

Appendix H

**Archaeological Screening and
Reconnaissance Report**

**TOTE ROAD QUARRY
ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT 2021
UPPER TANTALLON, NOVA SCOTIA**

FINAL REPORT

Submitted to:
GHD Limited
and the
**Special Places Program of the
Nova Scotia Department of Communities, Culture, Tourism and Heritage**

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Heritage Research Permit Number: A2021NS054
CRM Group Project Number: 21-0001-01

NOVEMBER 2021



*The following report may contain sensitive archaeological site data.
Consequently, the report must not be published or made public without
the written consent of Nova Scotia's Coordinator of Special Places,
Department of Communities, Culture, Tourism and Heritage*

EXECUTIVE SUMMARY

Cultural Resource Management Group Limited (CRM Group) was retained by GHD Limited (GHD) to undertake an Archaeological Resource Impact Assessment (ARIA) in conjunction with the expansion of an existing quarry located in Head of St. Margaret's Bay, Halifax Regional Municipality. Involving background research, Mi'kmaw engagement, and field reconnaissance, the project was designed to identify, document, interpret, and make management recommendations for potential cultural resources within the proposed impact area.

The ARIA was conducted by CRM Group Archaeologist Kyle Cigolotti, with the assistance of CRM Group Archaeologist Kiersten Green, according to the terms of Heritage Research Permit A2021NS054 (Category 'C'), issued to Cigolotti through the Special Places Program of the Nova Scotia Department of Communities, Culture and Heritage (Special Places). This report describes the ARIA of the Tote Road Quarry study area, presents the results of these efforts, and offers cultural resource management recommendations.

Based on the background research and field reconnaissance, the area has been ascribed low potential for encountering archaeological resources. This ascription is based on previous development and ground disturbance (resulting from forestry and quarrying activities), as well as the study area exhibiting significant slope, with shallow rocky soils, far removed from significant watercourses, and without evidence of historic activity. It is recommended that the proposed impact area be cleared of the need for further archaeological investigation. Should ground disturbance extend beyond the current proposed impact area, as addressed in this report, further archaeological assessment is to be conducted.

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TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	STUDY AREA	2
3.0	METHODOLOGY	6
3.1	Engagement.....	6
3.2	Background Study.....	6
3.3	Previous Archaeological Assessments	6
3.4	Archaeological Fieldwork.....	6
3.4.1	Field Reconnaissance.....	7
3.5	Artifact Analysis	7
4.0	RESULTS	8
4.1	Engagement.....	8
4.2	Background Study.....	8
4.2.1	Environmental Setting.....	8
4.2.2	Cultural Heritage Context	13
4.2.3	Land Use	17
4.3	Previous Archaeological Assessments	28
4.4	Archaeological Fieldwork.....	29
4.4.1	Field Reconnaissance.....	29
4.5	Artifact Analysis	35
5.0	CONCLUSIONS AND RECOMMENDATIONS	36
6.0	REFERENCES CITED.....	37
7.0	APPENDICES	40
7.1	Heritage Research Permit Documents	41

LIST OF TABLES

Table 1:	Registered archaeological sites within one kilometre of the study area	13
Table 2:	Traditional Mi'kmaw place names near study area (Ta'n Weji-sqalia'tiek Mi'kmaw Place Names Digital Atlas, 2019)	15
Table 3:	Heritage Research Permits undertaken in close proximity to the study area.....	28

LIST OF FIGURES

Figure 1:	Approximate Study Area.....	3
Figure 2:	Detailed Study Area	4
Figure 3:	Proposed Development Plan.....	5
Figure 4:	LiDAR Digital Elevation Model	12
Figure 5:	Belcher's Map of the Province of Nova Scotia, 1855	23
Figure 6:	Crown Land Grant Sheet No. 55	24
Figure 7:	Halifax County, A.F. Church, 1865	25

Figure 8: Faribault, 1908 Geological Survey Map, Province of Nova Scotia 26
Figure 9: Aerial Photographs, 1931 & 1981 27
Figure 10: Results of Assessment 34

LIST OF PLATES

Plate 1: General topography within study area; facing southeast. 17 May 2021 2
Plate 2: Maximum Wisconsinan ice extent. Thin blue lines are generalized flow lines; heavy blue dashed lines are major ice divides (Shaw, et al., 2006, p. 2066) 8
Plate 3: Ice margins at approximately 12,000 BP with accurately depicted distribution of land and sea (Shaw, et al., 2006, p. 2074) 9
Plate 4: Western – St. Margaret’s Bay (Unit 780) eco-district (orange) and approximate study area (red) (Province of Nova Scotia, 2021) 10
Plate 5: Proposed Ingram River Conservation Lands (in yellow and purple) and the study area (in red) (Province of Nova Scotia, 2021) 14
Plate 6: "Plan of Lands Granted and Reserved for Indians at St. Margarets Bay." Ingram River on left and Head of St. Margaret’s Bay on right (Howe, 1842). 16
Plate 7: Mi’kma’ki Districts in Nova Scotia based on Cultural Landscape Units (Mi'kma'ki All Points Services Inc., 2018, p. 16) 17
Plate 8: Detail of Thoreau's reproduction of Champlain's 1612 map of New France. "S" identified as "Rx Sainte Margrite" (Champlain & Thoreau, 1850) 18
Plate 9: Map of Ingram River "Indian Reserve" (Chearnley, 1853) 19
Plate 10: Lumbering at Head of St. Margaret's Bay (Lumbering, Head of St. Margaret's Bay, n.d.)
20
Plate 11: Historic Portage Road alignment (in yellow), leading to registered site BeCx-09 (in green), through the study area (in red) 21
Plate 12: Features of Old Portage Road Site (BeCx-09) (Stewart, 1991) 28
Plate 13: Low, wet, and boggy conditions within study area, facing northeast. 17 May 2021 ... 29
Plate 14: Existing quarry within study area, facing southeast. 17 May 2021 30
Plate 15: Sloped and hummocky ground conditions, covered by immature tree growth, facing west. 17 May 2021 30
Plate 16: Stand of hemlock trees in the northwest portion of study area, facing east. 17 May 2021
31
Plate 17: Evidence of past forestry activities, facing west. 17 May 2021 31
Plate 18: Portion of suspected Portage Road alignment, facing south. 17 May 2021 32
Plate 19: Portion of foundation at site BeCx-09, facing east. 17 May 2021 32
Plate 20: Depression feature at site BeCx-09, facing east. 17 May 2021 33
Plate 21: Twentieth-century refuse at site BeCx-09, facing south. 17 May 2021 33

**TOTE ROAD QUARRY
ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT 2021
UPPER TANTALLON, NOVA SCOTIA**

1.0 INTRODUCTION

GHD Limited (GHD) is proposing to expand an existing quarry located on Tote Road, in Upper Tantallon, Halifax Regional Municipality. In order to investigate the potential for encountering archaeological resources during any development of the property, Cultural Resource Management Group Ltd. (CRM Group) was retained by GHD to undertake an Archaeological Resource Impact Assessment (ARIA) of the proposed project area. Involving Mi'kmaw engagement, background research, and field reconnaissance, the project was designed to identify, document, interpret, and make management recommendations for potential cultural resources within the proposed impact area.

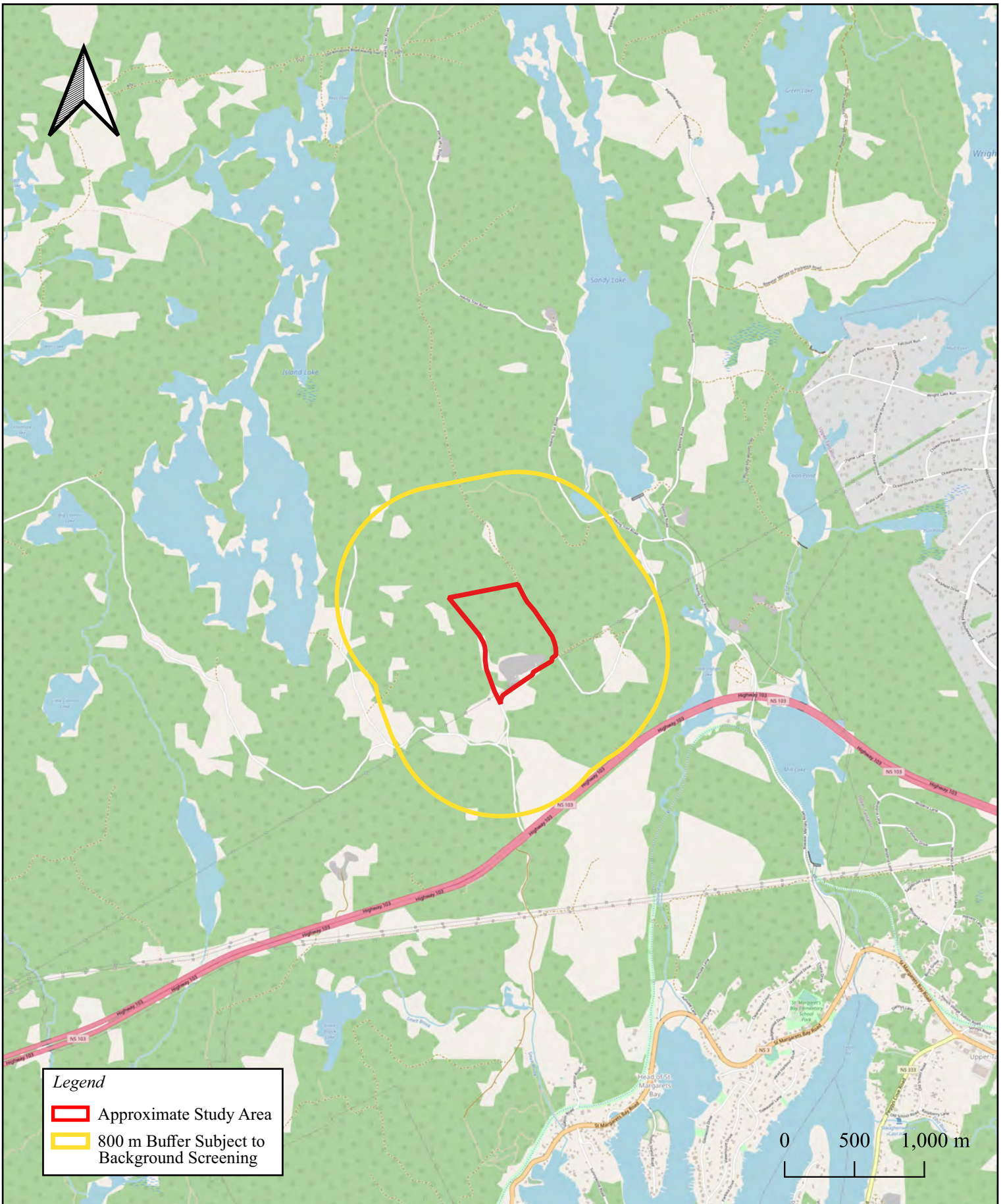
The archaeological assessment was directed by CRM Group Archaeologist, Kyle Cigolotti, with assistance during the field reconnaissance by Archaeologist, Kiersten Green. The ARIA was conducted according to the terms of Heritage Research Permit A2021NS054 (Category 'C'), issued to Cigolotti through the Special Places Program of the Nova Scotia Department of Communities, Culture and Heritage (Special Places). This report describes the archaeological screening and reconnaissance of GHD's proposed Tote Road Quarry expansion study area, presents the results of these efforts, and offers cultural resource management recommendations.

2.0 STUDY AREA

The Tote Road Quarry study area is located approximately 2.8 kilometres northwest of the community of Upper Tantallon, approximately one kilometre east of Island Lake, and approximately one kilometre southwest of Sandy Lake – part of the Indian River drainage area which consists of several long, north-south oriented lakes. The study area is situated approximately 900 metres north of Highway 103 and is accessible via an existing quarry access road. The study area, including the existing quarry, measures approximately 33 hectares. Additionally, the background screening addressed an 800-metre "blasting radius" buffer zone surrounding the existing quarry (*Plate 1; Figure 1, Figure 2, & Figure 3*).



Plate 1: General topography within the Tote Road Quarry study area; facing southeast. 17 May 2021.



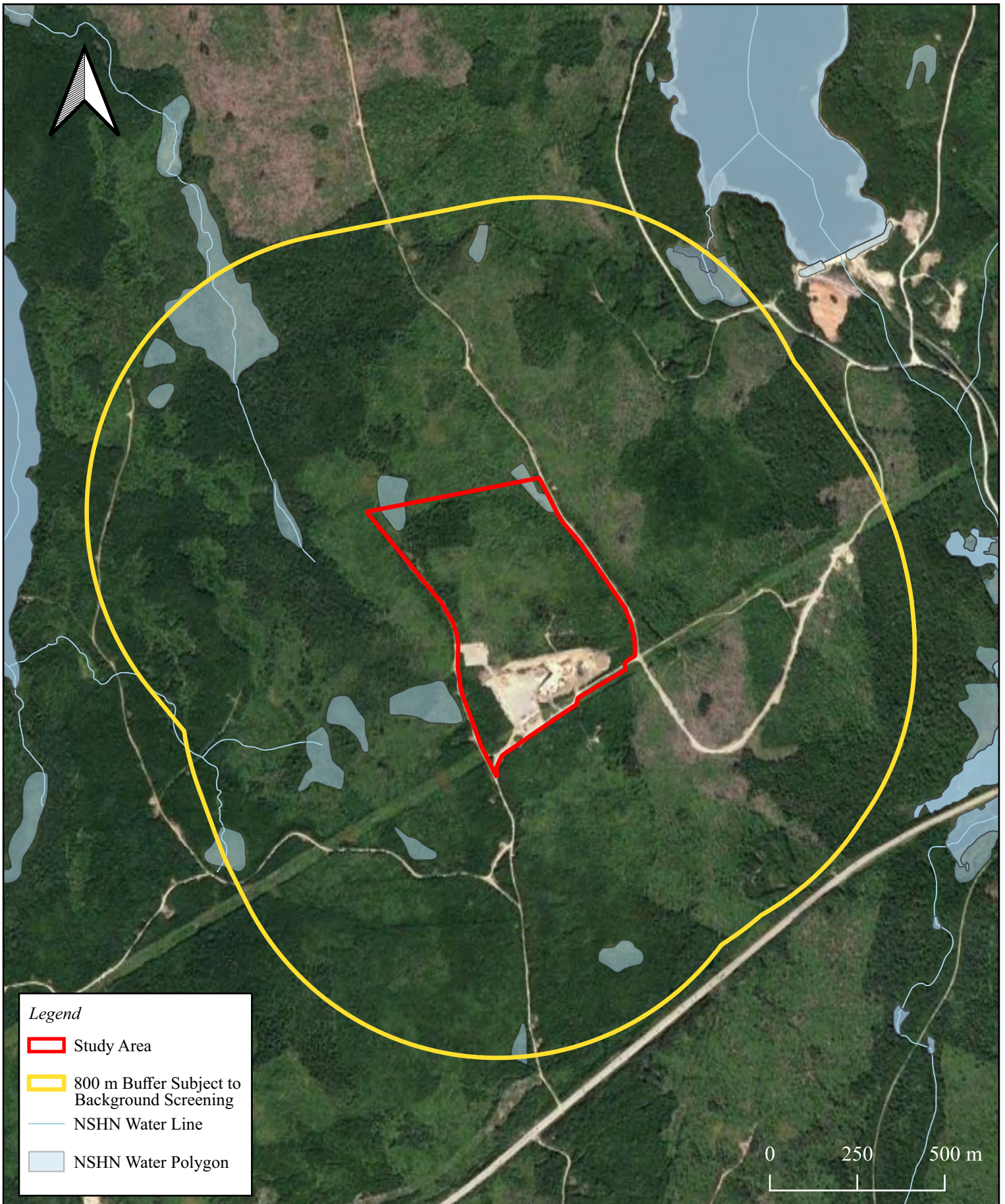
Legend


- Approximate Study Area
- 800 m Buffer Subject to Background Screening



Approximate Study Area
TOTE ROAD QUARRY
ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT 2021
HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA

Figure 1
 November 2021
 Scale 1:50,000



 <p>CRM Group Cultural Resources Management Group Ltd.</p>	<p><i>Detailed Study Area</i></p>	<p><i>Figure 2</i></p>
	<p>TOTE ROAD QUARRY</p>	
	<p>ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT 2021</p> <p>HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA</p>	
		<p>November 2021</p>
		<p>Scale 1:20,000</p>

Legend

- Buffers (m)
- Subject Property



DRAFT



Proposed Development Plan
TOTE ROAD QUARRY
 ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT 2021
 HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA

Figure 3
 November 2021
 Scale Bar

Paper Size ANSI B

0 250 500 750

Metres

Map Projection: Transverse Mercator
 Horizontal Datum: North American 1983 CSRS
 Grid: NAD 1983 CSRS UTM Zone 20N



CLIENT NAME
 HEAD OF ST MARGARETS BAY, NOVA SCOTIA
 TOTE ROAD QUARRY PERMIT SCOPING STUDY

BUFFER DISTANCES

Project No. 11216599-01
 Revision No. -
 Date XX/XX/XXXX

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3.0 METHODOLOGY

In keeping with Nova Scotia's *Special Places Protection Act Heritage Research Guidelines* (Guidelines) for Category C Permits, this stage of the ARIA consisted of three components: Mi'kmaw engagement; background study; and archaeological reconnaissance.

3.1 Mi'kmaw Engagement

As part of the study, CRM Group contacted the Kwilmu'kw Maw-klusuaqn Archaeological Research Division (KMK-ARD) to request any information pertaining to traditional or historical Mi'kmaw use of the study area.

The information provided assisted CRM Group in conducting background research and fieldwork with an approach that considered the diversity of views witnessed and experienced by a wide range of representative groups. The knowledge gained was used to broaden archival research to better understand the cultural and archaeological importance of the land upon which the study area is located and to formulate a relationship of information sharing.

3.2 Background Study

The archival research component of the ARIA was designed to explore the land use history of the study area and provide information necessary to evaluate the area's archaeological potential.

During this focused study, CRM Group utilized the resources of various institutions including documentation available through the Nova Scotia Archives, the Nova Scotia Crown Land Information Management Centre, the Department of Natural Resources, the Nova Scotia Registry of Deeds, and the Nova Scotia Museum.

The background study included a review of relevant historic documentation incorporating land grant records, legal survey and historic maps, local and regional histories, and previous archaeological reports. Topographic maps and aerial photographs, both current and historic, were also used to evaluate the study area. Satellite and LiDAR data were reviewed to delineate historic infrastructure and evaluate topography. This data facilitated the identification of environmental and topographic features that may have influenced human settlement and resource exploitation patterns. The historical and cultural information was integrated with the environmental and topographic data to identify potential areas of archaeological sensitivity. In-house GIS potential modelling was utilized to inspect the study area's relation to existing registered archaeological sites, locations of cultural or heritage significance, and navigable water bodies.

In preparation for the archaeological fieldwork, the information obtained from this suite of research materials was reviewed to facilitate the interpretation of any potential archaeological features encountered during the reconnaissance.

3.3 Previous Archaeological Assessments

During the background study, CRM Group reviewed ARIA reports that have been previously undertaken within the general proximity of the study area. The research conducted under these assessments helps to bolster the archaeological understanding of the study area more broadly. Reviewing previous assessments can also aid in the application of the archaeological record to the natural environment, based on previous findings. All results and recommendations from previous assessments have been accepted by Special Places and continue to be upheld.

3.4 Archaeological Fieldwork

Based on the Guidelines set by Special Places, in addition to archaeological site reconnaissance, a

program of archaeological testing was recommended for the study area, entailing limited subsurface testing, should it have been deemed appropriate in the field.

3.4.1 Field Reconnaissance

The goals of the archaeological field reconnaissance were to conduct a visual inspection of Tote Road Quarry study area, document any areas of archaeological sensitivity or archaeological sites identified during either the background study or the visual inspection, and design a strategy for testing areas of archaeological potential, as well as any archaeological resources identified within the study area. Researchers were watchful for topographic or vegetative anomalies that might indicate the presence of buried archaeological resources. The members of the reconnaissance team generally walked approximately 10 to 30 metres apart, searching the ground surface for signs of historic land use (e.g. levelled ground, anomalous mounds or depressions, structural features, and vestige populations of domestic plants, as well as Culturally Modified Trees) and the presence of environmental conditions recognized as being conducive to past settlement – relatively flat, dry land close to transportation routes such as waterways, portage routes, or early roads. Soil exposures within road-cuts and at the base of uprooted trees, were searched for artifacts and evidence of archaeological features. Prominent stone faces, whether on bedrock outcrops or exposed boulders, were searched for petroglyphs. Field geomatic data was recorded with handheld Garmin GPSmap 62s with +/- five-metre accuracy. Field observations were recorded through the combination of georeferenced photographs, field sketches, and field notes.

3.5 Artifact Analysis

Had any artifacts been recovered during the archaeological testing, they would have been processed and recorded in accordance with standards set by the Guidelines.

4.0 RESULTS

The following are the results of the ARIA for HRP A2021NS054.

4.1 Engagement

On 7 May 2021, CRM Group contacted KMK-ARD requesting information regarding traditional or historic Mi'kmaq use of the study area. On 20 September 2021, KMK-ARD provided information that was taken into consideration when preparing the archaeological assessment. The Mi'kmaq traditional knowledge shared by KMK-ARD is confidential in nature and, out of respect for the sensitivity of the information, is not reproduced in this report.

4.2 Background Study

The following discussion details the environmental and cultural setting of the study area, as well as previous archaeological research conducted in the general area. This background study provides a framework for the evaluation of archaeological potential and the initial interpretation of any resources encountered during the field component of the assessment.

4.2.1 Environmental Setting

Several environmental factors such as past glaciation, physiographic features, soil types, water sources, and vegetation have influenced settlement patterns and contribute to the evaluation of the archaeological potential of the area.

Wisconsinan Glaciation

During the earliest phase of the Late Wisconsinan ice flow, at approximately 20,000 years Before Present (BP), much of northeastern North America was covered in the Laurentide Ice Sheet. The Laurentide Ice Sheet reached its maximum extent across the Atlantic region by approximately 24,000 radiocarbon years BP (*Plate 2*).

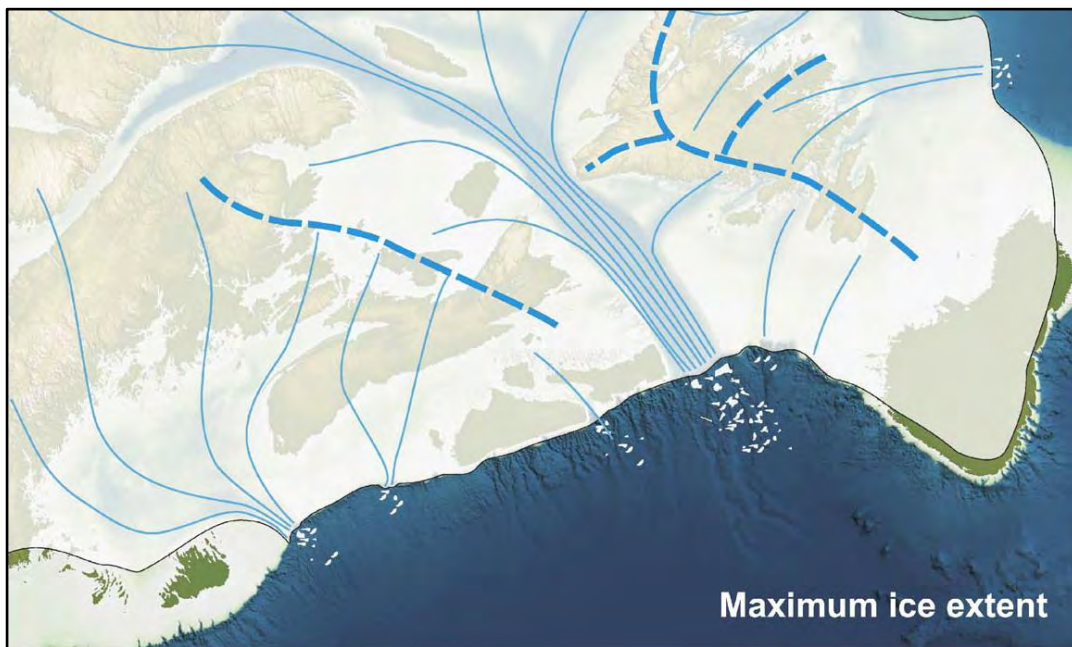


Plate 2: Maximum Wisconsinan ice extent. Thin blue lines are generalized flow lines; heavy blue dashed lines are major ice divides (Shaw, et al., 2006, p. 2066).

Deglaciation began in the Gulf of Maine approximately 21,000 years BP and progressed across the continental shelf, with the last ice remaining on the eastern Scotian Shelf. Ice streams drained vast areas of the Laurentide Ice Sheet, and it was along these ice streams that ice calving occurred. Cosmogenic dating shows that the area around Peggy's Cove, near Halifax, was ice-free by approximately 14,000 years BP (Shaw, et al., 2006, pp. 2069-2071). In part due to their great depths, ice retreated quickly out of the Gulf of Maine and the Bay of Fundy. By 13,000 years BP much of the coastal region of the Bay of Fundy was free of glacial ice. By approximately 12,000 BP, the remaining ice sheets were largely terrestrial, including an isolated ice mass overlying Nova Scotia (Scotian Ice Divide) (Fader, 2005, p. 5) (Shaw, et al., 2006, p. 2073) (**Plate 3**). Though humans were present in Nova Scotia around 11,000 BP, their record disappears shortly after, with a re-advance of glaciers from Prince Edward Island across peat deposits favoured by Caribou (Shaw, et al., 2006, p. 2076). The process of deglaciation had removed all ice from Nova Scotia by 10,000 BP.



Plate 3: Ice margins at approximately 12,000 BP with accurately depicted distribution of land and sea (Shaw, et al., 2006, p. 2074).

Reduction on land continued through melting and climatic conditions rather than calving (Shaw, et al., 2006, p. 2076). After reaching a maximum marine regression at approximately 9,500 BP, relative sea level began to rise and transgressed areas above 60 metres water depth continuing to the present shoreline. Along the southwestern and southeastern coasts of Nova Scotia, including Cape Sable Island, there is no evidence for sea level rise reaching a maximum marine transgression higher than the present shoreline (Fader, 2005). The degree of marine transgression in the region eliminates the possibility of a paleo shoreline within the study area during the period of first human occupation of the region.

Topography

The study area is located within the greater ecological region known as the *Western – St. Margaret’s Bay* (Unit 780) *eco-district* (Neily, Basquill, Quigley, & Keys, 2017, p. 216) (**Plate 4**). The *St. Margaret’s Bay* *eco-district* encompasses much of the Chebucto peninsula and western Halifax County, extends inland to Hants County, and includes portions of eastern Lunenburg County. The *eco-district* is located at the base of a larger upland region, tilting southerly towards the oceanic coastlines of St. Margaret’s Bay and Mahone Bay. Mean elevation within the *eco-district* is 100 metres above sea level (asl), with elevations rising from sea level to 175 metres west of Five Mile Lake. Elevations within the study area range from 125-150 metres asl (Neily, Basquill, Quigley, & Keys, 2017, p. 216). The most contemporary LiDAR data (Province of Nova Scotia, 2021) illustrates the undulating, and generally sloped, nature of the study area (**Figure 4**).

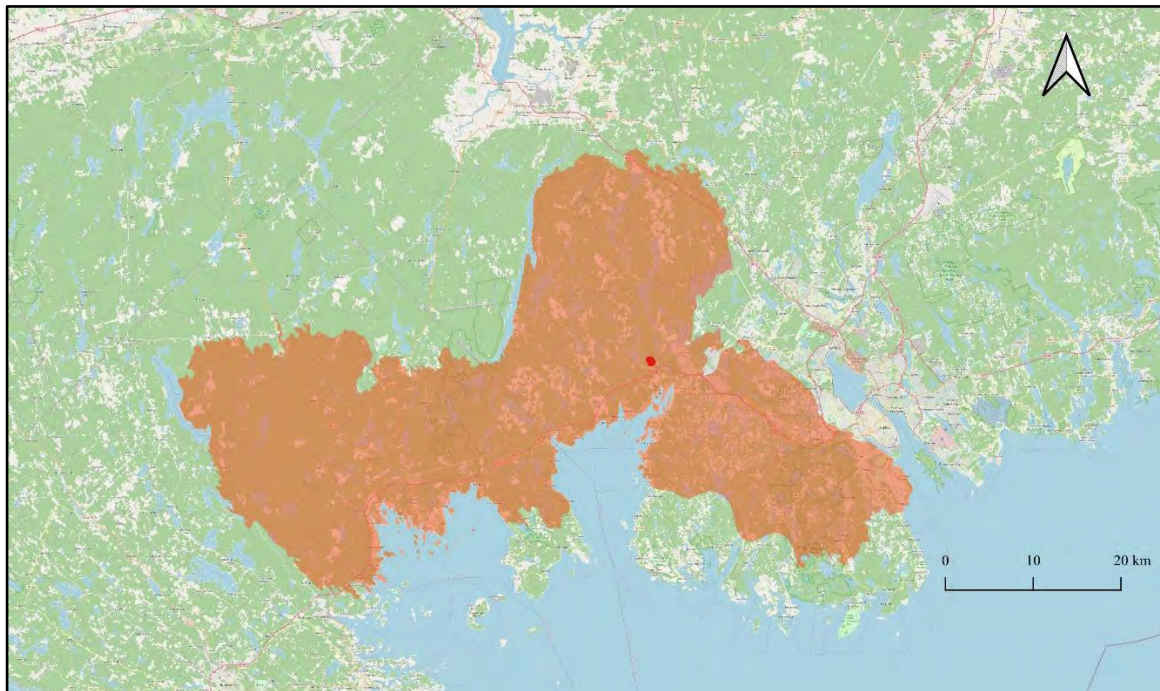


Plate 4: Western – St. Margaret’s Bay (Unit 780) *eco-district* (orange) and approximate study area (red) (Province of Nova Scotia, 2021)

Surficial Geology

The *St. Margaret’s Bay* *eco-district* is underlain by the southeasternmost portion of the South Mountain Batholith — a large granitoid formation underlying much of western Nova Scotia. However, the southwest section of the *eco-district*, including the study area, is underlain by Meguma Group rock (mainly greywacke/quartzite and slate).

Soils

The predominant soils in the *eco-district* are well drained sandy loams that have developed on granitic till and are very similar to soils found in the South Mountain *eco-district* (Unit 720). Soils are generally shallow and stony, with large granitic glacial erratics dotting the landscape. Soils on this parent material tend to be coarse to moderately coarse, well drained, and gravelly with a high concentration of surface stones (Neily, Basquill, Quigley, & Keys, 2017, p. 217).

Specifically, the study area is covered with *Gibraltar* series soils (Soil Types ST2, ST2G, ST1, ST15, ST15G) (Keys, 2007, p. 34). Derived from granite, *Gibraltar* soils are generally sandy loams with

good drainage, found in areas with gently undulating to gently rolling terrain. ST2 is mainly associated with fresh, coarse-loamy soils dominated by sandy loam texture with moderate drainage. ST2 is generally poor to medium in fertility with moisture limited during the growing season. ST2-G develops on sites with high granite stoniness, and is mainly found in the Western, Eastern, and Atlantic Coastal ecoregions (Keys, Neily, & Quigley, 2011, pp. 36-37). ST1 is mainly associated with dry, sandy-gravelly to very cobbly coarse-loamy soils. This soil type is generally well drained with poor fertility (Keys, Neily, & Quigley, 2011, p. 34). ST15 mainly associated with dry to fresh, coarse-loamy, shallow soils over near-surface cemented horizons or bedrock (including exposed bedrock). Bedrock controlled ST15 can be found scattered throughout Nova Scotia wherever near-surface bedrock is found. ST15 caused by natural cementation (ortstein layers) is mainly associated with coarse, granitic tills and glaciofluvial deposits. ST15G develops on sites with high granite stoniness (Keys, Neily, & Quigley, 2011, p. 62).

Well drained soils provide conditions that can encourage human land utilization and higher archaeological potential, whereas poorly drained soils are often associated with low archaeological potential.

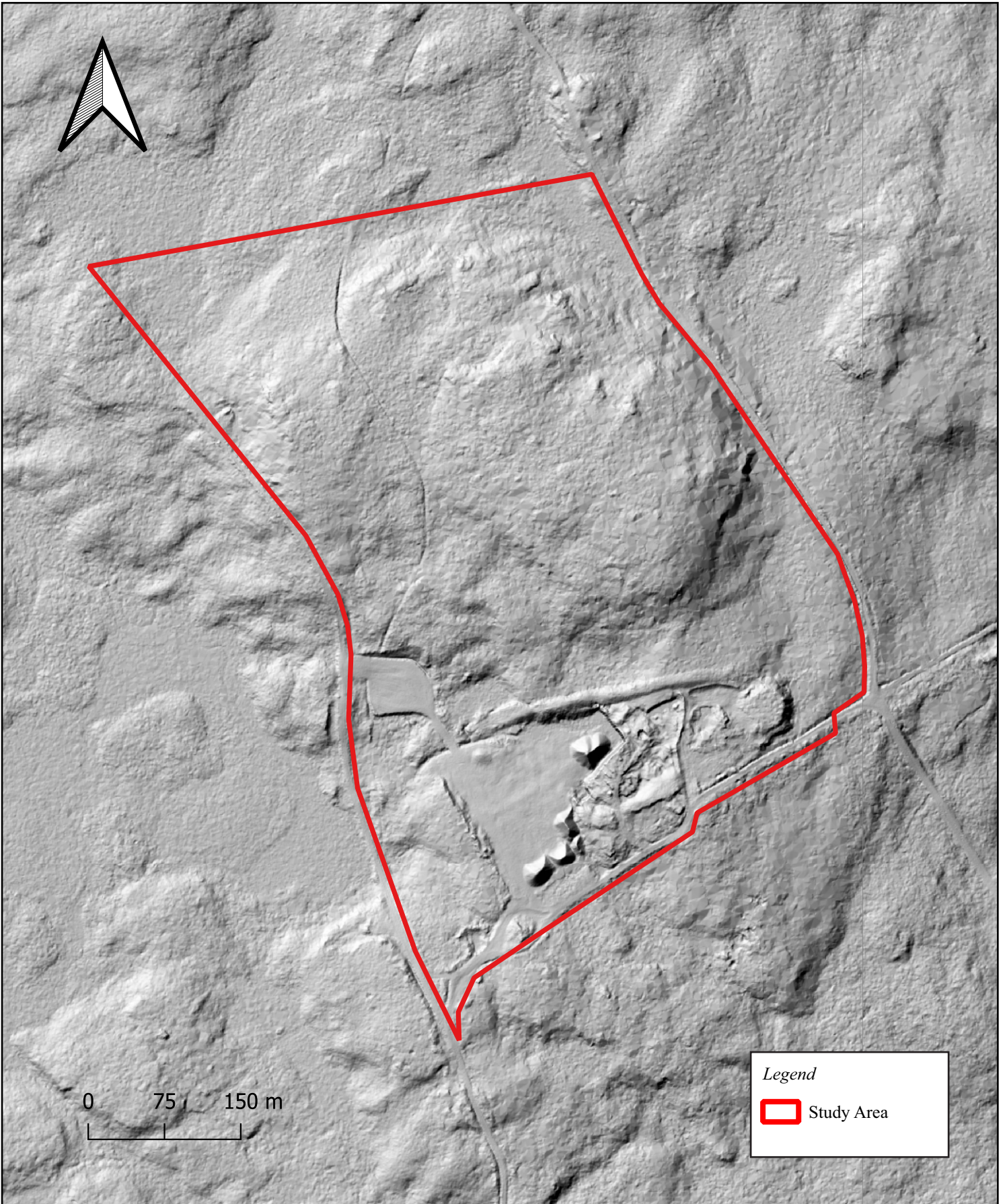
Hydrology


Proximity to water, for both drinking and transportation, is a key factor in identifying Pre-contact and historic Mi'kmaw, as well as early Euro-Canadian and African-Nova Scotian archaeological potential. Several large lakes, as well as small streams and rivers, bogs, and swamps are scattered throughout the *St. Margaret's Bay* eco-district, with approximately 7.4%, or 13,650 hectares of the eco-district comprised of lakes and rivers (Neily, Basquill, Quigley, & Keys, 2017, p. 216). The study area is located approximately one kilometre east of Island Lake, and approximately one kilometre southwest of Sandy Lake – part of the Indian River drainage area which consists of several long north-south oriented lakes extending along a fault line.

Vegetation

The dominant vegetation within the *St. Margaret's Bay* eco-district is a red spruce forest. Expansive stands of Acadian softwood forests, predominantly red spruce with hemlock, white pine and yellow birch occur on hilly and hummocky terrain. Hemlock can also be found on the lower slopes near watercourses while white pine and black spruce can be found on coarse, dry soils that are shallow to bedrock. Black spruce also occupies poorly drained soils. Occasionally, stands of tolerant hardwood are found on larger hill, with deeper well drained soils. Under these canopies, the shrub layer consists of regenerating trees and shrubs such as black spruce, balsam fir and red maple, wild lily-of-the-valley, bluebead lily, partridgeberry, starflower, and painted trillium, lambkill, huckleberry, blueberry, and wild raisin (Neily, Basquill, Quigley, & Keys, 2017, pp. 217-218).

Many of the above-listed plants are known traditional Mi'kmaw medicinal plants. Maple softened in water can be applied to the chest to soothe congestion and colds (Lacey, 2012, p. 74); the Mi'kmaw used birch to treat rheumatism as well as diarrhea (Lacey, 2012, p. 51); lily was mashed and used to treat swollen limbs (Lacey, 2012, p. 72); although hemlock contains a volatile oil which much be used with caution, the bark was used to treat colds (Lacey, 2012, p. 56); spruce was used to treat infections of various kinds (Lacey, 2012, p. 38); the bark, needles and twigs of white pine were steeped to make a tea as a remedy for colds and to treat kidney problems (Lacey, 2012, p. 36); the leaves and stems of partridgeberry were steeped to make a tea drunk by pregnant women to help ease the stress of childbirth (Lacey, 2012, p. 89); lambkill is a poisonous plant that can be used topically to reduce inflammation (Lacey, 2012, p. 14); aside from the berries being used as a general tonic, the leaves and roots of the blueberry bush can be used as a tea to treat rheumatism (Lacey, 2012, p. 43).



	<i>LiDAR Digital Elevation Model</i>	<i>Figure 4</i>
	TOTE ROAD QUARRY ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT 2021 HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA	November 2021
		Scale 1:5,000

4.2.2 Cultural Heritage Context

The following section details the cultural heritage of the study area in a broader context including an examination of nearby registered archaeological sites, protected areas, cemeteries, National Historic Sites, Historic Districts, and plaques and monuments to better our understanding of the study area’s cultural significance.

Registered Archaeological Sites

In Nova Scotia, information regarding archaeological sites is stored in the Maritime Archaeological Resource Inventory (MARI), a provincial archaeological site database, maintained by the Nova Scotia Museum. This database contains information on archaeological sites registered with the province within the Borden system. The Borden system in Canada is based on a block of latitude and longitude. Each block is referenced by a four-letter designator. Sites within a block are numbered sequentially as they are recorded. The study area is located at the northern end of the BfCx Borden Block.

A review of MARI determined that there are no registered archaeological sites located within the study area. Below find a list and discussion of all registered archaeological sites within proximity of the study area (*Table 1*).

Table 1: Registered archaeological sites within one kilometre of the study area

Borden Number	Site Name	Tradition/Nature of Site	Distance from Study Area
BeCx-09	Portage Road Camp	Historic Rectangular Structure	< 1 km N
BeCx-15	-	Historic; possible lumber mill wharves	<1 km N
BeCx-17	Sandy Lake Dam	Historic; dam and bridge	<1 km NE
BeCx-68	Sandy Lake Reservoir Main Dam	Mi’kmaq/Historic; lithics, cut nail	<1 km NE

There are four registered sites within a one-kilometre radius (*Table 1*). The Portage Road Camp Site (BeCx-09), consisting of a historic rectangular structure, is located along a wood road north of the study area. The other three sites are located along the shore of Sandy Lake to the north and northeast. Additionally, there are a total of 71 other registered sites within a 10-kilometre radius of the study area.

Historic Districts

There are no registered regional, provincial, or federal historic districts, events, or buildings within a five-kilometre radius of the study area.

Cemeteries

Prior to the establishment of St. James’ Church in 1848, a non-denominational cemetery was used for the interment of people living along the north shore of St. Margaret’s Bay, including Hubbards. Approximately 8.8 kilometres south of the study area and established in 1794, this Pioneer Cemetery was the first Euro-Canadian cemetery in St. Margaret’s Bay (Peart, 2001).

The nearest cemetery to the study area is St. George’s Anglican Cemetery, established in 1923 and approximately 3.4 kilometres south on Lowe’s Point (The Anglican Parish of French Village, n.d.).

Protected Areas

Announced for protection in 2021, the proposed Ingram River Conservation lands are located approximately 270 metres north of the Tote Road Quarry study area. The proposed 3,850 hectares of conservation lands include the South Panuke Wilderness Area, Island Lake Wilderness Area,

Special Management Zone along the valley corridor of Ingram River and Two Mile Brook, and Old Forest Policy Areas (Province of Nova Scotia, 2021). The study area is also approximately 3.5 kilometres south of the Old Annapolis Road Nature Reserve, consisting of 454 hectares and stands of old growth forest. An east-west section of the ultimately uncompleted Old Annapolis Road, originally planned to connect Halifax and Annapolis Royal, crosses the south portion of the reserve (Province of Nova Scotia, 2017) (*Plate 5*).

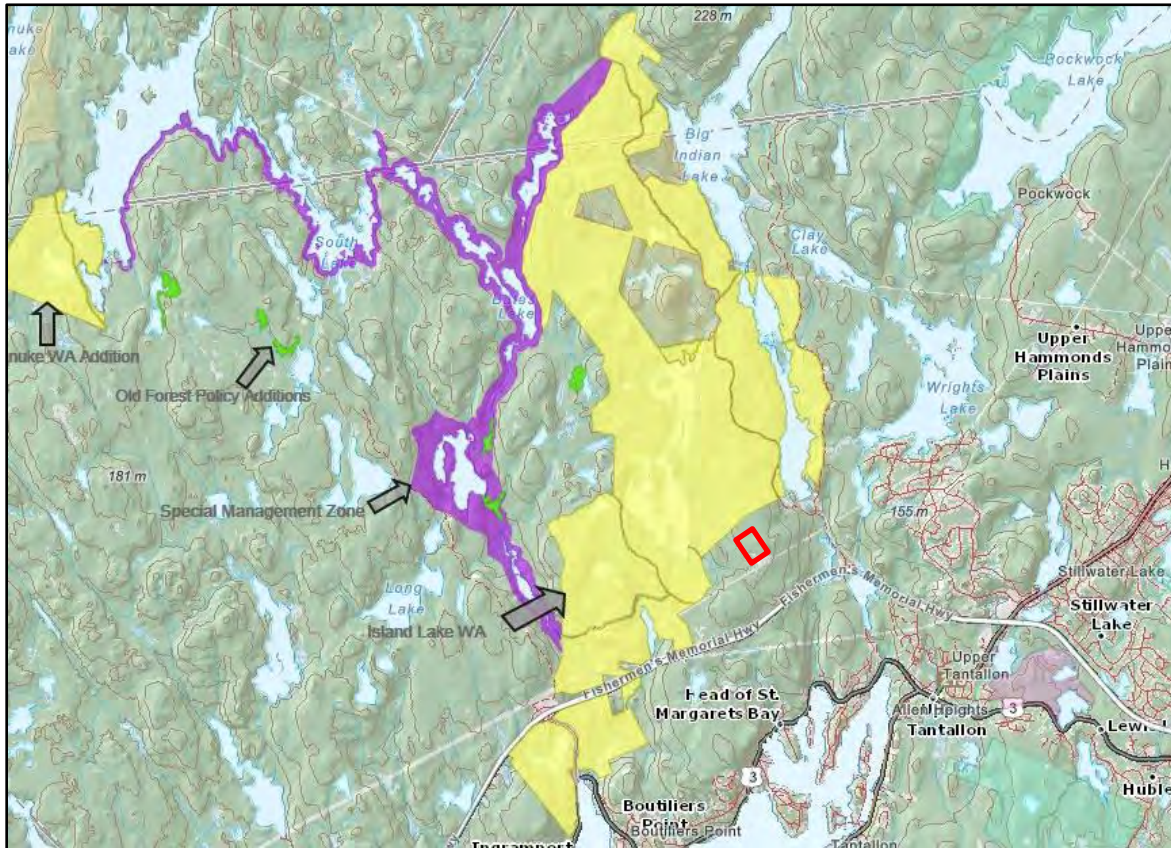


Plate 5: Proposed Ingram River Conservation Lands (in yellow and purple) and the study area (in red) (Province of Nova Scotia, 2021)

The study area is completely encapsulated by Crown Land (DNR IDs 20912, 20913, 24442, & 24439), though no portion of the study area includes Crown Land.

Mi'kmaw Cultural Landscape

Archaeology can tell us where the People lived, and much about their imperishable materials, like stone. It can show us the rocks of their hearth-fires and the bits of bone or seeds in the ash. None of this, however, can tell us much about what the People thought or felt, the conversations they had while they cooked and ate their moose and groundnuts. Archaeology can[not] show us their hearts, and neither can recorded history (Whitehead, 2013, p. 1).

Recently, archaeological studies have trended towards a more comprehensive understanding of the ecological, socio-cultural, and economic values of a traditional Mi'kmaw cultural landscape, rather than a study solely based on cultural materials (artifacts). Geological features are of principal importance when considering cultural landscapes (Lewis, 2018, p. 1).

Roger Lewis, Curator of Mi'kmaq Cultural Heritage at the Nova Scotia Museum, identifies cultural landscapes fundamentally as landscapes that have been affected, influenced, or shaped by human involvement. A cultural landscape can be associated with a person or event or a combination of both. Collectively, cultural landscapes are narratives of culture, and expressions of identity (Lewis, 2018, p. 1)

As Sable and Francis detail, the Mi'kmaw concept of *weji-sqalia'timk* expresses the Mi'kmaw understanding of the origin of its people as rooted in the landscape of Mi'kma'ki, or the territory of the Mi'kmaq (Sable & Francis, 2012, p. 17). The term conveys the dynamic interrelationship between the Mi'kmaq and their ancestral landscape; a landscape that is reflected in Mi'kmaw legends and placenames (Sable & Francis, 2012, p. 19).

Mi'kmaw legends illustrate the extensive knowledge Mi'kmaq had of the diverse resources found throughout Mi'kma'ki, including resources needed for tools. These tools themselves reflect the unique geological formations of the area. In turn, geological formations feature prominently in legends, which acted as oral maps of the area (Sable & Francis, 2012, p. 19). These traditions are experienced and interpreted through legends, stories, music, and spiritualism, which all contain knowledge and references relating to the landscape as 'place' (Lewis, 2018, p. 2).

Mi'kmaw placenames can also tell the story of the land, including features of the landscape, historic events, and important resources (Sable & Francis, 2012, p. 42). Mi'kmaw methods of naming a place, while a verb-based language, frequently reflect the meaning of the area to the Mi'kmaq, such as the resources available or the landscape features of the area. This type of naming relies on an intimate understanding and repeated use of an area. Traditional Mi'kmaw placenames in proximity to the study area are listed in the table below (*Table 2*).

Table 2: Traditional Mi'kmaw place names near study area (Ta'n Weji-sqalia'tiek Mi'kmaw Place Names Digital Atlas, 2019)

Traditional Name	English Translation	Contemporary Name	Distance from Study Area
<i>Malkipoqt</i>	Margaret's Bay	Ingram River Reserve	5 km SW
<i>Wisik</i>	Beaver house	Little Indian Lake	1 km SE
<i>Eske'kewa'kik</i>	Place of raw	Indian Point	6 km S
<i>Kjipamu'pek</i>	Great bay opening out to the sea	St. Margaret's Bay	7 km S

Contemporary place names can also illustrate the traditional areas of occupation and the nature of subsistence surrounding *Kjipamu'pek* (St. Margaret's Bay) and the study area. Names such as, Little Indian Lake, Indian River, Big Indian Lake, Indian Harbour, and Indian Point are not-so-subtle indicators of past Mi'kmaw habitation. Nearby watercourses were also named for the abundant resources in the area, such as, Muskrat Lake, Porcupine Lake and Snake Lake.

Most Mi'kmaw communities are not significantly displaced from traditional land and critical resource areas despite the "modern" disruptions of traditional ways of life (Sable & Francis, 2012, p. 22). The nearest contemporary First Nation lands are located at Wallace Hills Indian Reserve 14A (Wallace Hills IR 14A) and Hammonds Plains Reserve. Wallace Hills IR 14A, a 21.8-hectare plot of land along the Hammonds Plains Road, was created in 2011 as part of the Sipekne'katik First Nation and is located approximately 9.3 kilometres east of the study area (Sipekne'katik First Nation, 2016). The Hammonds Plains Reserve, a 4.9-hectare parcel also along the Hammonds Plains Road, is part of the Acadia First Nation and located approximately 11.8 kilometres east of the study area (Acadia First Nation, 2021).

On March 3, 1786, Chief Philip Bernard petitioned that 500 acres (202.3 hectares) at the Head of Saint Margaret's Bay, approximately 900 metres south of the study area, be granted for use by the local Mi'kmaq (Wentworth, 1786), thus establishing the principle of giving Mi'kmaq peoples legal title to land (Cape Breton University, 2021) (**Plate 6**).

In 1853, approximately 300 acres (121.4 hectares) of Crown Land was formally surveyed by the then Commissioner of Crown Lands, John Spry Morris Esq., for use as an "Indian Reserve" (IR#18). This grant was located at the Head of St. Margaret's Bay, along both sides of the Ingram River (Morris, 1853) (**Plate 6**). Located approximately 5.3 kilometres southwest of the study area, the grant is identified by Spry as having previously been allocated as Reserve Land by the Surveyor General in 1820 (Morris, 1853).



Plate 6: "Plan of Lands Granted and Reserved for Indians at St. Margarets Bay." Ingram River on left and Head of St. Margaret's Bay on right (Howe, 1842).

Geopolitical boundaries and foreign place names seen on contemporary maps did not exist prior to the European exploration and ultimate colonization of Mi'kma'ki beginning in the seventeenth-century. Rather, the Mi'kmaq recognized seven "districts," still organized today, with an eighth, *Ktaqmkuk* (Newfoundland) added in 1860 (Sable & Francis, 2012, p. 19). These district boundaries likely would have followed naturally existing water basins, formed by the principal river systems. The myriad of rivers, streams, and lakes in these systems provided a valuable resource base as well as acted as the main transportation routes for social, economic, and political interactions among the Mi'kmaq (Sable & Francis, 2012, p. 20).

The study area is part of the greater Mi'kmaq territory known as *Sipekne'katik* meaning 'area of wild potato/turnip' (*Plate 7*) (Sable & Francis, 2012, p. 21). These natural boundaries were most likely flexible and permeable, reflecting changing conditions and the needs of people in each area, rather than acting as geopolitical boundaries (Sable & Francis, 2012, p. 21).

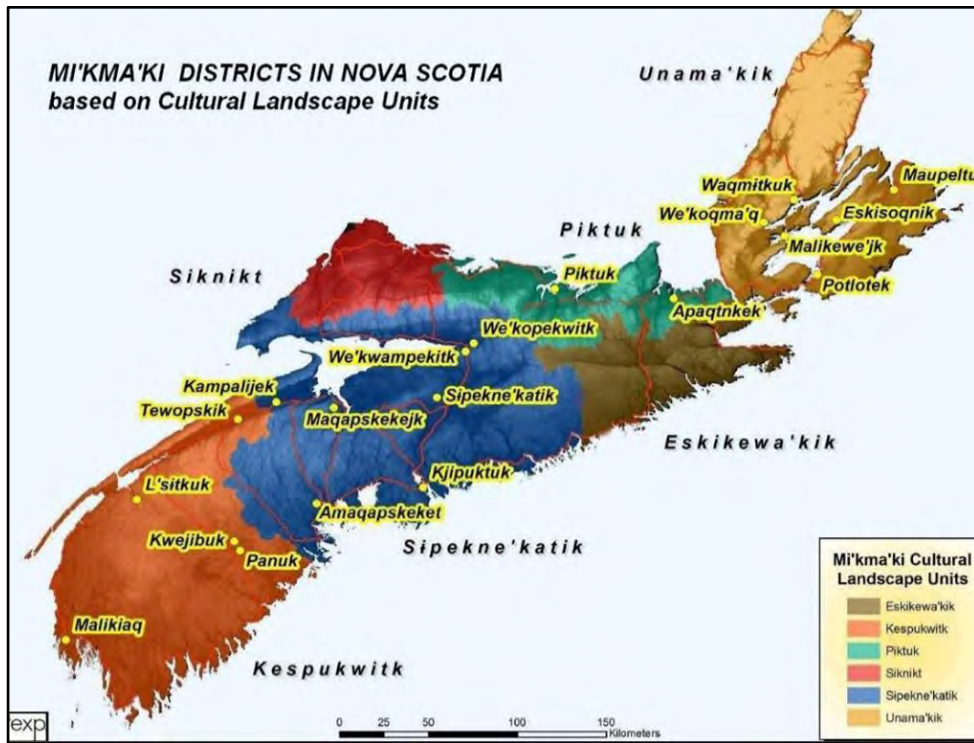


Plate 7: Mi'kma'ki Districts in Nova Scotia based on Cultural Landscape Units (Mi'kma'ki All Points Services Inc., 2018, p. 16)

4.2.3 Land Use

Investigating land use history – the modification of the natural environment for the purposes of habitation, agriculture, or other industry or activity – is essential in evaluating the archaeological potential of a given study area.

Pre-contact Land Use

The earliest human inhabitants of the Maritime Provinces are known as *Saqiwe'k L'nuk*, meaning the "Ancient People" (Confederacy of Mainland Mi'kmaq, 2007, p. 1). Present within what is known as the Palaeo Period (13,000 to 9,000 years BP), these ancient peoples may have arrived at the Maritime Peninsula at that time due to changing periglacial environmental conditions that made the area a haven for caribou and other game animals (Deal, 2016, p. 38) (Sanders, 2020).

The earliest-known evidence of people on the land in Mi'kma'ki was found in present day Debert, located approximately 85 kilometres northeast of the study area. The Paleo Period habitation sites in the Debert/Belmont Complex in the Debert National Historic Site and Provincially Designated Special Places of the *Wapus* and *Ge'gupn* sites, distributed along a sandy ridge south of the Cobequid Mountains, were occupied approximately 12,000 to 9,000 BP. Radiocarbon dating has suggested that the site was occupied during the extreme cold of the Younger Dryas Chronozone (*ca.* 11,000 to 10,000 BP), when a global reduction of average annual temperature caused local forests to return to tundra and caused remnant glaciers in the Cobequid Mountains to re-advance (Sanders, Block 1, MacElmon Road Distribution Park Archaeological Assessment 2017, 2020, p. 22).

The surrounding area is dense with lakes and watercourses that would have been important transportation corridors and a resource base for the Mi'kmaq and their ancestors for millennia prior to the arrival of European settlers. A dense network of registered Pre-contact Mi'kmaw sites along the shores of Big Indian, Rafter, and Sandy lakes confirms the Mi'kmaw significance of the Indian River drainage system. The river would have been used by the Mi'kmaq as a transportation corridor between St. Margaret's Bay and its headwaters and adjacent watercourses, including Pockwock Lake, and conceivably as a route across Nova Scotia to the Minas Basin. Previous field investigations and archaeological research has revealed occupation from the Late Archaic Period through to the historic period – encompassing approximately 5,000 years of human history (Sanders, 1996).

As noted in section 4.2.2 *Cultural Heritage Context – Registered Archaeological Sites*, there are no registered archaeological sites with Mi'kmaq components located within the study area. However, there are 34 recorded Mi'kmaw archaeological sites within a five-kilometre radius of the study area. The high concentration of sites is a clear indicator that the broader landscape surrounding the study area was an area used extensively by Mi'kmaq within all aspects of their lives and includes records of found diagnostic tools, lithic flakes, settlement sites, and manufacturing sites.

Historic Land Use

At the time of early European contact (ca. 1500), Mi'kmaq occupied the shores of virtually all waterbodies, both marine and freshwater. River systems and connected lakes were particularly important features in traditional Mi'kmaw land use as they offered a multitude of food resources as well as access to inland terrestrial habitats and their resources (Confederacy of Mainland Mi'kmaq, 2007).

The study area is located within the community of Head of St. Margaret's Bay, the name of which may have originated with Samuel Champlain, who named a river in the area, *Riviere Ste. Margrite* on his 1612 map (*Plate 8*). An early name for the community was Dauphinee's Cove from French Huguenot settlers who had moved north along the bay coast from French Village. Early Euro-Canadian settlement began approximately in 1783, when Governor Parr, while on a tour to Lunenburg, encouraged some of the descendants of French and German pioneers to take up land along the Bay. Eventually, 60 families settled along the bay and sent wood and vegetables to ship for sale in Halifax (Fergusson, 1967).

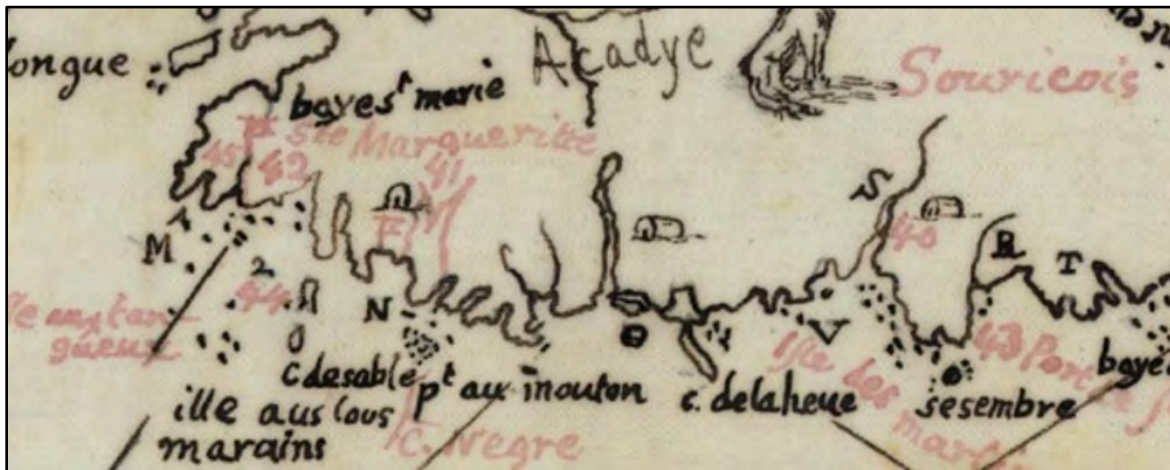


Plate 8: Detail of Thoreau's reproduction of Champlain's 1612 map of New France. "S" identified as "Rx Sainte Margrite" (Champlain & Thoreau, 1850)

In 1833, a dam was extended across the entirety of the Ingram River to power a mill by Francis Webber, raising the river approximately 19 inches (48 centimetres) above its original height (**Plate 9**) (Hendry, 1833). In 1853, this flooding had continued to extend into the Reserve Lands and members of the Halifax County Band, Francis Phillips and Chief Louis Paul, submitted a complaint to the Indian Commissioner, Will Chearney. Chearney agreed with the disputants, citing the flooding precluded the use of the flooded land for profitable cultivation and recommended the removal of the dam (Chearnley, 1853).



Plate 9: Map of Ingram River "Indian Reserve" (Chearnley, 1853)

In 1918, Indian Superintendent, A. J. Boyd, conducted a survey of the Halifax County Band, which concluded that, while there were 235 Mi'kmaq in Halifax County, the Ingram River Reserve was unoccupied (Tobin, 1999, p. 28). As part of the Government of Nova Scotia's plan to centralize all Mi'kmaq in the province, H. J. Bury, Timber Inspector, recommended that the reserved land at Ingram River be sold in order to acquire funds that could aid in the centralization process (Tobin, 1999, p. 30). In 1919, the reserve land at Ingram River was surrendered to the province (Tobin, 1999, p. 32). The 1921 census records reported 175 Mi'kmaq living in "Indian Reserves" in Halifax County (Wicken, 2010, p. 151).

Significant use of the broader study area by settlers of European descent likely did not occur until the post road between Halifax and Annapolis Royal was cut along the foot of Big Indian Lake, ca. 1784 (Dawson, *The Mapmaker's Eye: Nova Scotia Through Early Maps*, 1988, p. 139). The alignment for this road would have followed that of an earlier Mi'kmaq trail (Evans, 1993, p. 15), which may have led from Pockwock Lake to the Bedford Basin, near Mill Cove. Surveying for the road began as early as 1776 and, from 1784-1785, John Harris surveyed a line through the interior

of the province from Annapolis to Halifax (Dawson, 2009, p. 86). The goal of the new road was to provide a shorter route and settle people in the province's interior. In the 1820s, land lots were laid out along the road in three main settlement areas surveyed for army veterans; Dalhousie, Sherbrooke, and Wellington (Fergusson, 1967, p. 716). The latter was mostly abandoned in the 1860s and was located just north of the study area (**Figure 5**). There is still evidence of the Wellington settlement, leading from Halifax to north of the study area, in the form of cellars and lake names; Kearney, Wrights, Green, Clay, and Rees lakes have all been named after the veteran grantees (Peart, 2001, p. 310).

Sadly, the Old Annapolis Road did not become the major travel route that it had been initially intended. While sections were completed and can be seen today in the western end of the province, the eastern section was never fully completed, with only remnants remaining (Dawson, 2009, p. 87). Small sections of the Old Annapolis Road can be found within the Old Annapolis Road Nature Reserve, near Rees Lake, and portions have been identified near Hammonds Plains Road (Sanders & Beanlands, 2009, p. 14).

In 1786, 31 grants were issued further east along the road, founding the community of Hammonds Plains (Fergusson, 1967). The establishment of this early road would have led settlers directly past the lakes north of the study area, likely generating interest in the area's timber resources. These original land grants were of high value to the grantees, as they contained old growth forests, with forestry quickly becoming a chief industry until after the Second World War (**Plate 10**) (Hammonds Plains Historical Society, 2021).



Plate 10: Lumbering at Head of St. Margaret's Bay (Lumbering, Head of St. Margaret's Bay, n.d.)

Hammonds Plains expanded considerably between 1816 and 1817, when 504 Black Refugees were settled there in the wake of the War of 1812. There is no indication in the historic documentation to suggest that the expansion made it as far west as the study area. By 1865, gold mines had been established on the east side of the Pockwock River and north of the Old Annapolis Road, east of Big Indian Lake (Evans, 1993).

The study area is part of 120 acres originally granted to Peter P. Boutilier (et al.), with the surrounding lands granted to Ninlan L. Todd, Jas. C. Mason, John Jacob Mason, John Polleys, Lewis Ryno, John H. Fader, and William Mason (**Figure 6**). John H. Fader was the father of John H. Fader, Jr. (1848-1934), a commission merchant and victualler in the late nineteenth and early twentieth centuries, and one of several Faders who were prominent merchants and businesspeople in both Halifax and the St. Margaret's Bay areas. The main business associated with the family is *Fader Brothers, Victuallers*, which was established in 1864 at 64 Barrington Street in Halifax (Fader Family

Fonds, 1849-1988).

Close examination of A.F. Church's 1865 map of Halifax County reveals that Big Indian and Rafter lakes are depicted as one contiguous body identified as Indian Lake. As a result, the map shows the Old Annapolis Road crossing Indian River immediately downstream of Rafter Lake continuing north of Island Lake. The Church map does not depict any structures within the study area but does identify three buildings at the south end of Indian Lake including a building identified as 'W. Rafter' (*Figure 7*).

A 1908 Geological Survey map depicts a camp located within the study area's 800 metre blasting radius, in the vicinity of registered archaeological site, BeCx-09 (*Figure 8*). LiDAR Hillshade data helps to identify the existing alignment of the Portage Road, though much of the road is overgrown or in use by Off-Highway Vehicles (*Plate 11*). Likely a historic logging camp, BeCx-09 is located within the southern portion of the John H. Fader/William Mason grant, along the Portage Road that would have connected the St. Margaret's Bay Road to the Old Annapolis Road.

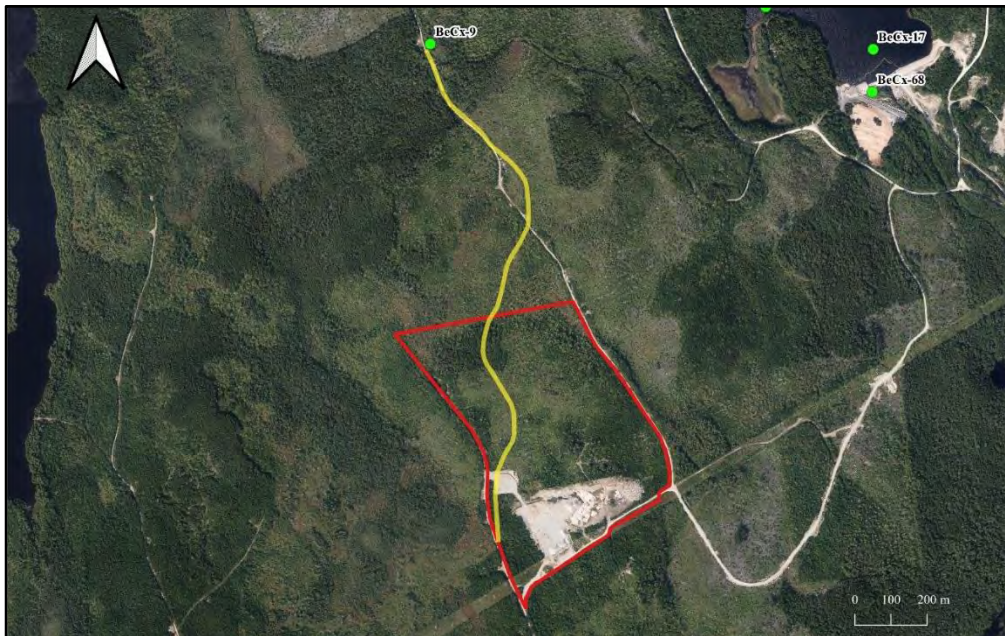


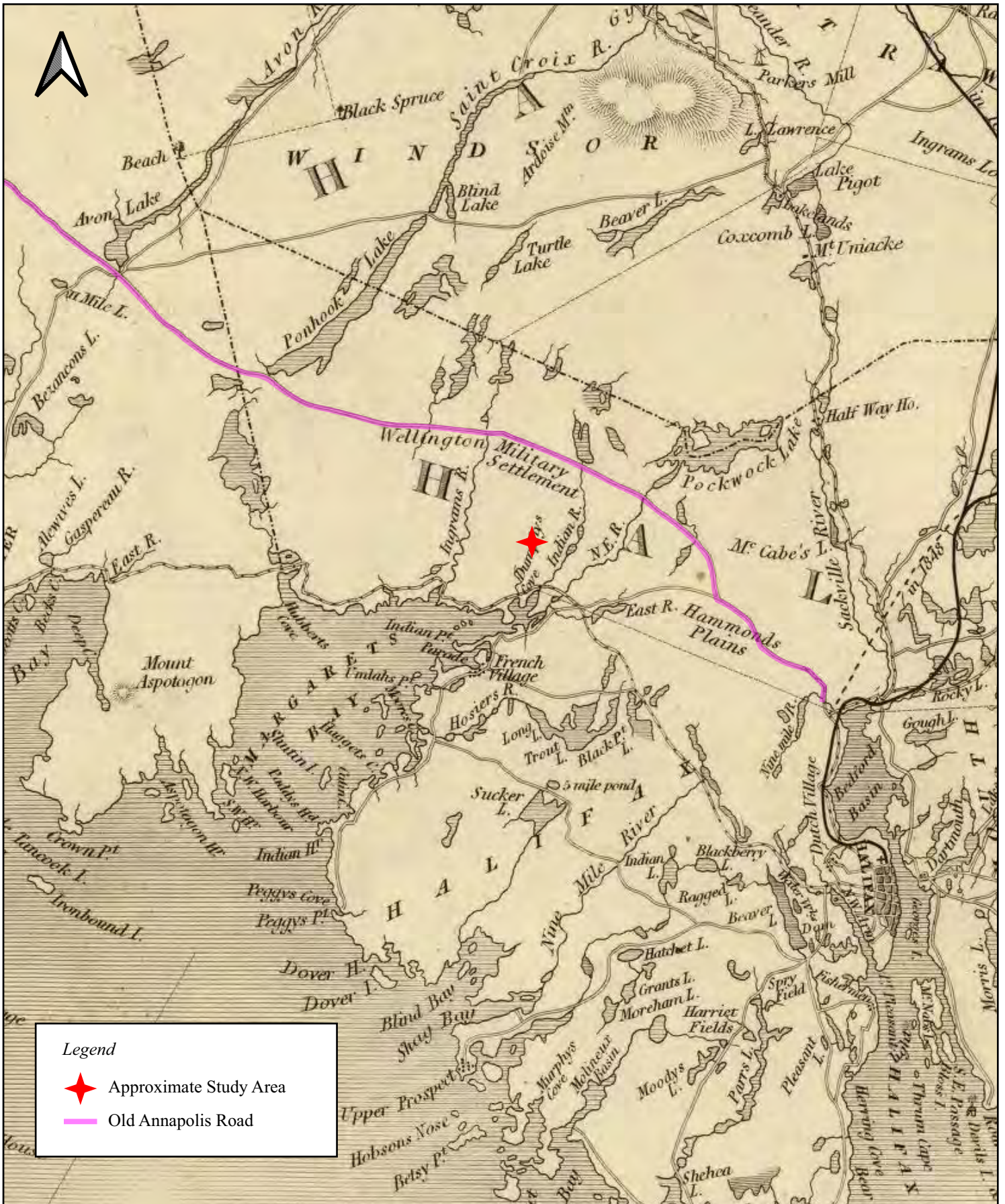
Plate 11: Historic Portage Road alignment (in yellow), leading to registered site BeCx-09 (in green), through the study area (in red)

The first comprehensive power study for the Indian River was undertaken for a pulp mill scheme in 1901 (Nova Scotia Water Power Commission, 1916, p. 77). The Nova Scotia Water Power Commission (NSWPC) was formed in 1914. Its objective was to undertake investigations throughout the province and make recommendations for the development of a provincial water policy. Reports were issued by the Commission in 1916, 1917, and 1918. As the result of the work done by the NSWPC, the government enacted both the Water Act and the Power Commission Act in 1919. The Nova Scotia Water Act provided the Minister with the authority to grant authorizations for the use and development of river waters within the province. With the passing of the Power Commission Act, the Nova Scotia Power Commission was formed. The St. Margaret's development was the first project undertaken by the Power Commission (Nova Scotia Water Power Commission, 1916).

The engineering firm of C.H. & P.H. Mitchell of Toronto, Ontario, was retained to design the system and construction began in May 1920 (Nova Scotia Power Commission, 1921, p. 9). Roads were to

be built to all remote portions of the works. Two plants were constructed: one on Mill Lake; and the other on the shore of St. Margaret's Bay. The latter was known as the Tidewater plant (Buckley, 1986, p. 71). The plants, along with a transmission line to Halifax, were complete and operational by 1922. It soon became clear that further development along the system was necessary and, in 1926, construction began on the Sandy Lake dam. This development required the acquisition of more than 120 hectares of land that had to be "cleared, burnt, and logged" (Nova Scotia Power Commission, 1928, p. 26).

Twentieth century aerial photographs depict limited to no development activity near or within the study area (**Figure 9**). The 1931 photograph shows the Portage Road running north-south through the study area as well as some forestry activities directly to the southeast. The 1981 photograph shows a forestry road extending up from Highway 103 north to limited tree clearing within the southwest portion of the study area, an area that is currently part of the existing quarry.



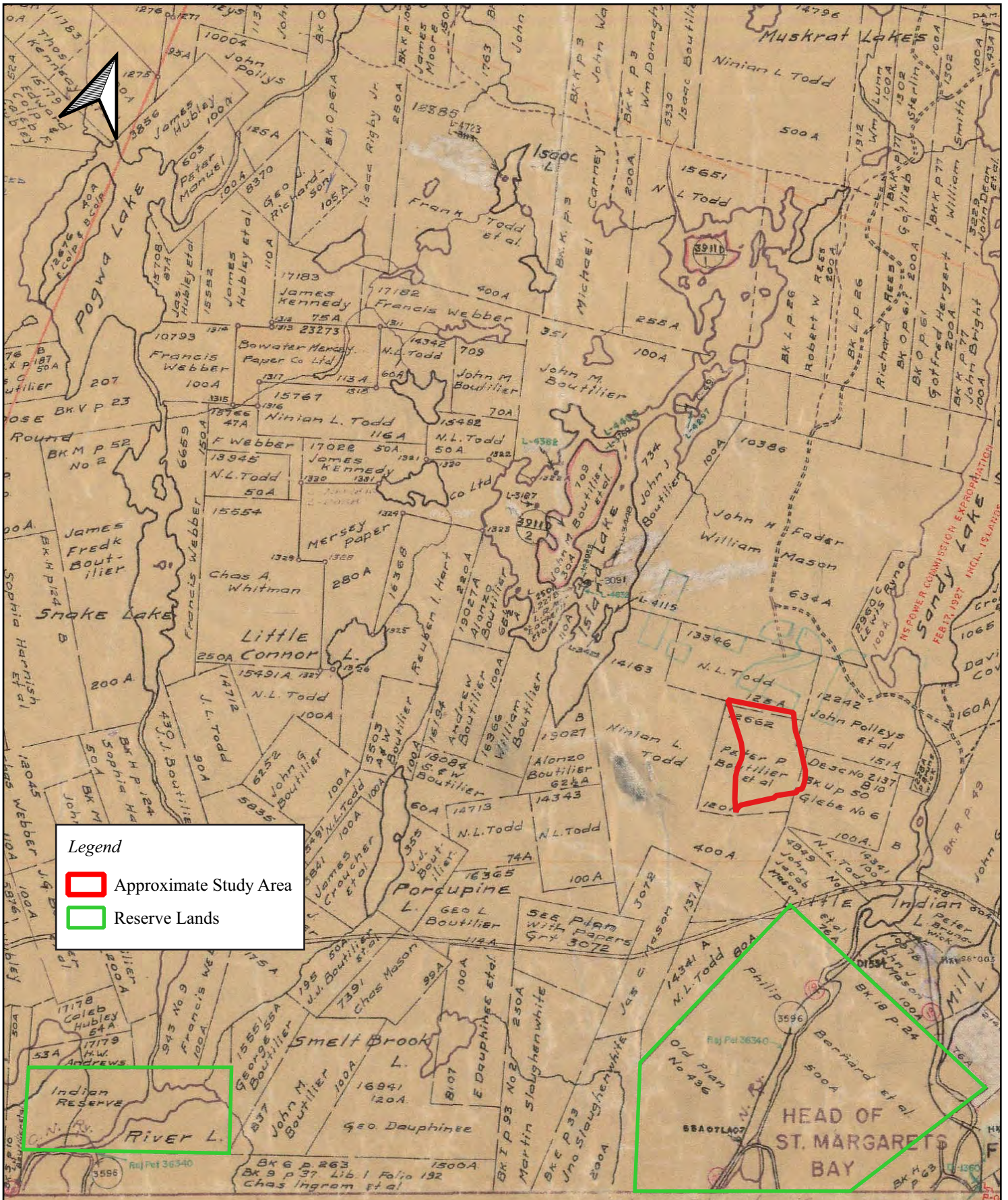
Legend

- ★ Approximate Study Area
- Old Annapolis Road



Belcher's Map of the Province of Nova Scotia, 1855
TOTE ROAD QUARRY
ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT 2021
HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA

Figure 5
 November 2021



Legend

- Approximate Study Area
- Reserve Lands

Crown Land Grant Sheet No. 55

Figure 6

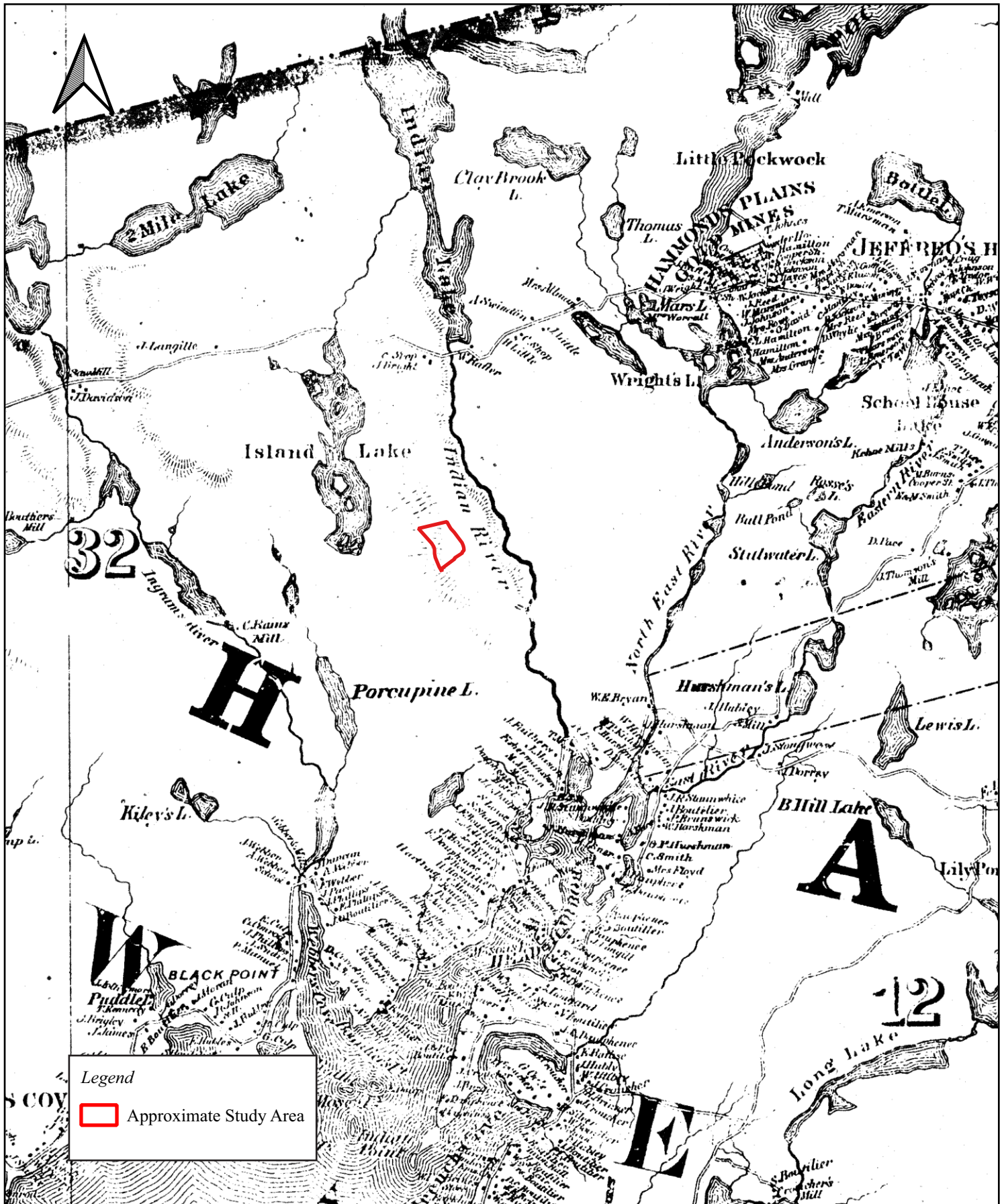
TOTE ROAD QUARRY

ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT 2021

HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA

November 2021





Legend
 Approximate Study Area

Halifax County, A.F. Church, 1865

Figure 7

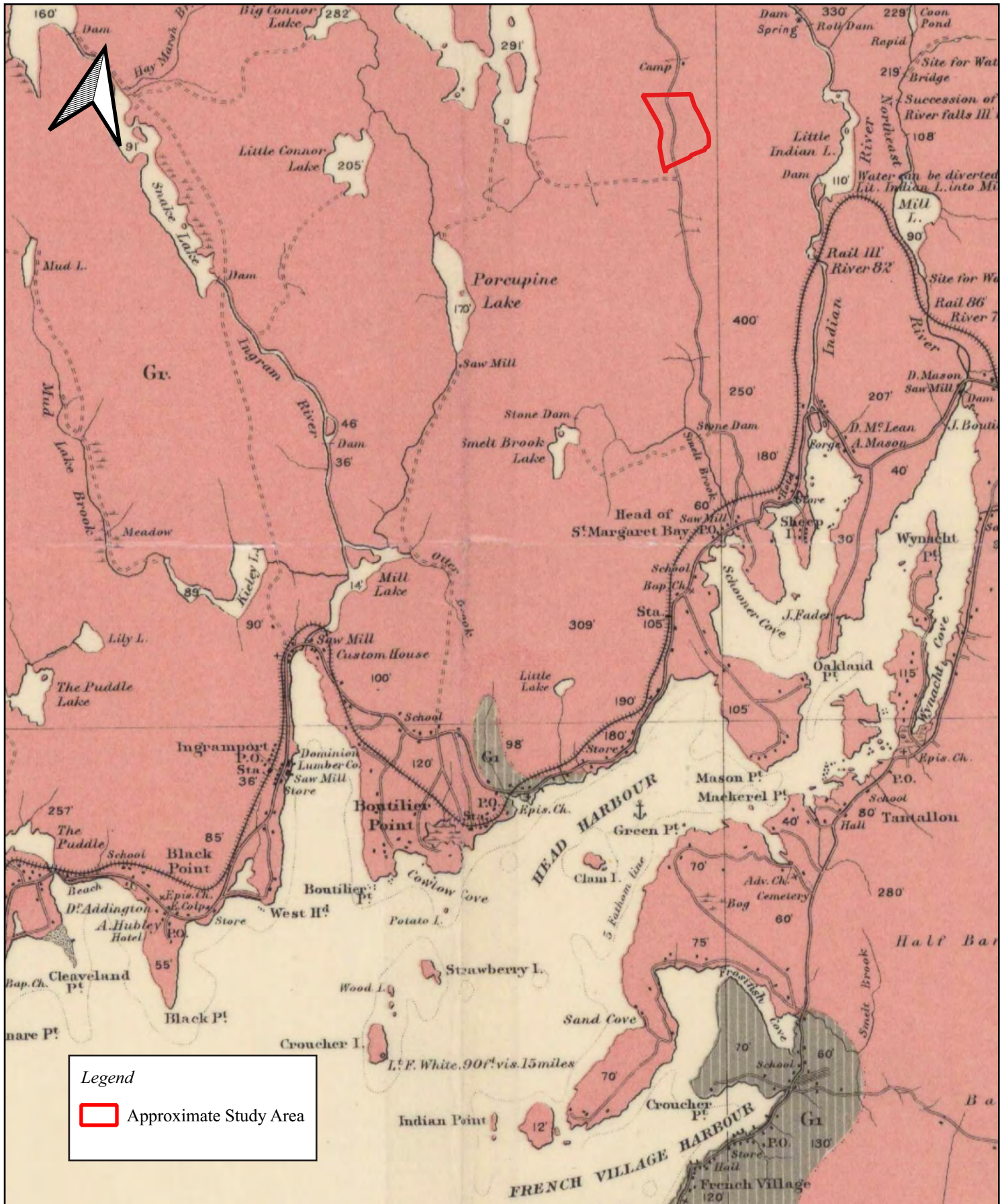
TOTE ROAD QUARRY

ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT 2021

HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA

November 2021





Legend
 Approximate Study Area

Faribault, 1908, Geological Survey Map, Province of Nova Scotia

Figure 8

TOTE ROAD QUARRY
 ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT 2021
 HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA

November 2021





1931



1981

Aerial Photographs 1931 & 1981

TOTE ROAD QUARRY
 ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT 2021
 HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA

Figure 9

November 2021

Scale Bar

0 250 500 m

Legend

 Study Area



4.3 Previous Archaeological Assessments

Although no archaeological assessments have previously been undertaken within the study area, many have been undertaken within the general vicinity. As noted in **Section 4.2.2 Registered Archaeological Sites**, archaeological assessments have focused primarily on the Nova Scotia Power Indian River System, to the east of the study area.

A single study was undertaken within the 800-metre blasting radius screening area, relating to the Portage Road Camp Site (BeCx-09). The archaeological assessment was undertaken under HRP A1991NS021 in November of 1991, by W. Bruce Stewart. The foundation and depression features identified during the assessment (**Plate 12**) are likely related to the “camp” identified along the Portage Road alignment in Faribault’s 1908 Geological Survey Map (**Figure 8**). It was noted that mid-twentieth-century refuse was scattered across the site, but additional study was recommended to determine the history of the site and the potential value of archaeological mitigation (Stewart, 1991).

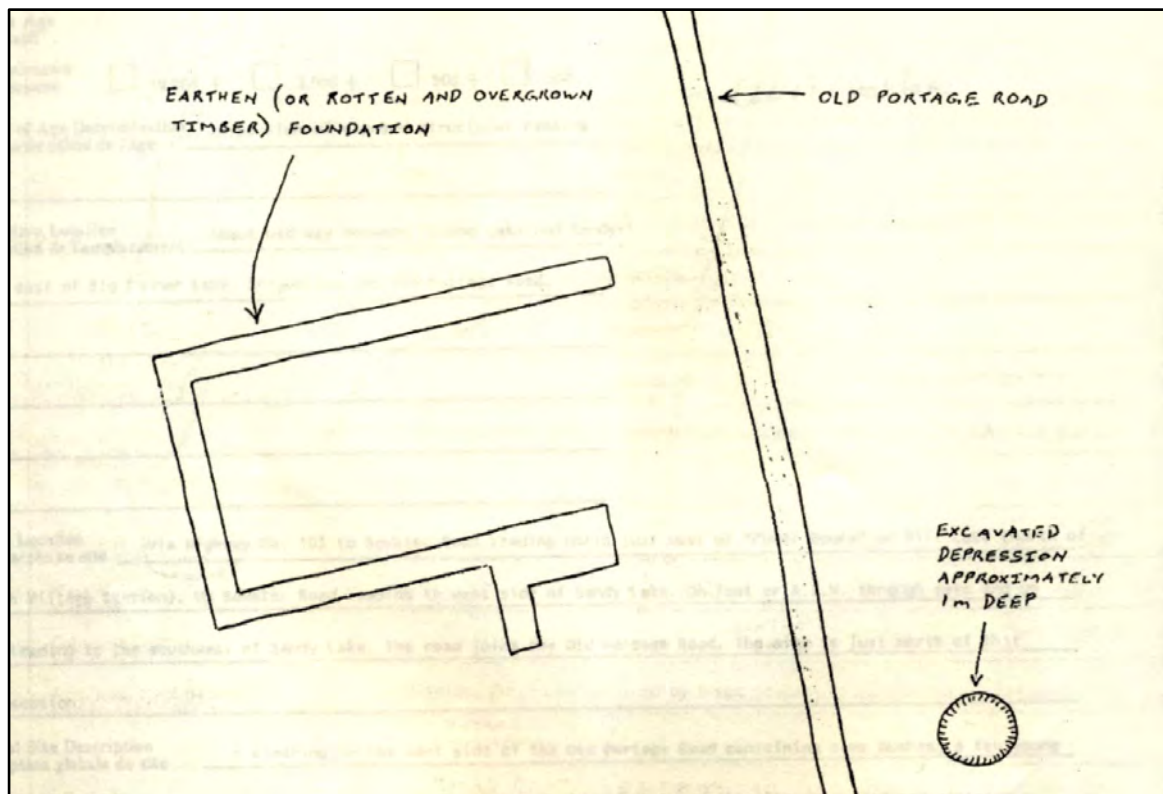


Plate 12: Features of Old Portage Road Site (BeCx-09) (Stewart, 1991)

The following is a list of Heritage Research Permits relating to archaeological assessments within the broader landscape (**Table 3**):

Table 3: Heritage Research Permits undertaken in close proximity to the study area

Heritage Research Permit Numbers					
A1991NS021	A1996NS029	A1997NS031	A1999NS036	A2008NS084	A2008NS085
A2009NS056	A2009NS096	A2010NS094	A2010NS106	A2010NS107	A2011NS086
A2011NS109	A2011NS110	A2011NS127	A2012NS056	A2012NS057	A2012NS073
A2012NS074	A2012NS082	A2015NS029	A2015NS030	A2015NS056	A2015NS057
A2015NS064	A2016NS066				

4.4 Archaeological Fieldwork

CRM Group undertook a program of archaeological reconnaissance on 17 May 2021. No material culture or areas of high archaeological potential were identified. The archaeological field program was directed by CRM Group Archaeologist Kyle Cigolotti, under the terms of HRP A2021NS054. The following details the archaeological fieldwork.

4.4.1 Field Reconnaissance

Fieldwork, consisting of archaeological reconnaissance, was undertaken on 17 May 2021. Weather conditions were partly cloudy with a light breeze. The primary purposes of the visit were to assess the area for archaeological potential and investigate any topographical and/or cultural features that had been identified as areas of elevated potential during the background research. The visual assessment involved a reconnaissance of the proposed expansion area of the existing Tote Road Quarry at regular intervals and a field truthing of a previously registered site (BeCx-09), north of the study area (**Figure 10**).

Access to the study area was gained via an existing resource access road, north from Exit 5A on Highway 103. The access road runs north of Porcupine Lake and joins Tote Road, south of the existing quarry.

The survey began in the northern boundary of the study area, north of the existing quarry, and progressed southward, to the access road, with east-west transects. The northern limit of the study area exhibited low, wet, and boggy conditions (**Plate 13**). The slope within this portion of the study area ascended toward the south at the limits of the boggy areas until reaching the highest point in the study area, near the eastern boundary of the proposed expansion footprint. The remainder of the study area was either heavily sloped in all directions from this point or consisted of existing quarry (**Plate 14**).



Plate 13: Low, wet, and boggy conditions within the study area, facing northeast. 17 May 2021.



Plate 14: Existing quarry within the study area, facing southeast. 17 May 2021.

Although the topography was generally sloped and hummocky (*Plate 15*), the northwest corner of the study area exhibited the traits of a mature hemlock forests, with a dense canopy and low undergrowth (*Plate 16*). The remainder of the study area had been heavily forested, with evidence of historic logging activities present throughout (*Plate 17*).



Plate 15: Sloped and hummocky ground conditions, covered by immature tree growth, facing west. 17 May 2021.



Plate 16: A stand of hemlock trees in the northwest portion of the study area, facing east. 17 May 2021.



Plate 17: Evidence of past forestry activities, facing west. 17 May 2021.

A portion of the Portage Road, as depicted in the 1908 Faribault Map (**Figure 8**), was identified during the reconnaissance. On the north-facing hill, the road was cut directly into the slope (**Plate 18**). The area around the road was inspected for evidence of structures or camps, but none were identified. Given the proximity to the historic logging camp within one kilometre of the study area, there is low potential for an additional camp location near the newly identified portion of Portage Road.



Plate 18: Portion of suspected Portage Road alignment, facing south. 17 May 2021.

As registered archaeological site BeCx-09 falls within the 800-metre blasting radius subjected to background screening, the site was field-truthed to provide an update on site conditions. It appears that the site is in relatively good condition, with no visible destructive agents increasing the threat of damage. The site currently consists of a linear foundation feature (possibly wood sill) (**Plate 19**) on the west side of the Portage Road and a depression on the east side of the Portage Road (**Plate 20**). Evidence of twentieth-century refuse was still present across the site (**Plate 21**).



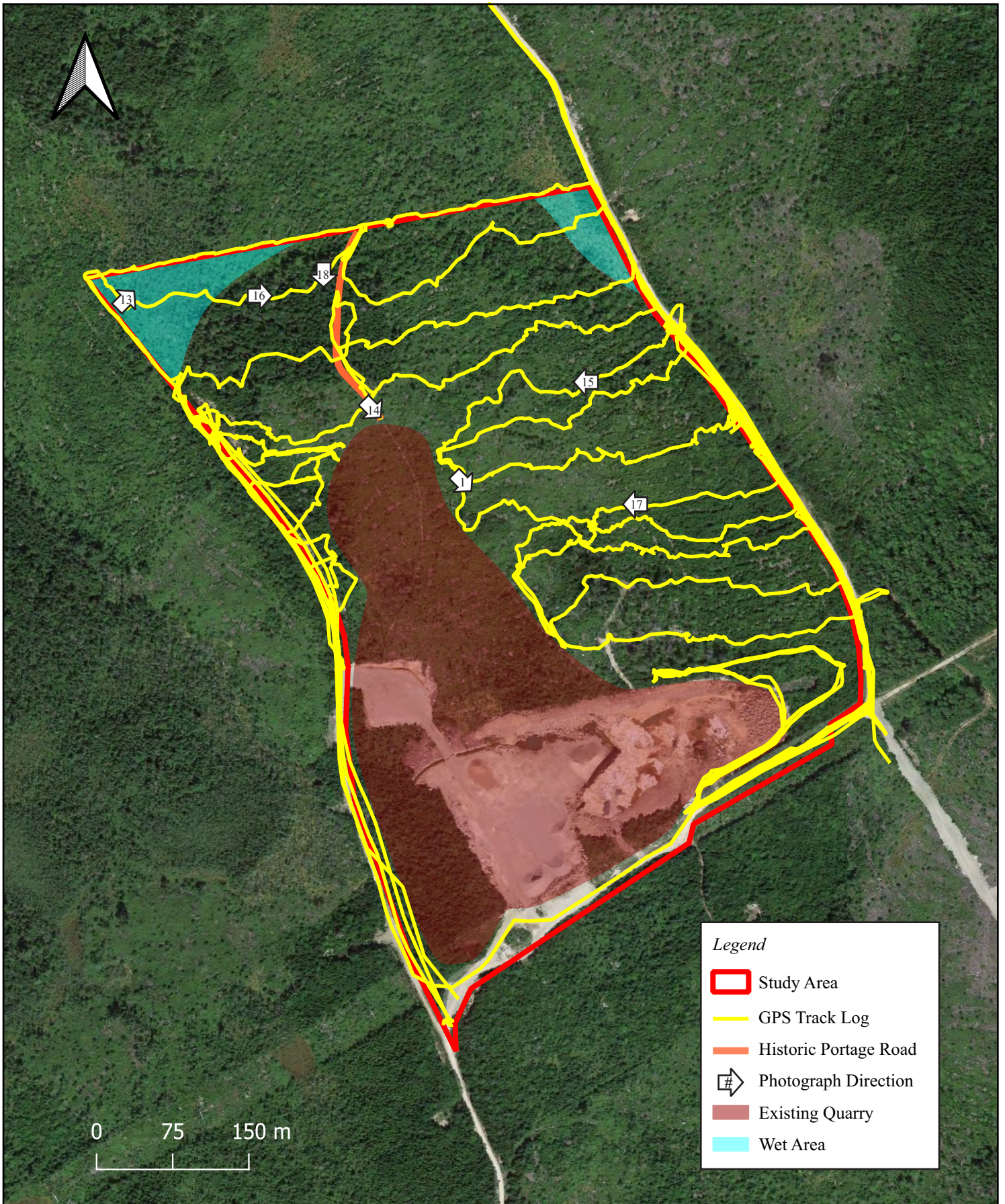
Plate 19: Portion of foundation at site BeCx-09, facing east. 17 May 2021.



Plate 20: Depression feature at site BeCx-09, facing east. 17 May 2021.




Plate 21: Twentieth-century refuse at site BeCx-09, facing south. 17 May 2021.



Legend

- Study Area
- GPS Track Log
- Historic Portage Road
- Photograph Direction
- Existing Quarry
- Wet Area

 <p>CRM Group Cultural Resource Management Group Ltd.</p>	<p><i>Results of Reconnaissance</i></p>	<p><i>Figure 10</i></p>	
	<p>TOTE ROAD QUARRY ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT 2021 HALIFAX REGIONAL MUNICIPALITY, NOVA SCOTIA</p>		<p>November 2021</p>
			<p>Scale 1:5,000</p>

4.5 Artifact Analysis

No artifacts or cultural materials (modern, historic, or Pre-contact) were recovered during the field-testing portion of the ARIA, therefore no analysis was required or undertaken.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The 2021 ARIA of the Tote Road Quarry expansion study area consisted of Mi'kmaw engagement, a background study, and field reconnaissance of the study area.

During the field reconnaissance, a portion of the early twentieth-century or later nineteenth-century Portage Road was identified within the study area. Given the proximity to the historic logging camp (Old Portage Road Camp, BeCx-09) within one kilometre of the study area, there is low potential for an additional camp location near the newly identified portion of Portage Road.

Despite the density of registered archaeological sites along the Indian River System and given that the study area is approximately 1.5 kilometres away from the system, it is unlikely that any traditional usage of the study area would have occurred, as the Indian River System would have been the preferred travel route. No topographic features that would have influenced human occupation (knolls, water sources) were identified during the field reconnaissance of the study area.

Given the rocky, wet, and otherwise sloped nature of the terrain encountered during field reconnaissance, the distance from any navigable source of water, and the lack of any evidence of historic development, the proposed Tote Road Quarry expansion study area is ascribed low potential for encountering archaeological resources.

Based on these results, CRM Group offers the following management recommendations for the study area:

1. It is recommended that the study area, as defined and depicted in this report (*Figure 2*), be cleared of any requirement for future archaeological investigation.
2. If any further changes are made to the layout of the Tote Road Quarry beyond the area assessed in this report, it is recommended that those proposed areas be subjected to an Archaeological Resource Impact Assessment.
3. In the event that archaeological deposits or human remains are encountered during construction activities associated with the Tote Road Quarry expansion, all work in the associated area(s) should be halted and immediate contact made with the Special Places Program (John Cormier: 902-424-4542).

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7.0 APPENDICES

7.1 Heritage Research Permit Documents



Heritage Research Permit (Archaeology)

Office Use Only
Permit Number:
A2021NS054

Special Places Protection Act 1989

(Original becomes Permit when approved by
Communities, Culture and Heritage)

Greyed out fields will be made publically available. Please choose your project name accordingly

Surname **Shears** | First Name **Robert**

Project Name **Tote Road Quarry Expansion Archaeological Resource Impact Assessment 2021**

Name of Organization **Cultural Resource Management Group Ltd.**

Representing (if applicable) **GHD Construction Company Ltd.**

Permit Start Date **April 12, 2021** | Permit End Date **December 31, 2021**

General Location: **Upper Tantallon, Nova Scotia**

Specific Location: *(cite Borden numbers and UTM designations where appropriate and as described separately in accordance with the attached Project Description. Please refer to the appropriate Archaeological Heritage Research Permit Guidelines for the appropriate Project Description format)*
20T 427296.60 m E 4951529.10 m N

Permit Category:
Please choose one

Category A – Archaeological Reconnaissance

Category B – Archaeological Research

Category C – Archaeological Resource Impact Assessment

I certify that I am familiar with the provisions of the *Special Places Protection Act* of Nova Scotia and that I have read, understand and will abide by the terms and conditions listed in the Heritage Research Permit Guidelines for the above noted category.

Signature of applicant

Date **March 25, 2021**

Approved by Executive Director

Date **April 14, 2021**

Digitally signed by
Christopher Shore
Date: 2021.04.14
14:44:17 -03'00'

December 17, 2021

Kyle Cigolotti
Cultural Resource Management Group Ltd.
Ten Mile House
1519 Bedford Highway
Bedford, Nova Scotia
B4A 1E3

Dear Kyle Cigolotti:

**RE: Heritage Research Permit Report
A2021NS054 – Tote Road Quarry Expansion**

We have received and reviewed the report on work conducted under the terms of Heritage Research Permit A2021NS054 for an archaeological resource impact assessment on the Tote Road Quarry Expansion Project in Halifax County, Nova Scotia.

The Tote Road Quarry study area is located approximately 2.7 km northwest of the community of Upper Tantallon and is within the Indian River drainage area, an area consisting of several long, north-south oriented lakes. As well as the 33 ha area of assessment, the ARIA addressed an additional 800 m blast radius. This ARIA consisted of a background study, Mi'kmaq engagement and field reconnaissance.

The background study showed the area surrounding the proposed development to have been occupied by Mi'kmaq people for thousands of years, no doubt drawn to the area by the multitude of large lakes providing an excellent environment for resource extraction, freshwater, and transportation. Although there are no registered archaeological sites within the study area itself, there are thirty-four (34) recorded Mi'kmaq sites within five kilometers. Early European settlement began in 1783 and continued throughout the 18th and 19th centuries.

The Field reconnaissance showed terrain that was predominantly sloped, poorly drained and rocky. A portion of the early twentieth-century or later nineteenth-century Portage Road was identified within the study area. Given the proximity to the historic logging camp (Old Portage Road Camp, BeCx-09) within one kilometre of the study area, there is low potential for an additional camp location near the newly identified portion of Portage Road. Despite the density of registered archaeological sites along the Indian River System and given that the study area is approximately 1.5 kilometres away from the system, investigating archaeologists thought it unlikely that any traditional usage of the study area would have occurred, as the Indian River System would have been the preferred travel route. No topographic features that would have influenced human occupation (knolls, water sources) were identified during the field reconnaissance of the study area. Given the rocky, wet, and otherwise sloped nature of the terrain encountered during field reconnaissance, the distance from any navigable source of water, and

K. Cigolotti
December 17, 2021
Page 2

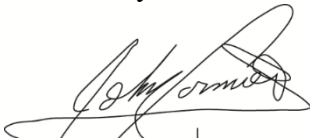
the lack of any evidence of historic development, the proposed Tote Road Quarry expansion study area was ascribed low potential for encountering archaeological resources.

Based on these results, CRM Group offers the following management recommendations for the study area:

1. It is recommended that the study area, as defined and depicted in this report be cleared of any requirement for future archaeological investigation.
2. If any further changes are made to the layout of the Tote Road Quarry beyond the area assessed in this report, it is recommended that those proposed areas be subjected to an Archaeological Resource Impact Assessment.
3. In the event that archaeological deposits or human remains are encountered during construction activities associated with the Tote Road Quarry expansion, all work in the associated area(s) should be halted and immediate contact made with the Special Places Program (John Cormier: 902-424-4542).

CCH Staff agree with the recommendations and find the report acceptable as submitted. Please do not hesitate to contact me with any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "John Cormier", written over a horizontal line.

John Cormier
Coordinator, Special Places