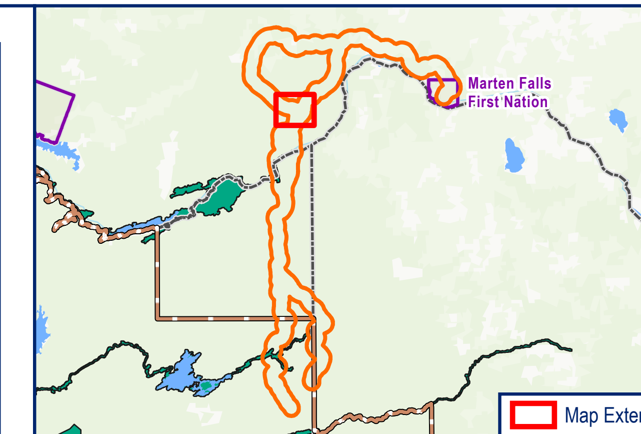
Figure 6-14

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2025\Archaeology Mapping\PRJ_MFCAR_Archaeology_60593122.aprx Figure: MAP_Fig5_Orginal2020Stage1_Results_60593122
Date Saved: 2025-07-21 User Name: Stephanie.Clark





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

DATUM: NAD 1983 CSRS UTM Zone 16N

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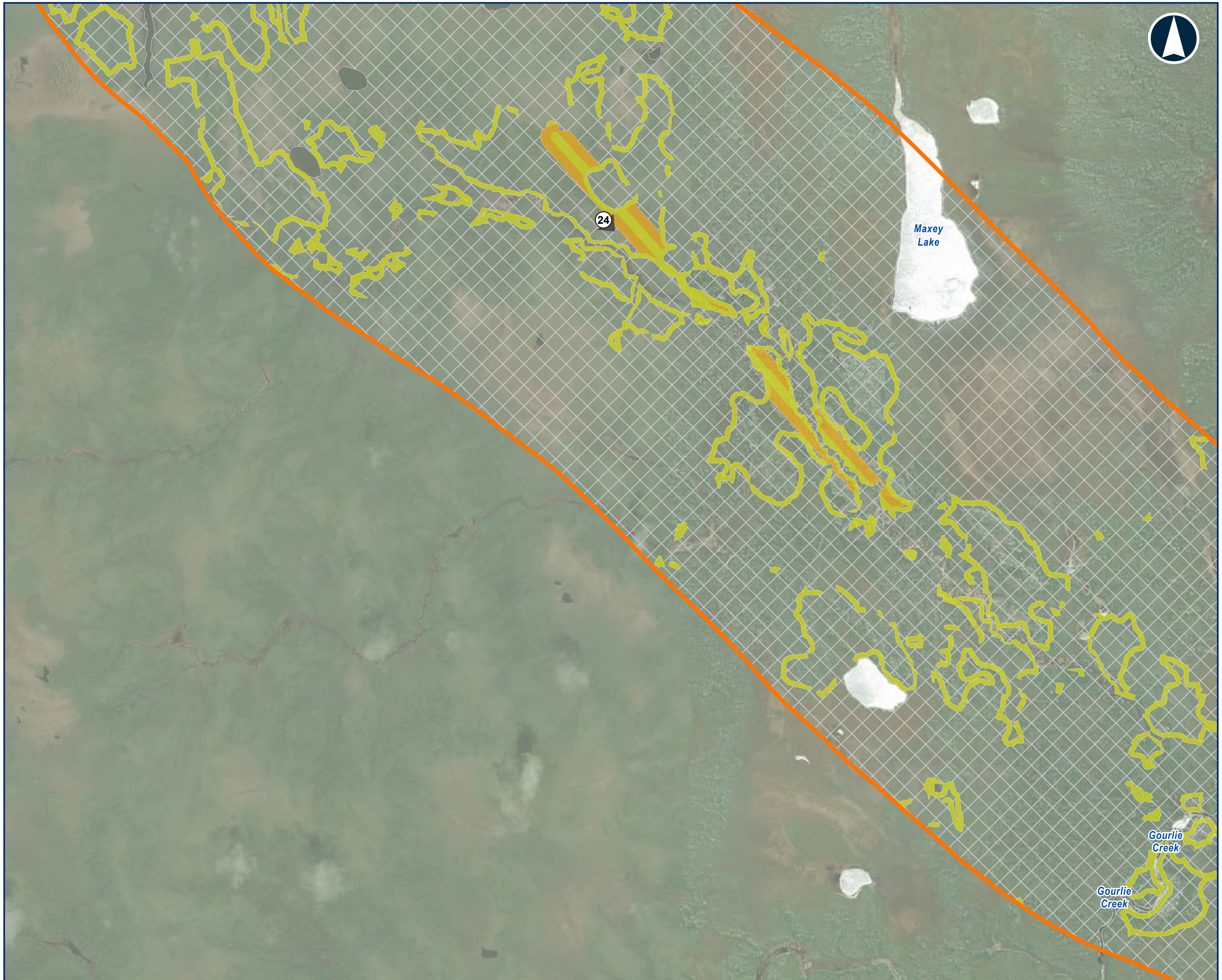
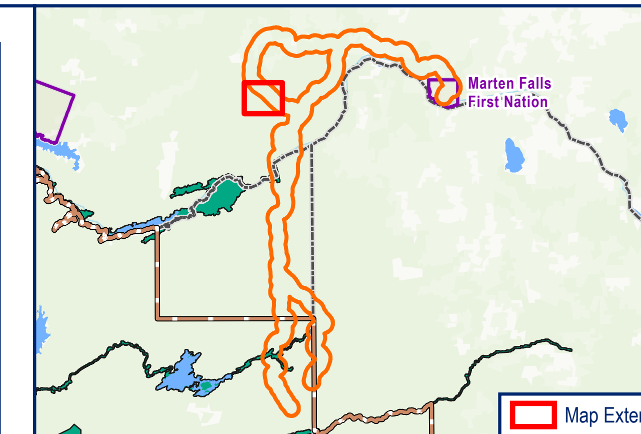
Figure 6-15





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

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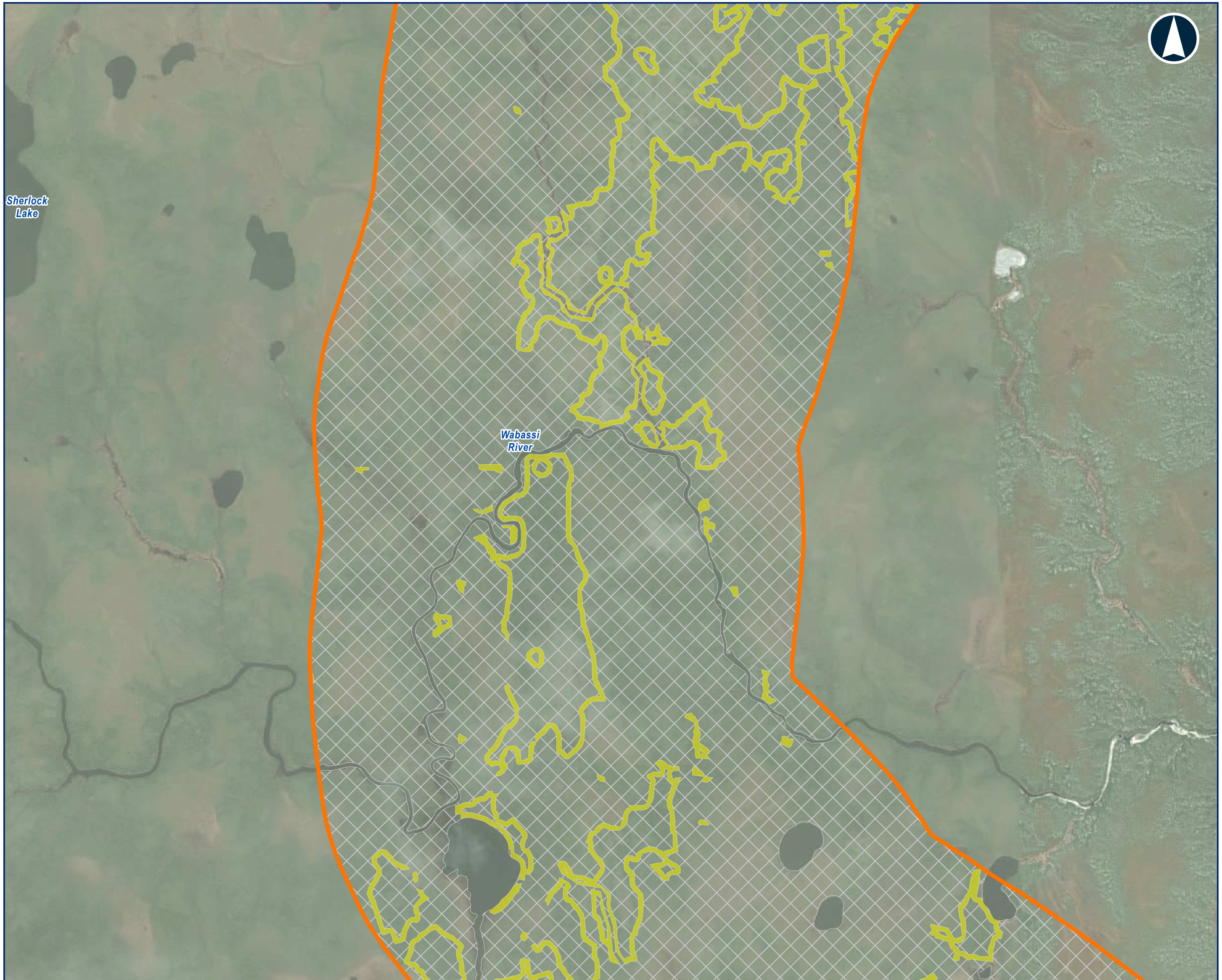
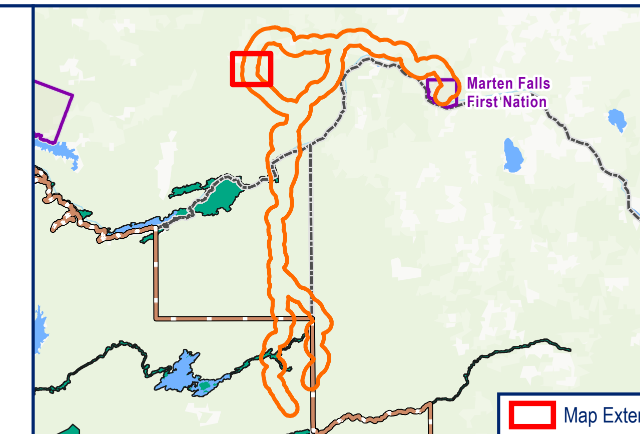
Figure 6-16





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

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Figure 6-17

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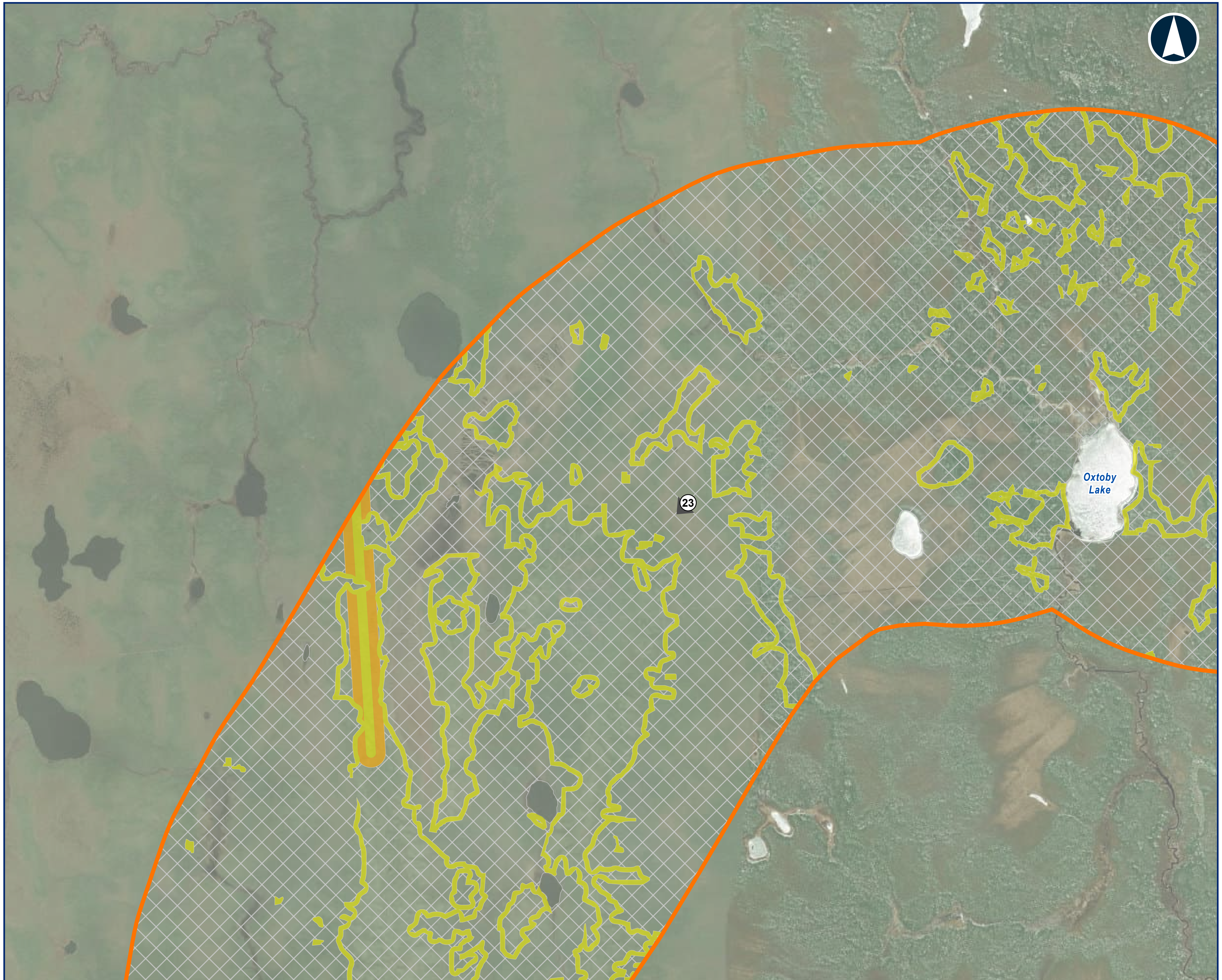
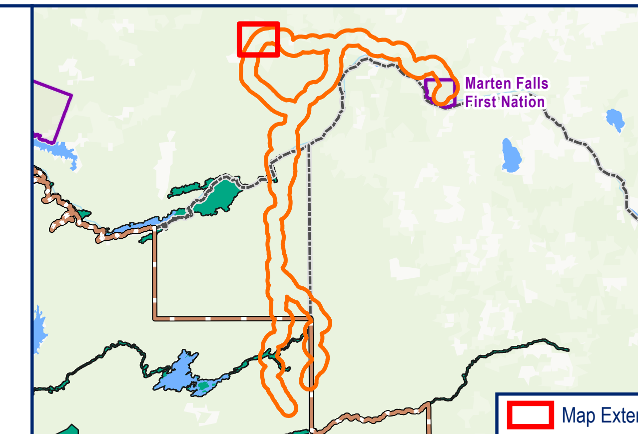
Date Saved: 2025-07-21 User Name: Stephanie.Clark





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

DATUM: NAD 1983 CSRS UTM Zone 16N

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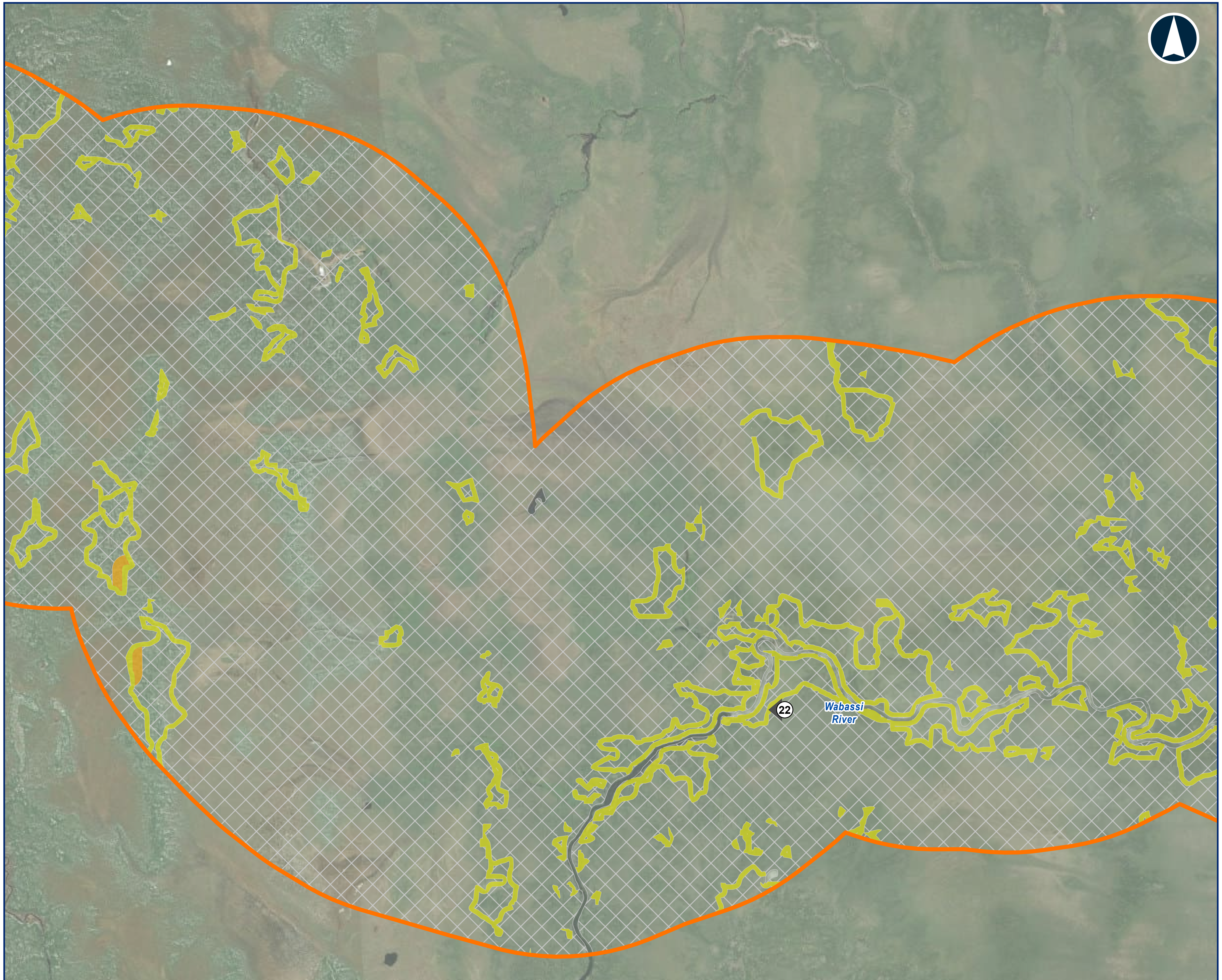
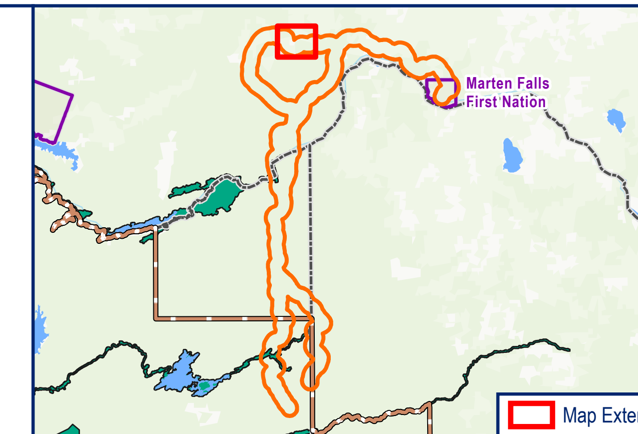
Figure 6-18





Legend

- Study Area
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- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

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Figure 6-19

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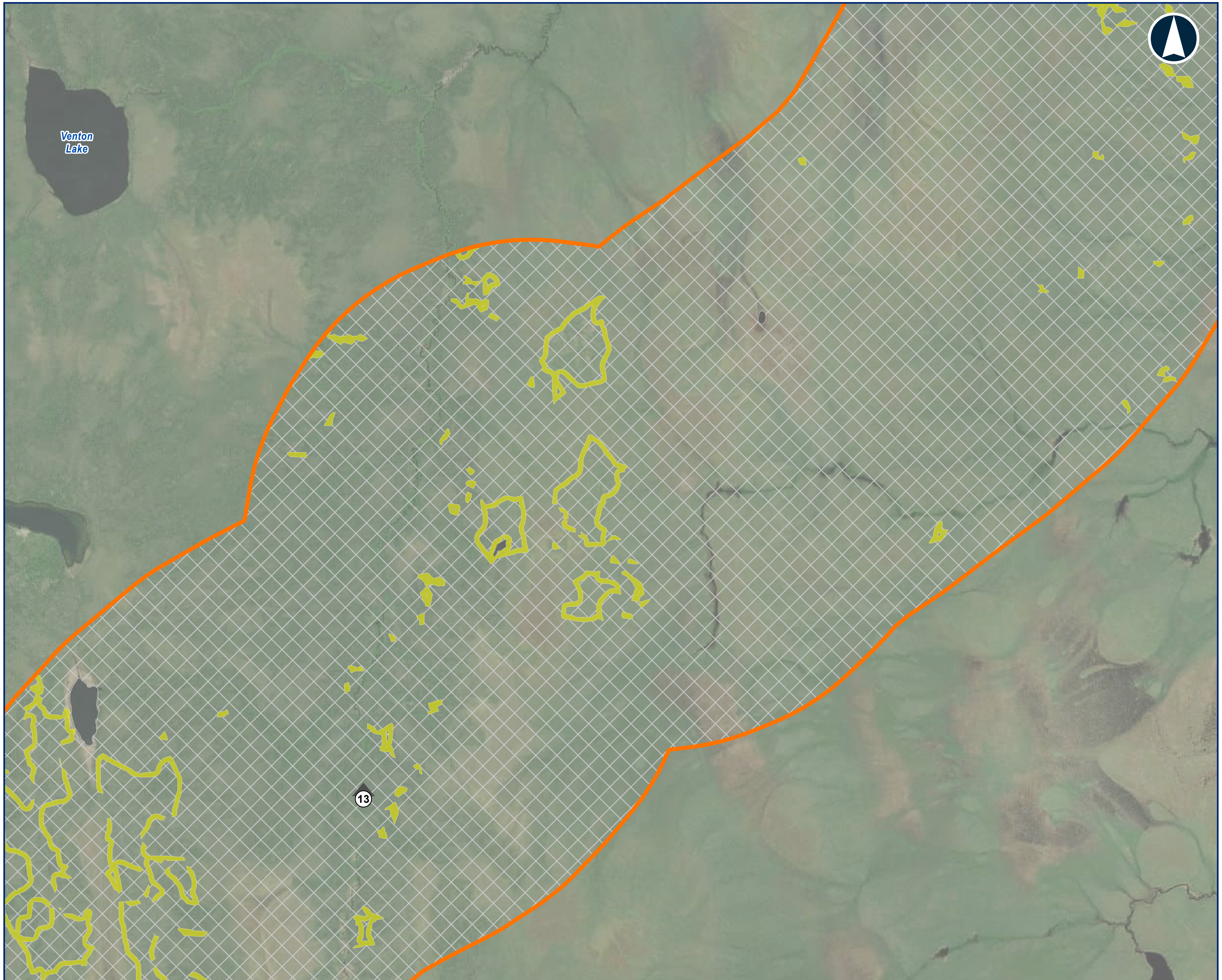

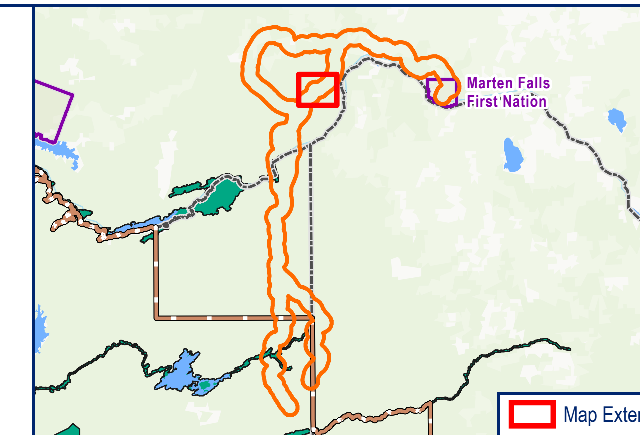

Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

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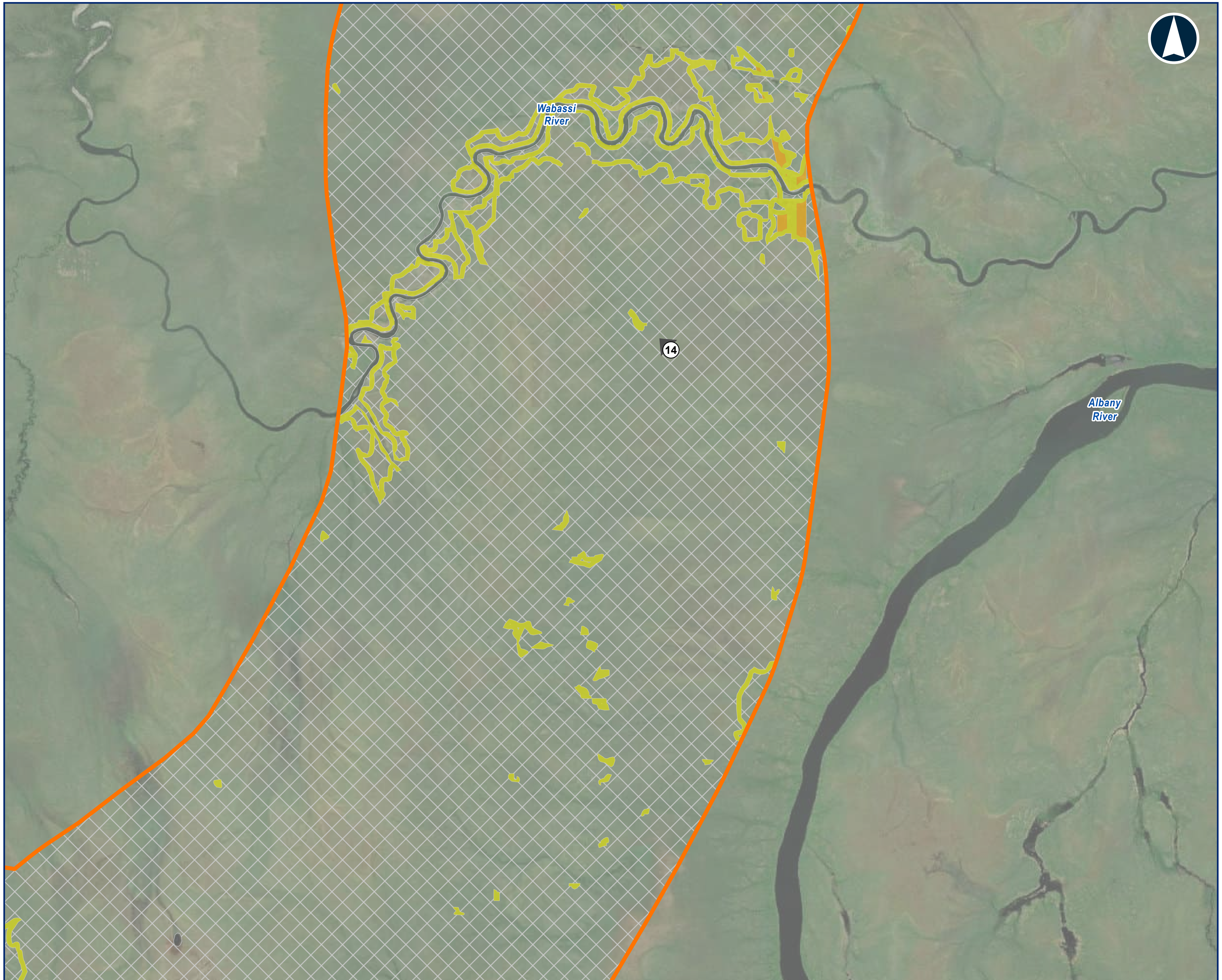
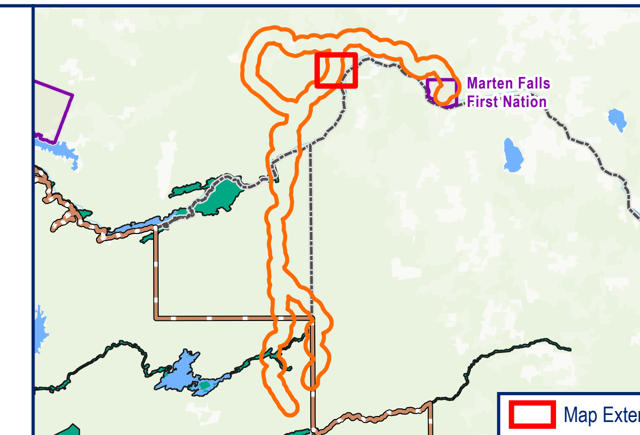
Figure 6-20





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

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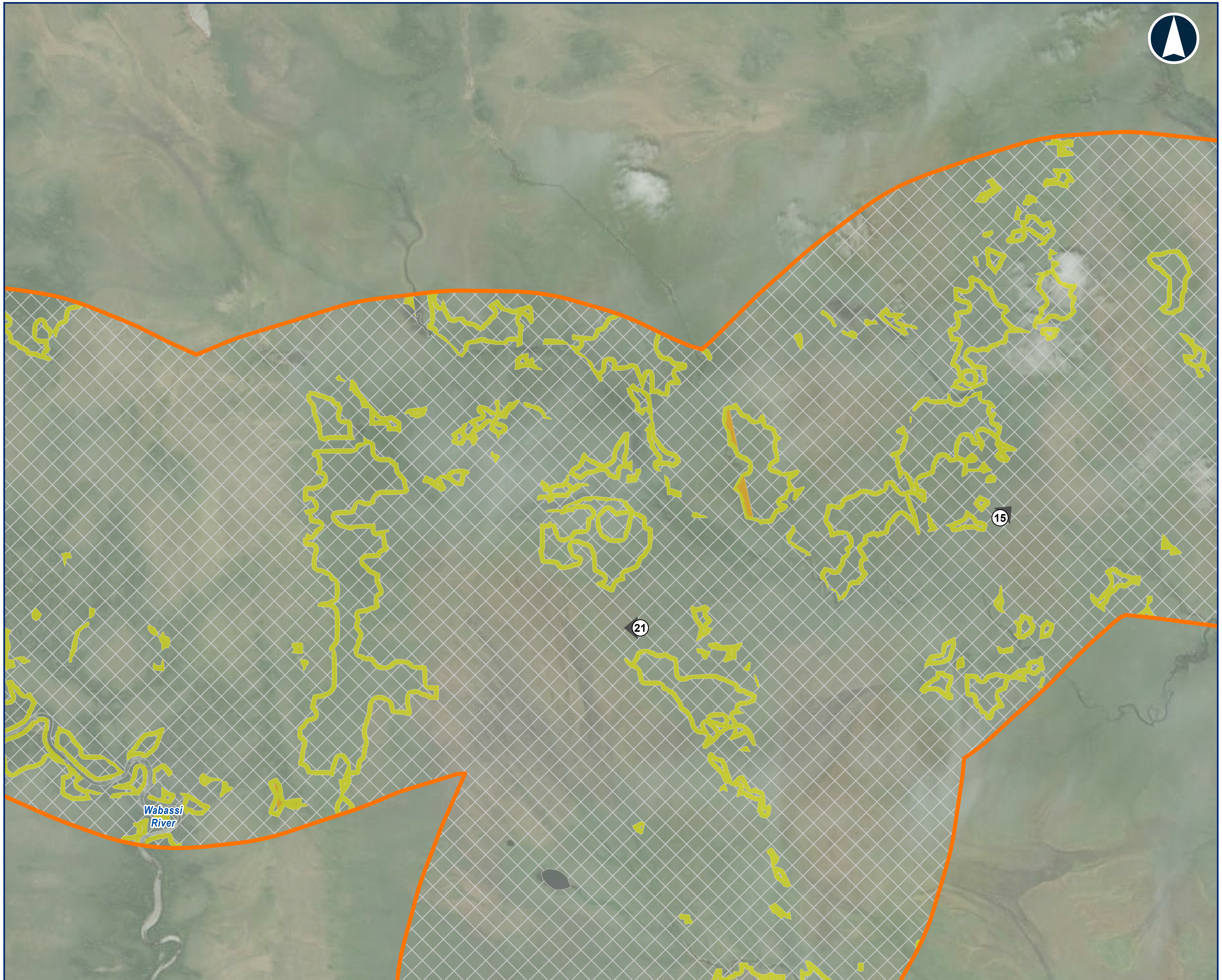
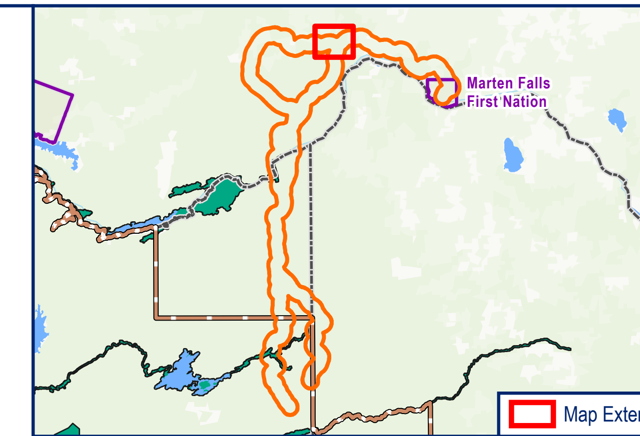
Figure 6-21





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

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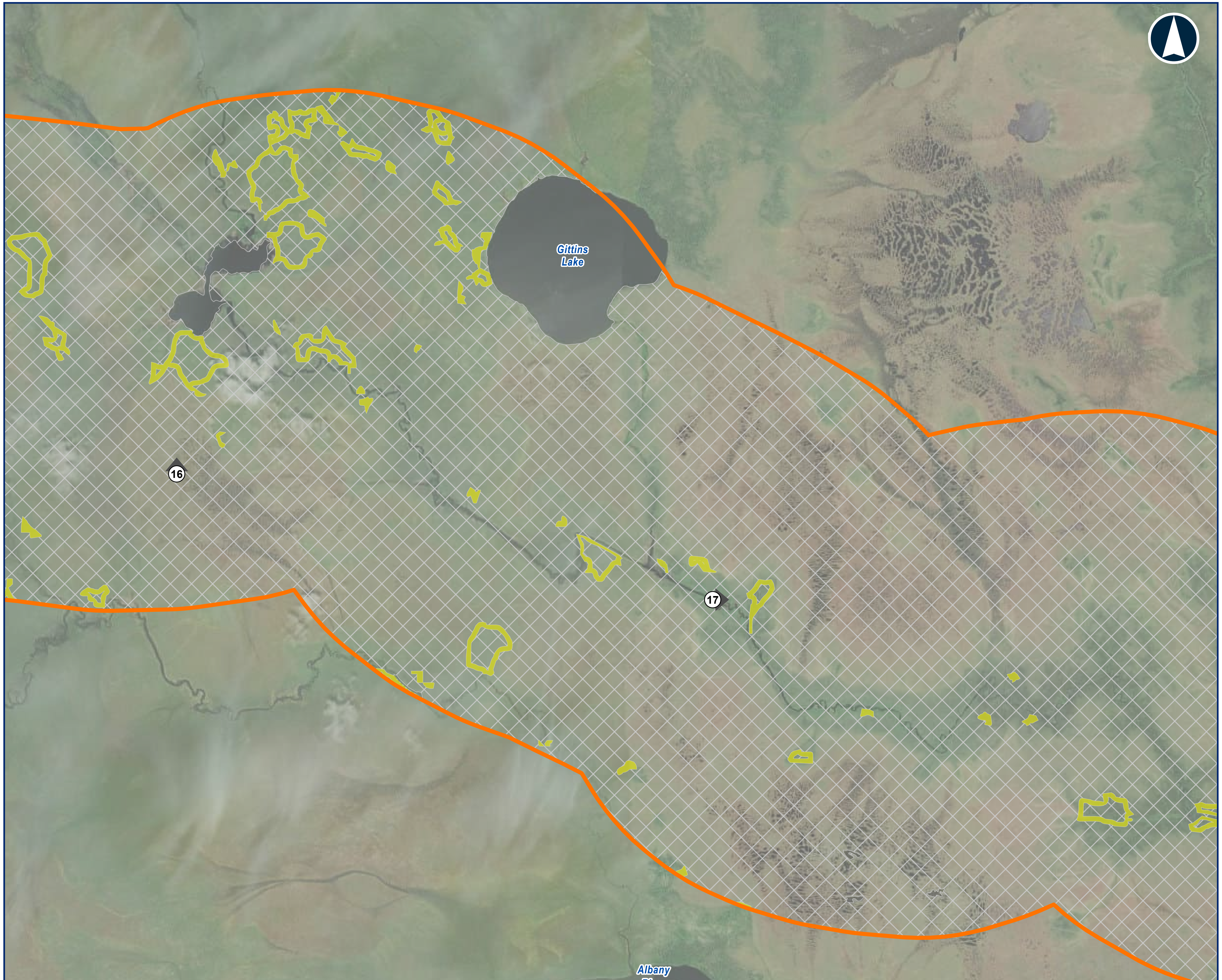
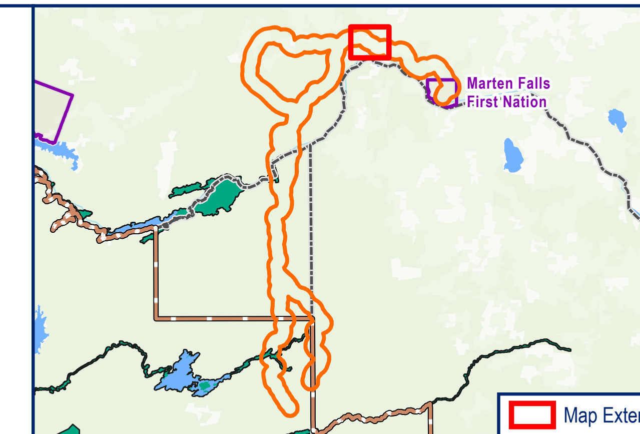
Date Saved: 2025-07-21 User Name: Stephanie.Clark





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

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0 0.3 0.6 1.2 1.8 2.4
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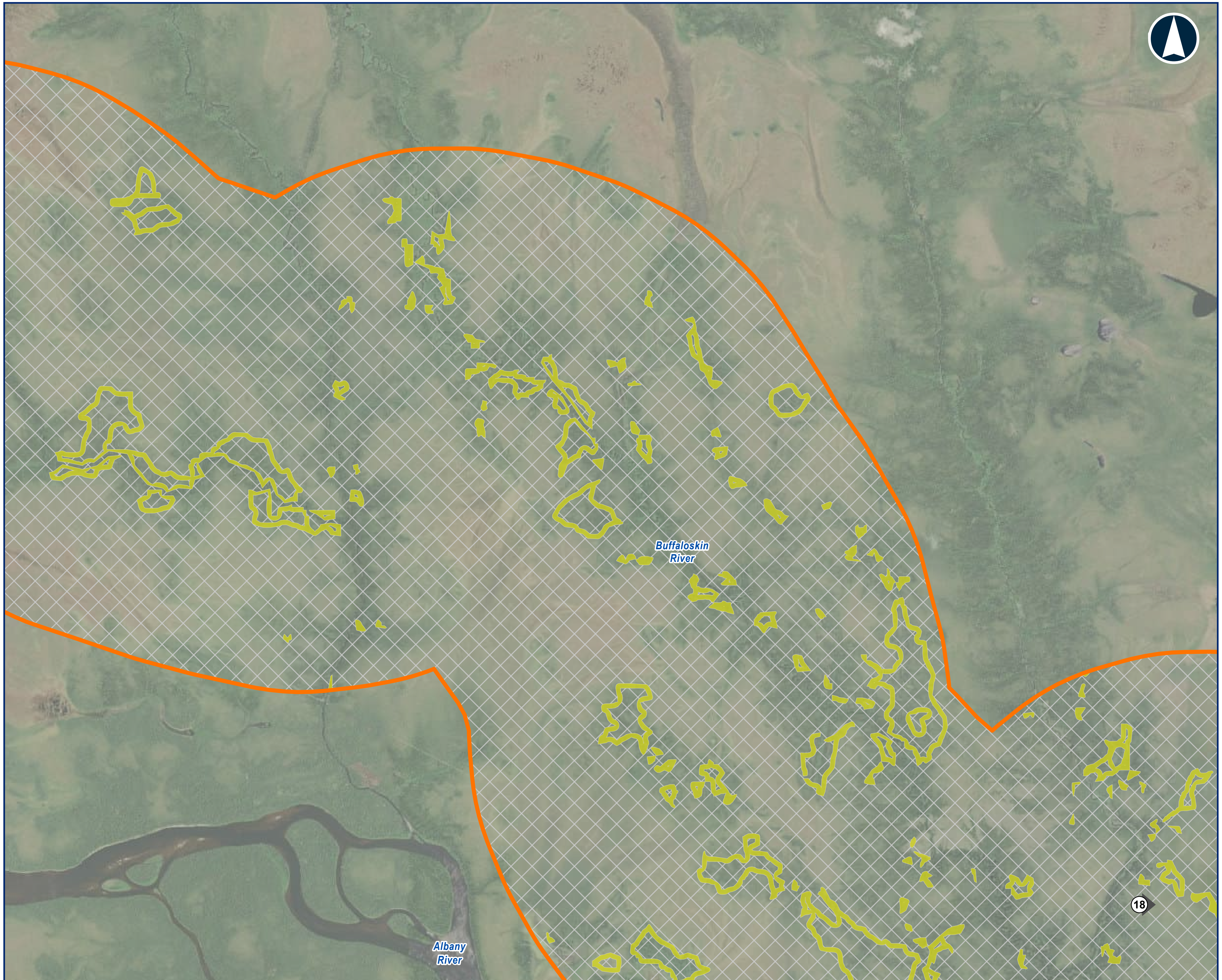
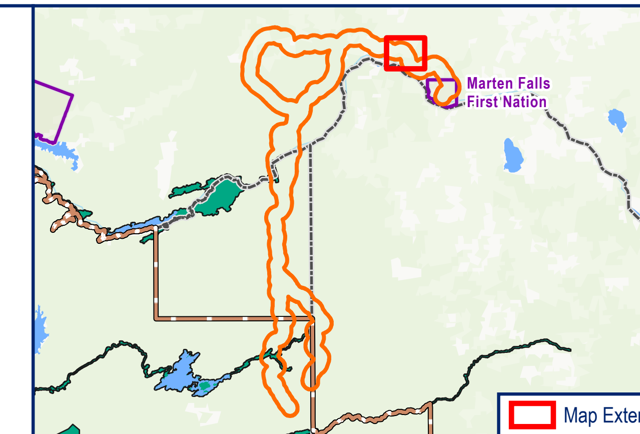
Figure 6-23





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

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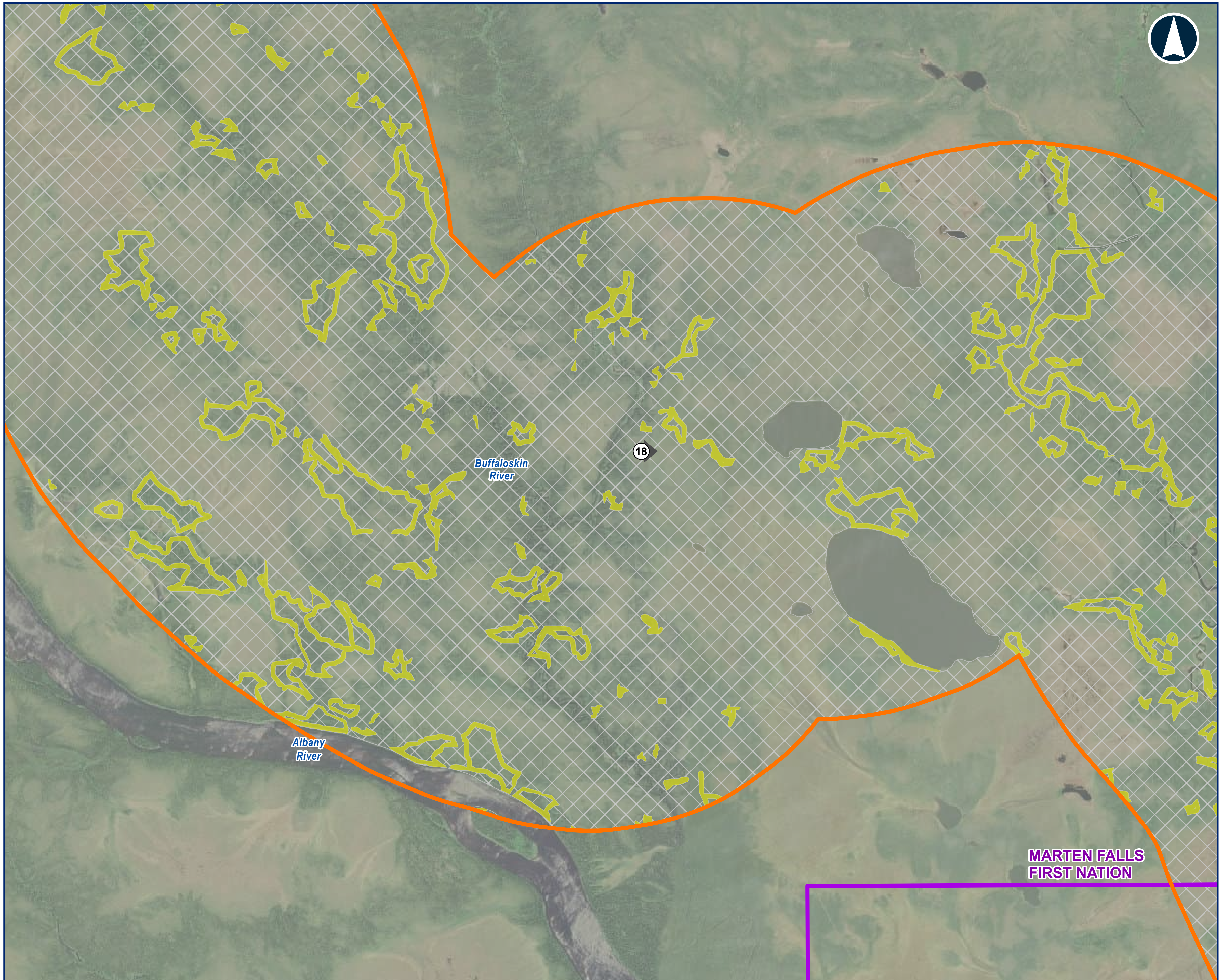
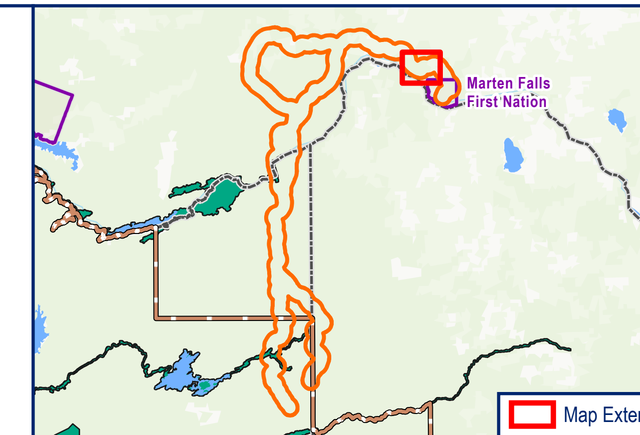
Figure 6-24





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- First Nation Reserve
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

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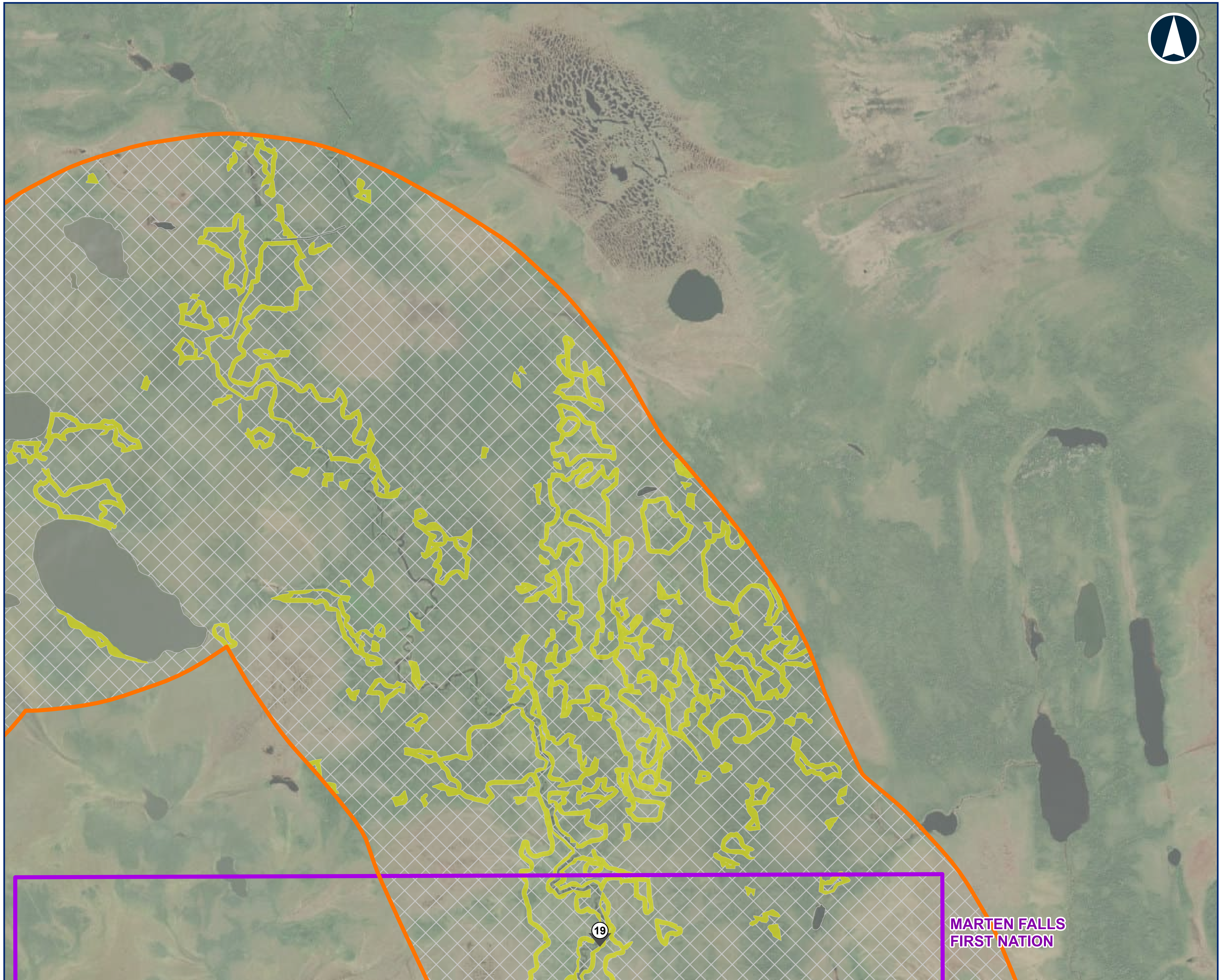
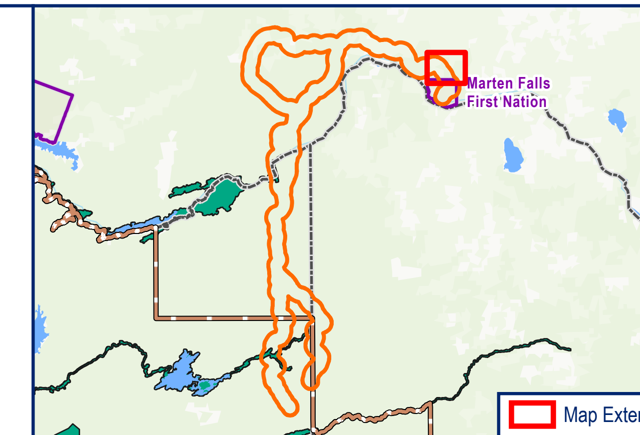
Figure 6-25





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- First Nation Reserve
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

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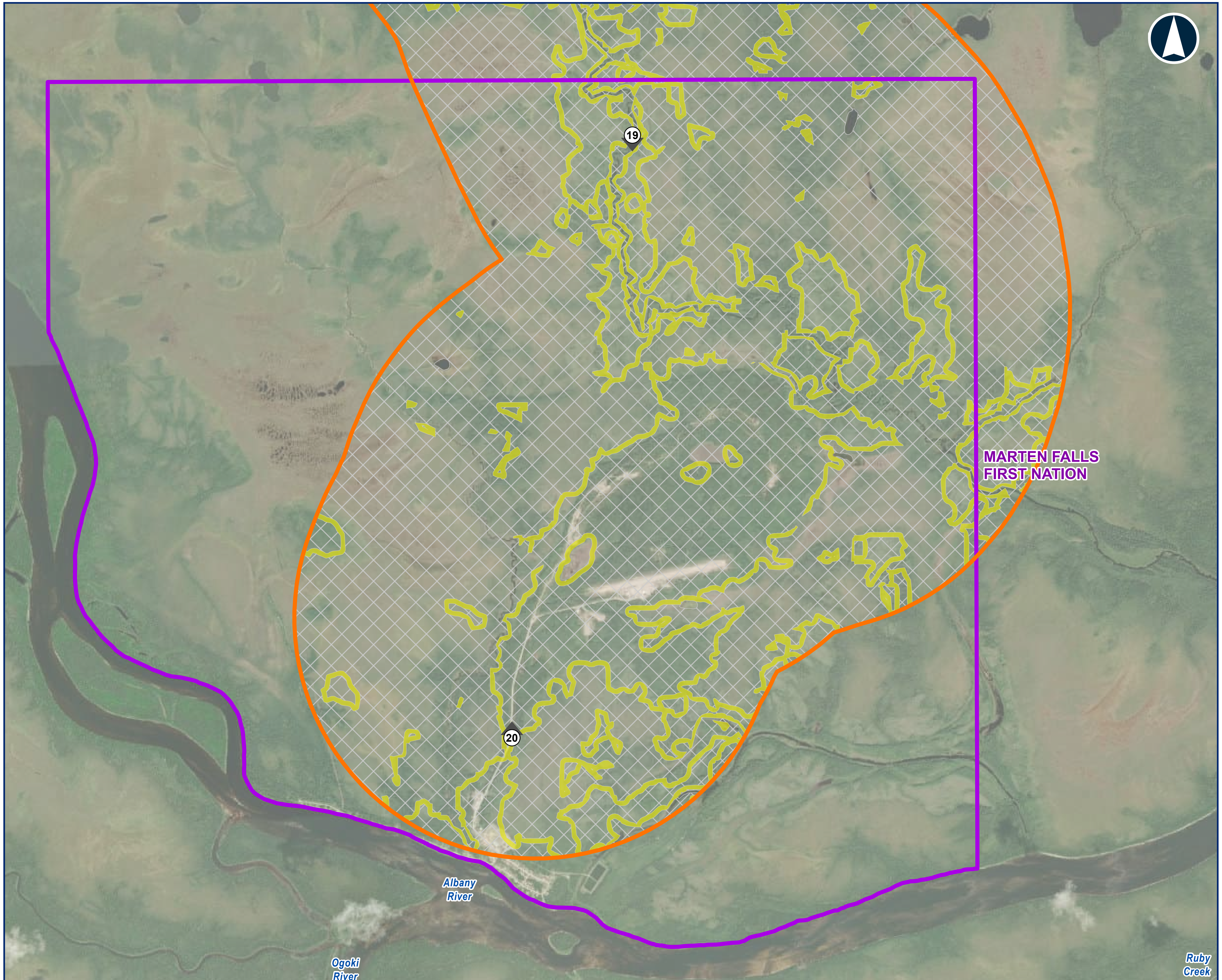
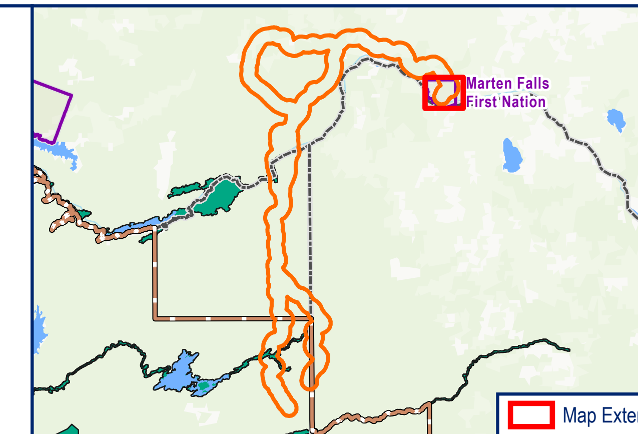
Figure 6-26





Legend

- Study Area
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 10 m Intervals
- Low Archaeological Potential Based on Helicopter Assisted-Remote, Northern Assessment
- First Nation Reserve
- Photo Location

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 Results - Photo Locations and Areas Requiring Stage 2 Assessment

0 0.3 0.6 1.2 1.8 2.4
Kilometres

DATUM: NAD 1983 CSRS UTM Zone 16N

Data Sources:
Basedata - Provided by MNRF 2023; Route Infrastructure - Provided by AECOM 2021, NRCan, ENDM, StatsCanada
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Figure 6-27

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Marten Falls First Nation

Stage 2 Archaeological Assessment

Community Access Road from Marten Falls to Painter Lake, Ogoki River Crossing WA-01 & Albany River Crossing WA-15

Environmental Assessment and Preliminary Design Services

District of Kenora, District of Cochrane, and District of Thunder Bay

Prepared by:

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PIF Number: P438-0225-2020

December 18, 2020

Original Report

Project Number: 60593122

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0	Yes	Marten Falls First Nation

Revision History

Revision #	Date	Revised By:	Revision Description
0	Nov 26, 2020	S. Markham	Initial submission to Project Team
1	Dec 18, 2020	S. Markham	Addressed revisions/comments received from Project Team and other stakeholders

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AECOM: 2015-04-13

Quality Information

Report Prepared By:

Melissa Wallace, MA
Staff Archaeologist

Report Reviewed By:

Samantha Markham, MES
Project Archaeologist

Executive Summary

AECOM was retained by Marten Falls First Nation (MFFN; the community) to conduct a Stage 2 Archaeological Assessment (AA) for the proposed Community Access Road (CAR; the Project) from Marten Falls to Painter Lake, in the Districts of Kenora, Cochrane and Thunder Bay, Ontario. MFFN is a remote First Nation community in northern Ontario, approximately 430 kilometres (km) from Thunder Bay, Ontario, located at the junction of the Albany and Ogoki rivers. The community is proposing an all-season CAR that will connect the MFFN community to the Ontario provincial highway network (**Figure 1**). The proposed Project includes construction, operation and maintenance of an all-season CAR consisting of:

- approximately 140 km to 250 km of two-lane gravel all-season road on a new right-of-way (ROW);
- approximately 100 metre (m) wide ROW cleared to a width of 60 m; and
- proposed designated speed limit of 80 km/hr.

In April 2018, MFFN signed a voluntary agreement with the Ministry of Environment, Conservation and Parks (MECP) to prepare an Individual Environmental Assessment (EA) for the Project. This assessment is being completed as part of the *Environmental Assessment Act* in accordance with subsection 11(1) (Ontario Government 1990a), and as a component of the Impact Assessment (IA) required for Project review by the Impact Assessment Agency of Canada (IAAC) under the federal *Impact Assessment Act*. This Project is subject to the requirements of the *Ontario Heritage Act* (Government of Ontario 1990b) and the Ministry of Heritage, Sport, Tourism and Culture Industries' (MHSTCI) Standards *and Guidelines for Consultant Archaeologists* (Ontario Government 2011).

The Stage 1 AA was completed by AECOM under the Project direction and archaeological license of Samantha Markham (P438). Study areas identify the geographic extents within which potential effects of the Project are likely to occur, and are considered in the IA/EA. The existing conditions and potential effects are documented for three study areas selected for the Project:

- **Project Study Area (PSA):** area of direct disturbance;
- **Local Study Area (LSA):** the area where direct effects of the Project are likely to occur; and
- **Regional Study Area (RSA):** the area where indirect effects of the Project are likely to occur.

The PSA encompasses the 100 m wide CAR right-of-way, temporary construction access roads, work areas, worker camps, and long-term aggregate sources and associated access roads. The LSA currently being considered within the scope of the ongoing regulatory review process consists of two alternatives within the Western Route; the Original Western Route (Alternative 1) based on the existing industrial planning work that is 193 km in length, and the Alternative Western Route (Alternative 4) based on a combination of existing industrial planning and new locations that is 178 km in length. As well, an additional section (Alternative 4 West) is included that is approximately 20.5 km in length. The right-of-way's (ROW) for the LSA currently span 5 km in width. The land subject to previous Stage 1 AA by AECOM consists of the LSA.

Documentary sources, Anishinaabe Knowledge (AK), detailed mapping and satellite imagery were analyzed in order to evaluate the archaeological potential found within the study area. Additionally, a flyover with helicopter was completed on September 26th and October 4th, 2019 to review the LSA. The results of the Stage 1 AA determined that the potential for the recovery of archaeological resources is high, given the proximity of the study area to a variety of criteria including water sources and areas of interest provided by the MFFN community. As a result, much of the study area was recommended for Stage 2 AA.

A total of nine river crossings over the Ogoki and Albany Rivers were to be subject to Stage 2 fieldwork in the fall of 2019. As a result of detrimental weather conditions, the fieldwork was suspended in 2019 and fieldwork could not continue as a result of the COVID pandemic. Therefore, only two of the nine river crossings were assessed in the fall of 2019. The study area subject to Stage 2 AA in this report includes alternatives under consideration for the major river crossings, the Albany River crossing WA-15 and the Ogoki River crossing WA-01. These areas were specifically targeted to help inform bridge design as discussed with the Project Team and in consultation with the Marten Falls Community Based Land Use Project (CBLUP) team. At each of the river crossings, a 1 km buffer was applied to the proposed bridge location and all areas identified as retaining archaeological potential were subject to Stage 2 AA. A total of five possible areas of interest were identified during the Stage 2 survey of the two river crossings.

The partial Stage 2 archaeological assessment completed for the Project during the fall of 2019 resulted in the identification of two archaeological locations and one archaeological site, the Caviar (EiIp-1) site. The Caviar (EiIp-1) site fulfills the criteria for further Stage 3 archaeological investigation, as per Section 2.2, Standards 1b and 1c of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). **As such, further Stage 3 site-specific archaeological assessment is recommended for the Caviar (EiIp-1) site.**

Avoidance and protection are the preferred options either through project redesign or excluding or incorporating the area of the archaeological site into the development plan. Given that the site is located on the periphery of one of the route options, avoidance and protection might be possible upon choosing the preferred route. The site could therefore be avoided and protected during construction and the integrity of the area could remain intact. Should an avoidance and protection strategy for the Caviar (EiIp-1) site be implemented during construction, it must include:

- Placement of a temporary barrier around the site, including a 20 m protective buffer of land surrounding the site;

- Monitoring by a licensed consultant archaeologist for any construction activities that occur within 70 m of the site;

- The issuance of “no-go” instructions within the 20 m buffer to all on-site construction personnel or others involved in the construction process (i.e., engineers, architects, etc.) (Ontario Government 2011, Section 4.1.1);

- Illustration of the location of the area to be avoided on contract drawings, including explicit instructions to avoid the area;

- The presence of a licensed archaeologist on site to inspect fence installation, inspection of the site by a licensed archaeologist after the completion of all soil-disturbing activities, and reporting of the effectiveness of the avoidance and protection strategy to the MHSTCI; and,

- Should future repairs or improvements be required near the Caviar (EiIp-1) site or should changes to the current project area be required, archaeological monitoring by a licensed archaeologist will be required to ensure that the No-Go zone remains in place and that the archaeological site is protected from construction or soil disturbance activities.

However, if the WA-15 option is chosen as the preferred route and impacts will be proposed to Caviar (EiIp-1), a Stage 3 archaeological assessment is required. The Stage 3 archaeological assessment for Caviar (EiIp-1) must include the hand excavation test unit methodology as outlined in Section 3.2 and Table 3.1 of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011), to further test the nature and density of the site. Given that Caviar (EiIp-1) is primarily located on exposed bedrock, hand excavation covering the entire site may not be possible. Therefore, the Stage 3 archaeological assessment would consist of site documentation and recording.

The study area examined in this report includes some areas that may not be impacted by the Project. Stage 2 archaeological assessment is not required on land that will not be impacted by the Project. Alternatively, not all of the land that will be impacted by this project has been subject to Stage 2 archaeological assessment at the time of production of this report due to timing restraints with weather and the COVID pandemic; therefore, **Stage 2 archaeological assessment is required for any land required by the Project that has not yet been surveyed.**

The Stage 2 archaeological assessment must be conducted by a licensed archaeologist and must follow the requirements set out in Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011) for special survey conditions in northern Ontario and on Canadian Shield terrain, including:

- Test pit survey is required at 5 m intervals in areas that fall within 50 m of an identified modern water source. Survey is not required beyond 50 m of this type of feature of archaeological potential;

- Where areas of archaeological potential include land adjacent to historic water sources (i.e., glacial shorelines), or other areas identified as having archaeological potential based on the results of the Stage 1 AA including the AK information, test pits will be placed at a maximum of 5 m intervals between 0 and 50 m from the feature, and at 10 m intervals between 50 and 150 m from the feature. Survey is not required beyond 150 m of the archaeological features; and,

- Poorly drained areas and areas of steep slope are to be mapped and photo-documented.

The MHSTCI is asked to accept this report into the Ontario Public Register of Archaeological Reports thereby concurring with the recommendations presented herein. As further archaeological assessment is required, archaeological concerns for the proposed Marten Falls First Nation Community Access Road Project have not been fully addressed.

Please note that this archaeological assessment report has been written to meet the requirements of the MHSTCI *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011); however properties that are subject to archaeological assessment are not considered cleared for ground disturbance activities until the associated report has been reviewed and accepted by the MTCS. In order to maintain compliance with the MHSTCI and the *Ontario Heritage Act* (1990), no ground disturbing activities are to occur until the proponent and approval authority receive a formal letter from the MHSTCI stating that the recommendations provided herein are compliant and that the report has been accepted into the MHSTCI' register of archaeological reports.

Project Personnel

Project Manager	James McCutchon
Environmental Planner	Jessalyn Beaney, Shawna Kjartanson
Licensed Archaeologist	Samantha Markham, MES [P438]
Field Director	Samantha Markham, MES [P438] Charlton Carscallen [P088]
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Laboratory Technician	Samantha Markham, MES (P438)
Report Production	Melissa Wallace, MA [R496], Samantha Markham, MES [P438]
Office Assistance	Carla Dobson, Hons BA
Senior Review	Samantha Markham, MES [P438], Adria Grant, MA [P131]
GIS Analyst	Stephanie Cloutier, BA

Acknowledgements

Proponent Contact	Jennifer Bruin on Behalf of Marten Falls First Nation
Approval Authority	Marten Falls First Nation
First Nation Representatives	Sheldon Atlookan, John Atlookan, Aroland First Nation
	James Baxter, Marten Falls First Nation

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1. Project Context

1.1 Development Context

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As a part of AECOM's agreement with MFFN and in accordance with the draft technical bulletin entitled Engaging Aboriginal Communities in Archaeology (MHSTCI 2011a), MFFN community members have been involved in all aspects of the Stage 2 AA, and AECOM is working under their direction. MFFN community member Bob Baxter was met with on September 16, 2019 to discuss strategy and approach for the Stage 2 AA as well as the use of Anishinaabe Traditional Knowledge in determining areas of archaeological knowledge. Further details regarding the Aboriginal Engagement for the Stage 2 AA are provided in the Statement of Aboriginal Engagement (AECOM, under a separate cover).

1.1.1 Objectives

The objective of the Stage 2 archaeological assessment is to provide an overview of archaeological resources within the study area, make a determination as to whether any of the resources might be artifacts or archaeological sites with cultural heritage value or interest requiring further assessment, and to recommend appropriate Stage 3 assessment strategies for any archaeological sites identified.

1.2 Historical Context

The study area includes portions of the Districts of Kenora, Cochrane and Thunder Bay, Ontario. Archaeological research in northern Ontario is generally limited in comparison to southern Ontario, which has resulted in less robust understanding of the pre-contact settlement history of this part of the province. The following sections provide a detailed summary of the archaeological cultures that have settled in central Ontario over the past 11,000 years. Table 1 provides a general cultural chronology for northern Ontario.

Table 1: Cultural Chronology for Northern Ontario

Archaeological Period	Culture	Time Period	General Archaeological Characteristics
Paleo	Plano	8,000 – 4,500 BC	Lanceolate bifacial tools Associated with large-game focused hunting Sites often associated with relic lake shores north of the Upper Great Lakes
Archaic	Shield	5,400 – 250 BC	Broad spectrum seasonal resource exploitation Development of environmental conditions similar to the present

Archaeological Period	Culture	Time Period	General Archaeological Characteristics
			Slight reduction in group territory size Introduction of copper tools Highly mobile Introduction of bow and arrow technology Domestication of dog
Middle Woodland	Laurel	700 BC – AD 1,000	Introduction of pottery Introduction of horticultural production, primarily through trade Development of distinctive Algonquian ceramic styles Large earthen mounds in some regions (*e.g.* western end of Lake Superior)
Late Woodland	Blackduck Selkirk	AD 750 - 1650	Diverse ceramics – out-flaring vessel rims, textile impressions, and punctates Increasing variation in regional stylistic characteristics in various lithics and ceramics Evidence of extensive long-range indigenous trade activities Communal burials Direct ancestors of modern indigenous communities
Contact First Nations	Northern Ojibway	AD 1650-1875	Early written records and treaties Participation in fur trade
Euro-Canadian	n/a	AD 1749-present	European settlement

Note: adapted from Dawson, 1984; Wright, 1981

1.2.1 The Paleo Period

Much of northwestern Ontario lies within the Pre-Cambrian (Canadian) Shield and is covered in boreal forest. This part of the province is rugged and is speckled with lakes, bogs, and streams. The first people to inhabit northwestern Ontario are referred to as Paleo people, a general term to refer to the first indigenous occupants in the region in the post glacial period. They reached the north shore of Glacial Lake Minong/Duluth (the pre-cursers to Lake Superior) in about 9,500 B.P. (Before Present). after the glaciers had retreated. During the immediate post-glacial period, the portions on the province that were available for human occupation had a tundra-like ecological and climate regime. Given these conditions, Paleo-Indian groups lived in relatively small nomadic groups that followed larger, migratory game (notably caribou), across the landscape, preferring to camp on high ground, immediately adjacent to water sources, such as glacial lakes or spillways, where smaller game and plant food would have also been harvested. Although there were initial occupations dating back to *ca.* 9,500 BP immediately northwest of modern Lake Superior, the central interior of northern Ontario did not become available for human occupation until roughly 7,500 B.P. Thus, the earliest known sites north of the Great Lakes date to this period but are all situated south of the study area and in relatively close proximity to the modern shores of Lakes Superior and Huron. Tool assemblages appear to be dominated by finely made lanceolate-shaped, sometimes fluted, projectile points, or spear tips. Raw materials obtained from bedrock outcrops or glacial cobbles were used in the production of tools such as distinctive unfluted, ribbon flaked, lanceolate spear points and knives (Dawson 2004).

1.2.2 The Archaic Period

The next major cultural period following the Paleo is termed the Shield Archaic. The transition to the Archaic lifeway was directly related to changing environmental conditions to those more closely approximating the present. This change is best seen in changes in technological and stylistic characteristics of the overall lithic toolkit including projectile point styles and assemblage composition. The Archaic period (ca. 7,000 – 3,000 B.P.) in northwestern Ontario is defined by notched projectile points, the use of native copper, and more frequent recovery of woodworking tools such as wedges and adzes (Wright 1972; Dawson 1983; Fox 1977; Hinshelwood 2004). Throughout the Archaic period the natural environment warmed, and vegetation changed from closed conifer-dominated vegetation cover, to mixed coniferous and deciduous forest to the mixed coniferous and deciduous forest in the north and deciduous vegetation in the south we see in Ontario today (Wright 1972). During the Archaic period there are indications of increasing populations and decreasing size of territories exploited during annual rounds; fewer moves of residential camps throughout the year and longer occupations at seasonal campsites; continuous use of certain locations on a seasonal basis over many years; increasing attention to ritual associated with the deceased; and, long range exchange and trade systems for the purpose of obtaining valued and geographically localized resources (Wright 1972; Hinshelwood 2004).

1.2.3 The Woodland Period

The beginning of the Woodland period in northwestern Ontario approximately 3,500 years ago is distinguished from the Late Archaic period primarily by the addition of ceramic technology, which provides a useful demarcation point for archaeologists but is expected to have made less difference in the lives of the Woodland peoples. The Woodland period of northern Ontario is divided into two distinct phases, the Initial and Terminal Woodland periods.

The introduction of pottery within the Initial Woodland period beginning ca. 2,200 years ago (700 B.C. – A.D. 1,000) is believed to have occurred in northern Ontario through trade and other influences from the southwest and east, creating the Laurel culture within the Boreal Shield stretching from Saskatchewan to Northern Quebec. Laurel ceramics was dominated by conical style tapered base pottery manufactured using the coil method adorned with decoration across the upper portion of the vessel's exterior surface. The overall Laurel ceramic tradition appears to be related to a broader Initial Woodland pattern known across much of eastern North America and bears strong resemblances to the Saugeen and Point Peninsula traditions in southern Ontario and the northeastern United States.

During the Initial Woodland groups would come together into large macro-bands through the spring-summer at lakeshore or marshland areas to take advantage of spawning fish; in the fall inland river valleys were occupied for deer and nut harvesting and groups split into small micro-bands for winter survival. Few Laurel sites have been securely dated, but archaeologists believe that the style persisted until about 1,000 years ago (Hamilton 2013).

A Woodland tradition present in southern Ontario, the Rainy River District in northern Ontario, and southeastern Manitoba consists of burial mound ceremonialism (Kenyon 2012). These impressive mounds represent the internment of multiple humans within a single dirt structure. In southern Ontario the most impressive mound structure is the Serpent Mound adjacent to Rice Lake. These mounds were built by the Laurel and extended into the Blackduck peoples during the Middle Woodland tradition. Most of them are low and broad structures, though one at Long Sault Rapids in the Rainy River District is the largest in Canada at 34 m in diameter and 7 m high. The mounds contained a plethora of grave goods, including furniture, clay pots, shell, bone and copper beads, which were all sprinkled with red ochre. This behavior appears to be an extension of the Adena and Hopewell Interaction Sphere from the midwest United States (Mason 1970, 1981; Kenyon 2012).

The Terminal Woodland period in northern Ontario differed significantly from the settlement and subsistence shift that occurred in southern Ontario where there was increasing reliance on maize horticulture. The climate and landscape of the Canadian Shield prohibited the agricultural shift occurring in the south with continued reliance on fish and large game as in previous periods. Population growth was also restricted by the Canadian Shield environment and settlement patterns were similar to those of the Initial Woodland with large summer camps located close to fish resources and typically located on level, well drained ground with access to canoe landing beaches.

After approximately 1,200 years ago, new technological innovations appear in the archaeological record, indicating Terminal Woodland cultural influences spread widely throughout the Boreal Forest. Archaeologists define the Terminal Woodland period by the use of the bow and arrow and by a variety of new pottery wares that differ drastically from the previous Laurel style (Hamilton 2013). Within the Terminal Woodland period three distinct cultures arise; the Blackduck Complex, the Selkirk Complex to the north, Sandy Lake Ware to the south. All three wares differ slightly in timespans and overlap geographically (Meyer and Hamilton 1994). The Blackduck Complex (ca. A.D. 800-1,400) is identified by the contrasting pottery tradition to the Laurel. Pottery vessels were large and globular, rather than conical and tapered and manufacture techniques involved a paddle and anvil technique over coiling. Decorations were also changed and are characterized by horizontal and/or oblique lines along with circular indentations (punctate) that are found on the neck, rim and inner rim of the vessel.

The Selkirk culture is also defined by its pottery style. Manufacturing techniques are similar to that of the Blackduck Complex but with a distinct variation in decoration. The decorative styles, if decorated at all, were simple and generally included either a single row of punctate indentations or impressions made with a cord-wrapped stick (Dawson 1983). Selkirk pottery is found predominantly in the northern portion of north Ontario. Sandy Lake Ware (*c*. A.D. 1,000-1750) consists of globular vessel shape, thin and fairly straight walls, grit or shell temper, and interior notched or plain decoration. Surface finish may be textile impressed, smoother, check or simple stamped (Taylor-Hollings 1999).

The Terminal Woodland period also sees the emergence of rock art as an expression of spiritual life and ritual practices. Rock paintings, or pictographs, comprised of red ochre mixed with a binding agent such as bear fat or sunflower oil, are typically found within western Ontario on the vertical faces of cliffs where they enter a body of water (Rajnovich 1994). Pictrographs constitute a form of written language, signifying sounds, objects and ideas in reference to subsistence, geography, climate, history and also sacred or religious beliefs and visions (Dewdney and Kidd 1962; Bursey et al. 2013), although they could have served a variety of cosmological functions and even political ones by marking territory (Wright 2004: 1545). The damming of lakes and rivers by the timber and hydroelectric industries may have drowned many pictograph sites and the fragile nature of the painting themselves also reduces their chances of survival. Rock etchings, or petroglyphs, are also relatively rare within the Canadian Shield, with most examples occurring within the south and east o the province. Likewise, petroforms, or artificial arrangements of stones in pits or cairns, are rare in northwestern Ontario (Dawson 1983).

1.2.4 Early European Exploration

The first arrival of Europeans into northern Ontario and Lake Superior began in the early 1600s (Stuart 2003). During the summer of 1610 two events heralded the beginnings of Indigenous and settler relations in the region. These were the passage of Etienne Brulé through the interior by canoe as far as northern Georgian Bay and the arrival of Henry Hudson in James Bay. While Hudson did not land on the western shore of the Bay, his arrival confirmed direct water access to the region from Europe was possible. Brulé's trip was the catalyst for continued forays into the interior of the continent and was a key event that sparked what would become the fur trade. The Albany River was one of the first interior waterways west of James Bay to be explored by Europeans, beginning with the French between 1657 and 1751. The British formally initiated trading in 1668, establishing Fort Rupert on the Rupert River, Moose Fort (Factory) and Fort Albany followed in 1673 and 1675, respectively. The Hudson's Bay Company (HBC) was incorporated in 1670 and a trading monopoly of the Hudson Bay watershed began. In 1743, with the establishment of the Hudson's Bay Company's first inland post, Henley House, a series of strategically positioned rival North West Trading Company and Hudson's Bay Company posts emerged along the river banks and vied for superiority in controlling the fur trade. Gloucester House at Washi Lake was the furthest inland post of the Hudson's Bay trading company on the Albany River and was in operation from 1777 to 1818 (Newton and Mountain 1980) (**Figure 4-3**).

Henley House

The first of the Hudson's Bay Company's (HBC) interior posts, fortified to deter encroaching French traders, was built in 1741 on the north shore of the Albany River and was operational until 1857. Archaeological surveys in the 1970s and 80s resulted in the identification of the fort, designated at Henley House site (EhIb-3) (Julig 1984). It is located on the north shore of the Albany River at the mouth of the Henley River, and represents the first interior fort built by the HBC (Julig 1988; Voorhis 1930). Henley House was originally built on a gravelly island that was being washed away by river activity. As a result, Henley House was moved further south in the winter of 1796-97 to the junction of the Kenogami, Nagagami, and Kabinakagami Rivers. This location is a place known in Cree and Ojibway as *Mamamattawa* or "meeting of waters" (HBC Archives B86/a/51 fo 25, 19 -22 August 1796; HBC Arch B86/a/52 fo 6, 2 October 1796).

Marten (Martin's) Falls House

This HBC post on the Albany River was established in 1794, located on the southern bank of the Albany River at the site of the first un-navigable rapids west of James Bay (Voorhis 1930:109). For several years prior to this, there had been a temporary depot at the foot of the falls built in 1782, however with an increase in trade traffic along the river it was upgraded to permanent post status (Newton and Mountain 1980). In 1905, the Marten Falls outpost was host to one of the many negotiations and signing events associated with the passing of Treaty No. 9 (Long 2010; Vyvyan 1980). The operations were moved to Ogoki, approximately 80 km east of Marten Falls in 1923. The remains of the house (EjIp-1) were located and subject to limited AA in 1975 by the Historical Planning and Research Branch of the Ontario Ministry of Culture and Recreation (Golder 2015).

Gloucester House

Gloucester House, the furthest inland post of the Hudson's Bay trading company on the Albany River, is located on the northern shore of Washi Lake. It was established in 1777 by John Kipling when he and seven men ventured inland from Fort Albany to Washi Lake (HBC PAM B78/a/2:4). A temporary log tent was erected, followed by a building of squared logs with a roof of birch rind (HBC Archives PAM B78/a/3:8). These efforts began an era of the construction of 27 structures, five palisades, bake ovens and charcoal kilns on the one-and-a-half-acre plot between the years of 1777 and 1818 (Newton and Mountain 1980). Gloucester House was the site of a large boat building programme that would also operate shuttles of goods and people between Gloucester House and Martin's Falls (Newton and Mountain 1980). By 1795, the significance of Gloucester House declined, and orders were dispatched to abandon the site and relocate to Ernest House (Martin's Falls) (HBC Archives PAM B78/a/22:16d). Gloucester House was primarily abandoned until 1812, when it again functioned to supply an outpost at Attawapiskat lake to the north (Newton and Mountain 1980). The HBC permanently abandoned the Gloucester House site on Washi Lake after 1818. In 1976 the Historical Planning and Research Branch of the Ontario Ministry of Culture and Recreation relocated the remains of the Gloucester House, including two sets of structural remains and over 200 historic artifacts (Golder 2015).

A series of events including fluctuations in the trade market, changing environmental conditions, and the ongoing North West Trading Company and HBC competition, determined the pattern of fort establishment along the Albany River and influenced the intermittent occupancy and operation of each of the companies' posts (Vyvyan 1978). By 1821, with the amalgamation of the two companies, the river became the exclusive territory of the Hudson's Bay Company.

1.2.5 Post-Contact Period

It is important to note that, when discussing the historical documentation of the movement of Indigenous people, what has been documented by early European explorers and settlers represents only a very small snap-shot in time. Where Indigenous groups were residing during the period of early European exploration and settlement is restricted to only a very short period of time and does not reflect previous and subsequent movements of these groups. Indeed, there is evidence that, in some cases, what is identified as a movement of people was really little more than a change in the name used to refer to a group as they encountered various settler groups(reference).

This brief history does not reflect the full picture of the pre- or post-contact period occupation of Indigenous groups or cultures. As such, relying on historic documentation in regard to Indigenous occupation and movement across the landscape can lead to misinterpretation. For example, historic documentation of the movement of Indigenous groups into an area may suggest to the reader that these groups had not occupied the area previously; however, this is not the case. It is clear from Indigenous oral histories and the archaeological record that pre-contact Indigenous populations were extremely mobile and not tied to any one specific area. Over the vast period of time prior to the arrival of Europeans, Indigenous groups, language families, and cultures were fluid across the landscape. Similarly, while economic activity altered the way people used the landscape, particularly at the height of the fur trade, the overall social-cultural system of kinship-based land-use and group association remained intact.

At the time of European contact, the Indigenous groups in the northwestern part of the province spoke variations of the Algonquian language group, notably Ojibway and Cree. The environmental conditions in northwestern Ontario remained vastly different from those in the south with unpredictable natural factors such as forest fires and winter icing influencing the size of human population the region could support the distribution of groups and the frequency in which they had to move. Therefore, the groups in northwestern Ontario remained small, mobile, and loosely associated with each other (Dawson 2004: 9).

1.2.6 First Nations Context

The study area falls predominantly within the shared traditional territory of MFFN and other Matawa First Nation Communities, including the Aroland First Nation in the southern end. These traditional lands extend from the Current River and Ogoki Lake in the south, Makokibaton Lake in the west, Jasper Lake and Muketei Rivers to the north and the Albany Forks to the east. The Marten Falls Indian Reserve 65, also referred to as Ogoki Post, is a remote Indigenous community in northwestern Ontario only accessible year-round by air or for 6-8 weeks in the winter by an ice road (MFFN 2014). MFFN history has deep ties to their traditional territory, which extends over an area much larger than the small reserve lands they now occupy, going back thousands of years. After the arrival of Europeans, MFFN participated in the fur trade that commenced in the 1600's. The community that coalesced around the trading post existed for over 250 years before the post was closed in 1924. The community then relocated to their current location. MFFN is comprised of two parts: the Ogoki post on the south side of the Albany River in the Cochrane District and Marten Falls on the north side in the Kenora District.

MFFN is a member of the Matawa First Nations Management Inc. (MFNMI), a regional tribal council that provides advisory services/programs to nine member Ojibway and Cree First Nations communities in the Nishnawbe Aski Territory of Northern Ontario. Matawa Tribal Council includes Aroland First Nation, Constance Lake First Nation, Eabametoong First Nation, Ginoogaming First Nation, MFFN, Neskantaga First Nation, Nibinamik First Nation and Webequie First Nation.

MFFN, along with other Matawa FN communities, share vast traditional land. The MFFN traditional land extends from the Current River and Ogoki Lake in the south, Makokibaton Lake in the west, Jasper Lake and Muketei Rivers to the north and the Albany forks to the east (Marten Falls First Nation Community Profile 2014). The traditional territory has been used by Indigenous people for trapping, hunting, trade and socializing preceding European contact (MFFN 2014).

The Aroland First Nation Reserve is located approximately 50 km south of the southern end of the study area, and their traditional lands extend into the study area. Aroland First Nation is an Ojibway and Oji-Cree band located on the Kowkash River. The community is comprised of former members of the Long Lake #58 First Nation, Long Lac 77 First Nation (now Ginoogaming First Nation), Fort Hope First Nation (now Eabametoong First Nation), Marten Falls First Nation, and Fort William First Nation (Baldwin 1957).

Located approximately 70 km west of the study area, the Eabametoong First Nation (also known as Fort Hope) is an Anishinaabe community located on the north shore of Eabamet Lake (Golder 2013). The Eabametoong reserve was set aside for the Fort Hope Band during the signing of Treaty No. 9 in 1905, although mistakenly combined with three other groups (Neskantaga, Nibinamik, Webequie). Their original settlement was at Fort Hope, the HBC post established in 1890 (Jacasum 2006).

1.2.7 Treaty No. 9 (1905-1906 and 1929-1930)

The study area is located in the area of Treaty No. 9 (also known as the James Bay Treaty) and Treaty 9 Adhesion 1929-1930. Treaty No. 9 covers land in northern Ontario that lies north of the Robinson-Superior and Robinson-Huron Treaties of 1850, up to the Quebec border to the east, the territory covered by Treaty 3 to the west, and Hudson Bay and James Bay to the north (**Figure 5-1**). It was written without First Nations input, and their understanding of the treaty was questionable due partly to their inability to read English (Morrison 1986). Treaty No. 9 was first signed in 1905 between various Northern Anishinaabe (Ojibway) and Mushkegowuk (Cree) communities and the Government of Canada and the Province of Ontario. The principle signings in 1905-1906 occurred at Osnaburgh House, Fort Hope, Marten Falls, and Moose Factory (AANDC 2018).

Beginning in 1923, mining activities north of the Albany River were the impetus for adhesions to Treaty No. 9, made in 1929-30, resulting in communities north of the Albany River being added as signatories (e.g., Attawapiskat). Concerning hunting, trapping and fishing by Aboriginal peoples, Treaty No. 9 provides, in part, as follows:

> *…and His Majesty the King hereby agrees with the said Indians that they shall have the right to pursue their usual vocations of hunting, trapping and fishing throughout the tract surrendered as heretofore described, subject to such regulations as may from time to time be made by the government of the country, acting under the authority of His Majesty, and saving and excepting such tracts as may be required or taken up from time to time for settlement, mining, lumbering, trading or other purposes.*
>
> AANDC 2013

1.3 Archaeological Context

1.3.1 Natural Environment

Historically, glacial Lake Agassiz encompassed the modern Lake Winnipeg, Lake Winnipegosis, and Lake Manitoba basins approximately 11,700 years ago (Teller 1985, 1995). It covered much of the province of Manitoba and northwestern Ontario. As the glaciers retreated, isostatic rebound resulted in a severely fluctuating water plane, creating relic shorelines throughout the province discussed as phases of the lake (i.e., Lockhart, Moorhead, Emerson, Nipigon and Ojibway) (Teller 1985, 1995). Between 9,300 to 8,000 B.P. Lake Agassiz began shifting northward as water drained through an outlet in northwestern Ontario that allowed overflow into Lake Nipigon and Lake Superior basins. This exposed the western half of Manitoba and northwestern Ontario east of the Lake Winnipeg basin by 8,500 years ago.

The glacial lake levels of all the early Great Lakes are complex and inter-related; each affecting the other in various ways as ice retreated and melted. The lake levels rose and fell accordingly thereby creating the deposits observed within the existing topography. These lake fluctuations resulted in the creation of moraines and beach ridges that became attractive to Paleo peoples. The current study area would have been under the Laurentian ice sheet until the glacier receded. After the recession of the ice sheet, Lake Barlow and Lake Ojibway would have covered a substantial portion of northern Ontario and northwestern Quebec. By approximately 7,700 years ago, water levels had dropped dramatically as the breakup of ice lead to catastrophic drainage north into the Tyrell Sea, which would form modern day Hudson's Bay (Teller 1985, 1995).

The retreat of the glaciers also allowed for spruce dominated boreal forests to move quickly north, occupying the once open tundra (Hinshelwood 1990; Phillips 1993). By 10,000 years ago the closed spruce forest gave way to the rapid introduction of jack pine and white birch because of the increasingly warm, dry and windy environment (Hypsithermal) (Julig 1994; Phillips 1993; Wright 1974).

1.3.1.1 Modern Natural Environment

The study area is located in the Ontario Shield and Hudson Bay Lowlands Ecozones which are comprised of upland boreal forest and lowland forest and extensive, marsh and muskeg lowlands. The Ontario Shield is characterized largely by forest, followed by treed bogs and fens, open water, and other wetlands. The James Bay / Hudson Bay Lowlands forms the core of the third largest wetland in the world. This area is characterized largely by treed bogs and fens, followed by forest, other wetlands, and open water. Well drained areas in the lowlands are forested with spruce, poplar, birch and other boreal species.

The single most important environmental feature necessary for extended human occupation is potable water. As such, proximity to water is regarded as a useful index for the determination of potential for the presence of archaeological resources. However, as noted previously, the general RSA is dominated by wetlands (i.e. bogs, fens, swamps and marshes) of the Albany River watershed and several of its sub-watersheds. Surface water moves generally in a north-easterly direction, towards James Bay. Additionally, the Albany and Ogoki river systems have both been altered from their original state because of hydroelectric development activity in the region between 1943 and 1950 respectively (MFFN 2017). A dam at Waboose Rapids cuts off the Ogoki River, backing it up into the Ogoki Reservoir north of Lake Nipigon. On the Albany River, there is a dam at Rat Rapids near Osnaburgh House. The tertiary watershed systems in the project area include the Albany-Makokibatan, Lower Ogoki, Little Current and Upper Albany-Muswabik, which would have provided important historical travel routes. The construction of the dams have had lasting impacts along the major river systems, including the alteration of shorelines and fluctuating water levels.

The overall LSA provides suitable habitat for a variety of small and large mammals, as well as various amphibians, reptiles, birds and insects that are found in the Boreal Forest. The area is characterized by a combination of open and treed wetlands dominated by species such as black spruce, mosses and shrubs, and upland terrestrial habitat comprised of mixed forests with species such as jack pine, white spruce, and several poplar species.

These environmental characteristics would have provided an ideal environment for both temporary and permanent settlement throughout the pre-and post-contact periods. The water sources would have served as important pre- and post-contact transportation routes as well as sources of potable water and riverine resources, most especially abundant fish resources.

1.3.2 Previous Archaeological Work

To inform the current Stage 2 AA and further establish the archaeological context of the study area , a search of the OASD was conducted by AECOM to determine if any previous archeological work has been completed within the current study area or within 50 m of the study area boundaries. **Table 2** lists reports regarding previous archaeological work relevant to the study area.

Table 2: Archaeological Reports with Relevant Background Information

Year	Title	Author	PIF Number
2015	*Stage 1 Archaeological Assessment, Cliffs Natural Resources Integrated Transportation System Districts of Kenora and Thunder Bay, Ontario*	Golder	P243-240-2011
2020	*Marten Falls First Nation, Stage 1 Archaeological Assessment, Community Access Road from Marten Falls to Painter Lake, Environmental Assessment and Preliminary Design Services, District of Kenora, District of Cochrane, and District of Thunder Bay*	AECOM	P438-0207-2020

Golder completed their Stage 1 AA of Cliffs Natural Resources Integrated Transportation System between the Mine site and the proposed Cavell Transload Facility located adjacent the Canadian National Railway Company's existing rail siding in 2015. The Stage 1 determined that archaeological potential exists for precontact Indigenous and historical sites within the study area along waterways, particularly those bordered by reasonably drained soil or bedrock, by historical transportation routes, and by mining and forestry activity areas and these areas were recommended for Stage 2 AA (Golder 2015: i).

AECOM completed the Stage 1 AA under PIF P438-0207-2020 for the all-season CAR that will connect the MFFN community to the Ontario provincial highway network. AECOM's Stage 1 background study of the study area has determined that the potential for the recovery of archaeological resources is high, given the proximity of the study area to a variety of criteria including water sources and areas of interest provided by the MFFN community. Areas with standing water (i.e., wetlands, muskeg, fens and bogs) are not considered to have archaeological potential and may be excluded from further assessment regardless of proximity to archaeological features. Further Stage 2 AA was recommended for all areas identified as retaining archaeological potential (AECOM 2020).

A large number of Stage 1 AAs have also been completed in and near the western edge of the project by Golder Associates for the Cliffs Natural Resources proposed pits and quarries. As this project was cancelled, they are brief reports which recommend further work prior to any additional development in those areas.

While no other AAs are known to have been completed within the current study area, some archaeological assessment has been undertaken in the broader region, including extensive survey along portions of the Albany River System. Patrick J. Julig completed surveys of the lower Albany River in 1981 and identified 20 pre-contact Indigenous sites and a number of historic encampments (Julig 1982). These surveys along the Albany River have demonstrated the rich archaeological record of the region, including several thousand years of Anishinaabe occupation. There are four registered archaeological sites within 50 km of the study area, including the Marten (Martin) Falls House (EjIp-1) which is found on the southern bank of the Albany River, approximately 12 km east of the westernmost proposed route (Alternative 1).

To the best of our knowledge, there are no other reports concerning archaeological work conducted within or in close proximity (i.e. within 50 m) of the study area; however, it should be noted that the MHSTCI does not maintain a database of all properties that have had past archaeological investigations and searches of the MHSTCI public register do not always result in a complete listing of all archaeological work conducted in a given area. In consequence, in some cases the only way a consulting archaeologist will know that a past assessment has been conducted in a given area is if they have personal knowledge of it, or if the assessment resulted in the discovery and registration of one or more archaeological sites.

1.3.3 Known Archaeological Sites

AECOM conducted a data search of the OASD on March 13, 2019 to determine if any registered archaeological sites are located within or adjacent to the study area, which did not result in any known archaeological sites within 1 km of the current study area. Given the extensive geographic setting, the search of known archaeological sites was increased to 50 km of the larger LSA boundaries. This search resulted in the identification of four registered archaeological sites. Table 3 provides details on the registered archaeological sites within 50 km of the larger LSA.

Table 3: Registered Archaeological Sites within 50 km of the LSA

Borden #	Site Name	Cultural Affiliation	Site Type
EjIp-1	Marten (Martin's) Falls House	Indigenous, Euro-Canadian	Hudson's Bay Company fur trade post
EiIr-1	Baxter	Unknown	Unknown
EiIr-2	Twin Point	Unknown	Unknown
EgIk-1	Feldbruegge	Indigenous	Campsite

The Marten Falls House (EjIp-1) is located on the southern bank of the Albany River at Marten Falls. The remains of the Hudson's Bay Company fur trade post were located in 1975 by Barry Newton as they were eroding out of the bank of the river. During the survey of Martin Falls House, the site was extensively surface collected, and two test pits were excavated (Vyvyan 1980). The material recovered included ceramics, glass, metal hardware, household and personal items, faunal material, and Indigenous material. The two test pits and an intensive surface survey at the only known AA conducted at this site. It is assumed that the site, if properly surveyed and mapped archaeologically, would be extensive as it was occupied for an extended period of time and archaeological materials are unlikely to be confined strictly within the post's footprint.

There are no other sites within proximity to the study area and larger LSA limits due to several factors. These include the lack of development in the area as well as the effects of fluvial processes along waterways where sites would have been washed away over time as a result of natural and purposeful water level fluctuations.

Information concerning specific site locations is protected by provincial policy and is not fully subject to the *Freedom of Information and Protection of Privacy Act (FIPPA)*. The release of such information in the past has led to looting or various forms of illegally conducted site destruction. Confidentiality extends to all media capable of conveying location, including maps, drawings, or textual descriptions of a site location. The MHSTCI will provide information concerning site location to the party or an agent of the party holding title to a property, or to a licensed archaeologist with relevant cultural resource management interests.

1.3.4 Existing Conditions

Coniferous trees dominate the Boreal region, because they are tolerant of shallow soil, permafrost and waterlogged areas alongside wetland plants and mosses. Black spruce was noted from above in predominantly swampy or wet areas within the study area. The time of the year allowed for further refinement as deciduous trees were easier to identify, given the changing colours of the leaves as well as the thinning of the forest cover as the leaves began to fall. The deciduous trees, such as poplars/aspen are known to grow best in areas that consist of soil and were easily identified among the green of the coniferous trees. The study area is located within the Canadian Shield, along two major river courses, the Ogoki and the Albany Rivers.

2. Field Methods

The Stage 2 field survey was conducted between September 24 and October 4, 2019 under PIF# P438-0225-2020. Samantha Markham (P438) acted as the field supervisor and the fieldwork involved the physical survey of a portion of the lands to be impacted by the proposed CAR. Weather conditions during the field investigation ranged from sunny to overcast, with some instances of fog. On September 27 and October 1, the fog was too thick for the helicopter to mobilize safety, therefore, no fieldwork could be conducted those days. While fog prevented the safe departure of the helicopter, at no time were conditions detrimental to the identification and recovery of archeological material during the Stage 2 fieldwork. Due to weather delays related to the increased fog and low ceiling, and the arrival of the first snow fall on the morning of October 5, 2019, a decision was made to suspend the Stage 2 fieldwork for the remainder of the year. The weather during the Stage 2 field survey can be found in **Table 4**.

Table 4: Weather Conditions Encountered During the Stage 2 Archaeological Assessment

Date	Temperature (° Celsius)	Conditions
September 24, 2019	25	Sunny
September 25, 2019	15	Mainly Sunny
September 26, 2019	14	Sunny
September 27, 2019	9	Rain, fog
September 28, 2019	+4/6	Fog, Mainly Sunny
September 29, 2019	-4/0	Overcast
October 1, 2019	4	Fog
October 2, 2019	0/+3	Overcast
October 3, 2019	-4/+3	Overcast
October 4, 2019	-8/+4	Sunny

The Stage 2 consisted of concentrating primarily on the alternatives for the major river crossings and any specific locations MFFN suggested. In discussion with Bob Baxter of MFFN, it was agreed upon that we would survey the areas 1 km upstream and 1 km downstream from each of the proposed crossing locations currently under consideration. A total of nine river crossings were identified to be completed during 2019, however because of weather delays and timing only two river crossings were assessed in 2019 – the Albany River crossing WA-15 and Ogoki River crossing WA-01.

The Stage 2 survey consisted of physically inspecting the areas identified as retaining archaeological potential within both river crossings as per Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011) for special survey conditions in northern Ontario and on Canadian Shield terrain. This was completed by walking within the areas identified as retaining potential, which included beach survey and test pit survey where possible. In areas that were not found to be wet or steeply sloped, test pit survey was conducted. Additionally, all areas within 50 m of the shoreline were surveyed at least at 5 m intervals as per Section 2.1.5 Standard 1, and all areas beyond 50 m from the shore were judgmentally test pitted at 10 m intervals. (Ontario Government 2011). Each test pit was at least 30 cm in diameter and all soil was screened though hardware mesh 6 mm in size to facilitate the recovery of cultural material. All test pits were examined for stratigraphy, cultural features or evidence of fill. Intact test pits consisted of a humic layer approximately 10-20 cm thick, followed by a thin lens of grey silty loam (leach layer), a thin black organic layer, a brown/orange silty loam over a white silty loam subsoil.

The steeply sloped areas, including the wooded area, and areas of low and wet conditions were photo-documented and were not subject to Stage 2 test pit survey. Photographs 1-21 illustrate the methods and conditions for the Stage 2 field investigation. As per the *Standards and Guidelines for Consultant Archaeologists* (Section 7.8.6, Standard 1a, Ontario Government 2011), photograph locations and directions are provided on Figure 6 along with an illustration of the methods and results of the Stage 2 field investigation.

3. Record of Finds

This Stage 2 archaeological assessment was conducted by employing the methods outlined in Section 2 of this report. Table 5 provides a listing of the documentary record generated by the Stage 2 fieldwork and indicates the location of each document type. Any maps that show actual archaeological locations and all UTM coordinates recorded during the assessment are provided in the supplementary documentation to this report.

Table 5: Inventory of Documentary Record

Document Type	Quantity	Location	Additional Comments
Field Notes	1 notebook	AECOM London Office	In original field folder and stored digitally in project file
Hand Drawn Maps	2	AECOM London Office	In original field folder and stored digitally in project file
Proponent Maps	1	AECOM London Office	Hard copy and digital copy in project file
Digital Photographs	~40	AECOM London Office	Stored digitally in project file

All of the cultural material collected during the Stage 2 archaeological assessment are contained in one banker's box and will be temporarily housed at AECOM's London office until formal arrangements can be made for transfer to an MTCS collections facility.

A total of five areas of interest were identified during the Stage 2 survey of the two river crossings. After laboratory analysis, it was determined that Location 4 and Location 5 did not consist of culturally modified material. Therefore, Locations 1 to 3 will be discussed below and the other material has been discarded.

3.1 Location 1

At the Albany River crossing WA-15, two locations containing archaeological material were identified; Location 1 was found to consist of an isolated primary flake manufactured on Hudson's Bay Lowland chert found during the beach survey (Plate 1). Survey transects were walked at 1 m intervals around the surface find, however no other materials were recovered. Given the isolated nature of the find, it is likely that the flake is out of its original context as a result of changing water levels. Despite intensification, no further archaeological materials were identified. Table 6 provides the Location 1 artifact catalogue and an artifact glossary is provided in Appendix A.

Table 6: Location 1 Artifact Catalogue

Cat #	Context	Artifact	Quantity	Morphology	Chert	Comments
1	1-1	Chipping Detritus	1	Primary	Hudson's Bay Lowland	Cortex present

Chipping detritus is temporally non-diagnostic other than being produced by pre-contact First Nation people. Temporally non-diagnostic artifacts do not help to place the archaeological location within a specific time period or to a particular cultural group.

3.2 Location 2

Location 2 was found at the east boundary of the 1 km study area around the Albany River crossing WA-15. It is a campsite along an exposed piece of bedrock that juts out into the river. Visible contents of the campsite included a can and bottle dump, an outhouse structure, cooking areas/hearths and utensils, and remnants of tent structures and boat tie ups. GPS coordinates and photos were recorded for all archaeological features, but none were collected. Table 7 provides the Location 2 artifact catalogue and an artifact glossary is provided in Appendix A.

Table 7: Location 2 Artifact Catalogue

Cat #	Context	Artifact	Quantity	Chert	Comments
1	2-1	Biface	1	Hudson's Bay Lowland	L:58.13 W:52.36 TH:16.05; cortex present; late stage biface

The circular biface is manufactured on Hudson's Bay Lowland chert, and measures 58.13 mm long, 52.36 mm wide and 16.05 mm thick (Plate 2). Cortex is visible in some areas on the lateral edges. This biface is in the late stage of manufacture because it is a thinner piece that has been worked into a tool pre-form and has greater regularity to the edge (Fisher 1997).

3.3 Location 3

Location 3 was identified at the west end of the 1 km study area surrounding the Ogoki River crossing WA-01. Location 3 consists of one piece of chipping detritus manufactured on Hudson's Bay Lowland chert (Plate 3). The secondary flake was identified on the surface of exposed bedrock adjacent to the rapids where rocks and pebbles had collected. The exposed bedrock in the area was examined for any additional material, however despite intensification, no further archaeological materials were identified. Table 8 provides the Location 3 artifact catalogue and an artifact glossary is provided in Appendix A.

Table 8: Location 3 Artifact Catalogue

Cat #	Context	Artifact	Quantity	Morphology	Chert	Comments
1	3-1	Chipping Detritus	1	Secondary	Hudson's Bay Lowland	Possible edge retouch, though difficult to tell because of bashing

Chipping detritus is temporally non-diagnostic other than being produced by pre-contact First Nation people. Temporally non-diagnostic artifacts do not help to place the archaeological location within a specific time period or to a particular cultural group.

4. Analysis and Conclusions

The Stage 2 AA of the two river crossings assessed in 2019 resulted in the identification of three areas of interest, two at the Albany River crossing WA-15 and one at the Ogoki River crossing WA-01. An analysis of each of these locations is provided below, as well as a determination as to whether further assessment is required.

4.1 Location 1

Location 1 consists of an isolated primary flake of Hudson's Bay Lowland chert that was located on the beach adjacent to the helicopter landing area, Given it's location adjacent to the river, it is likely the primary flake is not in it's original context and has been disturbed by changing water levels. Chipping detritus is temporally non-diagnostic other than being produced by pre-contact Indigenous people. Temporally non-diagnostic artifacts do not help to place the archaeological location within a specific time period or to a particular cultural group.

Given the isolated nature of the find, and lack of temporal or cultural information it provides, Location 1 is concluded to have no further cultural heritage value or interest as the site does meet the criterion identified in Section 2.2, Standard 1a of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Therefore, no further work is recommended for Location 1.

4.2 Location 2

Location 2 is a campsite on exposed bedrock adjacent to a fishing location. Visible contents of the campsite included a can and bottle dump, an outhouse structure, cooking areas/hearths and utensils, and remnants of tent structures and boat tie ups. Additionally, one Hudson's Bay Lowland chert biface was recovered from a tree stump. The campsite appears to have been occupied extensively through the late 20th and 21st centuries. It is likely this biface is out of its original context or perhaps it was created by a recent occupant of the campsite. The campsite is located on the boundary of the 1 km buffer around Albany River crossing WA-15. The archaeologist consulted James Baxter from MFFN about the area, he said it used to be an ice fishing camp that he frequented with his father, with the last time visited being approximately 10 years ago (James Baxter pers comm.). Additionally, when asked if the biface was found elsewhere or possibly created at Location 2, he replied that "sometimes you get bored" (James Baxter pers. comm.).

The timeline for occupation in northern Ontario is much later than that of other parts of Ontario, given the remote nature of the area. It remained untouched by modern development well into the 20th century, with the infrastructure developments with the introduction of the fur trade as one of the only sources of contact period settlement. Therefore, campsites in northern Ontario in the mid-20th century should be considered archaeologically significant, given that this time represent major periods of change and most communities in the far north were still mobile until that time. Location 2 is a culturally significant area, as an all-season fishing/outpost camp site that people have continued to use throughout the 20th century, and possibly before. While the deposit at Location 2 looks to primarily consist of 20th century material, the remote nature of the site and the location of the outpost camp on the shore of one of the major thoroughfares in the north indicates that the campsite retains cultural heritage value or interest. Location 2 has been registered with the MHSTCI as the Caviar (EiIp-1) site.

4.3 Location 3

Location 3 consists of an isolated secondary flake of Hudson's Bay Lowland chert that was located on the surface of exposed bedrock adjacent to the rapids where rocks and pebbles had collected, This could suggest that the area around the rapids was utilized for the creation of stone tools, as vast amounts of cobble chert is available along the shoreline. However, it is unlikely that the flake was found in its original context, considering the low water levels in the fall and the area in which they were found among other river pebbles. A more likely scenario is that stone tool manufacture was occurring somewhere upriver, these pieces were discarded into the river, and were eventually exposed with other river pebbles because of low water levels. Chipping detritus is temporally non-diagnostic other than being produced by pre-contact Indigenous people. Temporally non-diagnostic artifacts do not help to place the archaeological location within a specific time period or to a particular cultural group.

Given the isolated nature of the find, and lack of temporal or cultural information it provides, Location 3 is concluded to have no further cultural heritage value or interest as the site does meet the criterion identified in Section 2.2, Standard 1a of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Therefore, no further work is recommended for Location 3.

4.4 Preliminary Determination for Stage 4 Mitigation of Development Impacts

A preliminary determination as to whether or not the archaeological locations that retain cultural heritage or interest, that were identified during this Stage 2 archaeological assessment will require Stage 4 mitigation, is discussed below. This determination is required under the *Standards and Guidelines for Consultant Archaeologists* Section 7.8.3, Standard 2c (Ontario Government 2011).

The Caviar (EiIp-1) site is identified as an area of pre-contact and 20th century material and structural remains of an all-season campsite. Given its presence along the Albany River, and the geographic context of the area, the campsite retains cultural value or interest. However, given that the assessment was limited primarily to within the 1 km buffer study area, there is a possibility that more of the site could be located outside of the area assessed. Therefore, it is not yet evident that the level of cultural heritage value or interest may result in a recommendation to proceed to Stage 4 mitigation.

5. Recommendations

The partial Stage 2 archaeological assessment completed for the Project during the fall of 2019 resulted in the identification of two archaeological locations and one archaeological site, the Caviar (EiIp-1) site. The Caviar (EiIp-1) site fulfills the criteria for further Stage 3 archaeological investigation, as per Section 2.2, Standards 1b and 1c of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). **As such, further Stage 3 site-specific archaeological assessment is recommended for the Caviar (EiIp-1) site.**

Avoidance and protection are the preferred options either through project redesign or excluding or incorporating the area of the archaeological site into the development plan. Given that the site is located on the periphery of one of the route options, avoidance and protection might be possible upon choosing the preferred route. The site could therefore be avoided and protected during construction and the integrity of the area could remain intact. Should an avoidance and protection strategy for the Caviar (EiIp-1) site be implemented during construction, it must include:

- Placement of a temporary barrier around the site, including a 20 m protective buffer of land surrounding the site;
- Monitoring by a licensed consultant archaeologist for any construction activities that occur within 70 m of the site;
- The issuance of "no-go" instructions within the 20 m buffer to all on-site construction personnel or others involved in the construction process (i.e., engineers, architects, etc.) (Ontario Government 2011, Section 4.1.1);
- Illustration of the location of the area to be avoided on contract drawings, including explicit instructions to avoid the area;
- The presence of a licensed archaeologist on site to inspect fence installation, inspection of the site by a licensed archaeologist after the completion of all soil-disturbing activities, and reporting of the effectiveness of the avoidance and protection strategy to the MHSTCI; and,
- Should future repairs or improvements be required near the Caviar (EiIp-1) site or should changes to the current project area be required, archaeological monitoring by a licensed archaeologist will be required to ensure that the No-Go zone remains in place and that the archaeological site is protected from construction or soil disturbance activities.

However, if the WA-15 option is chosen as the preferred route and impacts will be proposed to Caviar (EiIp-1), a Stage 3 archaeological assessment is required. The Stage 3 archaeological assessment for Caviar (EiIp-1) must include the hand excavation test unit methodology as outlined in Section 3.2 and Table 3.1 of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011), to further test the nature and density of the site. Given that Caviar (EiIp-1) is primarily located on exposed bedrock, hand excavation covering the entire site may not be possible. Therefore, the Stage 3 archaeological assessment would consist of site documentation and recording.

The study area examined in this report includes some areas that may not be impacted by the Project. Stage 2 archaeological assessment is not required on land that will not be impacted by the Project. Alternatively, not all of the land that will be impacted by this project has been subject to Stage 2 archaeological assessment at the time of production of this report due to timing restraints with weather and the COVID pandemic; therefore, **Stage 2 archaeological assessment is required for any land required by the Project that has not yet been surveyed.**

The Stage 2 archaeological assessment must be conducted by a licensed archaeologist and must follow the requirements set out in Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011) for special survey conditions in northern Ontario and on Canadian Shield terrain, including:

- Test pit survey is required at 5 m intervals in areas that fall within 50 m of an identified modern water source. Survey is not required beyond 50 m of this type of feature of archaeological potential;

- Where areas of archaeological potential include land adjacent to historic water sources (i.e., glacial shorelines), or other areas identified as having archaeological potential based on the results of the Stage 1 AA including the AK information, test pits will be placed at a maximum of 5 m intervals between 0 and 50 m from the feature, and at 10 m intervals between 50 and 150 m from the feature. Survey is not required beyond 150 m of the archaeological features; and,

- Poorly drained areas and areas of steep slope are to be mapped and photo-documented.

The MHSTCI is asked to accept this report into the Ontario Public Register of Archaeological Reports thereby concurring with the recommendations presented herein. As further archaeological assessment is required, archaeological concerns for the proposed Marten Falls First Nation Community Access Road Project have not been fully addressed.

Please note that this archaeological assessment report has been written to meet the requirements of the MHSTCI *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011); however properties that are subject to archaeological assessment are not considered cleared for ground disturbance activities until the associated report has been reviewed and accepted by the MTCS. In order to maintain compliance with the MHSTCI and the *Ontario Heritage Act* (1990), no ground disturbing activities are to occur until the proponent and approval authority receive a formal letter from the MHSTCI stating that the recommendations provided herein are compliant and that the report has been accepted into the MHSTCI' register of archaeological reports.

6. Advice on Compliance with Legislation

This report is submitted to the Ontario Minister of Tourism, Culture and Sport 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, Culture and Sport, 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 fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*.

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 license.

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force in 2012) require that any person discovering human remains must notify the police or coroner and the Registrar of Burial Sites, War Graves, Abandoned Cemeteries, and Cemetery Closures.

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8. Images

8.1 Fieldwork

Photo 1: Albany River crossing WA-15 existing conditions, facing west

Photo 2: Shoreline of the Albany River crossing WA-15 at the east end of the study area, facing west

Photo 3: Existing conditions with areas of deadfall adjacent to the Albany River crossing WA-15, facing west

Photo 4: Area of muskeg typical of the area, permanently wet not subject to Stage 2 test pit survey at the Albany River WA-15, facing west

	
Photo 5: Stage 2 test pit survey where dry soil was identified at Albany River WA-15, facing east	Photo 6: Typical test pit at Albany River WA-15
	
Photo 7: Existing conditions at the Ducey River south of the Albany River WA-15, exhibiting wet conditions not suitable for test pitting, facing east	Photo 8: Outhouse structure located at Location 1 at the Albany River WA-15, facing northwest

Photo 9: Pieces of discarded wood from surrounding camp site at Location 1, note tree throw in background, facing east

Photo 10: Tree throw holding the recovered biface from Location 1, facing northeast

Photo 11: Bottle and can dump at Location 1 at the Albany River WA-15 crossing

Photo 12: Location 1 on the bedrock knob at the Albany River crossing WA-15, facing south

Photo 13: Typical test pit where sutible soil was found near Albany River crossing WA-15

Photo 14: Beach survey adjacent to the Lcoation 2 findspot along the Albany River, facing southwest

Photo 15: Typical wet area not subject to test pit assessment at the Ogoki River crossing WA-01, facing north

Photo 16: Existing conditions along the Ogoki River crossing WA-01, facing southeast

Photo 17: Area of low laying and wet conditions not subject to test pitting adjacent to a creek near Ogoki River crossing WA-01, facing south

Photo 18: Area of slope along the shore of the Ogoki River, facing south

Photo 19: Typical test pit along the Ogoki River crossing WA-01

Photo 20: Stage 2 test pit survey, facing west

Photo 21: Area of exposed bedrock near Location 3 along the Ogoki River WA-01, facing north

8.2 Artifact Plates

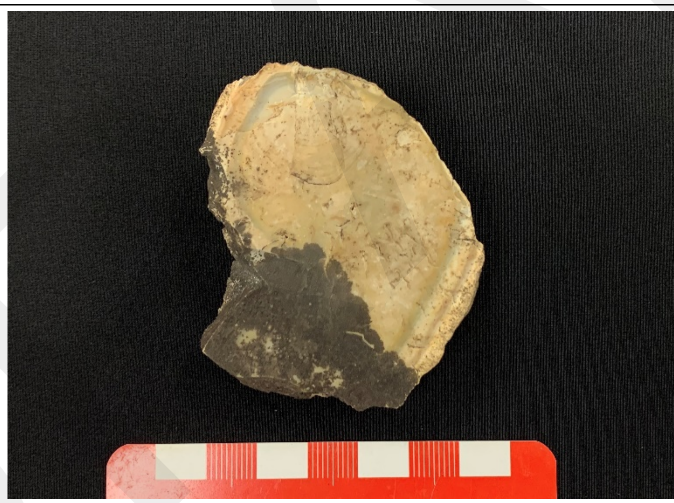


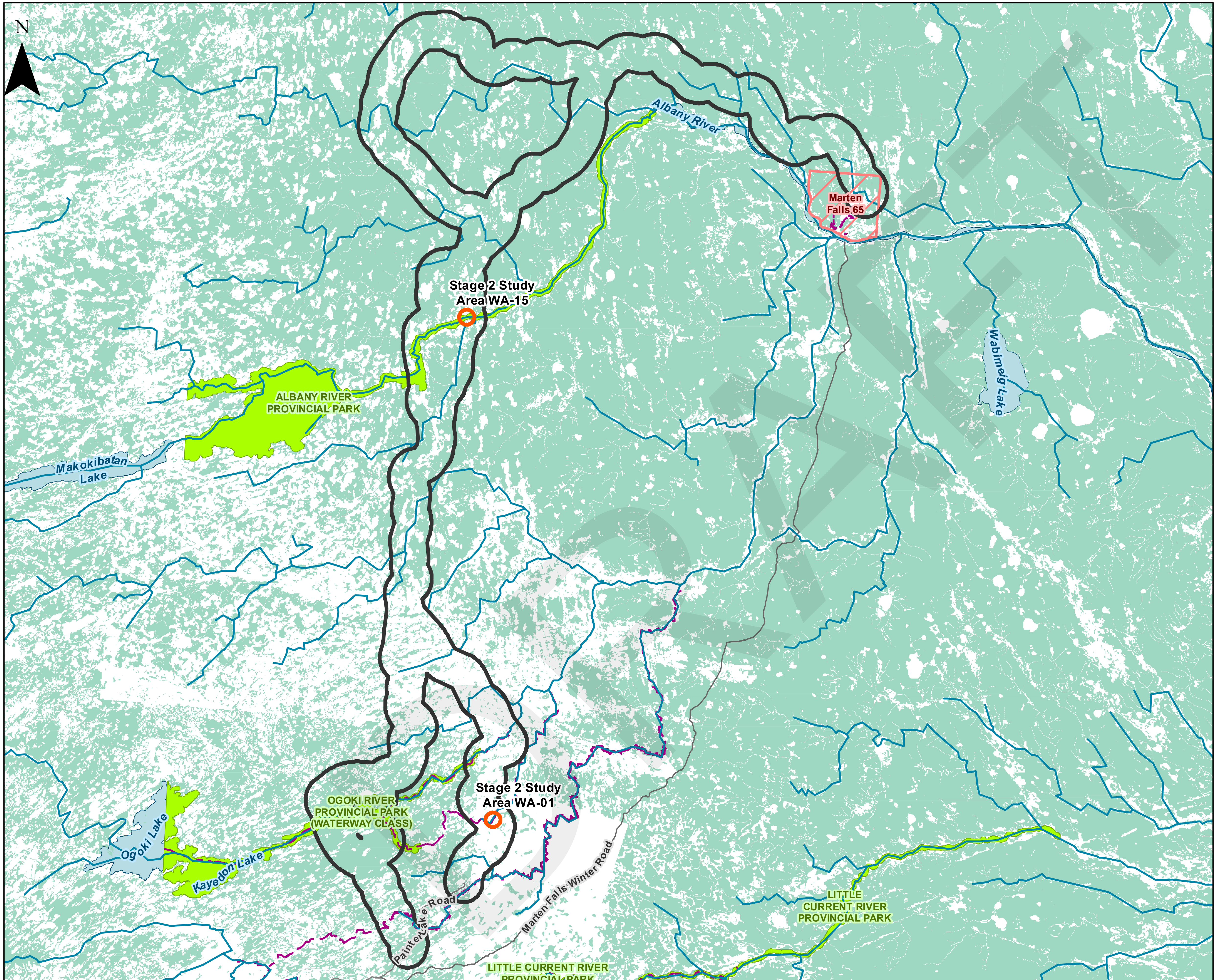
Plate 1: Primary flake from Location 1

Plate 2: Biface recovered from Location 2

Plate 3: Secondary flake from Location 3

9. Figures

All figures pertaining to the Stage 2 archaeological assessment for the MFFN CAR from Marten Falls to Painter Lake, in the Districts of Kenora, Cochrane and Thunder Bay, Ontario are provided on the following pages. Any maps providing the location of the site are not subject to the *Freedom of Information and Protection of Privacy Act* as the disclosure of this information has led to looting in the past. Any information that pinpoints the location of the archaeological site, maps, and GPS coordinates are provided in the supplementary documentation of this report.



Legend

- Stage 2 Archaeological Assessment Study Area
- Local Study Area
- Marten Falls First Nation
- Provincial Park
- Wetland
- Waterbody
- Watercourse
- Road
- Railroad
- Trail

0 5 10 20 30

Kilometers

Stage 2 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Topographic Map

Nov 2020	1:500,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 1

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 2 Archaeological Assessment Report\Figure1_Topo.mxd
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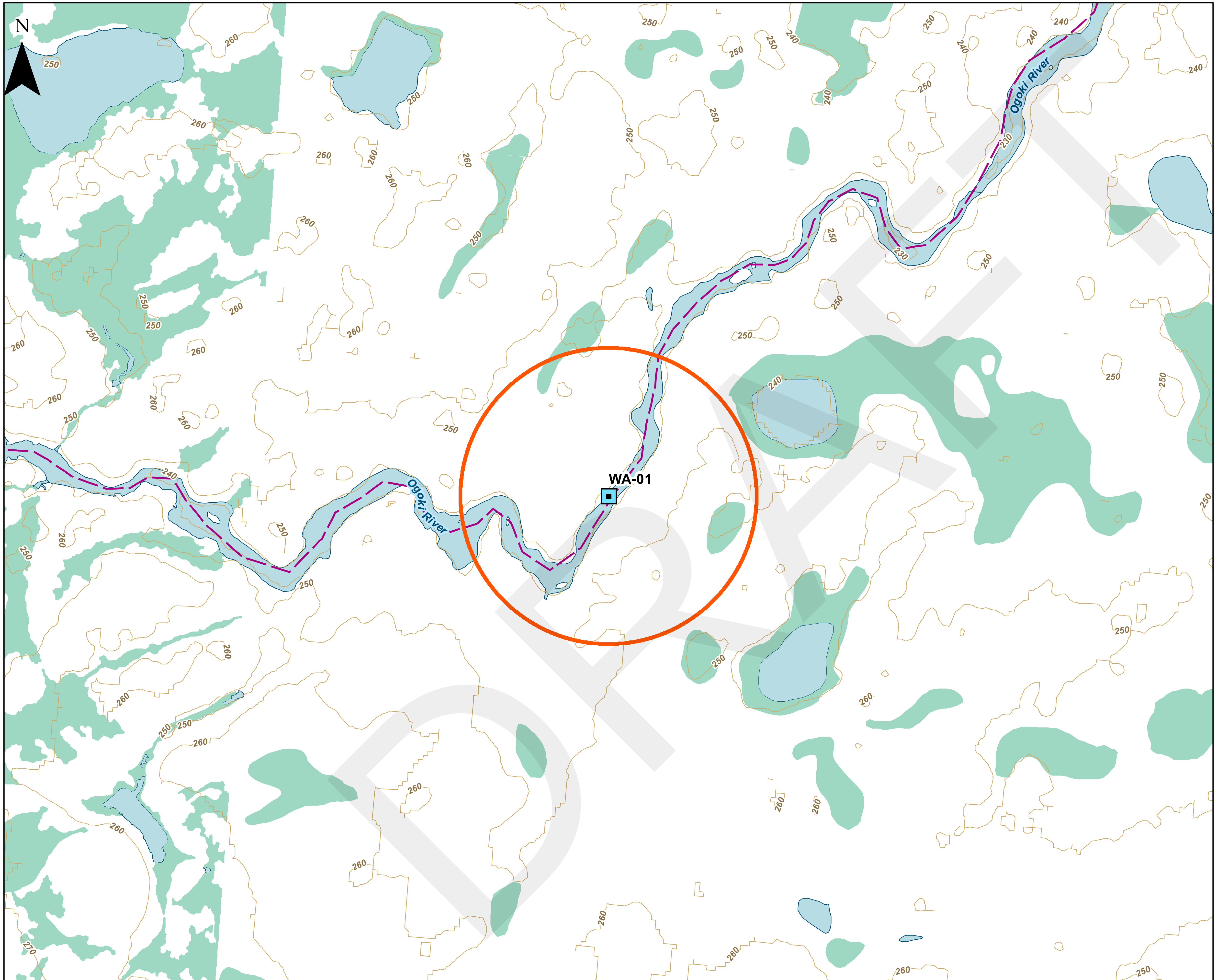

Legend

- Stage 2 Archaeological Assessment Study Area
- Wetland
- Waterbody
- Trail
- Contour
- River Crossing

0 250 500 1,000 1,500
Meters

Stage 2 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Site Location - WA-01

Nov 2020	1:25,000	Datum: NAD 1983 UTM Zone 16N

Figure 2-1

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 2 Archaeological Assessment Report\Figure2-1_WA-01_SiteLocationTopo.mxd
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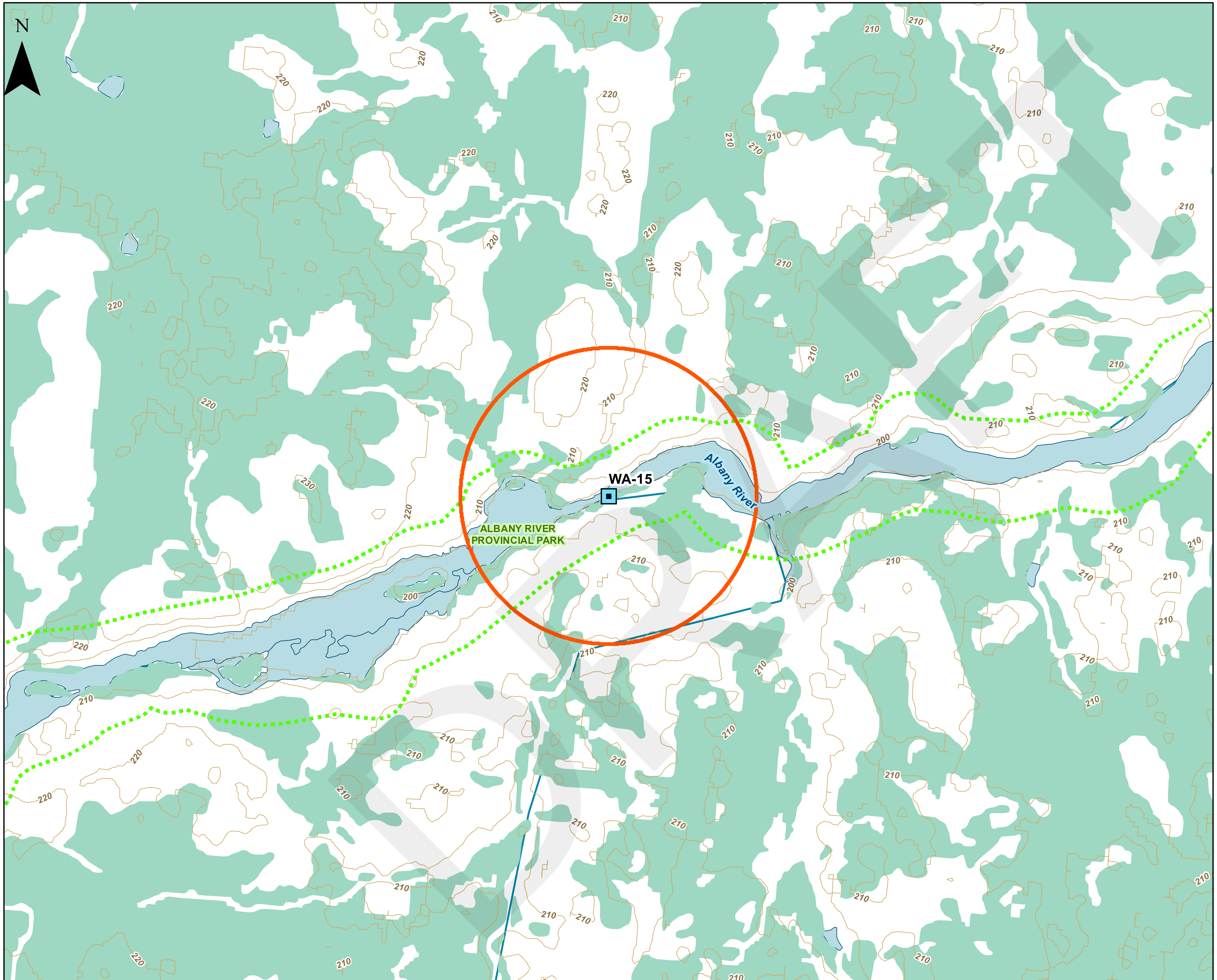

Legend

- Stage 2 Archaeological Assessment Study Area
- Provincial Park
- Wetland
- Waterbody
- Watercourse
- Contour
- River Crossing

0 250 500 1,000 1,500
Meters

Stage 2 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Site Location - WA-15

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AECOM

Figure 2-2

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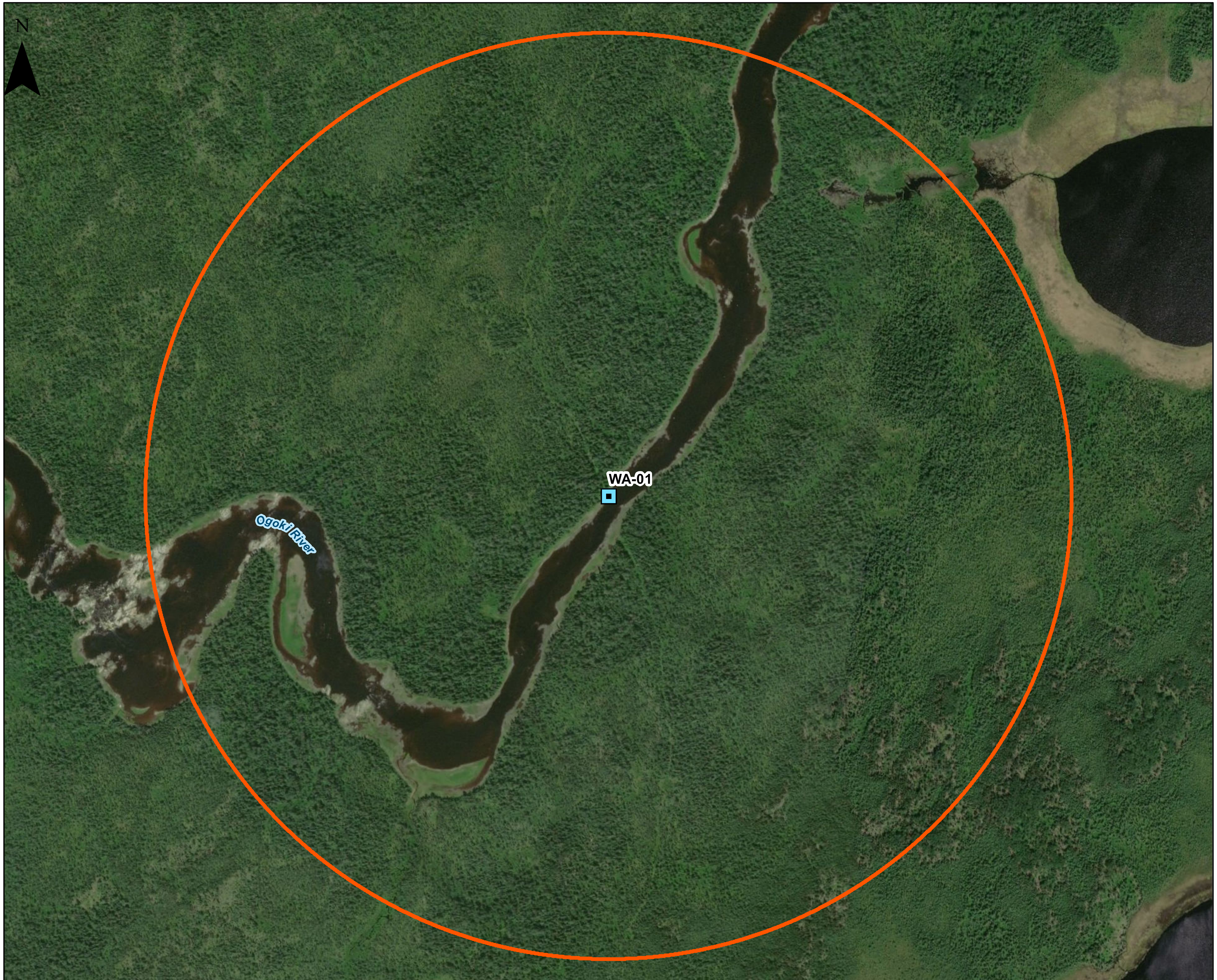

Legend

- Stage 2 Archaeological Assessment Study Area
- River Crossing

0 90 180 360 540
Meters

Stage 2 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area in Detail - WA-01

Nov 2020	1:8,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 3-1

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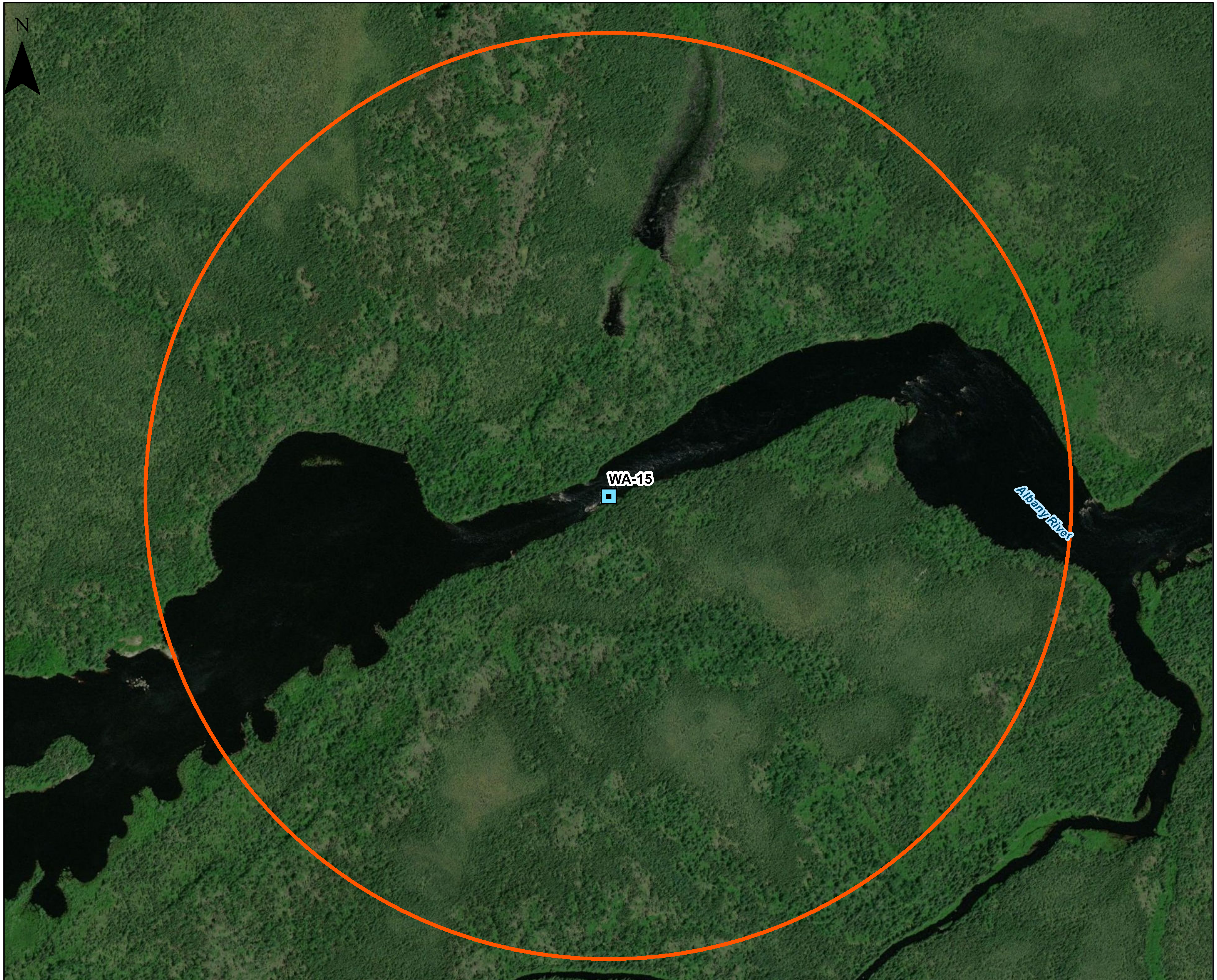

Legend

Stage 2 Archaeological Assessment Study Area

River Crossing

0 90 180 360 540

Meters

Stage 2 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Study Area in Detail - WA-15

Nov 2020	1:8,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 2-2

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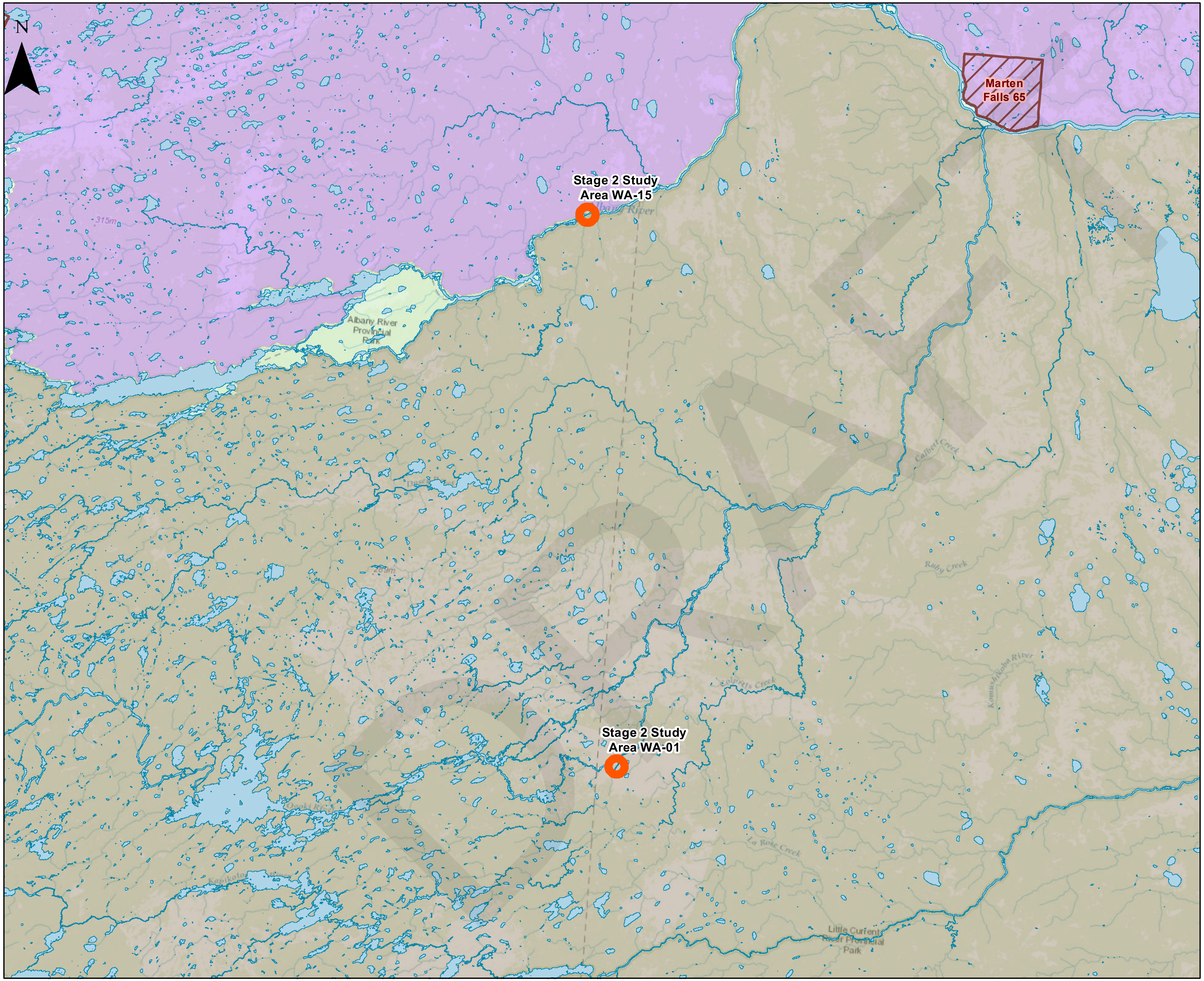

Legend

Stage 2 Archaeological Assessment Study Area

First Nation Community

Waterbody

Treaties

Adhesion to Treaty, No. 9, 1929

Treaty No. 9, 1905-1906

0 4 8 16 24

Kilometers

Stage 2 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Treaties in Relation to the Study Area

Nov 2020	1:450,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 4

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Legend

- Stage 2 Archaeological Assessment Study Area
- Areas Requiring Stage 2 Testing at 5m Intervals
- River Crossing

0 90 180 360 540

Meters

Stage 2 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Results of Stage 1 Archaeological Assessment

Nov 2020	1:8,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 5-1

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 2 Archaeological Assessment Report\Figure5-1_WA-01_Results.mxd
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Legend

Stage 2 Archaeological Assessment Study Area

Areas Requiring Stage 2 Testing at 5m Intervals

River Crossing

0 90 180 360 540

Meters

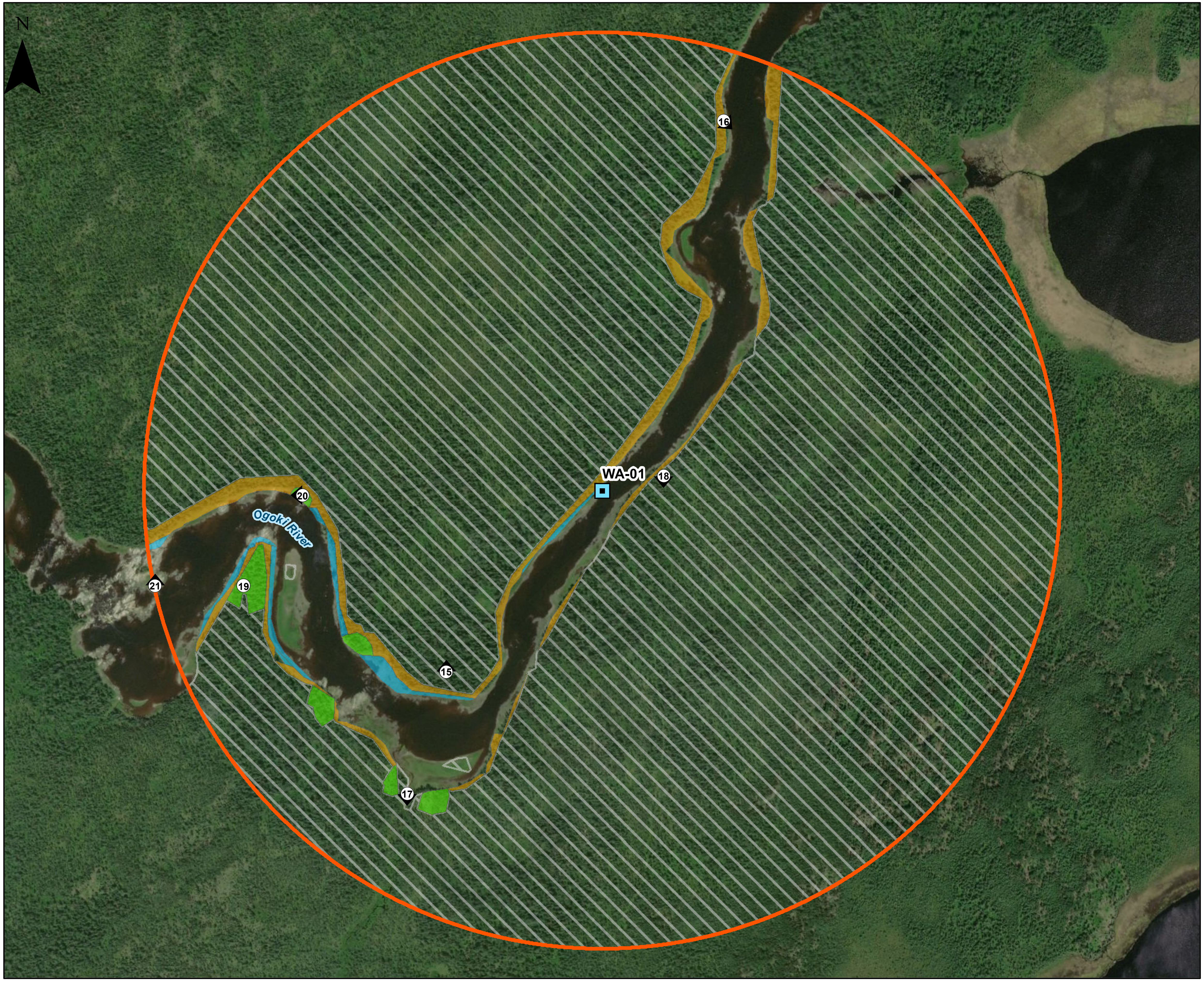
Stage 2 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Results of Stage 1 Archaeological Assessment

Nov 2020	1:8,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 5-2



Legend

- Stage 2 Archaeological Assessment Study Area
- River Crossing
- Photo Location - Ground Shot
- Photo Location and Direction

Stage 2 Results

- Test Pitted at 5m Interval
- Beach Survey
- Sloped
- Visually Assessed - Low and Wet

0 90 180 360 540
Meters

Stage 2 Archaeological Assessment
Marten Falls First Nation
Community Access Road

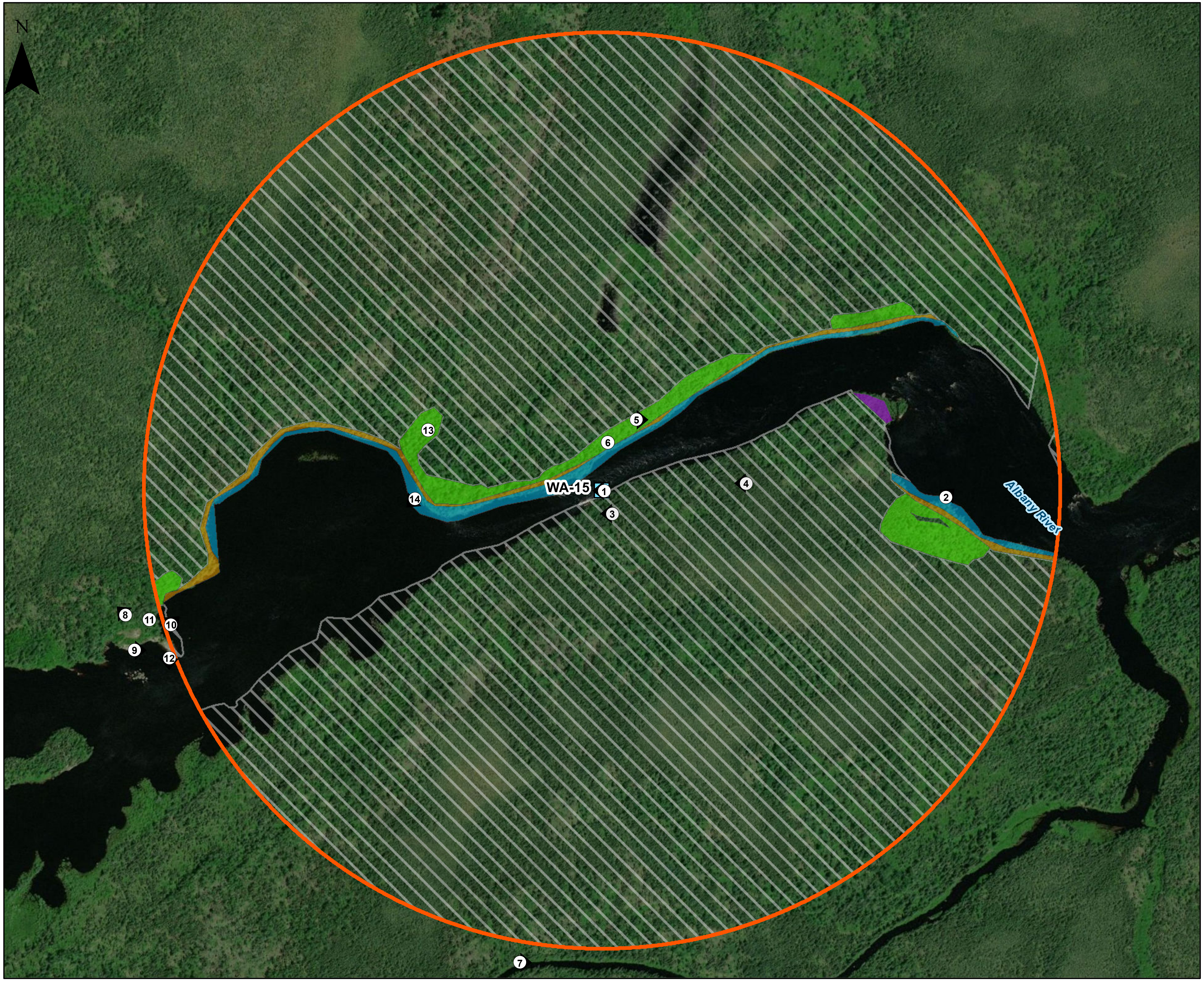
Results - WA-01

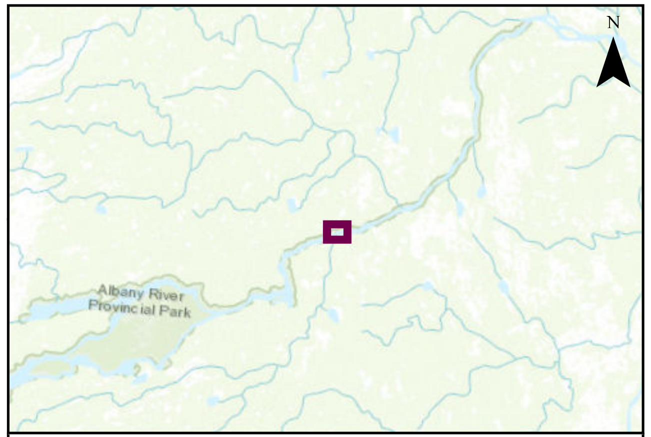
Nov 2020	1:8,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 6-1

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 2 Archaeological Assessment Report\Figure6-1_WA-01_Results.mxd
Date Saved: 11/27/2020 8:51:58 AM





Legend

- Stage 2 Archaeological Assessment Study Area
- River Crossing
- Photo Location - Ground Shot
- Photo Location and Direction

Stage 2 Results

- Test Pitted at 5m Interval
- Beach Survey
- Bedrock
- Sloped
- Visually Assessed - Low and Wet

0 90 180 360 540
Meters

Stage 2 Archaeological Assessment
Marten Falls First Nation
Community Access Road

Results - WA-15

Nov 2020	1:8,000	Datum: NAD 1983 UTM Zone 16N

AECOM

Figure 6-2

Map location: C:\Users\Stephanie.Cloutier\Desktop\Ongoing\60593122_MFFNCAR\Design\01_Reports\Stage 2 Archaeological Assessment Report\Figure6-2_ WA-15_Results.mxd
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Stage 1 Archaeological Assessment

Community Access Road from Marten Falls to Painter Lake
Additional Aggregate Resources
Environmental Assessment and Preliminary Design Services District of Kenora, District of Cochrane, and District of Thunder Bay, Ontario

Marten Falls First Nation

Revised Report

Licensee: Samantha Markham, MES (P438)
PIF Number: P438-0323-2024
Associated PIFs: P438-0207-2020
Project number: 60593122

October 29, 2025

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AECOM: 2024-12-21

Quality information

Prepared by	Checked by	Verified by	Approved by
Kayley Sherret-Ginther, BA Hons. Project Archaeologist	Samantha Markham, MES Cultural Resource Manager	Adria Grant, MA Associate VP IAP	

Revision History

Revision	Revision date	Details	Name	Position
1	2025-05-05	MCM Revisions	Kayley Sherret-Ginther	Project Archaeologist
2	2025-10-23	MCM Revisions	Kayley Sherret-Ginther	Project Archaeologist

Distribution List

# Hard Copies	PDF Required	Association / Company Name
0	1	Marten Falls First Nation
0	1	Ministry of Citizenship and Multiculturalism
0	1	AECOM Canada ULC

Prepared for:

Marten Falls First Nation
Marten Falls Reserve No, 65, Ogoki, ON

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Executive Summary

AECOM Canada ULC was retained by Marten Falls First Nation (the community) to conduct a Stage 1 archaeological assessment for the proposed Community Access Road (the Project) from Marten Falls to Painter Lake, in the Districts of Kenora, Cochrane and Thunder Bay, Ontario. Marten Falls First Nation is a remote First Nation community in northern Ontario, approximately 430 km from Thunder Bay, Ontario, located at the junction of the Albany and Ogoki rivers. The community is proposing an all-season Community Access Road that will connect the Marten Falls First Nation community to the Ontario provincial highway network. The proposed Project includes construction, operation and maintenance of an all-season Community Access Road consisting of, approximately 140 km to 250 km of two-lane gravel all-season road on a new right-of-way. The Stage 1 archaeological assessment was completed under the project direction and archaeological license of Samantha Markham, MES under Project Identification Form P438-0207-2020.

In 2023 an additional 6,775 hectares of land were added to the Community Access Road study area to incorporate previously unassessed areas of proposed temporary impacts, particularly extraction of aggregate resources to facilitate road construction along the proposed Community Access Road. These additional temporary land use locations are the subject of this report and will be from this point forward referred to as “the study area” whereas areas previously subject to AECOM Stage 1 archaeological assessment covered under P348-0207-2020 will be referred to as “the Community Access Road study area.” The study area is located in parts of the Districts of Kenora, Cochrane and Thunder Bay, Ontario, at various locations along the Community Access Road study area.

In April 2018, Marten Falls First Nation signed a voluntary agreement with the Ministry of Environment, Conservation and Parks to prepare an Individual Environmental Assessment for the Project. This assessment is being completed as part of the *Environmental Assessment Act* in accordance with subsection 11(1) (Government of Ontario, 1990a), and as a component of the Impact Assessment required for Project review by the Impact Assessment Agency of Canada under the federal Impact Assessment Act. This Project is also subject to the requirements of the Ontario Heritage Act (Government of Ontario, 1990b) and the Ministry of Citizenship and Multiculturalism *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario, 2011a).

All archaeological consulting activities were conducted under Project Identification Form number P438-0323-2024, issued to Professional Archaeologist Samantha Markham, MES (P438) in accordance with the Ministry of Citizenship and Multiculturalism’s Standards and Guidelines for Consultant Archaeologists (Government of Ontario, 2011a). Documentary sources, Indigenous Knowledge, detailed mapping and satellite imagery were analyzed in order to evaluate the archaeological potential found within the study area. This report provides the results of the Stage 1 archaeological assessment and provides a recommendation for further archaeological assessment as part of the Project.

As a part of AECOM’s agreement with Marten Falls First Nation and in accordance with the draft technical bulletin entitled *Engaging Aboriginal Communities in Archaeology* (Government of Ontario, 2011b), this Stage 1 archaeological assessment was distributed for review by interested Indigenous communities and entities. This Stage 1 archaeological assessment has been informed by the feedback received from Marten Falls First Nation, Aroland First Nation, Ginoogaming First Nation, Weenusk First Nation, the Mushkegowuk Council, Kashechewan First Nation, Fort Albany First Nation, and the Métis Nation of Ontario. Further details regarding the community review of the Stage 1 archaeological assessment are provided in the **Record of Indigenous Engagement** (AECOM, under a separate cover).

AECOM’s Stage 1 background study and community consultation for the study area has determined the potential for the recovery of pre- and post- contact First Nations, Métis, and 19th century colonial archaeological resources within the study area is high. Based on these findings the following recommendations are made:

- The Stage 2 archaeological assessment must be conducted by a licensed archaeologist and must follow the requirements set out in Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario, 2011a) for special survey conditions in northern Ontario and on Canadian Shield terrain;
- Test pit survey is required at 5 m intervals in areas that fall within 50 m of an identified modern water source (areas outlined in yellow in **Figures 7-1** to **7-12**). Survey is not required beyond 50 m of this type of feature of archaeological potential;

  - Test pits are to be excavated at least every 5 m where soil is present, measuring 30 cm in diameter, and excavated into the first 5 cm of sterile subsoil. Depth will vary depending on the soil stratigraphy. All material from each test pit will be screened for artifacts and affected areas are restored to existing condition upon completion;

- Where areas of archaeological potential include land adjacent to historic water sources (i.e., glacial and remnant river shorelines), or other areas identified as having archaeological potential based on the results of the Stage 1 archaeological assessment including the Indigenous Knowledge information, test pits will be placed at a maximum of 5 m intervals between 0 and 50 m from the feature, and at 10 m intervals between 50 and 150 m from the feature. These areas are outlined in orange on **Figures 7-1** to **7-12**.
- Survey is not required beyond 150 m of the archaeological features due to low archaeological potential (Section 7.7.4, Standard 1.a and Section 7.7.6, Standard 3). These areas are indicated as grey crosshatching on **Figures 7-1** to **7-12**;
- Should there be impacts to the Albany or Ogoki rivers or their tributaries AECOM recommends that a marine archaeological checklist be completed, which may result in a recommendation to complete a marine archaeological assessment by a licenced archaeologist in advance of any impacts within the study area;
- Poorly drained areas and areas of steep slope are to be mapped and photo documented;
- Should additional land outside of the current study area be included as part of the Marten Falls Community Access Road Additional Aggregate Resources project, the standard requirements for archaeological assessments to be conducted prior to land disturbance remain in place. Additional archaeological assessment(s) must be conducted by a licensed archaeologist and follow the requirements set out in *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a) and
- Fieldwork planning will be completed in consultation with Indigenous Community Elders and Environmental Monitors will accompany the archaeology team for a Stage 2 archaeological assessment.

The Ministry of Citizenship and Multiculturalism is asked to accept this report into the Ontario Public Register of Archaeological Reports thereby concurring with the recommendations presented herein. **As further archaeological assessment is required, archaeological concerns for the Marten Falls Community Access Road Additional Aggregate Resources Study Area, in the Districts of Kenora, Cochrane and Thunder Bay, Ontario have not been fully addressed.**

Please note that this archaeological assessment report has been written to meet the requirements of the Ministry of Citizenship and Multiculturalism's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario, 2011a); however, properties that are subject to archaeological assessment are not considered cleared for ground disturbance activities until the associated report has been reviewed and accepted by the Ministry of Citizenship and Multiculturalism. In order to maintain compliance with the Ministry of Citizenship and Multiculturalism and the Ontario Heritage Act (1990), no ground disturbing activities are to occur until the proponent and approval authority receive a formal letter from the Ministry of Citizenship and Multiculturalism stating that the recommendations provided herein are compliant and that the report has been accepted into the Ministry of Citizenship and Multiculturalism register of archaeological reports.

Project Personnel

Project Manager	James McCutchon, P. Eng.
Senior Environmental Planner	Leah Deveaux, RPP, MCIP
Licensed Archaeologist	Samantha Markham, MES (P438)
Report Production	Kayley Sherret-Ginther, BA Hons. (R1243)
Senior Review	Samantha Markham, MES (P438)
Lead Verifier	Adria Grant, MA (P131)
GIS Analyst	Stephanie Clarke, BA, Advanced Dip. GIS

Acknowledgements

Proponent Contacts	Jennifer Bruin on behalf of Marten Falls First Nation
Approval Authority	Marten Falls First Nation

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Supplementary Documentation

Record of Indigenous Engagement

1. Project Context

1.1 Development Context

AECOM Canada ULC was retained by Marten Falls First Nation (the community) to conduct a Stage 1 archaeological assessment for the proposed Community Access Road (the Project) from Marten Falls to Painter Lake, in the Districts of Kenora, Cochrane and Thunder Bay, Ontario. Marten Falls First Nation is a remote First Nation community in northern Ontario, approximately 430 km from Thunder Bay, Ontario, located at the junction of the Albany and Ogoki rivers. The community is proposing an all-season Community Access Road that will connect the Marten Falls First Nation community to the Ontario provincial highway network. The proposed Project includes construction, operation and maintenance of an all-season Community Access Road consisting of, approximately 140 km to 250 km of two-lane gravel all-season road on a new right-of-way. The Stage 1 archaeological assessment was completed under the project direction and archaeological license of Samantha Markham, MES under Project Identification Form P438-0207-2020.

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All archaeological consulting activities were conducted under Project Identification Form number P438-0323-2024, issued to Professional Archaeologist Samantha Markham, MES (P438) in accordance with the Ministry of Citizenship and Multiculturalism’s *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario, 2011a). Documentary sources, Indigenous Knowledge, detailed mapping and satellite imagery were analyzed in order to evaluate the archaeological potential found within the study area. This report provides the results of the Stage 1 archaeological assessment and provides a recommendation for further archaeological assessment as part of the Project.

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1.1.1 Objectives

The objective of the Stage 1 background study is to document the archaeological and land use history and present conditions within the study area. This information will be used to evaluate in detail the study area’s archaeological potential, which will support recommendations for the Stage 2 survey for all parts of the study area, as well as recommending appropriate Stage 2 survey strategies. The results of Stage 1 archaeological assessment presented in this report are drawn in part from:

- The Ministry of Citizenship and Multiculturalism's Archaeological Sites Database for a listing of registered archaeological sites within a 1 km radius of the study area;
- Reports of previous archaeological assessments within 50 m of the study area;
- Recent and historical maps of the study area;
- Archaeological management plans or other archaeological potential mapping where available;
- Municipal Registers of listed heritage properties and properties designated under the Ontario Heritage Act (Government of Ontario, 1990b), commemorative plaques, and monuments identified in or near the study area; and,

This Stage 1 archaeological assessment has been conducted to meet the requirements of the Ministry of Citizenship and Multiculturalism's Standards and Guidelines for Consultant Archaeologists (Government of Ontario, 2011a).

1.2 Historical Context

Archaeological research in northern Ontario is generally limited in comparison to southern Ontario, which has resulted in less robust understanding of the pre-contact Indigenous archaeological settlement history of this part of the province. The following sections provide a detailed summary of the archaeological cultures that have settled in northern Ontario over the past 11,000 years. **Table 1** provides a general cultural chronology for northern Ontario.

Table 1: Cultural Chronology for Northern Ontario

Archaeological Period	Culture	Time Period	General Archaeological Characteristics
Paleo	Plano	8000-4500 BC	– Lanceolate bifacial tools – Associated with large-game focused hunting – Sites often associated with relic shores north of the Upper Great Lakes
Archaic	Shield	5400-250 BC	– Broad spectrum seasonal resource exploitation – Development of environmental conditions like present – Slight reduction in group territory size – Introduction of copper tools – Highly mobile – Introduction of bow and arrow technology – Domestication of dogs
Middle Woodland	Laurel	700 BC – AD 1000	– Introduction of pottery – Introduction of horticultural production, primarily through trade – Development of distinctive Algonquian ceramic styles – Large earthen mounds in some regions (e.g. western end of Lake Superior)
Late Woodland	Blackduck Selkirk	AD 750-1650	– Diverse ceramics – out-flaring vessel rims, textile impressions, and puntates – Increasing variation in regional stylistic characteristics in various lithics and ceramics – Evidence of extensive-long range Indigenous trade activities – Communal burials
Contact Period Indigenous	Ojibway, Cree, Métis	AD 1650 – Present	– Early written records and treaties – Participation in fur trade – Mixture of Indigenous and European goods
Colonial Settlement		AD 1749 – Present	– Written records and treaties

Notes: Taken from Dawson (1984) and Wright (1981)

1.2.1 Pre-Contact Indigenous Settlement

The Paleo Period

Much of northwestern Ontario lies within the Pre-Cambrian (Canadian) Shield and is covered in boreal forest. This part of the province is rugged and is speckled with lakes, bogs, and streams. The first people to inhabit northwestern Ontario are referred to as Paleo, a general term to refer to the first Indigenous occupants in the region in the post glacial period. They reached the north shore of Glacial Lake Minong/Duluth (the pre-cursers to Lake Superior) around 7,500 BC after the glaciers had retreated. During the immediate post-glacial period, the portions of the province that were available for human occupation had a tundra-like ecological and climate regime. Given these conditions, Paleo groups lived in relatively small nomadic groups that followed larger, migratory game (notably caribou), across the landscape, preferring to camp on high ground, immediately adjacent to water sources, such as glacial lakes or spillways, where smaller game and plant food would have also been harvested. Although there were initial occupations dating back to ca. 7,500 BC immediately northwest of modern Lake Superior, the central interior of northern Ontario did not become available for human occupation until roughly 5,500 BC. Thus, the earliest known sites north of the Great Lakes date to this period but are all situated south of the study areas and in relatively close proximity to the modern shores of Lakes Superior and Huron. Tool assemblages appear to be dominated by finely made lanceolate-shaped, sometimes fluted, projectile points, or spear tips. Raw materials obtained from bedrock outcrops or glacial cobbles were used in the production of tools such as distinctive unfluted, ribbon flaked, lanceolate spear points and knives (Dawson, 2004).

The Archaic Period

The next major cultural period following the Paleo is termed the Shield Archaic. The transition to the Archaic lifeway was directly related to changing environmental conditions to those more closely approximating the present. This change is best seen in changes in technological and stylistic characteristics of the overall lithic toolkit, including projectile point styles and assemblage composition. The Archaic period (ca. 5,400 – 250 BC) in northwestern Ontario is defined by notched projectile points, the use of native copper, and more frequent recovery of woodworking tools such as wedges and adzes (Wright 1972; Dawson, 1983; Fox, 1977; Hinshelwood, 2004). Throughout the Archaic period the natural environment warmed, and vegetation changed from closed conifer-dominated vegetation cover, to mixed coniferous and deciduous forest in the north and deciduous vegetation in the south that we see in Ontario today (Wright, 1972). During the Archaic period there are indications of increasing populations and decreasing size of territories exploited during annual rounds, fewer moves of residential camps throughout the year and longer occupations at seasonal campsites, continuous use of certain locations on a seasonal basis over many years, increasing attention to ritual associated with the deceased, and long range exchange and trade systems for the purpose of obtaining valued and geographically localized resources (Wright, 1972; Hinshelwood, 2004).

The Woodland Period

The beginning of the Woodland period in northern Ontario, approximately 3,500 years ago, is distinguished from the Late Archaic period primarily by the addition of ceramic technology, which provides a useful demarcation point for archaeologists but is expected to have made less difference in the lives of the Woodland people. The Woodland period of northern Ontario is divided into two distinct phases, the Initial and Terminal Woodland periods.

The introduction of pottery within the Initial Woodland period beginning ca. 2,200 years ago (700 B.C. – A.D. 1,000) is believed to have occurred in northern Ontario through trade and other influences from the southwest and east, creating the Laurel culture within the Boreal Shield, stretching from Saskatchewan to northern Quebec. Laurel ceramics were dominated by conical style tapered base pottery, manufactured using the coil method adorned with decoration across the upper portion of the vessel’s exterior surface. The overall Laurel ceramic tradition appears to be related to a broader Initial Woodland pattern known across much of eastern North America and bears strong resemblances to the Saugeen and Point Peninsula traditions in southern Ontario and the northeastern United States.

During the Initial Woodland groups would come together into large macro-bands through the spring and summer at lakeshore or marshland areas to take advantage of spawning fish; in the fall, inland river valleys were occupied for deer and nut harvesting and groups split into small micro-bands for winter survival. Few Laurel sites have been securely dated, but archaeologists believe that the style persisted until about 1,000 years ago (Hamilton, 2013).

Observed during the Woodland period and represented in Southern Ontario, the Rainy River District in northern Ontario, and in southeastern Manitoba, is the practice of burial mound ceremonialism. These impressive mounds represent the internment of multiple humans within a single dirt structure. In Southern Ontario the most impressive mound structure is the Serpent Mound adjacent to Rice Lake. These mounds were built by the Laurel and extended into the Blackduck peoples during the Middle Woodland tradition. Most of them are low and broad structures, though one at Long Sault Rapids in the Rainy River District is the largest in Canada at 34 m in diameter and 7 m high. The mounds contained a plethora of grave goods, including furniture, clay pots, shell, bone, and copper beads, which were all sprinkled with red ochre. This behavior appears to be an extension of the Adena and Hopewell Interaction Sphere from the Midwest United States (Mason, 1970, 1981).

The Terminal Woodland period in northern Ontario differed significantly from the settlement and subsistence shift that occurred in southern Ontario where there was increasing reliance on maize horticulture. The climate and landscape of the Canadian Shield prohibited the agricultural shift occurring in the south, and there was a continued reliance on fish and large game as in previous periods. Population growth was also restricted by the Canadian Shield environment and settlement patterns were similar to those of the Initial Woodland with large summer camps located close to fish resources and typically located on level, well drained ground with access to canoe landing beaches.

After approximately 1,200 years ago, new technological innovations appear in the archaeological record, indicating Terminal Woodland cultural influences spread widely throughout the Boreal Forest. Archaeologists define the Terminal Woodland period by the use of the bow and arrow and by a variety of new pottery wares that differ drastically from the previous Laurel style (Hamilton, 2013). Within the Terminal Woodland period three distinct cultures arise: the Blackduck Complex throughout northern Ontario; the Selkirk Complex to the north; and Sandy Lake Ware to the south. All three wares differ slightly in timespans and overlap geographically (Meyer & Hamilton 1994). Blackduck Complex (ca. AD 800 - 1,400) pottery vessels were large and globular, rather than conical and tapered and were manufactured using the paddle and anvil technique rather than coiling. Decorations were also distinct, characterized by horizontal and/or oblique lines along with circular indentations (punctates) that are found on the neck, rim, and inner rim of the vessel.

The Selkirk culture is also defined by its pottery style. Manufacturing techniques are similar to that of the Blackduck Complex but with a distinct variation in decoration. The decorative styles, if decorated at all, were simple and generally included either a single row of punctate indentations or impressions made with a cord-wrapped stick (Dawson, 1983). Selkirk pottery is found predominantly in the northern portion of north Ontario. Sandy Lake Ware (c. AD 1,000-1750) consists of globular shaped vessels with thin and fairly straight walls, made with grit or shell temper, and interior notched or plain decoration. Surface finish may be textile impressed, smoothed, check or simple stamped (Taylor-Hollings, 1999).

The Terminal Woodland period also sees the emergence of rock art as an expression of spiritual life and ritual practices. Rock paintings, or pictographs, comprised of red ochre mixed with a binding agent such as bear fat or sunflower oil, are typically found within western Ontario on the vertical faces of cliffs where they enter a body of water (Rajnovich, 1994). Pictrographs constitute a form of written language, signifying sounds, objects and ideas in reference to subsistence, geography, climate, history and also sacred or religious beliefs and visions (Dewdney & Kidd 1962; Bursey et al., 2013); although, they could have served a variety of cosmological functions and even political ones by marking territory (Wright, 1974). The damming of lakes and rivers by the timber and hydroelectric industries may have drowned many pictograph sites and the fragile nature of the painting themselves also reduces their chances of survival. Rock etchings, or petroglyphs, are also relatively rare within the Canadian Shield, with most examples occurring within the south and east of the province. Likewise, petroforms, or artificial arrangements of stones in pits or cairns, are rare in northwestern Ontario (Dawson, 1983).

1.2.2 The Fur Trade and Contact Period Settlement

It is important to note that, when discussing the historical documentation of the movement of Indigenous people, what has been documented by early European explorers and settlers represents only a very small snapshot in time. Documentation of where Indigenous groups were residing during European exploration and settlement is restricted to only a very short period of time and does not reflect previous and subsequent movements of these groups. This brief history does not reflect the full picture of the pre- or post-contact period occupation of Indigenous groups or cultures. As such, relying on historic documentation in regard to Indigenous occupation and movement across the landscape can lead to misinterpretation. For example, noting the movement of Indigenous groups into an area may incorrectly suggest to the reader that these groups had not occupied the area previously; however, this is not the case. It is clear from Indigenous oral histories and the archaeological record that pre-contact Indigenous populations were extremely mobile and not tied to any one specific area. Over the vast period of time prior to the arrival of Europeans, Indigenous groups, language families, and cultures were fluid across the landscape. Additionally, the arrival of Europeans brought the influx of new diseases. Reporting and recordkeeping of the spread of disease was inconsistent at best but it is estimated that across North America as many as 20 million people, or 95% of the population, were killed (Ehrenpreis and Ehrenpreis, 2022), Despite this, while disease, economic shift and colonial activity altered the way people experienced the landscape, particularly at the height of the fur trade, the overall social-cultural system of kinship-based land-use and group association remained intact.

At the time of European contact, the Indigenous groups in the northwestern part of the province spoke variations of the Algonquian language group, notably Ojibway and Cree. The environmental conditions in northwestern Ontario remained vastly different from those in the south with unpredictable natural factors such as forest fires and winter icing influencing the size of human population the region could support, the distribution of groups, and the frequency in which they had to move. Therefore, the groups in northwestern Ontario remained small, mobile, and loosely associated with each other (Dawson, 2004: 9). Etienne Brulé and Samuel de Champlain were the first Europeans to reach Lake Superior in the early 1600s. At the time of European contact, the Jesuits recorded a multitude of groups in the Canadian Shield area who spoke the Algonquin language (Thwaites, 1896-1901). Although Algonquians practiced some marginal agriculture at the time of contact, their main subsistence and settlement patterns varied little from the hunting and gathering practices of their ancestors (Fox, 1990). The Algonquian seasonal cycle involved travel over large regions to exploit resources for food, tools, medicines, and ceremonial use, with large groups congregating at summer camps and dispersing into small winter hunting groups (Allen, 2002). Champlain was able to document the Ojibway who occupied the extreme eastern end of Lake Superior (Hickerson, 1962: 77-80). During the summer of 1610 two events heralded the beginnings of Indigenous and colonial entanglement in the region, the passage of Etienne Brulé through the interior by canoe as far as northern Georgian Bay, and the arrival of Henry Hudson in James Bay. While Hudson did not land on the western shore of the Bay, his arrival confirmed direct water access to the region from Europe was possible. Brulé's trip was the catalyst for continued forays into the interior of the continent and was a key event that sparked what would become the fur trade. The Albany River was one of the first interior waterways west of James Bay to be explored by Europeans, beginning with the French between 1657 and 1751. The British formally initiated trading in 1668, establishing Fort Rupert on the Rupert River, Moose Fort (Factory) and Fort Albany followed in 1673 and 1675, respectively. The Hudson's Bay Company was incorporated in 1670 and a trading monopoly of the Hudson Bay watershed began. Gloucester House at Washi Lake was the furthest inland post of the Hudson's Bay trading company on the Albany River and was in operation from 1777 to 1818 (Newton and Mountain, 1980).

1.2.2.1 The Métis in Northern Ontario

The following was provided by the Métis Nation of Ontario:

> As occurred in other parts of west central North America (also known as the historic Northwest), distinct Métis communities emerged in various areas surrounding the Upper Great Lakes and along the waterways and fur trade routes of what is now northern Ontario beginning in the late 1700s. These communities, along with other Métis communities that emerged in other parts of the historic Northwest, developed their own shared customs, traditions, and collective identities rooted in their special Aboriginal relationship to the land, and a distinctive culture and way of life.
>
> In the 1800s, these Métis communities in northern Ontario asserted their collective identity, rights, and interests through political action and advocacy, including the 1849 Mica Bay Incident, Métis petitions from Moose Factory in 1893 and 1905, and the negotiation of a collective Métis adhesion to Treaty 3. These historic Métis events in Ontario have long been recognized, including by the Royal Commission on Aboriginal Peoples.
>
> MNO (2024)

By the dawn of the 19th century, there were substantial Métis populations of people living at Hudson's Bay Company posts born from the union of European fur traders and Indigenous women (Long, 1985:139). The Hudson's Bay

Company depended heavily on the Métis, who made up nearly seventy percent of its labour force in the Lake Superior area (Gale, 2005:12). Additionally, some fur traders with the North West Company established settlements with their Métis or Indigenous wives, varying in number up to approximately 25 traders and their families. (Gale, 2005:10).

As well as making up most of the labour force, Métis held important roles within the Hudson's Bay Company. For instance, a Métis man named George McPherson served as manager at Marten Falls (ca. 1842) and was in charge of Osnaburgh post from 1843-1851, later serving as postmaster from 1851-1856 (Arthur, 1985: 66). The Goodwins were another documented example of a Métis family (Indigenous and English) who worked for the Hudson's Bay Company. A member of the family named Tom Goodwin was sent to Marten Falls in 1853 as temporary support (Arthur, 1985: 70). In fact, Hudson's Bay Company post managers rarely distinguished between First Nations and Métis workers in their journals (Arthur, 1985: 69). Sir George Simpson, governor of the Hudson's Bay Company, clarified their definition of "Indian" in 1856, as referring to those raised in and continuing to live in the forest, as opposed to those brought up in Hudson's Bay Company posts who should be instead noted as "whites or half-breeds and not Indians" (Arthur, 1985: 70). As such, the concept of "Indian" identity in the view of the Hudson's Bay Company was based on cultural as opposed to racial traits (Arthur, 1985: 71).

Archaeologically, it is incredibly challenging to differentiate between First Nations and Métis, and to a lesser extent European fur traders or colonist, sites at this time based solely on archaeological materials. There is no standard method to determine if the presence, or absence, of a mixture of lithic artifacts and European manufactured goods indicates a multi-ethnic family as opposed to First Nations families or even Europeans utilizing local Indigenous methods to create tools with local materials. It is important to highlight that it is no longer sufficient to compare archaeological assemblages within rigid binaries to identify ethnicity of past individuals but to understand that people have always had nuanced relationships with their surroundings and resources. While not specific to northern Ontario, the University of Alberta is currently working to address this unique complication through the ongoing "Exploring Métis Identity Through Archaeology" Project by combining archaeological excavations with historical accounts, archival records, and community consultation (University of Alberta, 2024). Supernant (2018) as part of the U of A research, and Beautoin (2014) discussing Labrador Métis archaeology, argue for a more nuanced approach with a focus on distribution of artifacts within a residential space, and faunal assemblages in historically documented Métis spaces as a frame of reference for analysis into unknown archaeological sites.

1.2.2.2 Significant Regional Trading Posts

Fish and game were found in different locations depending on the time of year, which is why the establishment of large, permanent settlements was not a hallmark of early Ojibway society. Instead, seasonal campsites were essential to maintaining a transitory way of life (Driben & Trudeau, 1983:14). Initially, the Cree were the foremost trading partners of the Hudson's Bay Company, whereas French fur traders encouraged the Ojibway to partner with them in the 18th century in exchange for new technologies. As a result, many Ojibway moved north to pursue trapping and trading. Ojibway travelled in small, mobile groups while hunting or trapping, which allowed them to move from trading post to trading post (Driben & Trudeau, 1983:17). The complex nature of the regional waterways resulted in a network of established portage locations and historic trails running throughout the region to connect First Nations, Métis, and European traders, providing a unique opportunity archaeologically in northern Ontario as frequently visited locales, unlike the archaeological remnants of smaller and more mobile lifestyles.

The amalgamation of the North West Company and Hudson's Bay Company in 1821 reduced competition between fur traders and Indigenous traders lost the economic benefit of travelling from one trading post to another to obtain a better deal (Driben & Trudeau, 1983:18). With this merger, the Hudson's Bay Company attained a monopoly over the fur trade industry, which resulted in a decline of autonomy for First Nations, and Métis trappers (Finch, 2020: 178-9). Around this time, large game animals began to disappear in northern Ontario and food shortages made local Ojibway bands reticent to venture far from the Hudson's Bay Company posts, where supplies were readily available. By the dawn of the 20th century the large game animals had returned, but the European demand for furs had subsided (Driben & Trudeau, 1983:18).

Henley House

The Hudson's Bay Company first established a sub-post on the north shore of the Albany River in 1720 as a response to competition from French fur traders (Innis, 1930:145). The first of the Hudson's Bay Company's interior posts, Henley House was fortified and established as a post to deter the encroaching French traders in 1741 and was re-established in 1759 after being attacked in 1755 (Long, 2010:479). After being demolished a second time, Henley House was rebuilt again in 1784 as a storage depot for the Hudson's Bay Company's Gloucester House (Long, 2010:479). Henley House was originally built on a gravelly island that was eroded by river activity over time. As a result, Henley House was moved further south in the winter of 1796-97 to the junction of the Kenogami, Nagagami, and Kabinakagami Rivers.

By 1818, Henley House was overshadowed in importance to the Hudson's Bay Company by Marten Falls post, although it remained operational until 1857 (Long, 2010:479). Archaeological surveys in the 1970s and 1980s resulted in the identification of the fort, designated at Henley House site (EhIb-3; Julig, 1984). It is located on the north shore of the Albany River at the mouth of the Henley River and represents the first interior fort built by the Hudson's Bay Company (Julig, 1988; Voorhis, 1930). This location is a place known in Cree and Ojibway as Mamamattawa or "meeting of waters" (Hudson's Bay Company Archives B86/a/51 fo. 25, 19 -22 August 1796; Hudson's Bay Company Archives B86/a/52 fo. 6, 2 October 1796). As such, the location of Henley House was east of the Study Area in the District of Kenora, shown in **Figure 5**.

Marten (Martin's) Falls House

Marten Falls post was erected as a temporary depot, with plans for further expansion to serve as a permanent post (Innis, 1930:157; Newton & Mountain, 1980). According to a July 25, 1905 entry in the diary of Daniel George MacMartin, one of the Treaty No. 9 commissioners, Marten Falls post was established by the Hudson's Bay Company in 1784 on the Albany River, about 115 miles upstream from Henley House (Long, 2010:114-5). Other records indicate an erection date of 1782 (Handfield, 2020:437; Long, 2010:193). In 1795 Marten Falls post was renamed Ernest House then was closed temporarily in 1809, later reopening under the name of Martin's Falls in 1818 due to an increase in fur trading activity in the region, supplanting Gloucester House (Long, 2010:193; Handfield, 2020:437-438). The post is shown on **Figure 5** as Marten Falls House, approximately 105 km (65 miles) from the current location of Marten Falls First Nation.

Over time, Marten Falls had several notable Hudson Bay managers whose perspectives varied when it came to the land surrounding the trading post and its Indigenous inhabitants. For instance, Jacob Corrigal, manager of Marten Falls post in the early 1820s, noted that the reason for the small returns of one Indigenous hunter was due to the fact that he had a large family, and his first priority was fishing to provide for them, which Corrigal viewed as honourable. Other post managers were more prejudiced towards local Indigenous peoples. In his journal, William MacKay, a manager at Marten Falls ca. 1869-1871, initially exhibited open contempt for the Indigenous hunters with whom he interacted, though his views changed over the years (Arthur, 1985:64).

George Barnston, a fur trader with the North West Company (later with the Hudson's Bay Company after 1821) was stationed at Marten Falls from 1834 to 1840. During this time, he studied the natural environment, collected insect specimens, and ultimately wrote a paper in 1840 detailing his observations on seasonal impacts to flora and fauna at the trading post (Handfield, 2020:439). "Barnston's Track across the Country to Martins Falls" is labelled on an 1834 Hudson's Bay Company map, as well as "Cross Roads [sic] of Indians" which identifies two Indigenous trails in the area. In 1878-1879 correspondence with Robert Bell, John Clark, a Hudson's Bay Company clerk at Marten Falls, wrote that "M. [Marten] Falls is the poorest place for Country produce that I've been stationed at since I entered the Service now almost 20 years." This was Clark's final posting before he retired to his native Scotland.

Despite Clark's negative impression of Marten Falls' agricultural yields, turnips, hay, and potatoes were all cultivated at Marten Falls post, and cattle thrived in the location (Handfield, 2020:439). An 1895 Plan of Marten Falls post on the north side of the Albany River (**Image 1**), shows the trading post before it was relocated to the current community of Marten Falls at Ogoki. The image reveals that the post featured several buildings, including a store, dwelling house, kitchen, byre (cow shed), two hen houses, a shed, and a potato vault. It estimated a 5 acre (approximately 2 ha) buffer cleared around the post. The cleared land included a garden and potato field, a wood yard, a stack yard, and a hay field to the north. It was surrounded by bushes and bounded by the Albany River to the south (Hudson's Bay Company Archives B123/e/16 fo. 1d, 2d).

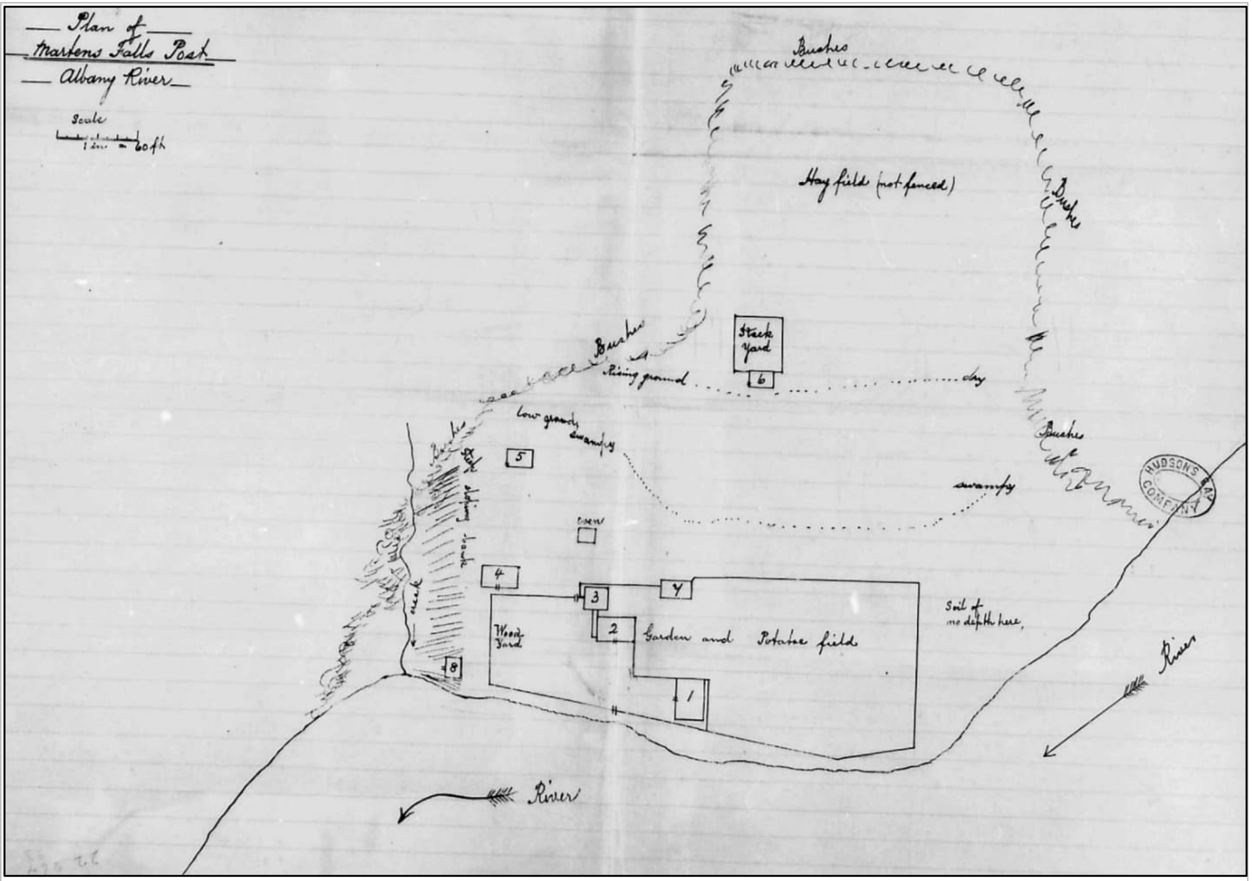

Image 1: Plan of Marten's Falls Post Albany River (1895) (Hudson's Bay Company Archives, B123/e/16 fo.1d,2d)

Gloucester House

Gloucester House, the furthest inland post of the Hudson's Bay trading company on the Albany River, is located on the northern shore of Washi Lake, just west of the study area (**Figure 5**) in the District of Kenora. It was established in 1777 by John Kipling when he and seven men ventured inland from Fort Albany to Washi Lake (Hudson's Bay Company, PAM B78/a/2:4). A temporary log tent was erected, followed by a building of squared logs with a roof of birch rind (Hudson's Bay Company Archives, PAM B78/a/3:8). These efforts began an era of the construction of 27 structures, five palisades, bake ovens and charcoal kilns on the one-and-a-half-acre plot between the years of 1777 and 1818 (Newton & Mountain, 1980). Gloucester House was the site of a large boat building programme that would also operate shuttles of goods and people between Gloucester House and Marten Falls (Newton & Mountain 1980). By 1795, the significance of Gloucester House declined, and orders were dispatched to abandon the site and relocate to Ernest House (Marten Falls) (Hudson's Bay Company Archives PAM B78/a/22:16d). Gloucester House was primarily abandoned until 1812, when it again functioned to supply an outpost at Attawapiskat Lake to the north (Newton & Mountain, 1980). The Hudson's Bay Company permanently abandoned the Gloucester House site on Washi Lake after 1818. In 1976, the Historical Planning and Research Branch of the Ontario Ministry of Culture and Recreation (now Ministry of Citizenship and Multiculturalism) relocated to an unknown location the remains of the Gloucester House, including two sets of structural remains and over 200 historic artifacts (Golder, 2015).

A series of events including fluctuations in the trade market, changing environmental conditions, and the ongoing North West Trading Company and Hudson's Bay Company competition, determined the pattern of fort establishment along the Albany River and influenced the intermittent occupancy and operation of each of the companies' posts (Vyvyan, 1980). By 1821, with the amalgamation of the two companies, the river became the exclusive territory of the Hudson's Bay Company.

1.2.3 Watercourse History

Prior to the arrival of Europeans, waterways such as the Albany and Ogoki Rivers provided access to potable water and other life sustaining resources such as fish and plants for local Indigenous inhabitants. Rivers also served as transportation routes for water travel and attracted game to their shores.

The Albany River

At 982 km in length, the Albany River is the one of the longest rivers in Ontario. It extends from Lake St. Joseph in northern Ontario across a series of interconnected lakes and tributaries, emptying in James Bay (Kudelik, 2015). Its tributaries include the Ogoki, Kenogami, Cheepay, and Stooping Rivers (Mika & Mika, 1977). The Albany River marks the northerly boundary of the District of Thunder Bay. The central portion of the Albany River is protected by Albany River Provincial Park (Kudelik, 2015). The Albany River Provincial Park is located just west of the LSA. The Albany River transects land characterized by Early Precambrian bedrock and retreating glaciers, which along with the river itself, have resulted in moraines, drumlins, and other water-shaped landforms (Ontario Parks, 2024).

Matawa First Nations, Mushkegowuk Council Nations, and the Métis Nation of Ontario all have a special connection to the Albany River and rely on the waterway for transportation, recreation, as well as subsistence fishing and hunting (Government of Ontario, 1985). In the early twentieth century, the Albany River was considered an excellent transportation route, especially at high tide in the spring (Long, 1985:143). During his 1903 expedition, surveyor William McInnes describes plentiful brook trout and sturgeon of “good size” that were caught by local Indigenous populations in the rapids of the Albany River from Lake St. Joseph to the Fort Hope Hudson’s Bay Company post at Eabamet Lake (Bell, 1904:101). Recreational activities for local Indigenous residents include camping, boating, swimming, and snowmobiling. A winter snowmobile trail crosses the Albany River Provincial Park between Marten Falls and Fort Hope (Government of Ontario, 1985).

The Ogoki River

The name Ogoki is Ojibway in origin and believed to be derived from *ogaki*, meaning to ‘reach a place before another’ but may also mean ‘swift current’ (Rayburn, 1997). The Ogoki River, originally a tributary of the Albany River, was diverted in 1943 into Lake Nipigon to enhance the water flow in the Nipigon River and ultimately Lake Superior, which increased the water levels for hydroelectric power generation (Rayburn, 1997). The initial proposal came in 1925 and included two options: either capture much of the Albany River drainage system to form a sixth Great Lake or divert it to fuel generators to the south. In either scenario, the redirection was to occur from the Ogoki River into Lake Nipigon, though the latter option was eventually chosen since it was more feasible (Wightman, 1997:247).

The diversion of the Ogoki River was the largest water diversion ever conducted in the Great Lakes area. To serve as the backstop, the Waboose Dam was constructed in the upper reaches of the Ogoki River, which channeled water from Hudson Bay into Lake Superior by way of Lake Nipigon (Annin, 2018:125-126). Similarly, the neighbouring Long Lake diversion dammed the upper portion of the Kenogami River on the north side of the lake to channel water into the Aguasabon River, which also flows into Lake Superior (Annin, 2018:127-128). Together, Long Lake and the Ogoki River were responsible for increasing water levels across all the Great Lakes (Annin, 2018:128).

The construction of the Long Lake diversion began in the summer of 1937, as a means of powering a pulp mill proposed by American paper companies looking to harvest trees in the area (Annin, 2018:130). Conversely, the motivating factor behind the diversion at Ogoki was to enhance Canada’s hydroelectric power capacity to resolve the energy crisis and help fuel Allied efforts in the Second World War. The goal was to channel the water downstream from Lake Superior all the way to Niagara Falls, where the generating facilities were located (Annin, 2018:131). Although plans for a diversion of the Ogoki River predated the war, the project was enacted with urgency as a wartime decision without consideration for long-term social or environmental impacts (Annin, 2018:138).

Indigenous peoples who live in the Long Lake and Ogoki River watersheds were negatively affected by the diversions and were not consulted when they were built. Many Ojibway First Nations on the upper Albany River have settled hydroelectric development grievances, including Marten Falls First Nation, who won a settlement in 2004 (Long, 2010:99-100). At the Great Lakes Compact in 2005, Chief Eli Moonias of Marten Falls First Nation claimed that the Ogoki diversion significantly impacted whitefish and sturgeon populations in the Albany River downstream from Waboose Dam, and he requested compensation for the economic impact the diversion of water had on his people (Annin, 2018:135). Furthermore, Chief Veronica Waboose of Long Lake No. 58 First Nation claimed that the Long Lake diversion washed away many acres of their reserve lands, including a large portion of a cemetery that was once on a hill and is now an island. Ontario Power Generation worked with Long Lake No. 58 First Nation officials to remediate shoreline erosion caused by the diversion in a project completed in late 2016 (Annin, 2018:136).

The Ogoki diversion also resulted in the long-term degradation of water quality and fish habitats immediately downstream from the dam. The ecological impacts of the diversions on the Albany River watershed have gone understudied due to the remoteness of the area and since the Ogoki and Long Lake diversions were completed so long ago (Annin, 2018:137). Scientists have confirmed that the diversions resulted in a rise in mercury contamination in local fish populations above acceptable levels for consumption, which continues to have deleterious effects on local communities who rely on fishing to survive (Annin, 2018:138).

1.2.4 Colonial Settlement and Treaties

1.2.4.1 Treaty 9

The study area falls within the limits of the James Bay Treaty, or Treaty 9, made in 1905 and 1906 between certain Cree and Ojibway peoples, and the Crown, and the Treaty 9 Adhesion, made in 1929 and 1930 between certain Cree and Anishinaabe peoples, and the Crown (**Figure 6**). Treaty 9 was signed over multiple events in 1905 with return trips to add additional communities to the document in 1906, which included Fort Albany and Marten Falls Hudson Bay Company Post. Treaty 9 covers land in northern Ontario that lies north of the Robinson-Superior and Robinson-Huron Treaties of 1850, up to the Quebec border to the east, the territory covered by Treaty 3 to the west, and Hudson Bay and James Bay to the north. Treaty 9 was written without First Nations input. Beginning in 1923, mining activities north of the Albany River were the impetus for adhesions to Treaty No. 9, made in 1929-30, resulting in communities north of the Albany River being added as signatories.

The Métis attempted to be included in the initial signing of Treaty No. 9; however, the treaty commissioners were not given any instructions for handling Metis claims (Calverley, 2006:33; Long, 1985:146). The postmaster at Marten Falls in 1905 (the time of the signing of Treaty No. 9) was Sam Iserhoff, who was born in Quebec and of Cree-European descent (Long, 2010:194). George Linklater, the postmaster at Attawapiskat, was also of Scottish-Cree heritage and signed Treaty No. 9 (Long, 1985:147). Of the 375 Indigenous peoples included in Treaty No. 9 signing at Fort Albany, over 30 were Métis and yet obtained “Indian Status” (Long, 1985:146).

The articles of Treaty 9 are included below:

> ARTICLES OF A TREATY made and concluded at the several dates mentioned therein, in the year of Our Lord one thousand and nine hundred and five, between His Most Gracious Majesty the King of Great Britain and Ireland, by His Commissioners, Duncan Campbell Scott, of Ottawa, Ontario, Esquire, and Samuel Stewart, of Ottawa, Ontario, Esquire; and Daniel George MacMartin, of Perth, Ontario, Esquire, representing the province of Ontario, of the one part; and the Ojibeway, Cree and other Indians, inhabitants of the territory within the limits hereinafter defined and described, by their chiefs, and headmen hereunto subscribed, of the other part: —
>
> Whereas, the Indians inhabiting the territory hereinafter defined have been convened to meet a commission representing His Majesty's government of the Dominion of Canada at certain places in the said territory in this present year of 1905, to deliberate upon certain matters of interest to His Most Gracious Majesty, of the one part, and the said Indians of the other.
>
> And, whereas, the said Indians have been notified and informed by His Majesty's said commission that it is His desire to open for settlement, immigration, trade, travel, mining, lumbering, and such other purposes as to His Majesty may seem meet, a tract of country, bounded and described as hereinafter mentioned, and to obtain the consent thereto of His Indian subjects inhabiting the said tract, and to make a treaty and arrange with them, so that there may be peace and good-will between them and His Majesty's other subjects, and that His Indian people may know and be assured of what allowances they are to count upon and receive from His Majesty's bounty and benevolence.
>
> And whereas, the Indians of the said tract, duly convened in council at the respective points named hereunder, and being requested by His Majesty's commissioners to name certain chiefs and headmen who should be authorized on their behalf to conduct such negotiations and sign any treaty to be found thereon, and to become responsible to His Majesty for the faithful performance by their respective bands of such obligations as shall be assumed by them, the

said Indians have therefore acknowledged for that purpose the several chiefs and headmen who have subscribed hereto.

And whereas, the said commissioners have proceeded to negotiate a treaty with the Ojibeway, Cree and other Indians, inhabiting the district hereinafter defined and described, and the same has been agreed upon, and concluded by the respective bands at the dates mentioned hereunder, the said Indians do hereby cede, release, surrender and yield up to the government of the Dominion of Canada, for His Majesty the King and His successors for ever, all their rights titles and privileges whatsoever, to the lands included within the following limits, that is to say: That portion or tract of land lying and being in the province of Ontario, bounded on the south by the height of land and the northern boundaries of the territory ceded by the Robinson-Superior Treaty of 1850, and the Robinson-Huron Treaty of 1850, and bounded on the east and north by the boundaries of the said province of Ontario as defined by law, and on the west by a part of the eastern boundary of the territory ceded by the Northwest Angle Treaty No. 3; the said land containing an area of ninety thousand square miles, more or less.

And also, the said Indian rights, titles and privileges whatsoever to all other lands wherever situated in Ontario, Quebec, Manitoba, the District of Keewatin, or in any other portion of the Dominion of Canada.

To have and to hold the same to His Majesty the King and His successors for ever.

And His Majesty the King hereby agrees with the said Indians that they shall have the right to pursue their usual vocations of hunting, trapping and fishing throughout the tract surrendered as heretofore described, subject to such regulations as may from time to time be made by the government of the country, acting under the authority of His Majesty, and saving and excepting such tracts as may be required or taken up from time to time for settlement, mining, lumbering, trading or other purposes.

And His Majesty the King hereby agrees and undertakes to lay aside reserves for each band, the same not to exceed in all one square mile for each family of five, or in that proportion for larger and smaller families; and the location of the said reserves having been arranged between His Majesty's commissioners and the chiefs and headmen, as described in the schedule of reserves hereto attached, the boundaries thereof to be hereafter surveyed and defined, the said reserves when confirmed shall be held and administered by His Majesty for the benefit of the Indians free of all claims, liens, or trusts by Ontario.

Provided, however, that His Majesty reserves the right to deal with any settlers within the bounds of any lands reserved for any band as He may see fit; and also that the aforesaid reserves of land, or any interest therein, may be sold or otherwise disposed of by His Majesty's government for the use and benefit of the said Indians entitled thereto, with their consent first had and obtained; but in no wise shall the said Indians, or any of them, be entitled to sell or otherwise alienate any of the lands allotted to them as reserves.

It is further agreed between His said Majesty and His Indian subjects that such portions of the reserves and lands above indicated as may at any time be required for public works, buildings, railways, or roads of whatsoever nature may be appropriated for that purpose by His Majesty's government of the Dominion of Canada, due compensation being made to the Indians for the value of improvements thereon, and an equivalent in land, money or other consideration for the area of the reserve so appropriated.

And with a view to show the satisfaction of His Majesty with the behaviour and good conduct of His Indians, and in extinguishment of all their past claims, He hereby, through His commissioners, agrees to make each Indian a present of eight dollars in cash.

His Majesty also agrees that next year, and annually afterwards for ever, He will cause to be paid to the said Indians in cash, at suitable places and dates, of which the said Indians shall be duly notified, four dollars, the same, unless there be some exceptional reason, to be paid only to the heads of families for those belonging thereto.

Further, His Majesty agrees that each chief, after signing the treaty, shall receive a suitable flag and a copy of this treaty to be for the use of his band.

Further, His Majesty agrees to pay such salaries of teachers to instruct the children of said Indians, and also to provide such school buildings and educational equipment as may seem advisable to His Majesty's government of Canada.

> And the undersigned Ojibeway, Cree and other chiefs and headmen, on their own behalf and on behalf of all the Indians whom they represent, do hereby solemnly promise and engage to strictly observe this treaty, and also to conduct and behave themselves as good and loyal subjects of His Majesty the King.
>
> They promise and engage that they will, in all respects, obey and abide by the law; that they will maintain peace between each other and between themselves and other tribes of Indians, and between themselves and others of His Majesty's subjects, whether Indians, half-breeds or whites, this year inhabiting and hereafter to inhabit any part of the said ceded territory; and that they will not molest the person or property of any inhabitant of such ceded tract, or of any other district or country, or interfere with or trouble any person passing or travelling through the said tract, or any part thereof, and that they will assist the officers of His Majesty in bringing to justice and punishment any Indian offending against the stipulations of this treaty, or infringing the law in force in the country so ceded.
>
> And it is further understood that this treaty is made and entered into subject to an agreement dated the third day of July, nineteen hundred and five, between the Dominion of Canada and Province of Ontario, which is hereto attached.
>
> In witness whereof, His Majesty's said commissioners and the said chiefs and headmen have hereunto set their hands at the places and times set forth in the year herein first above written.

Crown-Indigenous Relations and Northern Affairs Canada, 2024

As with all treaties between Indigenous Nations and the Crown, Treaty 9 is the subject of ongoing analysis and legal proceedings. Unlike most Crown treaties, Treaty 9 was not written following negotiations but rather a written document that was brought into communities for signature. However, it is important to note that the treaty text was written in English, a language not read by most Indigenous representatives participating in the negotiations, resulting in verbal negotiations. Therefore, there is still the issue of what was verbally promised by the Crown under Treaty 9 versus the written agreement, which has lasting implications today, including but not limited to land and mineral rights, hunting and fishing rights, and informed consent.

1.2.4.2 Marten Falls First Nation

In 1905, the Marten Falls Hudson Bay Company post was host to one of the many negotiations and signing events associated with the passing of Treaty 9 (Long, 2010; Vyvyan 1980). Willaim Whitehead, William Coaster, David Knapayswet, Long Tom Ostamas, and William Weenjack acted as signatories on behalf of their community. Under Treaty 9 Marten Falls reservation lands were defined as follows; “In the Northwest Territories, on the Albany River, beginning at a point one-quarter of a mile below the foot of the rapid known as Marten Falls down stream a distance of six miles and of sufficient depth to give an area of thirty square miles” (Crown-Indigenous Relations and Northern Affairs Canada, 2024). The treaty commissioners viewed Marten Falls as an unimportant Hudson’s Bay Company post and commented that the hunting grounds were inferior to those at Osnaburgh or Fort Hope (Long 2010:198). At the time of the signing, Daniel George MacMartin, one of the Treaty 9 Commissioners, described the Marten Falls Hudson’s Bay Company post as situated on a high clay bank about 25 feet above the foot of the rapids, referred to as falls. MacMartin noted the fertile soil and a well-cultivated garden at the post featuring potatoes and onions (Long, 2010:197). Subsequently, following the signing of Treaty 9, the Marten Falls band, now Marten Falls First Nation, was recognized by the 1905 treaty commissioners (Long, 2010:388). Under the terms of Treaty No. 9, the local band elected William Whitehead as their chief as well as two councillors: William Coaster and Long Tom Ostamas (Long, 2010:198).

On July 24, 1911, Ontario Land Surveyor James S. Dobie began the journey by canoe from Fort Hope to the Hudson’s Bay Company post at Marten Falls, arriving two days later (Dobie, 1911:18). He held a conference with the Chief and councillors after looking over the site of the proposed reserve. Dobie found that the Indigenous officials were anxious to have the reserve located on the Albany River, opposite the mouth of the Ogoki River. They claimed that the territory described in the Treaty was so wet that it was useless for agricultural purposes and that there was no timber of any value on the land. As such, Dobie instead surveyed the reserve to the east down the Albany River at the request of the Indigenous officials. The west boundary of the reserve intersects the Albany River below the mouth of the Buffaloskin River (Dobie, 1911:19-20). The survey was completed on the evening of Saturday, August 5, 1911. Dobie describes the reserve at Marten Falls as:

> …largely level or slightly rolling swampy land sparsely lumbered with small spruce. Close to the Albany River the land is clay and loam of good quality and for a short distance back from the river, is well timbered with large spruce, poplar, balsam, and tamarac. Further back the land becomes very wet and is covered with a heavy growth of moss, which retains the moisture and keeps the ground cold so that the growth of the timber is stunted.

Dobie 1911: 27

The community that coalesced around Marten Falls trading post existed for over 250 years before the post was closed in 1924. The community was then relocated to their current location on the reserve, as shown in the Treaty No. 9 survey conducted by Dobie in 1911 (Long, 2010: 194). Today Marten Falls First Nation is home to approximately 350 band members living on reservation with an additional 500 members living elsewhere (Government of Canada, 2023).

Marten Falls First Nation is a member of the Matawa First Nations (formally Matawa First Nations Management Inc.), a regional tribal council consisting of nine Ojibway and Cree First Nations communities in the Nishnawbe Aski Territory of northern Ontario. Matawa First Nations is part of the larger Nishnawbe Aski Nation, which represents 51 Ojibway, Cree, and Oji-Cree First Nation communities across Treaty 9 and Treaty 5 territories.

The Aroland First Nation Reserve is located approximately 50 km south of the southern end of the study area, sharing vast traditional territory with Marten Falls First Nation. Aroland First Nation is an Ojibway and Oji-Cree band located on the Kowkash River. The Marten Falls First Nation Project Team's intent is to collaborate with Aroland First Nation throughout the project.

1.3 Archaeological Context

1.3.1 Natural Environment

Historically, glacial Lake Agassiz encompassed the modern Lake Winnipeg, Lake Winnipegosis, and Lake Manitoba basins approximately 11,700 years ago (Teller, 1985, 1995). It covered much of the province of Manitoba and northwestern Ontario. As the glaciers retreated, isostatic rebound resulted in a severely fluctuating water plane, creating relic shorelines throughout the province discussed as phases of the lake (i.e., Lockhart, Moorhead, Emerson, Nipigon and Ojibway) (Teller, 1985, 1995). Between 9,300 to 8,000 BP Lake Agassiz began shifting northward as water drained through an outlet in northwestern Ontario that allowed overflow into Lake Nipigon and Lake Superior basins. This exposed the western half of Manitoba and northwestern Ontario east of the Lake Winnipeg basin by 8,500 years ago.

The glacial lake levels of all the early Great Lakes are complex and inter-related; each affecting the other in various ways as ice retreated and melted. The lake levels rose and fell accordingly thereby creating the deposits observed within the existing topography. These lake fluctuations resulted in the creation of moraines and beach ridges that became attractive to Paleo peoples. The current study area would have been under the Laurentian ice sheet until the glacier receded. After the recession of the ice sheet, Lake Barlow and Lake Ojibway would have covered a substantial portion of northern Ontario and northwestern Quebec. By approximately 7,700 years ago, water levels had dropped dramatically as the breakup of ice lead to catastrophic drainage north into the Tyrell Sea, which would form modern day Hudson's Bay (Teller, 1985, 1995).

The retreat of the glaciers also allowed for spruce dominated boreal forests to move quickly north, occupying the once open tundra (Hinshelwood, 1990; Phillips, 1993). By 10,000 years ago the closed spruce forest gave way to the rapid introduction of jack pine and white birch because of the increasingly warm, dry and windy environment (Hypsithermal) (Julig, 1994; Phillips, 1993; Wright, 1974).

The study area is located in the Ontario Shield and Hudson Bay Lowlands Ecozones which are comprised of upland boreal forest and lowland forest and extensive, marsh and muskeg lowlands. The Ontario Shield is characterized largely by forest, followed by treed bogs and fens, open water, and other wetlands. The James Bay / Hudson Bay Lowlands forms the core of the third largest wetland in the world. This area is characterized largely by treed bogs and fens, followed by forest, other wetlands, and open water. Well drained areas in the lowlands are forested with spruce, poplar, birch and other boreal species.

The single most important environmental feature necessary for extended human occupation is potable water. As such, proximity to water is regarded as a useful index for the determination of potential for the presence of archaeological resources. The study area is dominated by wetlands (i.e. bogs, fens, swamps and marshes) of the Albany River watershed and several of its sub-watersheds. Surface water moves generally in a north-easterly direction, towards James Bay. Additionally, the Albany and Ogoki river systems have both been altered from their original state because of hydroelectric development activity in the region between 1943 and 1950 respectively (Marten Falls First Nation, 2017). Adam at Waboose Rapids cuts off the Ogoki River, backing it up into the Ogoki Reservoir north of Lake Nipigon.

On the Albany River, there is a dam at Rat Rapids near Osnaburgh House. The tertiary watershed systems in the project area include the Albany-Makokibatan, Lower Ogoki, Little Current and Upper Albany-Muswabik, which would have provided important historical travel routes. The construction of the dams have had lasting impacts along the major river systems, including the alteration of shorelines and fluctuating water levels.

These environmental characteristics would have provided an ideal environment for both temporary and permanent settlement throughout the pre-and post-contact periods. The water sources would have served as important pre- and post-contact transportation routes as well as sources of potable water and riverine resources, most especially abundant fish resources.

1.3.2 Reports with Relevant Background Information

To inform the current Stage 1 archaeological assessment and further establish the archaeological context of the study area, a search of the Ministry of Citizenship and Multiculturalism Public Register of Archaeological Reports was conducted to determine if any previous archeological work has been completed within the current study area or within 50 m of the study area boundaries. This search resulted in the identification of three relevant archaeological reports, which are listed in Error! Reference source not found.**2** and discussed in detail further below.

Table 2. Relevant Archaeological Assessments

Year	Title	Author	PIF Number
1981	Archaeological Survey of the Albany River; Year 2; Triangular Lake to Washi Lake	David K. Riddle	Predates PIF requirements
2015	Stage 1 Archaeological Assessment, Cliffs Natural Resources Integrated Transportation System Districts of Kenora and Thunder Bay, Ontario.	Golder Associates Ltd. (Golder)	P243-240-2011
2020a	**Stage 1 Archaeological Assessment Community Access Road from Marten Falls to Painter Lake Environmental Assessment and Preliminary Design Services District of Kenora, District of Cochrane, and District of Thunder Bay.**	**AECOM Canada ULC (AECOM)**	**P438-0207-2020**
2020b	Stage 2 Archaeological Assessment Community Access Road from Marten Falls to Painter Lake, Ogoki River Crossing WA-01 & Albany River Crossing WA-15 Environmental Assessment and Preliminary Design Services District of Kenora, District of Cochrane, and District of Thunder Bay.	AECOM	P438-0255-2020
Forthcoming	Draft Cultural Heritage Report: Existing Conditions & Preliminary Impact Assessment Marten Falls Community Access Road	AECOM	No PIF associated

In 1978-1979 David Riddle conducted an archaeological survey of the Albany River as part of the West Patricia Land Use Plan for the Ontario Ministry of Natural Resources. This survey resulted in the identification of numerous archaeological sites including 16 sites within 50 km of the MFFN CAR study area. The Claim Point site (EiIt-1) was still in use at the time of identification and is a multi-component site consisting of one Hudson Bay Lowland flake, an unknown riveted metal object and a portion of a copper kettle. The Middle Narrows site (EiIs-9) is a post-contact site consisting of three fragments of an iron barrel hoop. The Trap Set site (EiIs-8) is a pre-contact site consisting of a scatter of Hudson Bay Lowland chert artifacts, including flakes, a core and a scraper. The East of Narrows site (EiIs-7) is a pre-contact site consisting of a scatter of Hudson Bay Lowland chert flakes. The North Narrows site (EiIs-6) is a multi-component site consisting of a Hudson Bay Lowland chert flake and two fragments of an iron barrel hoop. The Western Washi Exit site (EiIs-5) was still in use at the time of identification and is a pre-contact site consisting of a core and flakes of Hudson Bay Lowland chert. The Twin Island site (EiIs-4) is a pre-contact site consisting of a projectile point and flakes of Hudson Bay Lowland chert. The Twin Point site (EiIr-2) was still in use at the time of identification and is a pre-contact site consisting of Hudson Bay Lowland chert flakes. The Far East Beach site (EhIt-7) was still in use as a fishing camp at the time of identification and is a multi-component site consisting of a Hudson Bay Lowland chert flakes and projectile point, dating to the late Archaic or early Initial Woodland periods, and sherds of decorated Indigenous pottery dating to the Terminal Woodland period. The Fish Bones site (EhIt-6) was still in use at the time of identification and is a pre-contact site consisting of a Hudson Bay Lowland chert biface and flakes. The Lunch Point site (EhIt-5) was still in use at the time of identification and is a pre-contact site consisting of Hudson Bay Lowland chert flakes and a core. The Stung Again site (EhIt-4) was still in use at the time of identification and is a pre-contact site consisting of Hudson Bay Lowland chert flakes and biface. The Island View site (EhIt-3) was still in use at the time of identification and is a pre-contact site consisting of Hudson Bay Lowland chert flakes and scraper. The West Hebner River Exit site (EhIt-2) was still in use at the time of identification and is a pre-contact site consisting of Hudson Bay Lowland chert flakes, two scrapers and a decorated Indigenous pottery sherd, dating to the Terminal Woodland period. The Eastern Hebner River Exit site (EhIt-1) was still in use at the time of identification and is a pre-contact site consisting of Hudson Bay Lowland chert flakes and water-worn sherd of Indigenous pottery, dating to the Woodland period (Riddle 1981).

Golder completed their Stage 1 archaeological assessment of Cliffs Natural Resources Integrated Transportation System between the Mine site and the proposed Cavell Transload Facility located adjacent the Canadian National Railway Company's existing rail siding in 2015. The Stage 1 determined that archaeological potential exists for precontact Indigenous and historical sites within the study area along waterways, particularly those bordered by reasonably drained soil or bedrock, by historical transportation routes, and by mining and forestry activity areas and these areas were recommended for Stage 2 archaeological assessment (Golder, 2015).

In 2020 AECOM completed a Stage 1 archaeological assessment for the overall Marten Falls Community Access Road project from Marten Falls to Painter Lake. The Community Access Road study area within the scope of this Stage 1 assessment consisted of two alternatives; the Original Western Route based on the existing industrial planning work that is 193 km in length, and the Alternative Western Route based on a combination of existing industrial planning and new locations that is 178 km in length. Both right-of-way's span 5 km in width (AECOM, 2020a).

Also, in 2020 AECOM completed the Stage 2 report for archaeological assessment of two (2) river crossings within the Community Access Road study area, Ogoki River Crossing WA-01 and Albany River Crossing WA-15. This Stage 2 assessment resulted in the identification of two archaeological findspots and one registered archaeological site, the Caviar Site (EiIp-1). The Caviar Site (EiIp-1) consisted of a circular biface made of Hudson's Bay Lowland chert and was associated with a small 20th and 21st century fishing camp (AECOM, 2020b). It is unclear how many people the camp would have supported at one time, but likely no more than 10 people at one time. Further archaeological work is required to determine additional details.

In addition to the ongoing archaeological assessments as part of the project, AECOM is currently finalizing a Cultural Heritage Report for the Community Access Road study area. The scope of this Cultural Heritage Report included the preparation of a built heritage resource and cultural heritage landscapes inventory, including descriptions of identified cultural heritage resources. A preliminary analysis of potential effects of the undertaking on identified potential cultural heritage resources has been conducted, along with the identification of impact management measures based on the Project alternatives. The Cultural Heritage Report has been prepared based on the results of the background research, including a review of historical maps, a cultural heritage field review of the existing conditions, and community engagement (AECOM forthcoming). The reader is encouraged to refer to the Cultural Heritage Report for additional details on the Heritage process for documenting Heritage resources.

To the best of our knowledge, there are no other reports concerning archaeological work conducted within or in close proximity (i.e. within 50 m) of the study area; however, archaeological assessment has been undertaken in the broader region of the Community Access Road study area, including extensive survey along portions of the Albany River System. Patrick J. Julig completed surveys of the lower Albany River in 1981 and identified 20 pre-contact sites and a number of historic encampments (Julig, 1982). These surveys along the Albany River have demonstrated the rich archaeological record of the region, including several thousand years of Anishinaabe occupation.

It should be noted that the Ministry of Citizenship and Multiculturalism does not maintain a database of all properties that have had past archaeological investigations and searches of the Ministry of Citizenship and Multiculturalism public register do not always result in a complete listing of all archaeological work conducted in a given area. In consequence, in some cases the only way a consulting archaeologist will know that a past assessment has been conducted in a given area is if they have personal knowledge of it, or if the assessment resulted in the discovery and registration of one or more archaeological sites.

1.3.3 Known Archaeological Sites

AECOM conducted a site data search of the Ministry of Citizenship and Multiculturalism's Archaeological Sites Database to determine if any registered archaeological sites are located within the study area, as well as within 50 km of the study area boundaries. Given the extensive geographic setting of the study area the search of known archaeological sites was increased to better inform this assessment. This search resulted in the identification of 21 registered archaeological sites, as detailed below in **Table** 3**2**. One of the registered archaeological sites is within the Community Access Road study area, indicated below in **bold**.

Table 3. Registered Archaeological Sites within 50 km of the Study Area

Borden #	Site Name	Cultural Affiliation/Period	Site Type	Development Status
EjIp-1	Martin Falls House	Post-Contact Indigenous, Euro-Canadian	Hudson's Bay Company Trading Post	Further cultural heritage value or interest * (CHVI)
EiIs-3	Floating Bottle	Pre-Contact Indigenous, Post-Contact	Scatter	Further CHVI
EiIs-2	Washi Lake	Late Archaic or Early Initial Woodland	Scatter	Further CHVI
EiIs-1	Gloucester House	Euro-Canadian	Hudson's Bay Company Trading Post	Further CHVI
EiIp-1	**Caviar Site**	**Pre-Contact Indigenous, Post-Contact**	**Campsite**	**Further CHVI**
EiIt-1	Claim Point	Pre-Contact Indigenous, Post-Contact	Scatter	**Further CHVI** *
EiIs-9	Middle Narrows	Post-Contact	Scatter	Further CHVI
EiIs-8	Trap Set	Pre-Contact Indigenous	Scatter	Further CHVI
EiIs-7	East of Narrows	Pre-Contact Indigenous	Scatter	Further CHVI
EiIs-6	North Narrows	Pre-Contact Indigenous, Post-Contact	Scatter	Further CHVI
EiIs-5	Western Washi Exit	Pre-Contact Indigenous	Scatter	Further CHVI
EiIs-4	Twin Island	Pre-Contact Indigenous	Scatter	Further CHVI
EiIr-2	Twin Point	Pre-Contact Indigenous	Scatter	Further CHVI
EiIr-1	Baxter	Archaic, Post-Contact	Scatter	Further CHVI
EhIt-7	Far East Beach	Late Archaic or Early Initial Woodland, Terminal Woodland	Scatter	Further CHVI
EhIt-6	Fish Bones	Pre-Contact Indigenous	Scatter	Further CHVI
EhIt-5	Lunch Point	Pre-Contact Indigenous	Scatter	Further CHVI
EhIt-4	Stung Again	Pre-Contact Indigenous	Scatter	Further CHVI
EhIt-3	Island View	Pre-Contact Indigenous	Scatter	Further CHVI
EhIt-2	West Hebner River Exit	Terminal Woodland	Scatter	Further CHVI
EhIt-1	East Hebner River Exit	Woodland	Scatter	Further CHVI

* Cultural heritage value or interest is defined as according to the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario, 2011a) and may not reflect the views of all Indigenous Nations.

** "Information not in register" indicates the information is not provided in the Ministry of Citizenship and Multiculturalism Archaeological Sites Database for a variety of reasons. The Ministry of Citizenship and Multiculturalism database is not complete.

There is one registered archaeological site within the Community Access Road study area, the Caviar Site (EiIp-1). The Caviar Site (EiIp-1) is a continually utilized campsite, showing evidence of extensive 20th and 21st century use, along exposed bedrock adjacent to the Albany River. The Stage 2 artifact assemblage consists of a circular biface manufactured on Hudson's Bay Lowland chert. Taking into consideration the unique nature of archaeological sites in the Canadian Shield and in consultation with Marten Falls First Nation the site was registered with the Ministry of Citizenship and Multiculturalism and recommended for avoidance and protection.

A number of previously registered archaeological sites had incomplete information in the Ontario Archaeological Sites Database as a result of being identified prior to the Ontario Government's implementation of specific record keeping requirements under the Standards and Guidelines for Consultant Archaeologists (2011). Records of sites identified prior to 2011, particularly those associated with academic research, are often incomplete.

Information concerning specific site locations is protected by provincial policy and is not fully subject to the Freedom of Information and Protection of Privacy Act. The release of such information in the past has led to looting or various forms of illegally conducted site destruction. Confidentiality extends to all media capable of conveying location, including maps, drawings, or textual descriptions of a site location. The Ministry of Citizenship and Multiculturalism will provide information concerning site location to the party or an agent of the party holding title to a property, or to a licensed archaeologist with relevant cultural resource management interests.

2. Analysis and Conclusions

2.1 Determination of Archaeological Potential

Archaeological potential is established by determining the likelihood that archaeological resources may be present in a subject property. Criteria commonly used by the Ministry of Citizenship and Multiculturalism to determine areas of archaeological potential are listed in Section 1.3.1 of the Standards and Guidelines for Consultant Archaeologists (Government of Ontario, 2011a). Distance to modern or ancient water sources is generally accepted as the most important element for past human settlement patterns and when considered alone may result in a determination of archaeological potential. There are several criteria provided by Ministry of Citizenship and Multiculturalism (Government of Ontario, 2011a) that can be used to indicate archaeological potential, including:

- Distance to various types of water sources;
- Soil texture and drainage;
- Elevated topography;
- Glacial geomorphology, elevated topography, and the general topographic variability of an area;
- Proximity to previously identified archaeological sites;
- Resource areas including food or medicinal plants, scarce raw materials and early colonial industry;
- Areas of early colonial settlement and early transportation routes;
- Properties that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupants.

It should be noted that aside from water sources, the criteria for pre-contact Indigenous resources versus post-contact Indigenous and colonial archaeological resources differ and that within the current *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario, 2011a) there is no language regarding archaeological categorization of Métis archaeological resources. This results in a gap in identifying the Métis in archaeological materials Further research is ongoing on this subject, particularly in Alberta (Supernant, 2018). Additionally, the prevalence of identifying archaeological sites as pre-contact Indigenous versus 19th century "Euro-Canadian" has resulted in the underrepresentation of First Nations, Métis, and other marginalized groups when discussing archaeological sites where goods of European origin are identified.

The preservation and Identification of pre-contact Indigenous archaeological resources in northern Ontario is determined by a number of factors. Pre-contact Indigenous people possessed a unique worldview and certain classes of sites, used for burials or vision quests, for example, that were located primarily for ideological or aesthetic reasons would not be found within the Ministry of Citizenship and Multiculturalism criteria. Additionally, the highly mobile, multi-resource-oriented lifestyle is predictive of different locations for archaeological sites. While archaeological potential for pre-and post-contact archaeological sites can be improved with the introduction of Indigenous Knowledge provided by Marten Falls First Nation, other interested First Nations and Métis communities, there is also the concern that the acidity of the Canadian Shield soils has removed much of the physical organic evidence of past cultures. Indigenous Knowledge data for the study area includes information on trapping and harvest areas (plant, fish and other wildlife), camp and campsites, spiritual/sacred places, travel routes, historical sites and historical villages, burials, and other important areas of interest. The Indigenous Knowledge data in the archaeological potential mapping identifies areas that often differ from those identified with Ministry of Citizenship and Multiculturalism criteria, as noted above. Sensitive I data is only included in the **Supplementary Documentation** for this report, with permission, and is protected by provincial policy and is not fully subject to the Freedom of Information and Protection of Privacy Act.

In addition to the criteria outlined in Section 1.3.1, above, the criteria included in Section 1.3.3 and Section 1.3.4 of the Standards and Guidelines for Consultant Archaeologists (Government of Ontario, 2011a) attempts to address the unique nature of archaeological potential evaluation in the Canadian Shield and Remote Areas. Section 1.3.3 includes small pockets (e.g., sand plains, clay plains, glacial beach ridges, etc.) that would otherwise be dismissed as low potential in Southern Ontario. Section 1.3.4 requires that the degree of remoteness must be documented in sufficient detail to demonstrate the practical obstacles to achieving access. Currently the southern end study area is located approximately 60 km north of the nearest year-round permanent road.

2.2 Conclusions

AECOM's Stage 1 background study of the study area has determined that the potential for the recovery of archaeological resources is high, given the proximity of the study area to a variety of criteria including water sources and areas of interest provided by the Marten Falls First Nation community. Areas with standing water (i.e., wetlands, muskeg, fens and bogs) are not considered to have archaeological potential and may be excluded from further assessment regardless of proximity to archaeological features. However, it is important to note the presence of wetlands or marshes can elevate the archaeological potential of adjoining land if there are well drained areas of elevated topography adjacent to them.

According to Section 1.3.4 of the Standards and Guidelines for Consultant Archaeologists (Government of Ontario, 2011a), providing that the remoteness of an area can be documented in sufficient detail to show that there are practical obstacles to achieving access, based primarily on the distance to, or lack of, transportation infrastructure, it is acceptable to make recommendations that areas are low potential and will not require Stage 2 assessment, without the need for a property inspection. However, previous archaeological assessments for this project (AECOM, 2020a, 2020b) included a property inspection with a helicopter to document existing conditions of the overall study area. The existing conditions of the current study area are unchanged from what was documented in previous reports addressing other portions of this project.

The Ministry of Citizenship and Multiculturalism allows for alternative strategies for archaeological assessments in areas within the Canadian Shield and bedrock environments. While Section 1.4 in the Standards and Guidelines *for* Consultant Archaeologists outlines the conditions for recommendations for the reduction of test pit survey coverage, this is superseded for the study area by Sections 1.3.3, 1.3.4 and 2.1.5 as the land has been demonstrated to be situated entirely on Canadian Shield (Government of Ontario, 2011a). Therefore, while the archaeological potential may be judged to be high based on proximity to a feature that contributes to archaeological potential, Stage 2 survey areas are reduced, and survey intervals are different than they would be in areas outside Canadian Shield terrain. The fluctuating water levels as a result of 20th century hydroelectric development (i.e., dams) and river diversions will also need to be taken into consideration when developing Stage 2 fieldwork strategies.

In addition to the above, the modified Stage 2 survey approach for northern Ontario allows for the use of professional judgement by the licensed archaeologist to assist in the selection of survey locations. This can be completed through desktop mapping exercises, including detailed stream ordering, removal of physical landscape features of low archaeological potential (i.e., bog, wetlands) and consultation with local First Nations and Métis communities. As well, once the final 100 m right-of-way (cleared to a width of 60 m for permanent use) with additional areas for temporary laydown areas has been determined and LiDAR has been provided, the recommended areas for Stage 2 archaeological assessment will be further refined.

The areas recommended for Stage 2 archaeological assessment based on the results of the Stage 1 are located in **Figures 7-1 to 7-12**. Additional areas recommended for Stage 2 archaeological assessment based on the information provided by the interested Indigenous Nations are located in the **Supplementary Documentation**.

3. Recommendations

AECOM's Stage 1 background study and community consultation for the study area has determined the potential for the recovery of pre- and post- contact First Nations, Métis, and 19th century colonial archaeological resources within the study area is high. Based on these findings the following recommendations are made:

- The Stage 2 archaeological assessment must be conducted by a licensed archaeologist and must follow the requirements set out in Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario, 2011a) for special survey conditions in northern Ontario and on Canadian Shield terrain;
- Test pit survey is required at 5 m intervals in areas that fall within 50 m of an identified modern water source (areas outlined in yellow in **Figures 7-1** to **7-12**). Survey is not required beyond 50 m of this type of feature of archaeological potential;
  - Test pits are to be excavated at least every 5 m where soil is present, measuring 30 cm in diameter, and excavated into the first 5 cm of sterile subsoil. Depth will vary depending on the soil stratigraphy. All material from each test pit will be screened for artifacts and affected areas are restored to existing condition upon completion;
- Where areas of archaeological potential include land adjacent to historic water sources (i.e., glacial and remnant river shorelines), or other areas identified as having archaeological potential based on the results of the Stage 1 archaeological assessment including the Indigenous Knowledge information, test pits will be placed at a maximum of 5 m intervals between 0 and 50 m from the feature, and at 10 m intervals between 50 and 150 m from the feature. These areas are outlined in orange on **Figures 7-1** to **7-12**.
- Survey is not required beyond 150 m of the archaeological features due to low archaeological potential (Section 7.7.4, Standard 1.a and Section 7.7.6, Standard 3). These areas are indicated as grey crosshatching on **Figures 7-1** to **7-12**;
- Should there be impacts to the Albany or Ogoki rivers or their tributaries AECOM recommends that a marine archaeological checklist be completed, which may result in a recommendation to complete a marine archaeological assessment by a licenced archaeologist in advance of any impacts within the study area;
- Poorly drained areas and areas of steep slope are to be mapped and photo documented;
- Should additional land outside of the current study area be included as part of the Marten Falls Community Access Road Additional Aggregate Resources project, the standard requirements for archaeological assessments to be conducted prior to land disturbance remain in place. Additional archaeological assessment(s) must be conducted by a licensed archaeologist and follow the requirements set out in *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011a) and
- Fieldwork planning will be completed in consultation with Indigenous Community Elders and Environmental Monitors will accompany the archaeology team for a Stage 2 archaeological assessment.

The Ministry of Citizenship and Multiculturalism is asked to accept this report into the Ontario Public Register of Archaeological Reports thereby concurring with the recommendations presented herein. **As further archaeological assessment is required, archaeological concerns for the Marten Falls Community Access Road Additional Aggregate Resources Study Area, in the Districts of Kenora, Cochrane and Thunder Bay, Ontario have not been fully addressed.**

Please note that this archaeological assessment report has been written to meet the requirements of the Ministry of Citizenship and Multiculturalism's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario, 2011a); however, properties that are subject to archaeological assessment are not considered cleared for ground disturbance activities until the associated report has been reviewed and accepted by the Ministry of Citizenship and Multiculturalism. In order to maintain compliance with the Ministry of Citizenship and Multiculturalism and the Ontario Heritage Act (1990), no ground disturbing activities are to occur until the proponent and approval authority receive a formal letter from the Ministry of Citizenship and Multiculturalism stating that the recommendations provided herein are compliant and that the report has been accepted into the Ministry of Citizenship and Multiculturalism register of archaeological reports.

4. Advice on Compliance with Legislation

This report is submitted to the Ontario Ministry 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 Standards and Guidelines that are issued by the Ministry, 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 fieldwork on the site, submitted a report to the Ministry stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the Ontario Heritage Act.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the Ontario Heritage Act.

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 license.

The Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 (when proclaimed in force in 2012) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ontario Ministry of Government and Consumer Services.

5. Bibliography

AECOM Canada ULC

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2020b *Stage 2 Archaeological Assessment Community Access Road from Marten Falls to Painter Lake, Ogoki River Crossing WA-01 & Albany River Crossing WA-15 Environmental Assessment and Preliminary Design Services District of Kenora, District of Cochrane, and District of Thunder Bay*. On file with the Ontario Ministry of Citizenship and Multiculturalism under Project Identification Form Number P438-0255-2020.

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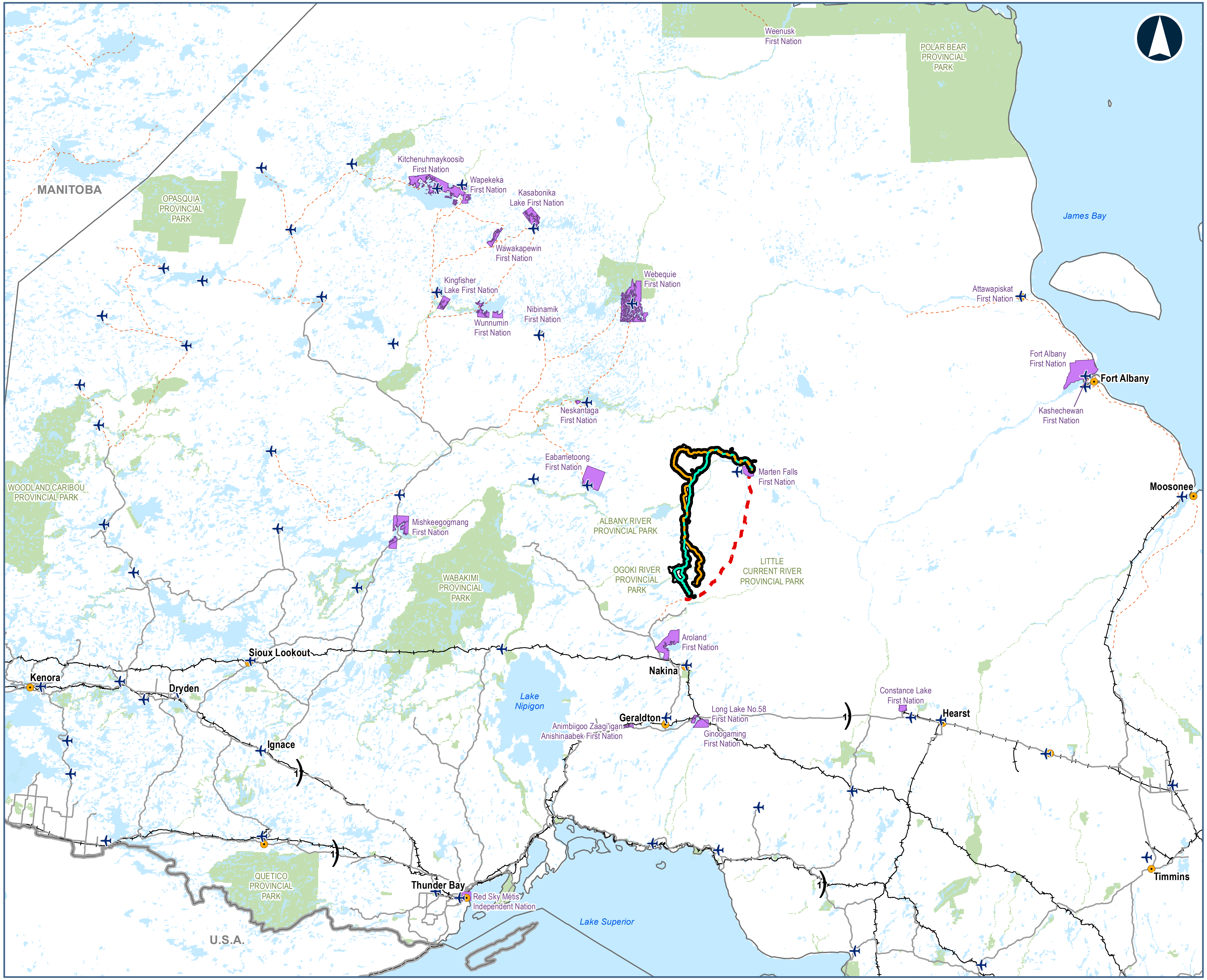
6. Figures



Legend

Project Study Area

Route Alternatives

Alternative 1

Alternative 4

General Features

Highway/Major Road

Winter Road

Railway

MFFN Existing Winter Access Road

Provincial Park

Waterbody

Neighbouring Indigenous Communities

Airstrip

Notes:

First Nation Reserves of MFFN CAR Neighbouring Indigenous Communities are shown.

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Site Location

0 30 60 120 180 240

Kilometers

DATUM: NAD 1983 CSRS UTM Zone 16N

Data Sources:
Basedata - Provided by MNRF 2023; Route Infrastructure - Provided by AECOM 2021, NRCan, ENDM
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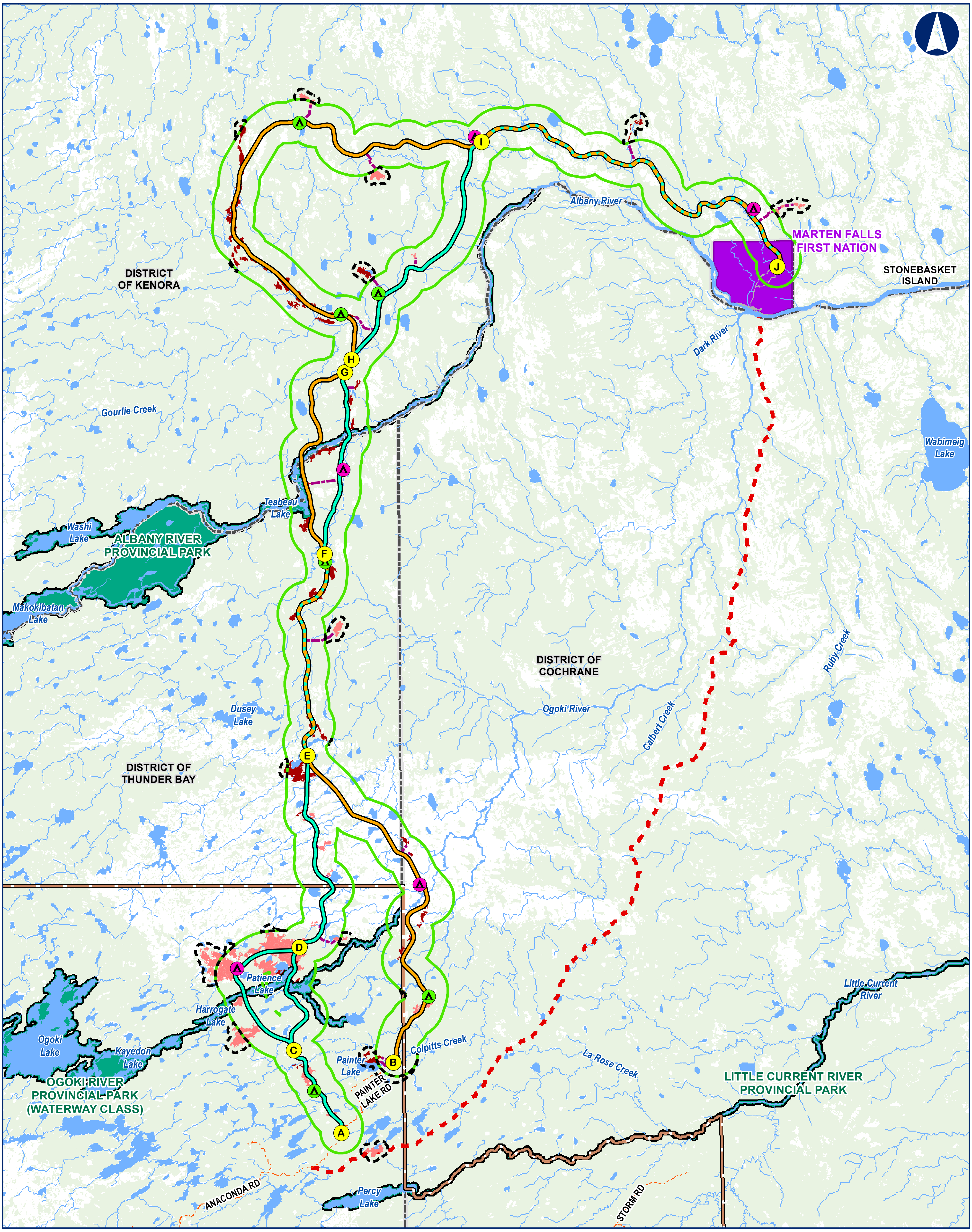
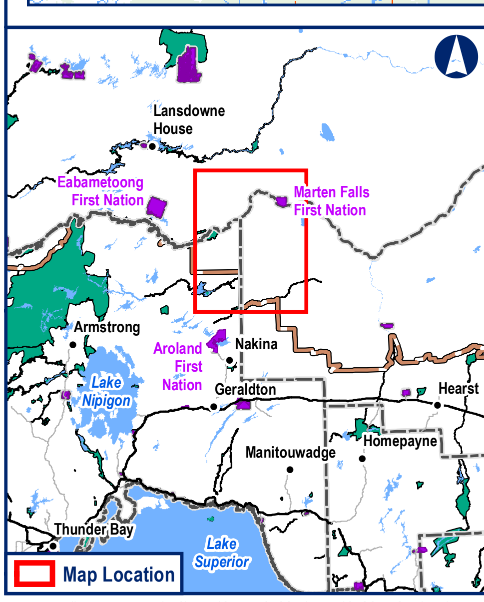
Figure 1





Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Local Road
- Resource / Recreation Road
- MFFN Existing Winter Access Road
- Watercourse
- Waterbody

- First Nation Reserve
- District Municipal Boundary
- Far North Boundary
- Provincial Park

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Project Study Area

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Figure 2

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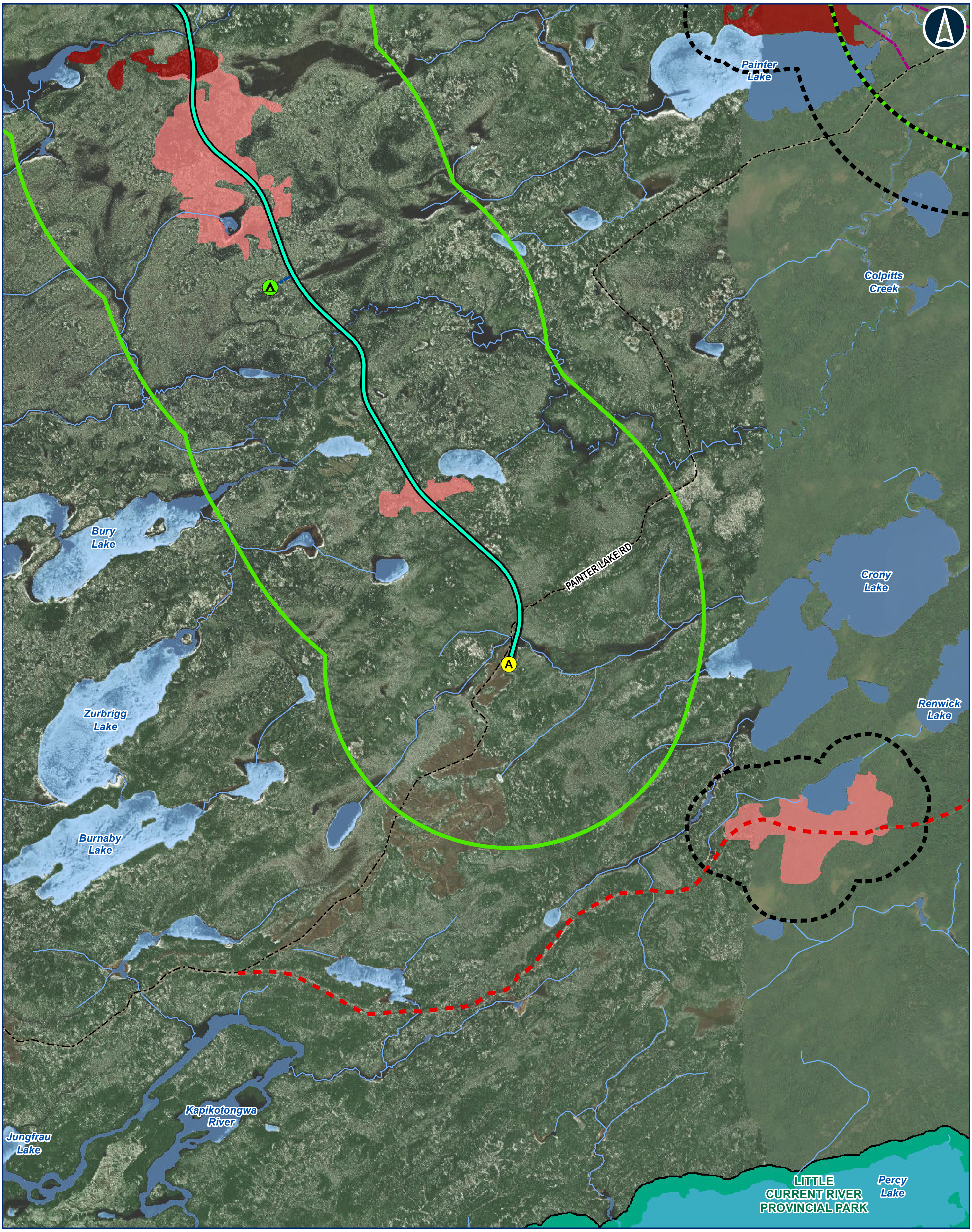

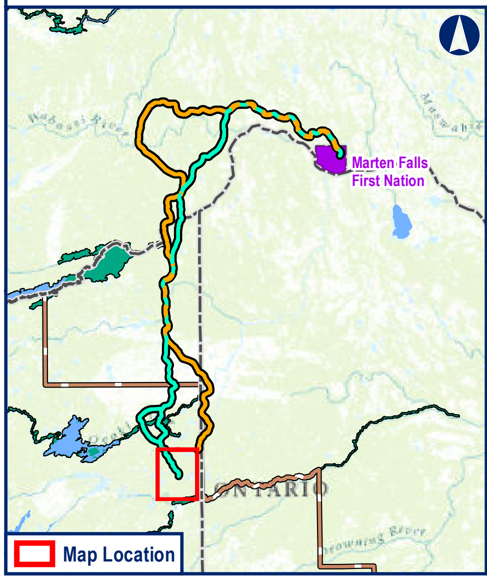

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Resource / Recreation Road
- MFFN Existing Winter Access Road
- Provincial Park

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

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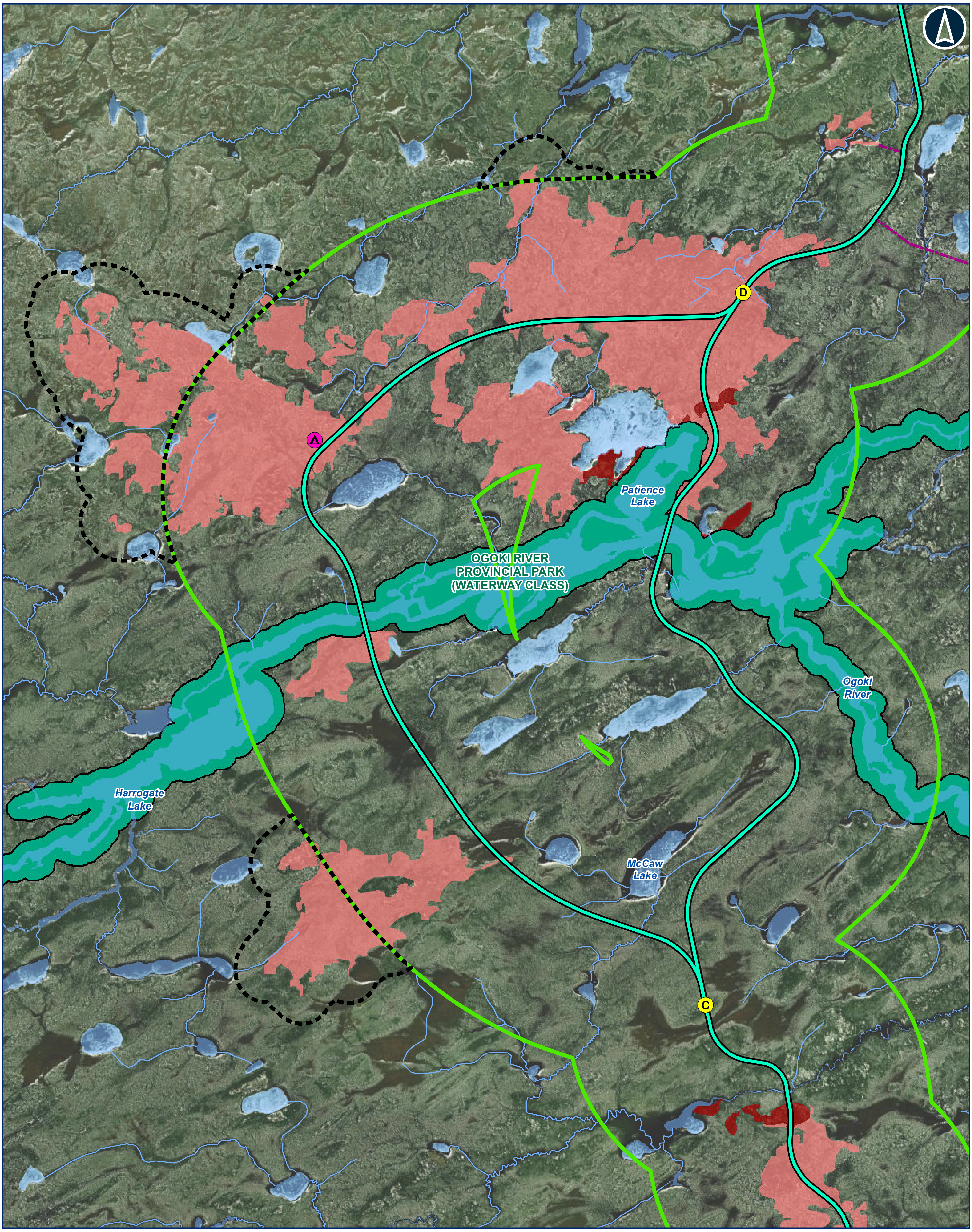

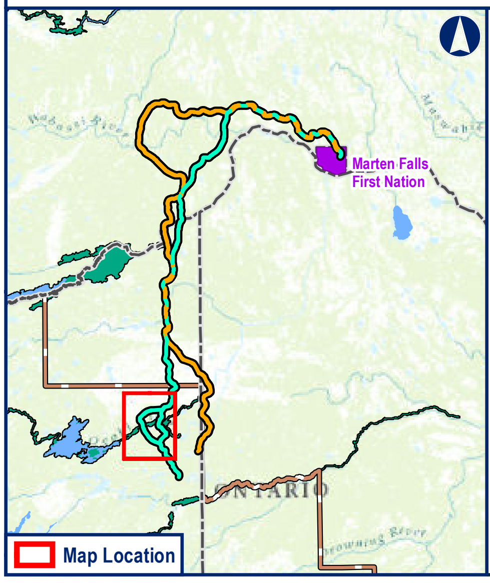

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Provincial Park

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

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Figure 3-2

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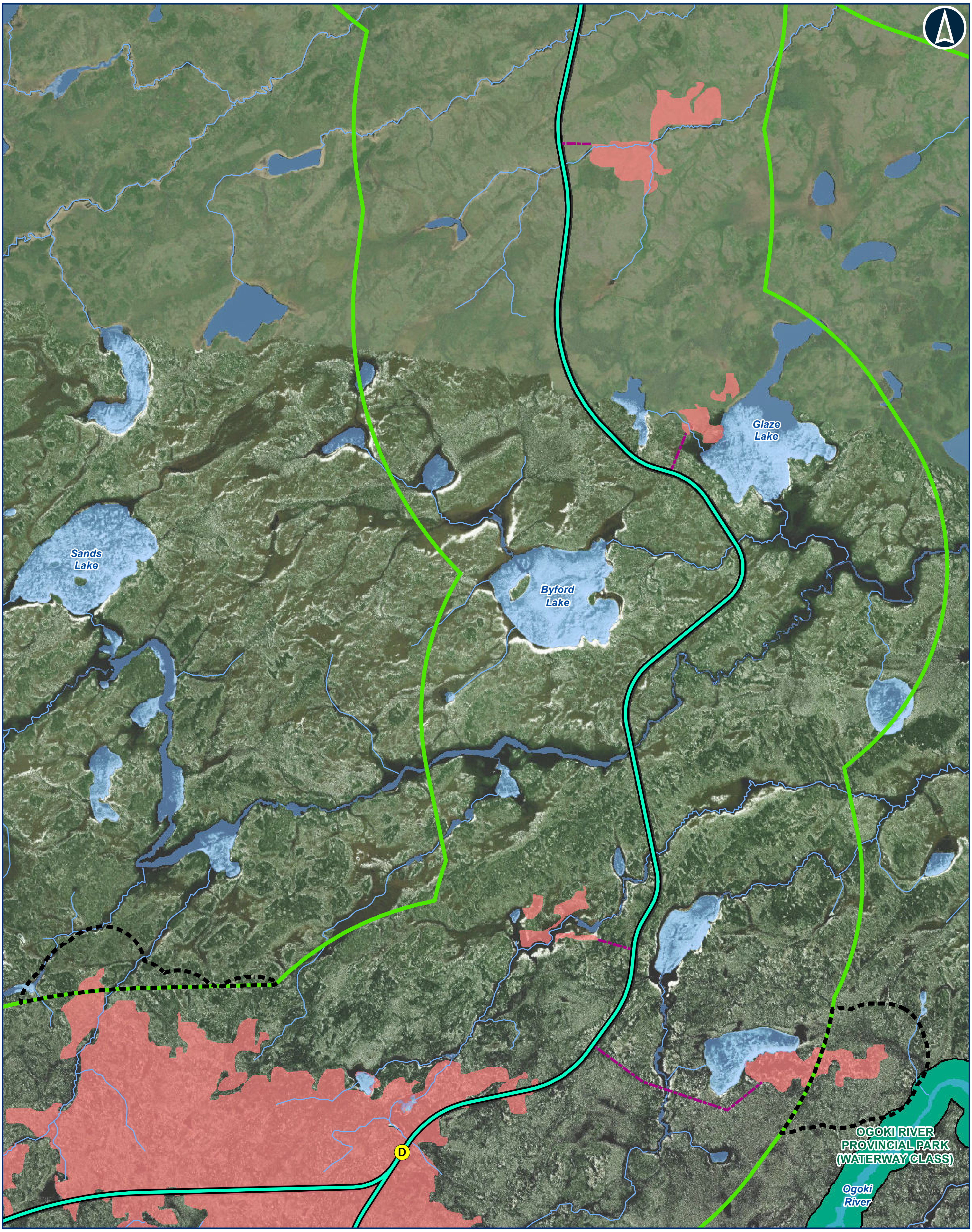

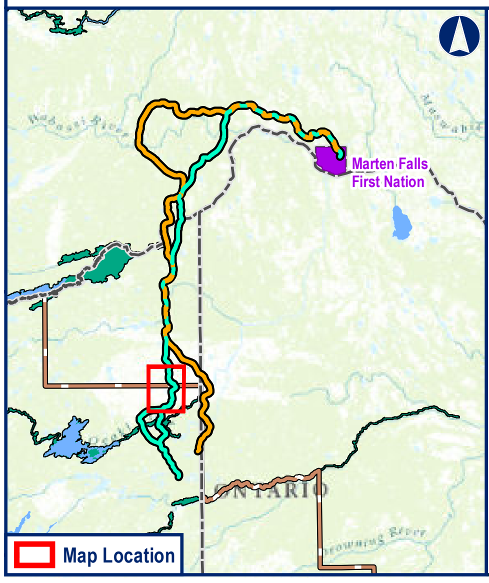

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Provincial Park

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

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Figure 3-3

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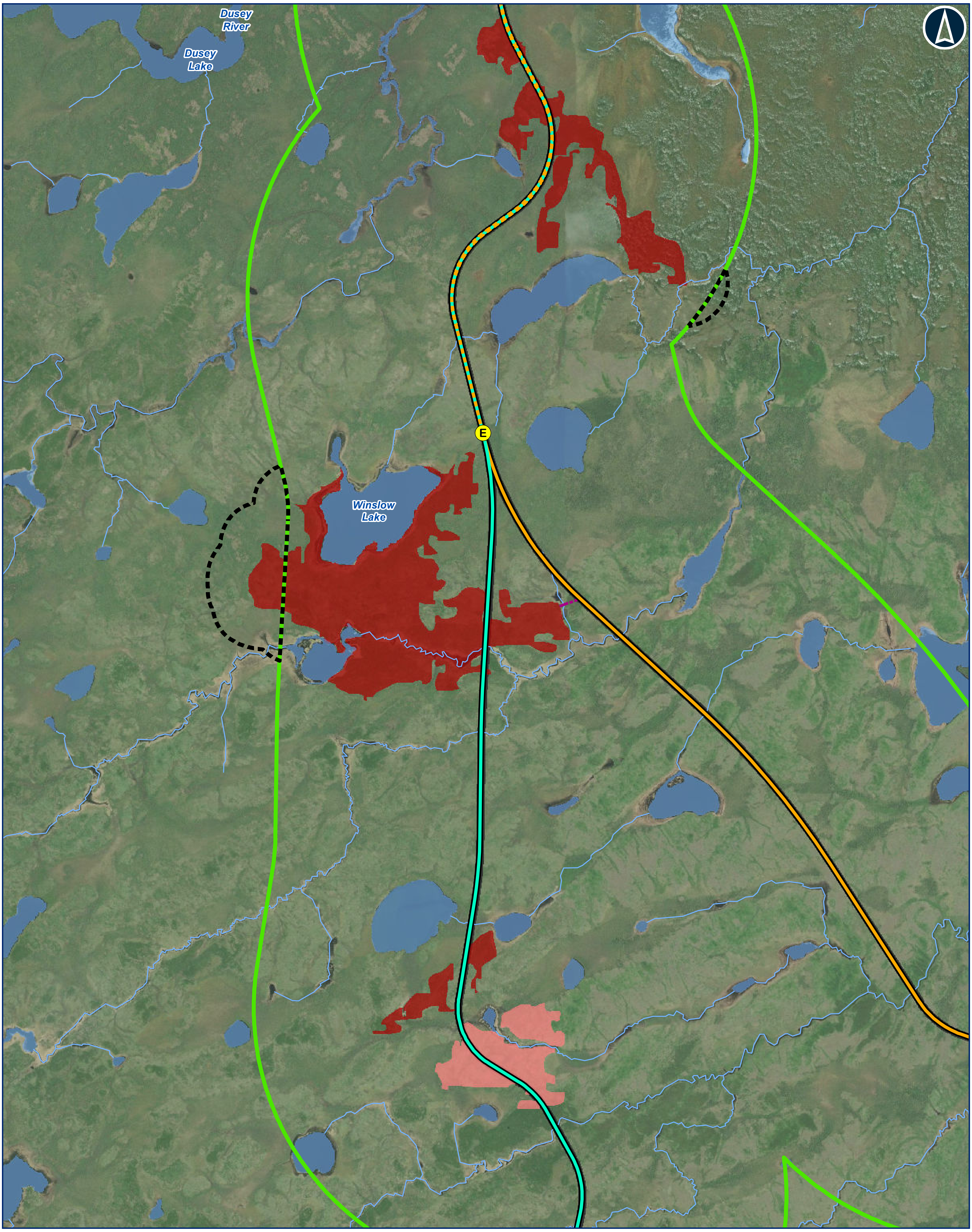

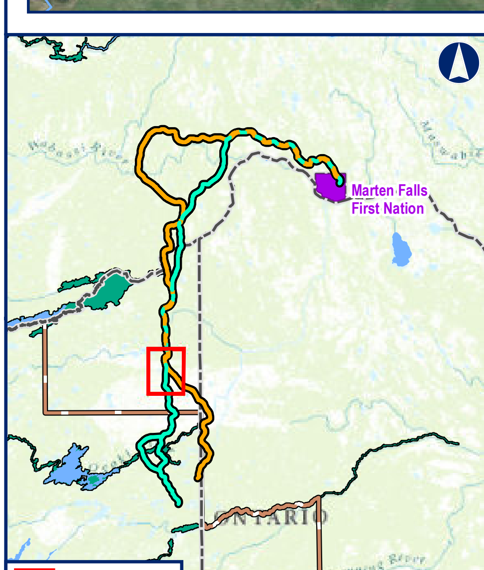

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

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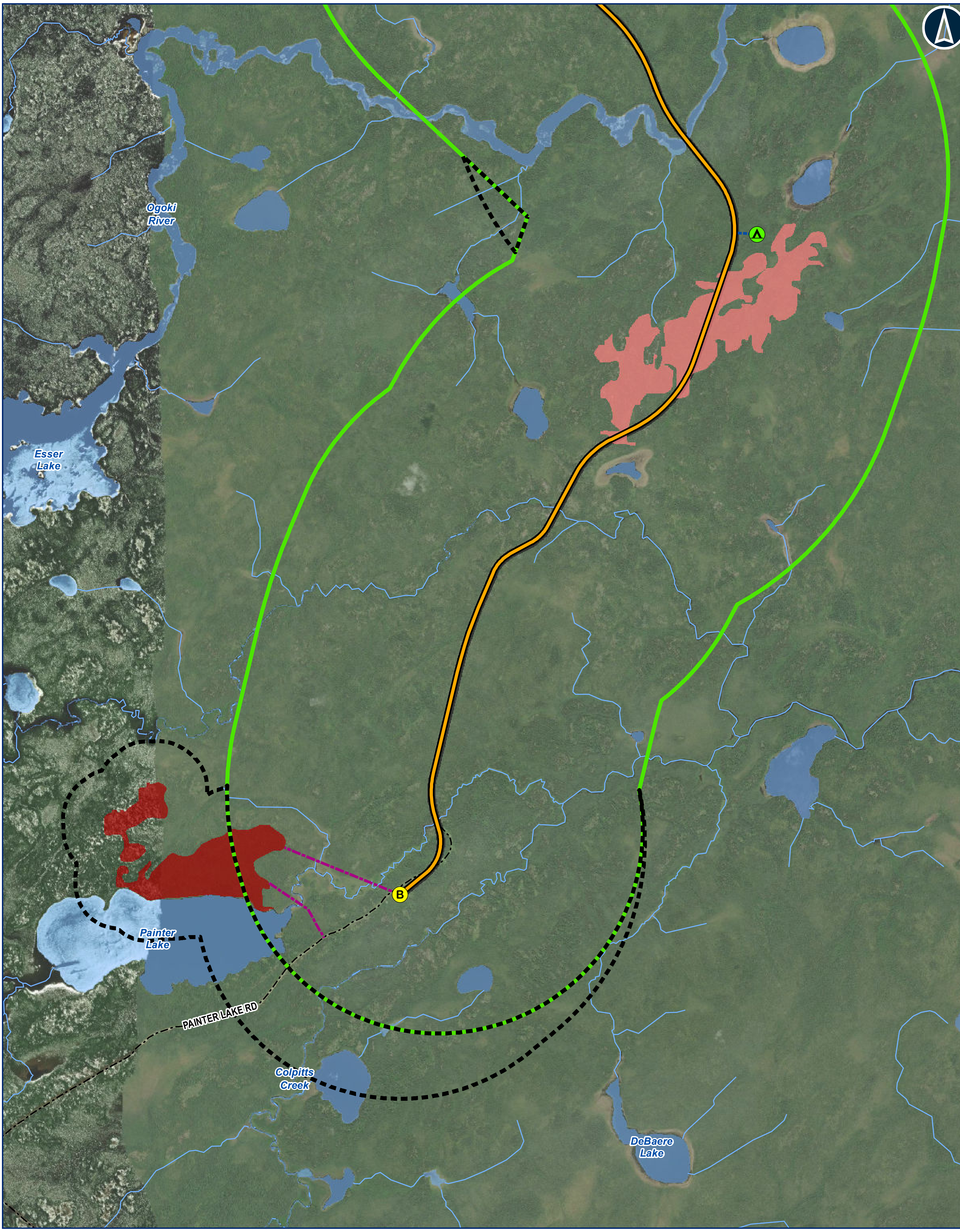

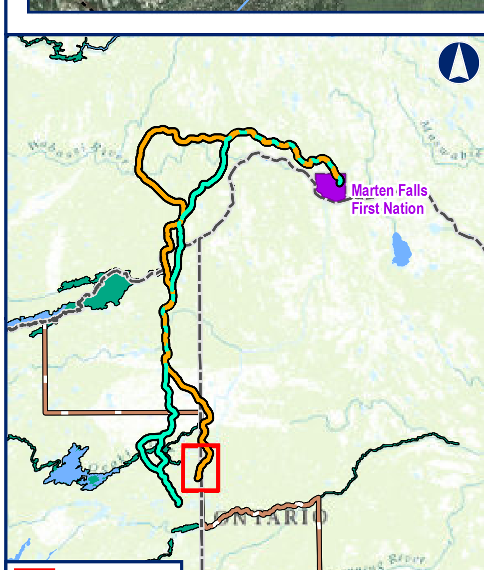

Legend

- A Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Resource / Recreation Road

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

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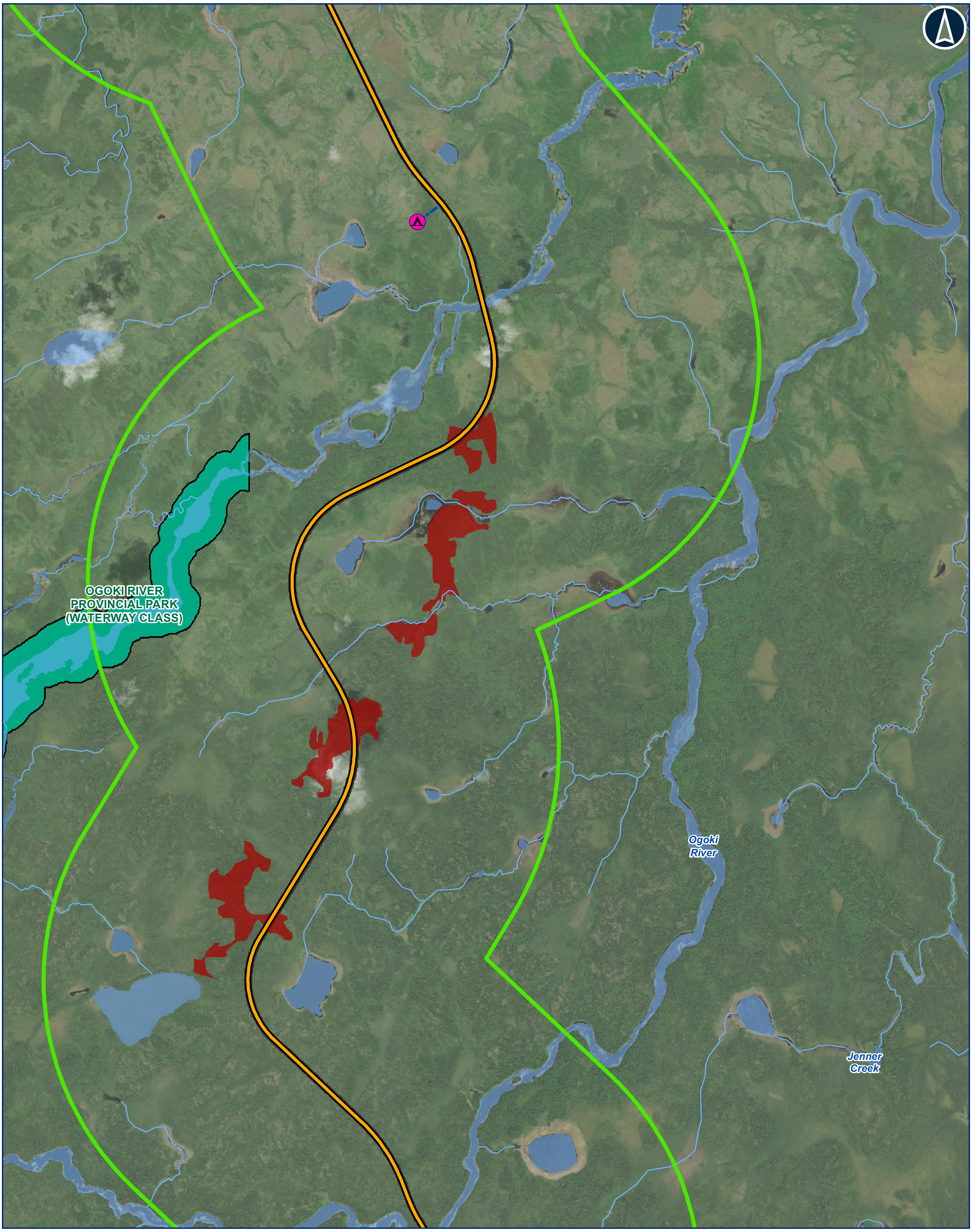

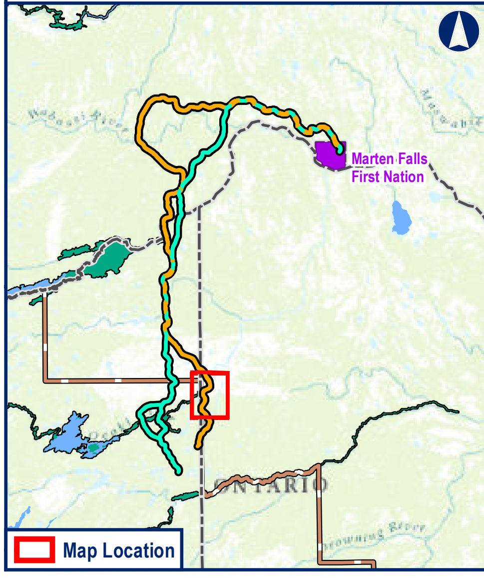

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Provincial Park

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

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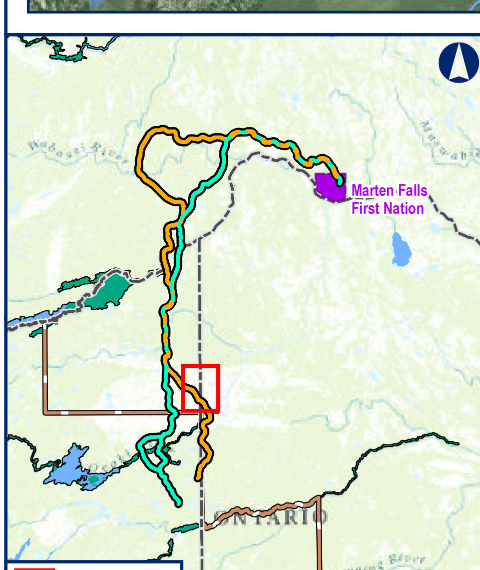

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

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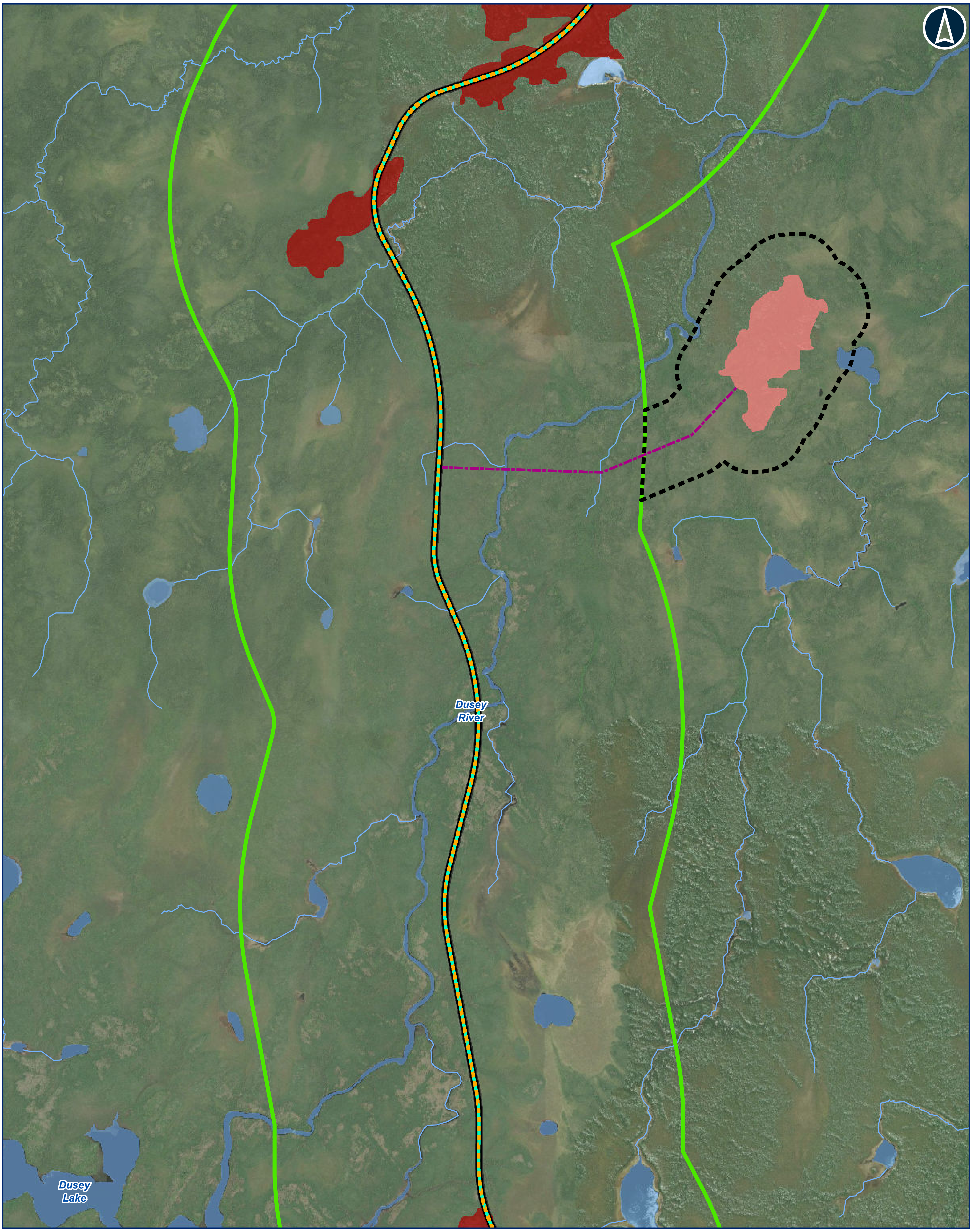

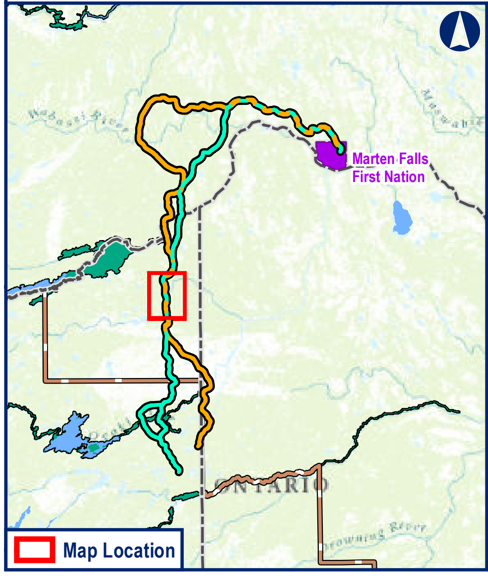

Legend

- (A) Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

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Figure 3-8

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig3_AdditonalStage1_DetailedStudyAreas_60593122.mxd
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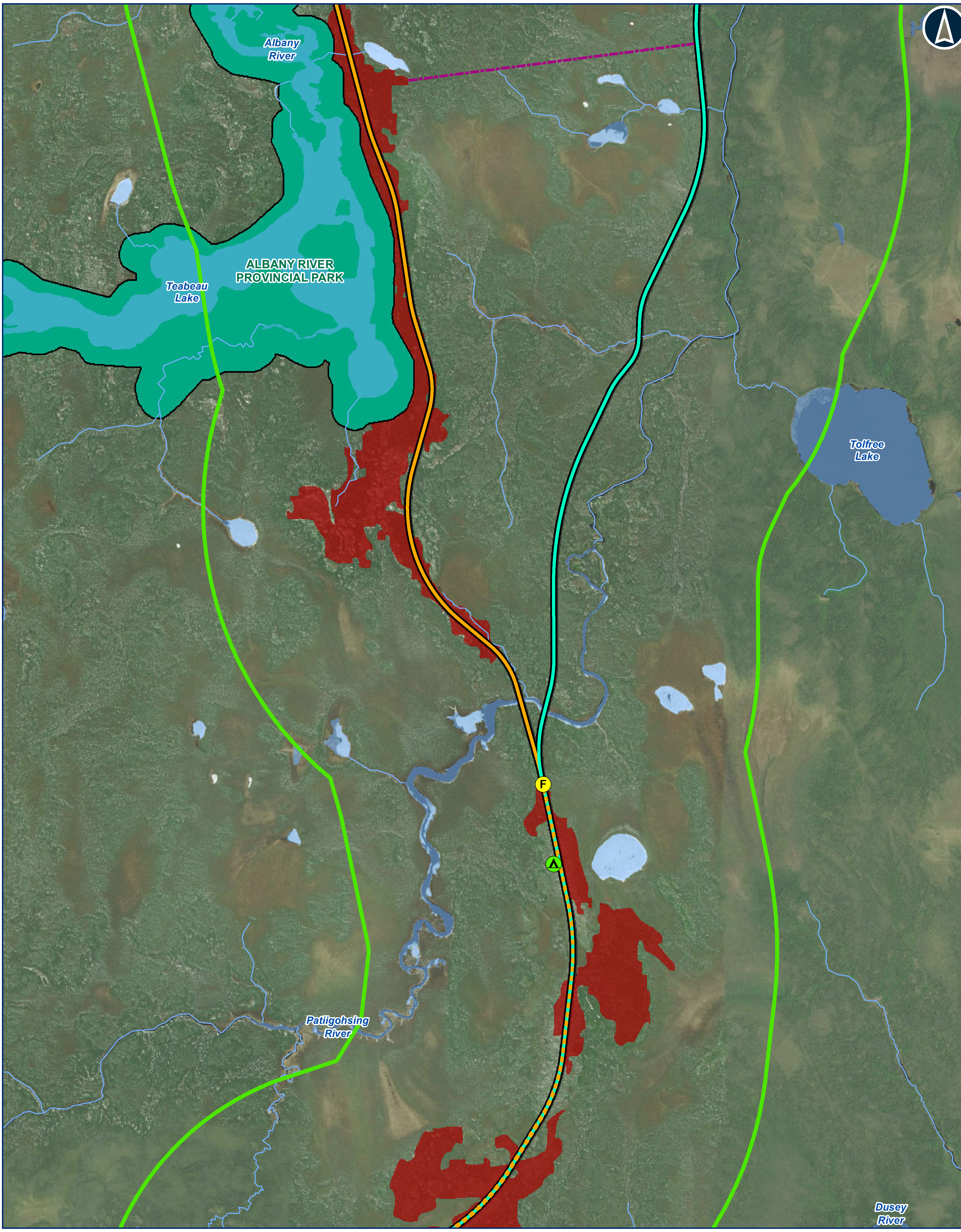

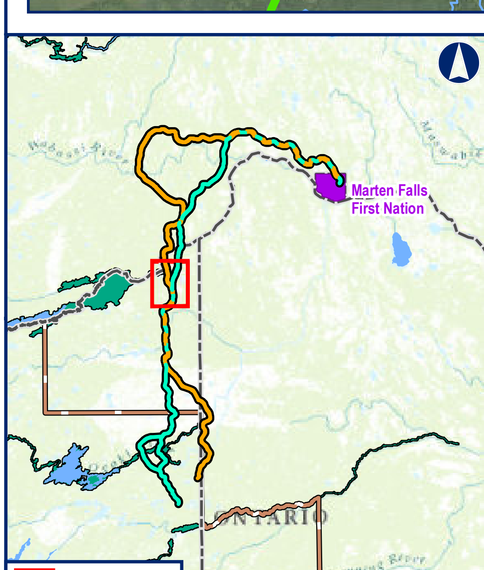

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Provincial Park

Data Source:
Base Data: Provided by MNRF 2023; Route Infrastructure - Provided by AECOM 2021. Contains Information licensed under the Open Government Licence Ontario.

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

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Figure 3-9

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig3_AdditonalStage1_DetailedStudyAreas_60593122.mxd
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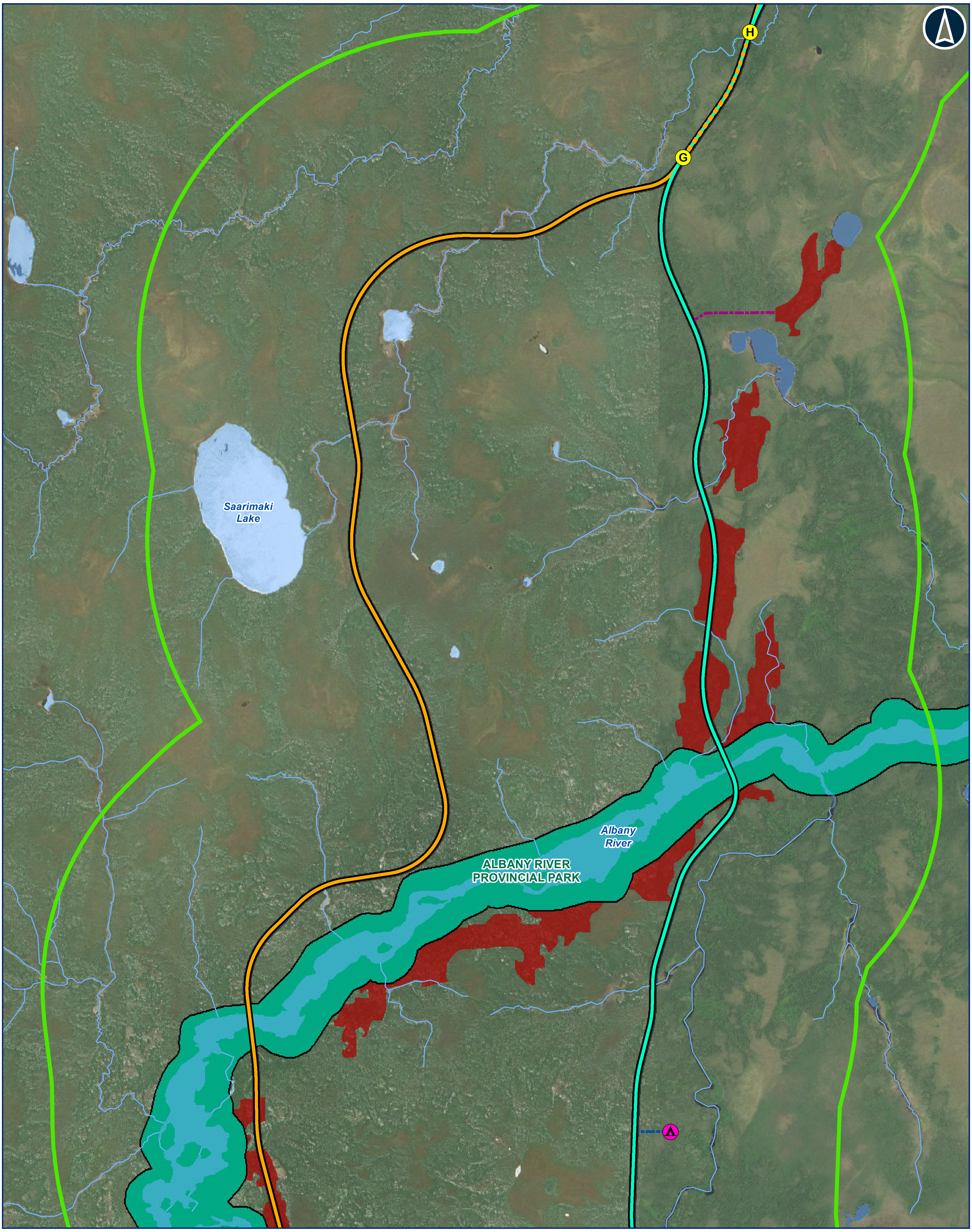

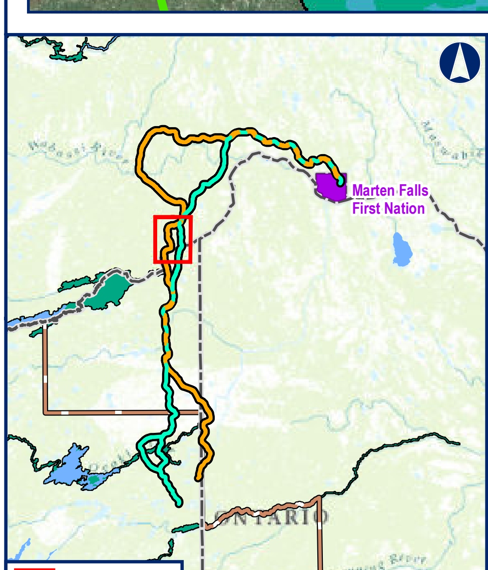

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Provincial Park

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024

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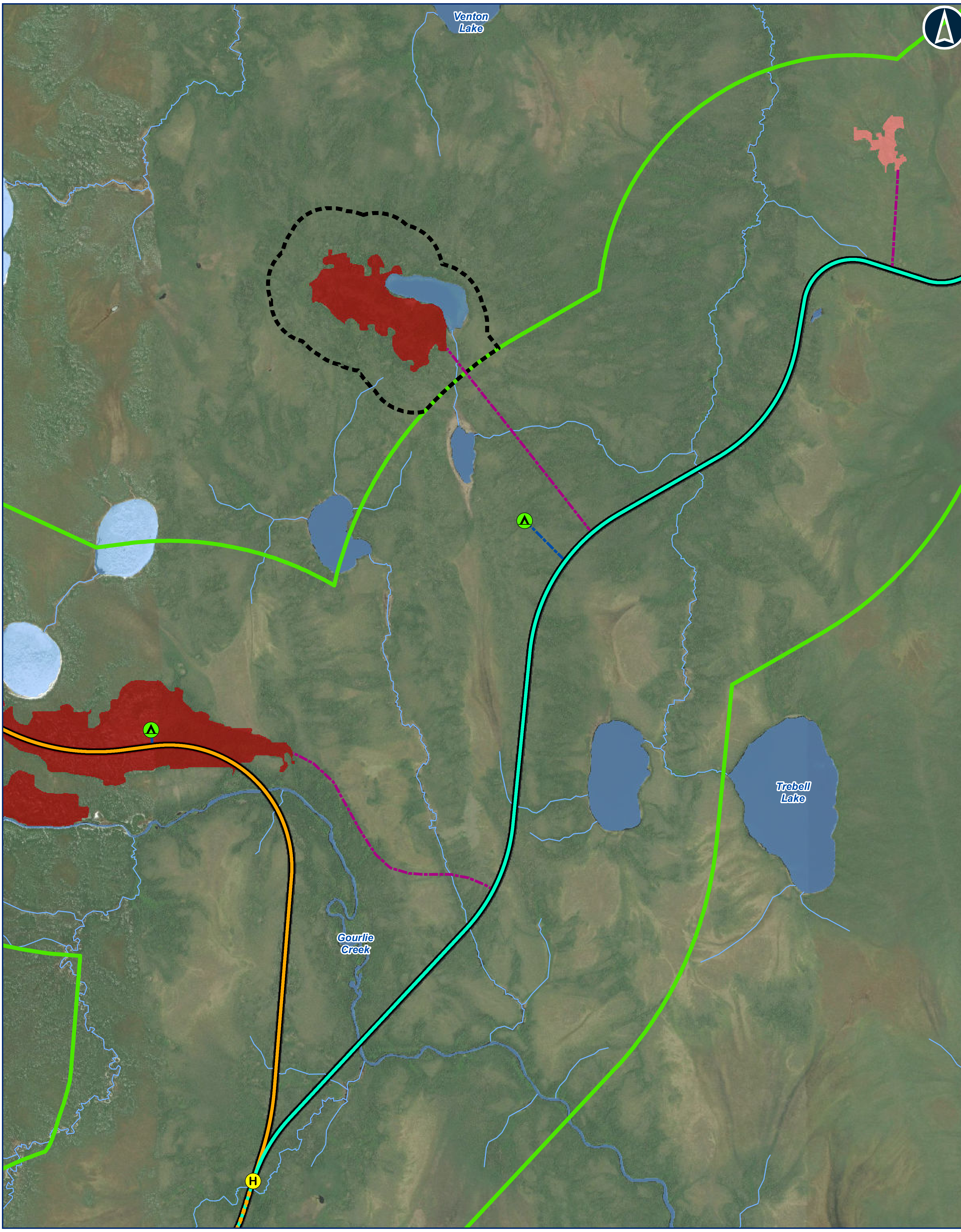
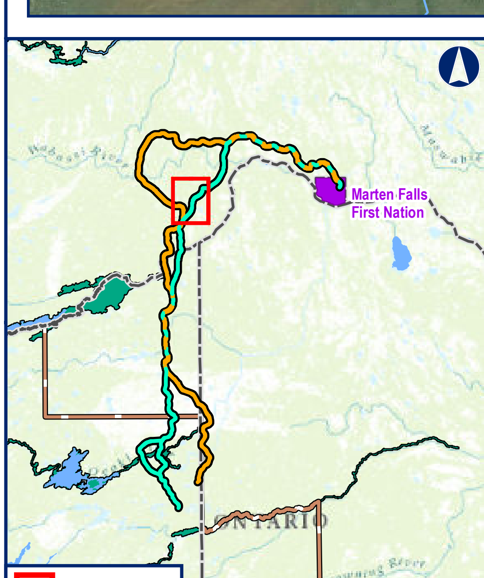
Figure 3-10





Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

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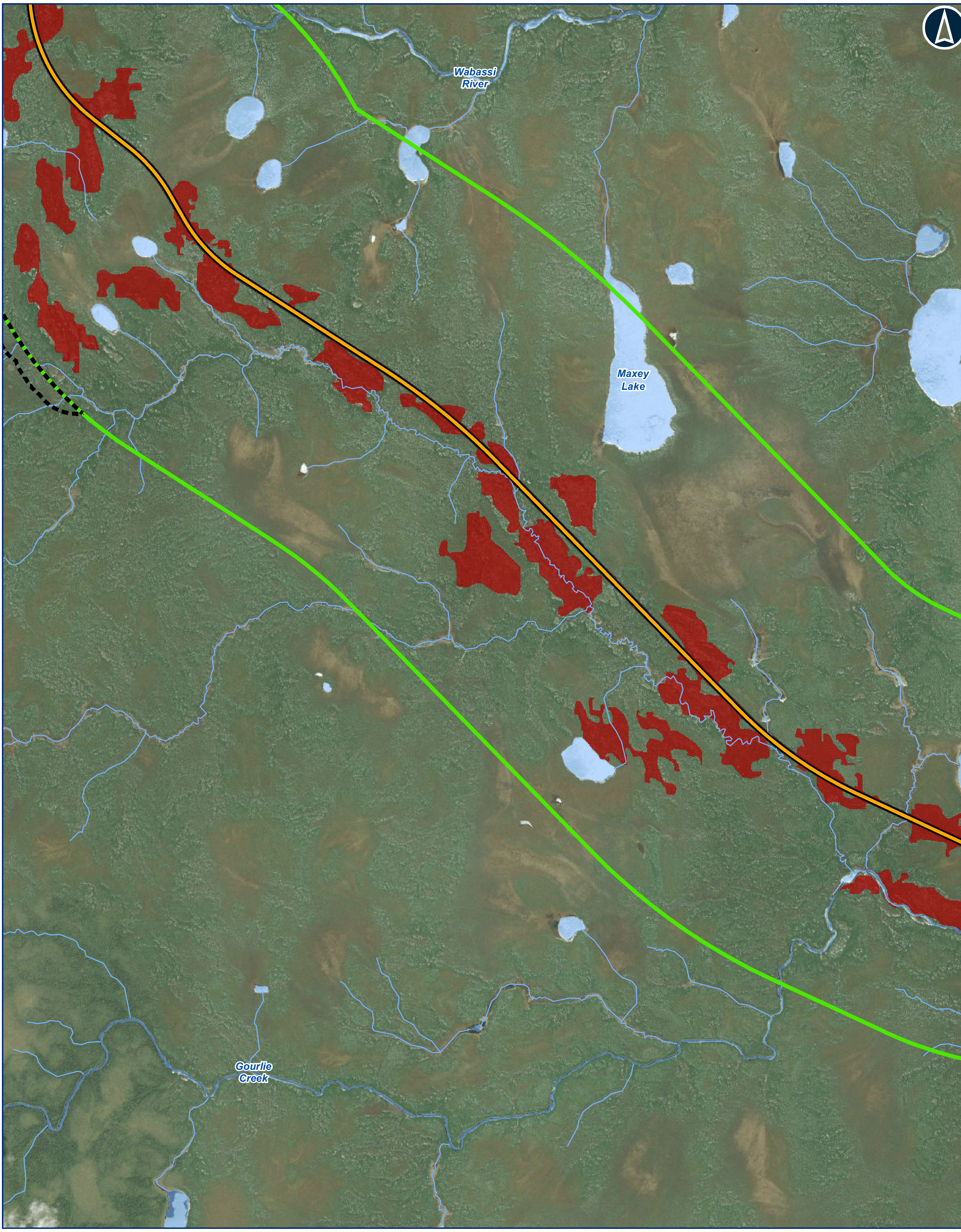
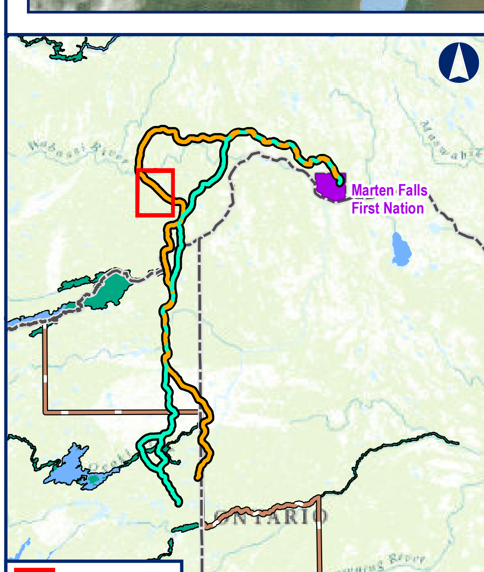
Figure 3-11	





Legend

- (A) Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

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Figure 3-12

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig3_AdditonalStage1_DetailedStudyAreas_60593122.mxd
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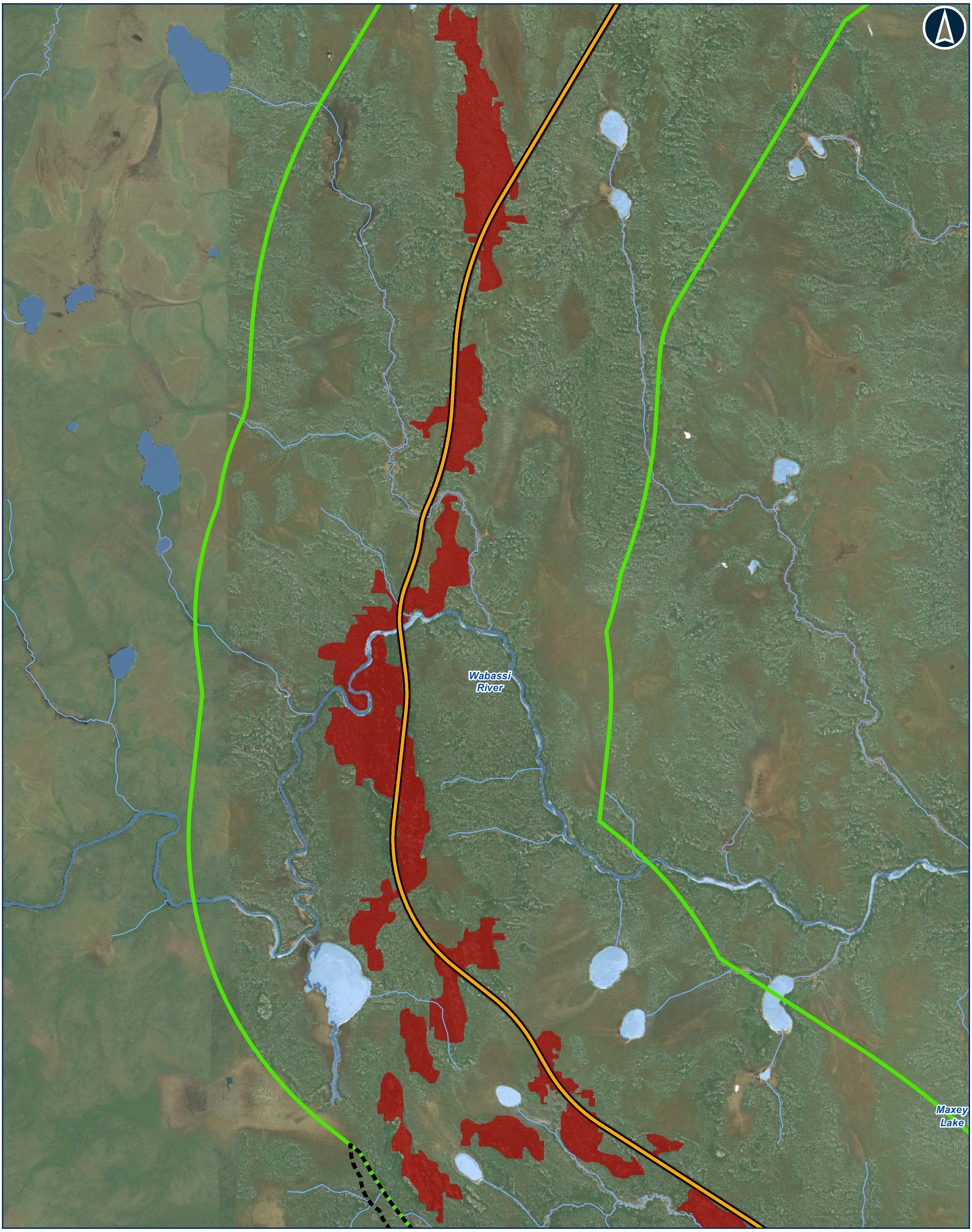

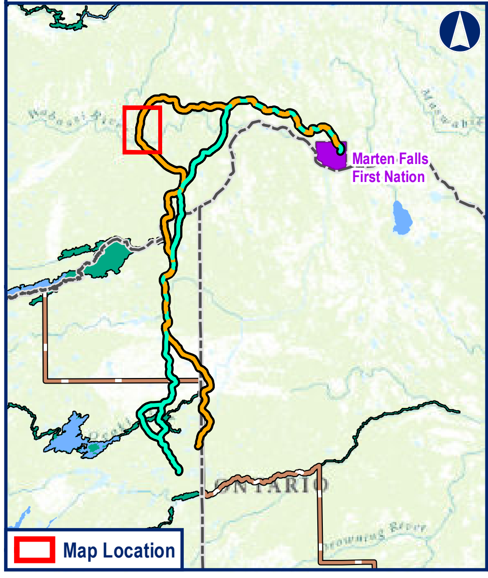

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024

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* when printed 11"x17"

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Figure 3-13

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig3_AdditonalStage1_DetailedStudyAreas_60593122.mxd
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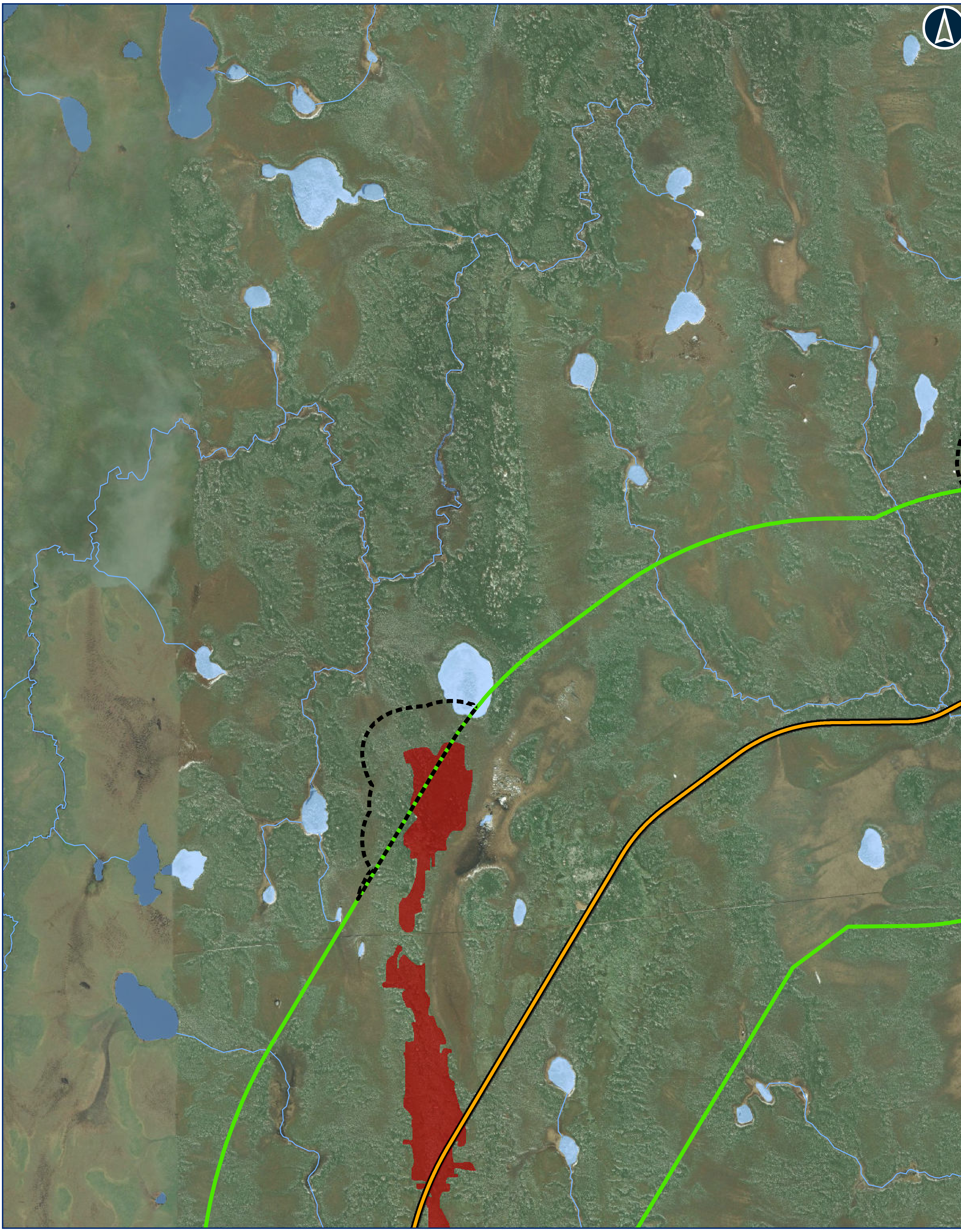

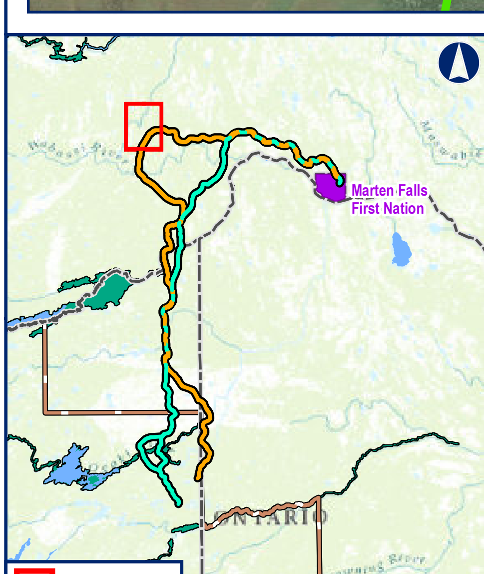

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024

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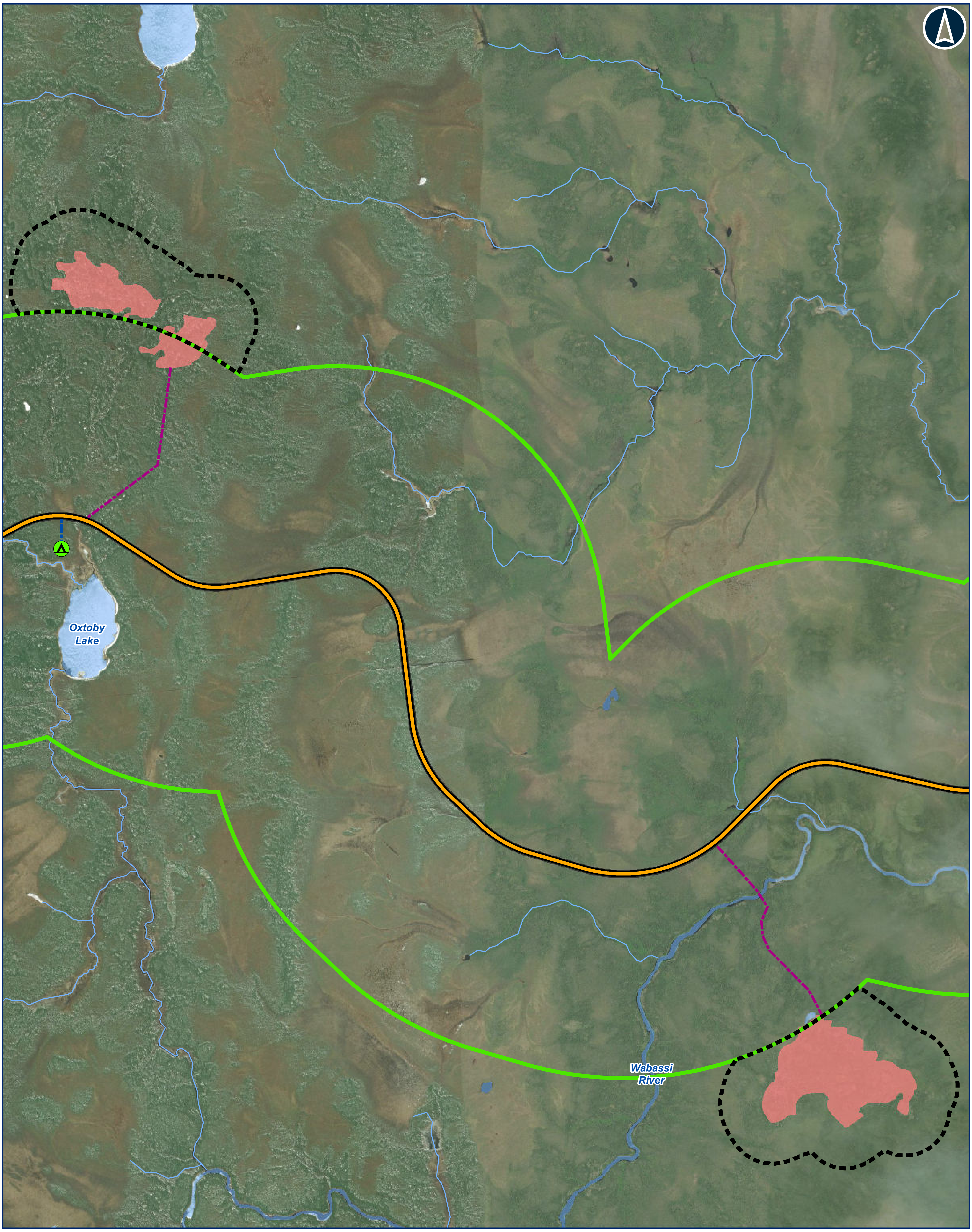
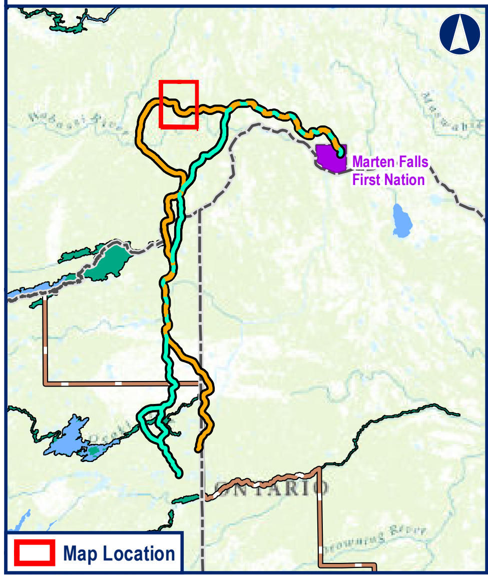
Figure 3-14





Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

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Figure 3-15

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig3_AdditonalStage1_DetailedStudyAreas_60593122.mxd
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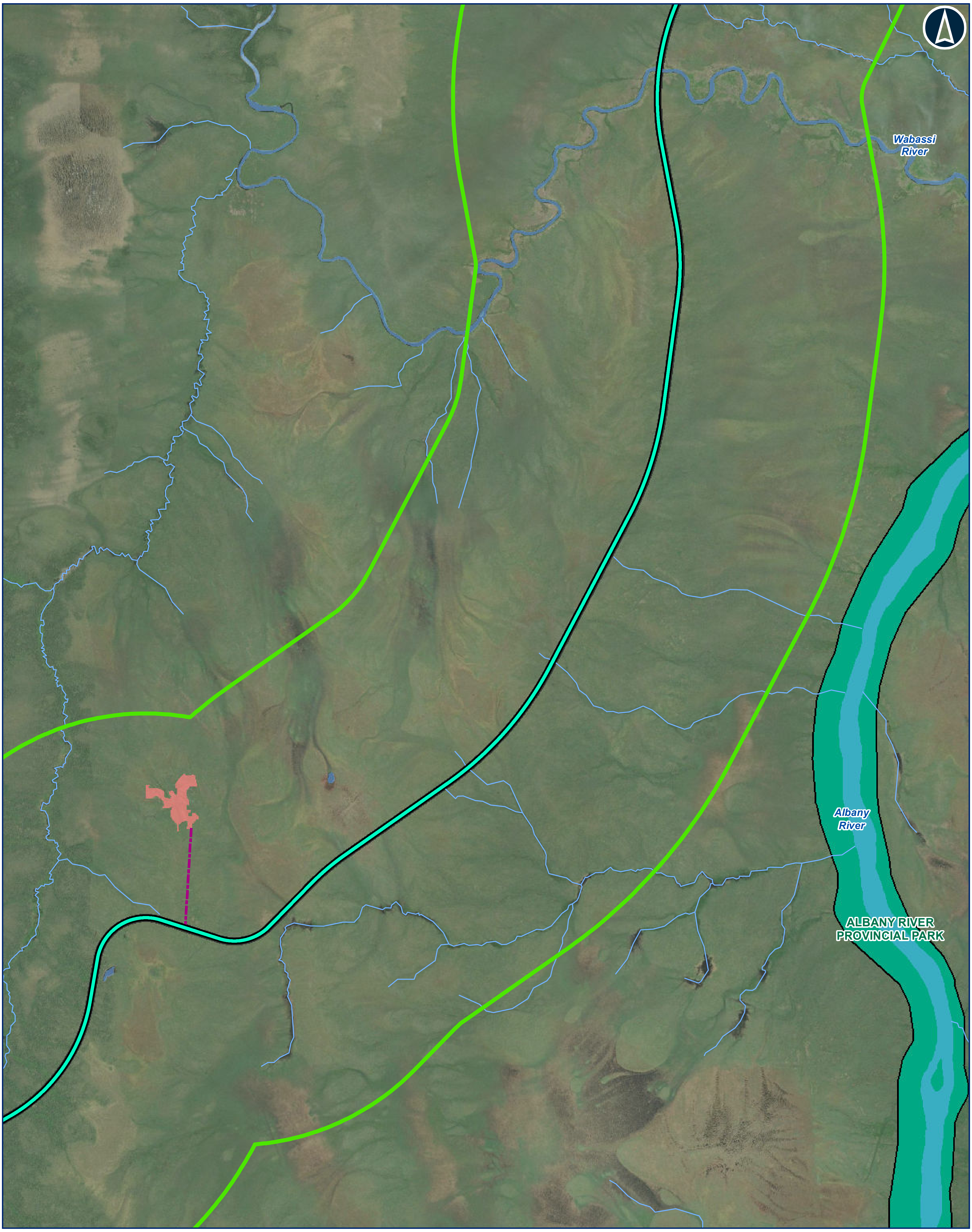

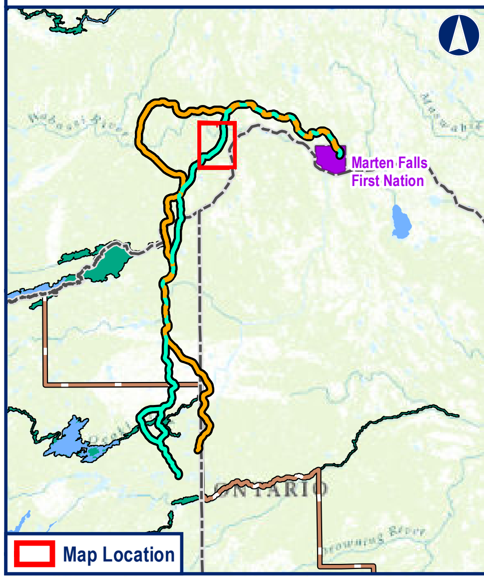

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Provincial Park

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

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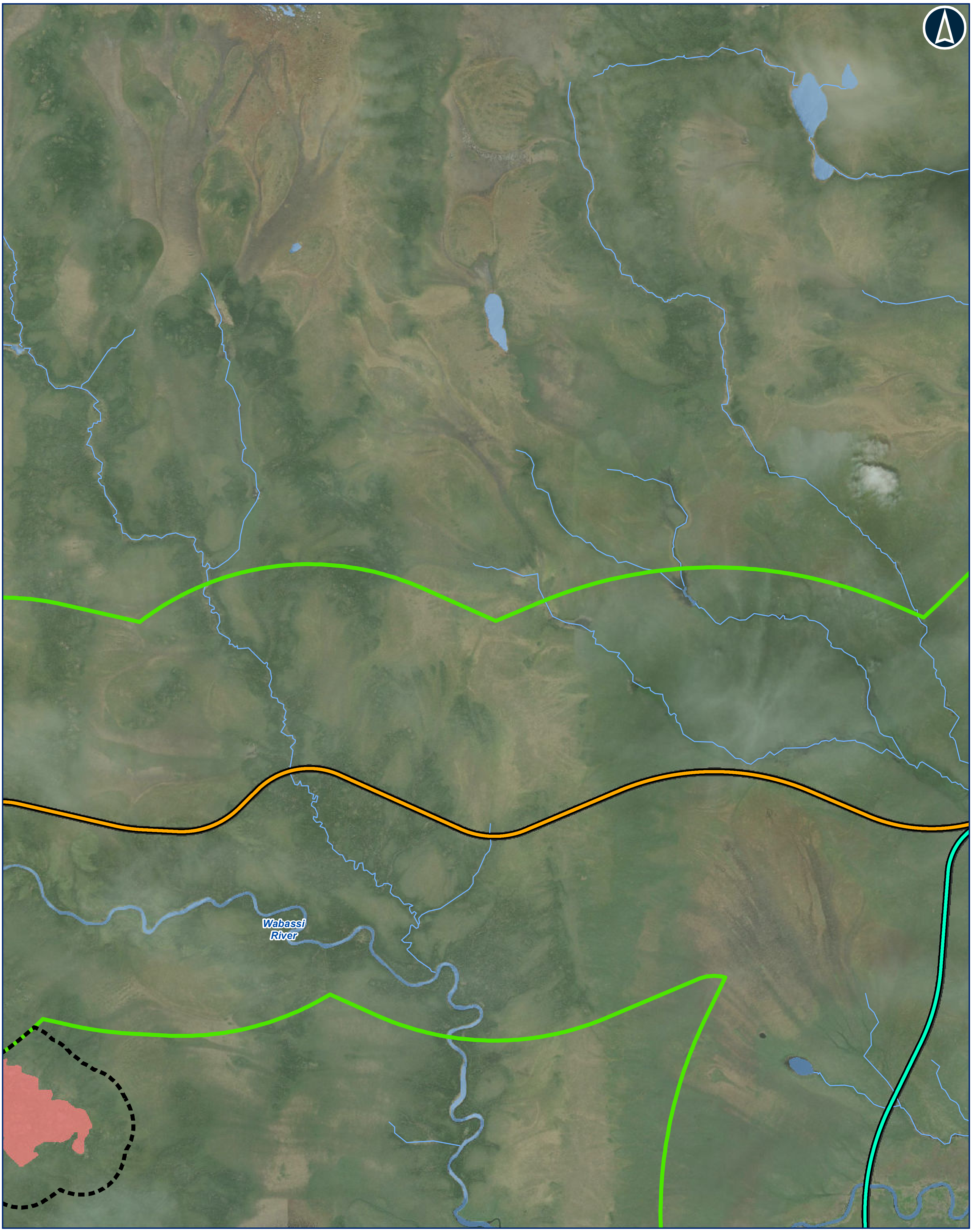
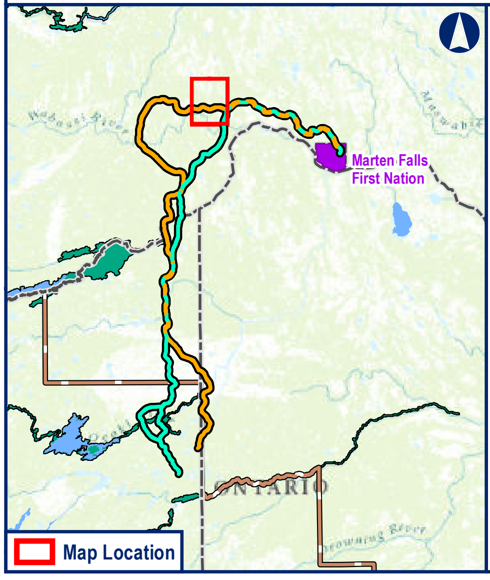
Figure 3-16





Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024

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Figure 3-17

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig3_AdditonalStage1_DetailedStudyAreas_60593122.mxd
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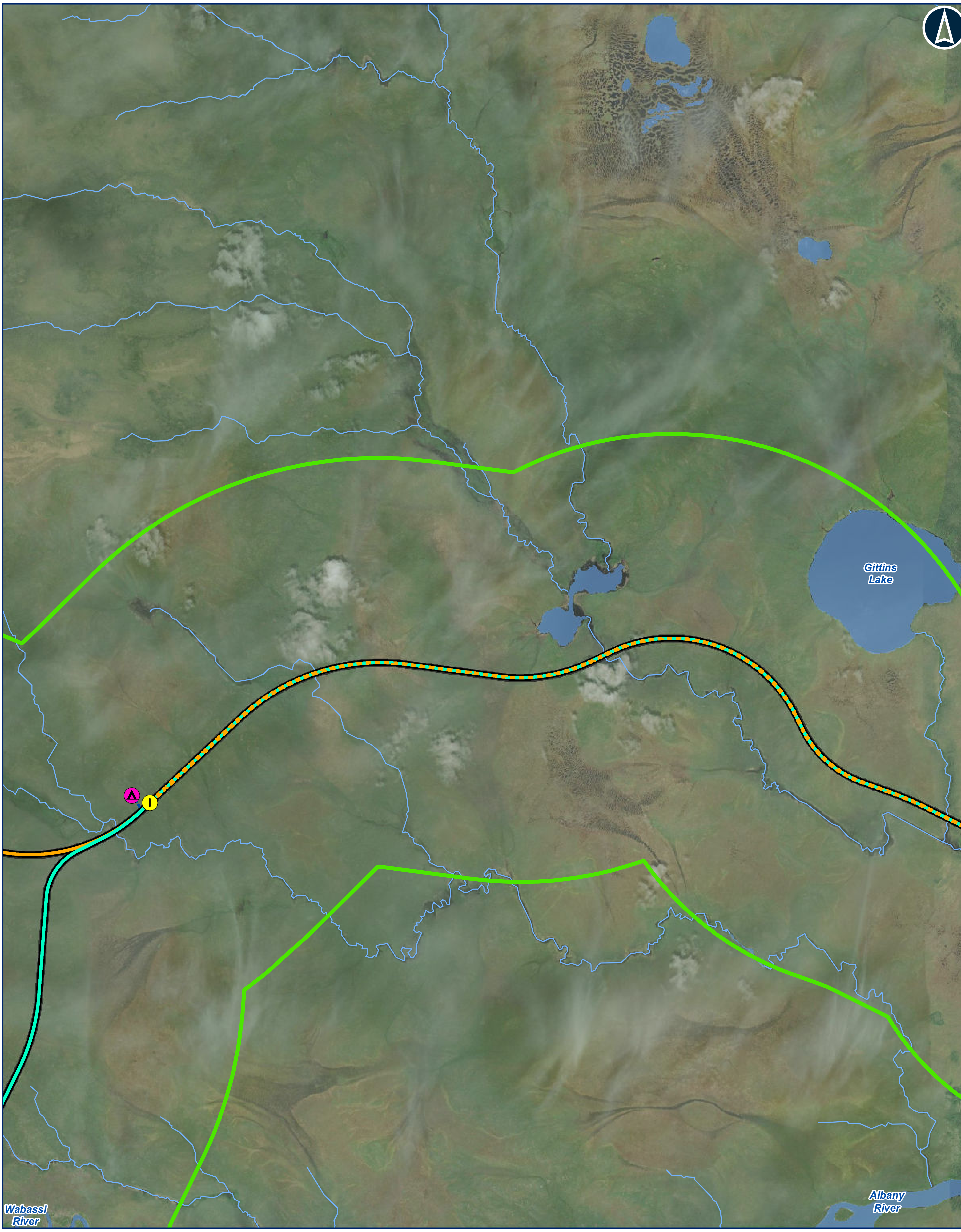

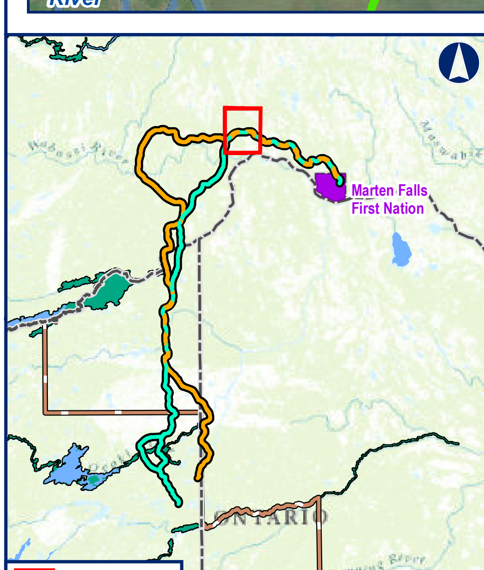

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

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Figure 3-18

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig3_AdditonalStage1_DetailedStudyAreas_60593122.mxd
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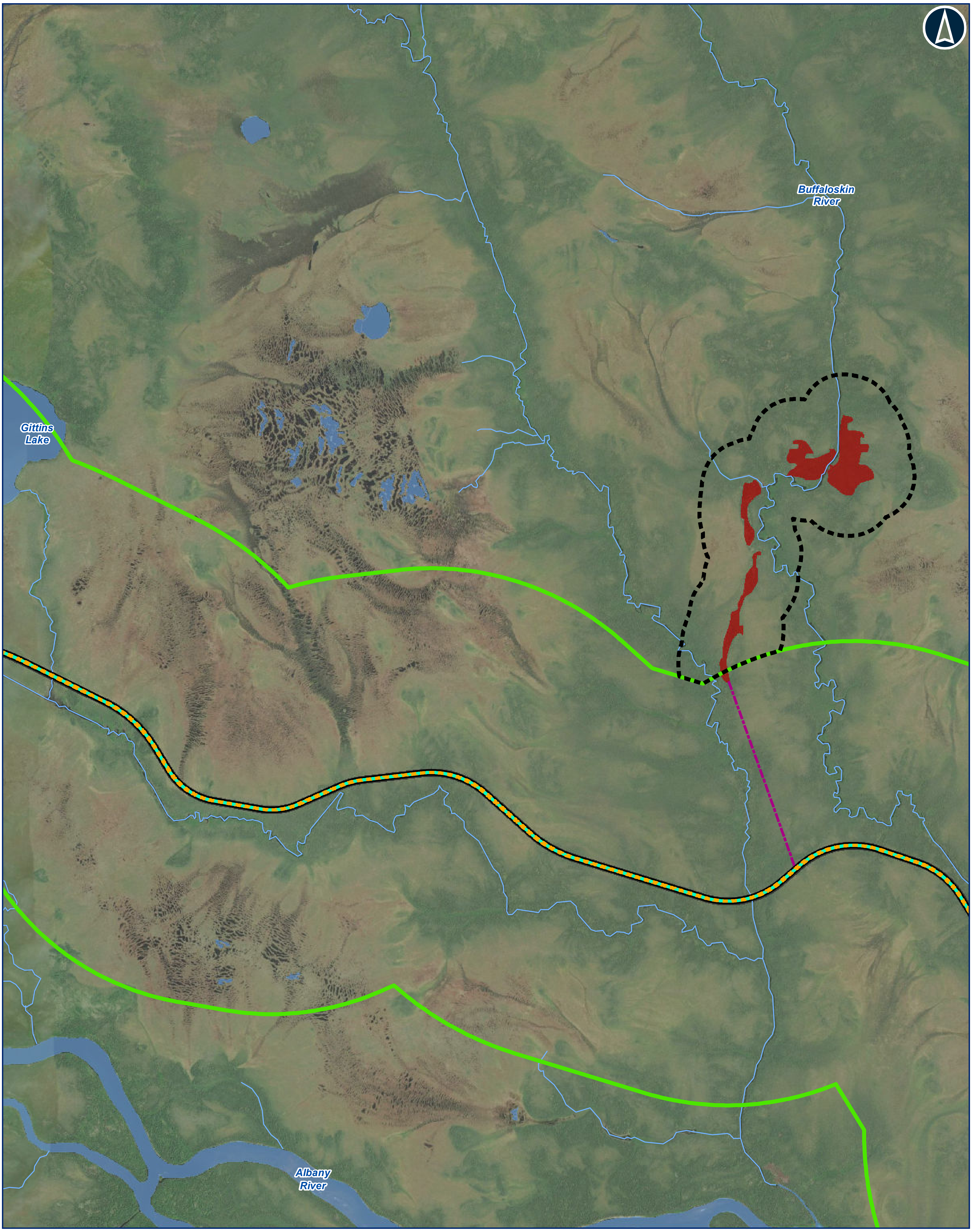

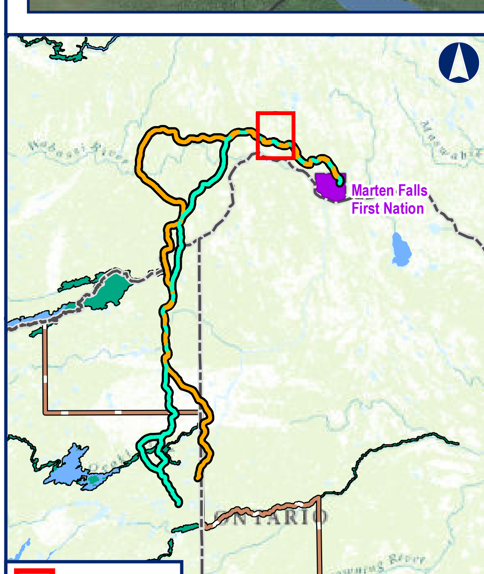

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody

Data Source:
Base Data: Provided by MNRF 2023; Route Infrastructure - Provided by AECOM 2021. Contains Information licensed under the Open Government Licence Ontario.

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024
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Figure 3-19

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig3_AdditonalStage1_DetailedStudyAreas_60593122.mxd
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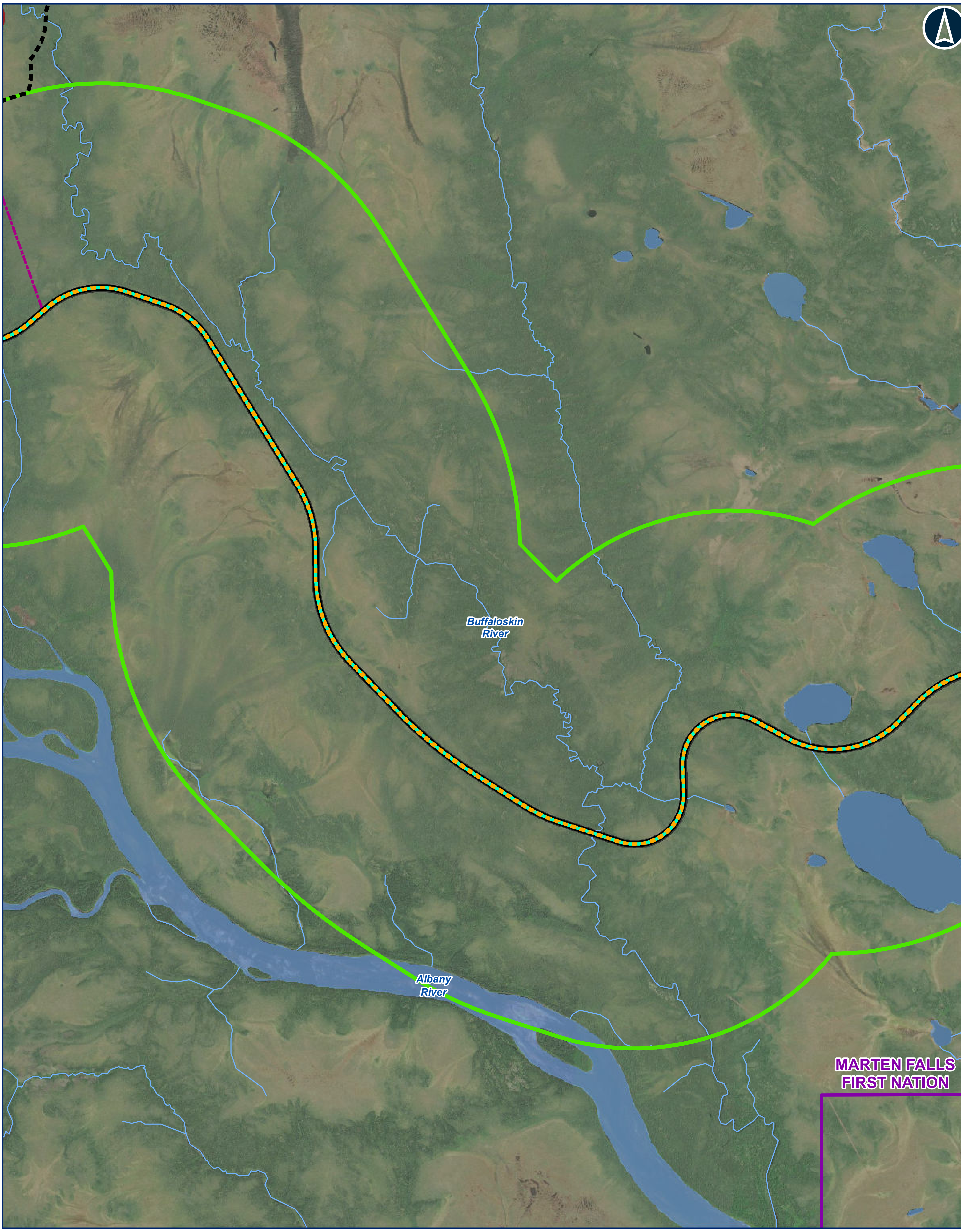

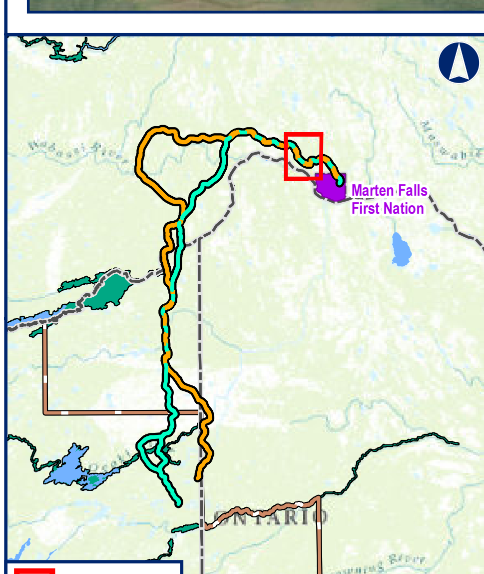

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- First Nation Reserve

Data Source:
Base Data: Provided by MNRF 2023; Route Infrastructure - Provided by AECOM 2021. Contains Information licensed under the Open Government Licence Ontario.

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024
1:45,000
* when printed 11"x17"
Rev:00

Figure 3-20

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig3_AdditonalStage1_DetailedStudyAreas_60593122.mxd
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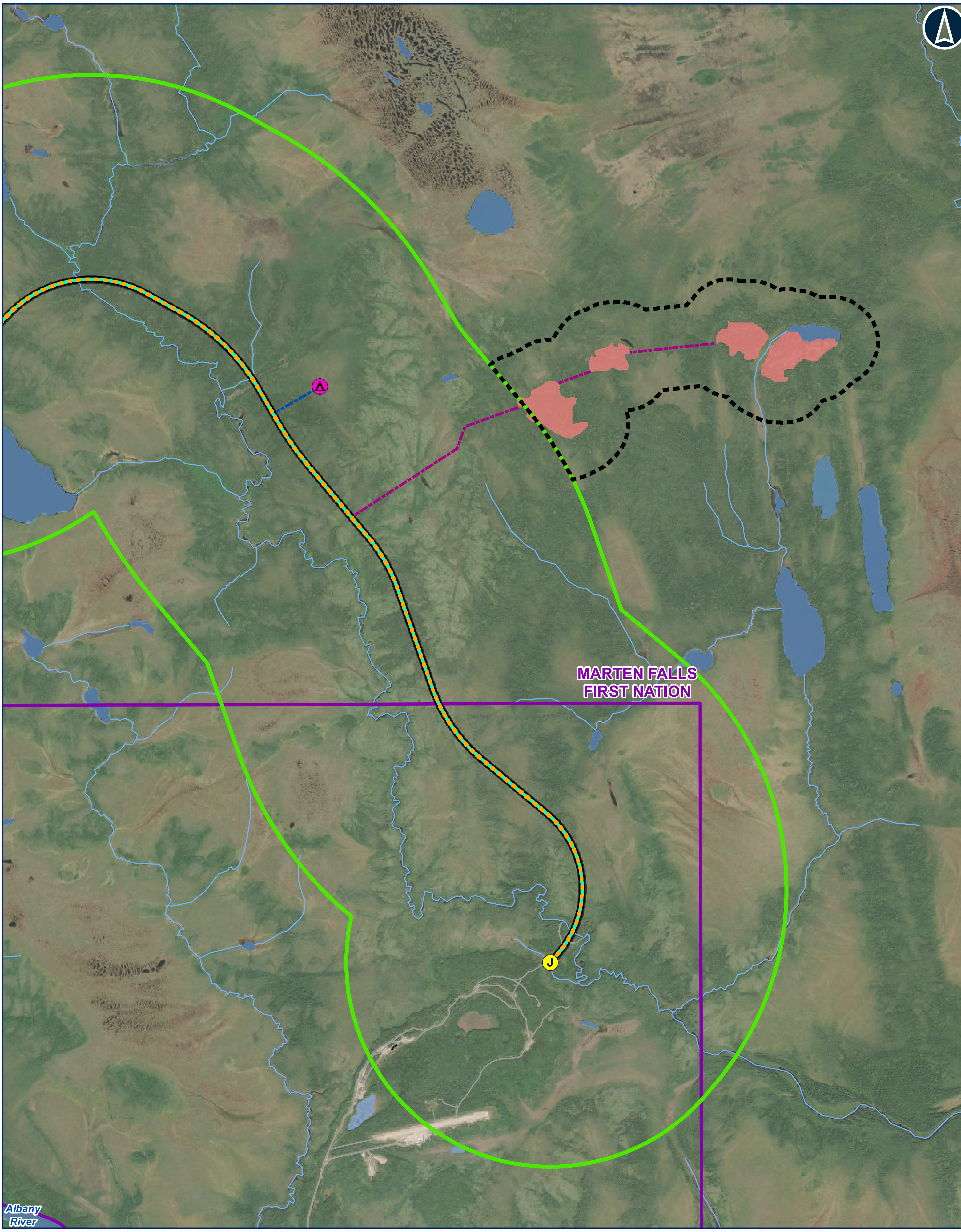

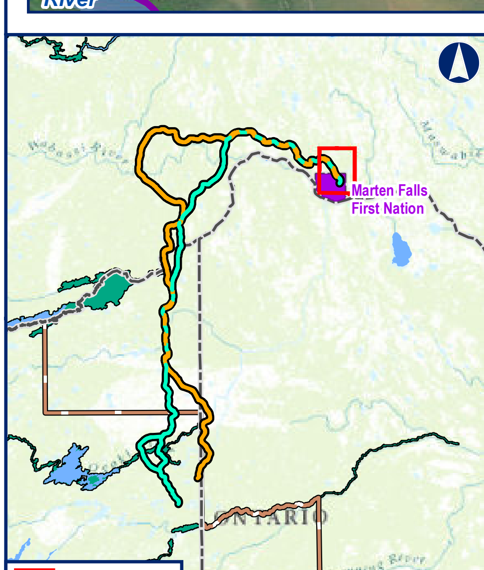

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Local Road
- Resource / Recreation Road
- First Nation Reserve

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Study Areas

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

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Figure 3-21

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig3_AdditonalStage1_DetailedStudyAreas_60593122.mxd
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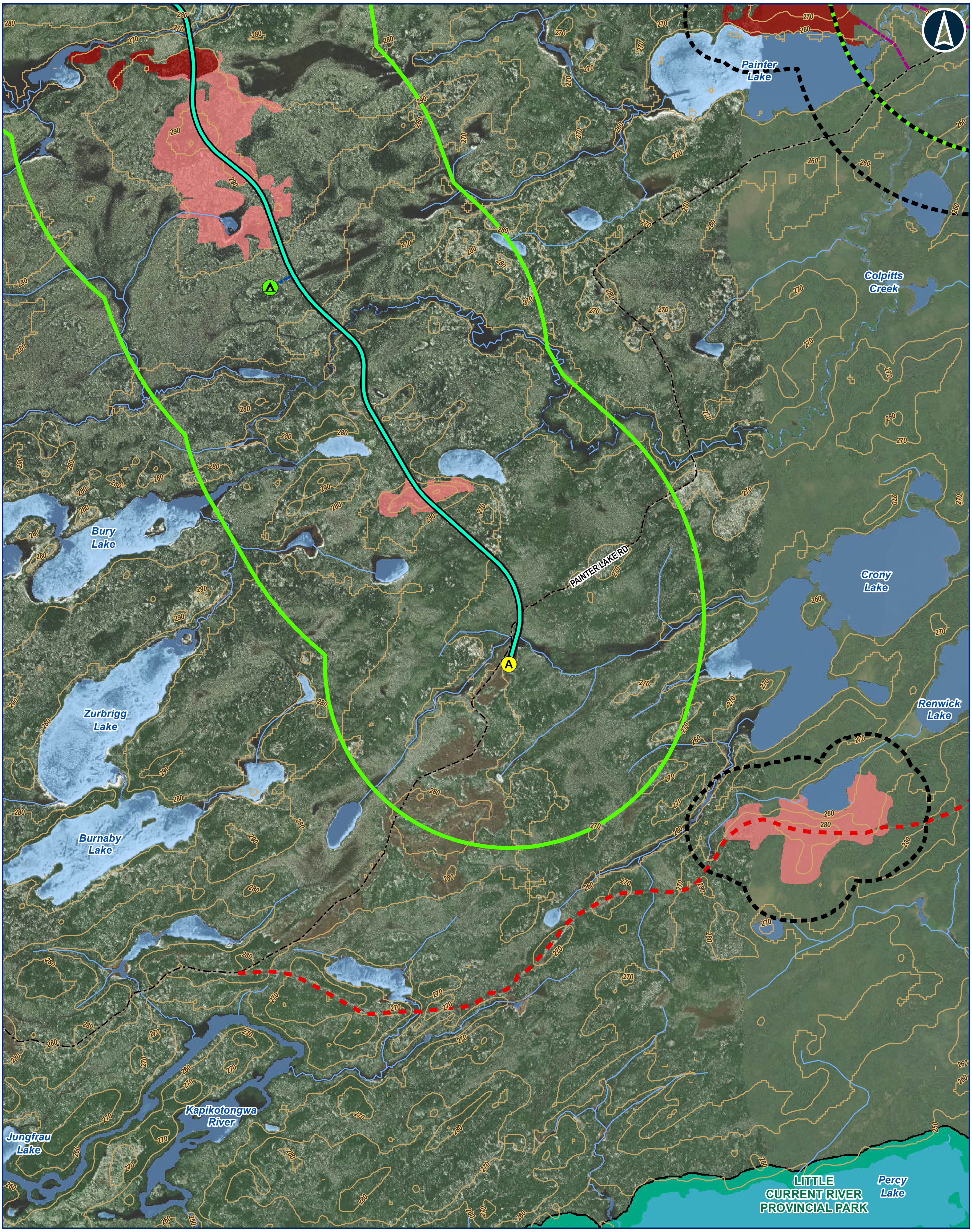

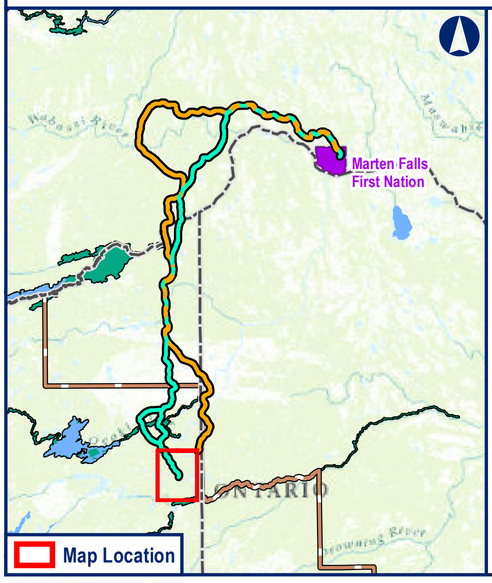

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Resource / Recreation Road
- MFFN Existing Winter Access Road
- Contour (10 m Interval)
- Provincial Park

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

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Figure 4-1

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig4_AdditonalStage1_Topography_60593122.mxd
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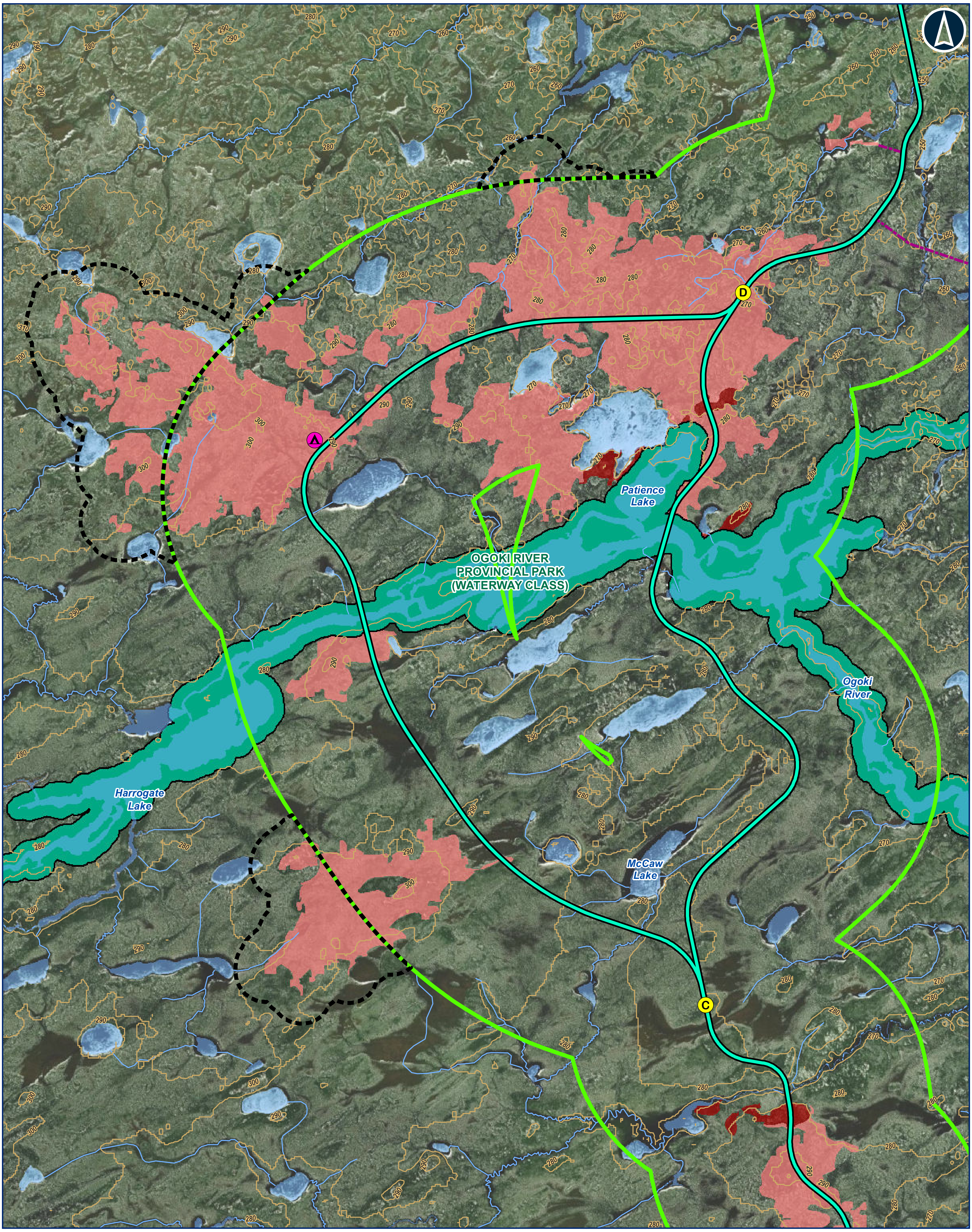

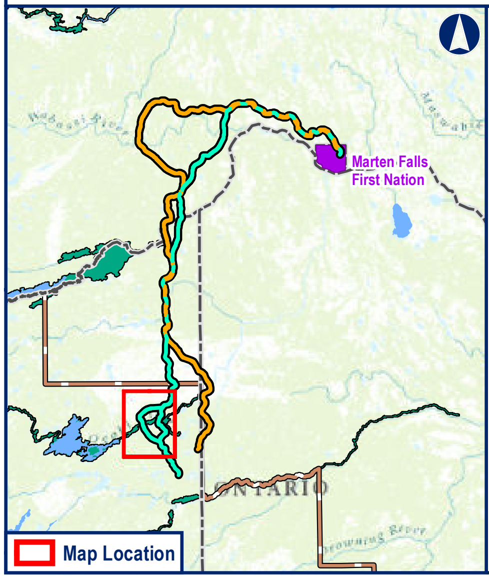

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)
- Provincial Park

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

0 1.5 3
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024

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* when printed 11"x17"

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Figure 4-2

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig4_AdditonalStage1_Topography_60593122.mxd
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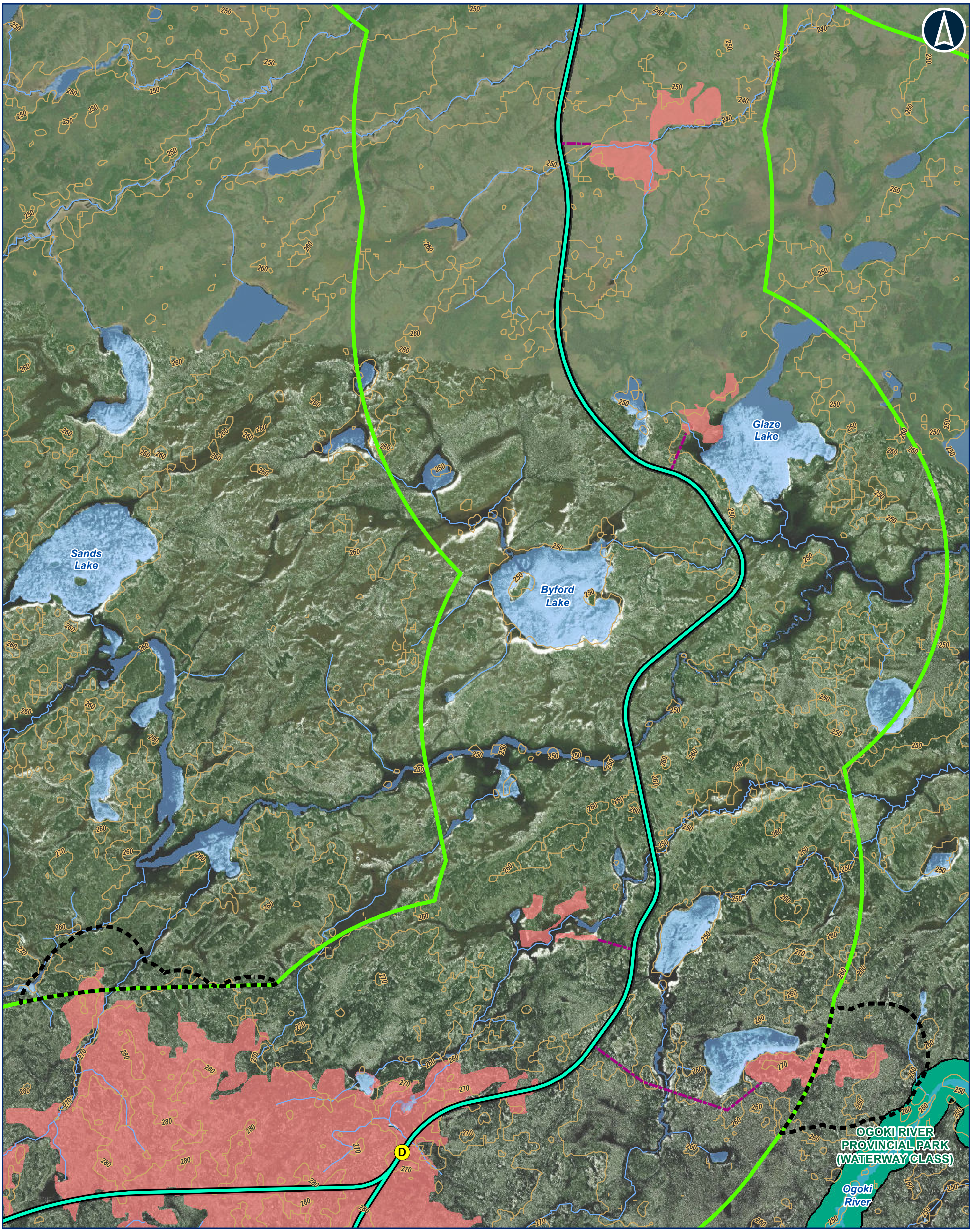

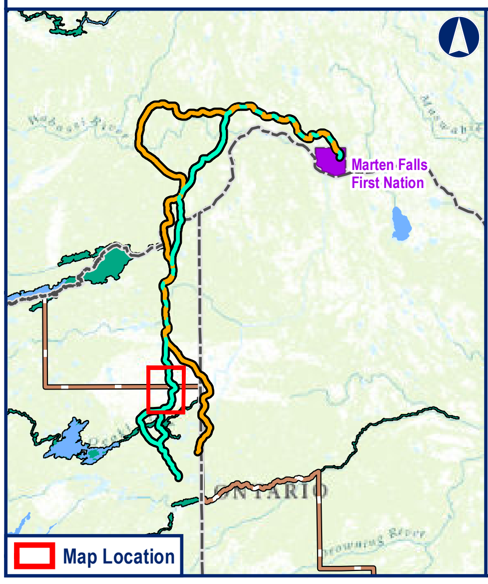

Legend

- (A) Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)
- Provincial Park

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

0 1 2
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

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Figure 4-3

MARTEN FALLS FIRST NATION
"OUR RIVER, OUR LIFE"

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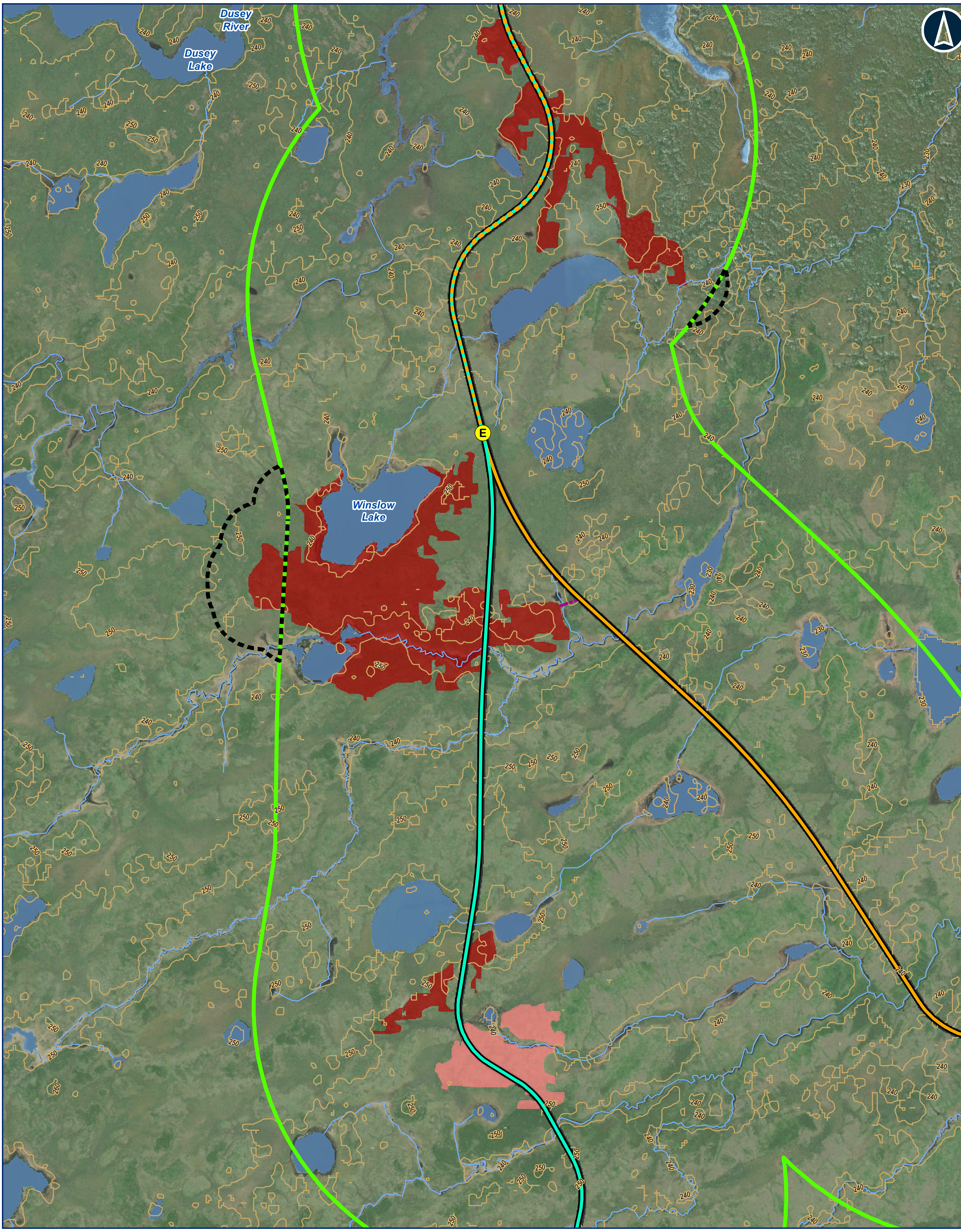

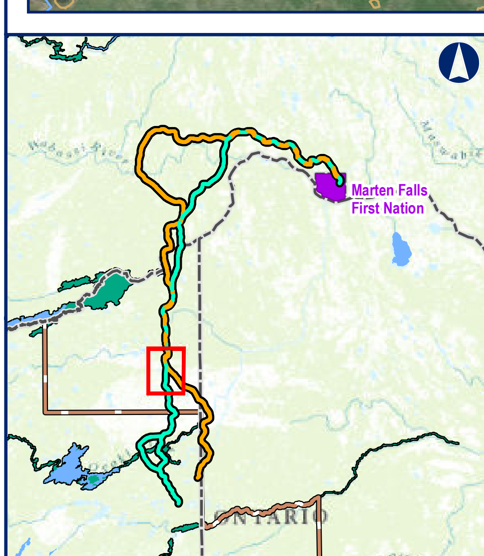

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

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Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024

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Figure 4-4

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig4_AdditonalStage1_Topography_60593122.mxd
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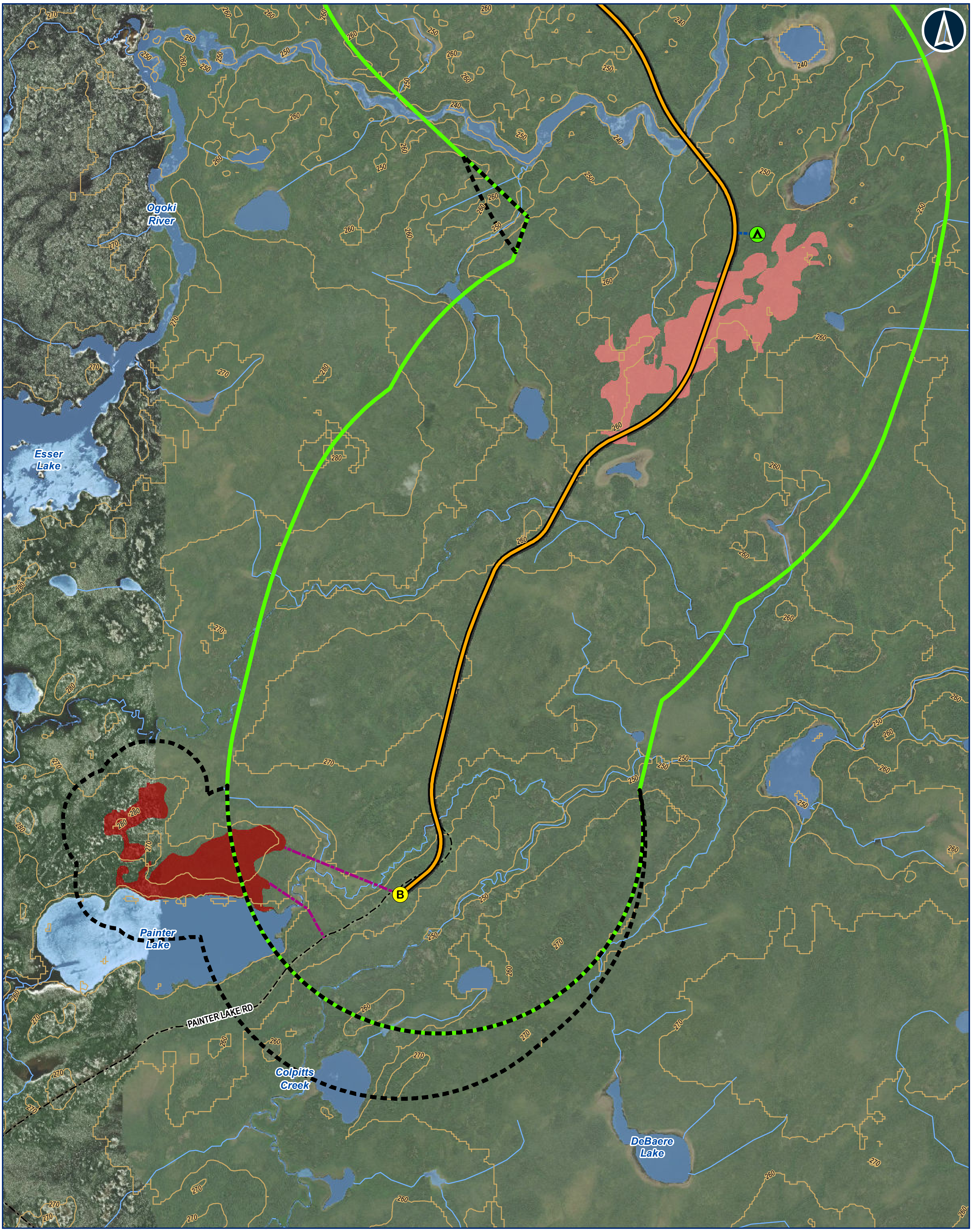

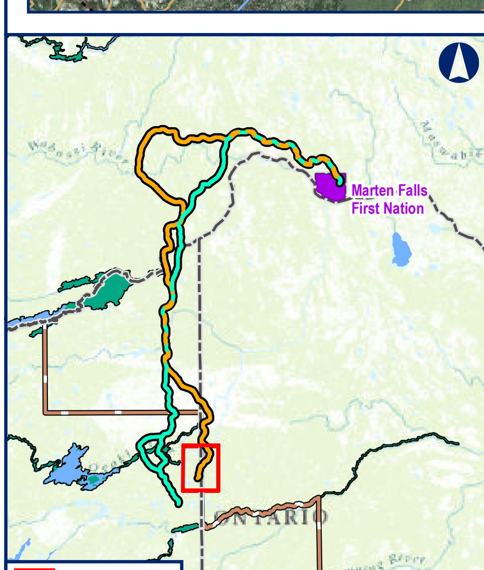

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Resource / Recreation Road
- Contour (10 m Interval)

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

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Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024

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Figure 4-5

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig4_AdditonalStage1_Topography_60593122.mxd
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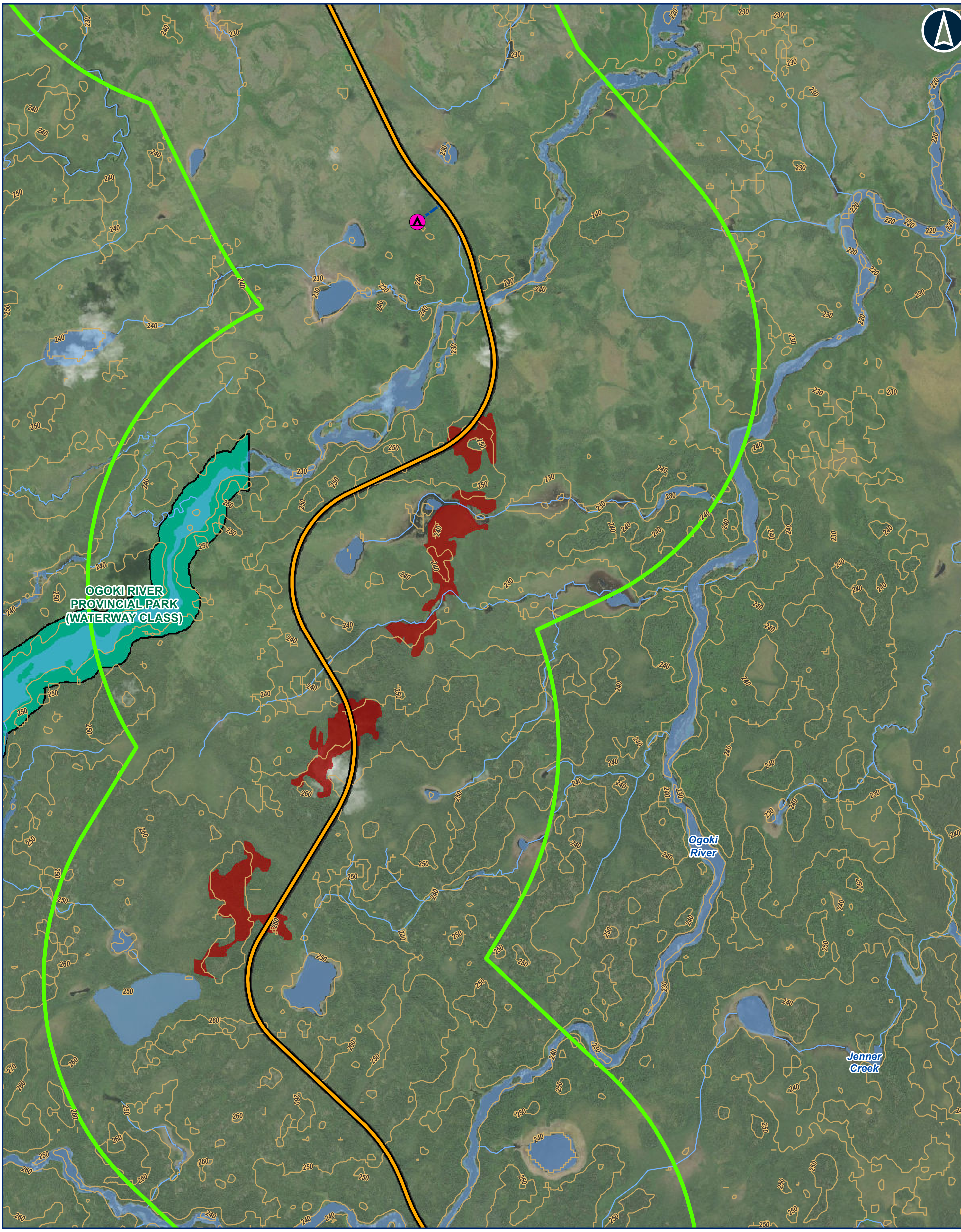

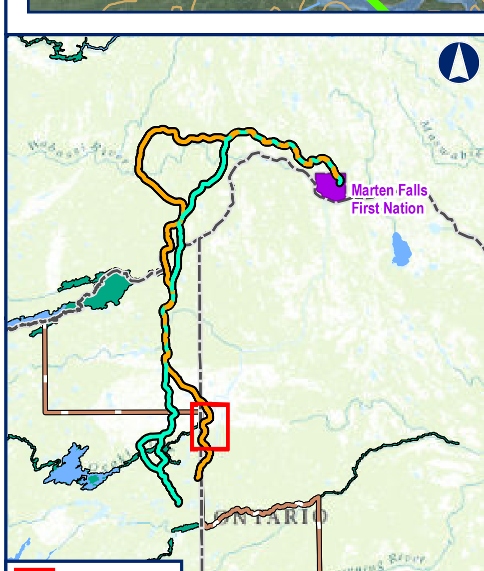

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)
- Provincial Park

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

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Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

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Figure 4-6

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig4_AdditonalStage1_Topography_60593122.mxd
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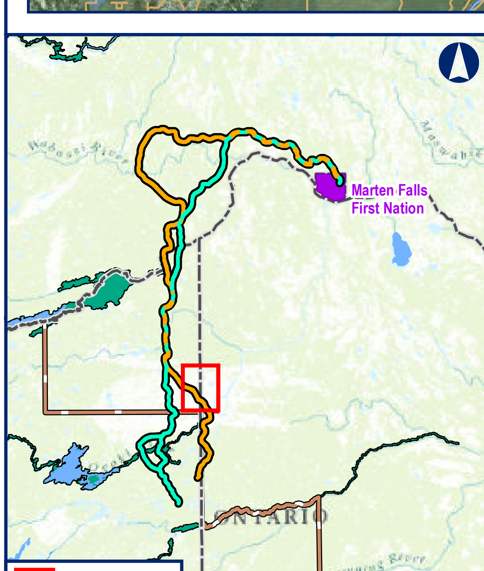

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

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Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

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Figure 4-7

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig4_AdditonalStage1_Topography_60593122.mxd
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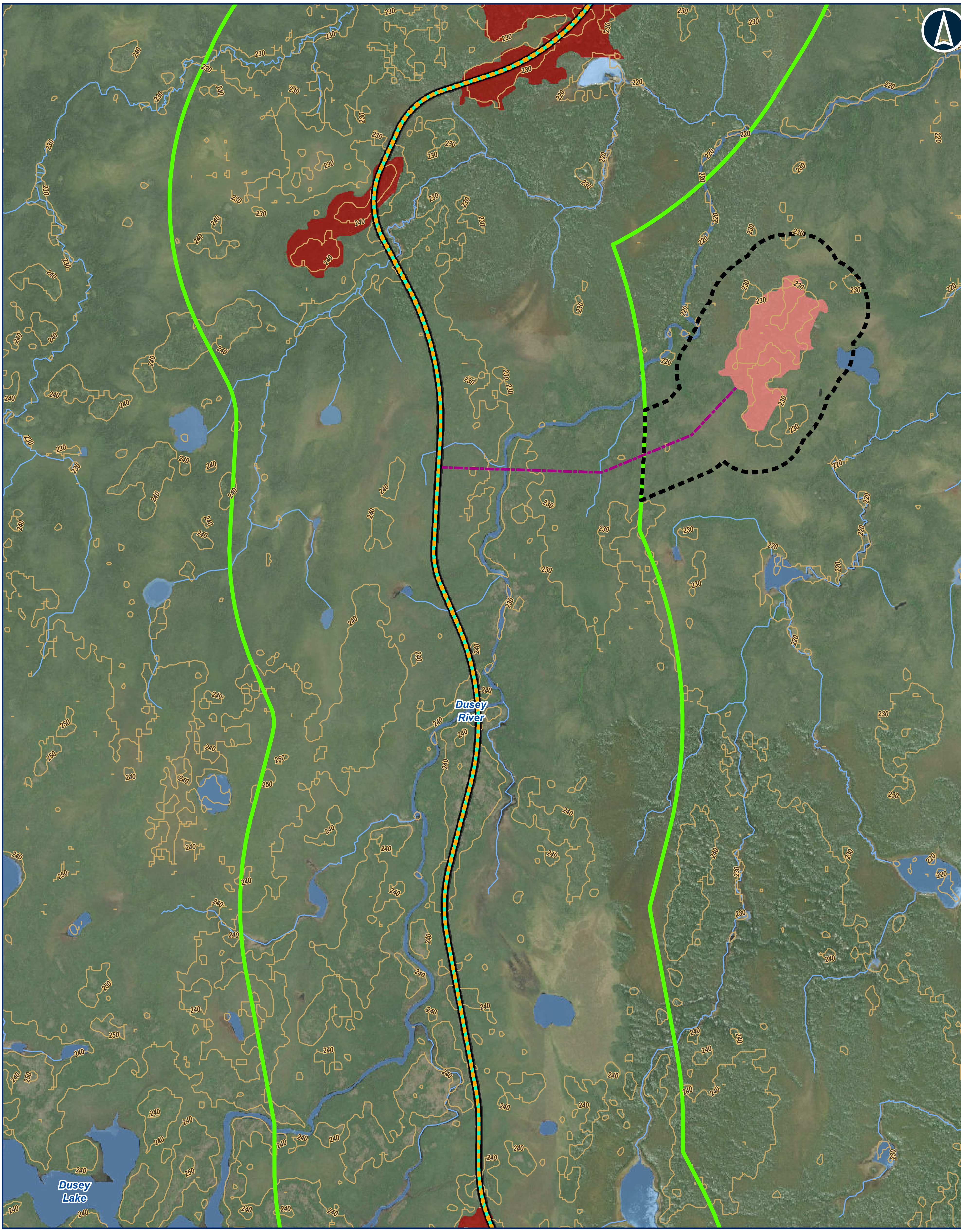

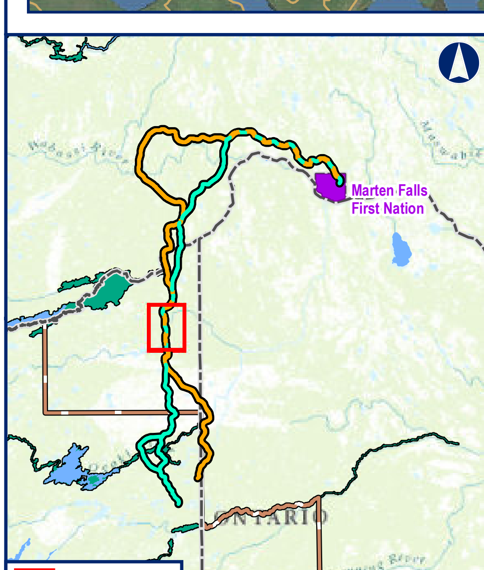

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

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Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

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Figure 4-8

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig4_AdditonalStage1_Topography_60593122.mxd
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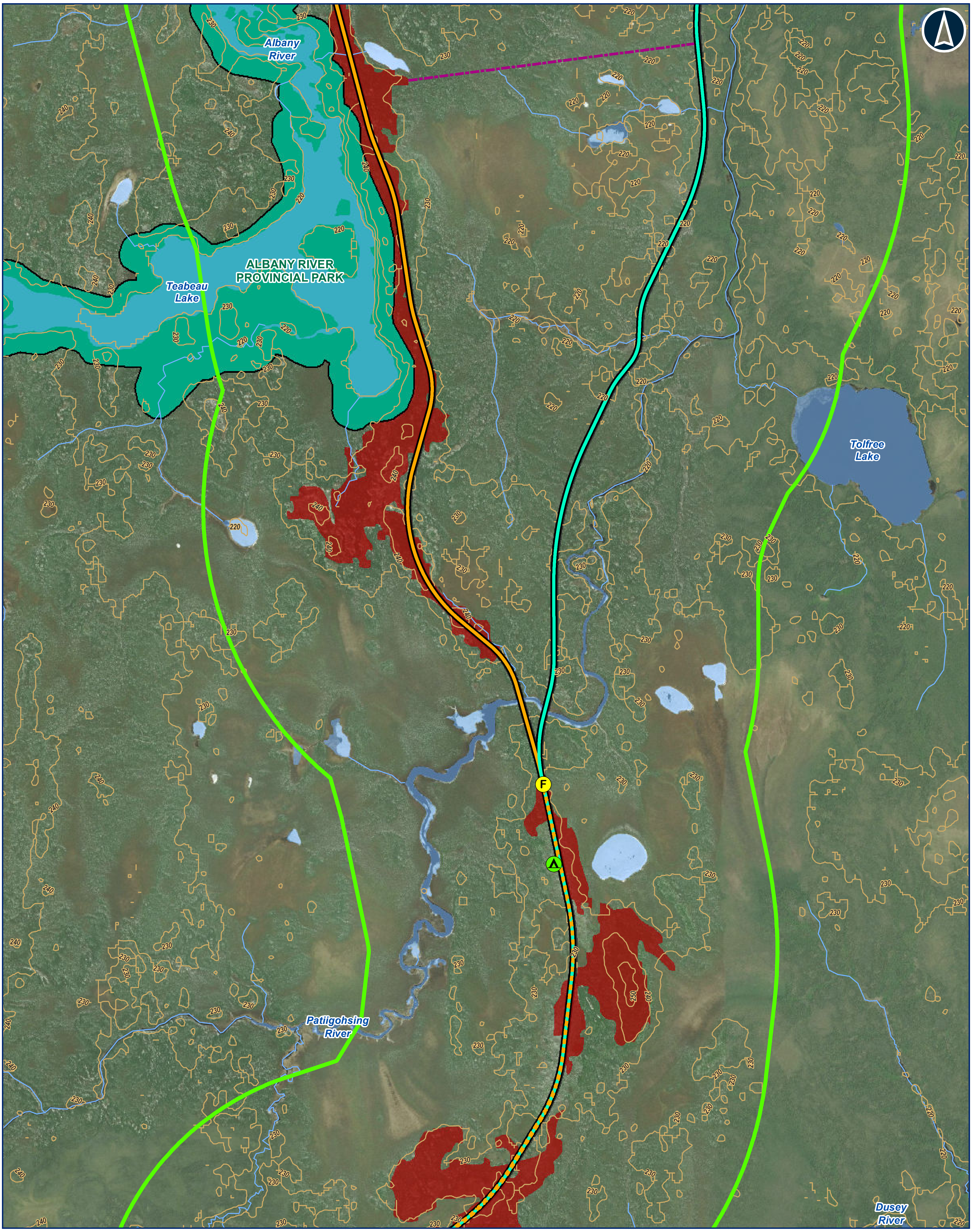

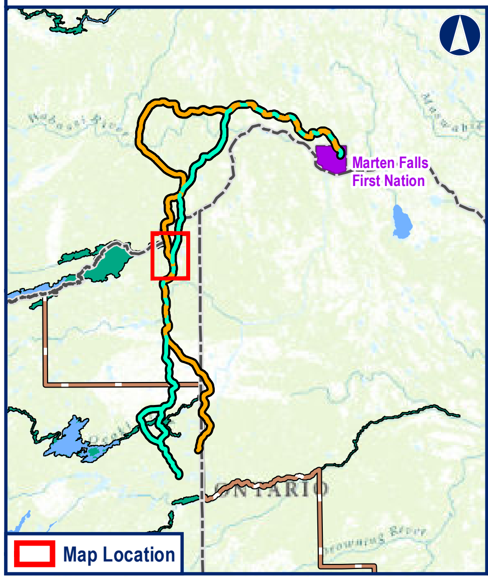

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)
- Provincial Park

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

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Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

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Figure 4-9

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig4_AdditonalStage1_Topography_60593122.mxd
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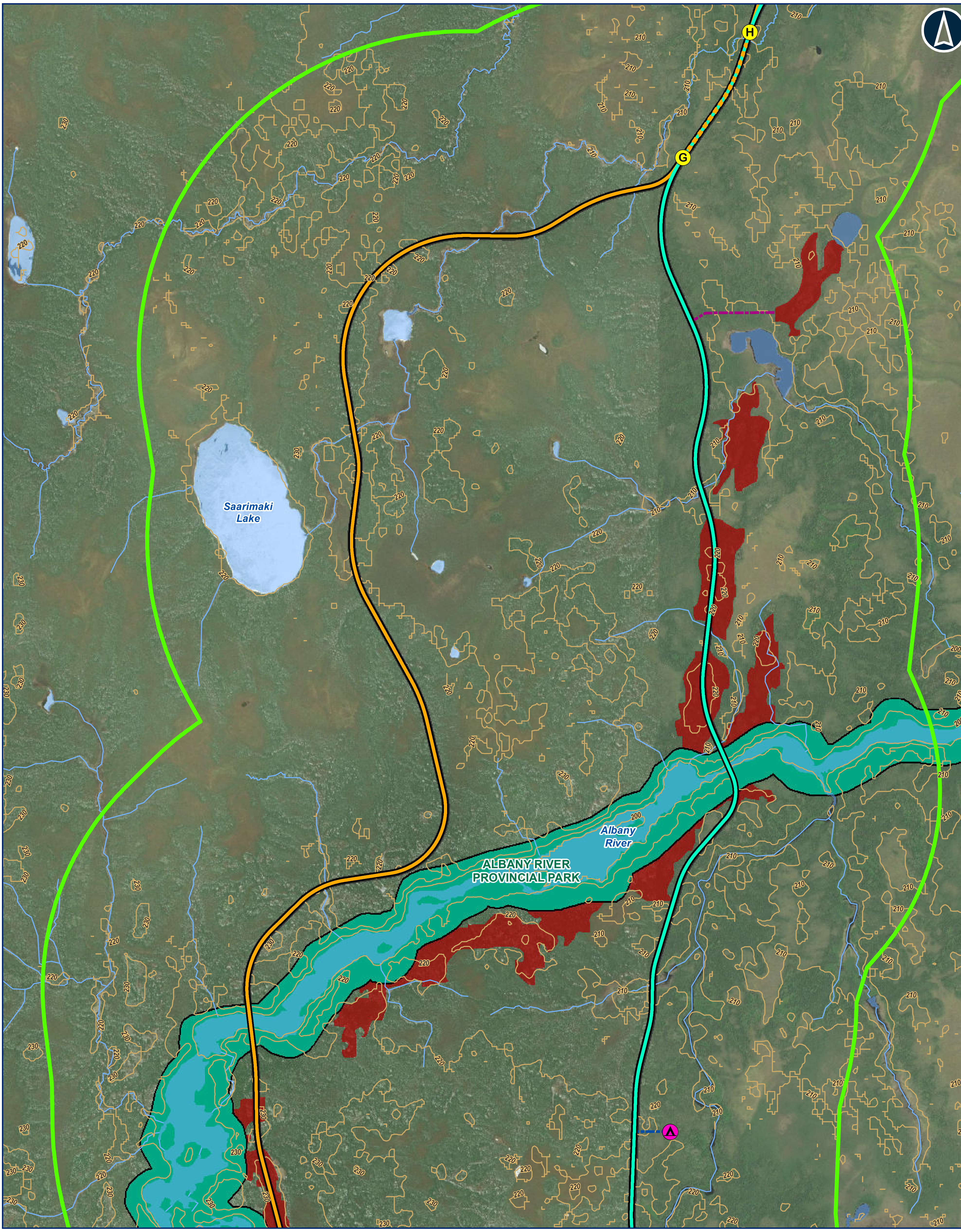

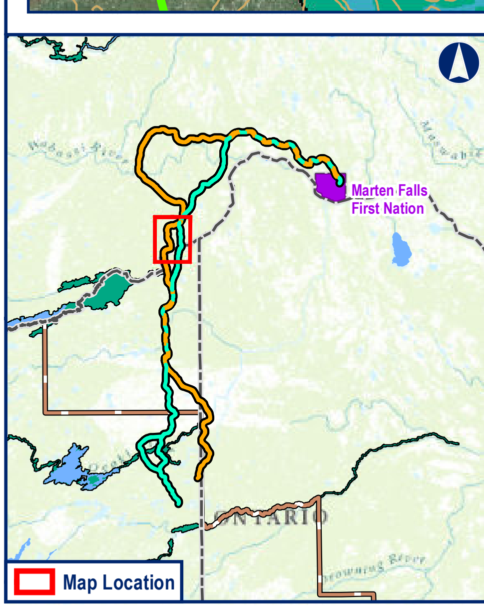

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)
- Provincial Park

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

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Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024

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* when printed 11"x17"

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Figure 4-10

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig4_AdditonalStage1_Topography_60593122.mxd
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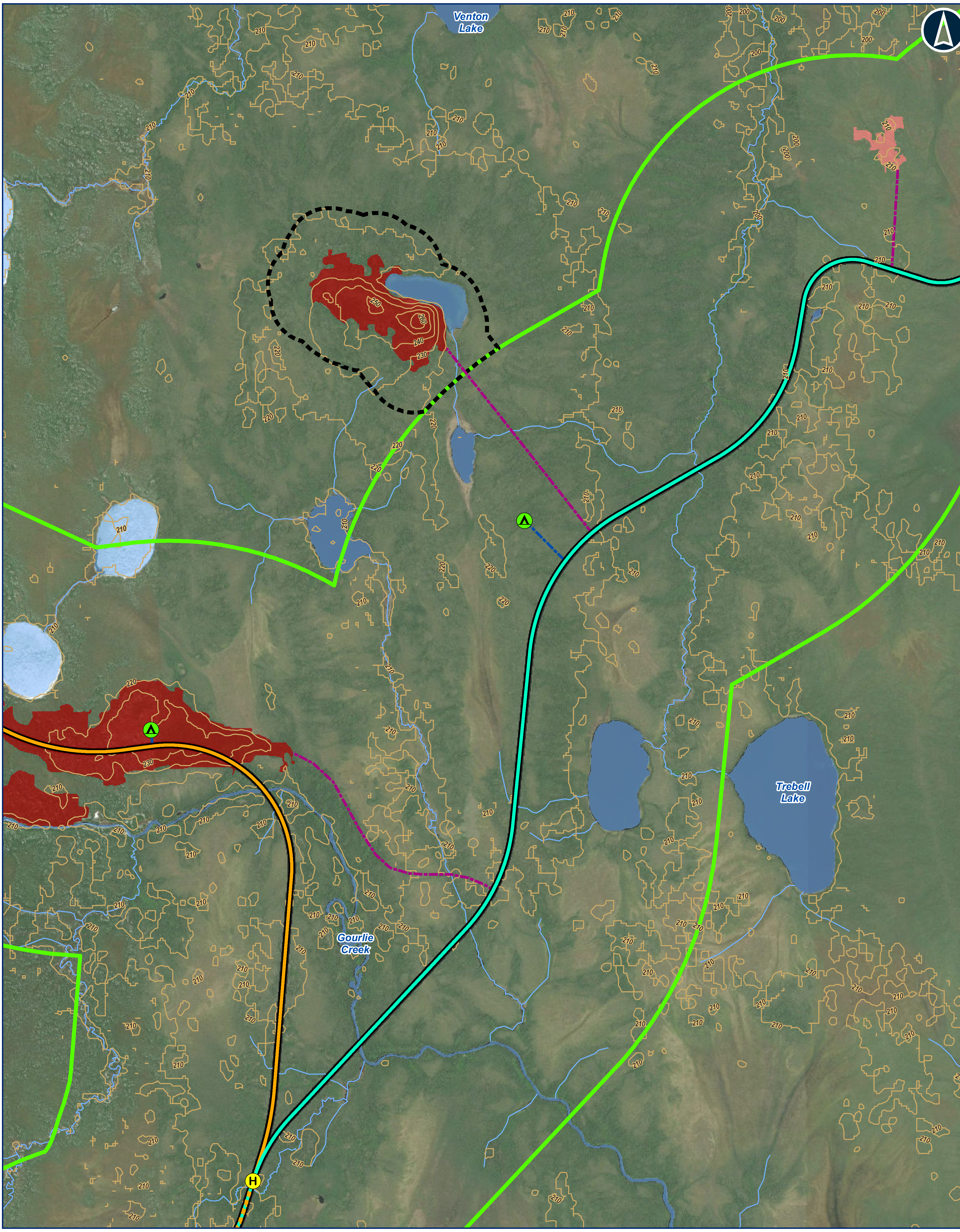

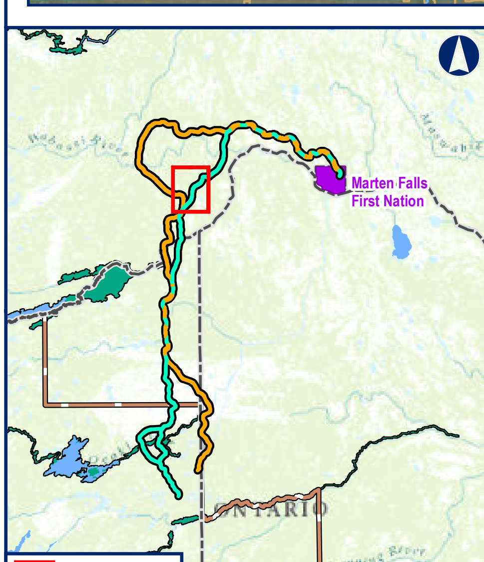

Legend

- (A) Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

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Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024

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Figure 4-11

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig4_AdditonalStage1_Topography_60593122.mxd
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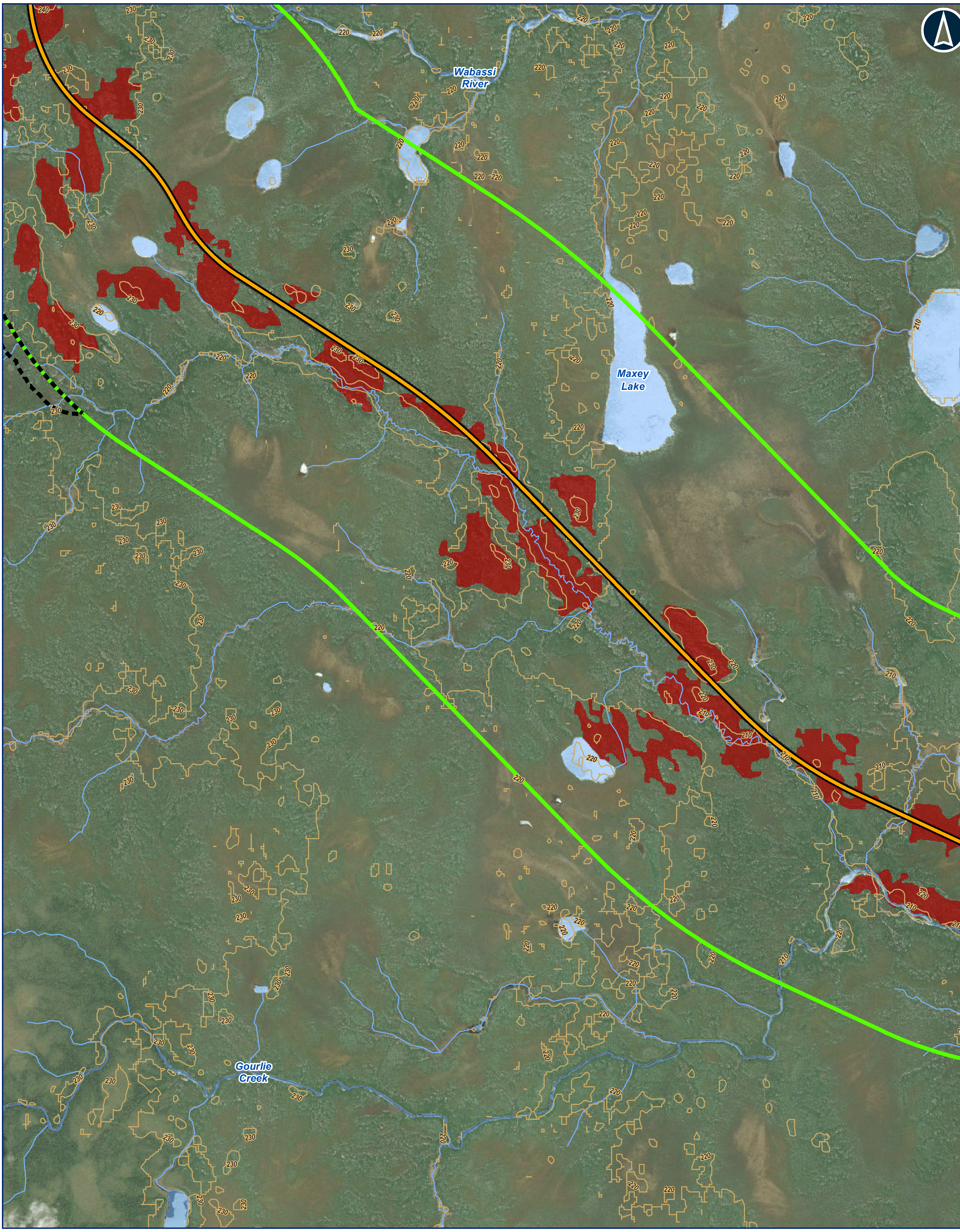

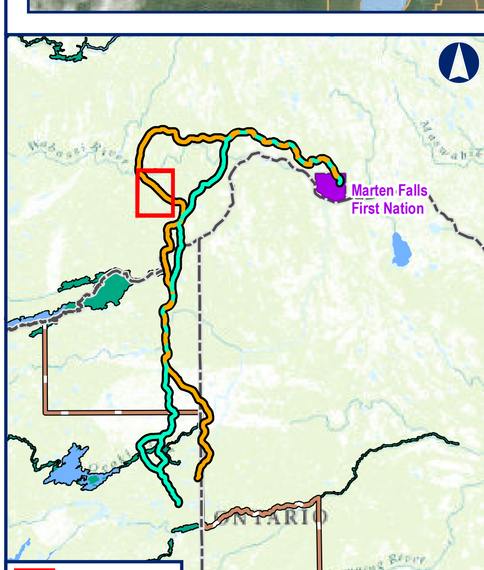

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

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Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024

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Figure 4-12

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig4_AdditonalStage1_Topography_60593122.mxd
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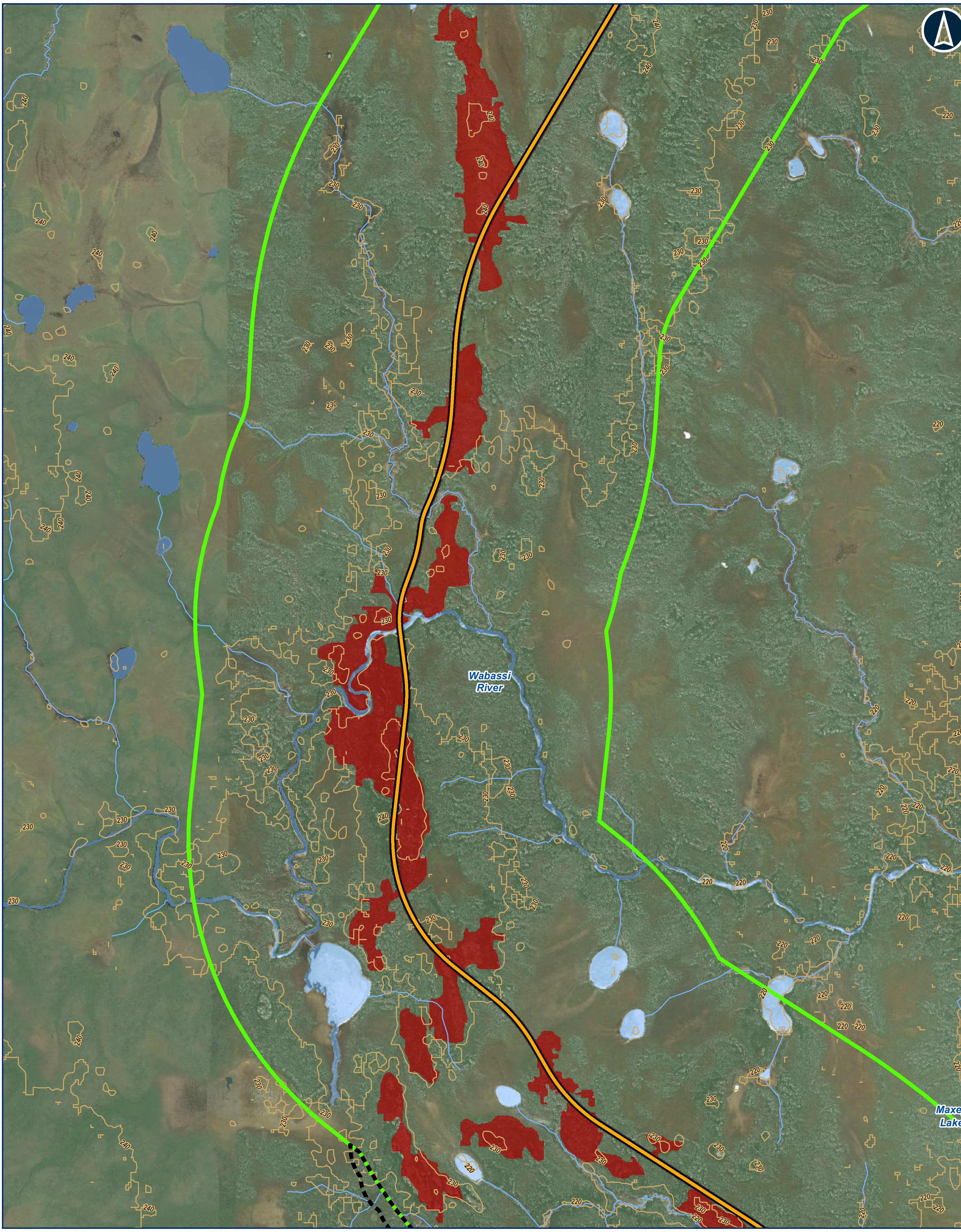

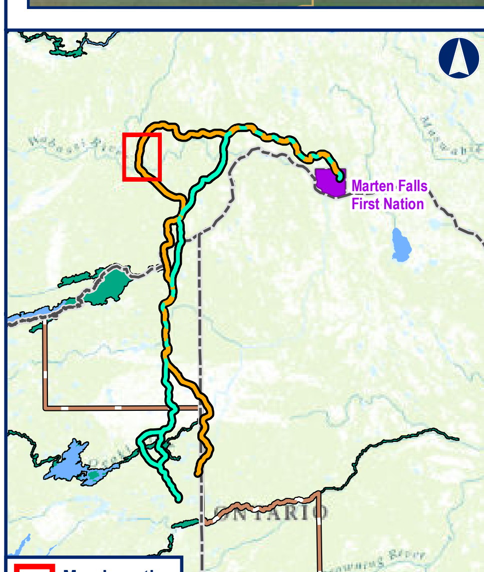

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024
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Figure 4-13

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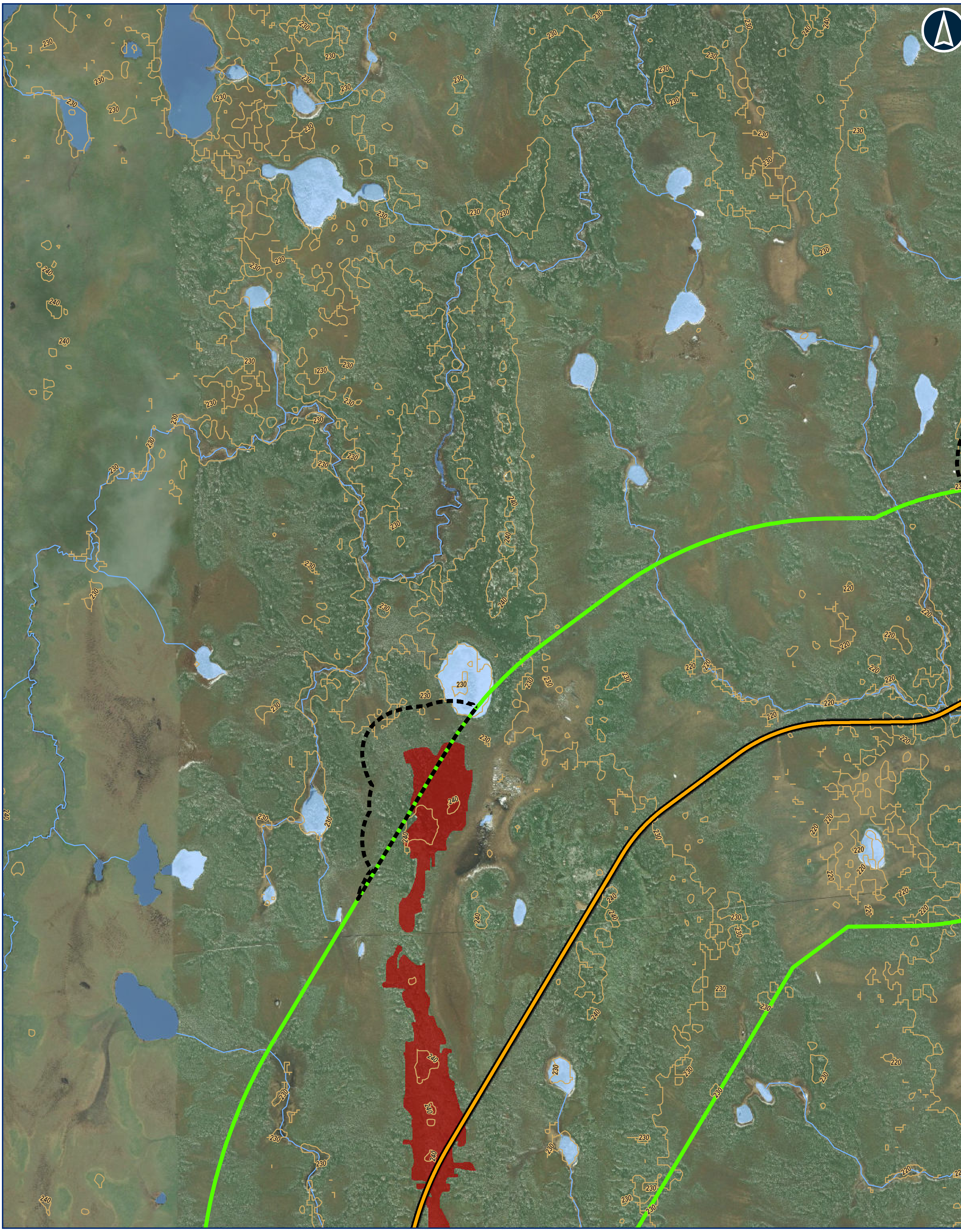

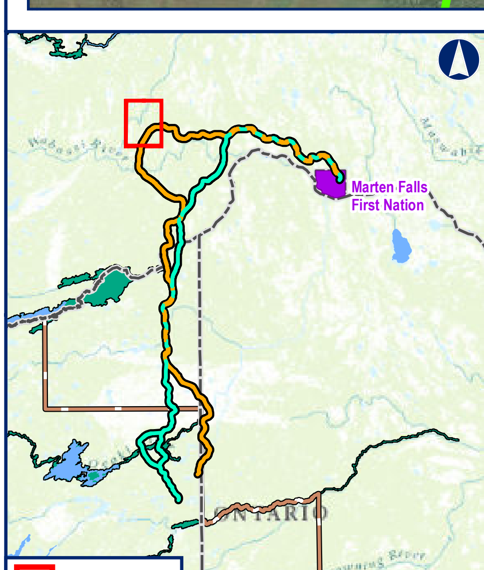

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

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Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024

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Figure 4-14

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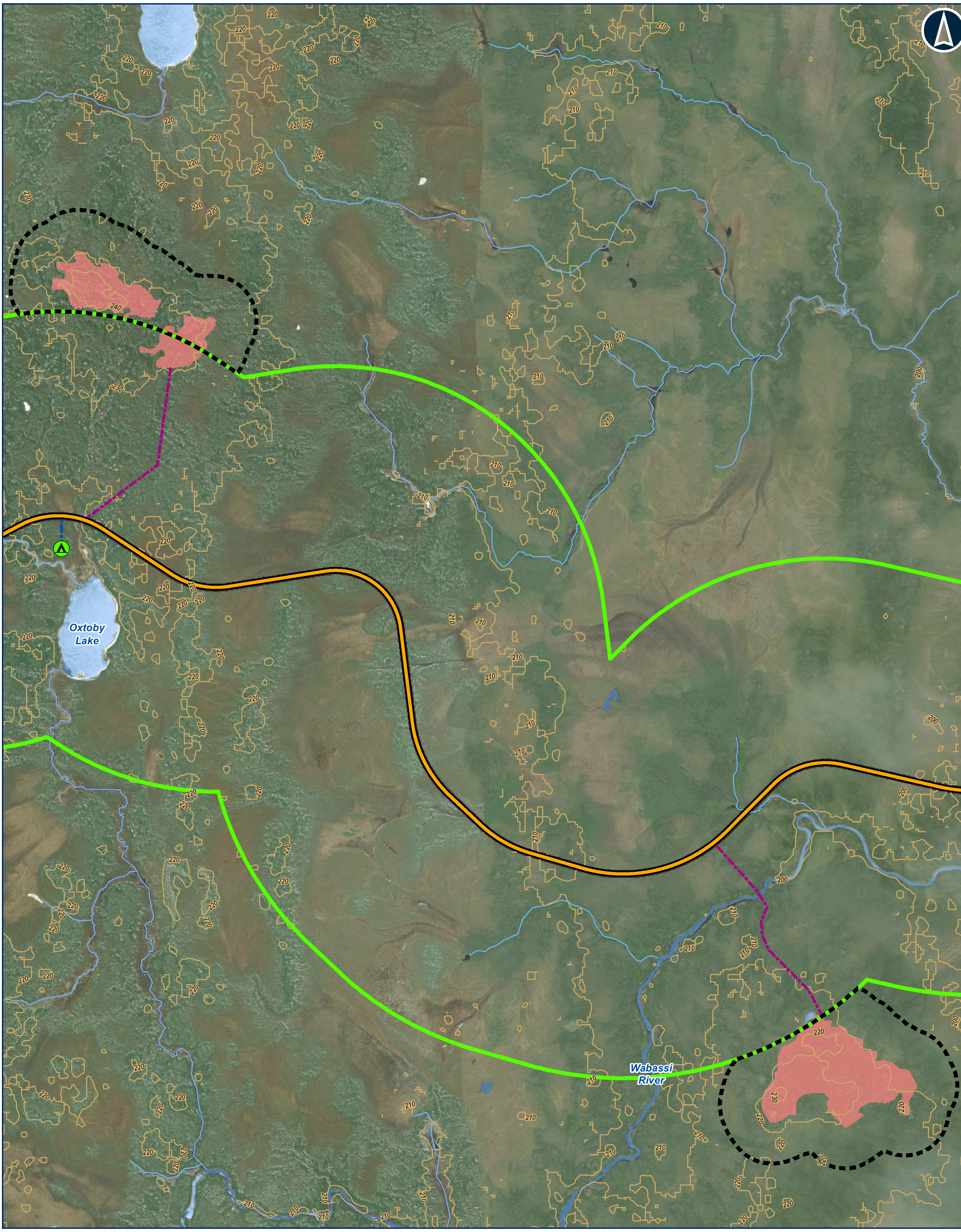

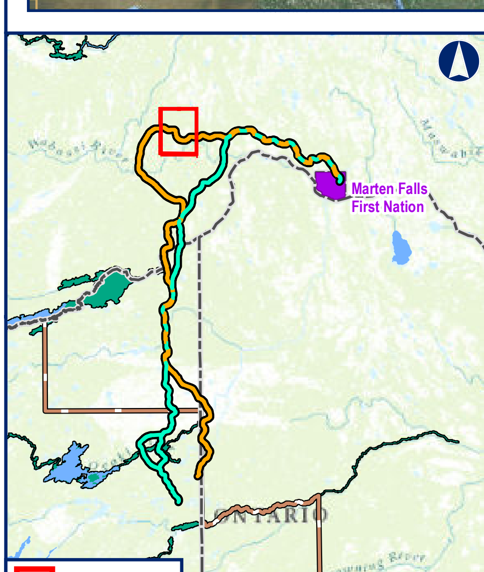

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024

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Figure 4-15

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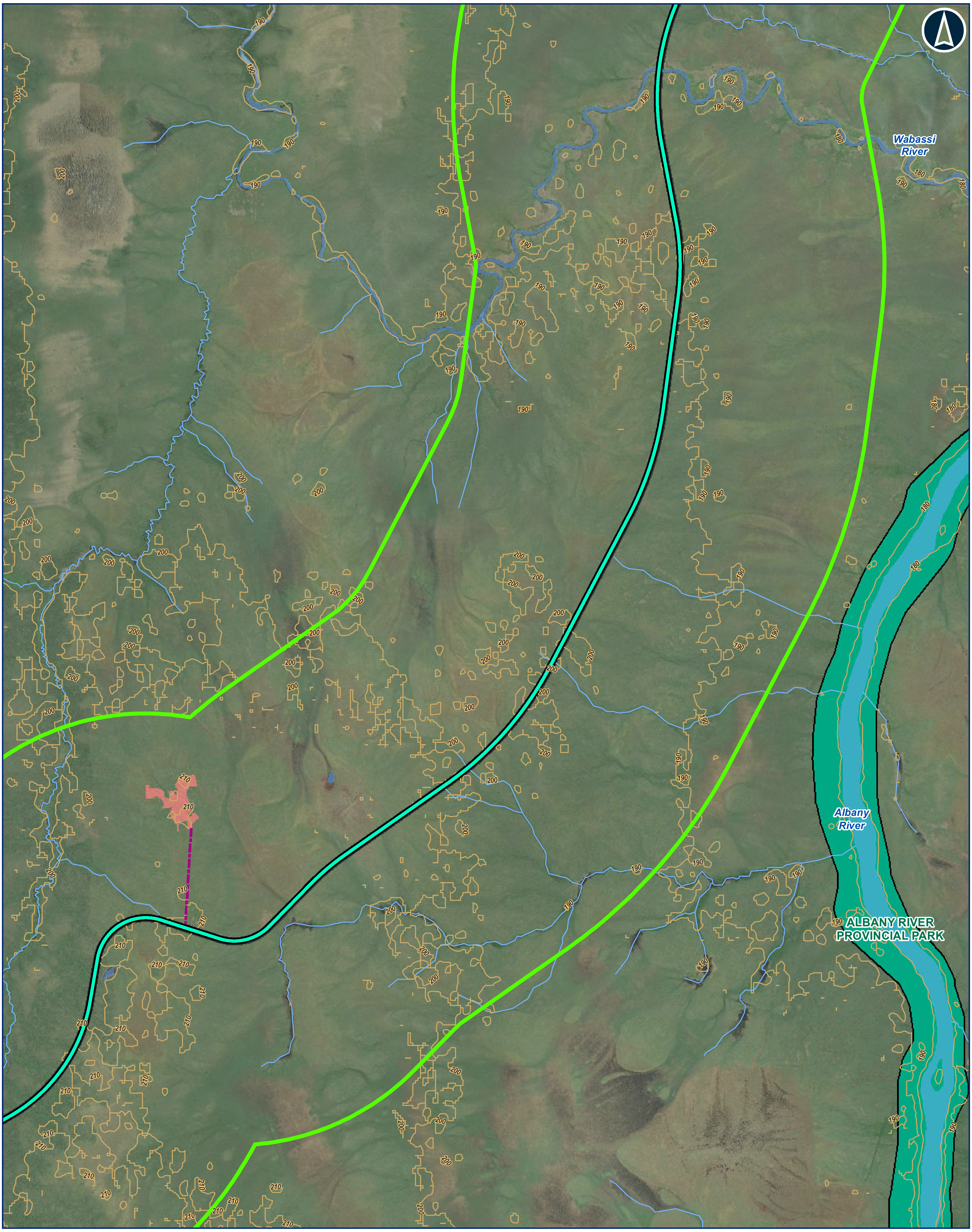

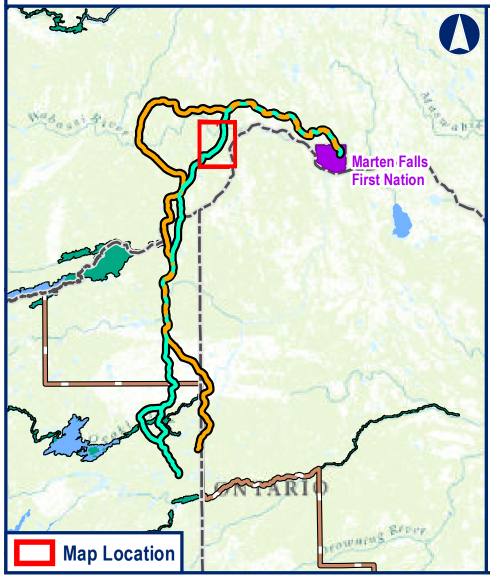

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)
- Provincial Park

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024

1:45,000
* when printed 11"x17"

Rev:00

Figure 4-16

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig4_AdditonalStage1_Topography_60593122.mxd
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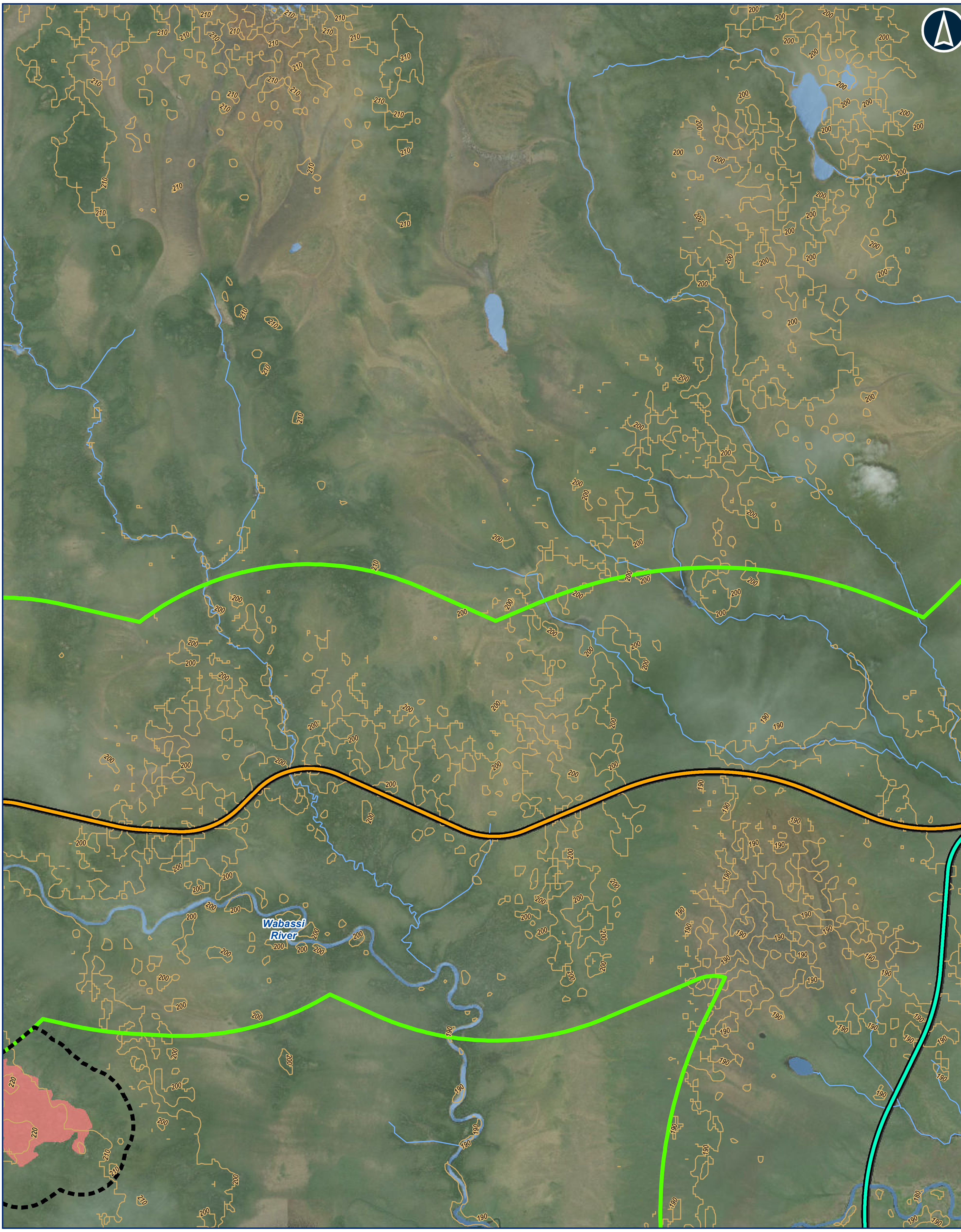
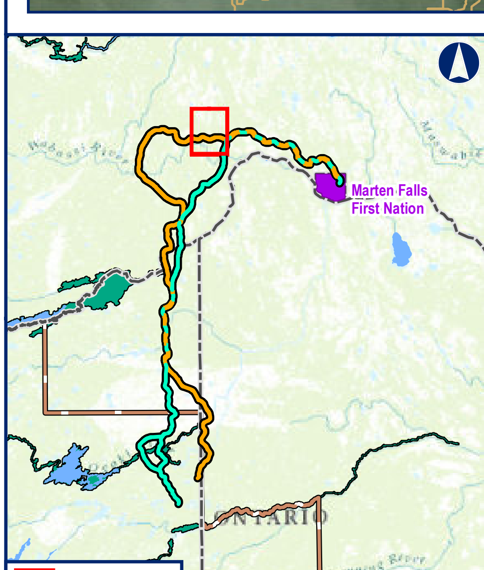




Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)

Data Source:
Base Data: Provided by MNRF 2023; Route Infrastructure - Provided by AECOM 2021. Contains Information licensed under the Open Government Licence Ontario.

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

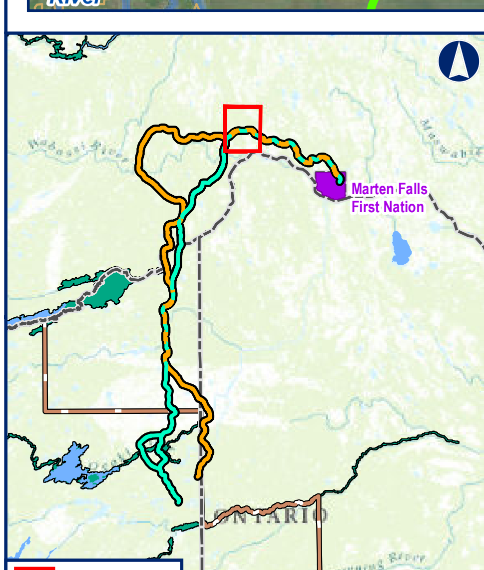
0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024

1:45,000
* when printed 11"x17"

Rev:00

Figure 4-17



Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)

Data Source:
Base Data: Provided by MNRF 2023; Route Infrastructure - Provided by AECOM 2021. Contains Information licensed under the Open Government Licence Ontario.

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024	1:45,000 * when printed 11"x17"
Rev:00	

Figure 4-18

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig4_AdditonalStage1_Topography_60593122.mxd
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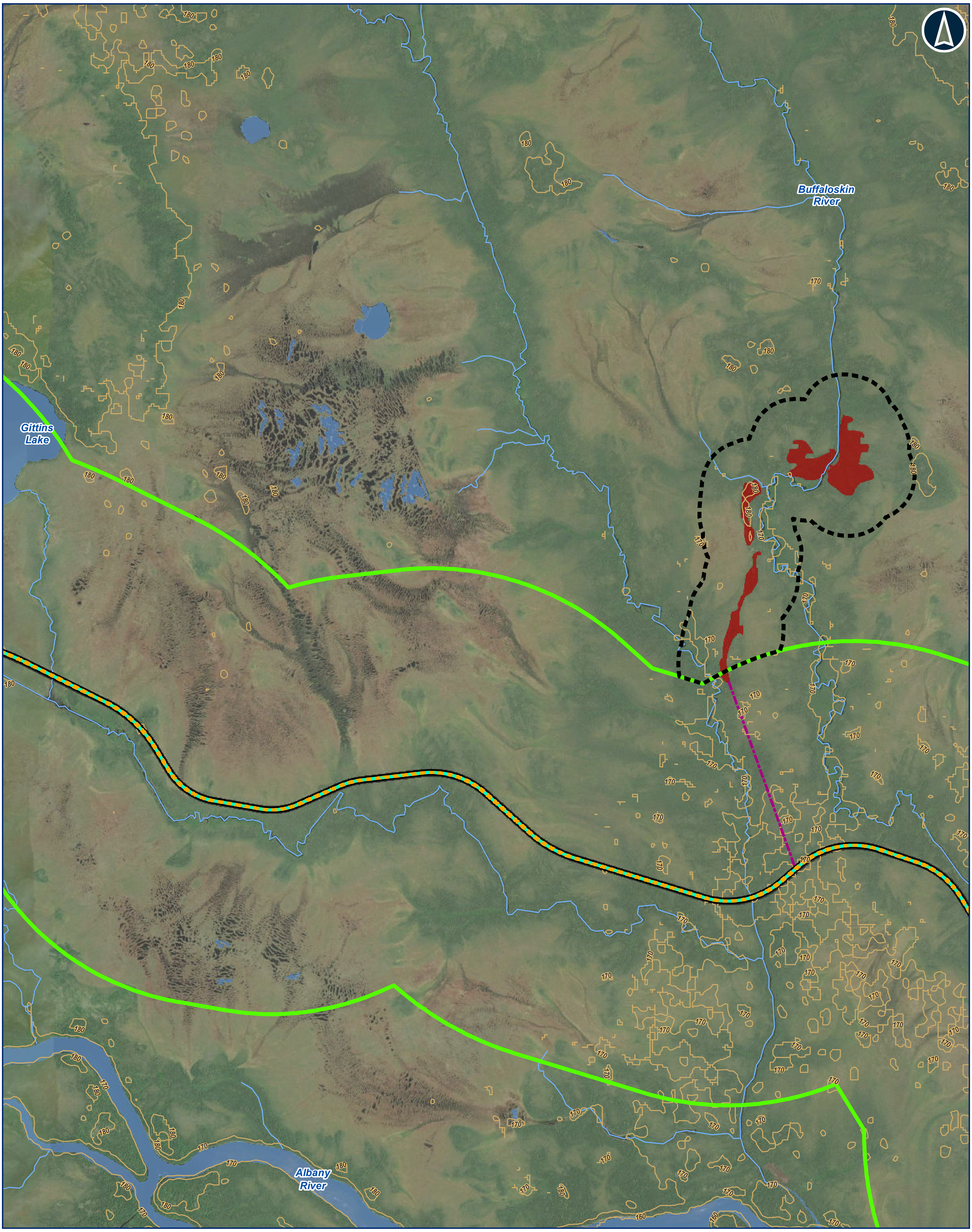

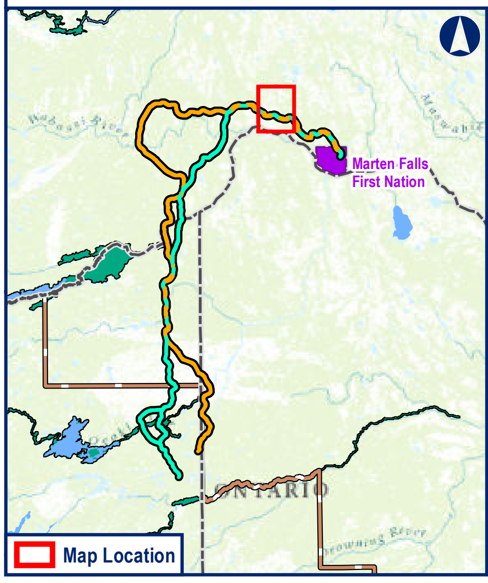

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024
1:45,000
* when printed 11"x17"
Rev:00

Figure 4-19

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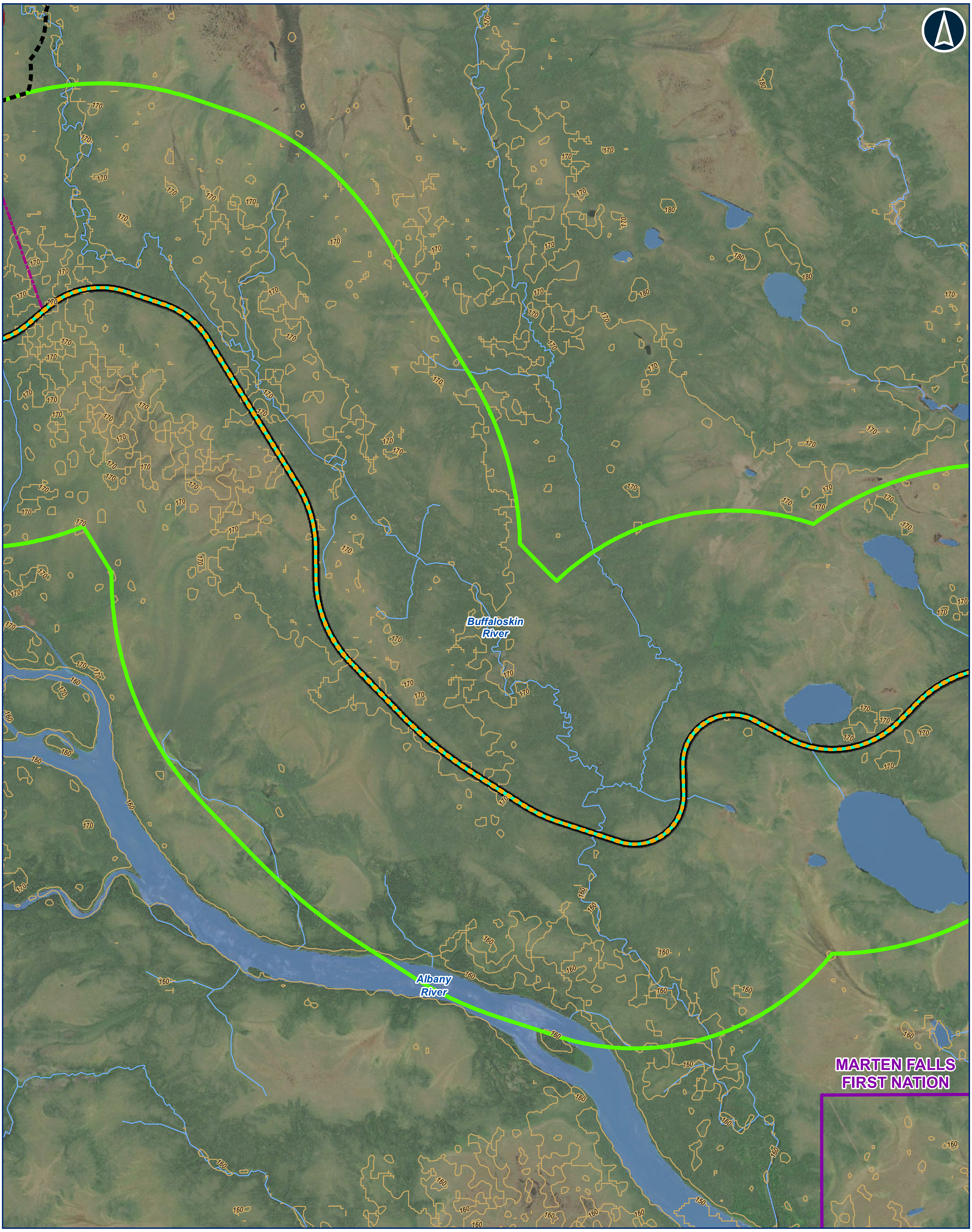
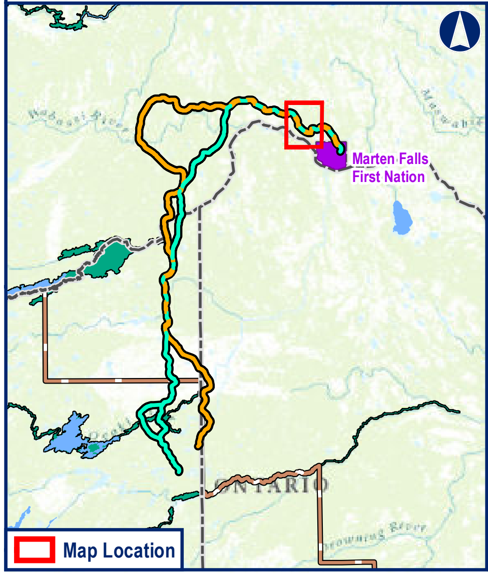




Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Contour (10 m Interval)
- First Nation Reserve

Data Source:
Base Data: Provided by MNRF 2023; Route Infrastructure - Provided by AECOM 2021. Contains Information licensed under the Open Government Licence Ontario.

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

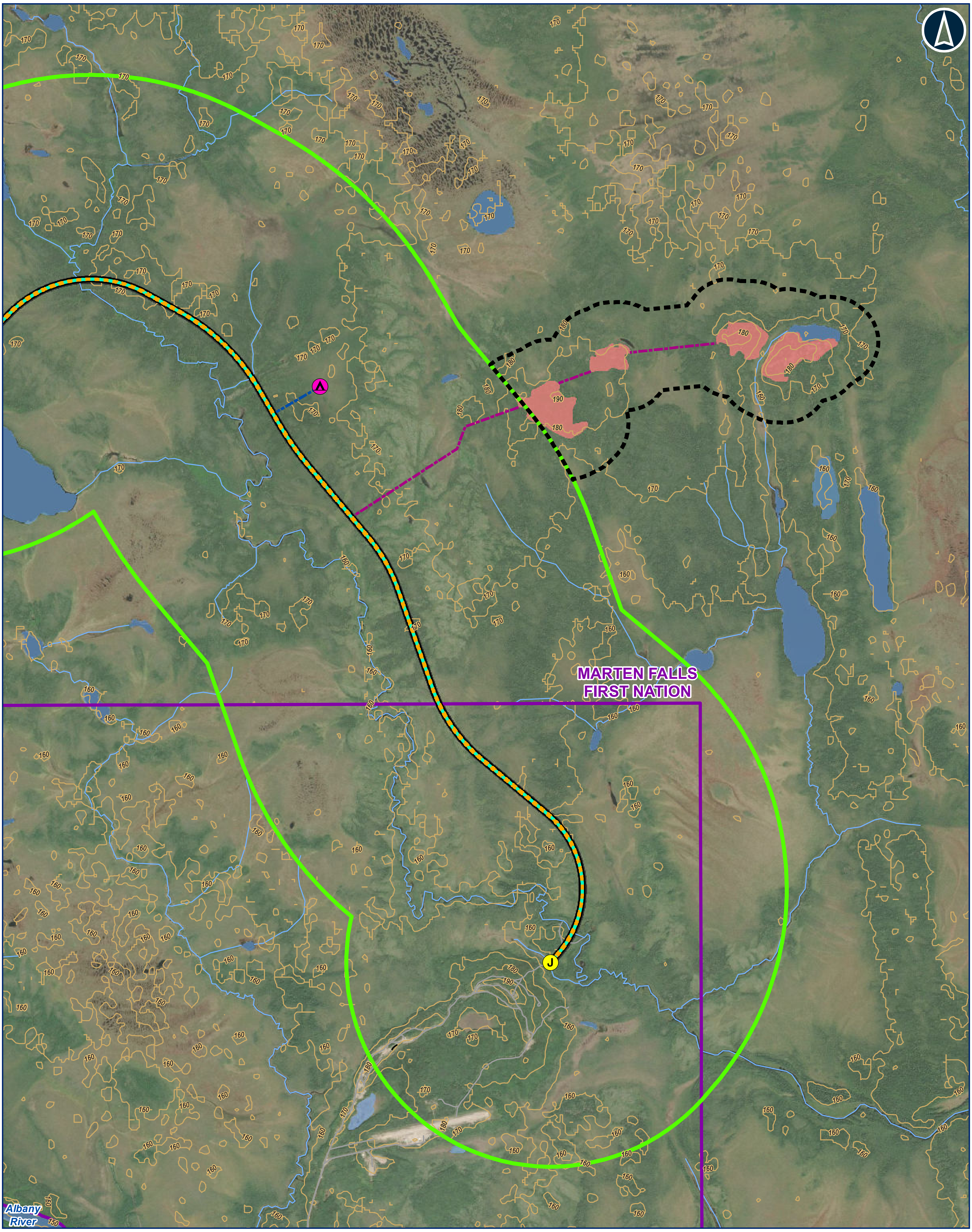
0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

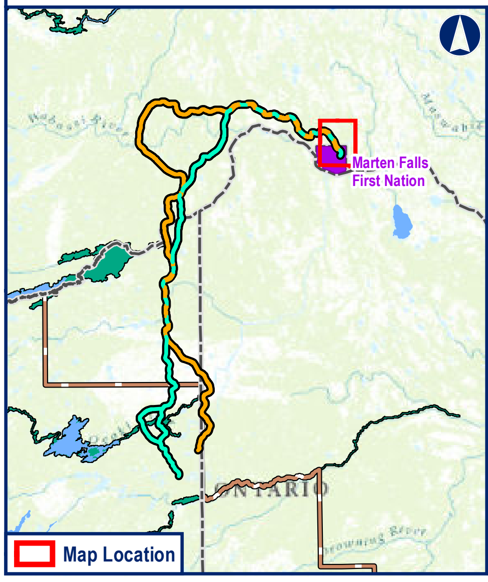
Sep, 2024

1:45,000
* when printed 11"x17"

Rev:00

Figure 4-20





Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons

- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Local Road
- Resource / Recreation Road
- Contour (10 m Interval)
- First Nation Reserve

Data Source:
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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Topographic Map

0 1 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024
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* when printed 11"x17"
Rev:00

Figure 4-21

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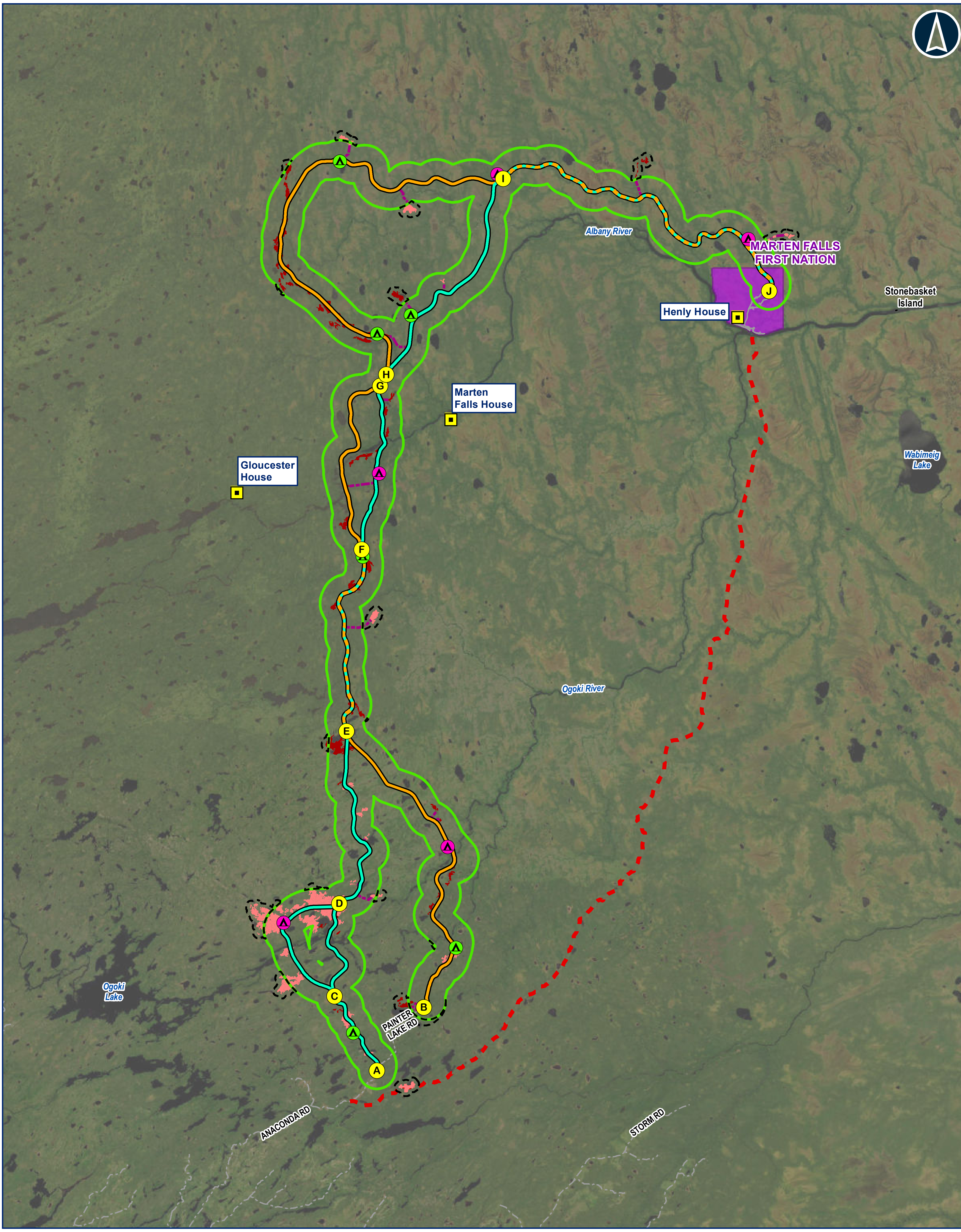

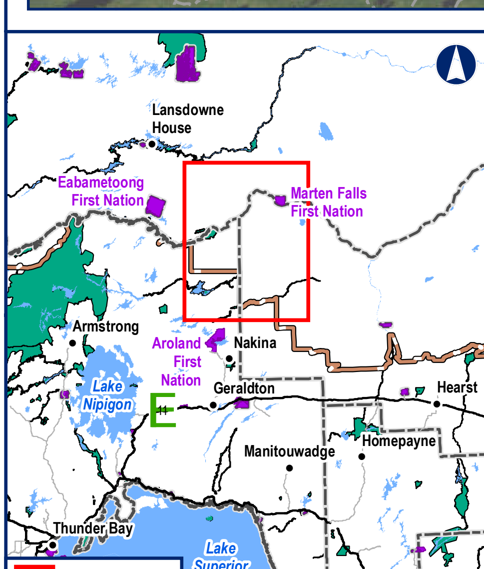

Legend

- Segment Node
- Trading Post
- Previously Assessed Stage 1AA Study

Route Alternatives

- Alternative 1
- Alternative 4

Potential Camp Site

- 50 Persons
- 200 Persons
- Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate

General Features

- Local Road
- Resource / Recreation Road
- MFFN Existing Winter Access
- First Nation Reserve

Data Source:
Base Data: Provided by MNRF 2023; Route Infrastructure - Provided by AECOM 2021. Contains Information licensed under the Open Government Licence Ontario.

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Trading Post Locations

0 5 10 20
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

Oct, 2024

1:500,000
* when printed 11"x17"

Rev:00

Figure 5

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig5_AdditonalStage1_TradingPosts_60593122.mxd
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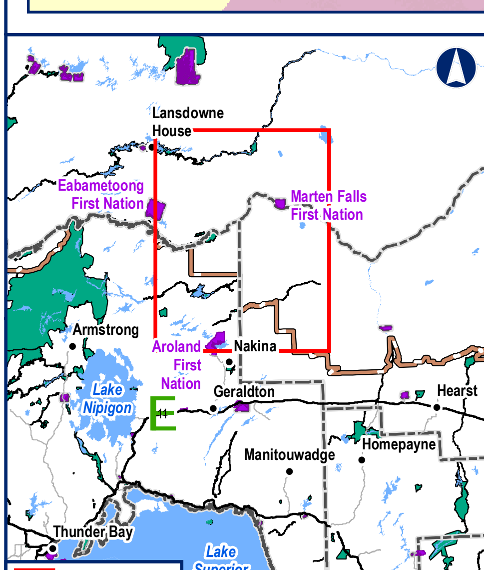

Legend

Segment Node

Previously Assessed Stage 1AA Study

Project Study Area

Route Alternatives

Alternative 1

Alternative 4

Potential Camp Site

50 Persons

200 Persons

Approximate Access Road to Potential Construction Camp

Potential Aggregate Source

Bedrock

Sand and gravel

Approximate Access Road to Potential Aggregate Site

Treaty Boundaries

Adhesion to Treaty, No. 9, 1929

Treaty No. 60, 1850

Treaty No. 9, 1905-1906

General Features

Waterbody

First Nation Reserve

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Ontario Treaties and Purchases

0 5 10 20 30
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

Sep, 2024

1:700,000
* when printed 11"x17"

Rev:00

Figure 6

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2023\Archaeology Mapping\Additional Stage 1\MXD_Fig6_AdditonalStage1_Treaties_60593122.mxd
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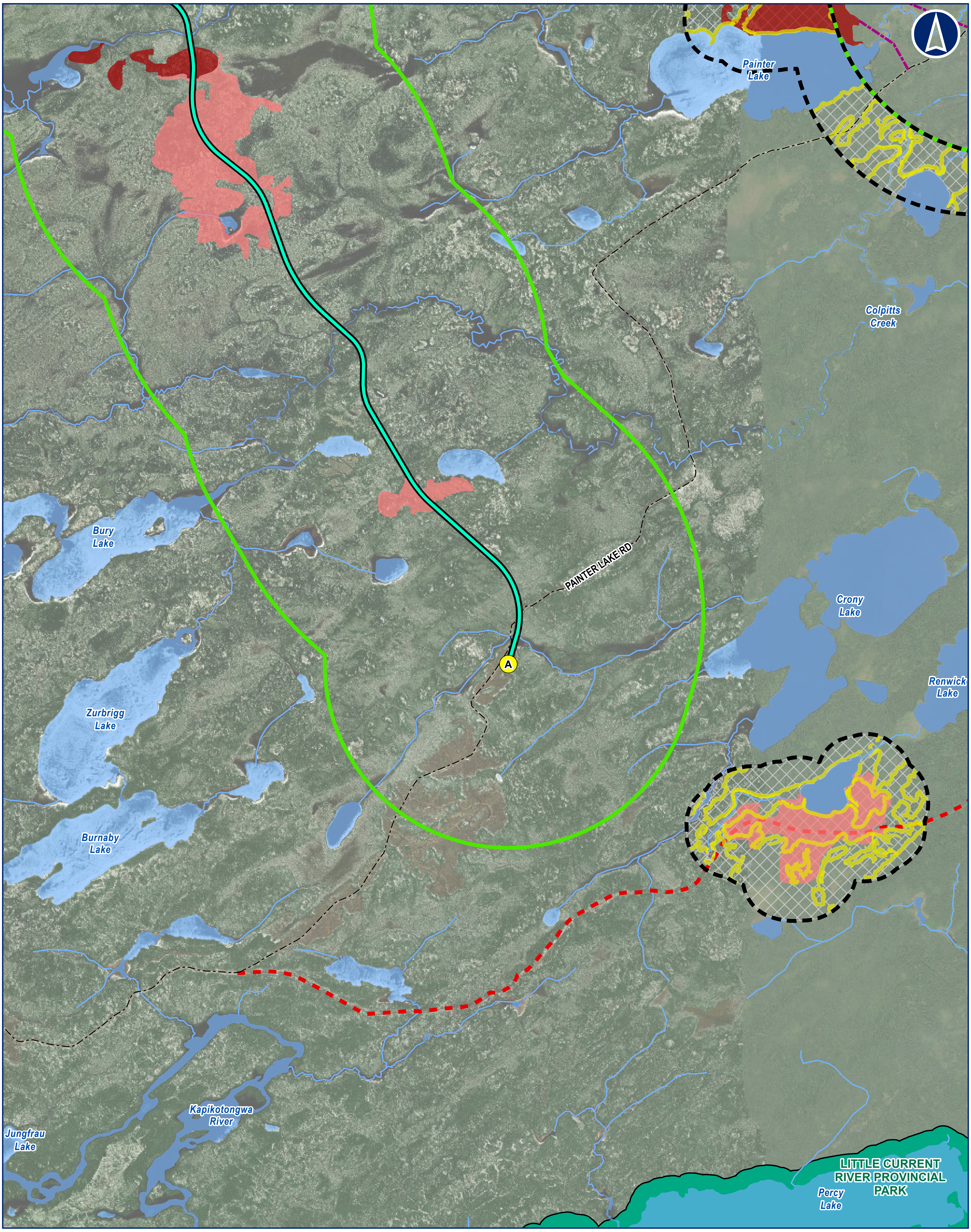

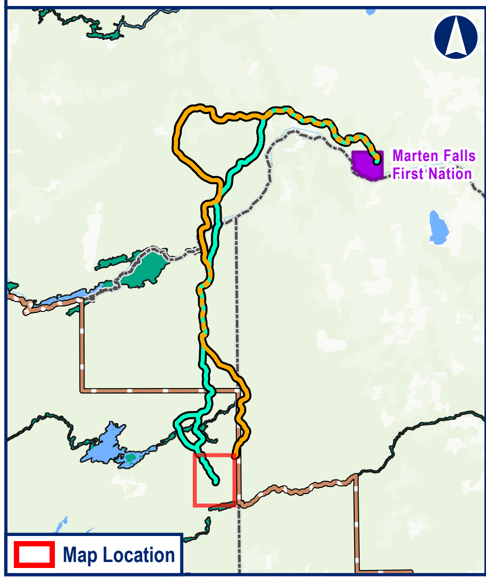

Legend

- (A) Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area
- Low Archaeological Potential Based on Remote, Northern Assessment
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 5 m Intervals

Route Alternatives

- Alternative 1
- Alternative 4

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Resource / Recreation Road
- MFFN Existing Winter Access Road
- Waterbody
- Provincial Park

Data Source:
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Service Layer Credits: World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
World Imagery: Maxar

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 AA Results

0 0.5 1 1.5 2
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

July 2025

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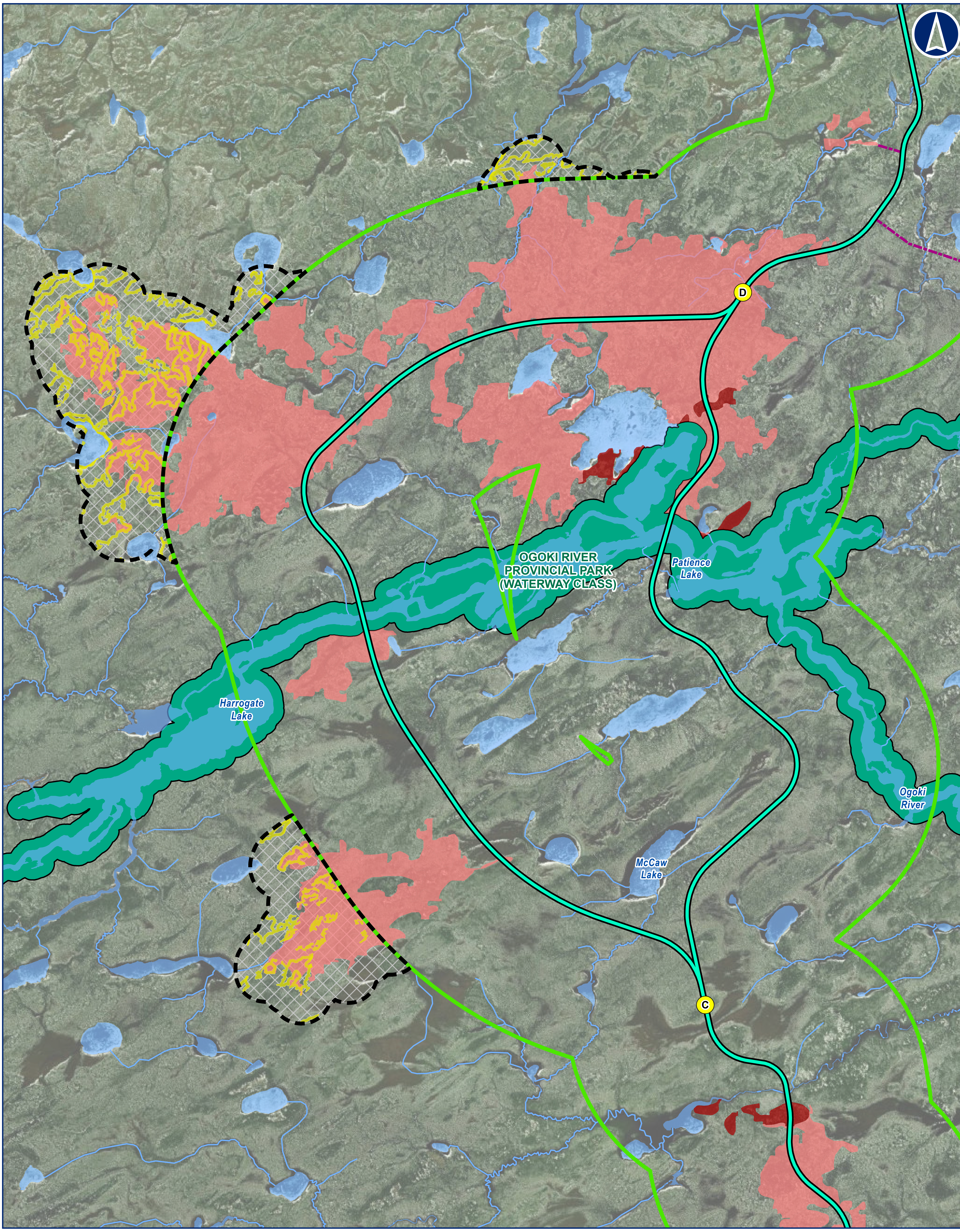
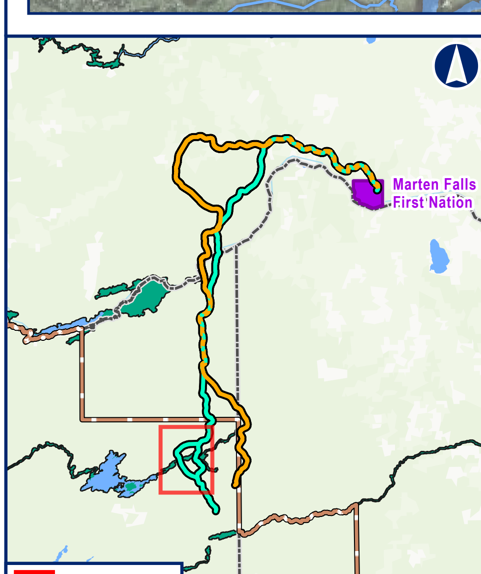
* when printed 11"x17"

Rev:00

Figure 7-1

MARTEN FALLS FIRST NATION "OUR RIVER, OUR LIFE"





Legend

- (A) Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area
- Low Archaeological Potential Based on Remote, Northern Assessment
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 5 m Intervals

Route Alternatives

- Alternative 1
- Alternative 4

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Provincial Park

Data Source:
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Service Layer Credits: World Imagery: Earthstar Geographics
World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 AA Results

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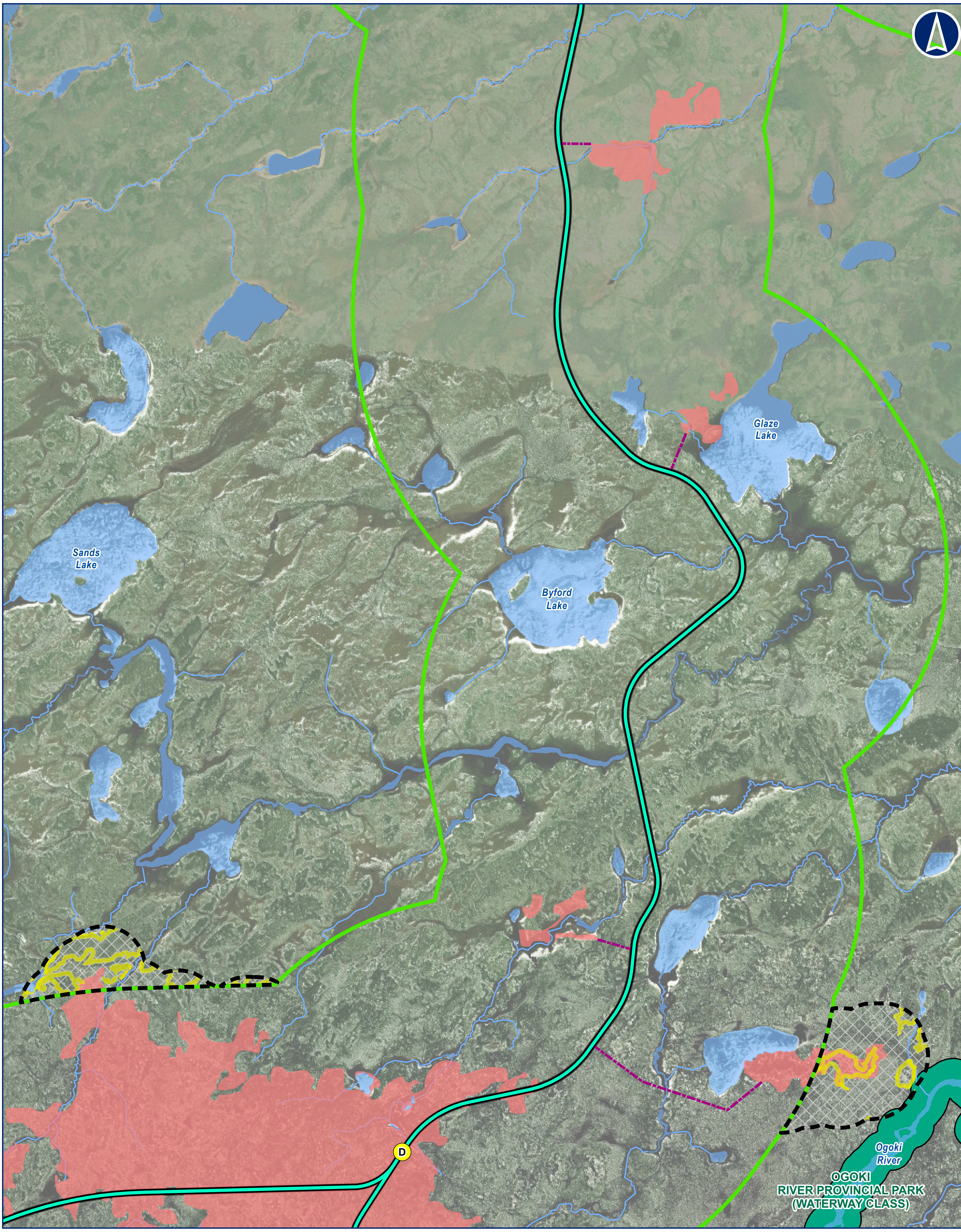
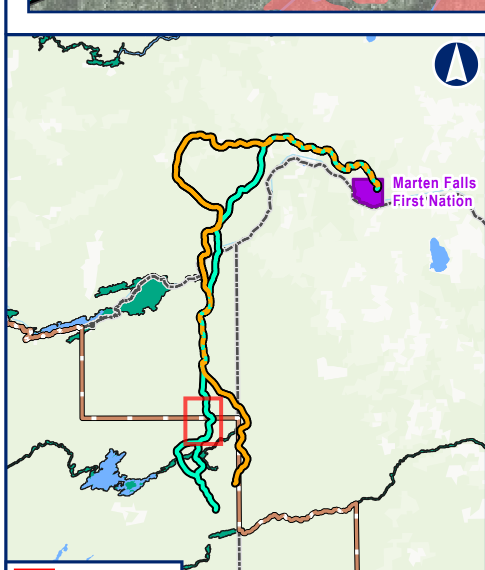
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

July 2025 | 1:65,000 * when printed 11"x17" | Rev:00

Figure 7-2





Legend

- A Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area
- Low Archaeological Potential Based on Remote, Northern Assessment
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 5 m Intervals

Route Alternatives

- Alternative 1
- Alternative 4

Potential Aggregate Source

- Bedrock
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- Provincial Park

Data Source:
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Service Layer Credits: World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
World Imagery: Maxar

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 AA Results

0 0.5 1 1.5 2
Kilometres

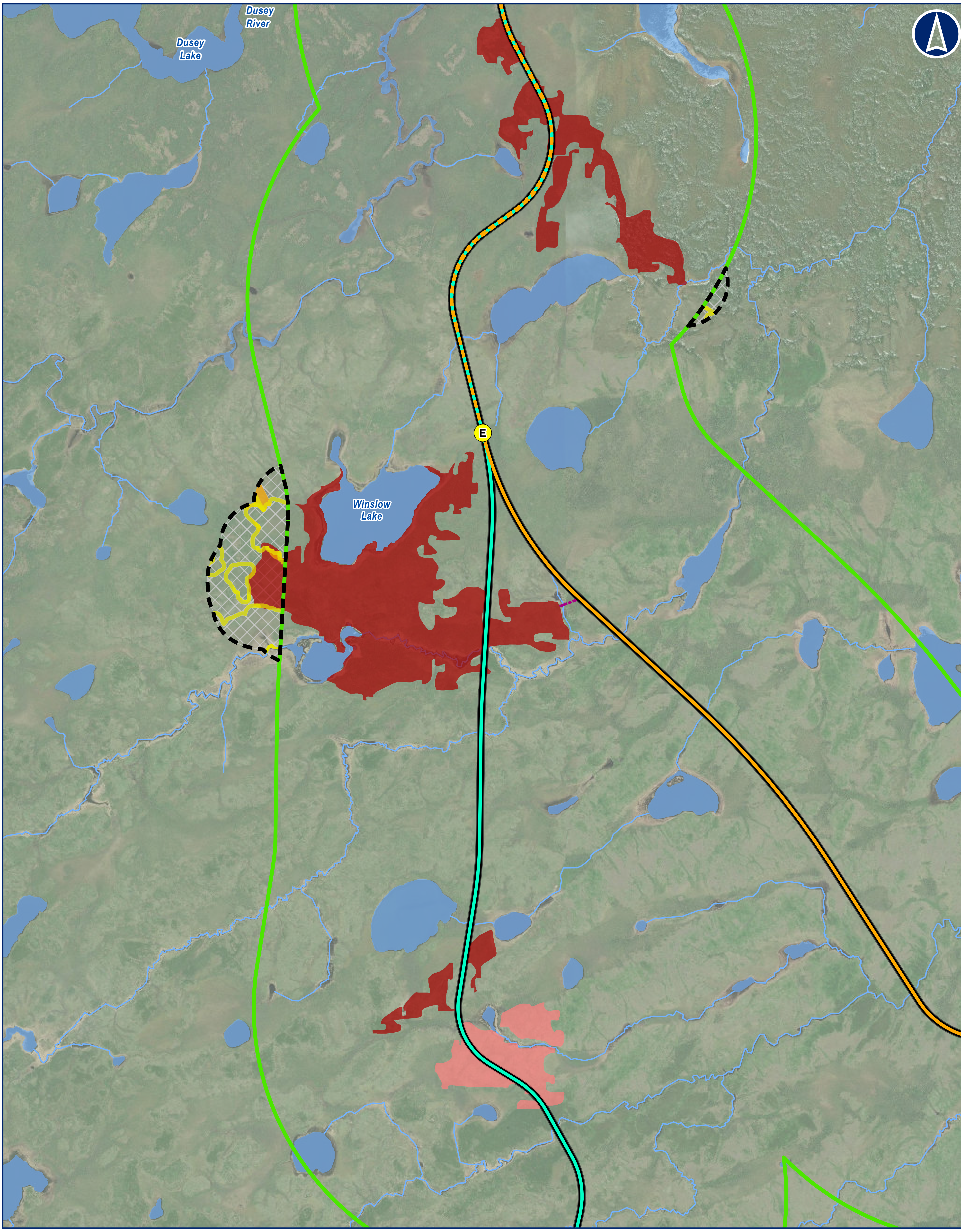
Datum: NAD 1983 CSRS UTM Zone 16N

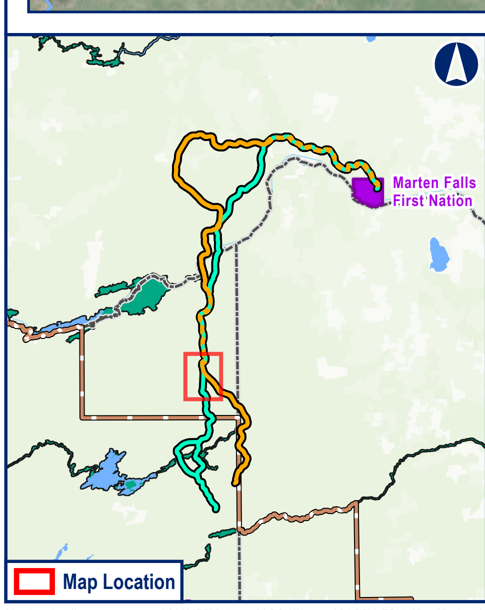
July 2025

1:45,000
* when printed 11"x17"

Rev:00

Figure 7-3





Legend

- A Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area
- Low Archaeological Potential Based on Remote, Northern Assessment
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 5 m Intervals

Route Alternatives

- Alternative 1
- Alternative 4

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody

Data Source:
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World Imagery: Maxar

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 AA Results

0 0.5 1 1.5 2
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

July 2025

1:45,000
* when printed 11"x17"

Rev:00

Figure 7-4

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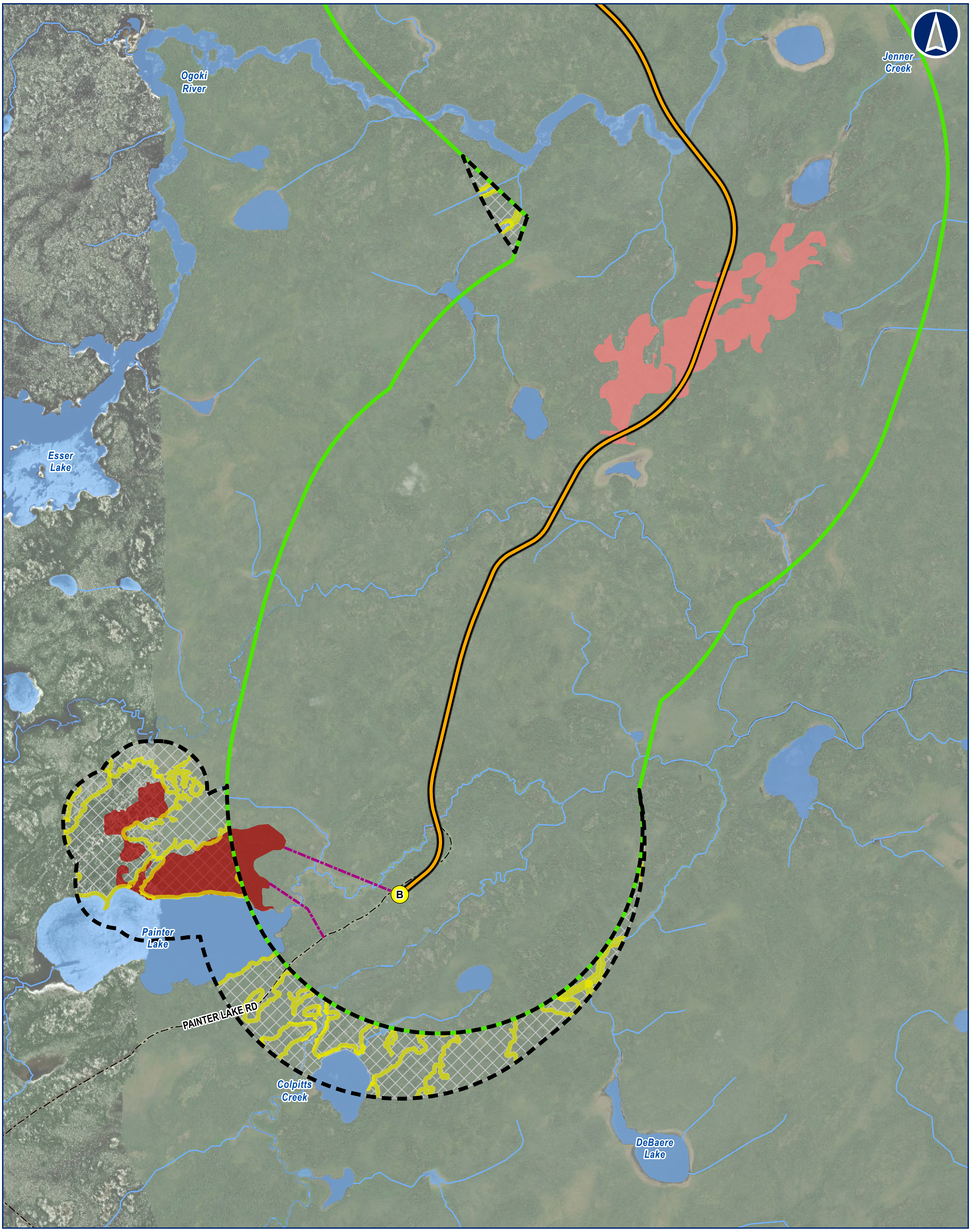

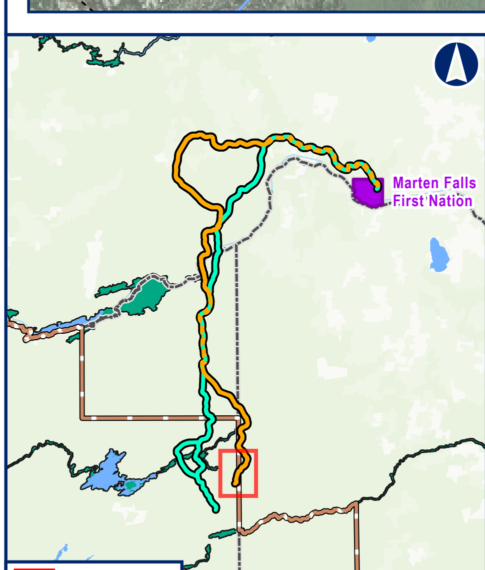

Legend

- A — Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area
- Low Archaeological Potential Based on Remote, Northern Assessment
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 5 m Intervals

Route Alternatives

- Alternative 1
- Alternative 4

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Resource / Recreation Road
- Waterbody

Data Source:
Base Data: Provided by MNRF 2023; Route Infrastructure - Provided by AECOM 2021. Contains Information licensed under the Open Government Licence Ontario.
Service Layer Credits: World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
World Imagery: Maxar

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 AA Results

0 0.5 1 1.5 2
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

July 2025	1:45,000 * when printed 11"x17"
Rev:00	

Figure 7-5

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2025\Archaeology Mapping\PRJ_MFCAR_Archaeology_60593122.aprx Figure: MAP_Fig7_AdditionalStage1_Results_60593122
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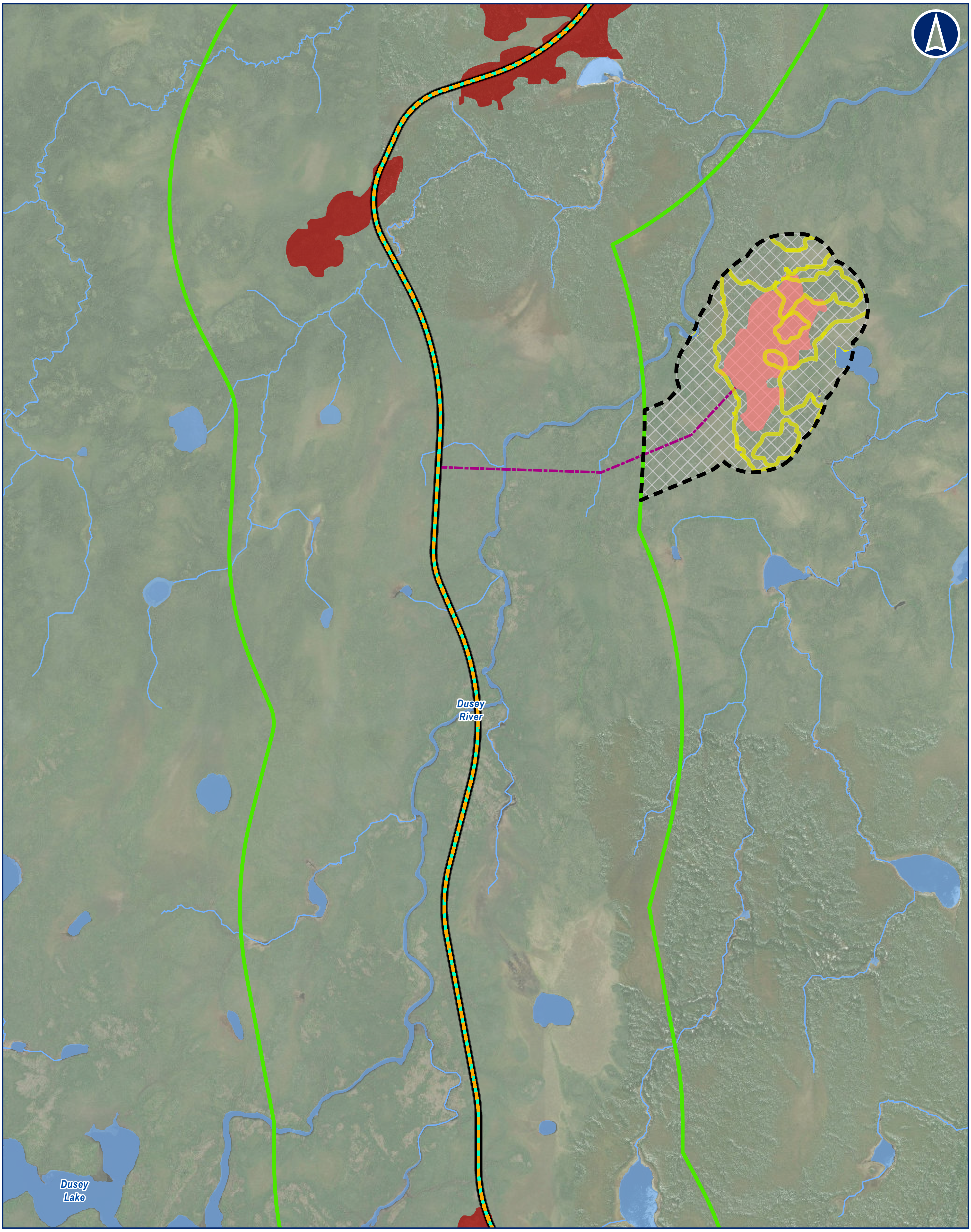

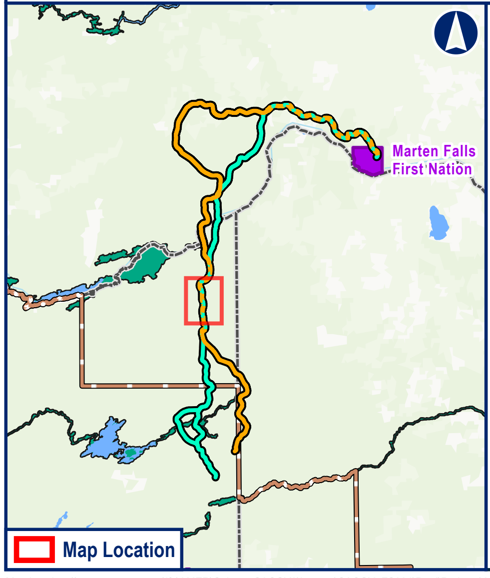

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area
- Low Archaeological Potential Based on Remote, Northern Assessment
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 5 m Intervals

Route Alternatives

- Alternative 1
- Alternative 4

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody

Data Source:
Base Data: Provided by MNRF 2023; Route Infrastructure - Provided by AECOM 2021. Contains Information licensed under the Open Government Licence Ontario.
Service Layer Credits: World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
World Imagery: Maxar

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 AA Results

0 0.5 1 1.5 2
Kilometres

Datum: NAD 1983 CSRS UTM Zone 16N

July 2025

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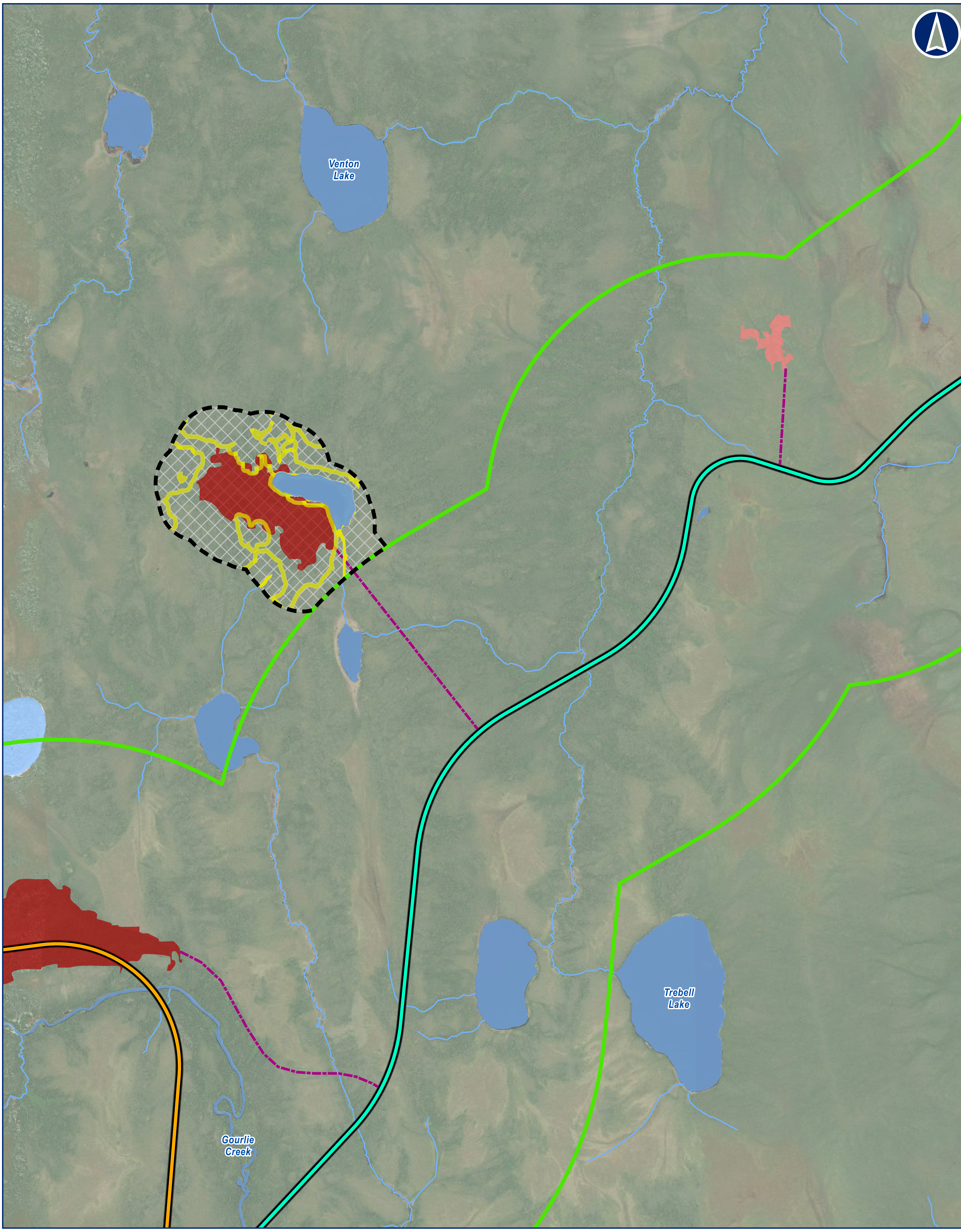
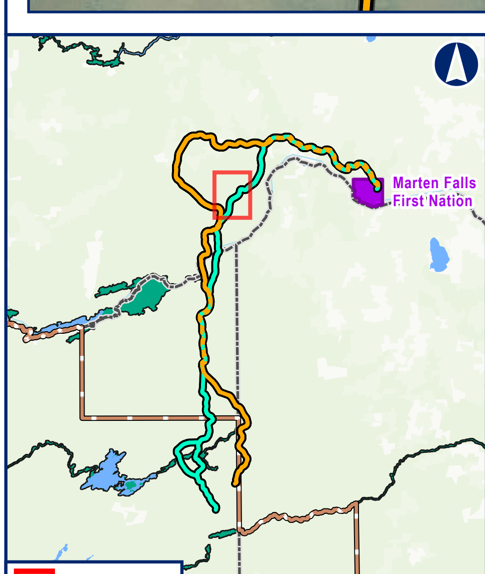
* when printed 11"x17"

Rev:00

Figure 7-6





Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area
- Low Archaeological Potential Based on Remote, Northern Assessment
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 5 m Intervals

Route Alternatives

- Alternative 1
- Alternative 4

Potential Aggregate Source

- Bedrock
- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody

Data Source:
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Service Layer Credits: World Topographic Map: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
World Imagery: Maxar

MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

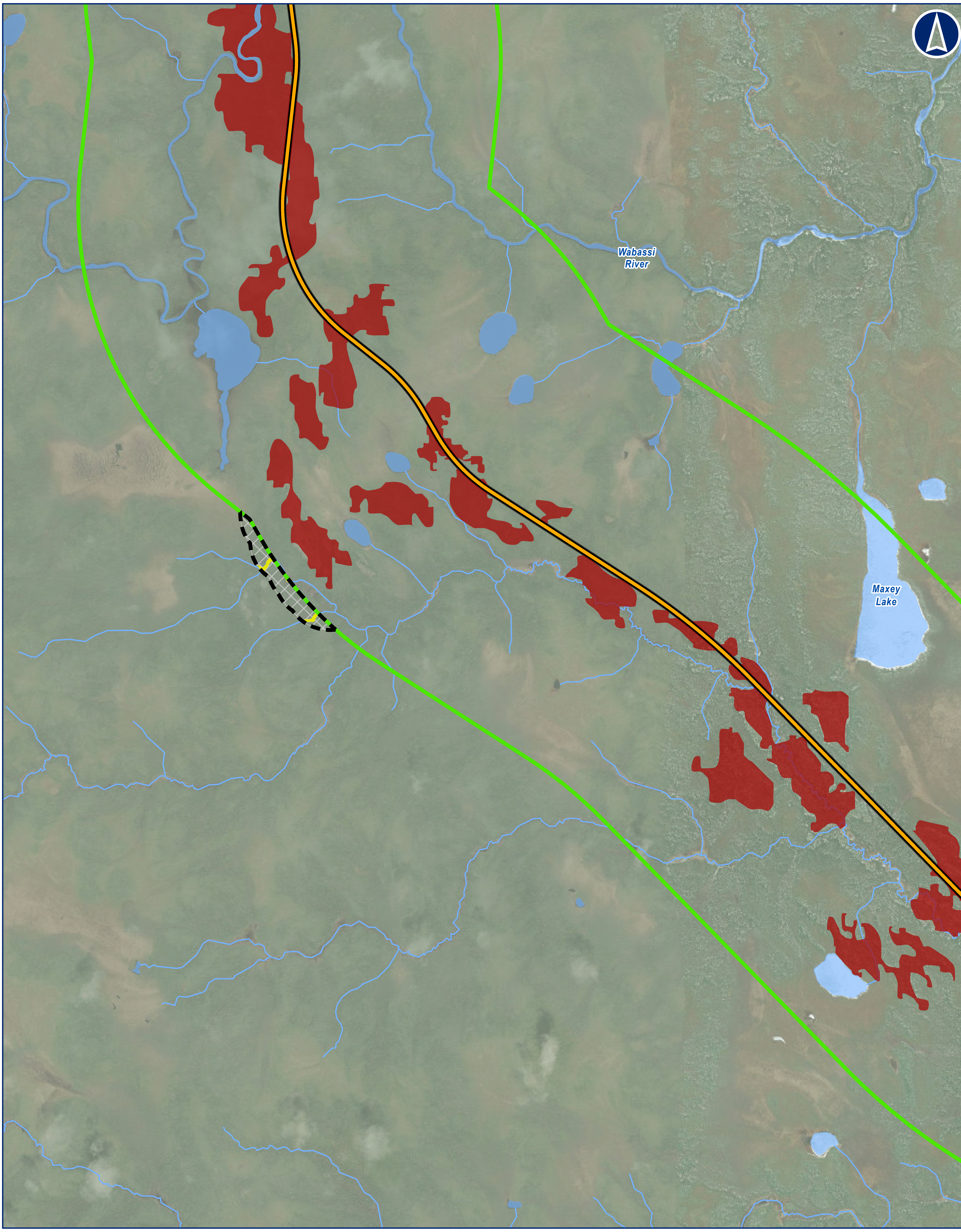
Stage 1 AA Results

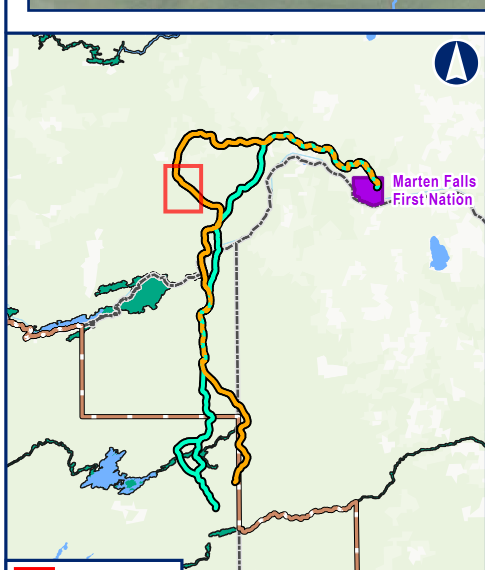
0 0.5 1 1.5 2
Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

July 2025	1:45,000 * when printed 11"x17"
Rev:00	

Figure 7-7

Map location: \\na.aecomnet.com\lfs\AMER\Calgary-CACGY3\Legacy\CACGY5FS001\Prod\Projects\60593122\900-CAD_GIS\920-929 (GIS-Graphics)\Design\01_Reports_2025\Archaeology Mapping\PRJ_MFCAR_Archaeology_60593122.aprx Figure: MAP_Fig7_AdditionalStage1_Results_60593122
Date Saved: 2025-07-21 4:01 PM User Name: Stephanie.Clark





Legend

- Segment Node (A)
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area
- Low Archaeological Potential Based on Remote, Northern Assessment
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 5 m Intervals

Route Alternatives

- Alternative 1
- Alternative 4

Potential Aggregate Source

- Sand and gravel

General Features

- Watercourse
- Waterbody

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 AA Results

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Figure 7-8

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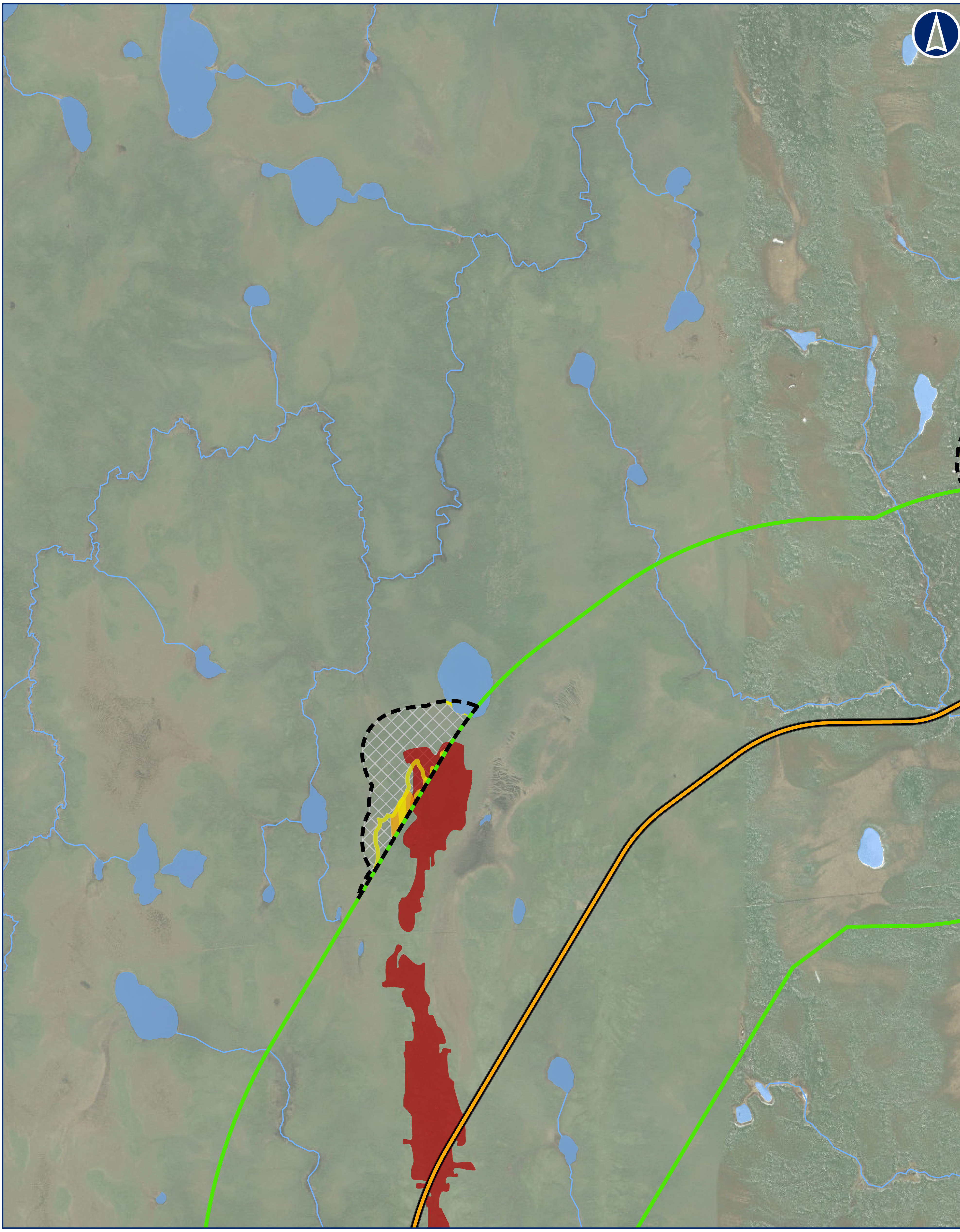

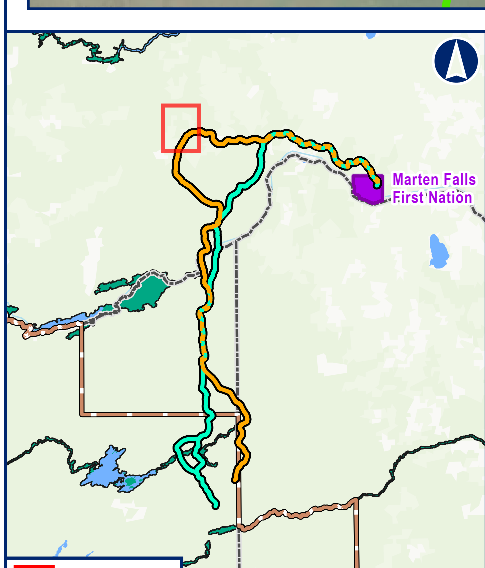

Legend

- A Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area
- Low Archaeological Potential Based on Remote, Northern Assessment
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 5 m Intervals

Route Alternatives

- Alternative 1
- Alternative 4

Potential Aggregate Source

- Sand and gravel

General Features

- Watercourse
- Waterbody

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 AA Results

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Kilometres
Datum: NAD 1983 CSRS UTM Zone 16N

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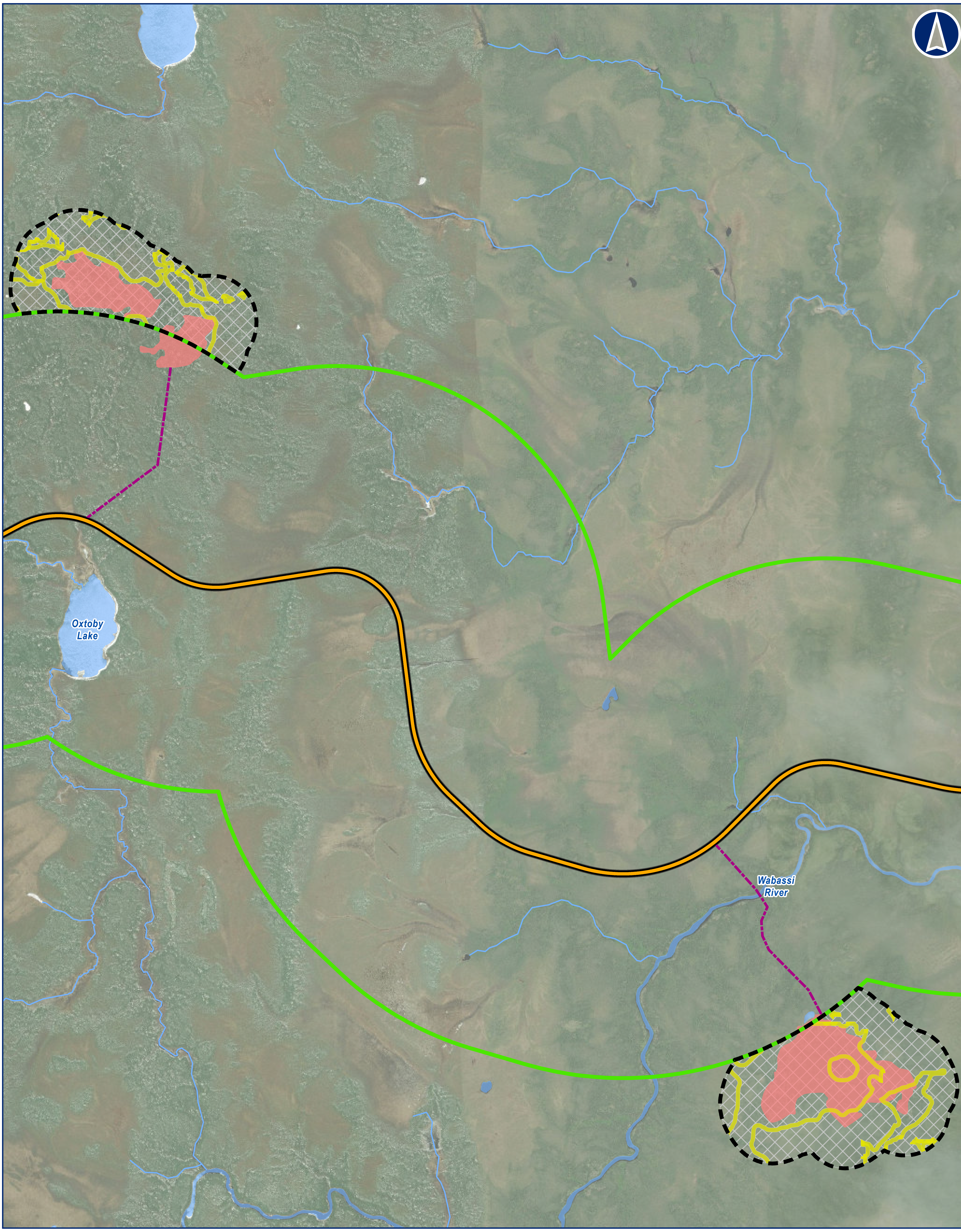
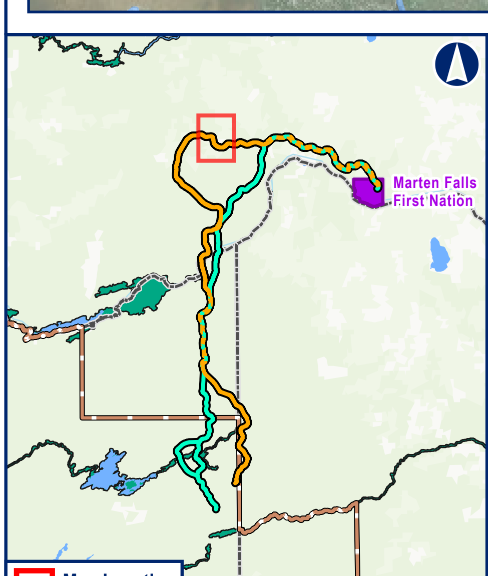
Figure 7-9





Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area
- Low Archaeological Potential Based on Remote, Northern Assessment
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 5 m Intervals

Route Alternatives

- Alternative 1
- Alternative 4

Potential Aggregate Source

- Bedrock
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 AA Results

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Figure 7-10

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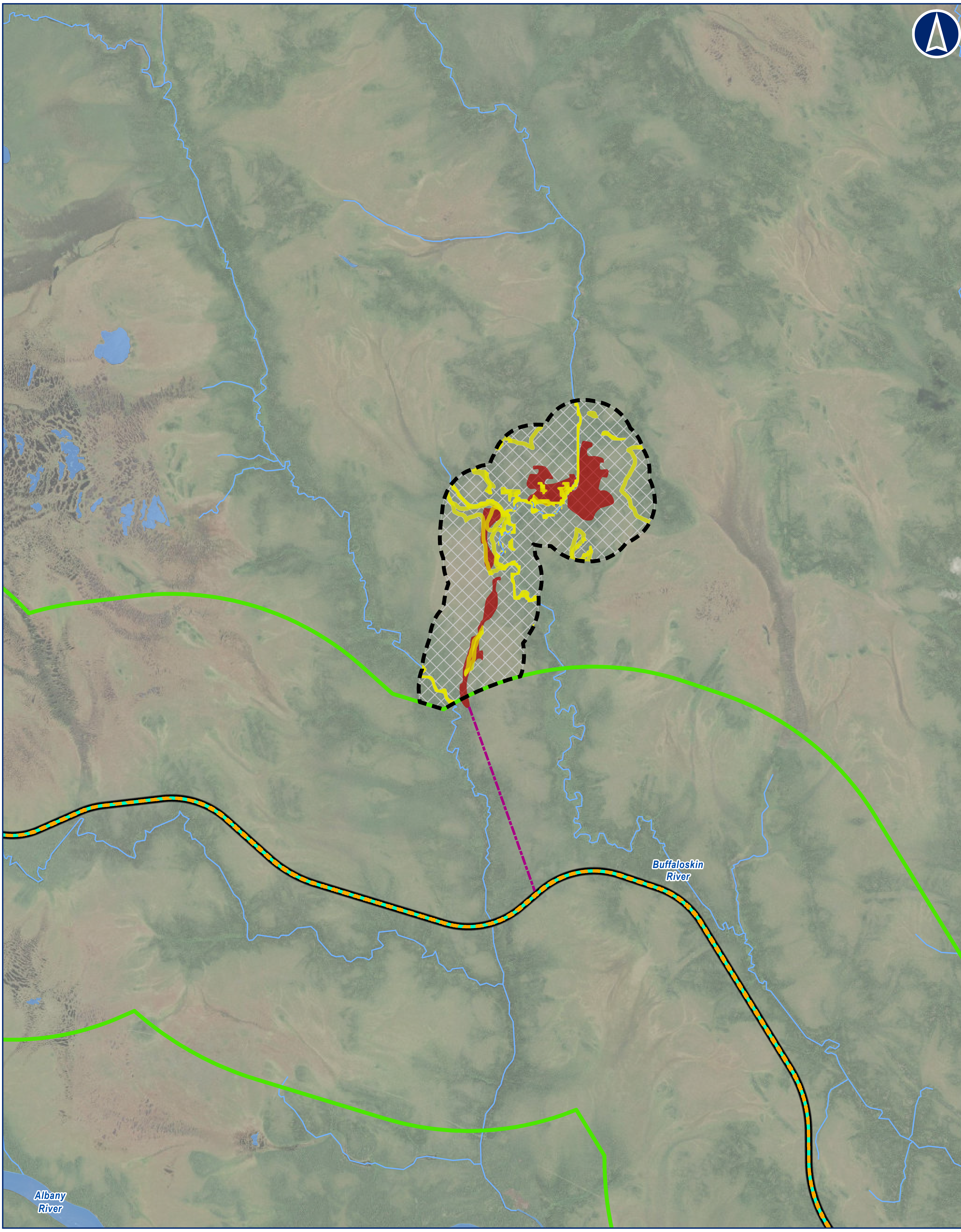

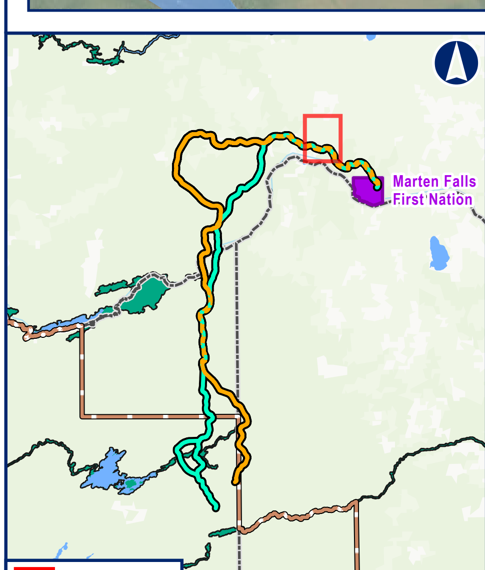

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area
- Low Archaeological Potential Based on Remote, Northern Assessment
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 5 m Intervals

Route Alternatives

- Alternative 1
- Alternative 4

Potential Aggregate Source

- Sand and gravel
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 AA Results

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Figure 7-11

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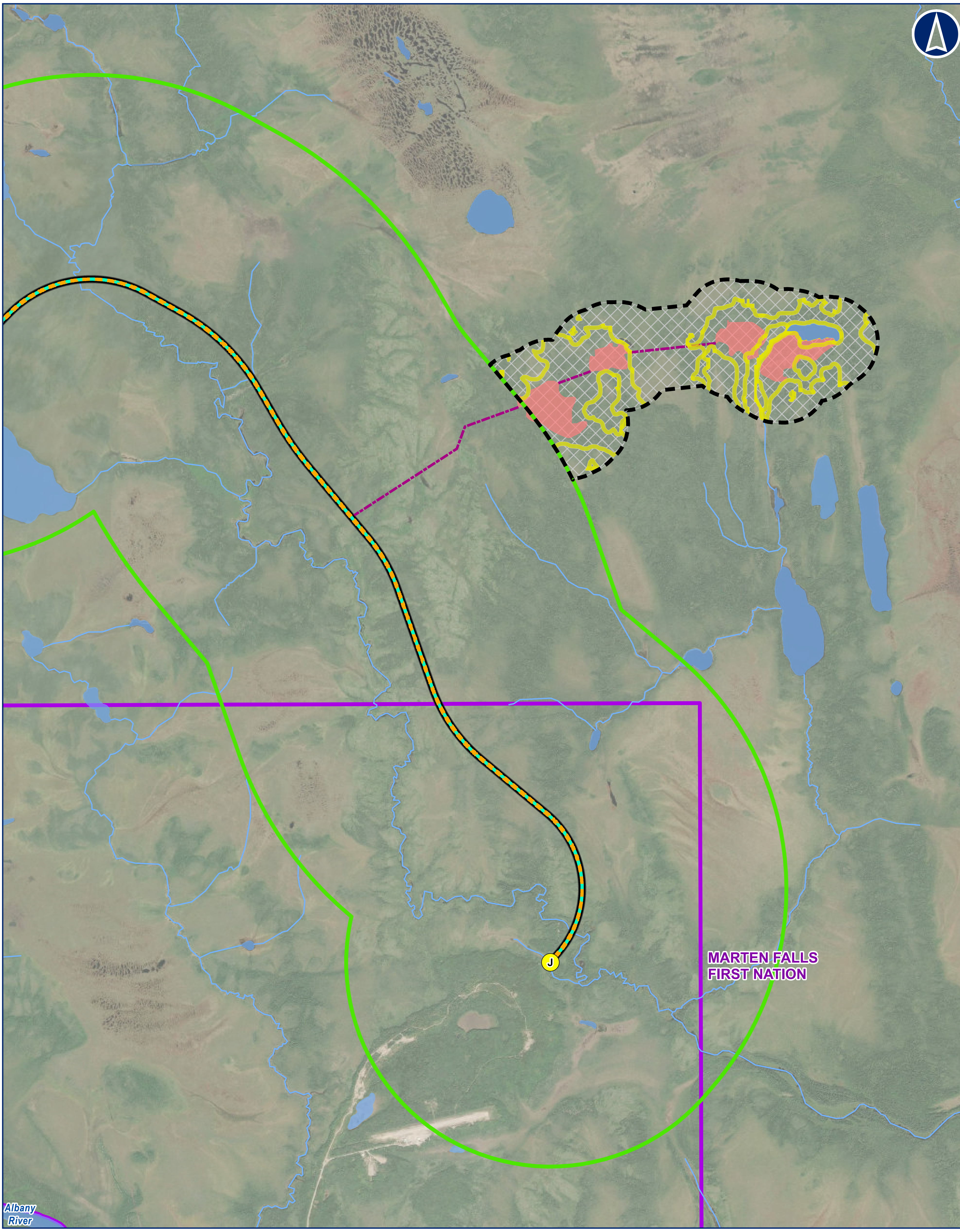

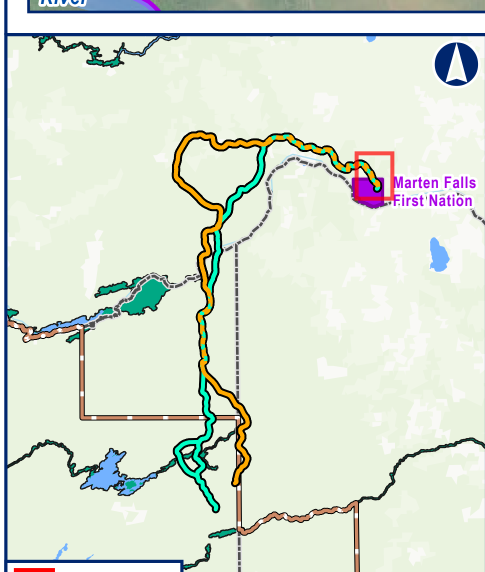

Legend

- Segment Node
- Previously Assessed Stage 1AA Study Area
- Current Project Study Area
- Low Archaeological Potential Based on Remote, Northern Assessment
- Areas to be Tested at 5 m Intervals
- Areas to be Tested at 5 m Intervals

Route Alternatives

- Alternative 1
- Alternative 4

Potential Aggregate Source

- Bedrock
- Approximate Access Road to Potential Aggregate Site

General Features

- Watercourse
- Waterbody
- First Nation Reserve

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MARTEN FALLS FIRST NATION COMMUNITY ACCESS ROAD

Stage 1 AA Results

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Datum: NAD 1983 CSRS UTM Zone 16N

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Figure 7-12

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MARTEN FALLS FIRST NATION
ALL SEASON COMMUNITY ACCESS ROAD

FINAL

Cultural Heritage Study Plan

November 2023

Distribution List

# Hard Copies	PDF Required	Association / Company Name
	✓	Marten Falls First Nation
	✓	AECOM Canada Ltd.

Revision History

Rev #	Date	Revision Description
Draft	May 2020	Submitted *Study Plan – Cultural Heritage DRAFT FOR DISCUSSION* to the Agency.
Final	May 2021	Revised to address federal and provincial agency comments.
Final Revised	November 2	Revised to address outline further Cultural Heritage consultation and additional Stage 1 Archaeology investigations

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AECOM: 2015-04-13

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Appendices

Acronyms

AA ..... Archaeological Assessment
Agency ..... the Impact Assessment Agency of Canada
CAR ..... Community Access Road
CHR ..... Cultural Heritage Report
EA ..... Environmental Assessment
IA ..... Impact Assessment
IAA ..... *Impact Assessment Act*
IS ..... Impact Statement
km ..... kilometre
LSA ..... Local Study Area
MECP ..... Ontario Ministry of the Environment, Conservation and Parks
MFFN ..... Marten Falls First Nation
MHSTCI ..... Ministry of Heritage, Sport, Tourism and Culture Industries
OHA ..... *Ontario Heritage Act*
PDA ..... Project Development Area
RSA ..... Regional Study Area
TISG ..... Tailored Impact Statement Guidelines
ToR ..... Terms of Reference
VC ..... Valued Component

1. Introduction

The Proponent of the Community Access Road (CAR or the Project) is Marten Falls First Nation (MFFN), a remote First Nation community in northern Ontario located at the junction of the Albany and Ogoki rivers, approximately 430 kilometres (km) from Thunder Bay, Ontario. The MFFN community is proposing an all-season Community Access Road that will connect the MFFN community to Ontario's provincial highway network (Highway 643) to the south via the existing Painter Lake Road. MFFN, as the Proponent of the Project, has formed a MFFN CAR Project Team that includes MFFN CAR Community Member Advisors and MFFN CAR Project Consultants who act with input, guidance and direction from the MFFN Chief and Council.

This document outlines the Study Plan for Cultural Heritage to support a coordinated Impact Assessment (IA) required for Project review by the Impact Assessment Agency of Canada (the Agency) under the federal *Impact Assessment Act* (*IAA*) and Environmental Assessment (EA) required for Project review by the Ontario Ministry of the Environment, Conservation and Parks (MECP) under the Ontario *Environmental Assessment Act* (Ontario Government, 1990a).

1.1 Federal and Provincial Terminology

The study plans have been prepared using federal terminology, however, the respective provincial terminology has been provided in **Table 1-1** for reference. The terms can be used interchangeably.

Table 1-1: Equivalent Federal and Provincial Terms

Provincial Term	Federal Term
Criteria	Valued Component
Impact Management Measure	Mitigation Measure
Net Effects	Residual Effects
Record of Consultation	Record of Engagement

1.2 Project Study Plans

This Study Plan is one of a group of study plans created for the Project. **Table 1-2** includes the study plans for each environmental[1] discipline currently planned for the Project and the valued components (VCs) covered by the study plans where applicable.

Table 1-2: Project Study Plans and Valued Components

Environmental Discipline	Study Plan Name	Valued Component(s)
Aboriginal and Treaty Rights and Interests	■ Aboriginal and Treaty Rights and Interests Study Plan	■ Indigenous Current Use of Lands and Resources for Traditional Purposes ■ Cultural Continuity (ability to practice and transmit cultural traditions)
Atmospheric Environment	■ Atmospheric Environment Study Plan	■ Air Quality ■ Greenhouse Gas Emissions
Climate Change	■ Climate Adaptation and Resiliency Study Plan	■ Climate Change
Acoustic and Vibration Environment	■ Acoustic and Vibration Environment Study Plan	■ Noise ■ Vibration
Physiography, Geology, Terrain and Soils	■ Physiography, Terrain and Soils Study Plan	■ Physiography, Terrain and Soils
Surface Water	■ Surface Water Study Plan	■ Surface Water
Groundwater and Geochemistry	■ Groundwater and Geochemistry Study Plan	■ Groundwater
Vegetation	■ Vegetation Study Plan	■ Wetland and Riparian Ecosystems ■ Upland Ecosystems ■ Designated Areas (Areas of Natural and Scientific Interest, Environmentally Significant Areas, Significant Woodlands, Critical Landform / Vegetation Associations) ■ Traditional Use Plants and SAR Plant Populations (including species with special conservation status or rarity in the province)
	■ Peatlands Study Plan	■ Peatland Ecosystems (bogs and fens)
Wildlife	■ Wildlife Study Plan	■ Bats (including SAR-bats such as: Little Brown Myotis [*Myotis lucifugus*], Northern Myotis [*Myotis septentrionalis*] and Tricolored Bat [*Perimyotis subflavus*])

1. *The use of the term environment in this document is inclusive of the components of the environment that are included in the Ontario Environmental Assessment Act definition, which includes a general description of the social, cultural, built and natural environments.*

Environmental Discipline	Study Plan Name	Valued Component(s)
		▪ Fur Bearers (proxy VC[2] American Marten [*Martes americana*], Beaver [*Castor canadensis*] and Wolverine [*Gulo gulo*]) ▪ Amphibians and Reptiles ▪ Pollinating Insects
	▪ Ungulates (Moose and Caribou) Study Plan	▪ Moose (*Alces alces*) ▪ Caribou, boreal population (*Rangifer tarandus*)
	▪ Bird Study Plan	▪ Forest Birds (proxy VC of Red-eyed vireo [*Vireo olivaceus*] for deciduous forest, Ovenbird [*Seirus aurocapilla*] for mixedwood forest, Dark-eyed Junco [*Junco hyemalis*] for coniferous forest and disturbed forest as well as SAR-birds such as: Canada Warbler [*Cardellina canadensis*], Chimney Swift [*Chaetura pelagica*], Common Nighthawk [*Chordeiles minor*], Eastern Whip-poor-will [*Antrostomus vociferous*], Eastern Wood Pewee [*Contopus virens*], Evening Grosbeak [*Coccothraustes vespertinus*] and Olive-sided Flycatcher [*Contopus cooperi*]) ▪ Raptors (proxy VC of Osprey [*Pandion haliaetus*] for diurnal raptors and Boreal Owl [*Aegolius funereus*] for nocturnal raptors as well as SAR-birds such as: Bald Eagle [*Haliaeetus leucocephalus*], Peregrine Falcon [*Falco peregrinus*] and Short-eared Owl [*Asio flammeus*]) ▪ Shorebirds (proxy VC of Wilson's Snipe [*Gallingo delicata*]) ▪ Waterfowl (proxy VC of Mallard [*Anas platyrhynchos*]) ▪ Bog / Fen Birds and Other Wetland Birds (proxy VC of Palm Warbler [*Setophaga palmarum*] for bogs, Common Yellowthroat [*Geothlypis trichas*] for fens; and Northern Waterthrush [*Parkesia noveboracensis*] for swamps as well as SAR-birds such as: Black Tern [*Childonias niger*], Rusty Blackbird [*Euphagus carolinus*] and Yellow Rail [*Coturnicops noveboracensis*]).
Fish and Fish Habitat	▪ Fish and Fish Habitat Study Plan	▪ Lake Sturgeon (*Acipenser fulvescens*) ▪ Walleye (*Sander vitreus*) ▪ Brook Trout (*Salvelinus fontinalis*) ▪ Northern Pike (*Esox lucius*) ▪ Lake Whitefish (*Coregonus clupeaformis*) ▪ Chain Pickerel (*Esox niger*) ▪ Yellow Perch (*Perca flavescens*) ▪ Cisco (*Coregonus artedii*) ▪ Burbot (*Lota lota*)

[2] *A proxy VC is used when looking at the effects of one species that represents many others.*

Environmental Discipline	Study Plan Name	Valued Component(s)
		■ Longnose Sucker (*Catostomus catostomus*) ■ White Sucker (*Catostomus commersonii*) ■ Forage / Prey Species (including species such as Lake Chub [*Couesius plumbeus*]) ■ Lower Trophic Organisms (e.g., benthic invertebrates)
Social	■ Social Study Plan	■ Housing and Accommodation ■ Community Service and Infrastructure ■ Transportation ■ Community Well-being ■ Populations and Demographics
Economy	■ Economic Study Plan	■ Regional Economy ■ Labour Force and Employment ■ Government Finances
Land and Resource Use	■ Land and Resource Use Study Plan	■ Land Use Compatibility ■ Parks and Protected Areas ■ Extractive Industry ■ Forestry Industry ■ Energy and Linear Infrastructure ■ Recreation and Tourism
Human Health and Community Safety	■ Human Health and Community Safety Study Plan	■ Public Safety ■ Public Health ■ Diet ■ Environmental Factors Influencing Health
Visual Aesthetics	■ Visual Aesthetics Study Plan	■ Visual Contrast / Character ■ Visibility ■ Visual Sensitivity
Archaeological and Cultural Heritage	■ Cultural Heritage Study Plan	■ Archaeological Sites and Resources ■ Built Heritage Resources and Cultural Heritage Landscapes

It should be noted that while there is not a consultation study plan, the Project has developed the *Consultation and Engagement Plan to Support the Environmental Assessment / Impact Statement* (AECOM 2020) (referred to as the Impact Statement [IS] / EA Consultation Plan).

2. Purpose and Objectives

The key objectives of conducting an IA / EA are to describe the existing environment, gather sufficient information to predict Project-related effects (positive and negative, direct and indirect) of the Project and alternatives on the environment, determine measures needed to avoid or minimize adverse Project effects and enhance beneficial Project effects where feasible, and to undertake consultation and engagement throughout. The purpose of this Study Plan is to explain:

- A baseline[3] study methodology that will result in a comprehensive description of the existing environment potentially impacted by the Project;
- How efficient and transparent data management and analysis will be undertaken;
- Effects assessment scoping inputs specific to Cultural Heritage that will allow for potential effects of the Project on the existing environment to be appropriately assessed in the IS / EA Report; and
- How the Study Plan aligns with federal and provincial requirements and guidance, including the Agency's Tailored Impact Statement Guidelines (TISG), dated February 24, 2020 (the Agency 2020b), for this Project and applicable provincial agency comments on the Draft Terms of Reference (ToR)[4].

As required by the IAA and referenced in TISG Section 7.3, work plans will also be developed for disciplines as required. It is anticipated the work plans will include further details on how to action the study plans; for example they would contain such information as location of sampling sites, scheduling, and sequencing.

For the purposes of establishing appropriate context, the Study Plan begins with background and relevant information on:

- Study plan related discussions with the Agency, the MECP and applicable agencies to date (**Section 3**);
- The approach to Project consultation and engagement (**Section 4**);
- How Indigenous Knowledge will be collected and used in the IA / EA (**Section 5**); and
- The spatial and temporal boundaries that will be used for the IA / EA (**Section 6**).

3. Baseline refers to the current conditions of the environment potentially impacted by the Project. Baseline conditions serve as a reference against which changes due the Project are measured.

4. If necessary, the Study Plan will be updated to reflect the approved ToR if approval is obtained.

2.1 Approach to Handling Confidential Information

2.1.1 Indigenous Knowledge

Permission from the Indigenous community will be sought before including Indigenous Knowledge in the IS / EA Report, regardless of the source of the Indigenous Knowledge. Sensitive and / or confidential information will be specifically collected through the Indigenous Knowledge Program to inform the IS / EA Report, and its use and publication will be governed by Indigenous community-specific Indigenous Knowledge Sharing Agreements. Sensitive and / or confidential information collected through Indigenous Knowledge Sharing Agreements will be protected from public or third-party disclosure and will be established between the Proponent and Indigenous communities participating in the Indigenous Knowledge Program prior to the sharing and use of any sensitive information. Instances where Indigenous Knowledge sharing has taken place during consultation activities (e.g., meetings) will be recorded in the Record of Consultation and Engagement, including where Indigenous Knowledge was incorporated into Project decisions and into the IS / EA Report (i.e., specifics will not be included in the Record of Consultation and Engagement given the potential sensitivity and / or confidentiality of the information shared).

3. Study Plan Technical Discussions

To facilitate the development of satisfactory study plans and eventually a satisfactory IS / EA Report, MFFN previously submitted draft study plans in an effort to hold technical discussions with the Agency, the MECP and applicable agencies. A summary of technical discussions and correspondence held to date on this Study Plan has been provided below in **Table 3-1**.

Table 3-1: Summary of Study Plan Technical Discussions

Attendees / Responsible Party	Correspondence	Discussion Point	Solution
▪ **Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI)** ▪ **MECP** ▪ **MFFN CAR Project Team**	▪ Technical Discussion regarding the approach to studying Cultural Heritage for the Project	▪ **07-May-2020:** The MHSTCI commented on the Draft ToR – recommending a Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (CHR) be undertaken for the Project. Given the remote nature of the Project, the MFFN CAR Project Team suggested completing a cultural heritage checklist for the IS / EA Report considering the absence of structures in the study area, and also do a landscape study based on Indigenous Knowledge studies, archaeological investigation and other existing sources of information. The MHSTCI suggested an adjusted approach consisting of a landscape study (including the checklist), as well as the description of the built environment as one document. There should also be a two (2) part / phase system where: – Part 1 – Describes the existing conditions and identifies any Cultural Heritage Landscapes and other landscapes present; – Part 2 – During the IA / EA, assess the effects of the Project on cultural heritage and recommend mitigation measures where applicable. ▪ The MFFN CAR Project Team confirms the requested format with the MHSTCI.	▪ The MFFN CAR Project Team agreed to provide the MHSTCI with a CHR.

4. IS / EA Report Consultation and Engagement Process

4.1 Interested Persons and Government Agencies

The Proponent will provide Project notices and advise of opportunities for consultation and engagement with interested persons[5] which includes, at a minimum, members of the public outlined in the *Public Participation Plan for the Marten Falls Community Access Road Project Impact Assessment* (the Agency 2020) (referred to as the Public Participation Plan). This will include the opportunity to provide input on the existing environment, VCs, effects assessment methods, effects assessment results, and mitigation and follow-up program measures as applicable. A variety of activities will be offered so that members of the public are informed of the IS / EA Report as it progresses and are aware of the opportunities and means to provide their input. The study plans have recognized public and agency input received on the Project to date. Government agencies and interested persons will have the opportunity to comment on components of the study plans throughout the IS / EA Report consultation and engagement process. The Project's approach to handling confidential and sensitive information is outlined in **Section 2.1**.

4.2 Indigenous Communities

The Proponent will provide Project notices and opportunities for consultation and engagement with Indigenous communities identified in **Table 4-1**, which is inclusive of all Indigenous communities identified in the *Indigenous Partnership and Engagement Plan for the Marten Falls Community Access Road Project Impact Assessment* (the Agency 2020a) (referred to as the Indigenous Engagement and Partnership Plan).

Indigenous communities will be provided the opportunity to be involved at critical decision-making points throughout the IS / EA Report so that the Proponent can consider and incorporate, where appropriate Indigenous Knowledge and Indigenous land and resource use information into the Project as it pertains to the existing environment, VCs, effects assessment methods, effects assessment results, and mitigation and follow-up program measures. A variety of activities will be offered so that Indigenous communities are informed of the IS / EA Report as it progresses and are aware of the opportunities, means and timelines to

5. *Interested persons, as defined in the IS / EA Consultation Plan (AECOM 2020), are individuals and groups (e.g., associations, non-governmental organizations, industry and academia) who could have an interest in the Project, including but not limited to communities in the region, those with commercial interests (e.g., forestry, trappers, outfitters, other mineral tenure holders in the area) and recreational users or those with recreational interest (e.g., campers, hunters and environmental groups).*

provide their input. The study plans have recognized Indigenous community input received on the Project to date. Indigenous communities will have the opportunity to comment on components of the study plans throughout the IS / EA Report consultation and engagement process.

Table 4-1: Identified Neighbouring Indigenous Communities, including their Provincial Territorial Organizations and / or Tribal Council Affiliations

Tribal Council Affiliation	Indigenous Community or Organization
Matawa First Nations Management *(Nishnawbe Aski Nation)*	■ **Marten Falls First Nation** (Proponent and potentially affected Indigenous community) ■ Aroland First Nation ■ Constance Lake First Nation ■ Eabametoong First Nation ■ Ginoogaming First Nation ■ Neskantaga First Nation ■ Nibinamik First Nation ■ Webequie First Nation
Matawa First Nation Management and the Union of Ontario Indians / Nishnawbe Aski Nation	■ Long Lake #58 First Nation**
Mushkegowuk Council *(Nishnawbe Aski Nation)*	■ Attawapiskat First Nation ■ Fort Albany First Nation ■ Kashechewan First Nation
Shibogama First Nations Council *(Nishnawbe Aski Nation)*	■ Kasabonika Lake First Nation ■ Kingfisher Lake First Nation ■ Wapekeka First Nation ■ Wawakapewin First Nation ■ Wunnumin Lake First Nation
Independent First Nations Alliance *(Nishnawbe Aski Nation)*	■ Kitchenuhmaykoosib Inninuwug First Nation
Independent First Nations *(Nishnawbe Aski Nation)*	■ Mishkeegogamang First Nation ■ Weenusk First Nation
Nokiiwin Tribal Council	■ Animbiigoo Zaagi'igan Anishinaabek First Nation*
Métis Nation of Ontario	■ Métis Nation of Ontario; Region 2*
Independent Métis Nation	■ Red Sky Independent Métis Nation*

*Notes: * Indigenous communities or organizations identified by MECP who should be consulted on the basis that they may be interested in the Community Access Road.*
***The MECP indicated in a letter to MFFN that Long Lake #58 First Nation was moved from interest-based to rights-based.*

4.3 Consideration of Identity and Gender-Based Analysis Plus in Engagement

To fulfill requirements of the IAA, the Consultation and Engagement Program will consider a diverse range of perspectives from interested persons and interested Indigenous communities and their members identified in the Agency's Indigenous Engagement and Partnership Plan and the Public Participation Plan. This will include at a minimum providing ongoing opportunities for engagement to:

- **Neighbouring Indigenous communities, including relevant subpopulations:**
  - Women;
  - Youth; and
  - Elders.
- **Non-Indigenous communities including:**
  - Women;
  - Youth; and
  - Activity-based subgroups (e.g., recreationalists, snowmobilers, tourism establishment operators).

The Proponent will also consult and engage with other subpopulations identified by communities during consultation and engagement. The information from these activities and any additional identity groups identified by communities through consultation and engagement will be considered by applicable environmental disciplines for the purposes of data collection and considering disproportionate effects.

During consultation and engagement, these aforementioned groups will be consulted and engaged with on targeted input**.** Specialized knowledge will be gathered through other disciplines such as Social, Economic, Land and Resource Use and Aboriginal and Treaty Rights and Interests. The Socio-economic Data Collection Program is expected to include targeted interviews, focus groups, questionnaires and other niche tools to gather information from diverse populations to resolve gaps in socio-economic secondary data. These diverse populations include the aforementioned identity groups, which are also referenced in the *IS / EA Consultation Plan* (AECOM 2020) and those identified by communities during consultation and engagement. The importance of soliciting inputs and perspectives from diverse subgroups has also been factored into the Indigenous Knowledge Program and associated materials (see **Section 5**).

When feedback is received from interested persons and Indigenous communities, issues, comments and questions will be tracked, which is consistent with the process described in the *IS / EA Consultation Plan*

(AECOM 2020). Specific to Gender-Based Analysis Plus objectives, this will include efforts to engage with diverse populations. It is expected this will include activities specific to subgroups and tabulation of consultation and engagement participation with respect to identity factors. This will provide summary statistics to demonstrate the diversity achieved in consultation and engagement.

4.4 Cultural Heritage Consultation

A meeting was held with the MFFN Community Based Land Use Planning (CBLUP) team, and the MFFN CAR Project Team on September 16, 2019 in Thunder Bay, Ontario. The purpose of the meeting was to review the Project mapping and Indigenous Knowledge data provided by MFFN, and to discuss any specific areas the CBLUP team or MFFN would like the archaeologists to specifically examine during the Stage 1 and subsequent Stage 2 work. This information was utilized to inform the Cultural Heritage Study Plan and was also incorporated into the Cultural Heritage Study Plan and the Stage 1 Archaeological Assessment (AA) report and Stage 2 AA field work planning.

The AECOM Cultural Heritage team held a Community Engagement Session in the Marten Falls First Nation community on July 11, 2023. The Cultural Heritage Team was comprised of Liam Smythe, Cultural Heritage Specialist; Samantha Markham, Cultural Resources Manager & Project Archaeologist; and Project Coordinators for MFFN, Bob Baxter and Rowena Moonias. The purpose of the field review was to collect photographic records with associated notes and mapping to illustrate the existing conditions of the Study Area and help to reinforce background data collected via satellite, topographic, and historic mapping. The Cultural Heritage Team travelled by car to several significant points in Marten Falls community, including the north side of the convergence of the Ogoki and Albany Rivers, the site of the former Hudson's Bay Company store, the former Anglian Church, and two cemetery sites. Additionally, an engagement session was held at the gymnasium at the community school between 12:00 pm and 3:00 pm. Tables were set up with large-format, printed copies of the MFFN CAR draft project mapping, the historic map set, and mapping generated using data provided by the Indigenous Knowledge Team. Questionnaires and information sheets were provided, providing an overview of the information the Cultural Heritage team is looking to collect.

A total of twenty-one (21) individuals from the MFFN community attended the engagement session. Discussions at the session happened organically; the Cultural Heritage team provided an explanation of what work has been completed to date and the presence of the mapping typically led to a generalized discussion of culturally significant areas, and how they will be protected or mitigated during construction. Members of the MFFN community expressed a general interest in the project mapping and how the information was compiled. Some attendees noted features by writing on the map or marking them with notes. It was suggested that the AECOM team meet with Elders and Knowledge Keepers who are unable to travel during their visit to the community. The Cultural Heritage team visited the Elders' complex upon arriving in the community, however none of the individuals present were able to converse with the Cultural Heritage team.

The information collected during the field review informs the appropriate impact management measures and recommendations for minimizing and avoiding negative effects on identified cultural heritage resources.

5. Consideration of Indigenous Knowledge in the IS / EA Report

The following provides a general description of how Indigenous Knowledge will be considered in the IA / EA process. The extent to which Indigenous Knowledge is considered by each specific VC will vary depending on the nature of the VC, the potential for Project effects on the VC and whether Indigenous knowledge that relates to a VC is provided / obtained. As such, not all aspects of the general approach described below may apply to all VCs / study plans.

There are two concurrent and complementary avenues for Indigenous communities and groups to be engaged with and provide input on the Project: the Indigenous Knowledge Program and the Consultation and Engagement Program. Both programs serve to support the collection of Indigenous perspectives, values, and input on the Project, including Aboriginal and Treaty Rights and how they may be impacted by the Project, to be integrated throughout the IA / EA process. However, the Indigenous Knowledge Program specifically aims to solicit and incorporate information that is considered sensitive and may have confidentiality requirements, including Indigenous Knowledge and information on Indigenous land and resource use. Indigenous Knowledge Sharing Agreements will be established between the Proponent and Indigenous communities participating in the Indigenous Knowledge Program prior to the sharing and use of any sensitive information.

All Indigenous communities and groups identified by the MECP and the Agency through the Indigenous Engagement and Partnership Plan have the opportunity to participate in the Indigenous Knowledge Program. The Indigenous Knowledge Program provides interested Indigenous communities an opportunity to: share existing Indigenous Knowledge and information on Indigenous land and resource use and cultural values that may be relevant to the Project, and / or complete Project-specific studies to collect and share Indigenous Knowledge and information on Indigenous land and resource use and cultural values. The Indigenous Knowledge Program includes opportunities for Indigenous communities and groups to meet with the Proponent to discuss the program, ask questions, and share concerns and interests. In support of this, the Proponent has created an Indigenous Knowledge Program Guidance Document (the Guidance Document) that provides:

- An overview of the Indigenous Knowledge Program and information on how Indigenous Knowledge, Indigenous land and resource use, and cultural values and practices can be collected and / or shared;

- Information on how Indigenous Knowledge and information on Indigenous land and resource use and cultural values and practices may be used in the planning and design processes; and
- A suite of guidance materials that were developed based on the information requirements of both the federal and provincial assessment processes, including: question guides to support the collection of information on historical and current community context; Indigenous Knowledge that may be relevant to the various technical disciplines; information on Indigenous land and resource use, cultural values and practices and associated spatial data; and perspective on potential Project-related effects and associated mitigation and / or enhancement measures.

The Guidance Document will also support participating Indigenous communities in providing Project-specific information in a manner that facilitates meaningful incorporation into the IS / EA Report.

The *IS / EA Consultation Plan* (AECOM 2020) outlines the process for obtaining information and feedback about the Project from Indigenous communities (i.e., the Consultation and Engagement Program). All Indigenous communities identified by the MECP and the Agency have the opportunity to participate in the Consultation and Engagement Program through community-specific meetings, Public Information Centres, web conferences, and other formats. All Indigenous communities identified by the MECP and the Agency will be provided information related to the Project and invited to participate at various points throughout the IA / EA process.

There are also opportunities for the MFFN CAR Project Consultant to engage with Indigenous communities to solicit perspectives and information relevant to the Project, including information related to collection of existing information and the development of the IS / EA Report. The Proponent also invites feedback and inputs throughout the Project via the Project website and ongoing communications with the Proponent.

The Indigenous Knowledge and Consultation and Engagement programs are designed to be complementary and provide multiple opportunities for communities to offer feedback and information, including perspectives on Aboriginal and Treaty Rights and interests and how these may be impacted by the proposed Project. Relevant information collected through both the Indigenous Knowledge and Consultation and Engagement programs, including potential effect pathways on Aboriginal and Treaty Rights and interests, will be shared with each of the relevant disciplines throughout the IA / EA to: guide and inform VCs; support characterization of the existing environment; identify the potential effects of the Project on VCs; help identify mitigation measures and potential monitoring programs; and ultimately guide Project planning. The nature of how the Indigenous Knowledge becomes integrated into the IS / EA Report will be dictated by the specific information provided by each Indigenous community and the parameters set out in the Indigenous Knowledge Sharing Agreements. A description of how Indigenous Knowledge was considered in the IA / EA and in each of the technical discipline areas will be included in the IS / EA Report.

It is also important to note that information collected through the various activities (e.g., field studies and programs, effects assessments) of each discipline area (e.g., wildlife, vegetation, cultural heritage) will be shared with the Indigenous Knowledge Program leads. This will support the establishment of the existing environment and the effects assessment for the Aboriginal and Treaty Rights and Interests environmental discipline, as well as the identification of potential mitigation measures and monitoring programs, given the interrelated nature of Indigenous peoples and other environmental disciplines.

The Proponent will strive to respectfully collaborate with Indigenous communities on how Indigenous Knowledge and information on Indigenous land and resource use and cultural values will become part of the IS / EA Report, and how potential effects to Aboriginal and Treaty Rights and interests will be assessed. It is expected that measures to support this may include but are not limited to: engaging Indigenous communities to solicit information on Indigenous Knowledge and Indigenous land and resource use and cultural values to inform baseline conditions, providing Indigenous communities with draft sections of the IS / EA Report to illustrate how Indigenous Knowledge and information on Indigenous land and resource use and cultural values has been integrated and to confirm it has been presented appropriately, and completing collaborative working sessions with Indigenous communities for the effects assessment on Aboriginal and Treaty Rights and Interests. Further information on how potential effects on Indigenous rights will be assessed is provided in the Aboriginal and Treaty Rights and Interests Study Plan.

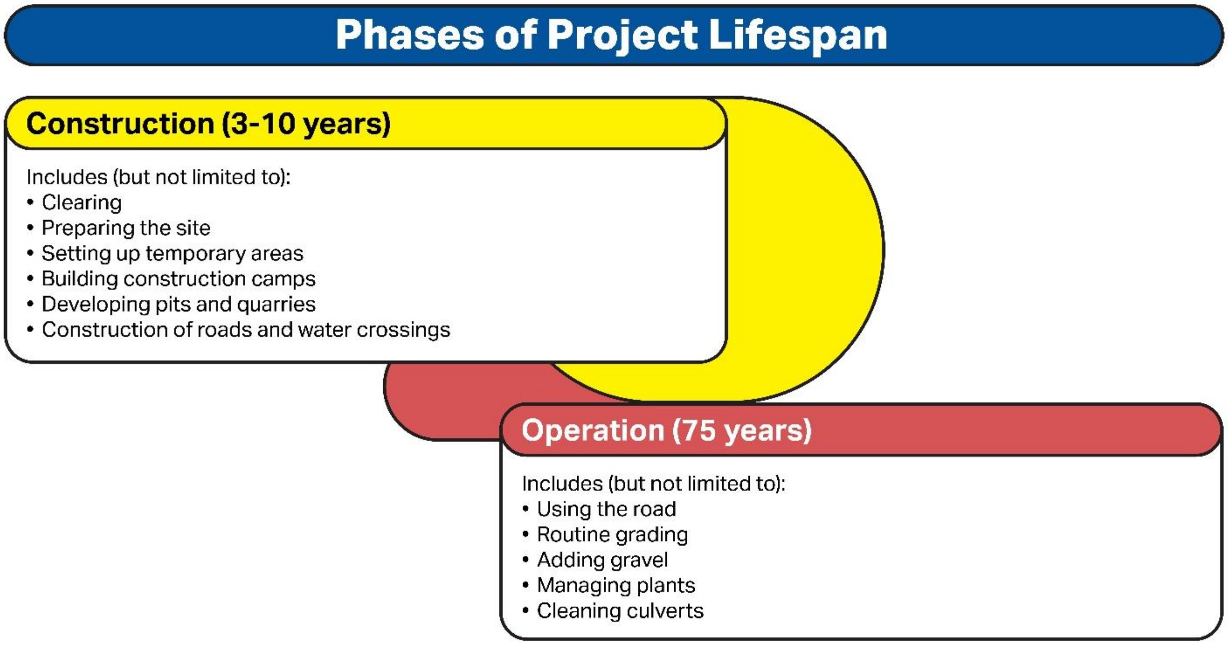
6. Assessment Boundaries

6.1 Temporal Boundaries: Project Phases

Project phases, which are temporal boundaries, are developed to establish the timeframes within which potential effects of the Project will be considered in the IS / EA Report. The Project is planned to occur in two phases, which are briefly described below and shown in **Figure 6-1**.

- **Construction Phase:**
  The time from start of construction, including site preparation activities, to the start of operations and maintenance of the CAR. Decommissioning of construction works is included in the construction phase. The construction phase is anticipated to take approximately 3 to 10 years to complete.
- **Operations and Maintenance Phase:**
  The operations and maintenance phase starts once construction activities are complete and lasts for the life of the Project. The operations and maintenance phase of the Project is considered to be 75 years based on the expected timeline for when major refurbishment of road components (e.g., bridges), is anticipated.

Figure 6-1: Project Schedule



There are currently no plans to decommission the CAR as there is no expected / known end date for its need. Therefore, future suspension, decommissioning and eventual abandonment of the CAR will not be considered in the IS / EA Report. It will be considered if and when a decommissioning or abandonment application is made for the road.

In determining the temporal boundaries, in particular the long operations and maintenance phase, consideration was given to the long-term effects on the well-being of present and future generations (Sustainability Principle #2). The final temporal boundaries to be used in the IS / EA Report will be based on regulatory agency guidance, professional judgement and input received through the Project consultation process.

The Cultural Heritage collection of baseline data and effects assessment will be completed prior to any ground disturbing activities related to the construction. As per the *Ontario Heritage Act* (*OHA*) (Ontario Government 1990) and MHSTCI *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011), all archaeological activities must be addressed prior to any proposed construction activities. The results of the Archaeological and Built Heritage Assessments will inform route selection.

6.2 Spatial Boundaries: Study Areas

6.2.1 General Information

Study areas identify the geographic extents within which potential effects of the Project are likely to occur and will be considered in the IS / EA Report. The existing conditions and potential effects are documented for three study areas selected for the Project:

- **Project Development Area (PDA):** area of direct disturbance;
- **Local Study Area (LSA):** the area where most of the direct effects of the Project are likely to occur; and
- **Regional Study Area (RSA):** the area where indirect effects of the Project are likely to occur.

The PDA encompasses the 100 metre-wide CAR right-of-way (ROW), temporary construction access roads, work areas, worker camps, and pits, quarries and associated access roads. The preliminary LSA currently being considered within the scope of the ongoing provincial regulatory review process generally includes the area within 2.5 km of the centreline of Alternative 1 and Alternative 4. The preliminary study area generally allows for the documentation of existing conditions and prediction of potential environmental effects for the Project. A 5 km wide study area also allows for route refinements during development of Project design (e.g., adjustment of the alignment to avoid sensitive features).

The specific location of Project components, including the roadway, quarries, pits and temporary infrastructure, are not yet known and will be included in the IS / EA Report. While most of the Project components are expected to be located within the preliminary 5 km wide study area, benefits (e.g., reduced environmental disturbance, avoidance of sensitive features, technical considerations, concerns received through consultation) for locating Project components on lands outside of the 5 km wide study area may become known during the IA / EA process. If the need to locate Project components outside the 5 km wide study area is determined to be required or of benefit to the Project, the study area would be adjusted.

The study area for each environmental discipline may vary from the above-described general study area based on the potential for the Project to directly or indirectly affect each environmental discipline; therefore, discipline-specific LSAs and RSAs have been defined for the Project. In defining the final LSAs and RSAs, each environmental discipline will consider:

- Location and other characteristics of the environmental discipline relative to the Project;
- The anticipated extent of the potential Project effects;
- Federal, provincial, regional, and local government administrative boundaries;
- Indigenous groups listed in **Table 4-1**;
- Community knowledge and Indigenous Knowledge;
- Current or traditional land and resource use by Indigenous communities;
- Exercise of Aboriginal and Treaty Rights of Indigenous peoples, including cultural and spiritual practices; and
- Physical, ecological, technical, social, health, economic and cultural considerations.

The study areas included in this document are preliminary, covering the extent to which readily available information suggests the Project may have noticeable effects on the environment. The size, nature and location of past, present and reasonably foreseeable projects will be taken into consideration in the development of the cumulative effects assessment study area(s). The appropriate study area(s) to assess cumulative effects are dependent on the VCs predicted to have direct residual adverse effects as a result of the Project, and therefore, cannot be defined until the IS / EA Report has sufficiently advanced.

As further detailed in **Section 4**, the Proponent will continue to provide opportunities for neighbouring Indigenous communities and interested persons to provide input and inform the effects assessment, including the LSAs and RSAs.

6.2.2 Cultural Heritage Study Areas

The LSA and RSA boundaries for Cultural Heritage are detailed in **Table 6-1** and shown on **Figure 6-2**.

Table 6-1: Cultural Heritage Study Areas

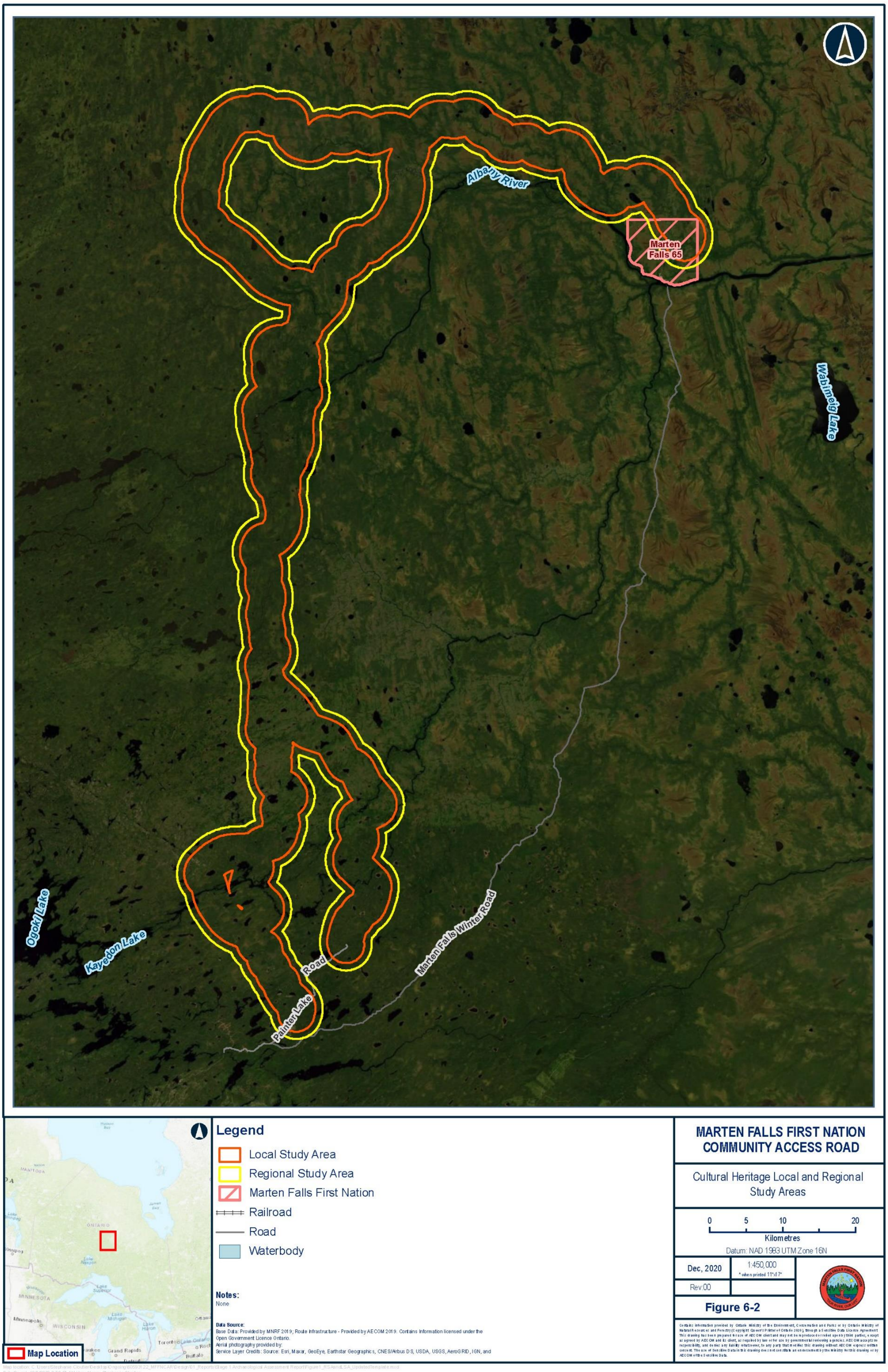
Study Area	Geographic Extent	Rationale
Local Study Area	▪ Total 5 km wide area around the centreline of Alternative 1 and Alternative 4	▪ To capture any temporary land use and / or access areas
Regional Study Area	▪ LSA + 1 km buffer	▪ Ontario Archaeological Sites Database 1 km buffer for identifying archaeological potential

The Stage 1 AA assessed land where planned Project impacts are proposed (PSA) plus a buffer of land within 2.5 km of the centreline of Alternative 1 and Alternative 4, for a total of a 5 km wide study area (LSA). The entire LSA was assessed within the Stage 1 AA in order to capture any land that may be required for temporary land uses or access areas that may be required during construction as per the *Ontario Heritage Act* (Ontario Government 1990) and the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011). During the production of the Stage 1 AA report, a buffer was applied to the LSA in order to conduct a search of the Ontario Archaeological Sites Database for a listing of registered archaeological sites within the RSA as per the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011).

Should additional land outside of the current LSA boundaries be included as part of the Project, the standard requirements for archaeological assessments to be conducted prior to land disturbance will remain in place.

Both the Stage 1 AA and the Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (CHR) study areas will encompass the land within the LSA. A CHR will present an inventory of previously identified and potential built heritage resources and cultural heritage landscapes, identify the existing conditions of the study area, identify preliminary potential effects to the cultural heritage resources, and propose appropriate impact management measures. A description of the Stage 1 & 2 AA Process and the CHR is provided in **Section 7**.

Figure 6-2: Cultural Heritage Local and Regional Study Areas



7. Baseline Study Design

7.1 Desktop Assessment

A desktop review of existing information sources was completed to identify information gaps that will need to be addressed through further study. A preliminary list of applicable information sources has been included in **Appendix A** and reflects federal and provincial guidance received to date. This Study Plan focuses on the additional studies that are anticipated to be required to gather information beyond what is currently available through existing information sources, including those as described in **Section 7.2** 'Sources of baseline information' in the Agency's TISG for this Project (the Agency 2020b).

7.2 Archaeology Study Methods

7.2.1 Stage 1

Prior to approving land development projects regulated by legislation, the approval authority for the Project requires an archaeological assessment of all lands that are part of the Project. Assessments are required when the land is known to have an archaeological site present or has the potential to have archaeological resources. There are four stages of archaeological assessments in Ontario, regulated by the MHSTCI. A Stage 1 AA consists of a background study and optional property inspection, where a consultant archaeologist determines whether there is potential for archaeological sites in the proposed area of impact. The licensed archaeologist will review geographic, land use and historical information for the property and the relevant surrounding area, visits the property to inspect its current condition and contacts this MHSTCI to find out whether or not there are any known archaeological sites on or near the property. A Stage 2 AA is recommended when the consultant archaeologist identifies areas of archaeological potential during the Stage 1 AA as outlined in the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011). Upon completion of any archaeological assessment in Ontario, the licensed archaeologist must develop and provide an archaeological report to the MHSTCI for review and acceptance into the Provincial Register of Archaeological Reports (Ontario Government 2011). For further information, readers should consult the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011).

The objective of the Stage 1 AA was to document the archaeological and land use history, and present conditions within the study area. This information will be used to support recommendations regarding cultural heritage values or interests as well as assessment and impact management strategies. The Stage 1

AA was completed by a licensed archaeologist and has identified known archaeological sites, areas subject to previous assessments and has evaluated the potential for archaeological resources to be present on undisturbed land according to provincial criteria (Ontario Government 2011). The Stage 1 AA involved:

- Review of recent maps (i.e., satellite imagery, LiDAR) of the study area;
- Review of reports of previous AAs in the RSA;
- Review of the MHSTCI Ontario Archaeological Sites Database for a listing of registered archaeological sites within a 1 km radius of the LSA;
- A visual inspection of the existing conditions of the LSA and surroundings;
- Archaeological management plans or other archaeological potential mapping, where available; and
- Incorporation of Indigenous Knowledge provided as part of the consultation process of the Project.

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Criteria commonly used by the MHSTCI to determine areas of archaeological potential are listed in Section 1.3.1 of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011), and include:

- Proximity to previously identified archaeological sites;
- Distance to various types of water sources;
- Soil texture and drainage;
- Glacial geomorphology, elevated topography and the general topographic variability of the area;
- Resource areas including food or medicinal plants, scarce raw materials and early Euro-Canadian industry;
- Areas of early Euro- Canadian settlement and early transportation routes;
- Properties listed on municipal register of properties designated under the *OHA* (Ontario Government 1990);
- Properties that local histories or informants have identified with possible archaeological sites, historical events, activities or occupants; and
- Historic landmarks or sites.

Distance to modern or ancient water sources is generally accepted as the most important element for past human occupations and settlement patterns, and when considered alone may result in a determination of archaeological potential. In addition, any combination of two or more of the listed criteria indicates archaeological potential. Stream ordering can be used as a tool for predicting archaeological potential, as the importance of a watercourse decreases with their relative size and navigability.

In addition to the above listed criteria defined by the MHSTCI, consultation with local First Nations groups is crucial to the background data collection. Since Indigenous groups identify culturally important and sensitive areas and sites without material culture (artifacts) and features (such as ceremonial and sacred sites) associated with them, this information is relevant to our conclusions. MFFN provided the MFFN CAR Project Team with Indigenous Knowledge data for the study area, which includes information on trapping and harvest areas (plant, fish and other wildlife), camp and campsites, spiritual / sacred places, travel routes, historical sites and historical villages, burials, and other important areas of interest. It is important to include the Indigenous Knowledge data in the archaeological potential mapping as they identify areas which often differ from those identified with MHSTCI criteria, as noted above. The gathering of Indigenous Knowledge information from MFFN and other interested neighbouring First Nation communities is ongoing (further details of that program can be found in Aboriginal and Treaty Rights and Interests Study Pla*n*. The Stage 1 AA has been conducted to meet the requirements of the MHSTCI *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011). The nature of how Indigenous Knowledge shared becomes integrated into the IS / EA Report will be dictated by the specific information provided by each Indigenous community and the parameters set out in the respective Indigenous Knowledge Sharing Agreements. Any data collected via consultation or shared to inform the Stage 1AA is considered sensitive information and is not included in any public documentation. This information is shared with the MHSTCI in a Supplementary Documentation Report as a separate report not released for public consumption.

It is also important to note that information collected through the various activities (e.g., field studies and programs, effects assessments) of each discipline area (e.g., wildlife, vegetation, cultural heritage) will also be shared with the Indigenous Knowledge Program leads. This will support the establishment of baseline conditions and the effects assessment for the Aboriginal and Treaty Rights and Interests VC, as well as the identification of potential impact management measures and monitoring programs, given the interrelated nature of Indigenous peoples and the various VCs. Mechanisms to support this iterative and continuous information process among MFFN CAR Project Team members include regular cross-disciplinary team meetings throughout the IA / EA processes.

Stage 1 Baseline Field work Completed to Date

The MFFN CAR Project Team completed portions of the field program in the fall of 2019 from September 24 to October 4, 2019. During this time, a number of field tasks were accomplished including a Stage 1 field review / visual inspection of the LSA, consultation and engagement with Aroland First Nation, and initial contact and introductions with Marten Falls First Nation Elders.

The MFFN CAR Project Team completed the Stage 1 field review in order to narrow down areas of archaeological potential that had been identified during the background research. This was accomplished by utilizing the helicopter to fly over the LSA. Photographs were taken out of the helicopter windows to illustrate some of the existing conditions of the general Project area. This was incorporated into the Stage 1 report results. The Stage 1 AA report has been written and will be submitted to the Ontario MHSTCI for review and acceptance into the register of archaeological reports. This document will provide the results of the background study, field review / visual inspection and evaluation of archaeological potential. The report will be concluded with a recommendation on whether a Stage 2 AA is required and what the appropriate Stage 2 assessment strategy should consist of as well as indicating what areas are cleared of archaeological concerns.

A second Stage 1 archaeological report is currently underway for additional land identified outside of the LSA that is required as part of the project, specifically for aggregate sourcing during road construction. All areas outside of the original LSA that will be impacted during construction must be subject to archaeological assessment. This report will be concluded with a recommendation of whether a Stage 2 AA is required and what the appropriate Stage 2 assessment strategy should consist of as well as indicate what areas are cleared of archaeological concerns.

7.2.2 Stage 2

Once the preferred route has been chosen, a Stage 2 AA will be completed on the PDA. The objective of the Stage 2 AA is to provide an overview of archaeological resources within the PDA, make a determination as to whether any of the resources might be artifacts or archaeological sites with cultural heritage value or interest requiring further assessment, and to recommend appropriate Stage 3 assessment strategies for any archaeological sites identified. The Stage 2 AA is not expected to be provided as a component of this EA process.

The Stage 2 survey will consist of physically inspecting the areas identified as retaining archaeological potential within the PDA as per Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011) for special survey conditions in northern Ontario and on Canadian Shield terrain. This will be completed by walking within the areas identified as retaining potential, which includes beach survey and test pit survey where possible. In areas that were not found to be wet or steeply sloped, test pit survey will be conducted. Test pit intervals will range to a maximum of 5 m, which will be decided based on professional judgement in each area. Each test pit will be no less than 30 cm in diameter and all soil will be screened though hardware mesh 6 mm in size to facilitate the recovery of cultural material. All test pits are examined for stratigraphy, cultural features or evidence of fill. If cultural material is identified, further archaeological investigation will be recommended based on the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011).

Stage 2 Baseline Field work Completed to Date

In addition to completing the Stage 1 field fly over, the MFFN CAR Project Team also began the Stage 2 field work in the fall of 2019, operating from September 24 to October 4, 2019. The Stage 2 strategy at this time, given the weather constraints, consisted of concentrating primarily on the alternatives at targeted river crossings based on proposed bridge designs and any specific locations MFFN requested to be examined and recorded. Based on professional judgement and in consultation with MFFN, it was agreed that the fall 2019 Stage 2 field work would consists of the survey of an area covering 1 km upstream and 1 km downstream from each of the proposed river crossing locations currently under consideration given the large size of the LSA. The MFFN CAR Project Team was only able to physically survey two river crossings in the fall of 2019 – Albany River crossing WA-15 and Ogoki River crossing WA-01 within the timeframe that the weather allowed. The field program was then put on hold for the year, and further Stage 2 archaeological work is required to be completed.

As per the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011), the Stage 2 AA was completed by a licensed archaeologist and consisted of physically inspecting the areas identified as retaining archaeological potential within both river crossings. This was completed by walking within the areas identified as retaining potential, which included beach survey and test pit survey where possible. The beach survey of exposed shorelines consisted of the MFFN CAR Project Consultant examining the beach surface for artifacts. In areas that were not found to be wet or steeply sloped, test pit survey was conducted. Test pit intervals ranged from 2.5 m to a maximum of 5 m apart, which were decided based on professional judgement in each area. Each test pit was dug by hand with a shovel and was approximately 30 cm in diameter. All soil was screened though hardware mesh 6 mm in size to facilitate the recovery of cultural material.

7.3 Cultural (Built) Heritage Study Methods

A CHR will be completed to describe the existing conditions of the study area, present a built heritage and cultural landscape inventory of material and non-material cultural heritage resources, and propose appropriate impact management measures and recommendations for minimizing and avoiding negative effects on identified cultural heritage resources. This Study Plan is guided by the following documents and legislation: *Guidelines for Preparing the Cultural Heritage Resource Component of Environmental Assessments* (MHSTCI 1992); the *Ontario Heritage Act* (Ontario Government 1990); and the *Ontario Heritage Tool Kit* (MHSTCI 2006). The CHR will focus on conducting and analyzing background research and field survey results for the purposes of identifying effects of the proposed undertaking on any cultural heritage resources. The following steps will be taken in order to identify built heritage resources and / or cultural heritage landscapes within the study area:

- Background historical research to identify major historical themes and activities within the RSA study area, including a review of historical maps.
- A review to identify properties within the RSA study area that have been designated under Part IV or V of the *OHA* or listed on a District inventory or heritage register.
- Indigenous community engagement including with MFFN, with particular focus on obtaining knowledge regarding the cultural heritage landscape in general and potential material and non-material cultural heritage resources.
- A field review to confirm the location and condition of previously identified material and non-material cultural heritage resources. The field review is also used to identify cultural heritage resources that have not been previously identified on federal, provincial, or municipal databases. The results of survey will be recorded on survey forms including photographs, where appropriate.
- Conduct a preliminary effects assessment in order to propose appropriate impact management measures and recommendations for minimizing and avoiding negative effects on cultural heritage resources, and the identification of further reporting requirements such as Cultural Heritage Evaluation Reports and / or Heritage Impact Assessments, if necessary.

7.4 Schedule for Baseline Data Collection

The Stage 1 AA report is currently under development and will incorporate preliminary information from the initial field review in the fall of 2019 to inform existing baseline conditions. The Stage 1 AA report will be written to meet the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011) by employing the methodology outlined in **Section 7.2** of this Study Plan.

Once the preferred route has been chosen, a Stage 2 AA will be completed on the PDA. The objective of the Stage 2 AA is to provide an overview of archaeological resources within the PDA, make a determination as to whether any of the resources might be artifacts or archaeological sites with cultural heritage value or interest requiring further assessment, and to recommend appropriate Stage 3 assessment strategies for any archaeological sites identified. Once the preferred route alternative has been chosen, the Stage 2 AA will be undertaken based on the results of the Stage 1 AA. The field investigations during the fall of 2019 were suspended because of Project timing and weather implications, as archaeological assessments cannot be completed when visibility of the ground surface is impeded by snow cover as per the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011). Additionally, a PDA has yet to be defined. Therefore, further Stage 2 field work will be completed for all areas as retaining archaeological potential within the PDA when conditions allow, which would ideally be completed between the months of May and September. There are no sampling strategies in place as archaeological assessments are conducted to meet the requirements of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011). The work will only be considered complete when all areas identified as retaining archaeological potential have been investigated, reported on, and reviewed and accepted by the MHSTCI.

8. Data Management and Analysis

Data management including quality assurance / quality control (QA / QC) will be employed to minimize potential for data entry and analysis errors, prepare data sets for analysis and limit sensitive data distribution in accordance to established agreements.

8.1 Archaeology

The results of the Stage 1 AA include extensive archaeological potential mapping developed from the methods outlined in **Section 7.2**.

Background Review

The archaeological potential mapping is a culmination of stream order data, the Indigenous Knowledge provided by Indigenous communities, satellite imagery, and visual inspection of the study area. The mapping illustrates where Stage 2 AA is required and where archaeological potential has been removed based on physical landscape features of low archaeological potential (e.g., bog, wetlands), as per the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011). These data are then used as a tool in order to evaluate potential effects relating to the Project.

Field Data

Data collected during the Stage 1 AA field work include pictorial records and associated notes and mapping. Any information collected as part of the Stage 1 field work is currently being stored digitally on the AECOM London, Ontario server. The pictorial records will be incorporated in the Stage 1 AA report to illustrate the existing conditions of the LSA and help to reinforce background data collected via satellite, topographic, and vegetation mapping. This will cumulatively inform the determination of archaeological potential within the LSA as per the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011).

Indigenous Knowledge

Any Indigenous Knowledge data collected through consultation with Indigenous groups that has been used to inform the Stage 1 AA is not included directly within any archaeological reports, as per the data sharing agreements in place with Indigenous communities. This is sensitive information that is not made public as part of the archaeological assessment and is provided in a Supplementary Documentation report to the client and the MHSTCI only as per the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011). The information collected will cumulatively inform the determination of archaeological potential within the LSA.

8.2 Cultural (Built) Heritage

The CHR will result in the preparation of a cultural resource inventory, including descriptions and photographs. A preliminary analysis of potential effects of the undertaking on identified potential cultural heritage resources will also be conducted, along with the identification of impact management measures based on the Project alternatives. The CHR will be prepared based on the results of the background research, including a review of historical maps, a cultural heritage field review of the existing conditions, and community engagement, including MFFN. The CHR is guided by the following documents and legislation: *Guidelines for Preparing the Cultural Heritage Resource Component of Environmental Assessments* (MHSTCI 1992); the *Ontario Heritage Act* (Ontario Government 1990); and the *Ontario Heritage Tool Kit* (MHSTCI 2006).

Background Research

Historical maps and information collected from primary and secondary sources will be examined to determine if the LSA contains any built heritage resources or landscape features. The significance of these features will then be determined through a built heritage and cultural landscape inventory of material and non-material cultural heritage resources and will propose appropriate impact management measures and recommendations for minimizing and avoiding negative effects on identified cultural heritage resources.

Field Data

Field data collected during the CHR field work include pictorial records and associated notes and mapping. Any information collected as part of the CHR field work will be stored digitally on the AECOM London, Ontario server. The pictorial records will be incorporated in the CHR report to illustrate the existing conditions of the LSA and help to reinforce background data collected via satellite, topographic, and historic mapping. This will cumulatively inform the appropriate impact management measures and recommendations for minimizing and avoiding negative effects on identified cultural heritage resources.

Indigenous Knowledge

Any Indigenous Knowledge data collected through consultation with Indigenous groups that has been used to inform the CHR is not included directly within any reports, as per agreements in place with the First Nations communities. This is sensitive information that is not made public as part of the CHR. A copy of the sensitive material may only be provided in a Supplementary Documentation-type report to the client and the MHSTCI only.

9. Effects Assessment

The following sections provide discipline-specific input and considerations as they pertain to the methodology for effects assessment. The Project is in the early stage of the IS / EA Report preparation and it is expected that the effects assessment methodology will be refined iteratively based on regulatory agency guidance, professional judgment and input received through the Project consultation and engagement process.

9.1 Project-Environment Interactions

The Project activities that may result in changes to the environment are described within the identified temporal and spatial boundaries. This includes identification of both direct and indirect changes by comparing the existing setting to the conditions anticipated to occur as a result of the Project. For each environmental discipline, the likely Project-environment interactions will be identified based on professional judgment, activities listed in TISG Section 3.2 (the Agency 2020b) as well as projects of similar magnitude and / or location.

A preliminary analysis of Project-environment interactions for the Cultural Heritage is provided in **Table 9-1** and will be confirmed during the IA / EA process to identify the Project-environment interactions that are likely to have a potential effect, and to identify measures to avoid or minimize potential negative effects and enhance benefits.

The Cultural Heritage assessments for the Project will be completed and approved by the MHSTCI prior to any and all proposed construction and operations activities as per *Ontario Heritage Act* and the MHSTCI' *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011). A Stage 1 AA draft report will be submitted to the Ontario MHSTCI for review and acceptance into the register of archaeological reports. The Stage 1 AA will be submitted for MHSTCI review during the environmental assessment process (pre-planning phase) but prior to the EA completion. This information will be used to inform the evaluation of alternatives and any additional studies. This document provides the results of the background study, property inspection and evaluation of archaeological potential. The report is concluded with a recommendation on whether Stage 2 AA is required and what the appropriate Stage 2 assessment strategy should consist of as well as indicating what areas are cleared of archaeological concerns. Should the results of the Stage 1 AA recommend further archaeological assessment(s) within the preferred alternative, or PDA, then any further stages of archaeological assessment will be completed as early as possible during the planning or design phase of the Project, and prior to the completion of detailed design. The Stage 2 AA must be conducted by a licensed archaeologist and will meet the requirements of the *Ontario Heritage Act* and the MHSTCI' *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011).

Table 9-1: Project – Environment Interactions

Project Phases	Project Activities	Cultural Heritage
Construction Phase	*Mobilization of Equipment and Supplies*	**X**
	Temporary Construction Staging Areas[1]	**X**
	Temporary Access Roads and Trails[1]	**X**
	Temporary Construction Camps[1]	**X**
	ROW Clearing and Grubbing	**X**
	Brush and Timber Disposal	**X**
	Pits and Quarries[1]	**X**
	Drilling / Blasting / Aggregate Production	**X**
	Road Construction (stripping, subgrade excavation, embankment fill placement, grading, ditching)	**X**
	Bridge and Culvert Installation (approach embankments, foundations, substructures, superstructures, traffic protection, erosion controls)	**X**
	Construction Site Restoration	**X**
Construction Phase: Decommissioning	*Pits and Quarries*	**X**
	Temporary Camps, Roads / Trails and Staging Areas	**X**
Operations Phase	*Road Usage*	
	Maintenance[2]	**X**

Notes: 1. Includes construction and use of
2. Includes General Maintenance (e.g., grading, erosion control, quarrying, pits and quarries), Seasonal Maintenance (e.g., snow clearing, bridge and culvert maintenance), and Special Maintenance (e.g., slope failures, road settlement / break-up.).

Should future work as part of maintenance or operations be required outside of the previously assessed and cleared areas, further archaeological work is required.

9.2 Valued Components and Indicators

VCs are the environmental, health, social, economic or additional elements or conditions of the natural and human environment that may be impacted by a proposed project and are of concern or value to the public, Indigenous peoples, federal authorities and interested parties (the Agency 2020b). Indicators represent the resource, feature, or issue related to the VC that, if changed, may demonstrate an effect on the environment. The indicators and rationale for selection and measurement of potential effects, to be used to assess and evaluate the alternative routes in the IS / EA Report are provided in **Table 9-2**. The table includes both quantitative and qualitative indicators. The final list of VCs and indicators to be used in the IS / EA Report will be based on regulatory agency guidance, professional judgement and input received through the Project consultation and engagement process.

Table 9-2: Cultural Heritage Indicators

Valued Component	Indicators	Rationale for Selection
Archaeology	■ Previously identified archaeological sites ■ Proximity to water ■ Soil texture and drainage ■ Glacial geomorphology, elevated topography ■ Resource areas including food or medicinal plants, scarce raw materials ■ Areas of early 19th century settlement and transportation routes ■ Properties that local histories or informants have identified with possible archaeological sites, historical events, activities or occupants	■ Retains high archaeological potential because of: – Burial Sites – Historical Villages – Areas of Cultural Significance (material and non-material) – Culturally Important Landscape Features (e.g., related to traditional hunting / harvesting area, portage routes) – Registered archaeological sites – Areas of importance to local communities – Locations related to Oral histories – Indigenous Knowledge – Recent and historical maps of the study area – Primary and secondary documentary sources (both current and archival written accounts, maps, drawings, plans and images) – Site visits – Community Based Land Use Planning initiatives
Cultural Heritage	■ Culturally Significant Landscapes	■ Areas of importance to local communities ■ Areas of Historical (Regional) Significance (e.g., historic lumber routes) ■ Culturally Important Landscape Features (e.g., related to traditional hunting / harvesting area, portage routes) ■ Areas of Religious or Spiritual Significance (material and non-material) ■ Locations related to Oral histories ■ Indigenous Knowledge ■ Recent and historical maps of the study area ■ Primary and secondary documentary sources (both current and archival written accounts, maps, drawings, plans and images) ■ Site visits ■ Community Based Land Use Planning initiatives

The VCs of the Cultural Heritage have been determined through consideration of the following factors listed in the TISG[6]:

- VC presence in the study area;
- the extent to which the VC is linked to the interests or exercise of Aboriginal and Treaty Rights of Indigenous peoples, and whether an Indigenous group has requested the VC;

6. *The TISG also states that information from ongoing and completed regional assessments in the proposed area of the Project should be used to inform VCs for the Project. In February 2020 a regional assessment of the Ring of Fire region commenced; however, it is not sufficiently advanced at this time to inform the Project VCs. The VCs will be consulted and engaged on early in the IA/ EA process and finalized taking into consideration the input received. Therefore, only information relevant to the Project that arises from the regional assessment of the Ring of Fire within an appropriate timeline will inform the VCs for the Project.*

- the extent to which the effects (real or perceived) of the Project and related activities have the potential to interact with the VC;
- the extent to which the VC may be under cumulative stress from other past, existing or future undertakings in combination with other human activities and natural processes;
- the extent to which the VC is linked to federal, provincial, territorial or municipal government priorities (e.g., legislation, programs, policies);
- the possibility that adverse or positive effects on the VC would be of particular concern to Indigenous groups, the public, or federal, provincial, territorial, municipal or Indigenous governments; and
- whether the potential effects of the Project on the VC can be measured and / or monitored or would be better ascertained through the analysis of a proxy VC.

Inputs received to date from Indigenous communities, agencies and interested persons through the Consultation and Engagement Program, including inputs received on the Draft ToR, have also been used to inform the selection of the VCs and indicators for Cultural Heritage.

9.3 Potential Effects

A direct effect occurs through the direct interaction of an activity with an environmental discipline. The Project-environment interactions currently anticipated, based upon preliminary analysis, to result in direct effects to Cultural Heritage have been identified in **Table 9-1**. The potential direct effects resulting from the Project-environment interactions will be confirmed during the IA / EA process and will be based on input received through the Indigenous Knowledge Program and Consultation and Engagement Program, regulatory agency guidance, and professional judgement.

An indirect effect occurs when a change to one environmental discipline resulting from a Project activity causes a change to another environmental discipline (e.g., changes in vegetation could indirectly affect wildlife). **Table 9-3** provides a preliminary identification of how changes to Cultural Heritage may result in indirect effects to other environmental disciplines.

Table 9-3: Potential Discipline Interactions

Discipline and Associated Valued Components	Aboriginal Treaty Rights and Interests	Atmospheric Environment	Climate Change	Acoustic Environment	Physiology, Geology, Terrain and Soils	Surface Water	Groundwater and Geochemistry	Vegetation	Wildlife	Fish and Fish Habitat	Social	Economy	Land and Resource Use	Human Health and Community Safety	Visual Aesthetics	Archaeological and Cultural Heritage
Archaeological and Cultural Heritage ▪ **Archaeological Sites and Resources** ▪ **Built Heritage Resources and Cultural Heritage Landscapes**	X	-	X	-	-	-	-	-	-	-	X	-	X	-	-	

Notes: X = Potential pathway for indirect effect as a result of the Project.
- = No pathway for indirect effect is anticipated as a result of the Project.

9.4 Methods for Predicting Future Conditions

With respect to quantitative models and predictions, the IS / EA Report will detail the model assumptions, parameters, the quality of the data and the degree of certainty of the predictions obtained.

9.4.1 Archaeology

The Stage 1 Archaeological program will assess qualitative effects resulting from the Project on archaeological resources in the LSA. This program will seek to preserve and protect archaeological resources in place where possible, and as a result there is no quantitative approach to predicting future condition required.

The Stage 1 AA results in the determination of what areas retain archaeological potential and what areas are cleared of archaeological potential based on the criteria outlined in **Section 7.2**. This includes examining proximity to previously identified archaeological sites, other relevant archaeological assessments, proximity to water, elevated topography, a review of primary and secondary sources, significant areas identified during the collection of Indigenous Knowledge, and a visual inspection of the study area, as per the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011). The report is concluded with a recommendation on whether Stage 2 AA is required and what the appropriate Stage 2 assessment strategy should consist of, as well as indicating what areas are cleared of archaeological concern. The report is then submitted to the MHSTCI for review and acceptance into the Provincial Register of Archaeological Reports (Ontario Government).

9.4.2 Cultural (Built) Heritage

The Cultural Heritage program will assess qualitative effects resulting from the Project on built heritage and landscape resources in the LSA. This program will seek to preserve and protect built heritage and landscape resources in place where possible, and as a result there is no quantitative approach to predicting future condition required.

The CHR will assure that cultural heritage resources of cultural heritage value or interest, including cultural heritage landscapes, are appropriately identified, understood, and conserved as part of this community-led EA. A transportation route may directly or indirectly affect cultural heritage resources through the introduction of physical, visual, audible or atmospheric elements to the existing environment that does not keep in character with the northern setting. When the nature of the undertaking is such that negative effects are unavoidable, it may be necessary to implement management or impact management measures that alleviate the deleterious effects on cultural heritage resources. Impact management is the process of causing lessening or negating anticipated negative effects to cultural heritage resources.

To assess the potential effects of an undertaking within the LSA, identified cultural heritage resources are considered against a range of possible effects based on the *Ontario Heritage Tool Kit (*MHSTCI 2006*), Heritage Resources in the Land Use Planning Process (Ontario Government 2014)*, InfoSheet #5 *Heritage Impact Assessments and Conservation Plans* (MHSTCI 2006a) which include, but are not limited to:

- Destruction, removal or relocation of any, or part of any, significant heritage attributes or features
- Alteration that is not sympathetic, or is incompatible, with the historic fabric or appearance
- Shadows created that alter the appearance of a heritage attribute or change the exposure or visibility of a natural feature or plantings, such as a garden
- Isolation of a heritage attribute from its surrounding environment, context, or a significant relationship
- Direct or indirect obstruction of significant views or vistas from, within, or to a built or natural heritage feature
- A change in land use such as rezoning a battlefield from open space to residential use, allowing new development or site alteration to fill in the formerly open spaces
- Land disturbances such as a change in grade that alters soils, and drainage patterns that adversely affect an archaeological resource

Several additional factors are also considered when evaluating potential effects on identified cultural heritage resources. These are outlined in a document set out by the Ministry of Culture and Communications (now MHSTCI) and the Ministry of the Environment entitled *Guideline for Preparing the Cultural Heritage Resource Component of Environmental Assessments* (MHSTCI 1992) and include[7]:

- Magnitude: the expected change from existing conditions
- Severity[8]: the ability to return to existing conditions
- Duration: the period of time the effect is expected to occur
- Frequency: how often the effect is expected to occur
- Range[9]: the spatial area that the effect is expected to occur within
- Diversity: the number of different kinds of activities to affect a heritage resource

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7. *The majority of additional factors defined within the Guideline for Preparing the Cultural Heritage Resource Component of Environmental Assessment are effects characteristics defined for the Project to be used to undertake the residual effects assessment. For consistency the definitions provided are the Project definitions for these terms rather than the definitions provided by MHSTCI. The MHSTCI and Project definitions are equivalent in meaning but vary slightly in how they are written.*
8. *This term is referred to as reversibility in the effects characteristics that will be used for the residual effect's assessment for the Project.*
9. *This term is referred to as geographic extent in the effects characteristics that will be used for the residual effect's assessment for the Project.*

A preliminary impact assessment is conducted as a part of the CHR for the LSA in order to propose appropriate impact management measures and recommendations for minimizing and avoiding negative effects on cultural heritage resources, and the identification of further reporting requirements such as Cultural Heritage Evaluation Reports and / or Heritage Impact Assessments, if necessary.

9.5 Mitigation and Enhancement Measures

Once potential effects have been identified, the effects assessment will explore technically and economically feasible mitigation measures to avoid or minimize the identified negative effects and enhancement measures to increase positive effects, beyond those that are already inherent to design. These measures will consist of industry-standard practices, federal and provincial standard specifications, regulator-mandated measures, best management practices, Indigenous and community recommendations and recommendations from industry and environmental professionals based on expertise, scientific publications, experience and judgement.

It is important that mitigation and enhancement measures are achievable, measurable and verifiable and monitored for compliance and effectiveness during all temporal phases as part of the Project follow-up monitoring plan. Required environmental monitoring will verify the potential environmental effects predicted in the IS / EA Report, evaluate the effectiveness of mitigation and enhancement measures, and identify the process the Proponent will follow if mitigation and enhancement measures are not effective.

9.5.1 TISG Section 20 Requirements

There are two mitigation and enhancement measures to be included in the IS relating to Cultural Heritage:

1. Describe mitigation measures that are specific to each environmental, health, social or economic effect identified. Mitigation measures are to be written as specific commitments that clearly describe when and how the proponent intends to implement them, what decision-making criteria will be used, and the outcome these mitigation measures are designed to address; and,
2. Describe mitigation measures proposed by Indigenous peoples and the consideration of those in the Project.

Mitigation measures for addressing potential Project-environment interactions in the IS / EA Report include completing a Stage 1 AA to identify areas of archaeological potential within the LSA. Mitigation measures outlined in the Stage 1 AA will consist of whether an area is or is not clear of archaeological concerns, and what areas require additional Stage 2 AA as per the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011). The determination of the degree of archaeological potential (i.e., negligible, low, high) within the Stage 1 AA will provide an opportunity to avoid or minimize any potential negative effects to areas of archaeological potential, or areas identified by the Indigenous Consultation as being significant. Additionally, the CHR will assess the potential effects of an undertaking within the LSA, identified cultural heritage resources are considered against a range of possible effects based on the *Ontario Heritage Tool Kit (*MHSTCI 2006*), Heritage Resources in the Land Use Planning Process (Ontario Government 2014)*, InfoSheet #5 *Heritage Impact Assessments and Conservation Plans* (MHSTCI 2006a).

Mitigation measures proposed by Indigenous peoples will be outlined and incorporated in the Stage 1 AA report and CHR collected through the Consultation and Engagement with Indigenous communities.

Further information on when and how mitigation measures will be implemented, what decision-making criteria will be used, and the outcome the mitigation measures are designed to address can be found in the following sections.

9.6 Residual Effects

Residual effects are the effects remaining after the application of mitigation measures. The IS / EA Report will describe in detail the potential adverse and positive residual effects in relation to each temporal phase of the Project (i.e., construction, operation). Residual effects will be described using criteria to quantify or qualify adverse and positive effects, taking into account any important contextual factors. The residual effects will therefore be described in terms of the direction, magnitude, geographic extent, duration, frequency, likelihood, and whether effects are reversible or irreversible[10]. Ecological and socio-economic context may also be relevant when describing a residual effect. Context relates to the existing setting, its level of disturbance and resilience to adverse effects. Context can also relate to timing as it applies to assessing the worst-case scenario (e.g., effect during migratory or calving season for wildlife). Where appropriate, information regarding residual effects will be disaggregated by sex, gender, age and other community relevant identifying factors to identify disproportionate residual effects for diverse subgroups.

Once detail design is complete and impacts are known, the archaeological assessment and the CHR will assess the impacts and provide mitigation, whether that is through excavation and removal of material

10. TISG Section 13.1 identifies additional effects characteristics for certain disciplines (e.g., wetlands, birds, terrestrial wildlife, species at risk). These additional effects characteristics are described in the respective discipline-specific study plans.

aspects, or Project revision and avoidance. The CHR will include an impact assessment table that outlines the proposed impacts and the mitigations for each type of physical and non-material resource identified based on its location in proximity to the study area (i.e., within, abutting or participating). The CHR addresses the impacts specifically and will be discussed in detail in that report.

9.6.1 Magnitude

For magnitude, environmental discipline-specific definitions are required and are proposed below in **Table 9-4**.

Table 9-4: Cultural Heritage Magnitude Definition

Magnitude Level	Definition	Rationale
Negligible	■ Retains no archaeological potential	■ Areas that have been subject to extensive and intensive deep land alterations that have severely damaged the integrity of any archaeological resources (i.e., previously disturbed or altered)
Low	■ Retains low archaeological potential	■ Areas that are permanently wet (e.g., wetlands, bogs, fens)
Medium - High	■ Retains medium to high archaeological potential	■ Proximity to previously identified archaeological sites; ■ Distance to various types of water sources ■ Soil texture and drainage; ■ Glacial geomorphology, elevated topography and the general topographic variability of the area; ■ Resource areas including food or medicinal plants, scarce raw materials and early Euro-Canadian industry; ■ Areas of early Euro-Canadian settlement and early transportation routes; ■ Properties listed on municipal register of properties designated under the *Ontario Heritage Act* (Ontario Government 1990); ■ Properties that local histories or informants have identified with possible archaeological sites, historical events, activities or occupants; ■ Historic landmark sites; ■ Areas identified by Indigenous Knowledge of the area

Criteria commonly used by the MHSTCI to determine areas of archaeological potential are listed in Section 1.3.1 of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011). Distance to modern or ancient water sources is generally accepted as the most important element for past human settlement patterns and when considered alone may result in a determination of archaeological potential. In addition, any combination of two or more of the listed rationale indicates archaeological potential.

9.7 Consideration of Sustainability Principles

The following provides a generic description of how sustainability principles will be considered in the effects assessment. The extent to which sustainability principles apply to a specific VC will vary depending on the nature of the VC and the potential for Project effects on the VC.

The effects assessment approach for the Project has included the consideration of the sustainability principles outlined in the Project TISG (the Agency 2020b) and the Agency's guidance on sustainability. The sustainability principles that have been considered include:

1. Consider the interconnectedness and interdependence of human-ecological systems;
2. Consider the well-being of present and future generations;
3. Consider positive effects and reduce adverse effects of the Project; and
4. Apply the precautionary principle by considering uncertainty and risk of irreversible harm.

The interconnectedness and interdependence of human-ecological systems will be considered through the assessment of potential indirect effects of each alternative. An indirect effect occurs when a change to one environmental discipline resulting from a Project activity causes a change to another environmental discipline (e.g., changes in vegetation could indirectly affect wildlife). A preliminary assessment of indirect effects has been included in **Section 9.3**.

The well-being of present and future generations will be considered in the effects assessment through the application of the long-term operations phase temporal boundary of 75 years (**Section 6.1**) and through the effects characteristics description of duration and reversibility for each residual effect predicted.

The consideration of positive effects and reducing adverse effects of the Project is fundamental to the effects assessment methodology through the identification of mitigation measures to reduce potential adverse effects and the identification of the preferred alternative through the evaluation of advantages (e.g., positive effects) and disadvantages (e.g., adverse effects).

The effects assessment will apply the precautionary principle by clearly describing and documenting all uncertainties and assumptions underpinning the analysis and identifying information sources. The effects assessment will consider risk of irreversible harm through the effects characteristics description of reversibility for each residual effect predicted and will describe any uncertainty associated with the assessment of residual effects.

The scope of the sustainability assessment will be defined by issues of importance identified by Indigenous communities and interested persons through consultation and engagement activities, while also ensuring to be inclusive of the diversity of views expressed. The selection of VCs that will be the focus of the sustainability assessment will be aligned with the issues of importance identified by Indigenous communities and interested persons, as well as residual effects identified through the effects assessment process. The sustainability assessment will describe how the planning and design of the Project, in all phases including follow-up monitoring, considered the sustainability principles.

9.8 Consideration of Identity and Gender-Based Analysis Plus in Effects Assessment

The Proponent recognizes that communities and sub-populations within those communities may be impacted differently by the Project with respect to VCs and indicators. As such, the Project aims to collect baseline information for the purpose of assessing differential effects and establishing relevant mitigation measures, as further elaborated on in **Section 4.3**. Gender-Based Analysis Plus will not be limited to community feedback; when offered or discussed in secondary texts, additional sub-population information as is applicable to the relevant assessment will be incorporated.

9.9 Follow-up Programs

A follow-up program verifies the accuracy of the effects assessment and evaluates the effectiveness of mitigation measures. Identification of follow-up programs for the Project are not described in this Study Plan as the information needed to determine environmental monitoring requirements is dependent on the outcome of the effects assessment and consultation with Indigenous communities, agencies and interested persons. Therefore, the Proponent will include information on follow-up programs, that address the requirements outlined in Section 26 of the TISG, in the IS / EA Report and will identify the compliance and effects monitoring activities to be undertaken during all phases of the Project, as required.

Should archaeological resources be identified during the Stage 2 field work, further archaeological work may be required to mitigate the resource, as needed.

10. Assumptions

Any assumption used in the effects assessment, for example the assumed average daily traffic on the CAR, will be clearly identified and a rationale provided in the IS / EA Report.

Should proposed impacts be planned for land outside of the previously assessed LSA, another Stage 1 AA will be required to capture those lands. This includes land required for construction, maintenance or temporary land uses (e.g., aggregate pits, temporary access roads, laydown areas).

It is assumed the PDA will be defined, including temporary areas required for construction (i.e., laydown or easements), prior to undertaking the Stage 2 AA. The Stage 2 AA will only be completed for the direct areas of proposed impacts for the Project.

It is assumed the CHR will be completed for the study area outlined in Figure 6-2, and the alternatives will be evaluated as part of the EA. Therefore, the CHR preliminary impact assessment component may be updated once a preferred route option has been selected. This will be captured under additional scope, as required.

11. Concordance with Federal and Provincial Guidance

This section provides the best information currently available on how federal and provincial requirements identified for the Project to date will be addressed. The final concordance with federal and provincial requirements will be included in the IS / EA Report, and will be based on regulatory agency guidance, professional judgement and input received through the Project consultation and engagement process.

The *Far North Act*, is the legislative foundation of land use planning in the Far North and is an approach using consensus-based decision-making between First Nations and Ontario. The purpose of the Act is to provide for community based land use planning in the Far North that:

- sets out a joint planning process between the First Nations and Ontario
- supports the environmental, social and economic objectives for land use planning for the peoples of Ontario
- is done in a manner that is consistent with the recognition and affirmation of existing Aboriginal and Treaty Rights in Section 35 of the *Constitution Act,* 1982, including the Duty to Consult

As set out in the act, the objectives for land use planning include the following:

- a significant role for First Nations in the planning
- the protection of areas of cultural value and protection of ecological systems by including at least 225,000 square km of the Far North in an interconnected network of protected areas designated in community based land use plans
- the maintenance of biological diversity, ecological processes and ecological functions, including the storage and sequestration of carbon in the Far North
- enabling sustainable economic development that benefits the First Nations

11.1 Archaeology

Unless otherwise specified, archaeological assessments in Ontario completed on Crown land defaults to the Ontario's MHSTCI's *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011). Parks Canada is notified only when the assessment is conducted on federally owned and operated land, which includes any of the Canadian Parks. Archaeological investigations on other federally designated land, such as First Nations reserve land, will be completed to meet all federal and provincial standards. This will be achieved through meaningful consultation and engagement with each Nation in order to incorporate other specific protocols that may be implemented on First Nations Reserve land. This is reflected in the *Far North Act* (Ontario Government 2010), a legislative foundation of land use planning in the Far North using consensus-based decision making between First Nations and Ontario.

The MECP requires a permit for completing invasive archaeological investigations within provincial park boundaries (MECP *n.d.;* Canadian Government 2009; Parks Canada *n.d.*). The LSA includes the Albany River and the Ogoki River Provincial Parks (MECP 1985, 2003). Should further Stage 2 AA be required within the park properties, a permit must be obtained prior to work commencing.

The Stage 1 AA report is submitted to the Ontario Minister of Heritage, Sport, Tourism, and Culture Industries as a condition of licensing in accordance with Part VI of the *OHA*, R.S.O. 1990, c 0.18 (Ontario Government 1990). The report is reviewed to assure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological field work and report recommendations assure 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 Heritage, Sport, Tourism and Culture Industries, 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 *OHA* 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 field work on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *OHA*.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological field work, in compliance with Section 48(1) of the *OHA*.

Archaeological sites recommended for further archaeological field work or protection remain subject to section 48 (1) of the *OHA* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological license.

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force in 2012) (Ontario Government 2002) require that any person discovering human remains must notify the police or coroner and the Registrar of Burial Sites, War Graves, Abandoned Cemeteries, and Cemetery Closures.

11.2 Cultural (Built) Heritage

The analysis throughout the study process addresses cultural heritage resources under various pieces of legislation and their supporting guidelines. This cultural heritage assessment considers cultural heritage resources in the context of improvements to specified areas, pursuant to the *Environmental Assessment Act*. The *Environmental Assessment Act* (Ontario Government 1990a) provides for the protection, conservation and management of Ontario's environment. Under the *Environmental Assessment Act*, "environment" is defined in Subsection 1(c) to include:

- cultural conditions that influence the life of man or a community; and
- any building, structure, machine, or other device or thing made by man.

The *OHA* gives the MHSTCI the responsibility for the conservation, protection and preservation of Ontario's cultural heritage resources. The MHSTCI is charged under Section 2 of the *OHA* with the responsibility to determine policies, priorities and programs for the conservation, protection and preservation of the heritage of Ontario and has published two guidelines to assist in assessing cultural heritage resources as part of an environmental assessment: *Guideline for Preparing the Cultural Heritage Resource Component of Environmental Assessments* (MHSTCI 1992), and *Guidelines on the Man-Made Heritage Component of Environmental Assessments* (MHSTCI 1980). Accordingly, both guidelines have been utilized in this assessment process.

The *Guidelines on the Man-Made Heritage Component of Environmental Assessments* (Section 1.0) states the following:

> "When speaking of man-made heritage we are concerned with the works of man and the effects of his activities in the environment rather than with movable human artifacts or those environments that are natural and completely undisturbed by man."

In addition, environment may be interpreted to include the combination and interrelationships of human artifacts with all other aspects of the physical environment, as well as with the social, economic and cultural conditions that influence the life of the people and communities in Ontario. The *Guidelines on the Man-*

Made Heritage Component of Environmental Assessments distinguish between two basic ways of visually experiencing this heritage in the environment, namely as cultural heritage landscapes and as built heritage.

The MHSTCI has also published *Standards and Guidelines for Conservation of Provincial Heritage Properties*, effective as of July 1, 2010 (hereafter *Standards and Guidelines*). These *Standards and Guidelines* apply to properties the Government of Ontario owns or controls that have cultural heritage value or interest. The *Standards and Guidelines* provide a series of guidelines that apply to provincial heritage properties in the areas of identification and evaluation: protection, maintenance, use, and disposal. For the purpose of this CHR, the *Standards and Guidelines* provide points of reference to aid in determining heritage significance in the evaluation of these properties.

Similarly, the *Ontario Heritage Tool Kit* (MHSTCI 2006) provides a guide to evaluate heritage properties. It states, to conserve a cultural heritage resource a municipality or approval authority may require a heritage impact assessment and / or a conservation plan to guide the approval, modification, or denial of a proposed development.

Additionally, the *Planning Act* (Ontario Government 1990c) and related *Provincial Policy Statement* (Ontario Government 2020), make a number of provisions relating to heritage conservation. It is important to note that while these policies are not necessarily applicable under the *Far North Act*, they do highlight the importance of conserving archaeological and cultural heritage features to the province of Ontario and are utilized as guidance documents.

One of the general purposes of the *Planning Act* is to integrate matters of provincial interest in provincial and municipal planning decisions. In order to inform all those involved in planning activities of the scope of these matters of provincial interest, Section 2 of the *Planning Act* provides an extensive listing. One of these provincial interests is directly concerned with:

> 2.(d) the conservation of features of significant architectural, cultural, historical, archaeological or scientific interest

Those policies of particular relevance for the conservation of heritage features are contained in Section 2- Wise Use and Management of Resources, wherein Subsection 2.6 - Cultural Heritage and Archaeological Resources, makes the following provisions:

> 2.6.1 Significant built heritage resources and significant cultural heritage landscapes shall be conserved.

A number of definitions that have specific meanings for use in a policy context accompany the *Provincial Policy Statement* (Ontario Government 2020). For the purposes of the study plan in reference to Cultural Heritage, the term ‘cultural heritage resources’ was used to describe both cultural heritage landscapes and built heritage resources.

> A *built heritage resource* “means a building, structure, monument, installation or any manufactured or constructed part or remnant that contributes to a property’s cultural heritage value or interest as identified by a community, including an Indigenous community. Built heritage resources are located on property that may be designated under Parts IV or V of the *Ontario Heritage Act*, or that may be included on local, provincial, federal and / or international registers.” (Ontario Government 2020).

> A *cultural heritage landscape* “means a defined geographical area that may have been modified by human activity and is identified as having cultural heritage value or interest by a community, including an Indigenous community. The area may include features such as buildings, structures, spaces, views, archaeological sites or natural elements that are valued together for their interrelationship, meaning or association. Cultural heritage landscapes may be properties that have been determined to have cultural heritage value or interest under the *Ontario Heritage Act*, or have been included on federal and / or international registers, and / or protected through official plan, zoning by-law, or other land use planning mechanisms.” (Ontario Government 2020).

In addition, significance is also more generally defined. It is assigned a specific meaning according to the subject matter or policy context, such as wetlands or ecologically important areas. With regard to cultural heritage and archaeology resources, resources of significance are those that are valued for the important contribution they make to our understanding of the history of a place, an event, or a people (Ontario Government 2020).

Criteria for determining significance for the resources are recommended by the Province. While some significant resources may already be identified and inventoried by official sources, the significance of others can only be determined after evaluation (Ontario Government 2020).

Accordingly, the abovementioned guidelines and relevant policy statements can be used to guide the scope and methodology of a CHR.

Table 11-1: Study Plan Federal Concordance – Conformance with Requirements

ID #	Federal TISG Reference	Requirement / Comment / Concern	Response	Study Plan Reference
1	TISG Section 12.1	■ The IA will include a description of the historical baseline conditions associated with Indigenous cultures and the ability to transmit culture (e.g., through language, ceremonies, harvesting, teaching of sacred laws, traditional laws, stewardship laws, and traditional knowledge)	■ The Stage 1 AA will identify areas of high archaeological potential or sites that may be impacted by the Project. This will be completed by examining proximity to previously identified archaeological sites, proximity to water, elevated topography, incorporation of Indigenous Knowledge, and a visual inspection of the study area. ■ The CHR will present an inventory of previously identified and potential built heritage resources and cultural heritage landscapes, identify the existing conditions of the study area, identify preliminary potential impacts to the cultural heritage resources, and propose appropriate mitigation measures	■ Section 7
2	TISG Section 17.6	■ The IA will include an assessment of potential impacts to surrounding communities, including local Indigenous communities. Changes to: – structures, sites or things of historical, archaeological, paleontological or architectural significance and associated effects on other social and economic conditions, specifically burial sites – traditional cultural activities (such as religious ceremonies, traditional hunting, etc.) that might be caused by the project; and culturally significant plants or wildlife	■ The Stage 1 AA will identify areas of high archaeological potential or sites that may be impacted by the Project. Based on Project design, excavation/mitigation of archaeological sites will be recommended in subsequent stages of archaeological investigation for the Project that are outside of the scope of the Stage 1 AA. ■ The CHR will present an inventory of previously identified and potential built heritage resources and cultural heritage landscapes, identify the existing conditions of the study area, identify preliminary potential impacts to the cultural heritage resources, and propose appropriate mitigation measures.	■ Section 9
3	TISG Section 19.1	■ The IA will include a discussion of appropriate methodologies for assessing effects and impacts on the physical and cultural heritage by the Project. Specifically including cultural heritage, and structures, sites or things of historical, archaeological, paleontological or architectural significance to groups, including, but not limited to: – the loss or destruction of physical and cultural heritage; – changes to access to physical and cultural heritage; – changes to the cultural value, spirituality, or importance associated with physical and cultural heritage; – sacred, ceremonial or culturally important places, objects, or things, including languages, stories and traditions; and visual aesthetics over the life of the Project and post-Project abandonment or decommissioning.	■ The Stage 1 AA will identify areas of high archaeological potential or sites that may be impacted by the Project. Based on Project design, excavation/mitigation of archaeological sites will be recommended in subsequent stages of archaeological investigation for the Project that are outside of the scope of the Stage 1 AA. ■ The CHR will present an inventory of previously identified and potential built heritage resources and cultural heritage landscapes, identify the existing conditions of the study area, identify preliminary potential impacts to the cultural heritage resources, and propose appropriate mitigation measures.	■ Section 7

Table 11-2: Study Plan Provincial Concordance – Conformance with Requirements

ID #	Comment From Regulatory Agency	Provincial Draft ToR Comment Reference[2]	Requirement / Comment / Concern	Response	Study Plan Reference
1	MECP	■ Email from Katherine Kirzati, Heritage Planning Unit , Ministry of Heritage, Sport, Tourism, and Culture Industries, Programs and Services Branch with comments on the Draft ToR	■ **7.1.4.13 Cultural Heritage Resources** Page 45 6th paragraph – In addition to archaeological resources, which focus on specific localities and material remains of past occupation (…) key information sources will be Indigenous knowledge and discussions. – Please note that Standards and Guidelines for Conservation of Provincial Heritage Properties apply to this project as some properties are owned or controlled by the Crown in right of Ontario or by a public body prescribed under Ontario Regulation 157/10. Given the size of the study area, MHSTCI recommends that a Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment be undertaken. Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to them. Please note that definitions of built heritage resources and cultural heritage landscapes are from the Provincial Policy Statement. – Therefore, MHSTCI recommends inserting the following: • Include a subheading (2) Built Heritage Resources and Cultural Heritage Landscapes. • Replace the 6th paragraph with: ▪ A Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment will be undertaken by a qualified person. The Report will: ▪ Identify existing baseline cultural heritage conditions, including a historical summary of the development of the study area and all known or potential built heritage resources and cultural heritage landscapes in the study area based on research. Indigenous knowledge, MHSTCI screening checklist Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes and professional judgement. ▪ Identify preliminary potential project-specific impacts on the known and potential built heritage resources and cultural heritage landscapes that have been identified. • Propose and recommend measures to avoid or mitigate potential negative impacts to known or potential built heritage resources and cultural heritage landscapes. – As part of this study, engagement with Indigenous communities is key. The Report will be completed during the environmental assessment and prior to the EA completion. The proposed mitigation measures will inform the selection of alternatives, next steps of project planning and design as well as additional studies)	■ Upon consultation with the MHSTCI on May 7, 2020, it is understood that a Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment is required to be undertaken by a qualified person. ■ The CHR will present an inventory of previously identified and potential built heritage resources and cultural heritage landscapes, identify the existing conditions of the study area, identify preliminary potential impacts to the cultural heritage resources, and propose appropriate mitigation measures. ■ A preliminary impact assessment is conducted as a part of the CHR for the LSA in order to propose appropriate impact management measures and recommendations for minimizing and avoiding negative effects on cultural heritage resources, and the identification of further reporting requirements such as Cultural Heritage Evaluation Reports and/or Heritage Impact Assessments, if necessary. However, the CHR may be updated with the preliminary impact assessment component once a preferred route option has been selected.	Section 7.3

ID #	Comment From Regulatory Agency	Provincial Draft ToR Comment Reference[2]	Requirement / Comment / Concern	Response	Study Plan Reference
2	MECP	■ Email from Katherine Kirzati, Heritage Planning Unit , Ministry of Heritage, Sport, Tourism, and Culture Industries, Programs and Services Branch with comments on the Draft ToR	■ **Table 7-4: Preliminary Identification of Potential Environmental Effects** Page 48 / Potential Effects on Cultural Heritage Resources – Damage to, or loss of, archaeological or other sites. – MHSTCI recommends that the description of potential effects be expanded as follow: • Disturbance or destruction of, archaeological resources. • Displacement of built heritage resources and/or cultural heritage landscape by removal and/or demolition and/or disruption by isolation • Impacts to registered and unregistered cemeteries which have been identified and documented. • Effects on cultural heritage landscapes – Disruption of cultural heritage resources by the introduction of physical, visual, audible or atmospheric elements that are not in keeping with the character and setting of cultural heritage resources	■ The CHR will present an inventory of previously identified and potential built heritage resources and cultural heritage landscapes, identify the existing conditions of the study area, identify preliminary potential impacts to the cultural heritage resources, and propose appropriate mitigation measures.	Section 9
3	MECP	■ Email from Katherine Kirzati, Heritage Planning Unit , Ministry of Heritage, Sport, Tourism, and Culture Industries, Programs and Services Branch with comments on the Draft ToR	■ **7.2.12 Cultural Heritage Resources** Page 53 / Potential Environmental Effects to Cultural Heritage Resources – Should any archaeological or built heritage and cultural landscapes be identified in the area of the Project, there is a potential for damage to, or the loss of the cultural heritage resources through ground disturbance activities (e.g., blasting, grading). Any activity with the potential to cause ground disturbance may also inadvertently discover and/or disturb previously unknown resources. Vibration generated by heavy equipment. – This project has the potential to impact cultural heritage resources. This section should be expanded to indicate how potential environmental effects / impacts to cultural heritage resources will be identified and assessed. Therefore, MHSTCI recommends that the existing paragraph be replace with the following suggested text: • *Cultural heritage resources (archaeological resources, built heritage resources and cultural heritage landscapes) may be impacted by the Project. Potential environmental effects as relates to cultural heritage resources are described in Table 7-4. Technical cultural heritage studies (i.e. archaeological assessment(s), Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment) will be undertaken during the EA process and will identify preliminary effect/impacts and recommend avoidance and/or mitigation measures, if any negative effects/impacts on cultural heritage resources.*	■ The Stage 1 AA will identify areas of high archaeological potential or sites that may be impacted by the Project. Based on Project design, excavation / mitigation of archaeological sites will be recommended in subsequent stages of archaeological investigation for the Project that are outside of the scope of the Stage 1 AA. ■ The CHR will present an inventory of previously identified and potential built heritage resources and cultural heritage landscapes, identify the existing conditions of the study area, identify preliminary potential impacts to the cultural heritage resources, and propose appropriate mitigation measures.	Section 7
4	MECP	■ Email from Katherine Kirzati, Heritage Planning Unit , Ministry of Heritage, Sport, Tourism, and Culture Industries, Programs and Services Branch with comments on the Draft ToR	■ **Table 13-1: Potential Permits and Approvals for the Proposed Project** Page 83 / Ministry of Heritage, Sport, Tourism and Culture Industries Archaeological and Cultural Clearances – See above comments regarding technical cultural heritage studies.	■ Upon consultation with the MHSTCI on May 7, 2020, it is understood that a Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment is required to be undertaken by a qualified person. ■ The CHR will present an inventory of previously identified and potential built heritage resources and cultural heritage landscapes, identify the existing conditions of the study area, identify preliminary potential impacts to the cultural heritage resources, and propose appropriate mitigation measures. ■ A preliminary impact assessment is conducted as a part of the CHR for the LSA in order to propose appropriate impact management measures and recommendations for minimizing and avoiding negative effects on cultural heritage resources, and the identification of further reporting requirements such as Cultural Heritage Evaluation Reports and/or Heritage Impact Assessments, if necessary. However, the CHR may be updated with the preliminary impact assessment component once a preferred route option has been selected.	Section 7.3

ID #	Comment From Regulatory Agency	Provincial Draft ToR Comment Reference[2]	Requirement / Comment / Concern	Response	Study Plan Reference
5	MECP	■ Email from Katherine Kirzati, Heritage Planning Unit , Ministry of Heritage, Sport, Tourism, and Culture Industries, Programs and Services Branch with comments on the Draft ToR	■ **Appendix A – Appendix A – Draft Criteria and Indicators for Alternatives Evaluation** Page 6 Environmental Discipline: Cultural Environment/Cultural Heritage Resources – Based on the comments above, MHSTCI recommends the following text: Criteria: Built Heritage Resources and Cultural Heritage Landscapes Indicator: • Areas of significance to local communities • Areas of known or potential cultural heritage value or interest • Areas of Religious or Spiritual Significance Potential Data Sources: ▪ Indigenous Knowledge ▪ Recent and historical maps of the study area ▪ Primary and secondary documentary sources (both current and archival written accounts, maps, drawings, plans and images) ▪ Site visits ▪ Community Based Land Use Planning initiatives	■ The CHR will present an inventory of previously identified and potential built heritage resources and cultural heritage landscapes, identify the existing conditions of the study area, identify preliminary potential impacts to the cultural heritage resources, and propose appropriate mitigation measures.	Section 9

12. References

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Impact Assessment Agency of Canada, 2020:

Public Participation Plan for the Marten Falls Community Access Road Project Impact Assessment.

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Indigenous Partnership and Engagement Plan for the Marten Falls Community Access Road Project Impact Assessment.

Impact Assessment Agency of Canada, 2020b:

Tailored Impact Statement Guidelines for the Marten Falls Community Access Road Project Impact Assessment.

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Guidelines on the Man-Made Heritage Component of Environmental Assessments. Available: Guidelines on the Man-Made Heritage Component of Environmental Assessments

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Ontario Government, 1990a:
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Appendix A

Preliminary List of Data Sources

Archaeology

- **Primary Sources**
  - Indigenous Knowledge
  - Recent and historical maps of the study area
  - Community Based Land Use Planning initiatives
  - Field Survey
  - Primary and secondary documentary sources (both current and archival written accounts, maps, drawings, plans and images)
  - Public and Indigenous community engagement
- **Secondary Sources**
  - Scientific or academic publications
  - Reports of previous Archaeological Assessments in proximity to the study area
  - The MHSTCI's Ontario Archaeological Sites Database for a listing of registered archaeological sites within a 5 km radius of the study area

Cultural Heritage

- **Primary Sources**
  - Indigenous Knowledge
  - Recent and historical maps of the study area
  - Community Based Land Use Planning initiatives
  - Field Survey
  - Primary and secondary documentary sources (both current and archival written accounts, maps, drawings, plans and images)
  - Public and Indigenous community engagement
- **Secondary Sources**
  - Scientific or academic publications
  - Reports of previous Archaeological Assessments in proximity to the study area
  - The MHSTCI's Ontario Archaeological Sites Database for a listing of registered archaeological sites within a 5 km radius of the study area

Appendix B

Draft Study Plan Comments – Federal Agencies

Comment #/ Ref #	DRAFT Study Plan Section	TISG Section	Agency/ Regulatory Body Comments Received from	Comment / Context	Action Item	Final Response	Study Plan Reference
GC	▪ General Comment	▪ N/A	▪ The Agency	▪ In addition to the required actions detailed below, other required actions to be addressed in the update to this study plan are detailed in a separate table titled "2020-07-02 – IAAC to Marten Falls First Nation - General Comments on MFCAR Draft Study Plans". The Agency has provided these other required actions to highlight common sections of the Tailored Impact Statement Guidelines (the Guidelines) where requirements were not met in the draft study plans submitted to the Agency. These additional actions must be addressed in the updated study plans.		▪ We have reviewed the relevant comments and incorporated where appropriate. Please refer to the General Comments Table Response submitted separately to the Agency for specific responses.	▪ Various Sections
CH-01	▪ Section 3	▪ Section 7.1 and 7.4 of the Guidelines	▪ The Agency	▪ **Spatial Boundaries: Study Areas** – Section 3 of the study plan states that the Project Study Area (PSA), the Local Study Area (LSA) and the Regional Study Area (RSA) were defined to meet the requirements of the Ontario Heritage Act (Ontario Government 1990b) and the Standards and Guidelines for Consultant Archaeologists (Ontario Government 2011). Section 3 states that the LSA will encompass a "5km wide area around the centreline of Alternative 1 and Alternative 4" and the RSA will encompass the "LSA + a 1km radius". – Section 7.1 of the Guidelines explains that the Impact Statement must establish appropriate study area boundaries to describe the baseline conditions. The study area boundaries need to encompass the spatial boundaries of the Project, including any associated project components or activities, and the anticipated boundaries of the Project's effects, including all potentially impacted local communities, municipalities and Indigenous groups. – Section 7.4 of the Guidelines states that the proponent should engage with Indigenous groups when defining spatial and temporal boundaries for valued components, especially for those that are identified by Indigenous groups. Spatial boundaries are defined taking into account the appropriate scale and spatial extent of potential effects and impacts of the Project; community knowledge and Indigenous knowledge; current or traditional land and resource use by Indigenous groups; exercise of Aboriginal and Treaty rights of Indigenous peoples, including cultural and spiritual practices; and physical, ecological, technical, social, health, economic and cultural considerations. – The criteria used to define the PSA, LSA, and RSA in the study plan appear to consider provincial requirements only and do not meet the requirements of Section 7.1 or 7.4 of the Guidelines.	▪ **Required Action # 1:** Update the study plan to demonstrate an approach to collect information that meets the requirements of Sections 7.1 and 7.4 of the Guidelines and how Indigenous groups and the public have been, or will be, provided an opportunity to inform the spatial and temporal boundaries. ▪ **Required Action # 2:** Provide further detail in the study plan to clarify if stage 1 of the archaeological assessment, as mentioned in Section 4.1 of the study plan, took into account the aforementioned requirements of Sections 7.1 and 7.4 of the Guidelines.	▪ The spatial boundaries for the Stage 1 AA were developed based on direction provided by the Proponent. The LSA boundaries are to include the spatial boundaries of the Project, including any associated Project components or activities, and the anticipated boundaries of the Project's effects, including all potentially impacted local communities, municipalities and Indigenous groups. The effects assessment can be found in **Section 9**. The MFFN CAR Project Team will provide opportunities for consultation and engagement with Indigenous communities identified in *the Indigenous Partnership and Engagement Plan for the Marten Falls Community Access Road Project Impact Assessment* (the Agency 2020a). Indigenous communities will be involved throughout the environmental assessment so that the MFFN CAR Project Team can consider and incorporate, where appropriate, Indigenous Knowledge and Indigenous land and resource use information into the Project as applicable. Specific consultation and engagement activities and schedules are currently in development and will be shared with the MECP once available. A summary of the consultation plan has been provided in the Study Plan; further details can be found in the ToR.	▪ Section 6 Project Boundaries; Section 4 Consultation and Engagement; Section 9 Effects Assessment

Comment #/ Ref #	DRAFT Study Plan Section	TISG Section	Agency/ Regulatory Body Comments Received from	Comment / Context	Action Item	Final Response	Study Plan Reference
CH-02	▪ General Comment	▪ Section 7.4.2 of the Guidelines	▪ The Agency	▪ **Temporal Boundaries** – The study plan provides no information on how temporal boundaries of the impact assessment will be established for the Project. – Section 7.4.2 of the Guidelines requires the proponent to consider how elements of environmental, health, social and economic well-being that local communities, including municipalities, and Indigenous groups identify as being valuable could change over time.	▪ **Required Action # 3:** Provide a clear description in the study plan of the proposed methods for the establishment of temporal boundaries for the baseline and effects assessment of physical and cultural heritage.	▪ In determining the temporal boundaries, in particular the long operations and maintenance phase, consideration was given to the long-term effects on the well-being of present and future generations. The final temporal boundaries to be used in the IS / EA Report will be based on regulatory agency guidance, professional judgement and input received through the Project consultation process. **Section 6.2** of the Study Plan describes temporal boundaries in more detail.	▪ Section 6.2
CH-03	▪ Section 4.1 and 4.2	▪ Section 6 of the Guidelines	▪ The Agency	▪ **Baseline Data Collection** – Section 4.1 of the study plan states that the stage 1 archeological assessment completed for the Project involved incorporation of Indigenous traditional knowledge and that "MFFN provided AECOM with Indigenous Knowledge (IK) data for the study area". Section 4.2 states that cultural heritage will be identified through "community engagement including with MFFN, with particular knowledge regarding the cultural heritage landscape in general and potential cultural heritage resources." – Section 6 of the Guidelines states: "The Agency requires the proponent to engage with, at a minimum, the communities listed in the Indigenous Engagement and Partnership Plan (IEPP)". Section 12 of the Guidelines states: "Proponents are required to engage with Indigenous groups in developing baseline conditions, in order to identify and understand the potential impacts of their projects on Indigenous peoples, the exercise of Aboriginal and Treaty rights and to incorporate Indigenous knowledge into the impact assessment. The results of any engagement should be presented in the Impact Statement, and, as best as possible should reflect the perspective of the Indigenous peoples involved. If an Indigenous group has chosen not to participate, the proponent should identify the community and provide evidence of efforts to engage". – It is not clear whether Indigenous groups listed in the IEPP, other than Marten Falls First Nation and Aroland First Nation, have been engaged on baseline data collection to date and which groups will be engaged on baseline data collection moving forward.	▪ **Required Action # 4:** Provide a clear description in the study plan of how all Indigenous groups listed in the IEPP will have opportunities to provide Indigenous knowledge, including the validation of the baseline data collected. This should include a description of the proposed methods for data collection, management of confidentiality, and information storage. This should also include a methodology for tracking information that has been approved by the group, to demonstrate that guidance outlined in Section 6.2 of the Guidelines has been incorporated into this study plan.	▪ The MFFN CAR Project Team will provide opportunities for consultation and engagement with Indigenous communities identified in *the Indigenous Partnership and Engagement Plan for the Marten Falls Community Access Road Project Impact Assessment* (the Agency 2020a). Indigenous communities will be involved throughout the environmental assessment so that the MFFN CAR Project Team can consider and incorporate, where appropriate, Indigenous Knowledge and Indigenous land and resource use information into the Project as applicable. Specific consultation and engagement activities and schedules are currently in development and will be shared with MECP once available. A summary of the *Consultation and Engagement Plan to Support the EA / IS* (AECOM 2020) has been provided in the Study Plan; further details can be found in the ToR.	▪ Section 4

Comment #/ Ref #	DRAFT Study Plan Section	TISG Section	Agency/ Regulatory Body Comments Received from	Comment / Context	Action Item	Final Response	Study Plan Reference
CH-04	▪ Section 4.1 and 4.2	▪ Sections 12.1,17.6 and 19.1 of the Guidelines	▪ The Agency	▪ Section 7.2 of the study plan states that "for the purposes of the Study Plan in reference to Cultural Heritage, the term 'cultural heritage resources' was used to describe both cultural heritage landscapes and built heritage resources." By defining cultural heritage as cultural heritage landscapes and built cultural heritage, the study plan fails to consider non-material aspects of cultural heritage. ▪ Sections 12.1, 17.6 and 19.1 of the Guidelines instruct the proponent to consider the following non-material aspects of cultural heritage: – cultural values and experiences of being on the land, including harvesting specific resources (section 12.1) – Indigenous governance systems and Indigenous laws tied to the landscape (section 12.1); – anticipated effects to language, such as the relative balance of speakers of local languages, English, and French, and the availability of public services in these languages (section 17.6); – traditional cultural activities (such as religious ceremonies, traditional hunting, etc.) that might be caused by the Project (section 17.6); and – changes to the cultural value, spirituality, or importance associated with physical and cultural heritage (section 19.1).	▪ **Required Action # 5:** Provide details of how non-material aspects of cultural heritage will be considered during the baseline data collection. The study plan should note or draw linkages to the requirements of section 12.2 and 12.4 of the Guidelines. Findings of the cultural heritage study plan should inform the proponent's characterization of the current use of lands and resources for traditional purposes and the conditions related to the rights of Indigenous peoples in the Impact Statement.	▪ The MFFN CAR Project Team will work with Indigenous communities to ensure that Indigenous Knowledge and any information on Indigenous land and resource use shared is appropriately integrated into the assessment processes. This will include providing Indigenous communities with the opportunity to collaborate with the MFFN CAR Project Team on the effects assessment. The opportunity to complete their own effects assessment will also be provided to communities, and the MFFN CAR Project Team will work with you to incorporate your effects assessment into the assessment processes. The MFFN CAR Project Team will also provide opportunities to review and discuss draft assessment documents to ensure that the information has been captured and presented appropriately. Study Plan **Section 5** describes how Indigenous Knowledge will be incorporated into the effects assessment.	▪ Section 5
CH-05	▪ Section 4.1	▪ N/A	▪ The Agency	▪ Archeology Study Methods – Section 4.1 of the study plan states that "…a number of field tasks were accomplished including a Stage 1 field review/visual inspection, some initial Stage 2 fieldwork at major river crossings" and "The Stage 2 strategy consisted of concentrating primarily on the alternatives for the major river crossings and any specific locations MFFN would like us to examine/record this season". – It is unclear why only the two major water crossings were included in the archeological assessment.	▪ **Required Action # 6:** Provide a rationale in the study plan, as to why the minor water crossings were not considered in the Stage 1 archeological assessment.	▪ This is a misreading of the information provided, and the study plan has been updated in **Section 7** to provide more clarity. There are two activities occurring simultaneously. During the Stage 1AA, archaeological potential was determined through the criteria outlined in **Section 7** of the Study Plan. In addition to completing the Stage 1 property inspection, the Stage 2 field assessment was started. Given direction from the internal team, the Stage 2 began at some of the larger water crossings (the major water crossings were a focus in order to inform ongoing bridge design). This does not mean the minor watercourses will not be assessed if they have been deemed to retain archaeological potential, but given the time of the Stage 2 AA, only specific areas were targeted at that time of the year. Further Stage 2 fieldwork is required.	▪ Section 7

Comment #/ Ref #	DRAFT Study Plan Section	TISG Section	Agency/ Regulatory Body Comments Received from	Comment / Context	Action Item	Final Response	Study Plan Reference
CH-06	■ Section 4.1	■ Section 7.2 of the Guidelines	■ The Agency	■ Section 4.1 of the study plan states: “further Stage 2 fieldwork will be required for all areas of proposed impacts, which would ideally be completed between the months of July and September.” ■ Section 7.2 of the Guidelines states that “With regard to field studies, survey work must be planned to include multiple sampling locations and multiple visits to each location to support all required assessment analyses. Existing data should be considered as a limited augmentation of this new data. See the “Establishing Baseline Conditions” (sections 8.5, 8.9, 8.10, 8.11) in the Guidelines for recommendations on survey design and methodology. Surveys and analyses should be conducted by qualified experts.”	■ **Required Action # 7:** In consideration of the ongoing COVID-19 pandemic and that some Indigenous groups are presently in a state of emergency, provide updated information reflecting measures taken in the methodology for the archeological assessment to ensure that the Indigenous groups (at a minimum those listed in the IEPP) and the public are able to inform baseline studies, as is required in Sections 7.2 of the Guidelines. ■ **Required Action # 8:** Provide further details regarding the schedule for the baseline data collection of the archeological assessment (e.g. number of visits to sampling sites, identification of sample sites and types of analysis). Clarify the qualifications of the experts that conducted or will conduct surveys and analysis for the archeological assessment. ■ **Required Action # 9:** Inform potentially impacted Indigenous groups (at a minimum the Indigenous groups listed in the IEPP) about the status of the stage 1 archeological assessment, sharing information about baseline data collected, so that the groups have an opportunity to inform the archeological assessment scope and can volunteer information to inform the scope of the stage 2 assessment. The Agency also notes that Neskantaga First Nation has specifically requested that Dr. Hamilton be included in archeological assessments for the Project. ■ **Required Action # 10:** Provide details of opportunities to be given for Indigenous groups to review baseline data collected during Stage 1 of the archeological assessment and to participate in the Stage 2 of the archeological assessment. Indigenous groups should also be provided with an opportunity to inform thresholds of significance of a heritage resource.	■ **Action 7:** All Indigenous communities and organizations listed in the **Table 4**, including government agencies and interested persons will be informed of baseline studies and will be provided opportunities for input. MFFN is having ongoing discussions with Indigenous communities and continues to request preferences for each community’s preferred method(s) of engagement during the EA and in consideration of COVID-19. ■ **Action 8:** Updated text to include a header for "Schedule" under **Section 4**. No sampling strategy employed with archaeology. All areas identified as retaining archaeological potential where proposed impacts are to occur, must be subject to Stage 2 AA as per the *Ontario Heritage Act* and the *Standards and Guidelines for Consultant Archaeologists*. The qualifications of the person are outlined in **Section 4** - all archaeological assessments must be completed by a licensed archaeologists in Ontario, administered by the MHSTCI. ■ **Action #9:** The Stage 1 AA is in Draft form, submitted to the MHSTCI and under Ministry review. Once the reports are accepted from the MHSTCI, the MFFN CAR Project Team will evaluate sharing the report with Indigenous Communities listed in **Table 4-1** and Dr. Hamilton. ■ **Action #10:** The Stage 1 AA is in Draft form and can be shared once accepted by the Minister of Heritage, Sport, Tourism and Culture Industries.	■ Action 8- Section 7

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CH-07	▪ Section 4.2	▪ N/A	▪ The Agency	▪ Cultural Heritage Assessment Study Methods More details are required on the methodology of baseline data collection for the cultural heritage assessment (including both material and non-material aspects of cultural heritage) for the Agency and federal experts to understand the work that the proponent is planning to undertake.	▪ **Required Action # 11:** Provide details on what baseline information will be sourced from primary information sources, and what will be sourced from secondary information sources so that it is clear where information is being sourced for the indicators listed in the study plan. ▪ **Required Action # 12:** Regarding primary information collection, including field review and community engagement, the study plan requires additional details on how the collection methodology would meet the expectations of the Guidelines, including: – Specify types of engagement activities (surveys, questionnaires, community sessions, chief and council sessions, workshops, etc.). – Describe how Gender-Based Analysis Plus (GBA+) has been applied to the consideration of engagement activities. Identify any specific methods targeted to specific subgroups. – Specify participants in engagement activities (reflecting the Indigenous groups listed in the IEPP and members of the public listed in the Public Participation Plan) including rationale for how the selection of participants meets the objectives of the study and demonstrates accessibility considerations (e.g. language requirements) and GBA+. – Describe the approach the proponent intends to take to encourage or attract participation, including how opportunities to participate will be planned and advertised. – Describe how Indigenous knowledge will be used to inform types of engagement activities and participant selection. – If sample questionnaires, interview questions, or other data collection tools exist, identify them in an appendix to the study plan, and provide clear links to how they relate to physical and cultural heritage. – Identify past public or Indigenous engagement activities that have taken place and are being used to inform this study plan.	▪ **Action # 11:** Primary sources include field review and community and public engagement. Secondary sources include current and archival written accounts, maps, drawings, plans and images, scientific or academic publications. ▪ **Action # 12:** The Indigenous Knowledge and Consultation Programs for the Project both serve to support the collection of Indigenous perspectives, values, and input on the Project, including in terms of physical and cultural heritage. The Guidance Document developed for the Project and provided to all Indigenous communities and groups identified in **Table 4-1** in November 2020 includes questions related to historical baseline conditions associated with Indigenous cultures (refer to Sections 6.3 and Appendix D in the Guidance Document). The Guidance Document also includes considerations for burial sites, oral histories, cultural values and experiences of being on the land, Indigenous laws and governance systems, and culturally important sites and resources (refer to Sections 6.6 and 6.7 and Appendices D and E in the Guidance Document). These considerations have also been factored into the identification of preliminary indicators for the assessment.	▪ Section 4; Section 9, Table 9-2

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					– Specify the methods used to conduct a field review of identified cultural heritage resources. – Describe identified data limitations and how such data limitations will be addressed. ▪ **Required Action # 13:** For secondary information collection, including background historical research, provide specific information sources to be used, and for which indicators they apply. Provide detail on how the proponent has considered GBA+ requirements in the identification of secondary information sources.	▪ **Action # 13:** Primary sources include field review and community and public engagement. Secondary sources include current and archival written accounts, maps, drawings, plans and images, scientific or academic publications.	
CH-08	▪ Section 4.1, 4.2 and 5	▪ Sections 6.1,6.2 and 7.2 of the Guidelines	▪ The Agency	▪ **Data Management Analysis** – Sections 4.1, 4.2 and 5 of the study plan do not include any information on how data collection methodology and data management will comply with ethical guidelines and cultural protocols governing research, data collection, and confidentiality. – Sections 6.1, 6.2 and 7.2, and Appendix 1 of the Guidelines provide guidance and information on the use of ethical guidelines and cultural protocols in data collection, management, and analysis.	▪ **Required Action # 14:** Provide details to demonstrate how the requirements of Sections 6.1, 6.2 and 7.2 of the Guidelines will be met.	▪ Primary sources include field review and community and public engagement. Secondary sources include current and archival written accounts, maps, drawings, plans and images, scientific or academic publications. Any Indigenous Knowledge data shared as part of the Stage 1 AA will not be made public, as outlined in **Section 8**. The Stage 1 AA is with the MHSTCI for review, it can be provided it Indigenous communities once returned . The Proponent will provide opportunities for consultation and engagement with Indigenous communities identified in *the Indigenous Partnership and Engagement Plan for the Marten Falls Community Access Road Project Impact Assessment* (the Agency 2020a). Indigenous communities will be involved throughout the environmental assessment so that the Proponent can consider and incorporate, where appropriate, Indigenous Knowledge and Indigenous land and resource use information into the Project as applicable. Specific consultation and engagement activities and schedules are currently in development and will be shared with the MECP once available. A summary of the consultation plan has been provided in the Study Plan; further details can be found in the ToR.	▪ Section 2; Section 4; Section 8

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CH-09	▪ Section 6.1	▪ Section 6 of the Guidelines	▪ The Agency	▪ **Indicators** – The Agency notes that the indicator “archeology and cultural heritage” listed in Table 6-1 of the study plan does not provide sufficient detail about how physical and cultural heritage features outlined in Sections 12.1, 17,6 and 19.1 of the Guidelines will be assessed. It is unclear whether the features listed under “Rationale for Selection” in Table 6-1 are intended to serve as indicators, and if so, how they will be measured to assess change. – The Agency requests that the study plan include additional details on the indicators that will be used to describe each feature so that both the Agency and federal reviewers can provide meaningful feedback on the assessment of baseline conditions and potential effects. Indicators must provide data (either quantitative or qualitative) that can be measured and used to identify changes stemming from the Project. – Note that Section 6 of the Guidelines requires the proponent to provide Indigenous groups with an opportunity to comment on the list of valued components and indicators.	▪ **Required Action # 15:** Include detailed and measurable indicators related to physical and cultural heritage features, as outlined in Sections 12.1, 17.6, and 19.1 of the Guidelines. ▪ **Required Action # 16:** Identify how and when Indigenous groups will be provided opportunities to validate the list of valued components and indicators related to physical and cultural heritage features, as required by section 6 of the Guidelines.	▪ Detailed and Measurable indicators related to physical and cultural heritage features will be determined once the temporal and spatial boundaries of construction impacts are known. This information will be included in the IS / EA Report. ▪ The Proponent will provide opportunities for consultation and engagement with Indigenous communities identified in the *Indigenous Partnership and Engagement Plan for the Marten Falls Community Access Road Project Impact Assessment* (the Agency 2020a). Indigenous communities will be involved throughout the environmental assessment so that the Proponent can consider and incorporate, where appropriate, Indigenous Knowledge and Indigenous land and resource use information into the Project as applicable. Specific consultation and engagement activities and schedules are currently in development and will be shared with MECP once available. A summary of the consultation plan has been provided in the Study Plan; further details can be found in the ToR.	▪ Section 9; Section 4
CH-10	▪ Section 4.1, 4.2, and 6.2	▪ Sections 7.1 and 13.1 of the Guidelines	▪ The Agency	▪ **Public Engagement** – Sections 4.1, 4.2 and 6.2 of the study plan do not identify any opportunities for the public to provide input during baseline data collection and effects assessment. The plan should reflect meaningful two-way dialogue with local communities, municipalities and Indigenous groups (at the minimum the Indigenous groups identified in the IEPP and the members of the public identified in the Public Participation Plan) so that input can be provided on how components and processes are interrelated as is referenced in Section 7.1 of the Guidelines. The Agency also notes that determining and characterizing effects should be largely based on the level of concern expressed through engagement as is pointed out in Section 13.1 of the Guidelines.	▪ **Required Action # 17:** Identify when and how the public will be provided with opportunities to provide input and share their views during baseline data collection and effects assessment.	▪ The Proponent will provide Project notices and advise of opportunities for consultation and engagement with members of the public outlined in the *Public Participation Plan for the Marten Falls Community Access Road Project Impact Assessment* (the Agency 2020) (referred to as the Public Participation Plan). This will include the opportunity to provide input on the existing environment, VCs, effects assessment methods, effects assessment results, and mitigation and follow-up program measures as applicable. A variety of activities will be offered so that members of the public are informed of the IS / EA Report as it progresses and are aware of the opportunities and means to provide their input. The study plans have recognized public and agency input received on the Project to date.	▪ Section 4

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CH-11	■ Section 6.2 and 6.3	■ Section 13.1 of the Guidelines	■ The Agency	■ **Effects Assessment** – Sections 6.2 and 6.3 of the study plan describe the provincial requirements for a Stage 2 archeological assessment and assert that a preliminary impact assessment of cultural heritage resources for the LSA will be conducted. However, the study plan does not describe the effects assessment methodology in sufficient detail to enable the Agency and federal authorities to understand how the potential adverse and positive effects of the Project will be assessed. – Refer to section 13.1 of the Guidelines for additional guidance on the requirements of an effects assessment.	■ **Required Action # 18:** Provide details on how the effects assessment methodology would meet the requirements of Sections 13.1 and 13.2 of the Guidelines. Ensure that the effects assessment considers the effects of each of the project components and physical activities, in all phases, and that it is based on a comparison to the proposed baseline work. While the cultural heritage study plan focuses on the archeological resources present in the project area, the study plan should also include baseline information on the access and experience of heritage sites in relation to Indigenous group's exercise of rights as they relate to the physical and cultural heritage in or around the Project. ■ **Required Action # 19:** Provide details of how non-material aspects of cultural heritage described in sections 12.1, 17.6, and 19.1 of the Guidelines will be considered during the effects assessment. The study plan should note or draw linkages to the requirements of section 12.2 and 12.4 of the Guidelines. Findings of the cultural heritage study plan should inform the proponent's characterization of the current use of lands and resources for traditional purposes and the conditions related to the rights of Indigenous peoples in the Impact Statement.	■ The indicators and rationale for selection and measurement of potential effects to be used to assess and evaluate the alternative routes is provided in the Study Plan **Section 9**. Previous studies providing baseline data were completed prior to the release of the TISG. These studies were developed in consultation with provincial and federal regulators. Baseline Reports including results from these studies will be amended to the Study Plan, when they are available. ■ The MFFN CAR Project Team will work with Indigenous communities to ensure that Indigenous Knowledge and any information on Indigenous land and resource use shared is appropriately integrated into the assessment processes. This will include providing Indigenous communities with the opportunity to collaborate with the MFFN CAR Project Team on the effects assessment . The opportunity to complete their own effects assessment will also be provided to communities, and the MFFN CAR Project Team will work with you to incorporate your effects assessment into the assessment processes. The MFFN CAR Project Team will also provide opportunities to review and discuss draft assessment documents to ensure that the information has been captured and presented appropriately. Study plan S**ection 5** describes how Indigenous Knowledge will be incorporated into the effects assessment.	■ Section 9; Section 4
CH-12	■ Section 7.1	■ N/A	■ The Agency	■ Section 7.1 of the study plan states that "Unless otherwise specified, archaeological assessments in Ontario completed on Crown land defaults to the Ontario's MHSTCI's Standards and Guidelines for Consultant Archaeologists (Ontario Government 2011). Parks Canada is notified only when the assessment is conducted on federally owned and operated land, which includes any of the Canadian Parks. Archaeological investigations on other federally designated land, such as First Nations reserve land, will be completed to meet all federal and provincial standards. This will be achieved through meaningful consultation and engagement with	■ **Required Action # 20:** Clarify the plans for engaging Indigenous groups and demonstrate how the requirements of Sections 6 of the Guidelines will be met.	■ The Proponent will provide opportunities for consultation and engagement with Indigenous communities identified in *the Indigenous Partnership and Engagement Plan for the Marten Falls Community Access Road Project Impact Assessment* (the Agency 2020a). Indigenous communities will be involved throughout the environmental assessment so that the Proponent can consider and incorporate, where appropriate, Indigenous Knowledge and Indigenous land and resource use information into the Project as applicable. Specific consultation and engagement activities and schedules are currently in development and will be shared with the MECP	■ Section 4

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				each Nation in order to incorporate other specific protocols that may be implemented on First Nations Reserve land." ■ It is unclear from the study plan if the proponent intends to engage with Indigenous groups only when collecting baseline data on federally designated lands or if engagement will be undertaken also with other Indigenous groups who have traditional territory on crown lands.		once available. A summary of *the Consultation and Engagement Plan to Support the EA / IS* has been provided in the study plan; further details can be found in the ToR.	

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