NORTH ATLANTIC WIND TO HYDROGEN PROJECT
HISTORIC RESOURCES IMPACT ASSESSMENT 2025
ARCHAEOLOGICAL RECONNAISSANCE
SUNNYSIDE, NEWFOUNDLAND & LABRADOR

DRAFT REPORT

Submitted to:
Sikumiut Environmental Management Limited
and the
Provincial Archaeology Office of the
Newfoundland & Labrador Department of Tourism, Culture, Arts and Recreation

Prepared by:
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Permit Number: 25.05
CRM Group Project Number: 25-0002-02

JULY 2025

The following report may contain sensitive archaeological site data. Consequently, the report must not be published or made public without the written consent of the Provincial Archaeology Office of the Newfoundland & Labrador Department of Tourism, Culture, Arts and Recreation

EXECUTIVE SUMMARY

North Atlantic Refining Corp. (North Atlantic) is proposing to develop a renewable energy project known as the North Atlantic Wind to Hydrogen Project (Project) located north of the Isthmus of Avalon, in the Placentia Bay and Trinity Bay regions on the Island of Newfoundland. Sikumiut Environmental Management Limited (Client) is working with North Atlantic to prepare an Environmental Registration (ER) for the Project, which will include the installation of an onshore wind farm to power the production of green hydrogen for export to global markets.

In July 2024, the Government of Newfoundland and Labrador awarded North Atlantic a Wind Hydrogen Hub Land Reserve of Crown land, measuring approximately 10,300 hectares around the Avalon Isthmus, known as the Local Assessment Area, or LAA. The initial phase of the Project is proposed to develop a wind farm on a portion of this land in the vicinity of the community of Sunnyside, measuring approximately 4,600 hectares, with the remaining land reserved for future projects, as well as a hydrogen and hydrogenation plant in Come By Chance, at the existing North Atlantic Logistics terminal (Study Area). The Regional Assessment Area (RAA) is an area of land centred on and surrounding the LAA and Study Area, measuring approximately 2,858 square kilometres with a diameter of 60 kilometres.

In 2025, Cultural Resource Management Group Limited (CRM Group) was retained to undertake the Desktop Study and Archaeological Potential Modelling phases of a Historic Resources Overview Assessment (HROA). The HROA was designed to search for, document, interpret, and make management recommendations for cultural heritage resources and areas of elevated archaeological resource potential within the Study Area. In total, the HROA identified 20 High Potential Areas (HPAs) within the Study Area, wherein the proposed footprint of Project infrastructure layout would overlap a buffer zone of high archaeological resource potential.

CRM Group was again retained by the Client to conduct a Heritage Resources Impact Assessment (HRIA) of the 20 identified HPAs within the Study Area. This phase is designed to confirm or revoke the ascription of high archaeological resource potential made during the HROA. The HRIA was directed by CRM Group Partner and Archaeologist Sarah Ingram with the assistance of CRM Group Archaeological Technician Stewart MacPherson, and with oversight by the Provincial Archaeology Office (PAO) of the Newfoundland & Labrador (NL) Department of Tourism, Culture, Arts and Recreation (TCAR).

The field activities of the HRIA resulted in the identification of two ethnographic sites, re-visits to two registered sites, and the confirmation of one HPA that retains archaeological resource potential, albeit outside of the Study Area. It is required that buffer zones of high archaeological resource potential, as identified in this report, be avoided, if possible, in the design and development of the Project. If avoidance of these areas is impractical, it is required that they be subjected to the Archaeological Mitigation phase of an HRIA. It is recommended that the detailed Contingency Plan be followed in the case of the accidental discovery of any cultural resources during the Project. If any further changes are made to the infrastructure layout within the Study Area beyond the area assessed in this report, it is required that those proposed areas also be subjected to a HROA, at minimum. Should archaeological deposits or human remains be encountered during construction activities associated with the Project, all work in the associated area(s) must be halted and immediate contact made with the PAO.

PROJECT PERSONNEL

Permit Holder/Principal Investigator:	Sarah Ingram, MA, RPA
Archaeological Technicians:	Stewart MacPherson, BSc
Report Preparation:	Sarah Ingram, MA, RPA Robert Shears, MA, RPA, CAHP Logan Robertson, BA *Authors* Robert Shears, MA, RPA, CAHP Kyle Cigolotti, BA *Technical Review* Shawn MacSween, BA *GIS/Drafting* Shannon Stevenson *Office Manager*

ACKNOWLEDGEMENTS

Provincial Archaeology Office of the Newfoundland & Labrador Department of Tourism, Culture, Arts and Recreation	Jamie Brake, PhD *Provincial Archaeologist* Stephen Hull, MA, BA (Hon). *Archaeologist*
Miawpukek First Nation	Ross Hinks
Sikumiut Environmental Management Limited	Amy Copeland, P.Eng. *VP Mining & Sustainable Development* Morgan Walsh, P.Eng. *Project Engineer*
North Atlantic	Jeff Murphy, BSc. *VP of Capital Projects*

Land Acknowledgement

We respectfully acknowledge the province of Newfoundland and Labrador as the ancestral homelands of many diverse populations of Indigenous people who have contributed to 9,000 years of history including the Beothuk on the Island of Newfoundland. Today, this province is home to diverse populations of Indigenous and other people. We also acknowledge, with respect, the diverse histories and cultures of the Mi'kmaq, Innu, and Inuit.

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GLOSSARY OF TERMS AND ABBREVIATIONS

Although the terminology and abbreviations used in this document are defined where they are first used, the following list is designed to assist readers who may choose to read only portions of the document (***Table 1***).

Table 1: Glossary of Terms and Abbreviations

Term or Abbreviation	Definition
AIP	Archaeological Investigation Permit
asl	Above sea level
BP	Years Before Present
ca.	Circa
CE	Current Era
Client	Sikumiut Environmental Management Limited
CRM Group	Cultural Resource Management Group Limited
ER	Environmental Registration
HRIA	Historic Resources Impact Assessment
HROA	Historic Resources Overview Assessment
LAA	Local Assessment Area
LiDAR DEM	Light Detection and Ranging Digital Elevation Model
MARI	Maritime Archaeological Resource Inventory
NHS	National Historic Site
NL	Newfoundland & Labrador
PAO	Provincial Archaeology Office
Project	North Atlantic Wind to Hydrogen Project
RAA	Regional Assessment Area
Regulations	Archaeological Investigation Permit Regulations
SRF	Site Record Form
Study Area	North Atlantic Wind to Hydrogen Project Study Area
TCAR	Newfoundland & Labrador Department of Tourism, Culture, Arts and Recreation

NORTH ATLANTIC WIND TO HYDROGEN PROJECT
HISTORIC RESOURCES IMPACT ASSESSMENT 2025
ARCHAEOLOGICAL FIELD ACTIVITIES
SUNNYSIDE, NEWFOUNDLAND & LABRADOR

1.0 INTRODUCTION

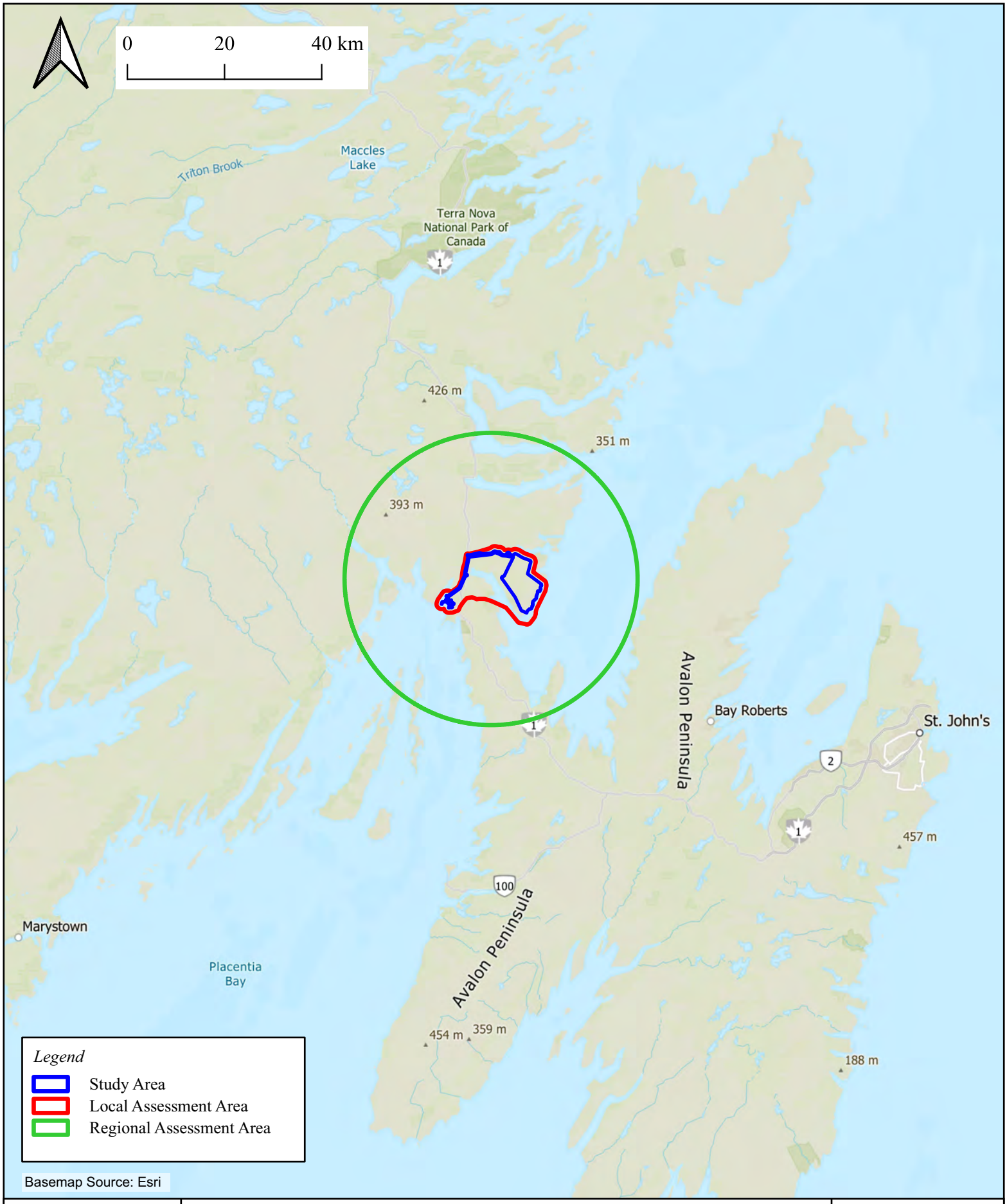
North Atlantic Refining Corp. (North Atlantic) is proposing to develop a renewable energy project known as the North Atlantic Wind to Hydrogen Project (Project) located north of the Isthmus of Avalon, in the Placentia Bay and Trinity Bay regions on the Island of Newfoundland (***Figure 1***). Sikumiut Environmental Management Limited (Client) is working with North Atlantic to prepare an Environmental Registration (ER) for the Project, which will include the installation of an onshore wind farm to power the production of green hydrogen for export to global markets.

In July 2024, the Government of Newfoundland and Labrador awarded North Atlantic a Wind Hydrogen Hub Land Reserve of Crown land, measuring approximately 10,300 hectares around the Avalon Isthmus, known as the Local Assessment Area, or LAA (identified in red in ***Figure 1***). The initial phase of the Project is proposed to develop a wind farm on a portion of this land in the vicinity of the community of Sunnyside, measuring approximately 4,600 hectares, with the remaining land reserved for future projects, as well as a hydrogen and hydrogenation plant in Come By Chance, at the existing NARL Logistics Terminal (Study Area, identified in blue in ***Figure 1***). The Regional Assessment Area (RAA, identified in green in ***Figure 1***) is an area of land centred on and surrounding the LAA and Study Area measuring approximately 2,858 square kilometres with a diameter of 60 kilometres.

In 2025, Cultural Resource Management Group Limited (CRM Group) was retained to undertake the Desktop Study and Archaeological Potential Modelling phases of a Historic Resources Overview Assessment (HROA). The HROA was designed to search for, document, interpret, and make management recommendations for cultural heritage resources and areas of elevated archaeological resource potential within the Study Area. In total, the HROA identified 20 High Potential Areas (HPAs) within the Study Area, wherein the proposed footprint of Project infrastructure layout would overlap a buffer zone of high archaeological resource potential.

CRM Group was again retained by the Client to conduct a Heritage Resources Impact Assessment (HRIA) of the 20 identified HPAs within the Study Area. This phase is designed to confirm or revoke the ascription of high archaeological resource potential made during the HROA. The HRIA was directed by CRM Group Partner and Archaeologist Sarah Ingram with the assistance of CRM Group Archaeological Technician Stewart MacPherson, and with oversight by the Provincial Archaeology Office (PAO) of the Newfoundland & Labrador (NL) Department of Tourism, Culture, Arts and Recreation (TCAR).

This report describes the Field Activities for the HRIA, presents the results of these efforts, and offers cultural resource management recommendations.



CRM Group Cultural Resource Management Group Ltd.	*Historic Resources Overview Assessment Areas*	*Figure 1*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:1,000,000 cm

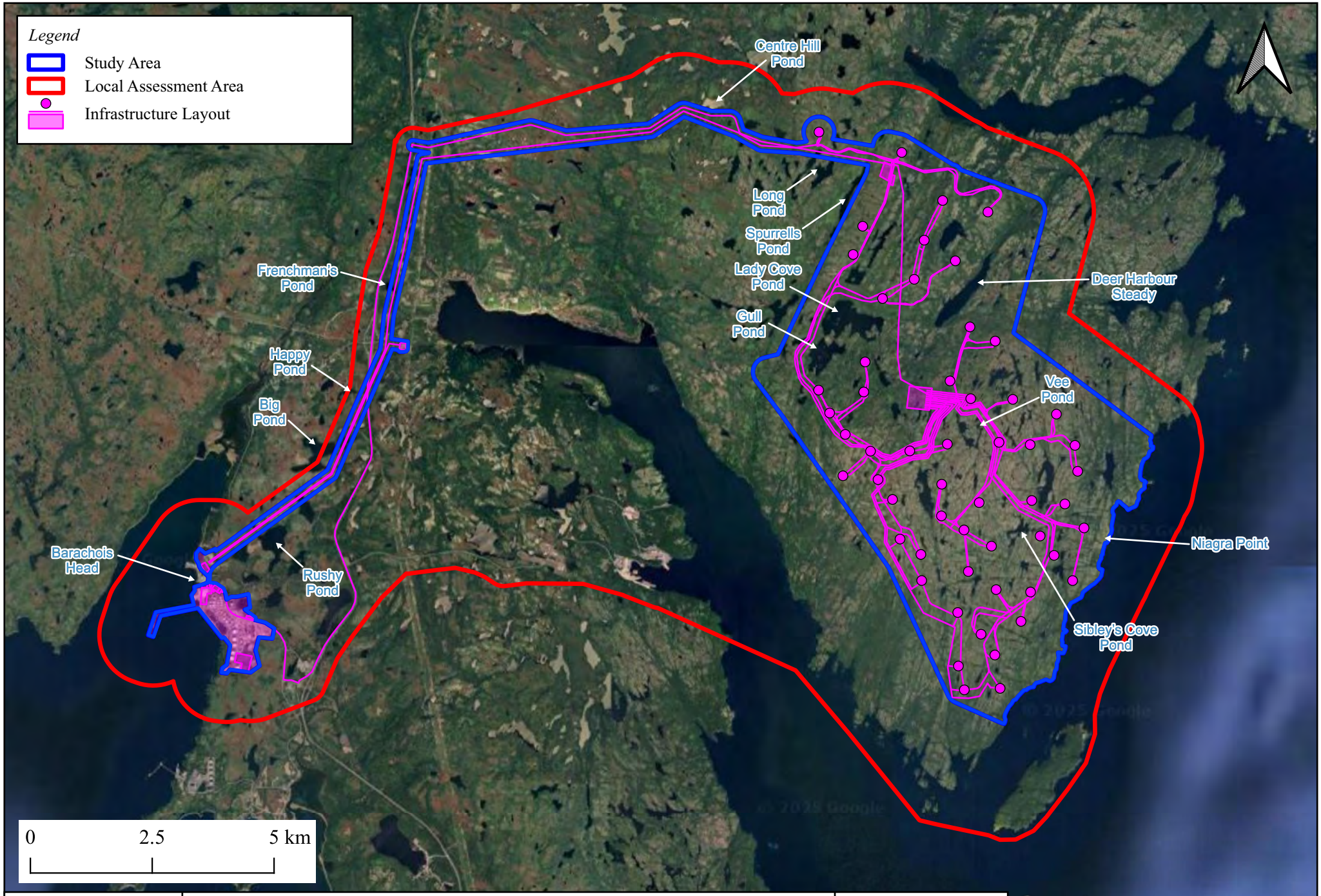
2.0 STUDY AREA

The Project Study Area is situated within approximately 4,600 hectares of Crown land near Sunnyside, NL and a hydrogen plant and hydrogenation plant in Come By Chance, at the existing NARL Logistics Terminal and incorporating the existing footprint of the Come By Chance Industrial Site and its pier system. (***Figure 2***). The Study Area is primarily situated between Bull Arm and Deer Harbour, adjacent to Trinity Bay, and begins in the southwest at the existing logistics terminal with additional planned structures and two transmission lines. The northern transmission line ends at Highway 1 near Sunnyside, while the southern transmission line transects the Isthmus before tying into an array of proposed wind turbines and associated collector lines across the east-central portion of Deer Harbour Peninsula (***Plate 1***).

The Field Activities portion of the HRIA investigated the 20 HPAs identified during the predictive modelling and background research of the HROA (***Figure 3***). These were identified as a result of the Archaeological Predictive Model which applied a series of buffer zones of high archaeological resource potential that overlap the proposed footprint of Project infrastructure layout.

The Study Area overlaps or extends near several named geographical locations and named waterbodies including, beginning in the southwest: Barachois Head, north of the Come By Chance Industrial Site; Rushy Pond; Big Pond; Happy Pond; Frenchman's Pond; Centre Hill Pond; Long Pond; Spurrells Pond; Lady Cove Pond; Gull Pond; Deer Harbour Steady; Vee Pond; Sibley's Cove Pond; and, Niagara Point, along the coast of Deer Harbour Peninsula.

Plate 1: An example of field conditions within the Study Area. Facing south; 2 May 2025.



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Local Assessment Area & Project Study Area

NORTH ATLANTIC WIND TO HYDROGEN PROJECT
HISTORIC RESOURCES IMPACT ASSESSMENT 2025
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Figure 2

July 2025

Scale: 1:100,000 cm

0 2.5 5 km

Legend

- Study Area
- Local Assessment Area
- Proposed Infrastructure Layout
- Zone of Archaeological Potential
- Registered Archaeological Site Buffer
- High Potential Area
- Watercourse
- Waterbody

HPA-01
HPA-02
HPA-03
HPA-04
HPA-05
HPA-06
HPA-07
HPA-08
HPA-09
HPA-10
HPA-11
HPA-12
HPA-13
HPA-14
HPA-15
HPA-16
HPA-17
HPA-18
HPA-19
HPA-20
CkAk-01
CkAk-02
CkAl-01
CkAl-02
CkAl-03
CkAl-04
CkAl-05
CkAl-06
CkAl-07
CkAl-08
CkAl-09

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Results of Potential Modelling		*Figure 3*
NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR		July 2025 Scale: 1:70,000 cm

Google Earth

Data Source: Natural Resources Canada

3.0 METHODOLOGY

Historic and heritage resources include sites and objects of historic, archaeological, cultural, spiritual, and palaeontological importance. In NL, such resources fall under the authority of the PAO. The *Historic Resources Act* (1990), administered by the PAO, protects the province's documented archaeological sites and prohibits any unauthorised interference with newly discovered historic and heritage resources. In addition to known sites, areas exhibiting elevated potential for undiscovered archaeological resources have been identified throughout the Province, both on land and in coastal areas.

In keeping with the PAO's Archaeological Investigation Permit Regulations (Regulations) for impact assessment permits, a PAO Historic Resources Impact Assessment (HRIA) permit was issued to Sarah Ingram by the PAO (25.05) (***Appendix A***). The HRIA consisted of the following components: Background Review, including Indigenous engagement, and Archaeological Field Activities (Reconnaissance).

3.1 Indigenous Engagement

The Study Team complied with the Indigenous engagement requirements that are outlined in the Government of Newfoundland and Labrador's Aboriginal Consultation Policy on Land and Resource Development Decisions. On 12 March 2025, CRM Group contacted Miawpukek First Nation by email and requested any available information pertaining to traditional or historical Indigenous use of the Study Area (K. Cigolotti, personal communication, 12 March 2025). As of the submission of this report, no response has been received.

3.2 Background Review

In preparation for the HRIA, CRM Group reviewed the background information gathered during the 2025 HROA.

3.3 Archaeological Fieldwork

The fieldwork component of the HRIA, consisting of archaeological reconnaissance, was undertaken between 30 April and 2 May 2025.

3.3.1 Pedestrian Reconnaissance

Where possible, field activities consisted of a pedestrian reconnaissance of the HPAs. This survey involved visual inspection of the ground surface and vegetative cover. The inspection was designed to delineate areas of elevated archaeological resource potential (low, moderate, or high) based on direct field observation, building on the results of the HROA. During the survey, the archaeologists searched for topographic anomalies or visible features that might indicate the presence of buried archaeological resources, such as historic structural remains, cultural landscape elements, culturally modified trees, petroglyphs, and exposed artifacts. The field team also remained watchful for the suite of environmental conditions recognized as being conducive to past settlement – relatively flat, dry land at topographic high-points with strategic vistas or close to transportation routes such as waterways, portage routes, or early roads. Field geomatic data were recorded with a handheld Garmin GPSmap 64sx with +/- five-metre accuracy. Observations were recorded with photographs, field sketches, and fieldnotes.

3.3.2 Aerial Reconnaissance

Due to the isolated nature of several of the HPAs, as well as their size and nature, some HPAs were assessed through helicopter flyover. This method was applied only when visibility of the entirety of the HPA was possible, and only when high visibility conditions were present. This survey involved multiple passes, when required, over the identified area with heavy documentation via photographs and fieldnotes. Areas assessed solely by the air were determined based on visual similarities to other HPAs assessed on foot, with an understanding of how the topography assessed by air would be translated on the ground, as referenced to other HPAs previously assessed.

3.4 Cultural Material Analysis

Had any artifacts been recovered during fieldwork, they would have been brought to CRM Group's lab facilities in Bedford for cleaning, analysis, cataloguing, and packaging in accordance with Guidelines set by the PAO.

4.0 RESULTS

The following are the results of the Desktop Study and Archaeological Potential Modelling phases of the HROA.

4.1 Indigenous Engagement

As previously mentioned, on 12 March 2025, CRM Group contacted Miawpukek First Nation by email and requested any available information pertaining to traditional or historical Indigenous use of the Study Area (K. Cigolotti, personal communication, 12 March 2025). As of the submission of this report, no response from Miawpukek First Nation has been received.

4.2 Background Review

The following discussion presents the results of the background study undertaken during the 2025 HROA, which was reviewed in detail in preparation for the 2025 HRIA.

4.2.1 Environmental Setting

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

Wisconsin Glaciation

Mapping of glacial landforms and material both onshore and offshore has resulted in a complex model of the most recent glacial period, known as the Wisconsin Glaciation. The peak of this glaciation, involving the maximum extent of the Laurentide Ice Sheet across the continent, occurred between about 26,000 and 20,000 radiocarbon years before present (BP) (Fader, 2005, p. 4) (***Plate 2***). Initially, retreat of the ice sheet in Atlantic Canada was relatively slow, but ice began to thin and retreat rapidly during the Late Wisconsin (16,000 to 15,000 BP) (Dyke & Prest, 1987, p. 245). At this time, open water extended up the Halibut Channel on the Newfoundland Shelf while a lobe of ice remained on the Grand Bank.

By 14,000 BP, the ice in the Gulf of St. Lawrence was rapidly calving, reaching the southern and southwestern coasts of Newfoundland (Shaw, et al., 2006, p. 2072). Along the south coast of Newfoundland, ice was channeled into a series of fjords. Within the next 500 years, the Newfoundland Ice Cap was isolated from the Laurentide ice sheet and draining into the Gulf of St. Lawrence via fjords. Around 12,500 BP, calving along drainage channels formed three ice masses, the St. Pierre Ice Cap, the Avalon Ice Cap, and the Grand Banks Ice cap (Shaw, et al., 2006, p. 2073).

Ice margins at approximately 12,000 BP show the Study Area free of ice (***Plate 3***). Elsewhere in Newfoundland, ice retreat continued toward the interior, with evidence of localized ice readvancement appearing during the Younger Dryas cooling event (Stea, 2011, p. 55). Ice remained in highland areas of the Avalon Peninsula until just before 10,000 BP. The last remnants of the Newfoundland Ice Cap melted soon after 10,000 BP (Shaw, et al., 2006, p. 2076).

Following coastal deglaciation, a period of marine transgression occurred, resulting in elevated sea levels across the landscape previously depressed by the weight of glacial ice. Varying ice loads and the progression of glacial retreat across Newfoundland resulted in uneven degrees of marine transgression across the region (Bell & Renouf, 2003, p. 354). Crustal adjustments in Newfoundland were made more complicated due to the overlapping influences of a continental ice sheet and subsequent local ice centres. Near the Study Area, evidence suggests that sea levels fell to below their present levels during the post-glacial period before rising to the modern level (Liverman D. G., 1994, p. 217). Post-glacial lowstand values near the Study Area are between approximately 8 and 12 metres below current sea levels, exposing

shoreline during initial occupation of Newfoundland (Bell & Renouf, 2003, p. 355). Sea level has been continuously rising to its present level since then.

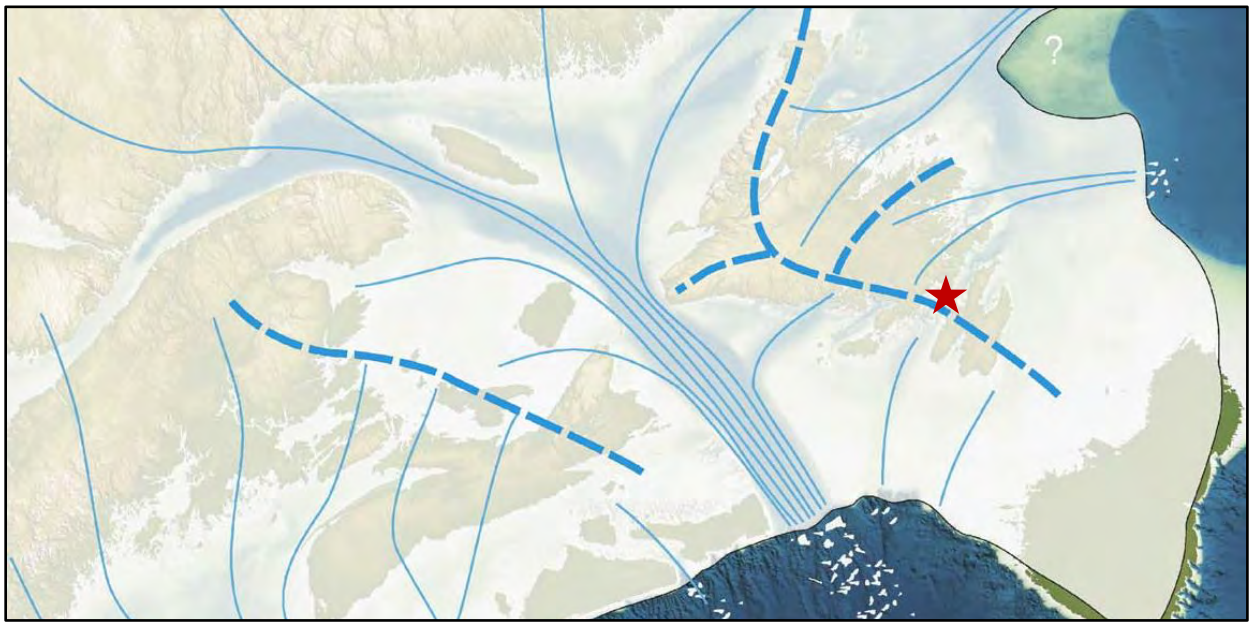

Plate 2: Maximum Wisconsin ice extent. Thin blue lines are generalized flow lines; heavy blue dashed lines are major ice divides (Shaw, et al., 2006, p. 2066). Approximate Study Area indicated by red star.

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

Topography

The LAA and Study Area are located in the Southeastern Barrens Subregion of the greater Ecoregion known as the Maritime Barrens (Meades, 1990, p. 217). The Maritime Barrens Ecoregion includes most of the eastern peninsulas, central barrens, and a coastal strip along the south coast extending to Port-au-Basques. Despite the high precipitation, the Ecoregion is subject to regular fires which have played a major role in the development of the barren landscape. Similar to the rest of the Ecoregion, the Southeastern Barrens are characterized by exposed bedrock and extensive barrens, with limited tree growth relegated to protected valleys and coves (Protected Areas Associated of Newfoundland and Labrador, 2008, p. 1) (***Figure 4***).

Much of the Southeastern Barrens Subregion is rolling ground moraine with glacial erratics distributed across the surface as landmark remnants from glacial activity. Lakes, ponds, and basin bogs have formed where glacial gouging removed additional material from the Subregion's bedrock. The Subregion is characterized by its barrens, which are a recent feature due to recent rapid deforestation, largely by fire. The forests failed to recover as a result of the reduction in tree seeds, thin soil, and climactic conditions (Protected Areas Associated of Newfoundland and Labrador, 2008, p. 1). With the rolling landscape, the elevation within the Study Area ranges from approximately 0 metres to 244 metres above sea level (asl) (***Figure 4***).

Surficial Geology

Much of the Geology of the Southeastern Barrens Subregion, particularly that of the Study Area, is contained within the Avalon Tectonic Zone which, due to plate movement, portions of this zone are found in Newfoundland, the eastern United States, Morocco, western Spain, France, and parts of the United Kingdom (Hild, 2012, p. 182).

Surficial rock outcrops within the Subregion were formed during the breakup of the Rodinia supercontinent approximately 760 million years ago (Hild, 2012, pp. 182-183). The ensuing subduction and volcanic activity within the Subregion resulted in a mixture of ash and lava deposits that are prevalent across the Burin Peninsula. The geology transitions across the Isthmus of Avalon to include younger sandstones and shales (Protected Areas Associated of Newfoundland and Labrador, 2008, p. 2).

Exposed Bedrock, Concealed Bedrock, Ridged Diamicton and Glaciofluvial Gravel and Sand can be found in the Study Area as it transitions from exposed barrens in the east to the Come By Chance river valley and Isthmus of Avalon in the west (Liverman & Taylor, 1990) (***Figure 5***).

Soils

The Southeastern Barrens Subregion soils were generally developed from glacial till that ranges in thickness across the Subregion (Woodrow & Heringa, 1987, p. 5; Protected Areas Associated of Newfoundland and Labrador, 2008, p. 2). Of these, the better drained soils are classified as either Ferro-Humic or Humo-Ferric Podzols. These are commonly expressed as medium to coarse textured soils. Ferro-Humic Podzols in this Subregion are typically found in more humid areas with a dark, high organic composition. The Humo-Ferric Podzol soils are found in dryer sites with a brown colour and containing mostly inorganic material.

Duric and Ortstein horizons, (i.e. a highly cemented layers) as well as thin iron pans can be found across the Subregion (Woodrow & Heringa, 1987, p. 5). Gleyed soils are commonly found in lower slop positions with Gleysols and Organic soils occurring in depressions.

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

CRM Group
Cultural Resource Management Group Ltd.

Landforms and Surficial Geology, Sunnyside and Sound Island, Dept. of Mines, 1998 & 2003

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HISTORIC RESOURCES IMPACT ASSESSMENT 2025
ARCHAEOLOGICAL FIELD ACTIVITIES
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Figure 4

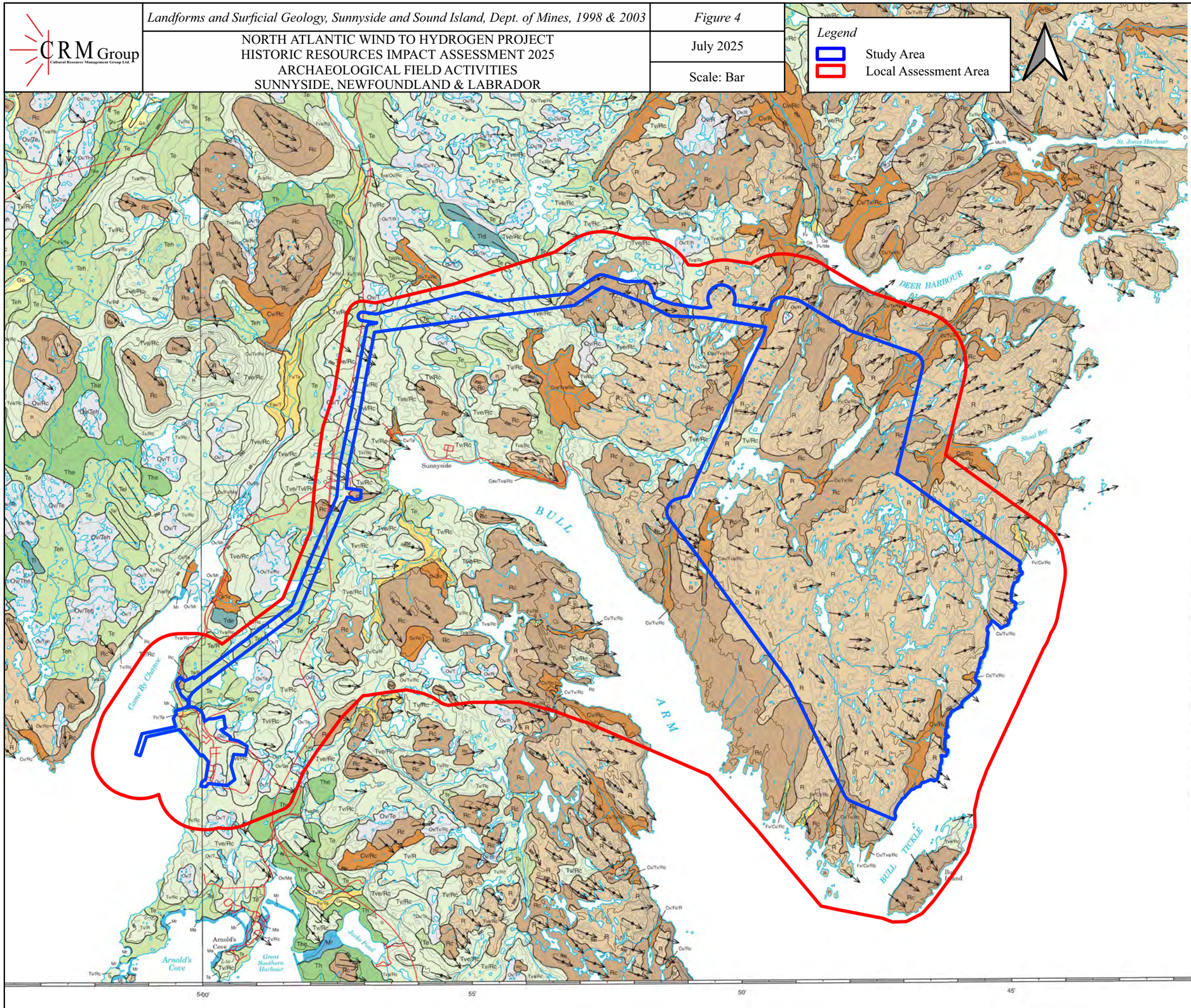
July 2025

Scale: Bar

Legend

Study Area

Local Assessment Area



LANDFORMS AND SURFICIAL GEOLOGY OF THE SUNNYSIDE MAP SHEET (NTS 1N/13)

MAP 98 - 74

LANDFORM CLASSIFICATION

MORPHOLOGY	GENETIC: Fluvial (F)	Colluvial (C)	Aeolian (E)	Glaciofluvial (G)	Lacustrine (L)	Marine (M)	Glacial (T)	Organic (O)	Rock (R)
apron (a)		Ca							
blanket (b)	Fb	Cb		Gb	Lb	Mb	Tb	Ob	
concealed by vegetation (c)		Cc							Rc
drumlinoid (d)							Td		
eroded and dissected (e)	Fe	Ce	Ee	Ge	Le	Me	Te		Re
fan (f)	Ff	Cf		Gf					
hummock (h)			Eh	Gh			Th		
kettle (k)				Gk			Tk		
lineated (l)			El				Tl	Ol	
plain (p)	Fp			Gp	Lp	Mp	Tp	Op	
ridge (r)	Fr		Er	Gr	Lr	Mr	Tr	Or	Rr
terrace (t)	Ft			Gt	Lt	Mt	Tt		Rt
veneer (v)	Fv	Cv	Ev	Gv	Lv	Mv	Tv	Ov	
weathered (w)									Rw
complex (x)				Gx	Lx	Mx	Tx		
undivided	F	C	E	G	L	M	T	O	R

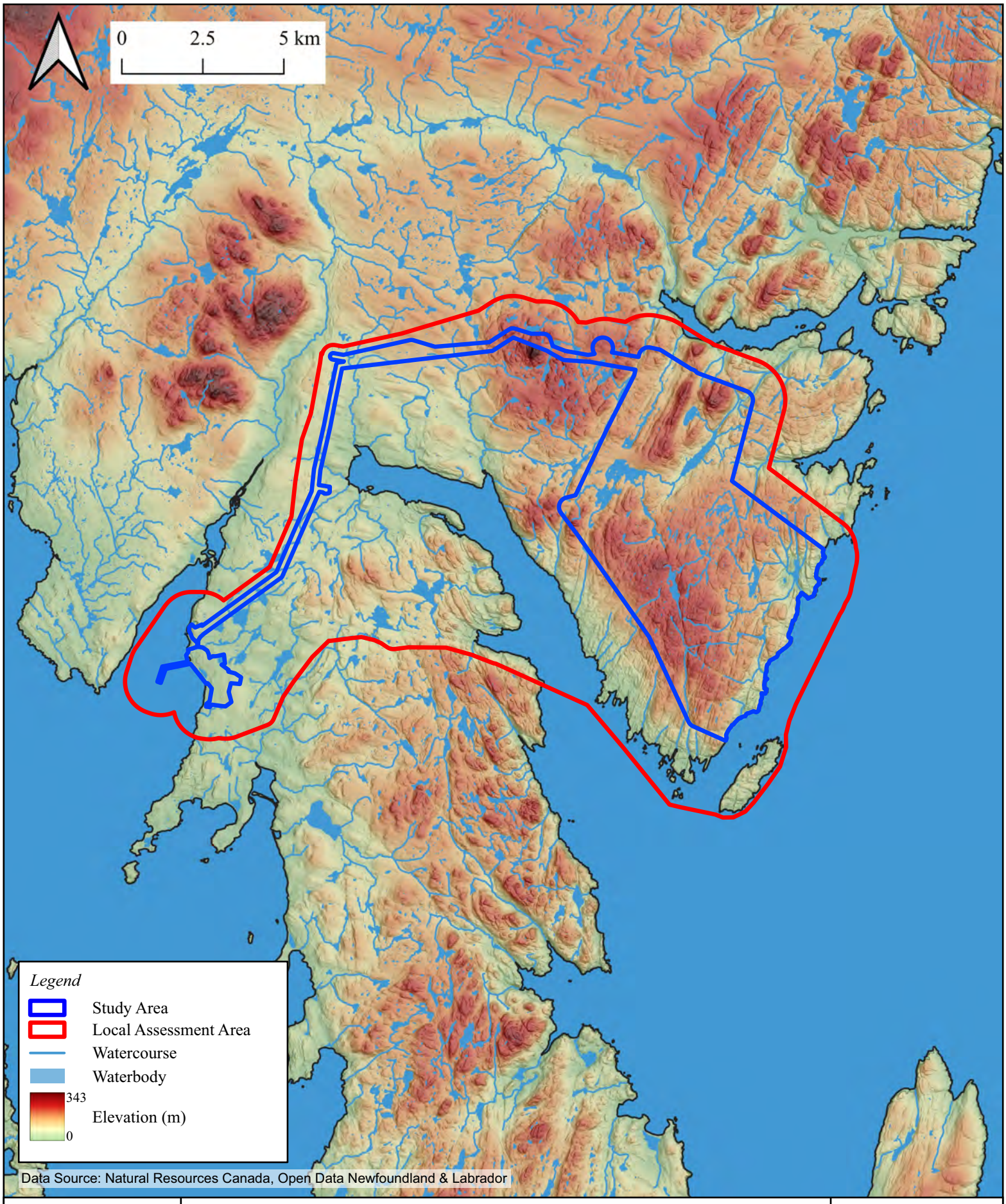
LANDFORMS AND SURFICIAL GEOLOGY OF THE SOUND ISLAND MAP SHEET (NTS 1M/16)

MAP 98 - 65

LANDFORM CLASSIFICATION

MORPHOLOGY	GENETIC: Fluvial (F)	Colluvial (C)	Aeolian (E)	Glaciofluvial (G)	Lacustrine (L)	Marine (M)	Glacial (T)	Organic (O)	Rock (R)
apron (a)		Ca							
blanket (b)	Fb	Cb		Gb	Lb	Mb	Tb	Ob	
concealed by vegetation (c)		Cc							Rc
drumlinoid (d)							Td		
eroded and dissected (e)	Fe	Ce	Ee	Ge	Le	Me	Te		Re
fan (f)	Ff	Cf		Gf					
hummock (h)			Eh	Gh			Th		
kettle (k)				Gk			Tk		
lineated (l)			El				Tl	Ol	
plain (p)	Fp			Gp	Lp	Mp	Tp	Op	
ridge (r)	Fr		Er	Gr	Lr	Mr	Tr	Or	Rr
terrace (t)	Ft			Gt	Lt	Mt	Tt		Rt
veneer (v)	Fv	Cv	Ev	Gv	Lv	Mv	Tv	Ov	
weathered (w)									Rw
complex (x)				Gx	Lx	Mx	Tx		
undivided	F	C	E	G	L	M	T	O	R

0 2 4 km



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LiDAR-Derived Digital Elevation Model

NORTH ATLANTIC WIND TO HYDROGEN PROJECT
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ARCHAEOLOGICAL FIELD ACTIVITIES
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Figure 5

July 2025

Scale: 1:150,000 cm

Hydrology

A 2007 study determined that more than 95 percent of archaeological sites lie within 80 metres of a margin of water body or watercourse, past or present (Suttie, Vincent, & Nicholas, 2007). This proximity reflects the universal human critical need of fresh water for drinking, the value of water as a source for marine, lacustrine, or fluvial food sources, and the benefit of water, whether liquid or frozen, as a medium for efficient travel and, therefore, a natural asset for rapid transportation, trade, and communication.

The Study Area contains several large waterbodies and small watersheds which drain primarily via the glacially gouged tracks. Toward the Isthmus, the Study Area transects watercourses and drainage channels that lead from basin bogs. The damp climate and large annual snowfalls combined with shallow soils have created high water tables in much of NL, leaving rivers to flow perennially with moderate seasonal fluctuations (The Canadian Encyclopedia, 2021).

Vegetation

The natural vegetation across the Southeastern Barrens has been deeply affected by lumbering and fires since the arrival of Europeans (Protected Areas Associated of Newfoundland and Labrador, 2008, p. 1). Whether deliberate, in the case of clearing land for agriculture, or accidental, as a consequence of other industry, forest cover in the Subregion remains nearly permanently reduced. For example, in 1904, a series of fires devastated more than 81,000 hectares of forest leaving further expanding barrens in the Subregion.

Existing as a unique ecosystem, barrens are home to many shrub species such as dwarf shrub heath, black crowberry, partridgeberry, and pink crowberry (Protected Areas Associated of Newfoundland and Labrador, 2008, p. 2). These evergreen shrub species spread across the ground surface and are well adapted to the cold, windy environment found within the Subregion. Forested areas are limited to protected pockets of land and are predominantly balsam fir. Limited yellow birch can also be found in forested areas. Sheep laurel, purple-flowering rhodora, and low bush blueberry are some of the undergrowth forest plants found in the protected valleys and forests. Mountain alder can also be found in dense thickets along watercourses.

Numerous seabird colonies can be found on offshore islands in the Southeastern Barrens Subregion (Protected Areas Associated of Newfoundland and Labrador, 2008, p. 3). Other small bird species have adapted to the limited forest and barren landscape. Moose, mink, snowshoe hare, and red fox populate the forest and shrubland habitats, while beaver and muskrat are found in the multitude of waterbodies and watercourses. The Subregion is also home to the most southerly caribou herd, which resides in the Avalon Wilderness Reserve. These species have probably fluctuated with the shifting landscape in recent centuries. Note that species such as moose, mink, and snowshoe hare were introduced in modern times, limiting their relationship to people of the recent past.

4.2.2 Cultural Heritage Context

To place the Study Area in a broader cultural heritage context, the following section includes an examination of nearby registered ethnographic sites, registered archaeological sites, cemeteries, registered heritage sites, Crown lands and other protected areas, and cultural landscape elements. ***Figure 6*** provides a visual reference to highlight the proximity of these points of interest to the Study Area. Location data for all elements is to be considered approximate. Location information regarding registered archaeological sites is retrieved from the associated SRFs.

Registered Archaeological Sites

In NL, information regarding archaeological sites is stored using SRFs, provided by the PAO for the RAA (***Figure 1***). Details obtained from the SRFs provide information regarding the composition of sites near the Study Area, which helps guide research toward identifying potential human land use. The SRFs are classified as either registered ethnographic sites or archaeological sites based on their content. An ethnographic site is a location containing significant contemporary historical and cultural information about

the peoples of the Province, their traditions, and ways of life. Ethnographic sites are organized using 1:50,000 National Topographic System Index Map serials, with sites within an index map numbered sequentially, and using an ethnographic number as a designation. The LAA spans the 01M/16 and 01N/13 index maps. Registered archaeological sites are organized within the Borden System, a Canada-wide system of site registration based on blocks of latitude and longitude. Each block is referenced by a four-letter designator, with sites within a block numbered sequentially. The LAA spans the CkAk, CkAl, CkAm, ClAk, and ClAl Borden Blocks.

It is generally assumed that ethnographic sites may reflect ancient and historic patterns of land-use and may thus serve as effective predictors of archaeological potential in their own right. This is the principal reason the PAO requires field assessment to inventory ethnographic sites as well as archaeological sites. In the analysis of archaeological potential, ethnographic sites can thus "stand in" for archaeological sites, particularly when the available sample of archaeological sites is small (Schwarz & Skanes, 2010, p. 80). The ethnographic category is used to designate resources and places associated with "traditional" activities, which have taken place after 1960 (e.g., a canvas tent site, or hunting trap). All sites with archaeological evidence that predates 1960 are recorded as archaeological sites. In some cases, these sites may include an ethnographic component, but if there are other, earlier components, they would be labelled archaeological sites (Neilsen, 2016, p. 71).

Within the 60-kilometre diameter RAA, there are seven registered ethnographic sites, none of which are situated within the LAA. There are 66 registered archaeological sites within the RAA, 12 of which fall within the LAA. There is one registered archaeological site within the Study Area, ClAk-02 or the Sunnyside Hills site. This site has not yet been confirmed as archaeological in nature and has not been investigated by a professional archaeologist. The nearest registered archaeological site to the Study Area, is ClAl-04, the Bay Bulls Arm Telegraph Station, located approximately 110 metres east of the proposed transmission line corridor that traverses the Isthmus of Avalon (***Tables 2 & 3; Figure 6*****).** An in-depth analysis of the registered sites is presented below in ***Subsection 4.2.4***.

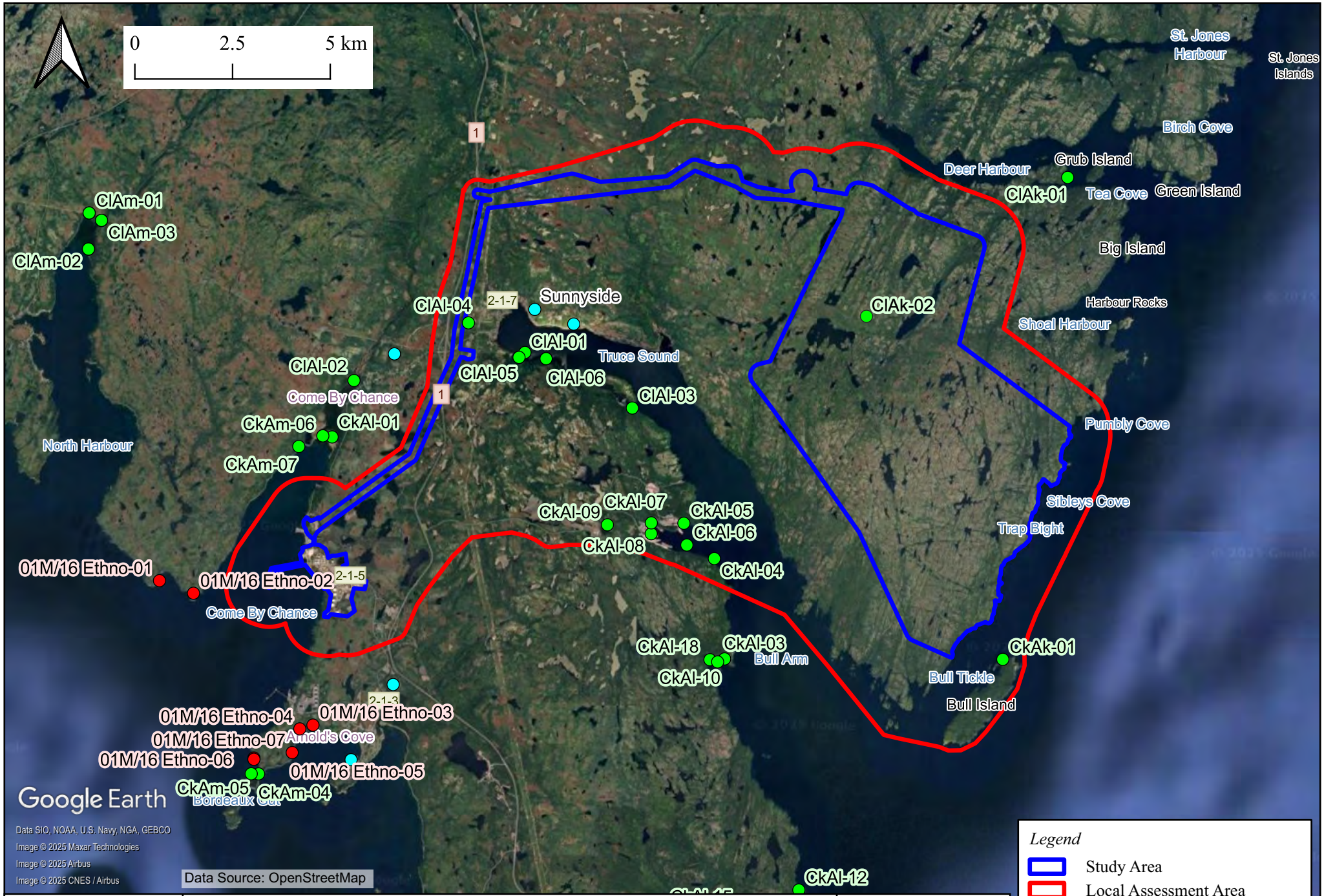
Table 2: Registered Ethnographic Sites within the RAA.

Ethnographic Number	Site Name	Tradition	Nature of Site
01M/16 Ethno-01	Southern Head 1	Euro-American	Late nineteenth – early twentieth century Vegetable Garden
01M/16 Ethno-02	Doughboy Cove 1	Euro-American	Late nineteenth – early twentieth century Vegetable Garden
01M/16 Ethno-03	Grassy Point Garden 1	Euro-American	Late nineteenth – early twentieth century Vegetable Garden
01M/16 Ethno-04	Grassy Point Garden 2	Euro-American	Late nineteenth – early twentieth century Vegetable Garden
01M/16 Ethno-05	Grassy Point Garden 3	Euro-American	Late nineteenth – early twentieth century Vegetable Garden
01M/16 Ethno-06	Grassy Point Garden 4	Euro-American	Late nineteenth – early twentieth century Vegetable Garden
01M/16 Ethno-07	Grassy Point Garden 5	Euro-American	Late nineteenth – early twentieth century Cellar

Table 3: Registered Archaeological Sites within the LAA.

Borden Number	Site Name	Tradition	Nature of Site
CkAk-01	Bull Island	Indigenous	Maritime Archaic; Pre-Inuit (Late)

Borden Number	Site Name	Tradition	Nature of Site
	Lagoon		
ClAk-02	Sunnyside Hills	Undetermined	Undetermined
CkAl-04	Sampson's Head Cove	Indigenous	Maritime Archaic; Pre-Inuit (Early); Pre-Inuit (Late); Recent First Nation; Beothuk?
CkAl-05	Peddle's Cove 1	European	Underwater scatter of twentieth century material
CkAl-06	Bob Peddle's Cove	European	Underwater scatter of eighteenth to twentieth century material
CkAl-07	Great Mosquito Cove	European	Small collection of nineteenth century material
CkAl-08	Crout Site	Indigenous	Pre-Inuit (Late); Recent First Nation?
CkAl-09	Crossing Pond	Indigenous	Pre-Inuit (Late)
ClAl-01	Frenchman's Island	Indigenous; European	Maritime Archaic; Pre-Inuit (Early); Pre-Inuit (Late); Recent First Nation; Beothuk; European
ClAl-03	Little Mosquito Cove 1	Indigenous	Pre-contact flake material
ClAl-04	Bay Bulls Arm Telegraph Station	European; Euro-American	Two rectangular building foundations
ClAl-05	Sunnyside 1	Indigenous; European	House foundation; midden; earthen root cellar
ClAl-06	Bull Arm 1	European; Euro-American	Stone foundation, possible fireplace collapse



CRM Group Cultural Resource Management Group Ltd.	*Cultural Heritage Context*	*Figure 6*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:125,000 cm

Historic Designations

There are no National Historic Sites (NHS), Provincial Historic Sites, Heritage Lighthouses, Heritage Railway Stations, Heritage Rivers, Residential Schools, Grave Sites of Canadian Prime Ministers, or monuments for National Historic Persons, National Historic Events, or National Historic Engineering Sites in the vicinity of the Study Area.

The nearest of these designations is the Provincial Historic Site, Heart's Content Cable Station, located approximately 28.5 kilometres east of the Study Area, on the opposite side of Trinity Bay. The site consists of an 1875 office building and a 1918 extension and represents the Province's role in the history of transatlantic communication (Government of Newfoundland and Labrador, n.d.).

The nearest NHS is the Hawthorne Cottage NHS, located approximately 51.3 kilometres southeast of the Study Area. The one-and-a-half storey wooden cottage situated in Brigus, Newfoundland is noted for its architectural style as well as being the home of Bob Bartlett, a captain on several notable Arctic expeditions in the early twentieth century (Parks Canada, 2003).

Cemeteries or Individual Burial Plots

The results of background research yielded no evidence of human burials within the Study Area. Known cemeteries within a two-kilometre radius buffer include the following:

- Modern topographic information indicates an unnamed cemetery in Sunnyside, located approximately 1.1 kilometres from the Study Area.
- Come By Chance Cemetery, located approximately 1.5 kilometres west of the Study Area.
- Sunnyside Pentecostal Cemetery, located approximately 1.5 kilometres east of the Study Area.
- Arnold's Cove Interfaith Cemetery, located approximately 2 kilometres southeast of the Study Area.
- Sunnyside United and Anglican Cemetery, located approximately 2.5 kilometres east of the Study Area.
- Arnold's Cove Anglican Cemetery, located approximately 3.5 kilometres south of the Study Area.

Protected Areas

There are no known existing or pending nationally or provincially protected areas within the Study Area. The nearest protected areas to the Study Area include:

- Jack's Pond Provincial Park, located approximately 3.4 kilometres southeast of the Study Area.
- Bellevue Beach Provincial Park, located approximately 15.9 kilometres south of the Study Area.
- Bay du Nord Wilderness Reserve, located approximately 39 kilometres northeast of the Study Area.

Indigenous Cultural Landscape

Archaeological studies strive to consider the ecological, socio-cultural, and economic values of a traditional Indigenous cultural landscape, as well as physical cultural resources such as structural features and artifacts. Cultural landscapes are fundamentally identified 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).

The nearest designated First Nation reserve land to the Study Area is at Samiajij Miawpukek, which is overseen by the Miawpukek First Nation. Samiajij Miawpukek, located approximately 120 kilometres west of the Study Area, is situated on a 2,839-hectare plot of land adjacent to Conne River, NL (Government of Canada, 2024).

No confirmed archaeological sites are located within the Study Area, despite the registration of site ClAk-02, which has yet to be investigated by a professional archaeologist. The paucity of registered sites within the Study Area may reflect a lack of archaeological investigation rather or an absence of archaeological resources. Other factors potentially contributing to the number of recorded archaeological sites may be related to the disturbance or loss of cultural material as a result of shoreline inundation due to rising sea-levels (Catto, Griffiths, Jones, & Porter, 2000).

4.2.3 Land Use Cultural and Historical Overview

The following is an overview of the history of land use of NL, providing additional detail within the RAA and the vicinity of the LAA, providing context for understanding the area's archaeological resource potential.

Pre-contact Land Use

Through the discipline of archaeology, a clear understanding of Newfoundland and Labrador's cultural history has been established, dating from almost 9,000 years ago to the twentieth century. From the initial arrivals to the historic period, successive groups exhibiting distinct cultural traditions occupied coastal and inland regions of Newfoundland. While initial human occupation in Labrador by early Archaic Period people occurred around 9,000 BP, their recorded presence on the island portion of the Province, didn't take place for about another 3,000 years (Bell & Renouf, 2003). Maritime Archaic sites have been found around the entire Newfoundland coastline with three such sites located within the RAA. Although based on the relative sea level data analyzed by Bell and Renouf, many of the early Maritime Archaic sites in proximity to the Study Area could be submerged in shallow ocean waters.

The location of the Maritime Archaic sites and representative material culture suggests that their economies were both maritime and inland, based on the seasonal availability of food supplies (Marshall, 1996, p. 254; Bell & Renouf, 2003, p. 353). Carbon dating of Maritime Archaic sites range from 6,000 to 3,200 BP. Currently known sites suggest Newfoundland was left unpopulated by humans for a period of approximately 400 years before the arrival of more inhabitants.

The next occupants are described as Early Pre-Inuit people, whose culture was Arctic/sub-Arctic adapted. Known as the Groswater phase, this cultural group also resided along Newfoundland's coastline. Sites attributed to these people date to a period between approximately 2,800 to 1,900 BP. Two Groswater sites are located within the RAA.

Early Pre-Inuit cultures were followed by Late Pre-Inuit groups, referred to as the Middle Dorset, beginning around 2,000 BP and continuing until approximately 1,000 BP (Marshall, 1996, p. 256). While another coastal group, the Middle Dorset people differed from the preceding Groswater groups in that they placed greater emphasis on the exploitation of outer coastal resources. Along the northeastern coast, evidence of their encampments has been found near harp-seal migration routes. A similar dispersion is present on the south coast and in Trinity Bay, where Middle Dorset sites are located close to beaches where harbour seals come ashore regularly. One of the largest Middle Dorset sites (along with other cultural traditions) investigated in Newfoundland is located at Stock Cove in Bull Arm, evidenced by the presence of multiple overlapping house features. (Marshall, 1996, p. 256; Christopher B. Wolff, 2019).

Based on the archaeological data, the Middle Dorset culture reached its peak between 250 and 550 CE before entering a decline. There are five sites with Dorset components within the RAA.

At approximately 1,700 BP, a separate cultural group began to appear in Newfoundland's archaeological record. Referred to as the Recent First Nations Period, artifacts from this tradition represent culturally distinct groups, such as that found at the Cow Head Complex, but also a cultural continuum of related ancestor-descendant groups. The Beaches and Little Passage complexes, for example, are the ancestors of

the Beothuk (Hull, 2024). The earliest artifact assemblage is referred to as the Cow Head Complex and is dated to approximately 1,900 to 1,000 BP. A subsequent occupation by the Beaches Complex, between approximately 1,800 to 800 BP, was geographically limited compared to its predecessor. The final occupation described as the Little Passage Complex began to appear in the archaeological record by approximately 800 BP and ended with the arrival of Europeans in the sixteenth century. However, the close material cultural association between the Little Passage Complex in particular, and the Beothuk indicates a cultural transition as the Pre-contact population became the Beothuk as known in the historic period (Hull, 2024; Pastore R. , 1997).

Little Passage Complex assemblages have been found in all the major bays of Newfoundland (Marshall, 1996, p. 260). Placement of encampments within these bays indicates a subsistence economy centred on harvesting seal and other marine resources from spring until fall, with inland hunting of caribou, beaver, and other fur-bearing mammals through the winter. The Little Passage Complex are in evidence at two of the sites within the RAA.

Historic Land Use

Notwithstanding a period of interaction with Greenland Norse who established a short-term settlement at L'Anse aux Meadows, the Indigenous communities were without significant European interaction until approximately the sixteenth century. From the archaeological record, no influence from the Norse groups seemed to have been incorporated into Indigenous technologies (Marshall, 1996, p. 261).

As European visitation to Newfoundland began to intensify, the Beothuk culture had emerged as a unique descendant from their Little Passage ancestors. Archaeological evidence shows that the Beothuk resided at many of the same campsites in which the Little Passage Complex was found, suggesting a similar economy based upon marine resources with a partial reliance on terrestrial game during colder seasons.

Europe's first written discovery of Newfoundland comes from John Cabot in 1497 (Prowse, 1895). For many decades following, the coastline of NL was utilized by Europe's migratory fishery industry (Proulx, 1993; Marshall, 1996; Crompton, 2021; Pope, 2004). Seasonal fishing and other European activities left behind fish flakes and wharves from which the Beothuk were able to adopt the metallic material culture into their own, enhancing their own economic activities (Pastore R. , 1997). Interactions between the Beothuk and European fishing fleets were rarely recorded, although the surviving accounts are framed as hostile (Marshall, 1996, p. 3). The beginning of permanent European settlement in the seventeenth century brought about dramatic change on the island, leading to their cultural extinction by the nineteenth century (Proulx, 1993; Marshall, 1996; Pope, 2004).

Proprietary colonies were the earliest form of European settlement in Newfoundland. Although many of these were destined to failure due to the lack of profit margin for both fisher and commercial investor (Pope, 2004, p. 47). In 1610, one of the first such colonies set out from Bristol under the guidance of John Guy. Their directions were to settle at and fortify Cupids in Conception Bay, experiment with farming and undertake a variety of other industries (Pope, 2004, p. 50). The Newfoundland climate and soil proved to be unfavourable, and the colony withered.

John Guy's expedition was also noted for their 1612 voyage into Trinity Bay, including a visit to Bull Arm, directly south of the Study Area (Gilbert, 1990) (***Plate 4***). Guy's intention was to establish a trade relationship between the Cupids colony and the Beothuk. The account taken by Guy in the 1612 voyage documents multiple groups of Beothuk dispersed throughout Trinity Bay, particularly within sheltered coves or harbours. Also occurring during this voyage was the discovery of an overland route between Trinity and Placentia Bays connected via Bull Arm and Come By Chance, then called Passage Harbour (Gilbert, 1990, p. 158). The documents mention Beothuk settlements at the estuaries of both harbours.

Archaeological investigations of the sites mentioned by Guy have resulted in the discovery of longstanding occupation sites which spanned centuries.

The Cupids settlement was not the only attempt to occupy Newfoundland in the seventeenth century, as other locations attracted investors from Europe. Locations along the Avalon Peninsula, such as Ferryland and Placentia were also occupied in this period with the latter becoming an economically important centre for French interests on the island (Crompton, 2021, p. 1). Other European settlements began to occupy harbour locations along the Newfoundland coastline including within Trinity and Placentia Bays.

As the seventeenth century ended, war between England and France came to Newfoundland's shores with equivalent attacks between the nations occurring in Placentia Bay and Bay Bulls (Pope, 2004, p. 407). The conflict extended into the eighteenth century with the destruction of economic centres until 1713, when the signing of the Treaty of Utrecht ended much of the inter-European disputes on the island. Yet, its settlers' woes would continue with the repeated failure of the fishing industry in subsequent years.

Plate 4: A 1625 depiction of Newfoundland with Placentia Bay and Trinity Bay clearly depicted, separated by a narrow isthmus. Approximate Study Area indicated with red arrow (Samuel, 1625).

At the same time, the Beothuk were attempting to adjust to the ever-expanding European settlements. They also had to vie with Mi'kmaw groups establishing themselves on Newfoundland's south and west coasts (Marshall, 1996, p. 42). The earliest written account of the Mi'kmaq in Newfoundland is referenced in 1602 by Batholomew Gosnold. As the seventeenth century progressed, accounts of the Mi'kmaq in Placentia Bay occurred more frequently. By the eighteenth century, French commanders recorded sixty Mi'kmaw families residing in Fortune Bay (Marshall, 1996, p. 45). Throughout the eighteenth century, the Mi'kmaq favoured locations near St. George's Bay, Cape Ray, Bay d'Espoir, and Placentia. As the Beothuk population in Newfoundland declined into cultural extinction by 1829, the Mi'kmaq extended their territory

across the island to include much of the central and western interior (Pastore R. , 1978; Marshall, 1996, pp. 154-156).

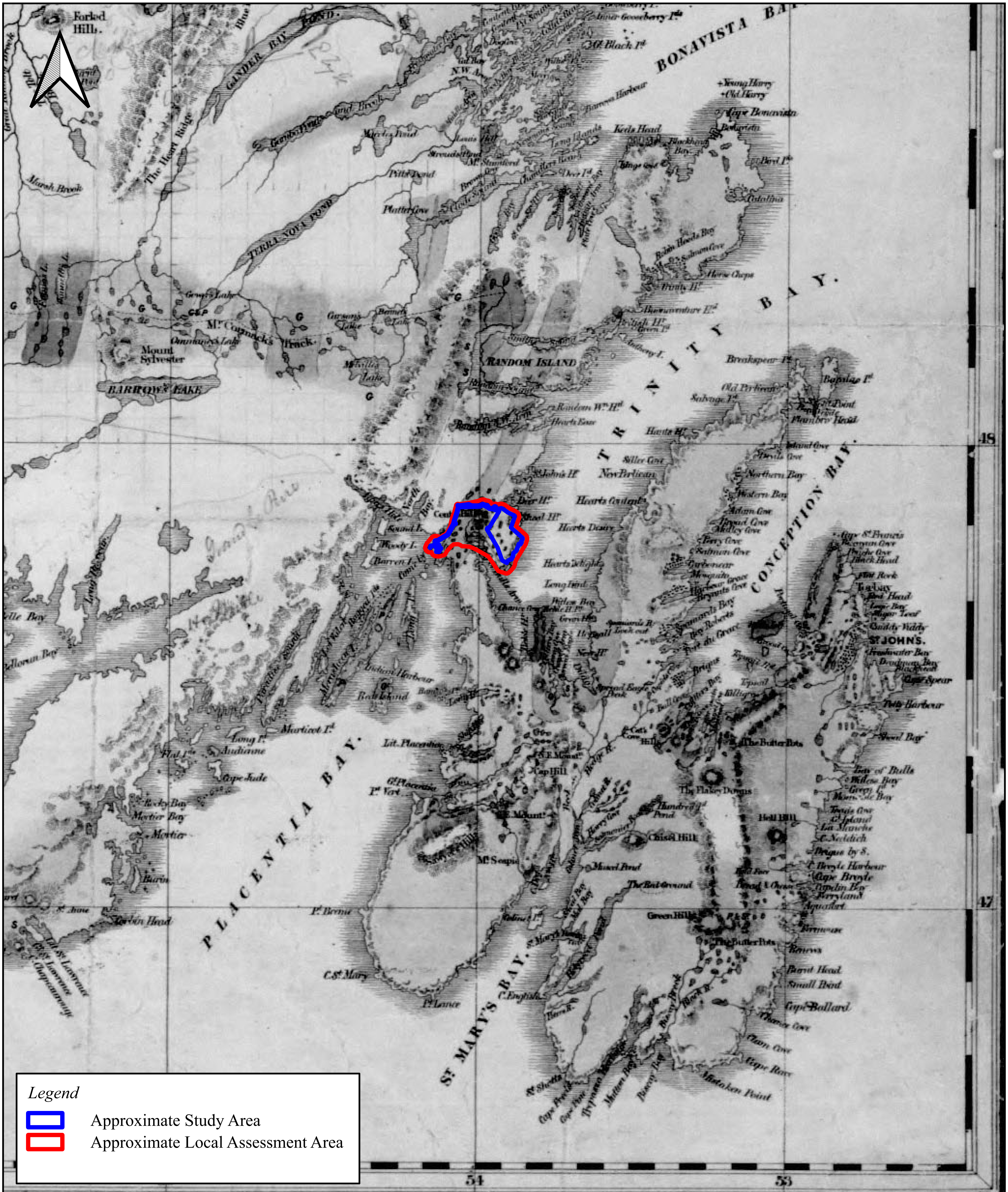
Contiguous with Newfoundland's changing First Nation landscape in the nineteenth century, the European component had begun to shift as well. The migratory fishing industry had given way to a resident-based fishing industry which saw an increasing number of British and Irish settlers arrive (***Plate 5***). The largest of these settlements were situated on the Avalon Peninsula where Britian had focused its initial efforts and then began to expand outward after 1713.

Plate 5: By 1842, a road extended across the Avalon Peninsula, connecting some of the resident fishing villages that dotted the coastline. Approximate Study Area indicated by red arrow (Bonnycastle, 1842).

Although the Atlantic fishery remained the primary industry for many residents, limited agriculture and logging also took place as supplementary economies. The alternating economic focus produced a pattern of European seasonal movement between summer and winter residences termed transhumance (Smith, 1987). This pattern has been archaeologically explored near the Study Area at the Sunnyside 1 site (ClAl-05) (Gaulton & Mills, 2011). The pattern of seasonal movement of people between coastline and inland into the twentieth century offers up potential for historical landscape use or exploration within the Study Area.

The primary attention, however, was on the coastline and in the water as many of the details from the early historic period come from nautical charts. One such chart, from 1840, provides some detail regarding the Study Area, where the region is shown as pitted with many small lakes surrounding Centre Hill (***Figure 7***). In 1874, the Study Area is shown again in reasonable coastal detail, although no substantial settlement is shown on either side of the Isthmus of Avalon, while a bridge spans Come By Chance River (***Figure 8***).

The initial attempt to land a transatlantic telegraph cable occurred at Sunnyside. Prior to the 1858 cable installment, the Marconi Telegraph Station was constructed approximately 110 metres east of the Study Area (Heritage NL, 2021). Unfortunately, the cable connection failed, and the station was abandoned within three years. Parts of the building were salvaged by residents and all that visibly remains of the structure today is the foundation.



CRM Group
Cultural Resource Management Group Ltd.

Jukes, 1840

Figure 7

NORTH ATLANTIC WIND TO HYDROGEN PROJECT
HISTORIC RESOURCES IMPACT ASSESSMENT 2025
ARCHAEOLOGICAL FIELD ACTIVITIES
SUNNYSIDE, NEWFOUNDLAND & LABRADOR

July 2025

0 2.5 5 km

Legend

Approximate Study Area

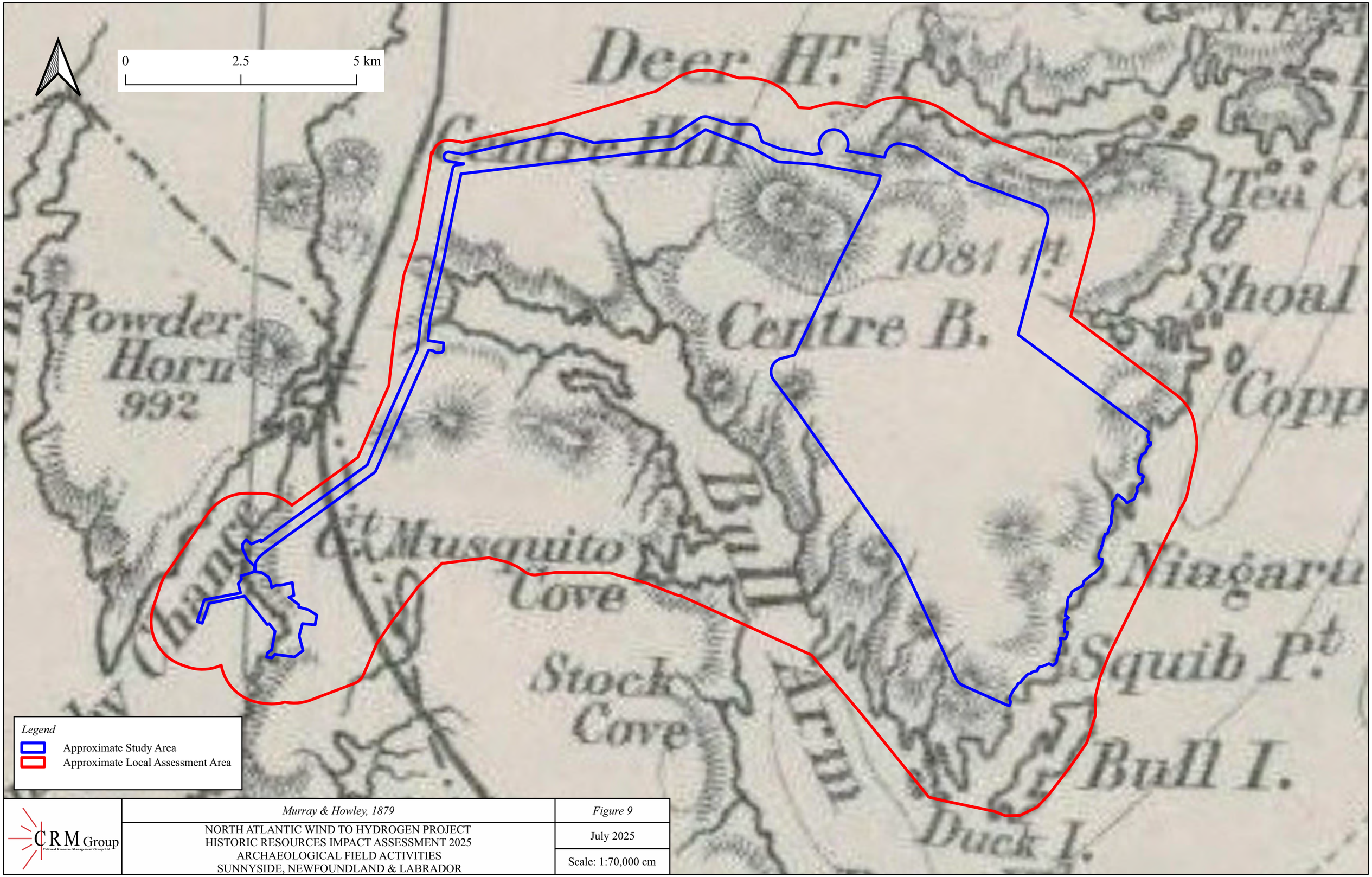
Approximate Local Assessment Area

CRM Group Cultural Resource Management Group Ltd.	*British Admiralty Chart No. 296, Corrected to 1874*	*Figure 8*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:70,000 cm

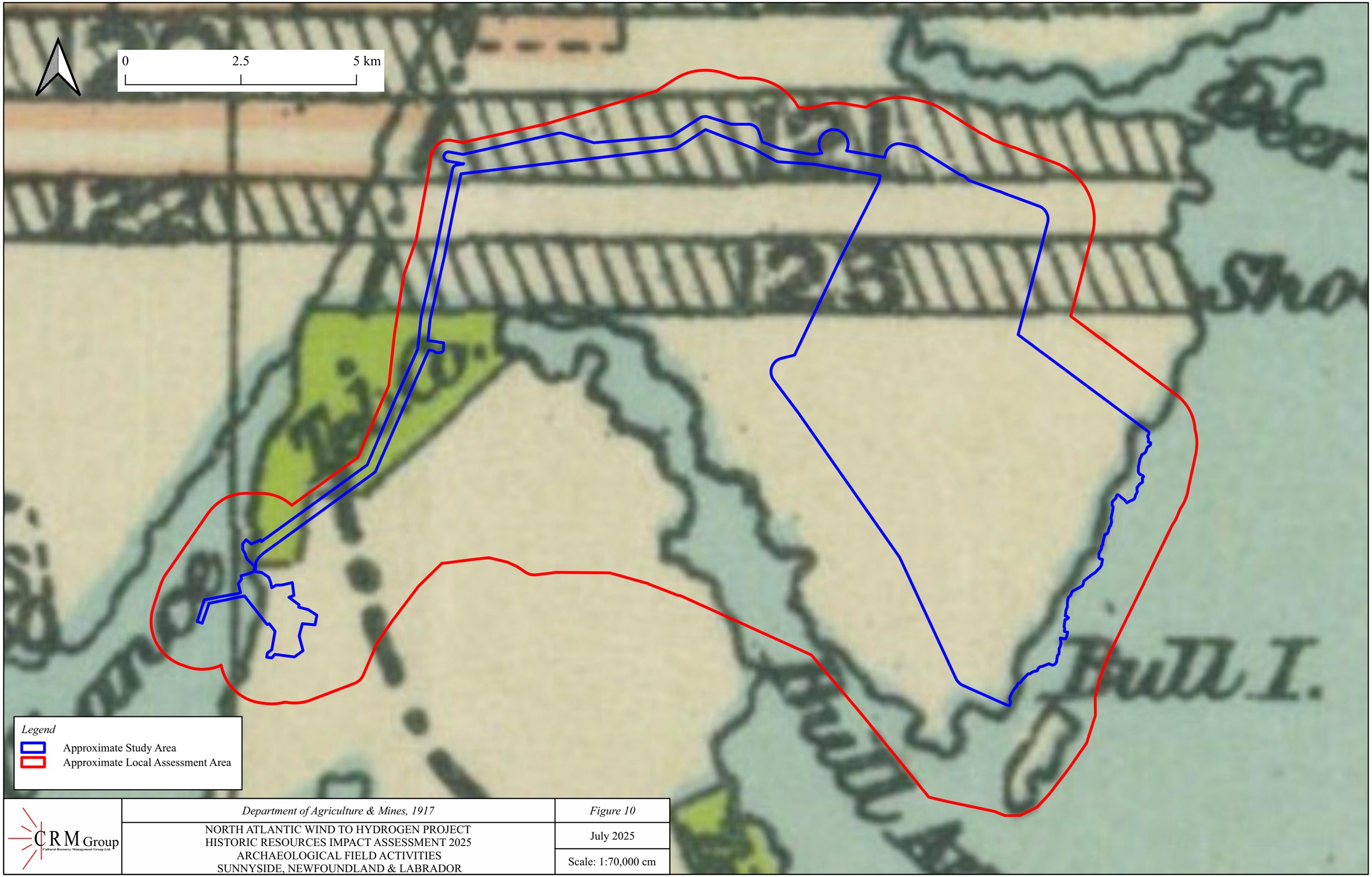
The idea of a railway became more commonly proposed for Newfoundland during the latter half of the nineteenth century (Penney, 1988a). Its intended effect was two-fold: to diversify the island's economy beyond the fishery, and to provide regular employment for the growing population. Construction of the Newfoundland Railway began in 1881 after nearly a decade of surveying and debate (Cuff, 2001) (***Figure 9***). By 1884, the route had only reached as far west as Whitbourne (Penney, 1988a, p. 31). Subsequent financial delays resulted in it taking until approximately 1891 for the railway to be built along the Isthmus of Avalon. Access roads from Arnold's Cove and Come By Chance were built in the following two years. The nearest railway station to the Study Area was built at Come By Chance, which was later advertised as a convenient means to access the area in a 1928 salmon fishing guide (Palmer, 1928, pp. 184-185).

The railway continued to operate across Newfoundland despite declining passenger numbers by the mid-twentieth century (Penney, 1988b, p. 45). At the same time, the Trans-Canada Highway was being constructed across the island. The completion of the highway in 1965 quickly brought about the end of passenger train service. The railway survived as freight service only until 1988 when all service ended (Penney, 1988b, p. 74). The railway provided the first overland connection through the island including where the Study Area intersects the route. However, it was superseded by a more efficient and independent transportation method which was built almost adjacent to its predecessor. Both routes served to connect many communities during the twentieth century, likely driving initiatives to see more of rural Newfoundland become connected or otherwise abandoned.

By 1917, large swaths of the interior were under timber lease. Localized areas were granted for mineral exploration, although none were present near the Study Area. At the northern end of the Isthmus of Avalon, the Atlantic Telegraph company possessed a grant which encompassed Come By Chance and the head of Bull Arm. A narrow strip of land from the railroad to Shoal Bay was one of many grants that had been suppled to the Reid family, then owners of the Newfoundland Railway. While the 1917 Department of Agriculture and Mines map lacks demographic detail near the Study Area, it does display inland economic interests which were less extensive and varied on the Avalon Peninsula (***Figure 10***).



CRM Group Cultural Resource Management Group Ltd.	*Murray & Howley, 1879*	*Figure 9*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:70,000 cm



CRM Group Cultural Resource Management Group Ltd.	*Department of Agriculture & Mines, 1917*	*Figure 10*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025
		Scale: 1:70,000 cm

Rural communities along the Newfoundland coastline became more settled into the twentieth century. With developing infrastructure such as trains, roads, and ferries, they had become more accessible than their previous iterations. Although their relative isolation became the subject of contention by the 1950s as the Premier of the time, Joseph R. Smallwood, implemented a government program to relocate many people to larger communities (Maritime History Archive, 2004). Over the course of approximately three decades, the government subsidized the movement of houses and families, affecting the population distribution in Placentia and Trinity Bay, as well as elsewhere in the Province. By the end of the program, at least 307 communities were abandoned with over 28,000 people relocated. Abandoned communities near to the Study Area included St. Jones Without, Rantem, Little Harbour, and La Manche. What exists today in terms of populated settlements near the Study Area are locations which retained economic relevance through the twentieth century and attracted further settlement based on prospective industry successes that only partly came to fruition.

History of Come By Chance

Initially called Passage Harbour in 1612 by John Guy, the bay had acquired the name Comby Chance a century later (Smallwood & Pitt, 1981, p. 485). The name had evolved further in 1835, when Edward Wix, a Missionary travelling Newfoundland, visited Come By Chance River (Wix, 1836). It was at this time that Wix encountered the ruins of buildings and assumed they were remnants of a violent past engagement. However, local tradition suggests that these were buildings leftover from an 1822 attempt to settle at the river estuary by Thomas Adams.

The first census of Come By Chance occurred in 1836, which included it with Arnold's Cove and Bordeaux (Smallwood & Pitt, 1981, p. 485). A census in the following decade mentioned only 12 inhabitants among two families residing at Come By Chance. In his visit to the settlement, Wix mentions coming to "winter tilts," implying a community that relied heavily on marine resources (Wix, 1836, p. 45).

Come By Chance was far removed from larger fishing markets in Placentia Bay, limiting its initial desirability. However, by the beginning of the twentieth century, the community had begun its lobster fishery, some sawmilling, and was the site of the Marconi Telegraph Station, all of which brought new settlers for a short period (Smallwood & Pitt, 1981, pp. 485-486). A downturn in the fishing industry caused outmigration in the 1920s, leaving the community nearly abandoned in the following decade.

In 1936, Come By Chance's central location and Newfoundland's desire for regional hospitals salvaged its declining population. Servicing approximately 40 surrounding communities, the Come by Chance cottage hospital operated until 1986 when the Dr. G. B. Cross Regional Health Centre in Clarenville became the regional medical facility (Town of Come By Chance, n.d.). A portion of the cottage hospital building still functions as a municipal building.

Concurrent with the governmental relocation plan commenced in the 1950s, initial announcements were made regarding industrial development at Come By Chance. After repeated attempts to negotiate the construction of pulp and paper mills, the government announced plans to develop an oil refinery at Come By Chance (Smallwood & Pitt, 1981, p. 486). Construction of the refinery began in the late 1960s, with its first production beginning in 1973. However, the refinery went into receivership in 1976, after which it changed ownership multiple times. The refinery is part of the Study Area footprint at Come By Chance and constitutes much of the region's altered shoreline visible in the latter half of the twentieth century.

History of Sunnyside

Situated along the coastline at the head of Bull Arm, the community of Sunnyside is at the focal point of the Study Area's archaeological history. Initially called Truce Sound by John Guy after the 1612 meeting with the Beothuk, the name Bay Bulls Arm was commonly given to the region. There is little recorded European occupation or use at the town site until the nineteenth century. However, of note is a recorded

instance in 1697 wherein Pierre le Moyne D'Iberville spent several months near today's Sunnyside community along with French soldiers, First Nation and Irish Allies, and English captives (Gaulton & Mills, 2011). The occupation was temporary, as their goal was to transport the captive English overland into Placentia Bay where they could be held at the French fort located there. During their 1705 campaign, the French once again make reference to this travel route.

A 1760 British account of the Sunnyside area found it to be suitable for logging and trapping (Gaulton & Mills, 2011). This assessment likely led to the establishment of a community at the bay's head. In 1835, Edward Wix recorded the presence of four families living in "winter tilts" prior to his visit at Come By Chance (Wix, 1836, p. 43).

The first census to record Sunnyside occurred in 1869 and noted 28 people living in the area (Poole & Cuff, 1994, p. 328). In 1884, the census divided the Arm into Centre Cove with a population of 12 and The Bottom with a population of 22. Aside from a sawmill established in 1889 by the Parsons and Peddle families, all others were occupied in the fishing industry. At the turn of the twentieth century, there were 241 people living along the head of Bay Bulls Arm with both Church of England and Methodist chapels present. In 1921, the community officially changed its name to Sunnyside.

Sunnyside received a total of 34 people during the peak of the Newfoundland Government's relocation program (Poole & Cuff, 1994, p. 328). As the importance of the fishery and lumber industries waned, these and other residents in Sunnyside sought work elsewhere. By the 1990s, most people were employed outside of the community with only a few full-time fishers remaining at Centre Cove (***Plate 6***). It was at this time that the government approved Great Mosquito Cove as the Hibernia Oil production platform construction location.

Sunnyside exists today predominantly as a coastal community with limited inland growth toward the Study Area. Municipality mapping describes the landscape immediately behind the row of homes as rural with little in the way of access roads extending north from the main road.

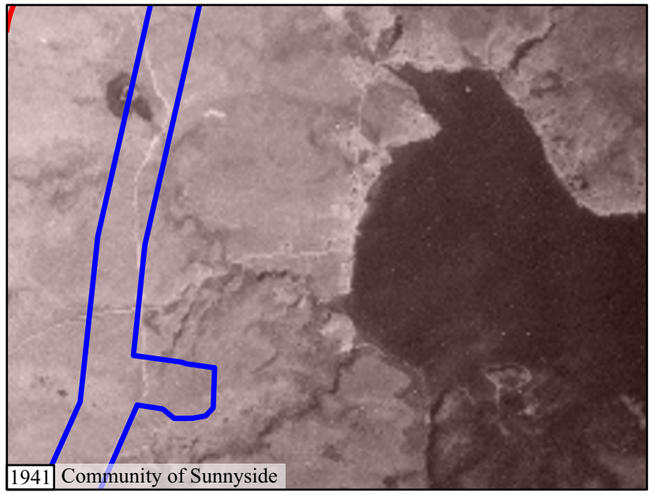
Plate 6: A view of Centre Cove with Sunnyside on the opposite side (Decks Awash, 1990).

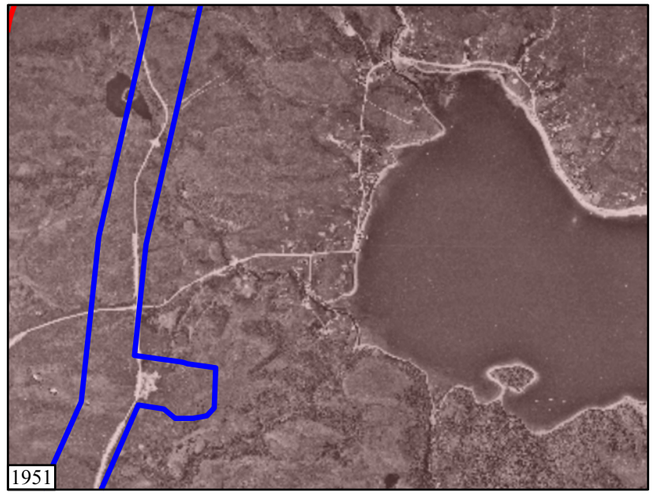
Analysis of Aerial Photography

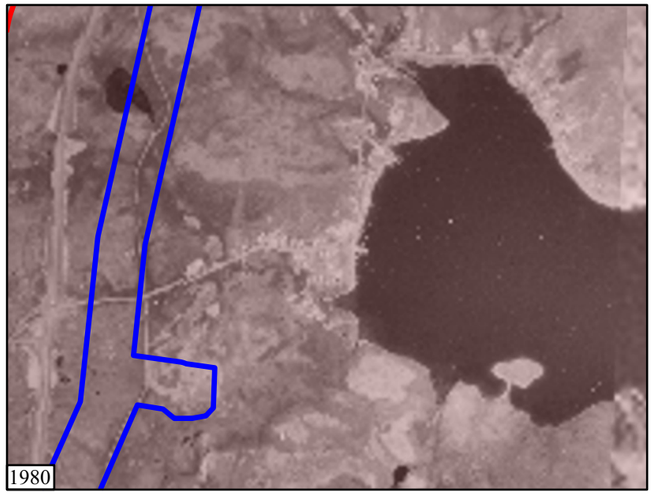
Aerial photographs were examined as part of the HROA (***Figure 11***). Photographic collections available from the Province as well as those made available through the Earth Observation Data Management System operated by Natural Resources Canada, were utilized in studying the landscape surrounding the Study Area. The aerial photographs dated from 1940 onward, providing a clear image of the LAA through most of the twentieth century. The review considered coastal areas, vegetation, and landscape features (e.g. waterbodies or any potential archaeological sites) in the vicinity of the Study Area. Landforms and topographic features within the Study Area that appeared favourable to past human use were investigated. Additionally, 1955 Department of Mines maps were reviewed. These highlight some of the features in the aerial imagery, including the distribution of buildings along coastlines and limited road networks (***Figure 12***).

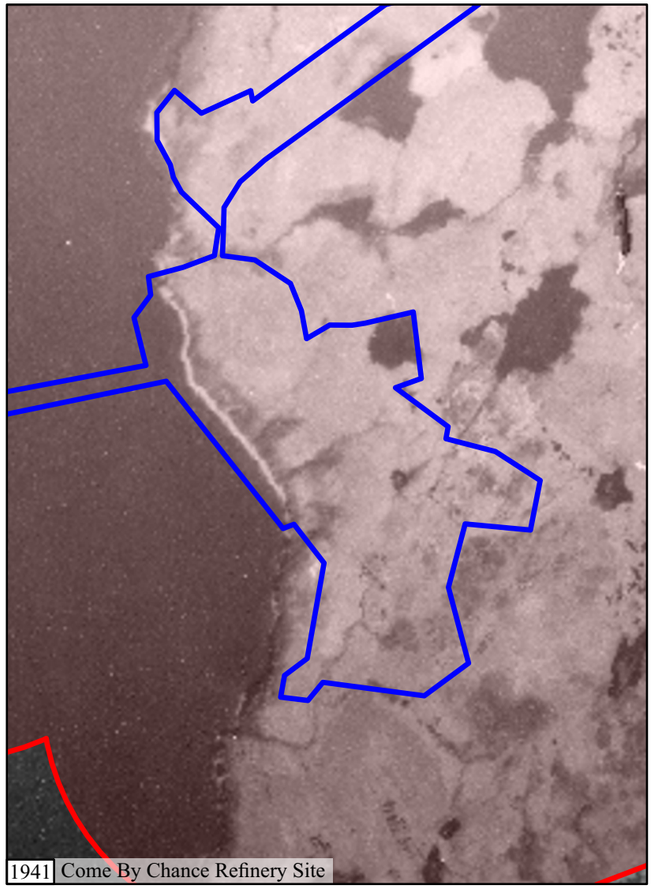
In the 1941 aerial photographs, the original road alignment, known as the Cabot Highway, enroute to Clarenville is clearly visible to the east of the railway line. Its faint track leading north from the Come By Chance to Sunnyside Road is still visible in modern imagery as it follows a similar route to the Study Area over the Isthmus of Avalon. Portions of the road are now altered by the Trans Canada Highway. Come By Chance is concentrated around the intersection of the road to Sunnyside and the railway, with some settlement along the river estuary. No substantial development appears south of Come By Chance toward the current Come By Chance Industrial Site footprint. At Sunnyside, a coastline road around Bull Arm follows the north side of the inlet to Centre Cove before ending there. Houses and cleared land extend a short distance back from the water, but no evidence of human presence within the Study Area footprint for the wind farm is visible.

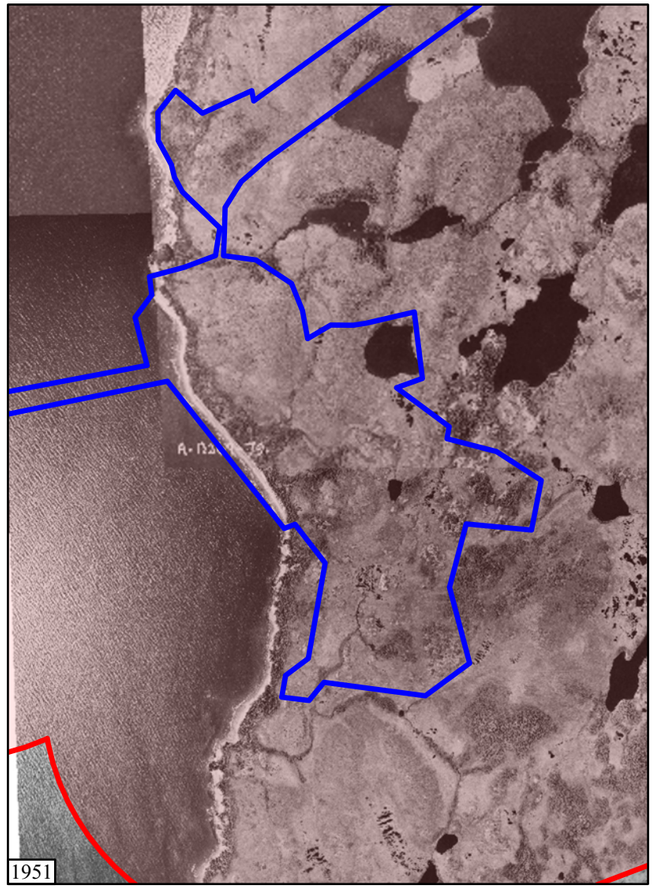
The 1951 photograph series offers the most comprehensive and detailed mid-century images of the Study Area. Minor alterations at Sunnyside and Come By Chance are visible, with some small access roads extending north from Sunnyside now visible. In particular, these follow watercourses that extended through Sunnyside and into Bull Arm. The rugged interior topography is evident with the clarity of the 1951 series, revealing a nearly inaccessible, barren landscape behind the coastline settlements. The absence of buildings toward the end of the northern access roads from Sunnyside suggests they were likely established for hunting, logging, or possibly mineral prospection. By 1981, a more robust footprint of the refinery is present. The railway connects to the refinery as well as new roads, including the highway, illustrating an increased level of activity across the isthmus. A new access road was extended north along the Come By Chance River to a cutline for a transmission line. Limited upland development had begun at Sunnyside but remained localized to that of present day. By 1995, Come By Chance was more populated along its main road, the railway was no longer clearly present, and the industrial developments at Big Mosquito Cove were well underway.

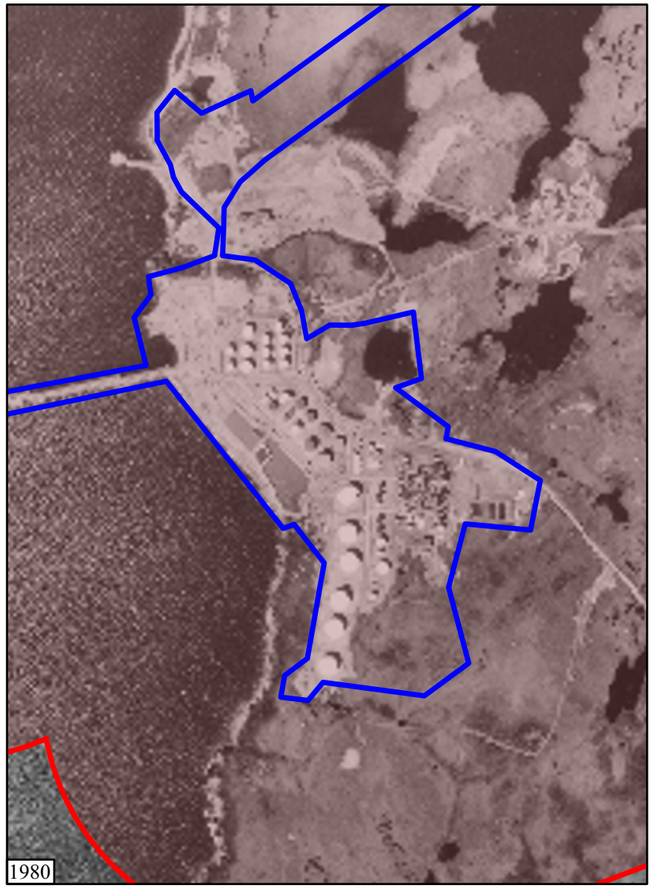












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Aerial Photographs - 1941, 1951, & 1980

NORTH ATLANTIC WIND TO HYDROGEN PROJECT
HISTORIC RESOURCES IMPACT ASSESSMENT 2025
ARCHAEOLOGICAL FIELD ACTIVITIES
SUNNYSIDE, NEWFOUNDLAND & LABRADOR

Figure 11

July 2025

Scale: 1:25,000 cm

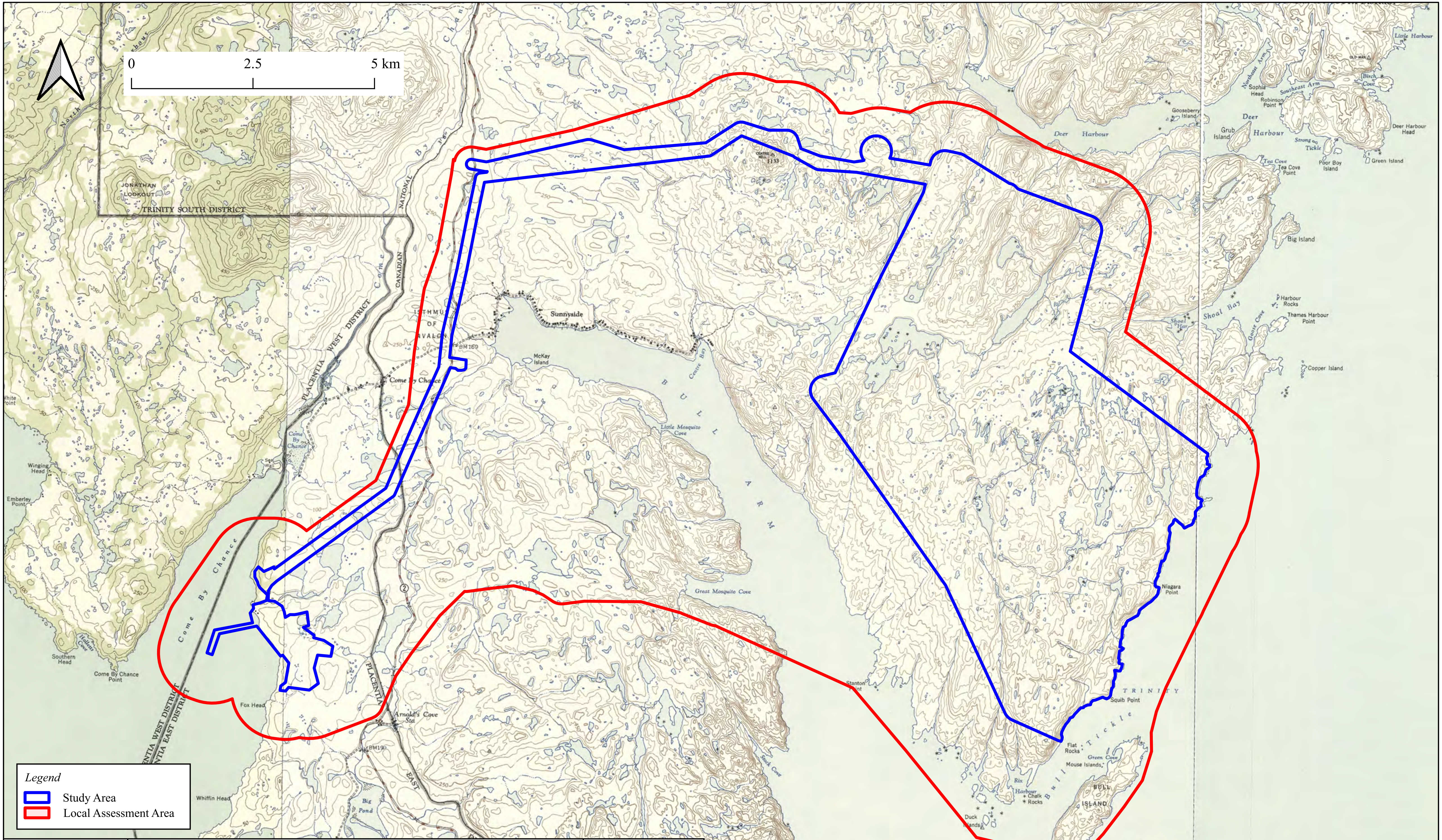
Legend

Study Area

Local Assessment Area

0 500 1,000 m

Image Source: National Air Photo Library



0
2.5
5 km
Legend
Study Area
Local Assessment Area
TRINITY SOUTH DISTRICT
JONATHAN LOOKOUT
PLACENTIA WEST DISTRICT
CANADIAN NATIONAL
ISTHMUS OF AVALON
Sunnyside
Come By Chance
McKay Island
Centre Bay
BULL ARM
Little Mosquito Cove
Great Mosquito Cove
Deer Harbour
Gooseberry Island
Big Island
Shoal Bay
Harbour Rocks
Thames Harbour Point
Copper Island
Niagara Point
Squib Point
TRINITY BAY
Flat Rocks
Green Cove
Mouse Islands
Bull Tickle
BULL ISLAND
Chalk Rocks
Duck Islands
Stanton Point
Shag Islands
Southern Head
Come By Chance Point
Fox Head
Whiffin Head
Arnold's Cove Sta
Big Pond
Winging Head
Emberley Point
White Point
Little Harbour
Birch Cove
Deer Harbour Head
Sophia Head
Robinson Point
Southeast Arm
Northeast Arm
Grub Island
Strong Tickle
Poor Boy Island
Green Island
Tea Cove
Tea Cove Point

Dept. of Mines, 1955 & 1957	*Figure 12*
NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:70,000 cm

4.2.4 Registered Archaeological Sites Within the Study Area

There is currently one registered site within the Study Area, site ClAk-02, or the Sunnyside Hills site. There are a total of 12 archaeological sites within the LAA, and within the RAA, the number jumps to 66 archaeological sites and seven registered ethnographic sites (***Figure 6***).

Site ClAk-02 is located on a height of land, northeast of Centrehill, approximately five kilometres east of the community of Sunnyside. The basis for site identification is the presence of a pair of cultural features potentially of considerable age, including a small, lichen-covered stone pile resembling an inukshuk and nearby stone outcrop with an overhang, forming a small, sheltered space underneath. Within the space is an arrangement of apparently tiered cobbles, about 3 to 4 courses tall, that may be cultural in nature. As no diagnostic cultural material was identified in association with the features, the age and cultural affiliation of the site is currently undetermined.

While only 12 sites are located within the LAA, many of these locations have been reoccupied multiple times, as is evidenced by the cultural material identified. Resource-based cultures typically seek favourable, accessible locations for encampment or settlement. Therefore, a location may be utilized by a sequence of different cultural groups for similar purposes. For example, cultural material from six different groups has been identified on Frenchman's Island. Given the breadth of time, interaction between each culture did not necessarily take place at this site, only that the cultural material shows the locations used during that moment in history. Consequently, of these 12 sites, there are a total of 26 cultural components. Three sites date to the Pre-contact period with Maritime Archaic First Nations peoples represented. Two sites date to early Pre-Inuit Groswater components, five with late Pre-Inuit Dorset components (First Nations groups, such as Cow Head, Beaches, and Little Passage complexes are present at two of these sites). There are three sites dating to the Recent First Nation period, and three sites dating to the Beothuk period of occupation. One site possesses Pre-contact materials, but no diagnostic artifacts or other types of culturally specific evidence were recorded, therefore the Pre-contact period cultural group(s) represented could not be determined. A total of seven sites included materials associated with European origin, implying possible site use by Europeans or people of European descent. The final two cultural components are associated with Euro-American peoples. Beothuk and European cultural materials were found at the same site in one instance.

Indigenous Peoples often adapted European material into their economies throughout the historic period. Consequently, it can be difficult to establish conclusively which cultures are represented from a given assemblage of historic artifacts.

4.3 Archaeological Potential Model

Applying the results of the background study as well as the Primary Data compiled for the HROA, an Archaeological Potential Model was produced for the Project Study Area (***Figure 3***). Across a Study Area measuring 60.01 square kilometres, buffer zones of high archaeological resource potential equals 2.38 square kilometres, or 3.97%.

As previously mentioned, HPAs were generated by applying default 50-metre radius buffers of high potential surrounding waterbodies and watercourses of Stahler Stream order rating of >1, except for the coastline, which was assigned a 100-metre buffer. A 50-metre radius buffer was applied to registered sites, and a 100-metre radius buffer was applied to cemeteries. High potential was assigned to named waterbodies, and in instances where a high potential watercourse flowed through a waterbody, regardless of whether that waterbody was named or not, it was counted as part of the high potential stream and a buffer was applied.

The gaps and varying widths visible in the various HPAs are due to the elimination of potential in areas that were classified as wetland in an open dataset provided online from the provincial government or exhibited a slope greater than 20 degrees. Slope calculations were generated in GIS software using a 5-metre resolution digital elevation model, which was acquired online as open data from the Province. To account for the resolution of the DEM, it was decreased from 5 to 10 metres. The raster was then converted to a vector polygon layer and excluded values of less than 20 degrees. A 10-metre buffer was then applied to account for areas immediately adjacent to the high slope polygons, which would also be too steeply sloped.

This results in much of the Study Area being ascribed low archaeological resource potential. This ascription must not be misconstrued as representing zero potential. This rating indicates a reduced likelihood of land-use that left physical evidence in a defined area. Generally, low potential areas are dictated by topographic or hydrographic attributes which make them difficult to navigate or reside upon, such as wetland or steeply sloped terrain, distant from potable or navigable water. Such areas are considered unsuitable for past human habitation. Additional low potential areas include locations where substantial modern development or ground disturbance has occurred resulting in the elimination of evidence of past land-use, such as within the footprint of the Come By Chance Industrial Site or along the route of Highway 1.

Beginning at the Come By Chance Industrial Site, in the southwestern limit of the LAA, a large portion of the archaeological potential in this area has been previously impacted by modern development. Within the Study Area, there remain several small parcels exhibiting elevated potential that may be relatively unaffected by structure or road development.

The proposed transmission line corridors across the Isthmus of Avalon extend from the western peninsula between Deer Harbour to near Bull Arm. This portion of the Study Area spans Northern Brook and Badgers Brook, before reaching within 750 metres of the Come By Chance River. As the Study Area transects the Isthmus, it intersects the original road which travels north to Clarenville, the Come By Chance to Sunnyside Road, the now removed railway, and within approximately 110 metres of the registered archaeological site of the 1858 Atlantic Telegraph Company Station. Within the Bull Arm and Come By Chance estuaries, several registered sites suggest a region very familiar to First Nations and people during the historic period. The portion of the Study Area overlapping the Trans-Canada Highway, an existing substation at Sunnyside, and a cleared quarry area adjacent to Come By Chance are disturbed by modern development.

Archaeological finds and historic accounts place Indigenous people within Bull Arm prior to and during early European settlement. While most registered sites remain along the coast, this portion of the LAA, from Bull Arm to Deer Harbour, contains a variety of lakes and watercourses that would have made attractive inland zones for terrestrial resource acquisition. The lack of any current modern development in this sector means potential sites have yet to be affected.

The potential model has identified 20 HPAs to encounter archaeological resources (HPA-01 to HPA-20) within the Study Area, wherein the proposed footprint of Project infrastructure layout would overlap a buffer zone of high archaeological resource potential (***Table 4; Figure 3***).

Table 4: Areas of High Archaeological Resource Potential within the Study Area based on initial potential model.

Reference Code	Area Description	Area (ha)	HROA Potential Rating
HPA-01	NARL Logistics Terminal and Barachois Head	19.5	High
HPA-02	Rushy Pond	2.1	High
HPA-03	Big Pond	1.1	High
HPA-04	Happy Pond	3.8	High
HPA-05	Frenchmans Pond	48	High
HPA-06	Unnamed watercourse flowing into Bull Arm	7.7	High
HPA-07	Centre Hill Pond	0.4	High
HPA-08	Unnamed waterbody connected to Long Pond	2.3	High
HPA-09	Long Pond	2.5	High
HPA-10	Spurrells Pond	0.6	High
HPA-11	Lady Cove Pond and Gull Pond	13.6	High
HPA-12	Archaeological Site ClAk-02	0.8	High
HPA-13	Unnamed watercourse flowing between Lady Cove Pond and Deer Harbour Steady	4.3	High
HPA-14	Vee Pond	16.3	High
HPA-15	Unnamed waterbody connected to Vee Pond	0.6	High
HPA-16	Unnamed waterbody flowing to Sibley's Cove Pond	0.7	High
HPA-17	Unnamed watercourse flowing to Sibley's Cove Pond	3.8	High
HPA-18	Unnamed watercourse near Niagara Point	0.2	High
HPA-19	Northern of two locations along an unnamed watercourse flowing into Bull Arm	1.6	High
HPA-20	Southern of two locations along an unnamed watercourse flowing into Bull Arm	0.1	High

4.4 Archaeological Field Activities

Each of the 20 HPAs were assessed within the Project Study Area over the course of two field days, 30 April and 2 May 2025 (***Figures 13 to 32***. The following details the program of archaeological fieldwork.

4.4.1 HPA-01 (NARL Logistics Terminal and Barachois Head)

HPA-01 (***Figure 13***) was surveyed on foot on 30 April 2025. The area of ascribed high potential is partially within the existing footprint for the NARL Logistics Terminal, and includes some existing infrastructure, parking and lay down areas, a manmade jetty extending west from the infilled shoreline (***Plate 7***), as well as open areas.

The areas within the refinery infrastructure have all been heavily disturbed by its construction and use. Areas along the shoreline were extremely sloped towards Come By Chance Gut.

Along Main Road in the centre of the HPA, a small low-lying stream is situated within the impact area. Access is steeply sloped descending to the watercourse, and the terrain surrounding it is low, undulating, and wet (***Plate 8***). Plant life within the area is indicative of an area consistently inundated with water, including reeds and pitcher plants. The remainder of the HPA has been developed.

North of the HPA, a steeply sloped area was investigated (***Plate 9***). Despite the change in elevation asl, the area was heavily saturated and contained plant life indicative of wetlands. The higher elevations in this area were heavily undulating, and no level topography was observed.

Ethnographic Features: None.

Archaeological Features: None.

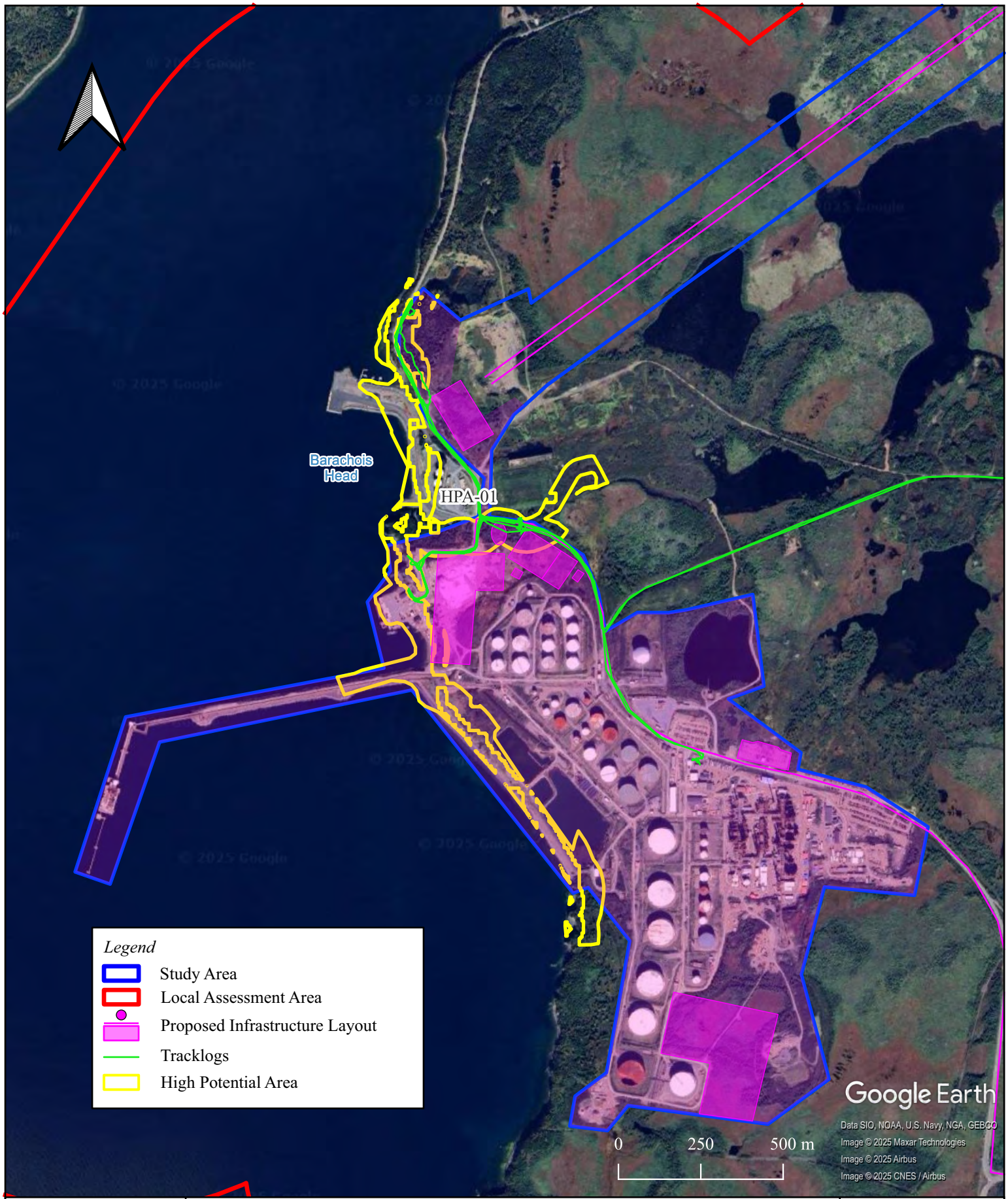
Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

Plate 7: Artificial jetty within the NARL Logistics Terminal. Facing south; 30 April 2025.

Plate 8: Low-lying and wet area north of the Refinery infrastructure. Facing east; 30 April 2025.

Plate 9: Wet and undulating area within northern portion of HPA-01. Facing southeast; 30 April 2025.



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HPA-01 (NARL Logistics Terminal & Barachois Head)

Figure 13

NORTH ATLANTIC WIND TO HYDROGEN PROJECT
HISTORIC RESOURCES IMPACT ASSESSMENT 2025
ARCHAEOLOGICAL FIELD ACTIVITIES
SUNNYSIDE, NEWFOUNDLAND & LABRADOR

July 2025

Scale: 1:15,000 cm

4.4.2 HPA-02 (Rushy Pond)

HPA-02 (***Figure 14***) was surveyed on foot on 30 April 2025. The area of ascribed high potential is associated with Rushy Pond.

The topography within this HPA is low-lying and wet marshland along the northern extent of Rushy Pond (***Plate 10***). It was steeply sloped along the shoreline descending to the water source (***Plate 11***). The ground surrounding the pond is undulating and covered with moss, with a moderate amount of scrub brush along the shoreline (***Plate 12***). Other plant life within the area is indicative of an area consistently inundated with water, including reeds and pitcher plants.

Ethnographic Features: None.

Archaeological Features: None.

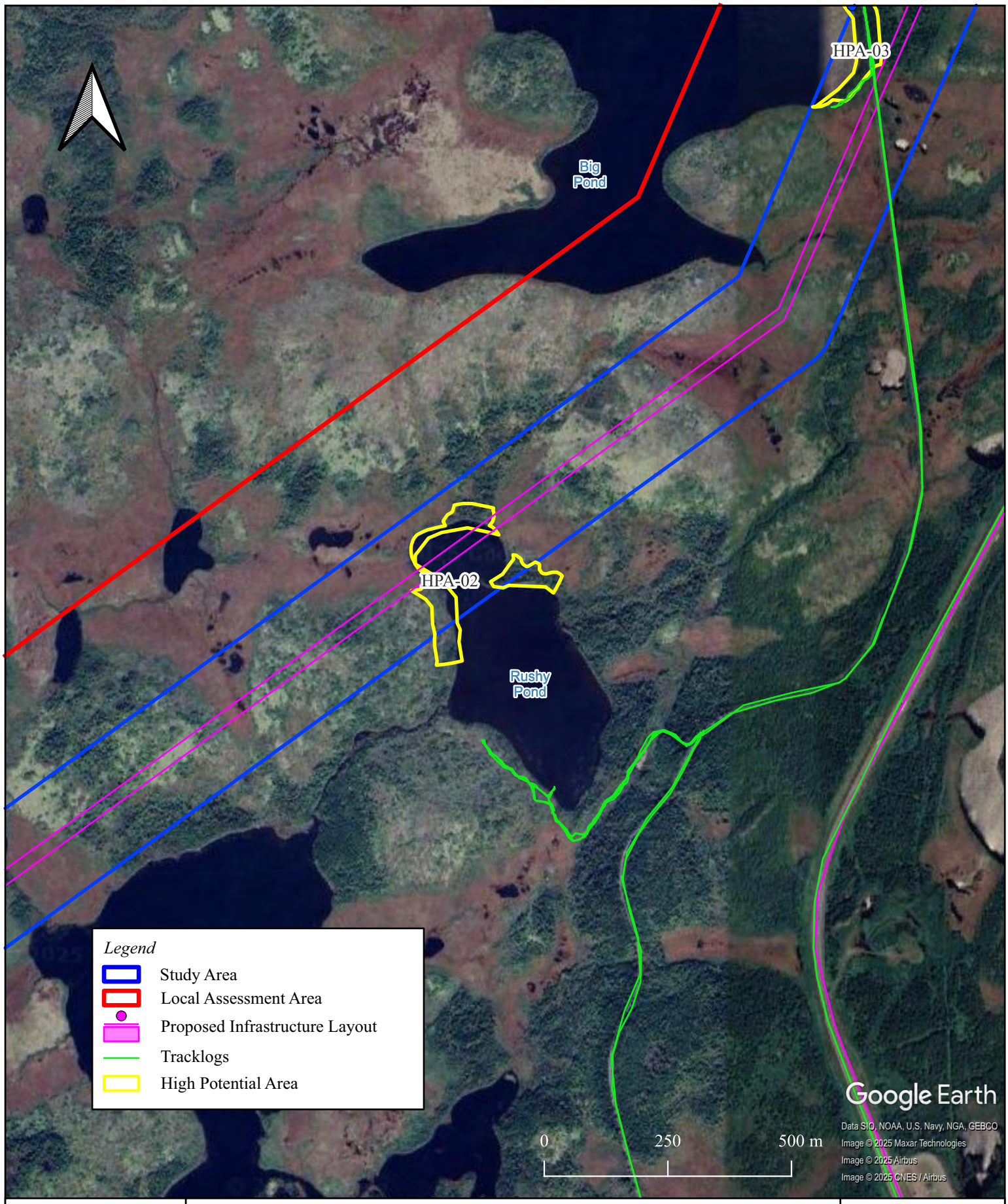
Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

Plate 10: Steeply sloped shoreline along Rushy Pond. Facing south; 30 April 2025.

Plate 11: Sloped shoreline along Rushy Pond. Facing north; 30 April 2025.

Plate 12: Wet and mossy terrain along the extent of Rushy Pond. Facing northeast; 30 April 2025.



CRM Group Cultural Resource Management Group Ltd.	*HPA-02 (Rushy Pond)*	*Figure 14*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:10,000 cm

4.4.3 HPA-03 (Big Pond)

HPA-03 (***Figure 15***) was surveyed on foot on 30 April 2025. The area of ascribed high potential is associated with Big Pond.

The topography within this HPA is steeply sloped from the access road (Cobb Road) descending to Big Pond, and along the shoreline in general (***Plate 13***). Otherwise, the terrain is low-lying, undulating, and wet marshland (***Plate 14***). The ground surrounding the pond is undulating and covered with moss, with a moderate amount of scrub brush along the shoreline. Other plant life within the area is indicative of an area consistently inundated with water, including reeds, alder trees and pitcher plants.

Ethnographic Features: Hunting stand located at (**22T 5299798.76 mN 232289.24 mE**) (***Plate 15***).

Archaeological Features: None.

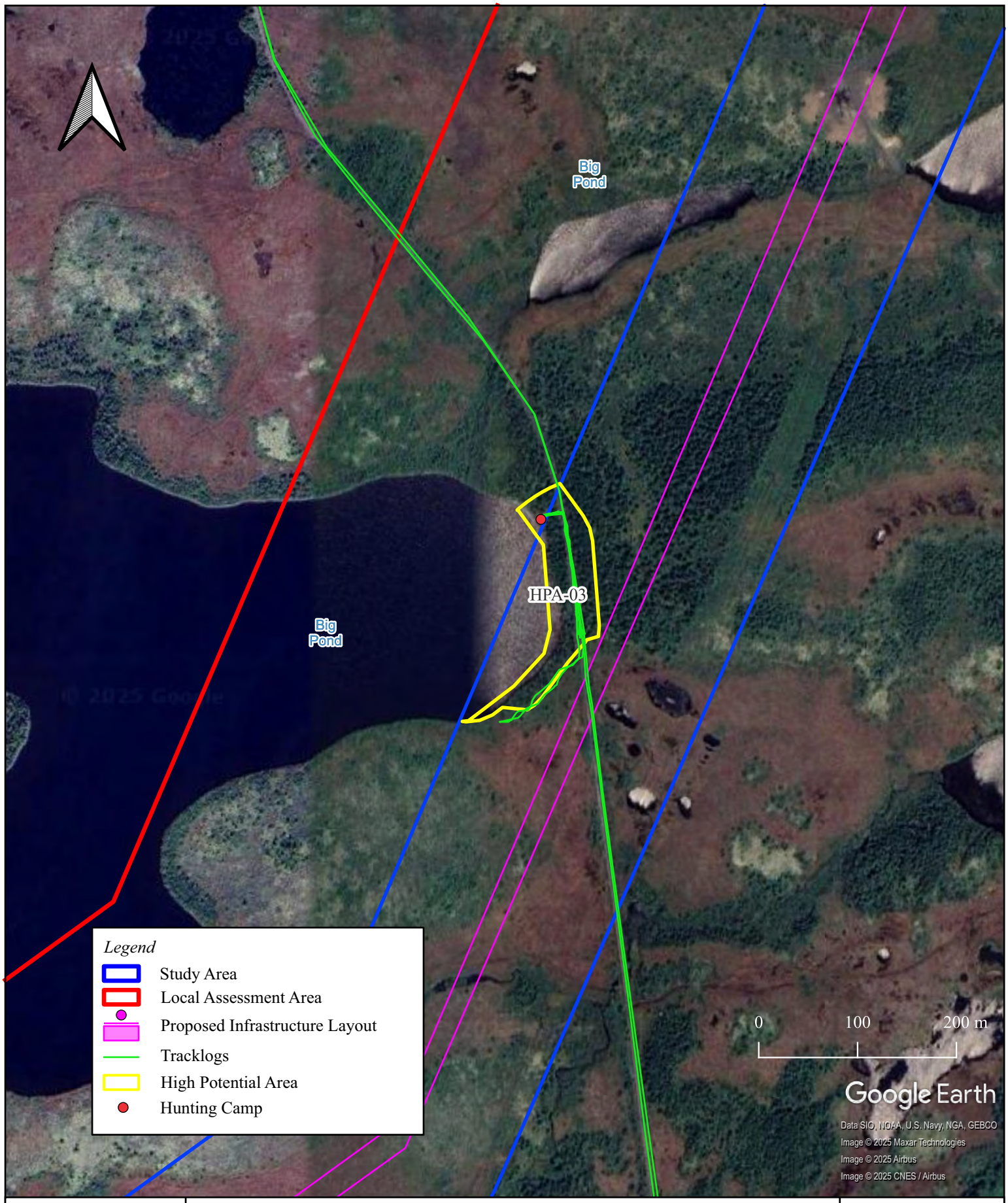
Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

Plate 13: Steeply sloped topography along Cobb Road within HPA-03. Facing north; 30 April 2025.

Plate 14: Wet and mossy terrain along the east edge of Big Pond. Facing northwest; 30 April 2025.

Plate 15: Hunting stand identified along Big Pond in HPA-03. Facing south; 30 April 2025.



CRM Group Cultural Resource Management Group Ltd.	*HPA-03 (Big Pond)*	*Figure 15*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:5,000 cm

4.4.4 HPA-04 (Happy Pond)

HPA-04 (***Figure 16***) was surveyed on foot on 30 April 2025. The area of ascribed high potential is associated with a tributary east of Happy Pond.

The topography within much of this HPA is steeply sloped on either side of the highway where a tributary of Happy Pond is routed through a culvert under the road. Most of the terrain is low-lying, undulating, and wet marshland around the tributary (***Plate 16***), as well as some sloped areas towards the shoreline. A modern access road extends along the tributary to the north of an unnamed pond. Ground surrounding the tributary, as well as most of the pond, is undulating and covered with moss (***Plate 17***). A moderate amount of scrub brush is situated along the shoreline. Other plant life within the area is indicative of an area consistently inundated with water, including reeds and pitcher plants. However, one small area within the northern limit of the HPA is gently sloped and based on vegetation, is likely to be consistently dry most of the year. This portion of the HPA retains its ascription of high archaeological resource potential (***Plate 18***).

Ethnographic Features: None.

Archaeological Features: None.

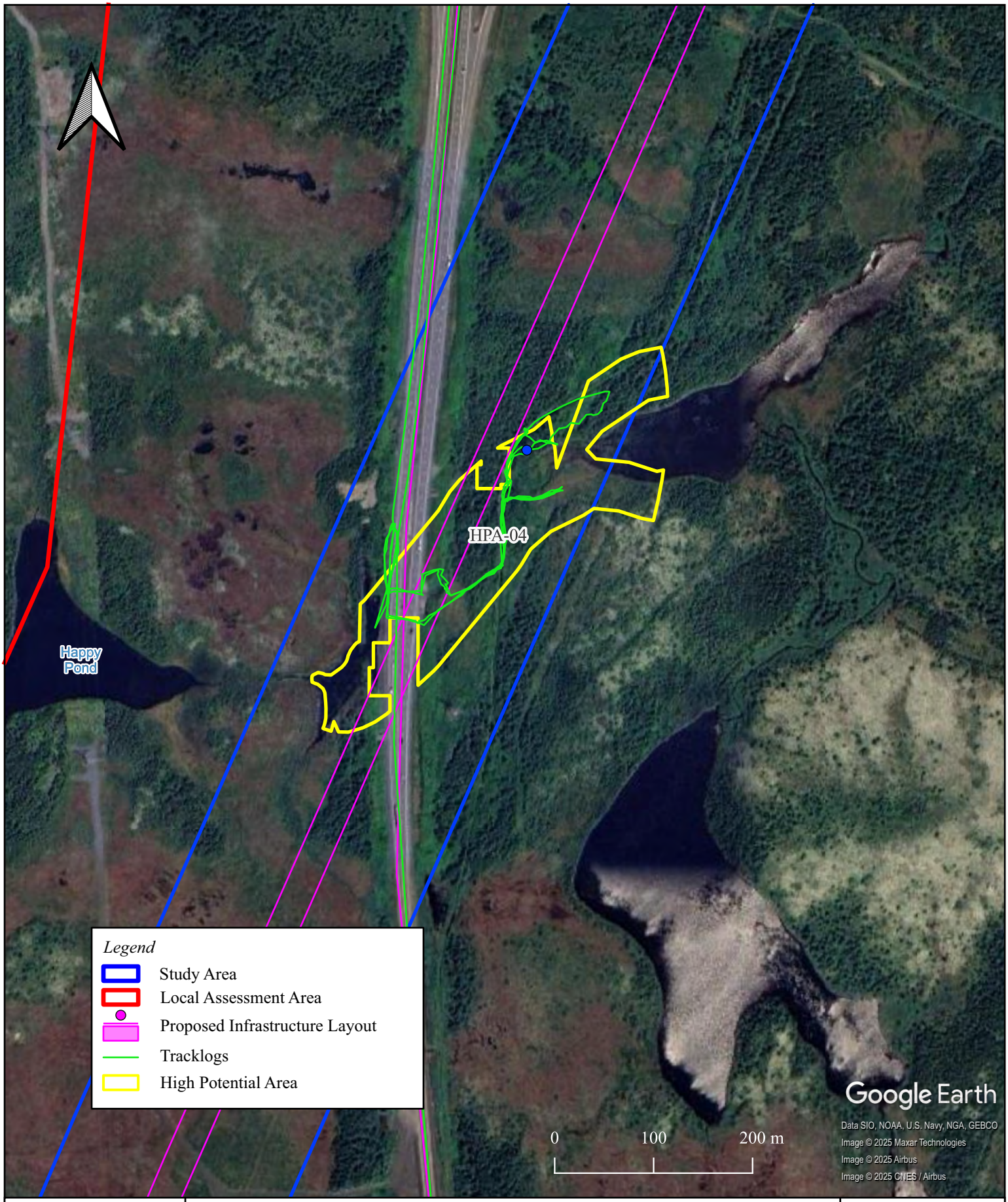
Areas of High Potential: West of the west point of the unnamed pond, between water and the modern trail **(22T 5301146.52 mN 233124.63 mE**).

Recommendations: **Avoidance or Mitigation of the confirmed portion of the HPA.** The ascription of high archaeological resource potential for the remainder of the HPA is revoked and now ascribed low potential. **No further archaeological investigation is required within this area**.

Plate 16: Wet and mossy terrain along the highway approaching Happy Pond. Facing northeast; 30 April 2025.

Plate 17: Low-lying wetlands surrounding the tributary within HPA-04. Facing west; 30 April 2025.

Plate 18: Area of high potential within HPA-04, to the north of the west point of Happy Pond. Facing northeast; 30 April 2025.



CRM Group Cultural Resource Management Group Ltd.	*HPA-04 (Happy Pond)*	*Figure 16*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:5,000 cm

4.4.5 HPA-05 (Frenchman's Pond)

HPA-05 (***Figure 17***) was surveyed on foot on 30 April 2025. The area of ascribed high potential is associated with Frenchman's Pond.

The topography within this HPA is low-lying, undulating, and wet marshland throughout, including the shoreline of Frenchman's Pond and the southern portion of the HPA (***Plate 19***). The ground surrounding the pond is undulating and covered with moss (***Plate 20***). A moderate amount of scrub brush is located along the shoreline. Other plant life within the area is indicative of an area consistently inundated with water, including reeds and pitcher plants (***Plate 21***).

As part of HPA-05, registered archaeological site ClAl-04 was surveyed on foot on 30 April 2025. While outside of the imprint of the Project Study Area, the archaeological site was revisited due to its proximity to the impact area.

The site consists of the remains of the New York and London Telegraph Building and the Atlantic Telegram Building (***Plates 22 to 24***). The topography is gently sloped and undulating, but otherwise dry. The ground within the archaeological site is partially grassed, with a small amount of scrub brush in an otherwise open area.

Ethnographic Features: None.

Archaeological Features: While outside of the impact area, archaeological site ClAl-04 was visited. The site looks maintained and undisturbed. Interpretive signage is intact and in place, and there is no visible recent disturbance to the exposed foundations.

Areas of High Potential: Within the 50 metre radius protective buffer of ClAl-04.

Recommendations: The ascription of high archaeological resource potential for the area outside of ClAl-04 HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**. **However, avoidance is recommended for ClAl-04.**

Plate 19: Wetland area surrounding a tributary leading to Frenchman's Pond. Facing northeast; 30 April 2025.

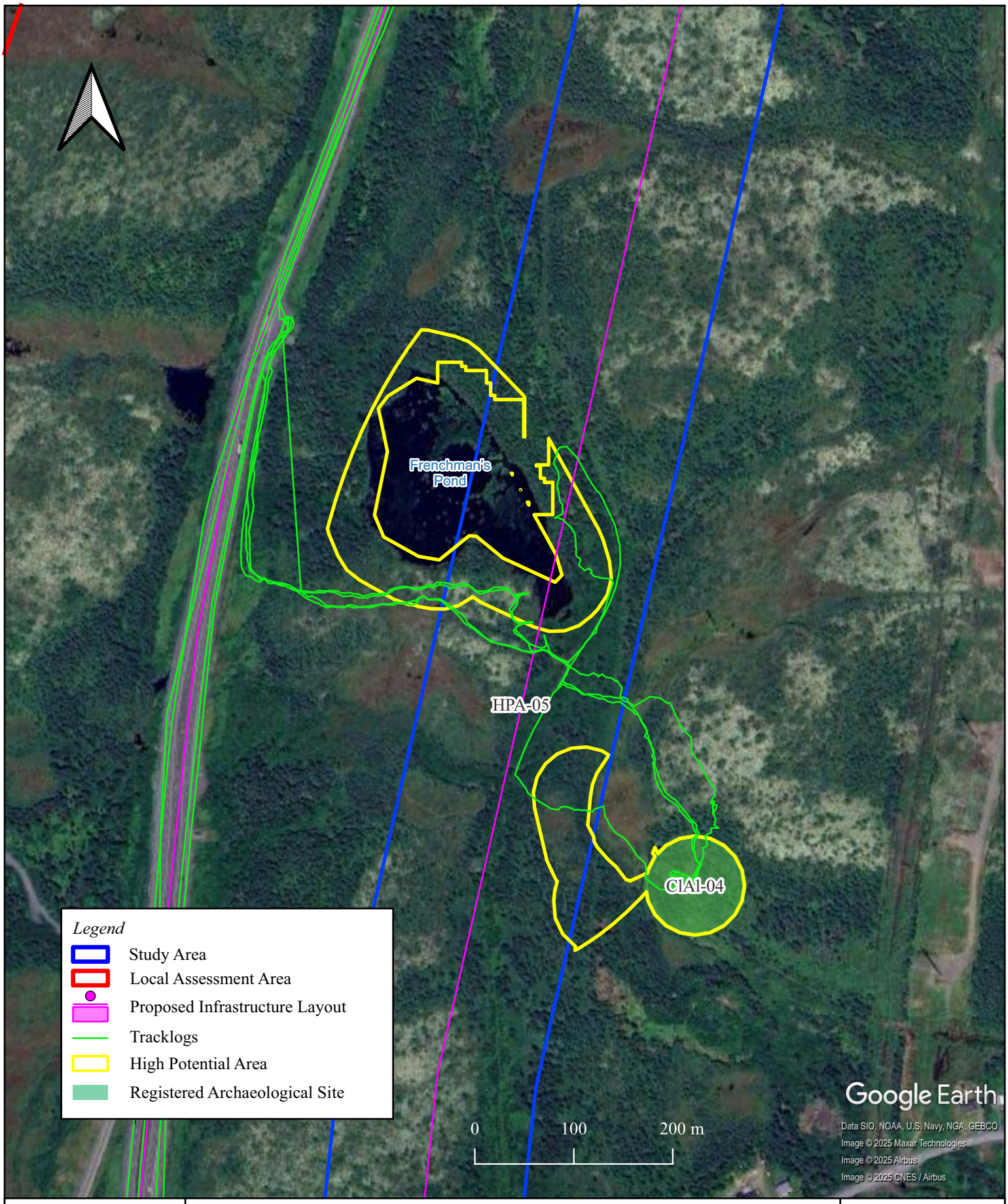
Plate 20: Low-lying and wet terrain surrounding Frenchman's Pond. Facing north; 30 April 2025.

Plate 21: Marshland surrounding Frenchman's Pond. Facing south; 30 April 2025.

Plate 22: Foundations of the ClAl-04 registered archaeological site. Facing west; 30 April 2025.

Plate 23: Western wall of the New York and London Telegraph Building. Facing southwest; 30 April 2025.

Plate 24: Eastern wall of the Atlantic Telegram Building. Facing east; 30 April 2025.



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HPA-05 (Frenchmans Pond)

NORTH ATLANTIC WIND TO HYDROGEN PROJECT
HISTORIC RESOURCES IMPACT ASSESSMENT 2025
ARCHAEOLOGICAL FIELD ACTIVITIES
SUNNYSIDE, NEWFOUNDLAND & LABRADOR

Figure 17

July 2025

Scale: 1:5,000 cm

4.4.6 HPA-06 (Unnamed watercourse flowing into Bull Arm)

HPA-06 (***Figure 18***) was surveyed on foot on 30 April 2025. The area of ascribed high potential is associated with the unnamed watercourse flowing into Bull Arm.

The topography of this HPA is low-lying, undulating, and wet marshland surrounding the unnamed watercourse flowing into Bull Arm (***Plate 25***). Waterflow was relatively slow and minimal (***Plate 26***). The ground surrounding the watercourse is covered with moss (***Plate 27***). Other plant life within the area is indicative of an area consistently inundated with water, including reeds, long grasses and pitcher plants.

Ethnographic Features: None.

Archaeological Features: None.

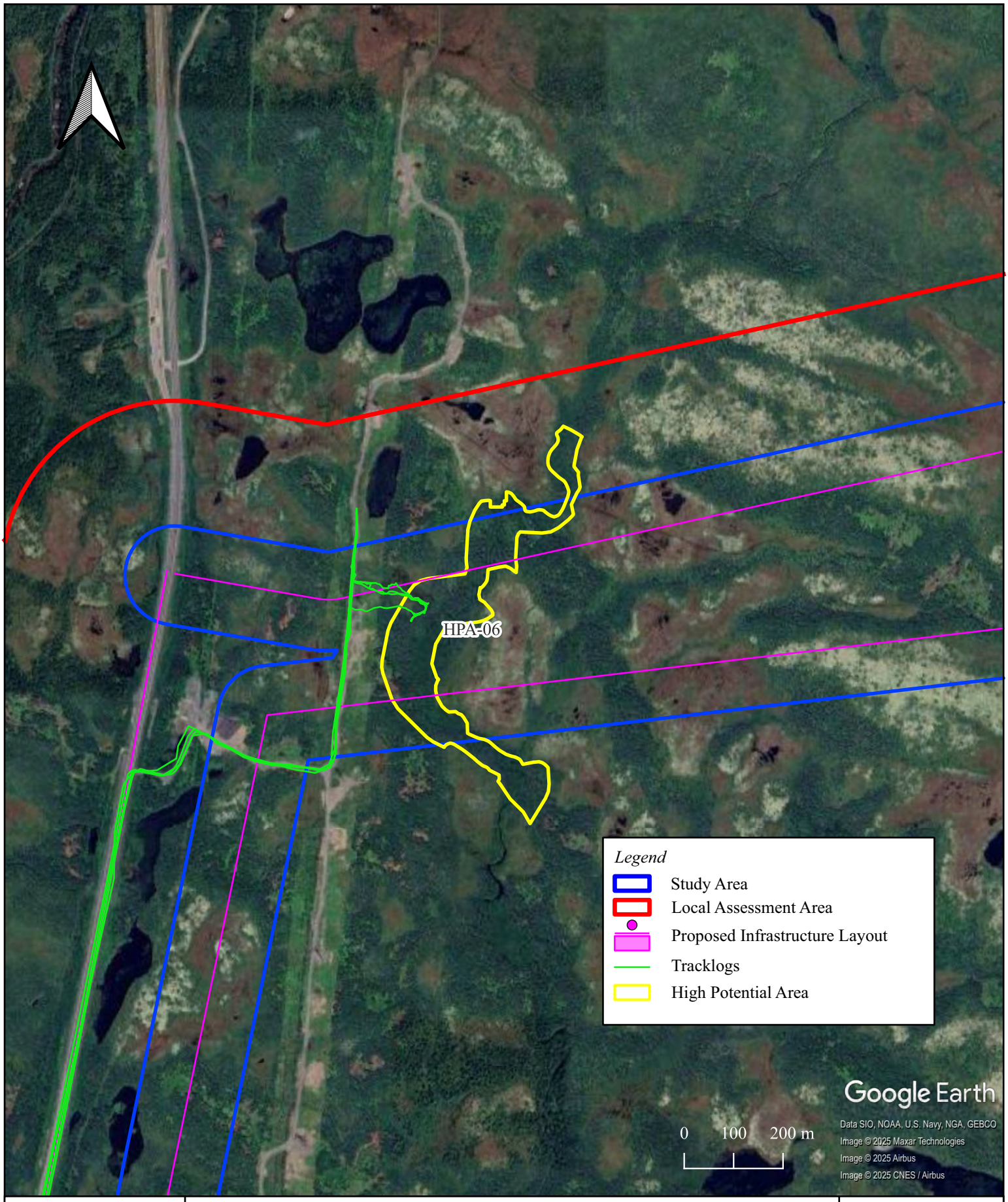
Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

Plate 25: Low-lying wetlands surrounding the unnamed tributary within HPA-06. Facing east; 30 April 2025.

Plate 26: Low-lying wetlands surrounding the unnamed tributary within HPA-06. Facing north; 30 April 2025.

Plate 27: Tributary running through HPA-06, surrounded by moss and wetland trees. Facing south; April 30, 2025.



CRM Group Cultural Resource Management Group Ltd.	*HPA-06 (Unnamed watercourse flowing into Bull Arm)*	*Figure 18*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:10,000 cm

4.4.7 HPA-07 (Centre Hill Pond)

HPA-07 (***Figure 19***) was surveyed by aerial reconnaissance on 2 May 2025. The area of ascribed high potential is associated with Centre Hill Pond.

The topography of this HPA is low-lying, undulating, and wet marshland surrounding the southwestern point of Centre Hill Pond (***Plates 28 & 29***). A higher plateau south of the western point of the pond was also undulating and wet, with a small tributary flowing towards Centre Hill Pond (***Plate 30***). The ground surrounding the pond is undulating and covered with moss. A moderate amount of scrub brush was identified along the shoreline. Other plant life within the area is indicative of an area consistently inundated with water, including reeds and pitcher plants.

Ethnographic Features: None.

Archaeological Features: None.

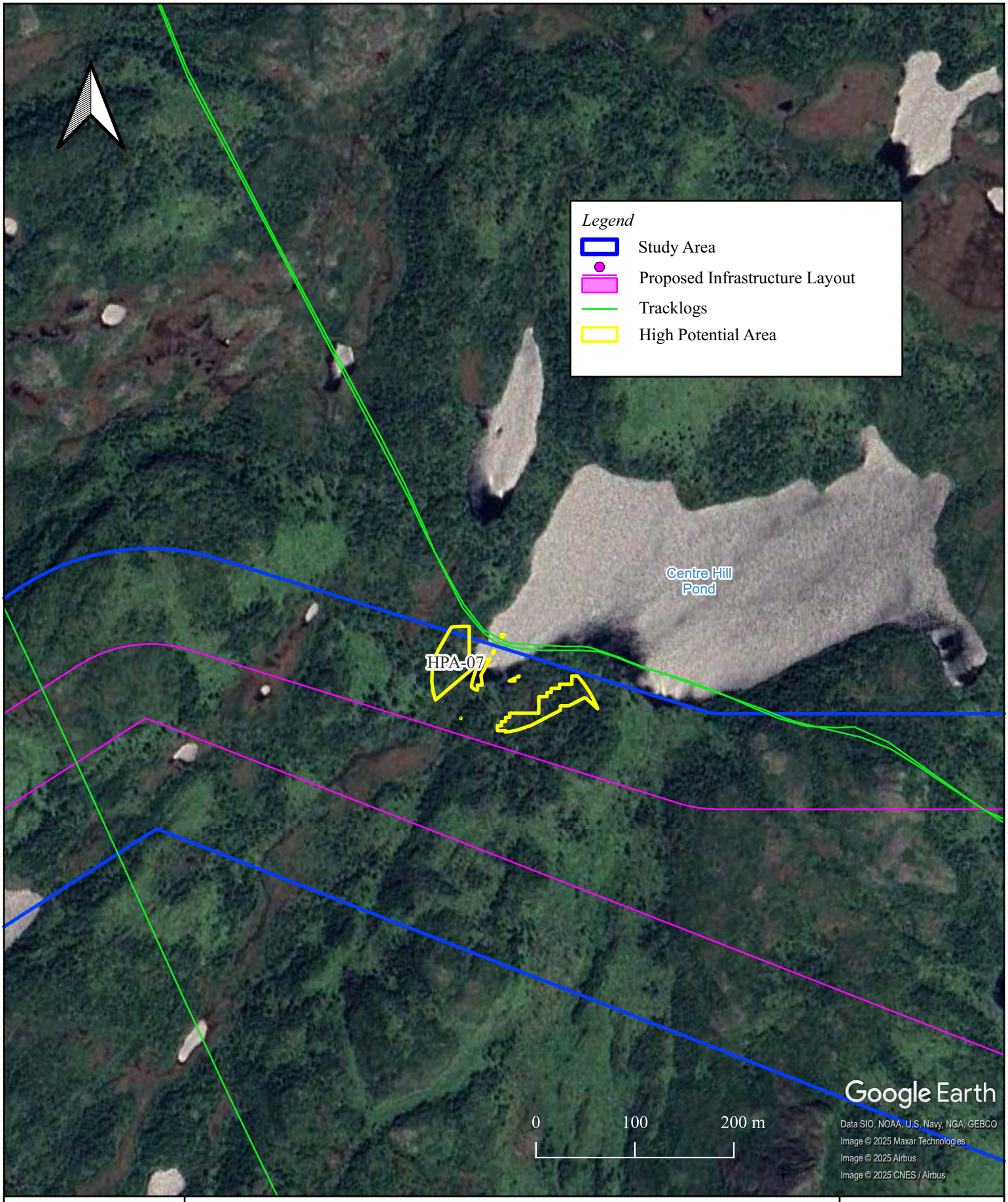
Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

Plate 28: View of the low-lying southwest point of Centre Hill. Facing southwest; 2 May 2025.

Plate 29: View of the low-lying southwest point of Centre Hill, with tributary from the west. Facing southwest; 2 May 2025.

Plate 30: A higher plateau to the south of the western point of Centre Hill Pond. Facing west; 2 May 2025.



CRM Group Cultural Resource Management Group Ltd.	*HPA-07 (Centre Hill Pond)*	*Figure 19*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:5,000 cm

4.4.8 HPA-08 (Unnamed waterbody connected to Long Pond)

HPA-08 (***Figure 20***) was surveyed by aerial reconnaissance on 2 May 2025. The area of ascribed high potential is associated with a watercourse flowing into an unnamed pond.

The topography of this HPA is low-lying, undulating, and wet marshland surrounding the watercourse flowing to the south point of an unnamed pond (***Plate 31***). The same topography continues along the southern point of the pond (***Plate 32***), as well as a slightly raised elevation southeast of the pond (***Plate 33***). The ground surrounding the pond is undulating and covered with moss. A moderate amount of scrub brush was observed within a portion of the shoreline. Other plant life within the area is indicative of an area consistently inundated with water, including reeds and pitcher plants.

Ethnographic Features: None.

Archaeological Features: None.

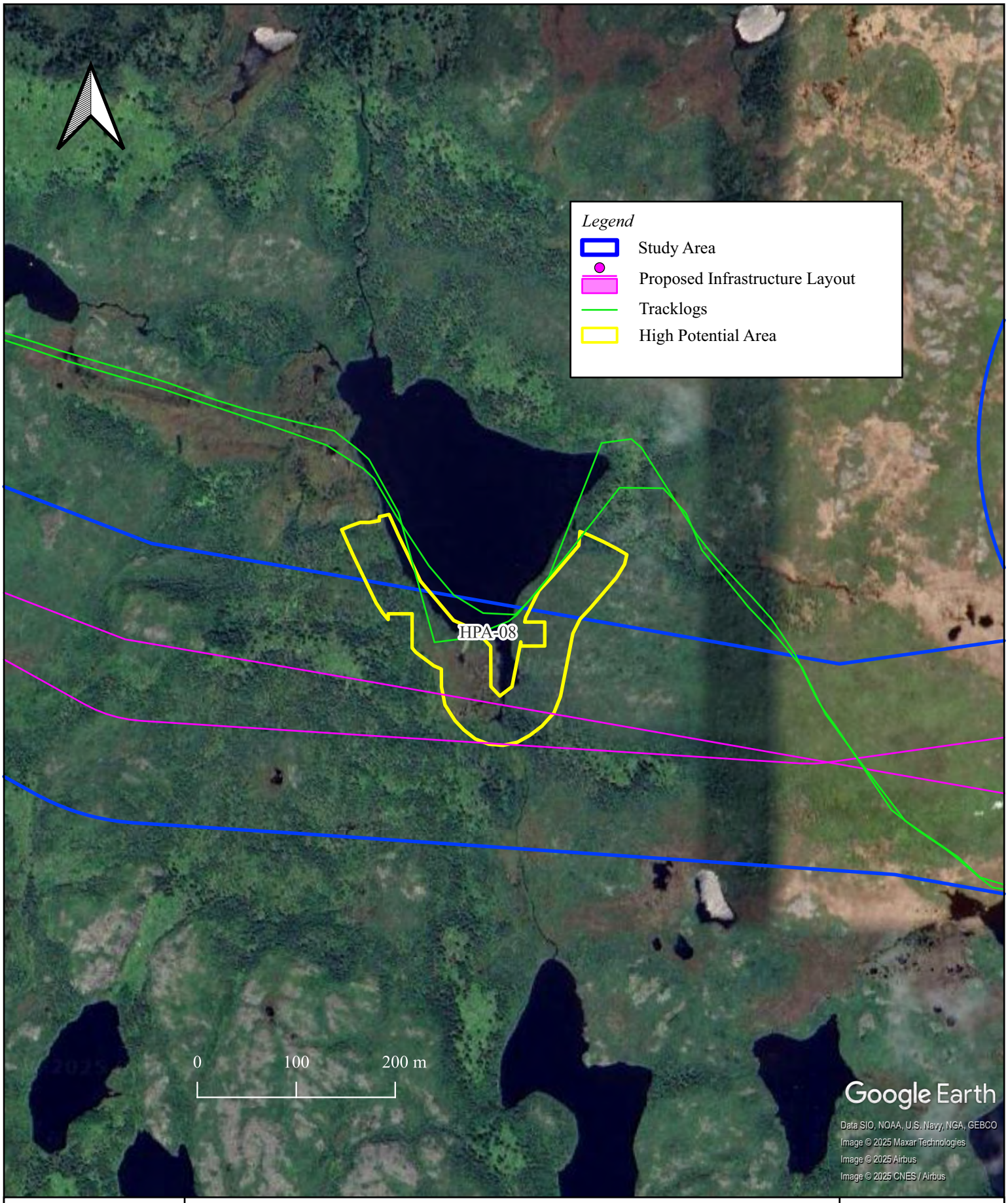
Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

Plate 31: View of the low-lying and wet treed area surrounding the watercourse. Facing north; 2 May 2025.

Plate 32: View of the low-lying and wet treed area surrounding the watercourse. Facing southwest; 2 May 2025.

Plate 33: Raised elevation to the east of the watercourse, also wetland. Facing southeast; May 2 2025.



CRM Group Cultural Resource Management Group Ltd.	*HPA-08 (Unnamed waterbody connected to Long Pond)*	*Figure 20*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:5,000 cm

4.4.9 HPA-09 (Long Pond)

HPA-09 (***Figure* 21**) was surveyed by aerial reconnaissance on 2 May 2025. The area of ascribed high potential is associated with Long Pond.

The topography of this HPA is low-lying, undulating, and wet marshland surrounding the northern point of Long Pond (***Plate 34***). The same topography continues along the eastern point of the pond, as well as a slightly raised elevation to the east of the northern point of the pond (***Plate 35***). The western side is steeply sloped and undulating (***Plate 36***). The ground surrounding the pond is undulating and covered with moss. A significant amount of hardwood exists along the steeply sloped sides, with the ground cover also as moss. Other plant life within the area is indicative of an area consistently inundated with water, including reeds and pitcher plants.

Ethnographic Features: None.

Archaeological Features: None.

Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

Plate 34: View of the low-lying and wet treed area surrounding Long Pond. Facing southwest; 2 May 2025.

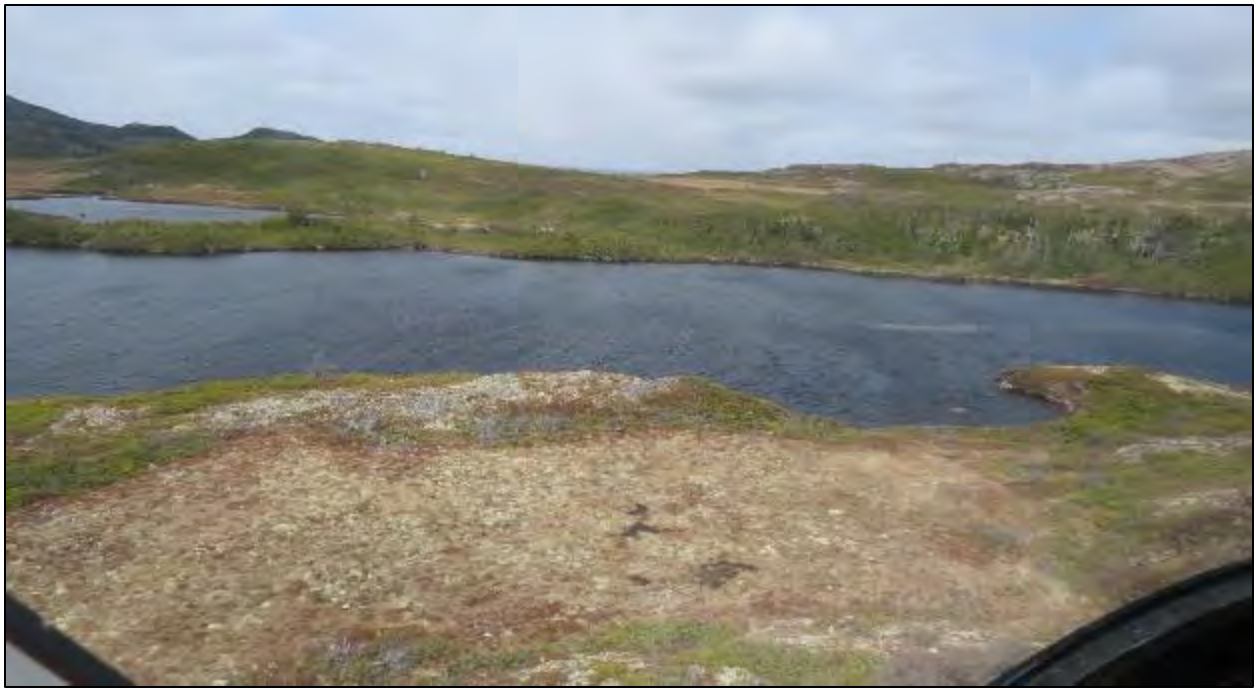
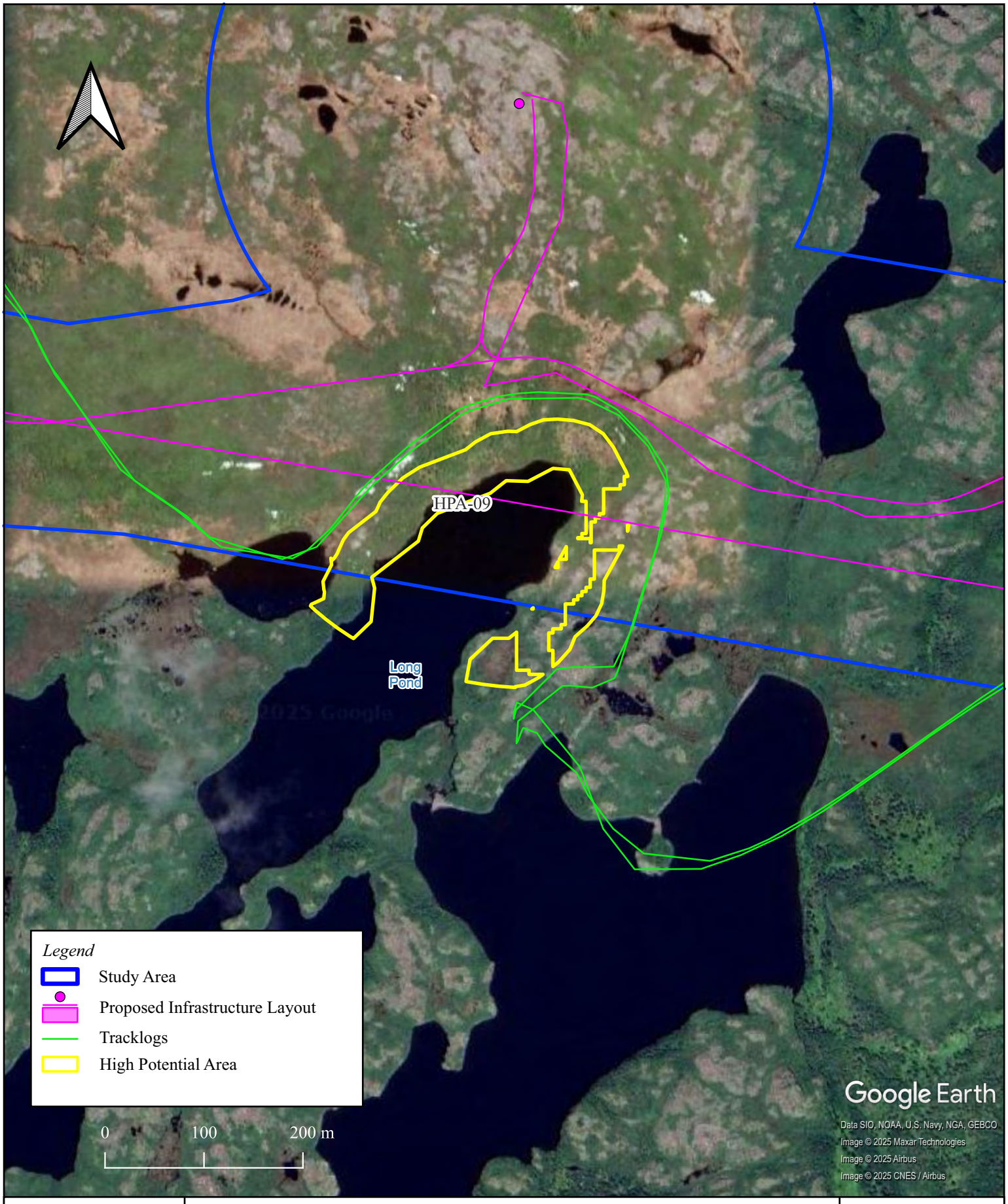


Plate 35: View of the low-lying and wet area surrounding Long Pond. Facing west; 2 May 2025.

Plate 36: View of sloped and wet area, with tree cover and scrub brush, along the shoreline of Long Pond. Facing east; 2 May 2025.



CRM Group Cultural Resource Management Group Ltd.	*HPA-09 (Long Pond)*	*Figure 21*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:5,000 cm

4.4.10 HPA-10 (Spurrells Pond)

HPA-10 (***Figure 22***) was surveyed by aerial reconnaissance on 2 May 2025. The area of ascribed high potential is associated with Spurrells Pond.

The topography is low-lying, undulating, and wet marshland surrounding the north point of Spurrells Pond, combined with treed areas that are steeply sloped and undulating (***Plate 37***). The ground surrounding the pond is undulating and covered with moss (***Plate 38***). A significant amount of hardwood exists along the steeply sloped sides (***Plate 39***), with the ground cover also as moss. Plant life within the area is indicative of an area consistently inundated with water, including reeds and pitcher plants.

Ethnographic Features: None.

Archaeological Features: None.

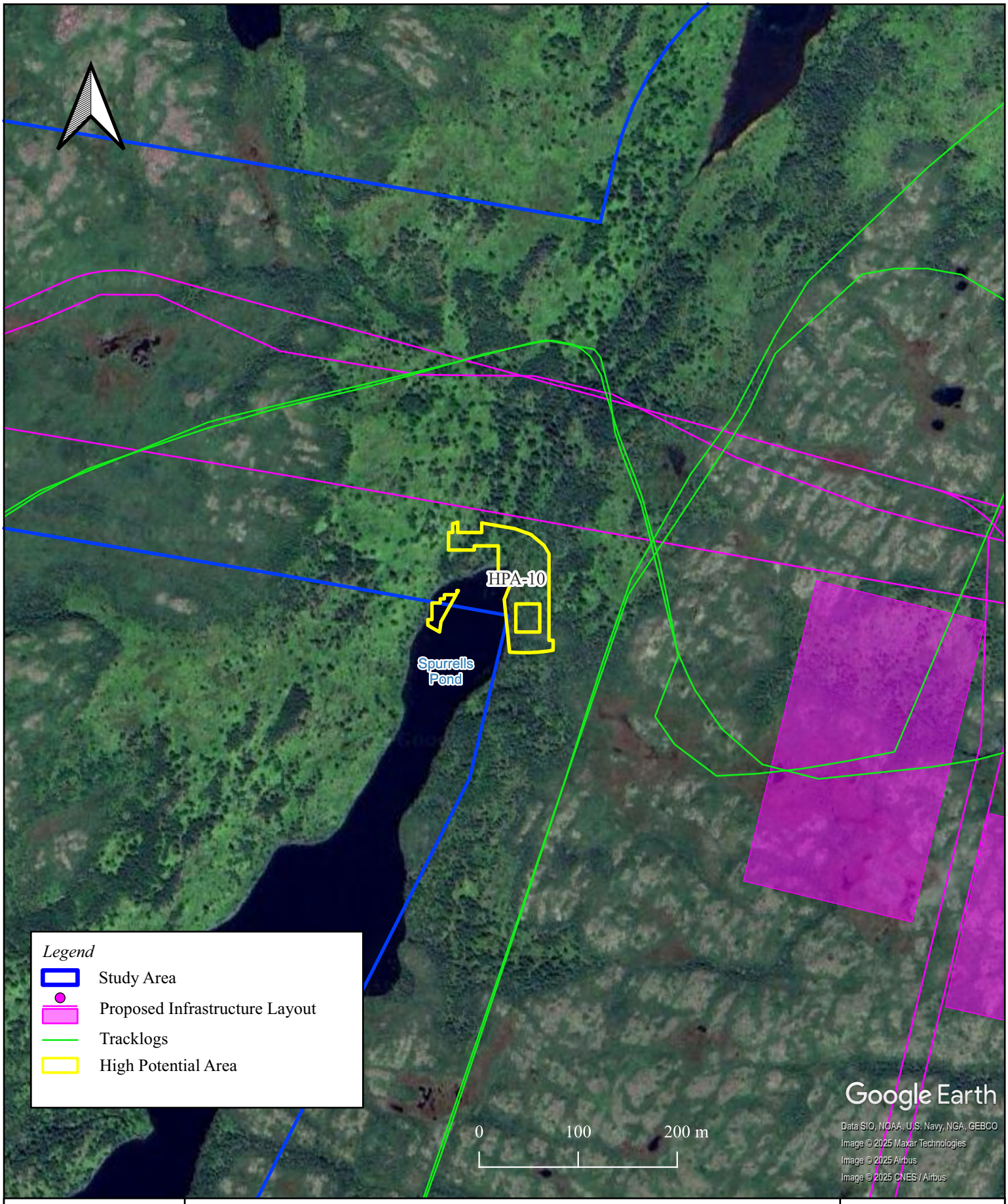
Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

Plate 37: Steeply sloped and undulating treed area along Spurrells Pond. Facing southwest; 2 May 2025.

Plate 38: View of the low-lying and wet treed area surrounding Spurrells Pond. Facing west; 2 May 2025.

Plate 39: Steeply sloped and undulating treed area along Spurrells Pond. Facing southeast; 2 May 2025.



CRM Group Cultural Resource Management Group Ltd.	*HPA-10 (Spurrells Pond)*	*Figure 22*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:5,000 cm

4.4.11 HPA-11 (Lady Cove Pond and Gull Pond)

HPA-11 (***Figure 23***) was surveyed by aerial reconnaissance and on foot on 2 May 2025. The area of ascribed high potential is associated with Lady Cove Pond and Gull Pond.

The topography of this HPA is low-lying, undulating, and wet marshland surrounding the western sides of Lady Cove Pond and Gull Pond (***Plate 40***), combined with treed areas that are steeply sloped and undulating (***Plate 41***). Exposed bedrock was also observed. The ground surrounding the pond is undulating and inundated with moss. The treed area along the watercourse is extremely sloped and mossy (***Plate 42***). Other plant life within the area is indicative of an area consistently inundated with water, including reeds, alder trees and pitcher plants.

Ethnographic Features: Hunting camp located at (**22T 5301435.63 mN 241909.98 mE**) (***Plates 43 & 44***).

Archaeological Features: None.

Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

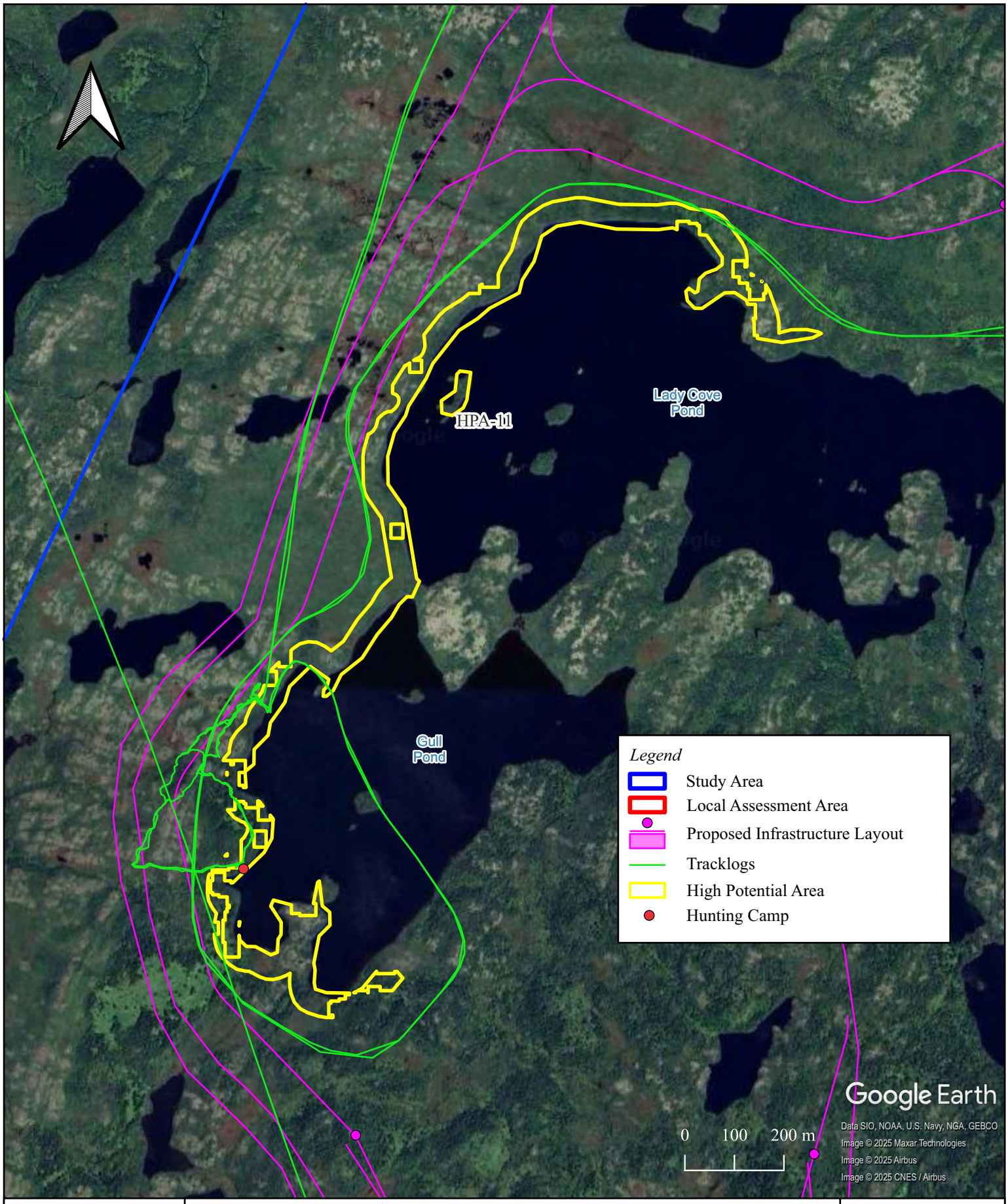
Plate 40: View of the low-lying and wet area surrounding Lady Cove Pond. Facing northwest; 2 May 2025.

Plate 41: Steeply sloped and undulating treed area along Lady Cove Pond. Facing south; 2 May 2025.

Plate 42: Steeply sloped and undulating treed area along Gull Pond. Facing south; 2 May 2025.

Plate 43: Abandoned hunting camp along Gull Pond. Facing southwest; 2 May 2025.

Plate 44: Abandoned hunting camp along Gull Pond. Facing northeast; 2 May 2025.



CRM Group Cultural Resource Management Group Ltd.	*HPA-11 (Lady Cove Pond and Gull Pond)*	*Figure 23*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:10,000 cm

4.4.12 HPA-12 (ClAk-02)

HPA-12 (***Figure 24***) was surveyed by aerial reconnaissance and on foot on 2 May 2025. The area of ascribed high potential is associated with registered site ClAk-02, which consists of a rock stack adjacent to a natural stone overhang containing another pile of stones (***Plate 45***).

The topography of this HPA is high and undulating, with exposed bedrock erratics and wet moss land. The site has a clear view of Lady Cove Pond. Ground within the site is covered with moss. To the east is a dryer area with strong evidence of moose presence. Other plant life within the area is moss and hardwood, with open areas.

Registered site ClAk-02 was originally identified in March 2024 during an environmental survey. The top flat stone of the rock stack feature is aligned north-south. The lichen growth on the rocks appears relatively undisturbed, however one large stone on the bottom tier is missing some lichen growth, as though it was removed from the ground more recently than the lichen growth on the 'exposed' portion of the stone (***Plate 46***). Since the stack was left undisturbed, it was unclear if the lichen had also spread across and between the rock stack. The bedrock outcrop is located approximately 17 metres southeast of the rock stack feature (***Plate 47***). The stones within the opening of the outcrop do not look purposefully stacked, however their presence within this open space also does not seem natural (***Plate 48***). The open space measures approximately 1.2 metres high by 1.5 metres deep, and while a confined space, it is large enough to allow a person to crawl inside.

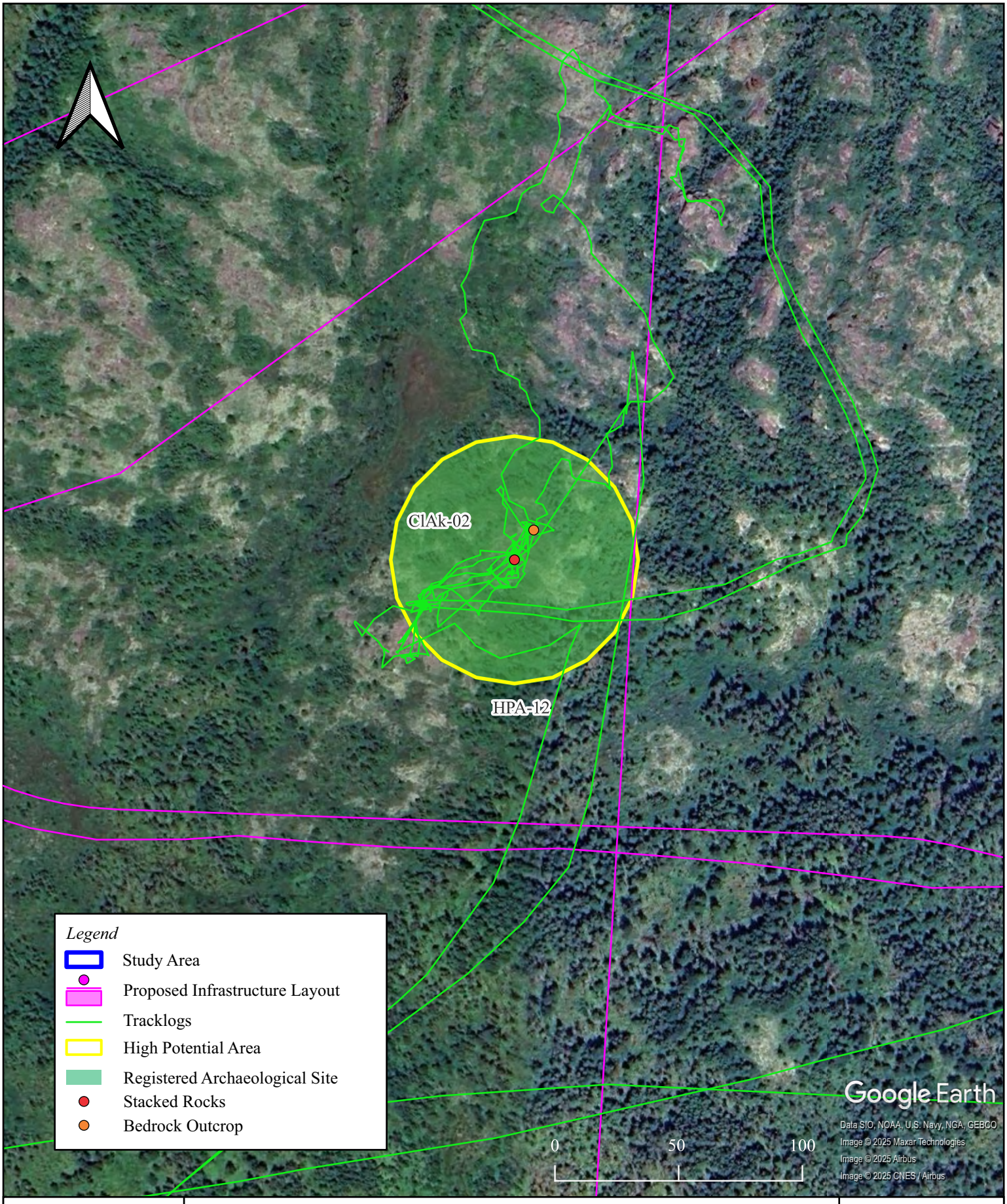
Recommendations: **Avoidance or Archaeological Monitoring if avoidance is not practical.** Reconnaissance of the HPA was unable to determine, with certainty, that Site ClAk-02 was not archaeological in nature. However, given the exposed nature of the location and the lack of testable soil, subsurface testing of the HPA is impractical. Therefore, if avoidance is not practical, it is required that the HPA be subjected to Archaeological Monitoring at the time of development.

Plate 45: Rock stack feature at ClAk-02, overlooking Lady Cove Pond. Facing southwest; 2 May 2025.

Plate 46: Missing lichen section within rock stack at ClAk-02. Facing southwest; 2 May 2025.

Plate 47: Identified rock outcrop at ClAk-02. Facing north; 2 May 2025.

Plate 48: Stacked stones beneath the rock outcrop. Facing north; 2 May 2025.



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HPA-12 (ClAk-02)

NORTH ATLANTIC WIND TO HYDROGEN PROJECT
HISTORIC RESOURCES IMPACT ASSESSMENT 2025
ARCHAEOLOGICAL FIELD ACTIVITIES
SUNNYSIDE, NEWFOUNDLAND & LABRADOR

Figure 24

July 2025

Scale: 1:2,000 cm

4.4.13 HPA-13 (Unnamed Watercourse Between Lady Cove Pond and Deer Harbour Steady)

HPA-13 (***Figure 25***) was surveyed by aerial reconnaissance on 2 May 2025. The area of ascribed high potential is associated with an unnamed watercourse between Lady Cove Pond and Deer Harbour Steady.

The topography of this HPA is low-lying and wet marshland surrounding the unnamed watercourse between Lady Cove Pond and Deer Harbour Steady (***Plates 49 & 50***). One raised area is a moss-covered bedrock outcrop (***Plate 51***). The ground surrounding the pond is undulating and covered with moss. A significant amount of hardwood exists along the steeply sloped sides, with the ground cover also as moss. Other plant life within the area is indicative of an area consistently inundated with water, including reeds and pitcher plants.

Ethnographic Features: None.

Archaeological Features: None.

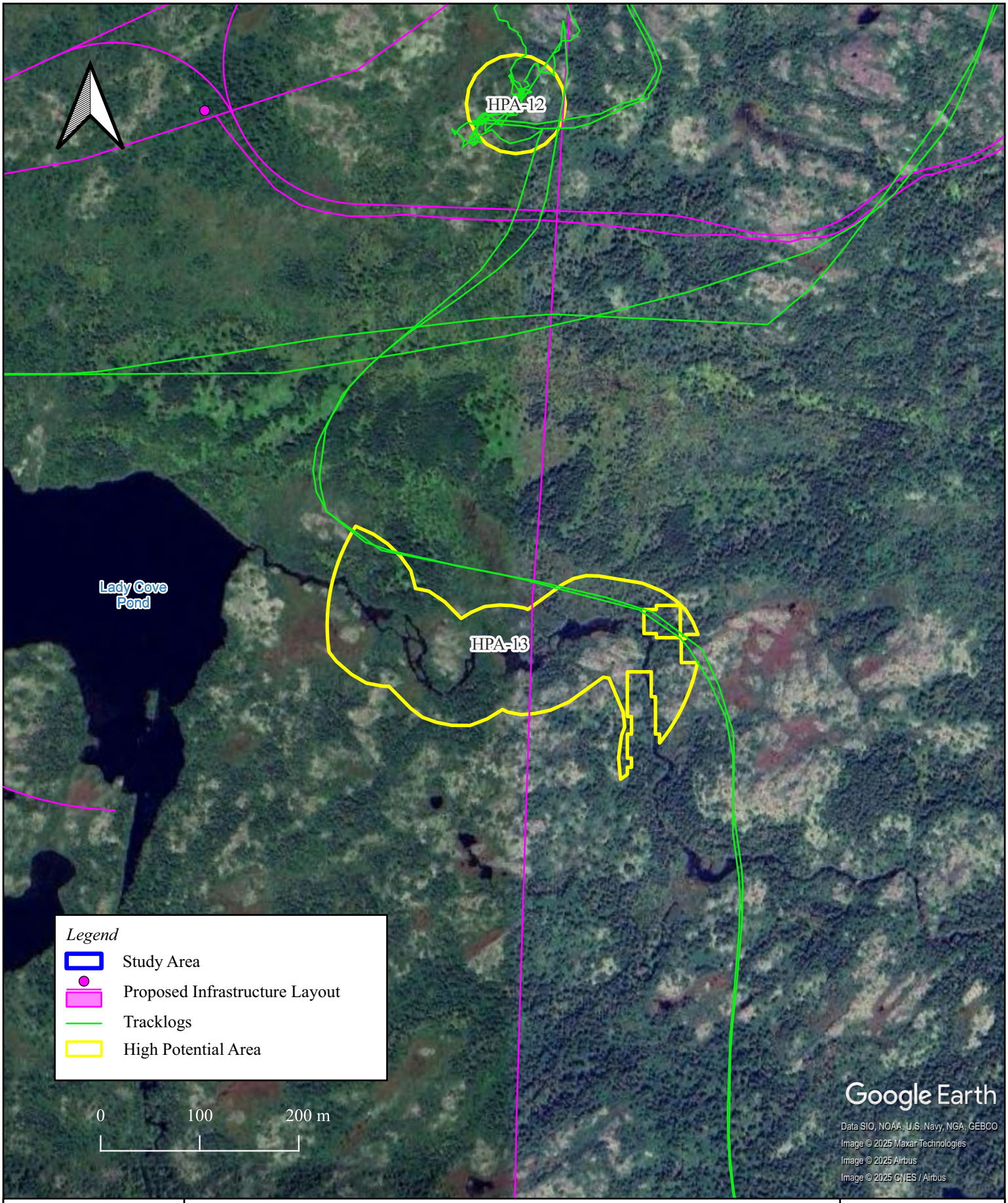
Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

Plate 49: View of the low-lying and wet area surrounding the unnamed watercourse. Facing east; 2 May 2025.

Plate 50: View of the low-lying and wet area surrounding the unnamed watercourse. Facing north; 2 May 2025.

Plate 51: A raised moss-covered bedrock outcrop. Facing northwest; 2 May 2025.



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HPA-13 Unnamed Watercourse Between Lady Cove Pond and Deer Harbour Steady

NORTH ATLANTIC WIND TO HYDROGEN PROJECT
HISTORIC RESOURCES IMPACT ASSESSMENT 2025
ARCHAEOLOGICAL FIELD ACTIVITIES
SUNNYSIDE, NEWFOUNDLAND & LABRADOR

Figure 25

July 2025

Scale: 1:5,000 cm

4.4.14 HPA-14 (Vee Pond)

HPA-14 (***Figure 26***) was surveyed by aerial reconnaissance and on foot on 2 May 2025. The area of ascribed high potential is associated with Vee Pond.

The topography is low-lying, undulating, and wet marshland surrounding the extent of Vee Pond (***Plate 52***), combined with treed areas that are steeply sloped and undulating. Some exposed bedrock on higher terrain was also observed, which were also still mossy and wet (***Plates 53 & 54***). The ground surrounding the pond is undulating and inundated with moss. Other plant life within the area is indicative of an area consistently inundated with water, including reeds and pitcher plants.

Ethnographic Features: None.

Archaeological Features: None.

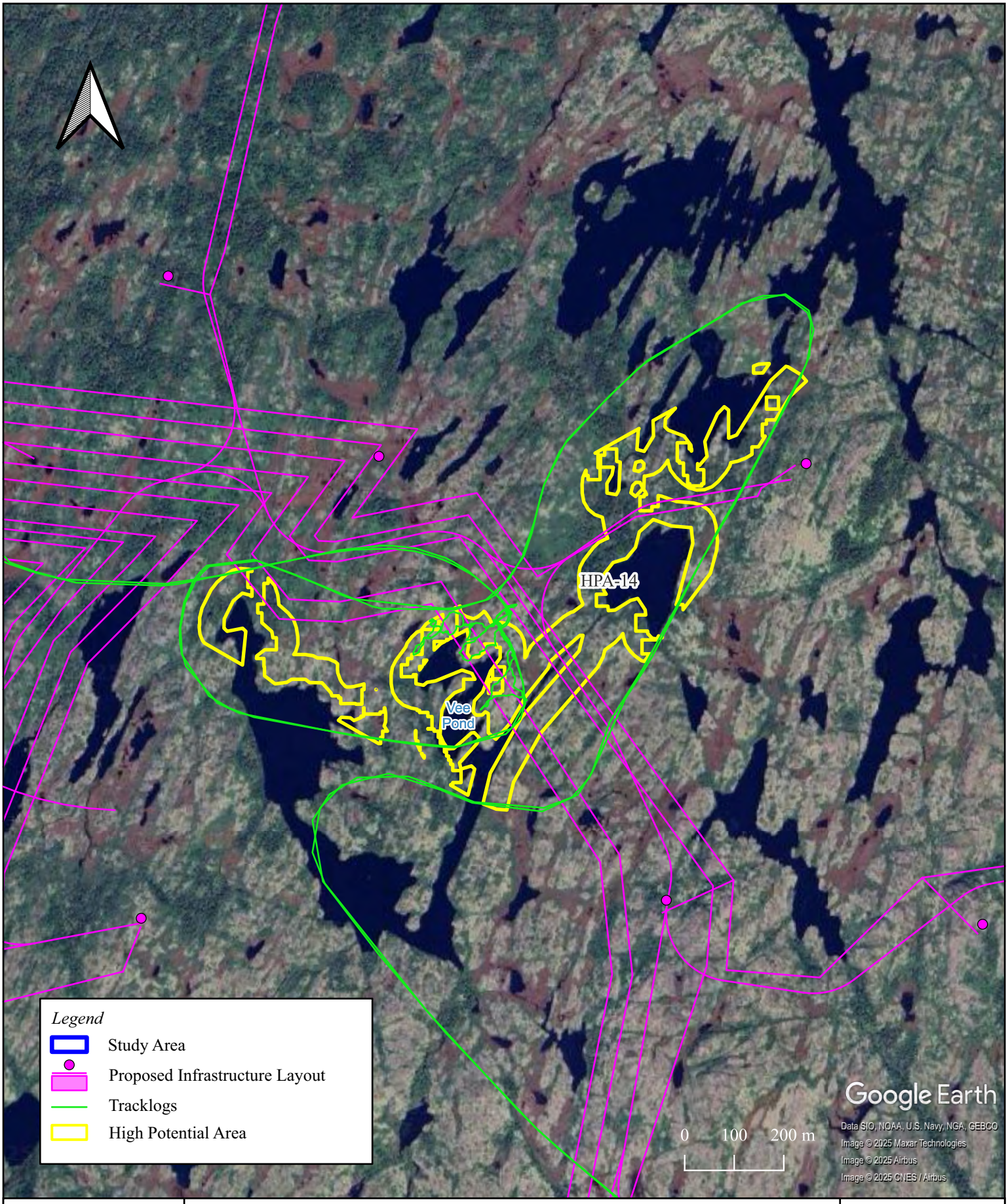
Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

Plate 52: Undulating and wet terrain surrounding the north portion of Vee Pond. Facing east; 2 May 2025.

Plate 53: View of the low-lying and wet area surrounding portions of Vee Pond. Facing southwest; 2 May 2025.

Plate 54: Erratics, exposed bedrock, and wet terrain surrounding the southern portion of Vee Pond. Facing southwest; 2 May 2025.



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HPA-14 (Vee Pond)

Figure 26

NORTH ATLANTIC WIND TO HYDROGEN PROJECT
HISTORIC RESOURCES IMPACT ASSESSMENT 2025
ARCHAEOLOGICAL FIELD ACTIVITIES
SUNNYSIDE, NEWFOUNDLAND & LABRADOR

July 2025

Scale: 1:10,000 cm

4.4.15 HPA-15 (Unnamed waterbody connecting to Vee Pond)

HPA-15 (***Figure 27***) was surveyed by aerial reconnaissance on 2 May 2025. The area of ascribed high potential is associated with an unnamed waterbody connecting to Vee Pond.

The topography of this HPA is low-lying and wet marshland surrounding the unnamed waterbody connected to Vee Pond (***Plate 55***). The tributary flowing into the pond from the south is steeply sloped on both banks (***Plate 56***). The ground surrounding the waterbody is undulating and covered with moss (P***late 57***). Other plant life within the area is indicative of an area consistently inundated with water, including reeds and pitcher plants.

Ethnographic Features: None.

Archaeological Features: None.

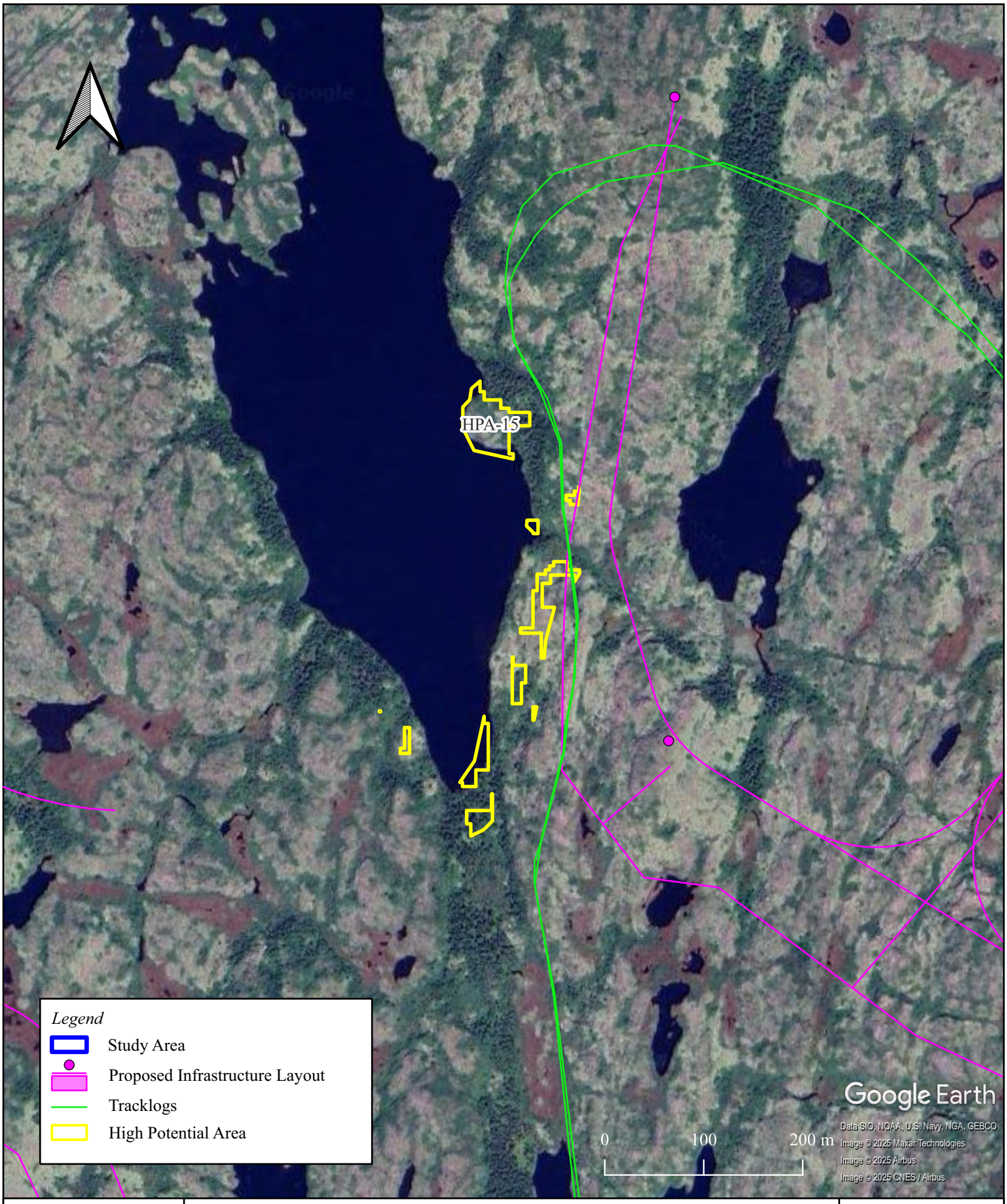
Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

Plate 55: Steeply sloped and treed area along the banks of the tributary. Facing north; 2 May 2025.

Plate 56: Steeply sloped and treed area along the banks of the unnamed waterbody. Facing northwest; 2 May 2025.

Plate 57: View of the low-lying and wet area along the unnamed waterbody. Facing northwest; 2 May 2025.



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HPA-15 (Unnamed waterbody connecting to Vee Pond)

Figure 27

NORTH ATLANTIC WIND TO HYDROGEN PROJECT
HISTORIC RESOURCES IMPACT ASSESSMENT 2025
ARCHAEOLOGICAL FIELD ACTIVITIES
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July 2025

Scale: 1:5,000 cm

4.4.16 HPA-16 (Unnamed Waterbody Flowing into Sibley's Cove Pond)

HPA-16 (***Figure 28***) was surveyed by aerial reconnaissance and on foot on 2 May 2025. The area of ascribed high potential is associated with unnamed waterbody flowing into Sibley's Cove Pond.

The topography of this HPA is low-lying, undulating, and wet marshland surrounding the unnamed waterbody flowing to Sibley's Cove Pond (***Plates 58 & 59***). Some exposed bedrock on higher terrain were observed, which were also still mossy and wet (***Plate 60***). The ground surrounding the waterbody is undulating and inundated with moss. Other plant life within the area is indicative of an area consistently inundated with water, including reeds and pitcher plants.

Ethnographic Features: None.

Archaeological Features: None.

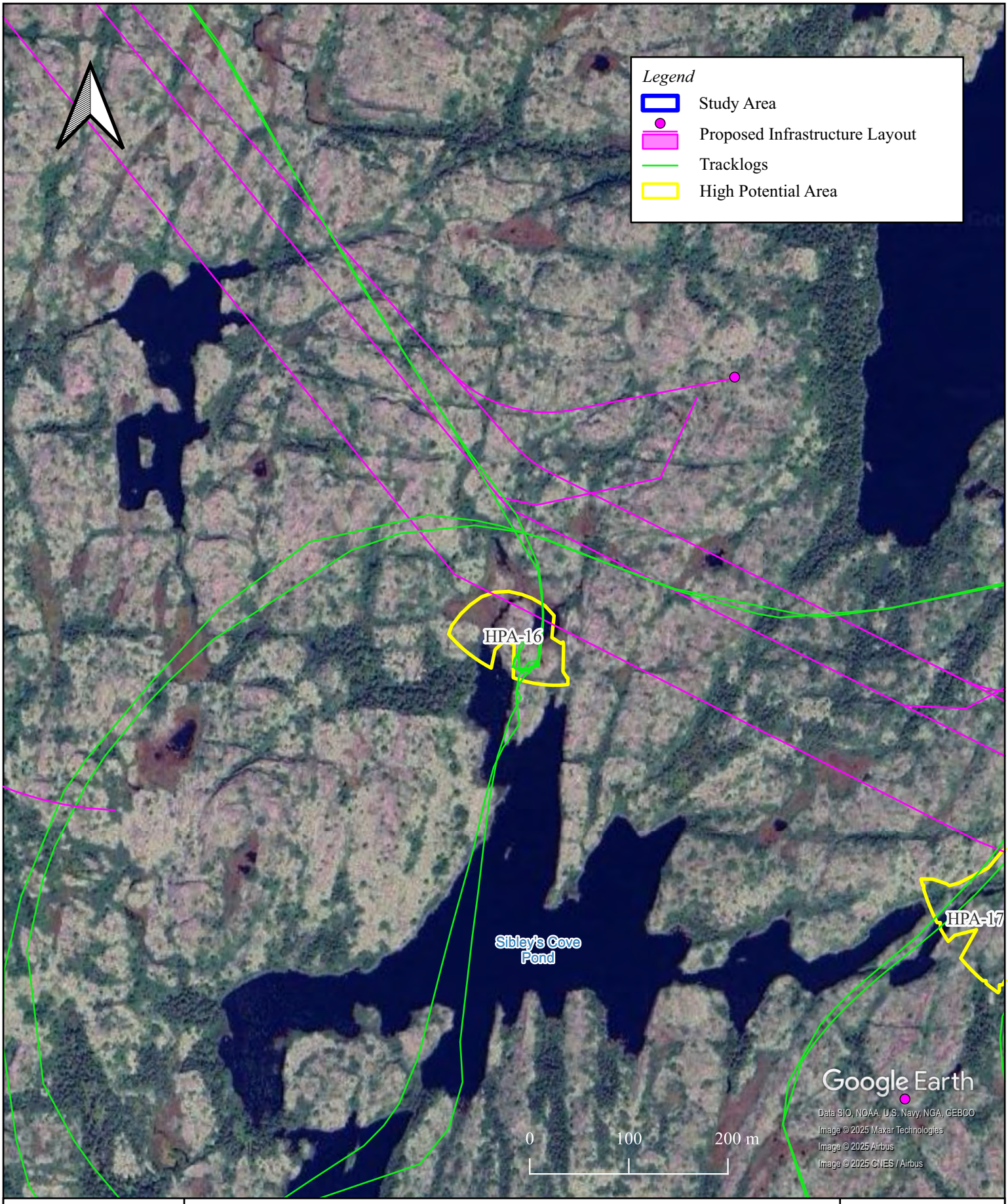
Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

Plate 58: View of the low-lying and wet terrain along the unnamed waterbody. Facing southwest; 2 May 2025.

Plate 59: View of the low-lying and wet area along the unnamed waterbody. Facing south; 2 May 2025.

Plate 60: View of bedrock erratics and wet area north of the unnamed waterbody. Facing north; 2 May 2025.



CRM Group Cultural Resource Management Group Ltd.	*HPA-16 (Unnamed Waterbody Flowing into Sibley's Cove Pond)*	*Figure 28*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:5,000 cm

4.4.17 HPA-17 (Unnamed Waterbody Flowing into Sibley's Cove Pond)

HPA-17 (***Figure 29***) was surveyed by aerial reconnaissance on 2 May 2025. The area of ascribed high potential is associated with an unnamed waterbody flowing into Sibley's Cove Pond.

The topography of this HPA is low-lying and wet marshland surrounding the unnamed waterbody flowing to Sibley's Cove Pond (***Plates 61 & 62***). The tributary is steeply sloped and wet along both banks (***Plate 63***). The ground surrounding the waterbody is undulating and covered with moss. Other plant life within the area is indicative of an area consistently inundated with water, including reeds and pitcher plants.

Ethnographic Features: None.

Archaeological Features: None.

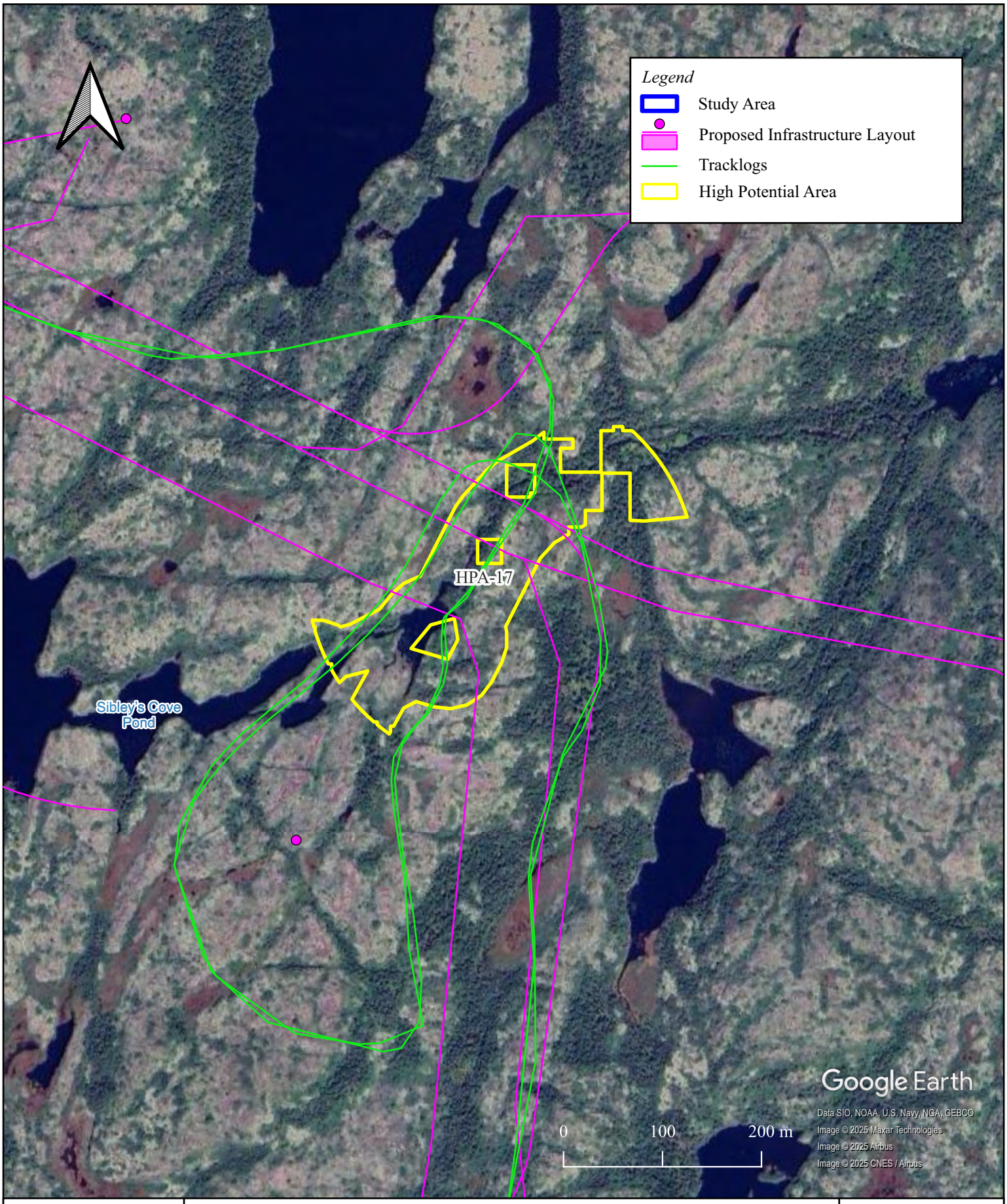
Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

Plate 61: View of the low-lying and wet area along the unnamed watercourse. Facing south; 2 May 2025.

Plate 62: View of the low-lying and wet area along the unnamed watercourse. Facing southeast; 2 May 2025.

Plate 63: Steeply sloped and treed area along the sides of the tributary. Facing southwest; 2 May 2025.



CRM Group Cultural Resource Management Group Ltd.	*HPA-17 (Unnamed Waterbody Flowing into Sibley's Cove Pond)*	*Figure 29*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:5,000 cm

4.4.18 HPA-18 (Unnamed Watercourse near Niagara Point)

HPA-18 (***Figure 30***) was surveyed by aerial reconnaissance on 2 May 2025. The area of ascribed high potential is associated with an unnamed watercourse near Niagara Point.

The topography is low-lying and steeply sloped surrounding the unnamed watercourse near Niagara Point. The tributary is steeply sloped and wet along both sides (***Plates 64 to 66***). The ground surrounding the waterbody is undulating and covered with moss. Other plant life within the area is indicative of an area consistently inundated with water, including reeds and pitcher plants.

Ethnographic Features: None.

Archaeological Features: None.

Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

Plate 64: Steeply sloped and wet terrain along the unnamed watercourse near Niagara Point. Facing east; 2 May 2025.

Plate 65: Steeply loped and wet terrain along the unnamed watercourse near Niagara Point. Facing northeast; 2 May 2025.

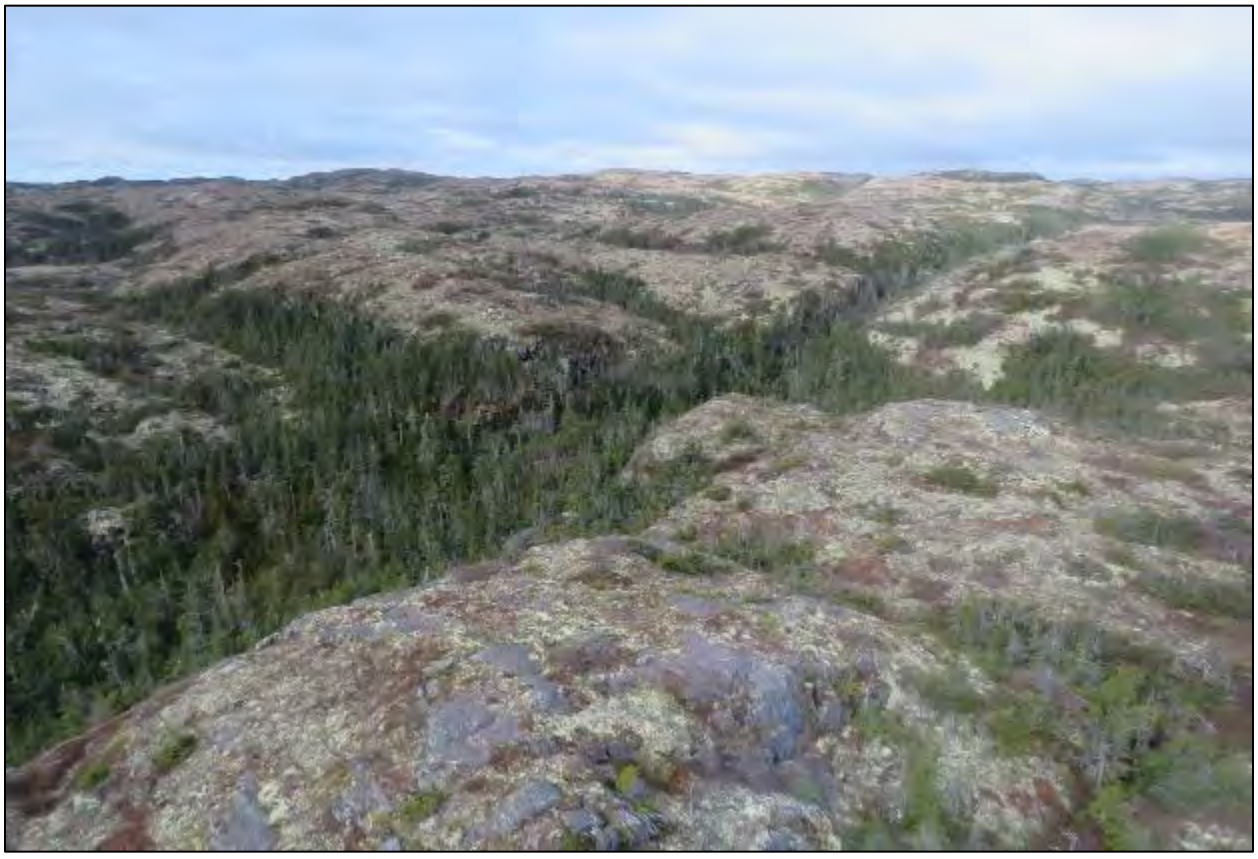
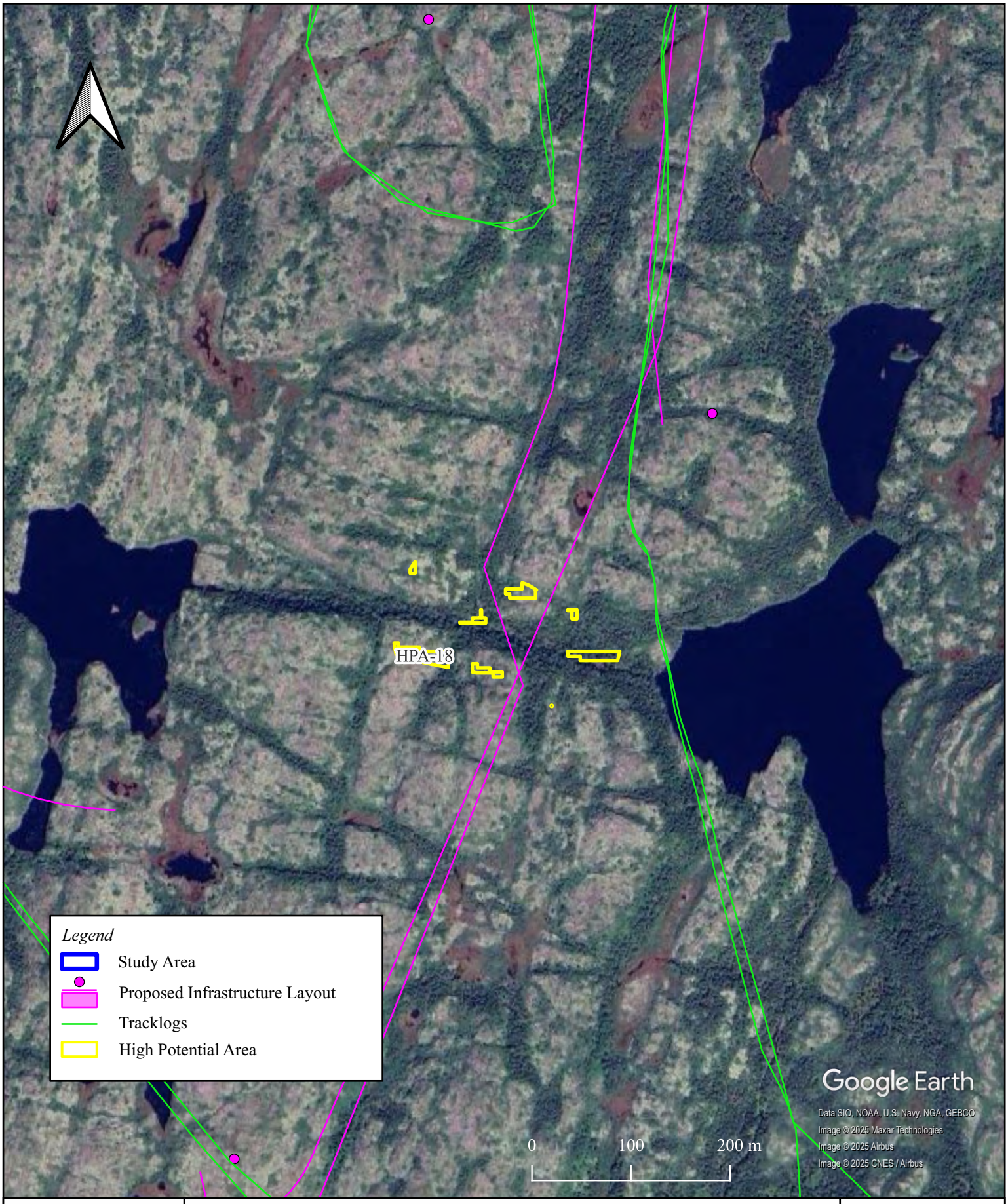


Plate 66: Sloped and wet terrain along the unnamed watercourse near Niagara Point. Facing northeast; 2 May 2025.



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HPA-18 (Unnamed Watercourse near Niagara Point)

Figure 30

NORTH ATLANTIC WIND TO HYDROGEN PROJECT
HISTORIC RESOURCES IMPACT ASSESSMENT 2025
ARCHAEOLOGICAL FIELD ACTIVITIES
SUNNYSIDE, NEWFOUNDLAND & LABRADOR

July 2025

Scale: 1:5,000 cm

4.4.19 HPA-19 (Upper Portion of Unnamed Watercourse Flowing into Bull Arm)

HPA-19 (***Figure 31***) was surveyed by aerial reconnaissance and on foot on 2 May 2025. The area of ascribed high potential is associated with the upper portion of an unnamed watercourse flowing into Bull Arm.

The topography of this HPA is low-lying, undulating, and wet marshland surrounding the unnamed watercourse flowing into Bull Arm (***Plate 67***), combined with treed areas that are steeply sloped and undulating (***Plate 68***). Some exposed bedrock on higher terrain was also observed, which were also still mossy and wet (***Plate 69***). The ground surrounding the pond is undulating and inundated with moss. Other plant life within the area is indicative of an area consistently inundated with water, including reeds, alder trees and pitcher plants.

Ethnographic Features: None.

Archaeological Features: None.

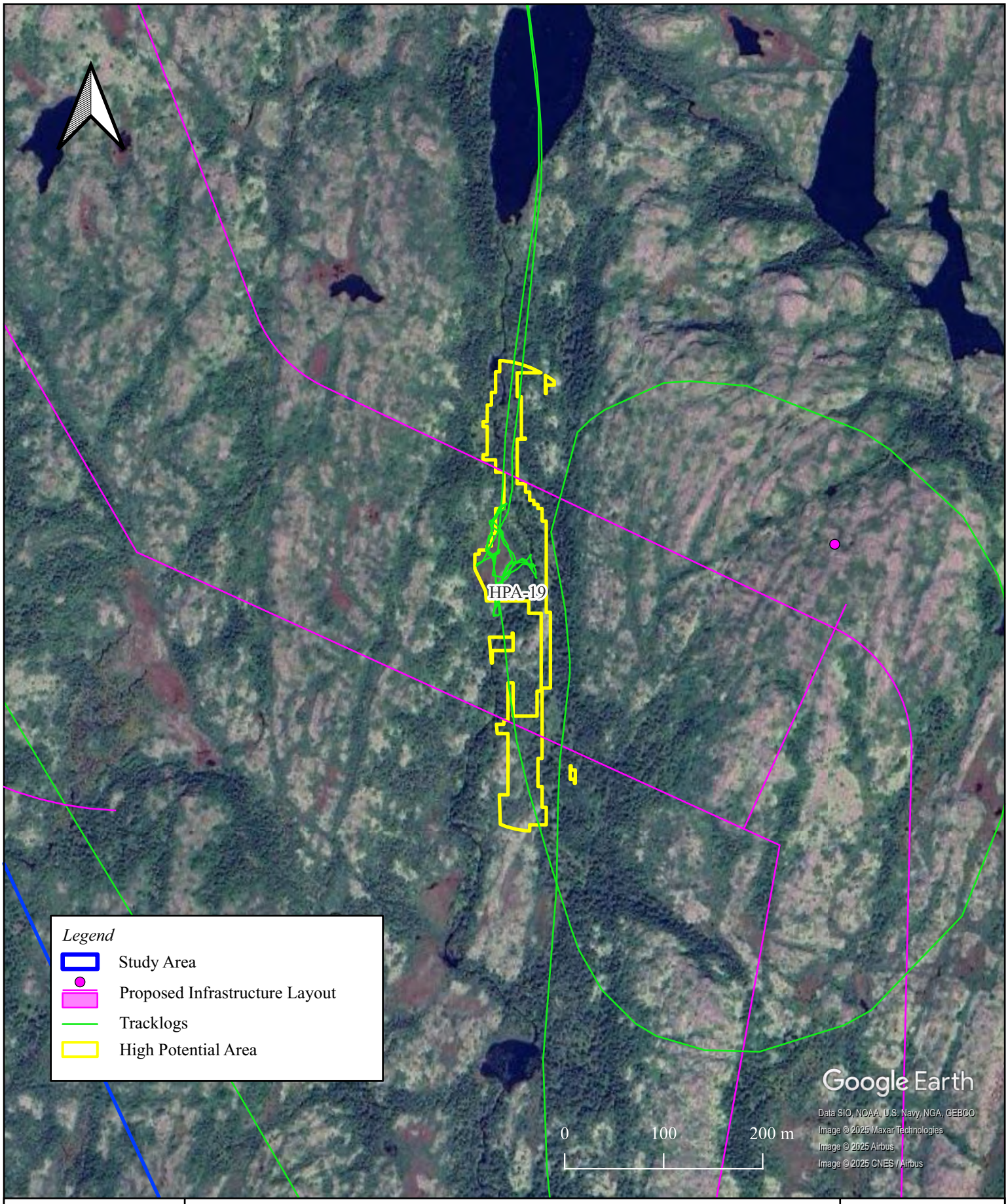
Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

Plate 67: Low-lying, undulating, and wet marshland surrounding the unnamed watercourse. Facing south; 2 May 2025.

Plate 68: Low-lying, undulating, and wet marshland surrounding the unnamed watercourse. Facing southwest; 2 May 2025.

Plate 69: Wet and undulating erratics within HPA-19. Facing south; 2 May 2025.



CRM Group Cultural Resource Management Group Ltd.	*HPA-19 (Upper Portion of Unnamed Watercourse Flowing into Bull Arm)*	*Figure 31*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:5,000 cm

4.4.20 HPA-20 (Unnamed Watercourse Flowing into Bull Arm)

HPA-20 (***Figure 32***) was surveyed by aerial reconnaissance on 2 May 2025. The area of ascribed high potential is associated with an unnamed watercourse flowing into Bull Arm.

The topography of this HPA is low-lying and wet surrounding the unnamed watercourse flowing into Bull Arm. The tributary is steeply sloped and wet along both banks (***Plates 70 to 72***). The ground surrounding the waterbody is undulating and covered with moss. Other plant life within the area is indicative of an area consistently inundated with water, including reeds and pitcher plants.

Ethnographic Features: None.

Archaeological Features: None.

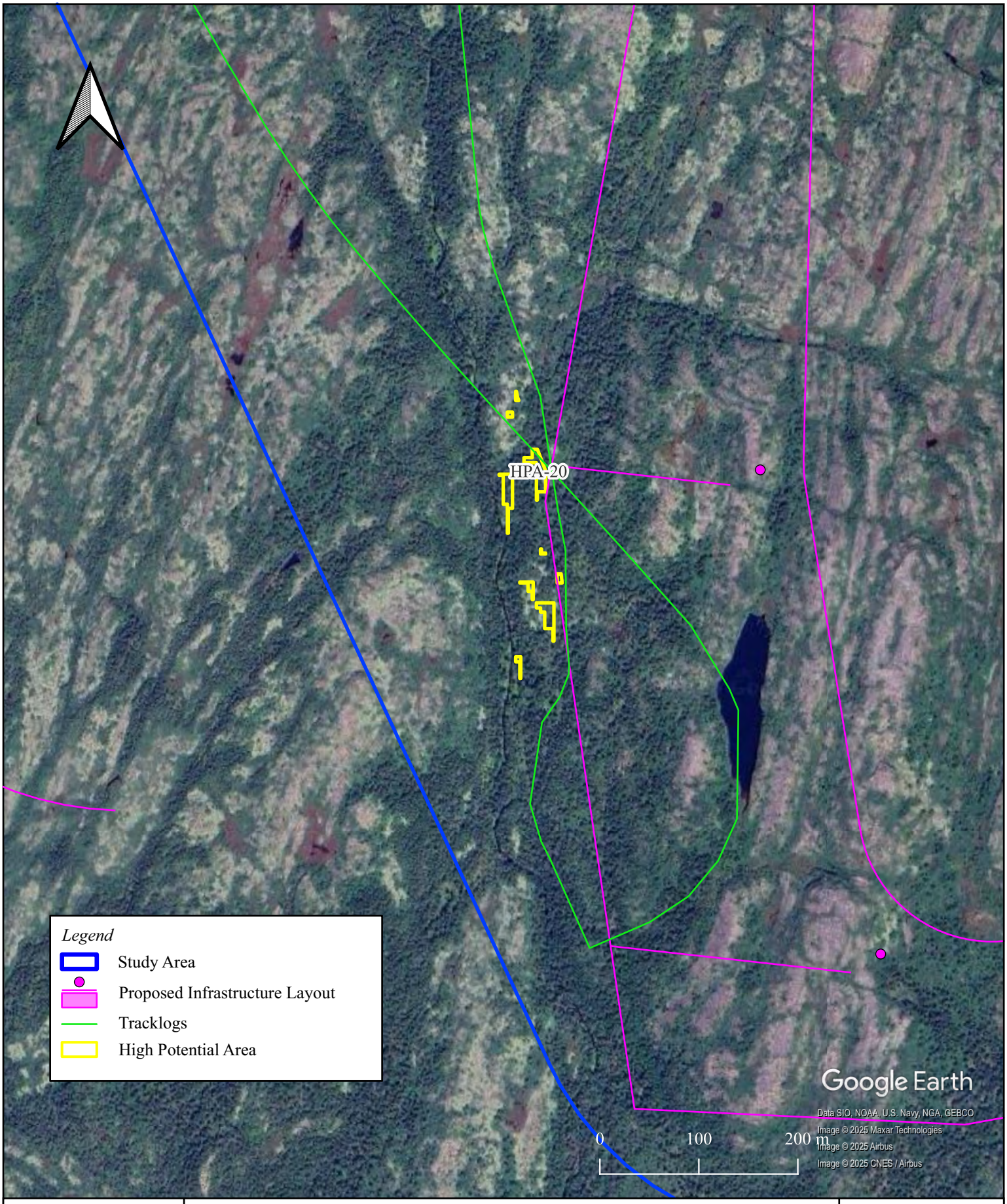
Areas of High Potential: None.

Recommendations: The ascription of high archaeological resource potential for this HPA is revoked and now ascribed low potential. **No further archaeological investigation is required**.

Plate 70: View of the low-lying and wet area along the unnamed watercourse. Facing northwest; 2 May 2025.

Plate 71: View of the low-lying and wet area along the unnamed watercourse. Facing east; 2 May 2025.

Plate 72: View of the low-lying and wet area along the unnamed watercourse. Facing east; 2 May 2025.



CRM Group Cultural Resource Management Group Ltd.	*HPA-20 (Unnamed Watercourse Flowing into Bull Arm)*	*Figure 32*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:5,000 cm

4.5 Cultural Material Analysis

No cultural material was observed or recovered during archaeological reconnaissance of the Study Area.

5.0 DISCUSSION

Below is a discussion of the major findings of the HRIA.

5.1 Archaeological Sites

There is one registered site located within the Study Area, ClAk-02, and one located within 100 metres of the Study Area, ClAl-04.

5.1.1 ClAk-02

Site ClAk-02 is located on a height of land, northeast of Centrehill, approximately five kilometres east of the community of Sunnyside. The basis for site identification was the presence of a pair of possible cultural features potentially of considerable age, including a small, lichen-covered rock stack resembling an inukshuk and nearby stone outcrop with an overhang, forming a small, sheltered space underneath. Within the space is an arrangement of tiered cobbles, about three to four courses tall, that may be cultural in nature. As no diagnostic cultural material was identified in association with the features, the age and cultural affiliation of the site is currently undetermined.

A portion of the 50-metre radius buffer zone established around ClAk-02 overlaps the proposed Project infrastructure layout footprint within the Study Area. As such, it is recommended that this area be avoided (***Figure 33***). If the site and its protective buffer cannot be avoided, it is recommended that the area be subjected to Archaeological Monitoring during Project-related ground-disturbing activities.

5.1.2 ClAl-04

Site ClAl-04 (Marconi Telegraph Station) represents the remains of the initial attempt to land a transatlantic telegraph cable near Sunnyside. The Marconi Telegraph Station was constructed approximately 110 metres east of the Study Area. Parts of the building were salvaged by residents and all that visibly remains of the structure today is the foundation. Considering the site is situated outside of the proposed Project infrastructure layout footprint, it is recommended that this area continue to be avoided (***Figure 34***).

5.2 Ethnographic Sites

Two new ethnographic sites were identified during the HRIA field activities.

5.2.1 HPA-03 Hunting Stand

A wooden hunting stand was identified within HPA-03, along the eastern shoreline of Big Pond (***Figure 15***). The hunting stand has a makeshift path constructed of deconstructed wood pallets and carpet from Cobb Road extending west toward the pond. The stand consists of a wooden picnic table situated on a raised platform overlooking the pond. Modern refuse, including cigarette butts and cereal boxes littered the ground, as well as some small calibre shotgun shells.

5.2.2 HPA-11 Hunting Camp

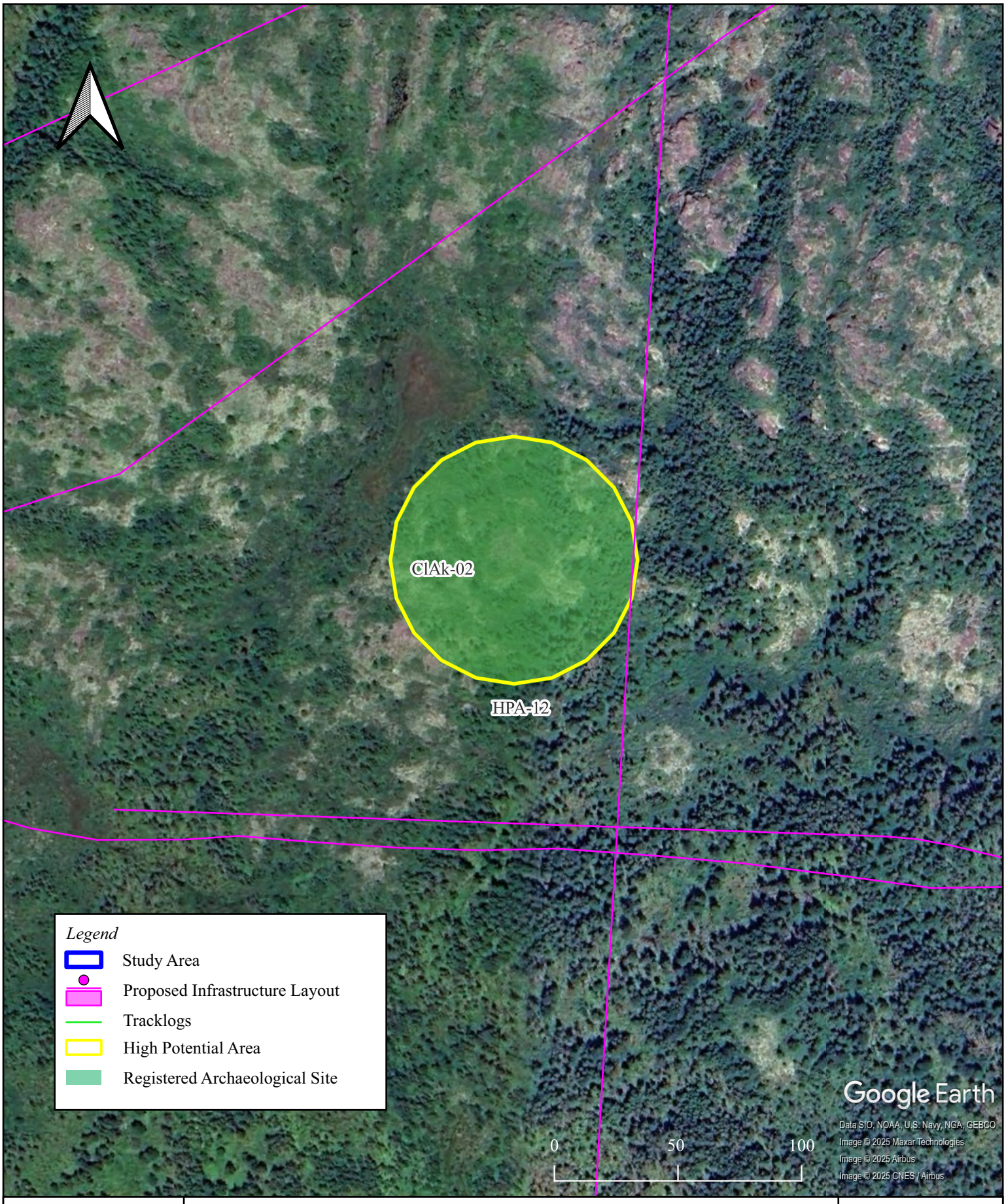
An abandoned hunting camp was identified within HPA-11, along the southwestern shoreline of Gull Pond (***Figure 23***). The camp includes the remains of a dock, an outhouse, and a small shack-sized structure. Several sets of antlers were mounted within the open area, and copious amounts of modern refuse were present, including metal siding and lumber.

5.3 Remaining Areas of High Potential

One portion of HPA-04 was identified as still retaining archaeological resource potential. This is a flat, dry area located northwest of a tributary flowing from Happy Pond, just off an access trail extending from the highway. As such, it is recommended that this area be avoided during Project-related ground disturbances. If this portion of the HPA cannot be avoided, it is recommended that the mitigation phase of an HRIA be undertaken prior to ground-disturbing activities (***Figure 35***).

Table 5: Revised Potential within the Study Area based on field reconnaissance.

Reference Code	Area Description	Area (ha)	HROA Potential Rating
HPA-01	NARL Logistics Terminal and Barachois Head	19.5	Low
HPA-02	Rushy Pond	2.1	Low
HPA-03	Big Pond	1.1	Low
HPA-04	Happy Pond	3.8	High
HPA-05	Frenchmans Pond	0.8	High
HPA-06	Unnamed watercourse flowing into Bull Arm	7.7	Low
HPA-07	Centre Hill Pond	0.4	Low
HPA-08	Unnamed waterbody connected to Long Pond	2.3	Low
HPA-09	Long Pond	2.5	Low
HPA-10	Spurrells Pond	0.6	Low
HPA-11	Lady Cove Pond and Gull Pond	13.6	Low
HPA-12	Archaeological Site ClAk-02	0.8	High
HPA-13	Unnamed watercourse flowing between Lady Cove Pond and Deer Harbour Steady	4.3	Low
HPA-14	Vee Pond	16.3	Low
HPA-15	Unnamed waterbody connected to Vee Pond	0.6	Low
HPA-16	Unnamed waterbody flowing to Sibley's Cove Pond	0.7	Low
HPA-17	Unnamed watercourse flowing to Sibley's Cove Pond	3.8	Low
HPA-18	Unnamed watercourse near Niagara Point	0.2	Low
HPA-19	Northern of two locations along an unnamed watercourse flowing into Bull Arm	1.6	Low
HPA-20	Southern of two locations along an unnamed watercourse flowing into Bull Arm	0.1	Low



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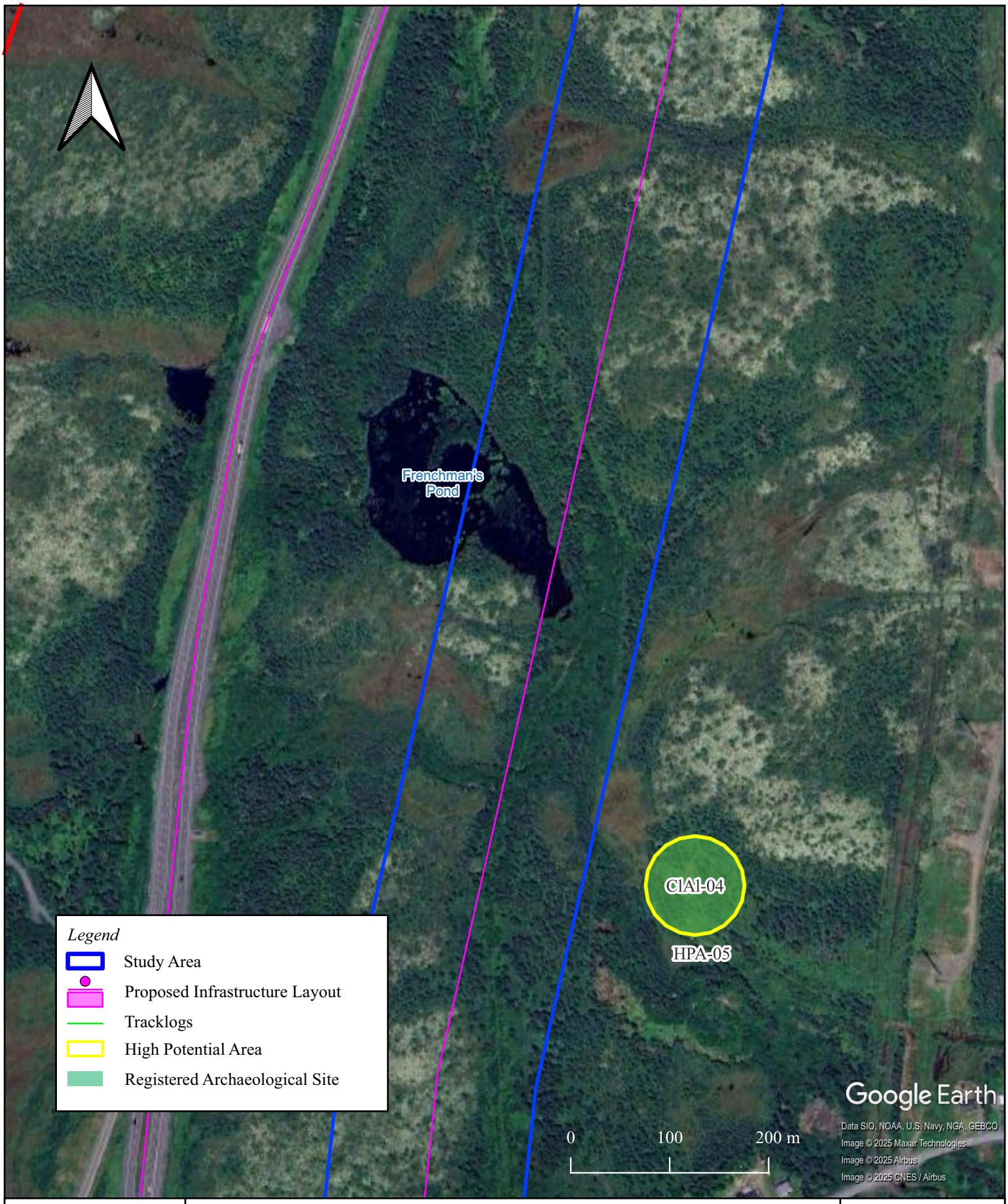
Results - HPA-12 (ClAk-02)

NORTH ATLANTIC WIND TO HYDROGEN PROJECT
HISTORIC RESOURCES IMPACT ASSESSMENT 2025
ARCHAEOLOGICAL FIELD ACTIVITIES
SUNNYSIDE, NEWFOUNDLAND & LABRADOR

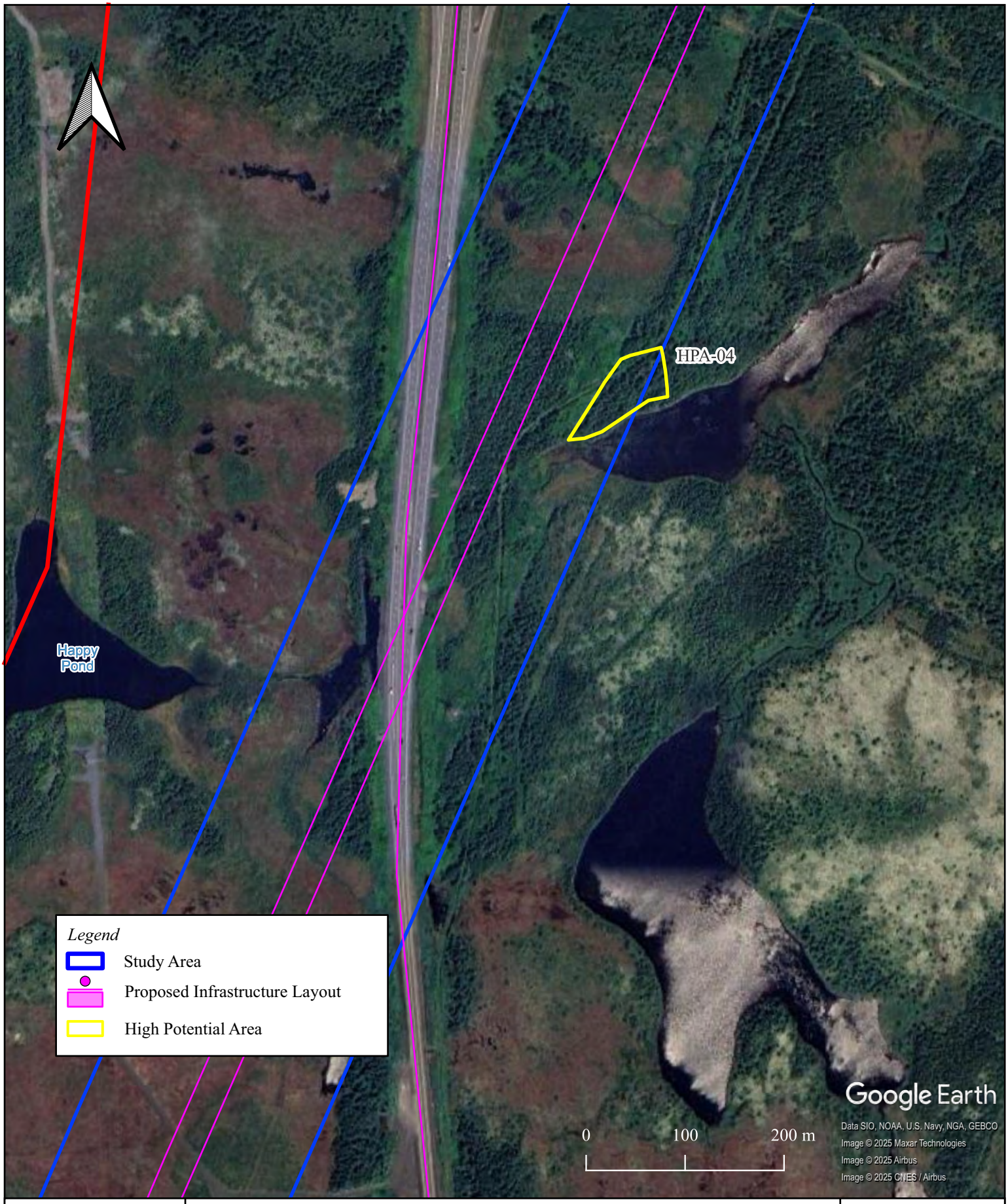
Figure 33

July 2025

Scale: 1:2,000 cm



CRM Group Cultural Resource Management Group Ltd.	*Results - HPA-05 (Rushy Pond)*	*Figure 34*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:5,000 cm



CRM Group Cultural Resource Management Group Ltd.	*Results - HPA-04 (Happy Pond)*	*Figure 35*
	NORTH ATLANTIC WIND TO HYDROGEN PROJECT HISTORIC RESOURCES IMPACT ASSESSMENT 2025 ARCHAEOLOGICAL FIELD ACTIVITIES SUNNYSIDE, NEWFOUNDLAND & LABRADOR	July 2025 Scale: 1:5,000 cm

5.4 Areas of Low Potential

The remaining areas within the HPAs have been deemed to no longer contain high archaeological resource potential. This is based on several characteristics observed throughout the field activities. The areas surrounding the identified watercourses and waterbodies were low-lying, wet, and exhibited plant life consistent with areas that are consistently wet throughout the year. This includes pitcher plants, moss, reeds, and alder trees. The ground was also predominantly hummocky, undulating, and was overwhelmingly wet even in higher elevations from the water sources. Elsewhere, the terrain was steeply sloped and included many examples of exposed bedrock outcrops and erratics, providing minimal protection from the elements. The entire Study Area was exposed to the elements in this manner, with limited tree cover on flat or accessible ground near sources of water. Limited presence of wildlife was noted with the exception of signs of moose at HPA-12. Based on these elements, the remaining HPAs are ascribed low archaeological resource potential and are cleared of the requirement for further archaeological investigation (***Figure 36***).

0 2.5 5 km

Legend

- Study Area
- Local Assessment Area
- Proposed Infrastructure Layout
- Zone of Archaeological Potential
- Registered Archaeological Site Buffer
- Ethnographic Site
- High Potential Area
- Watercourse
- Waterbody

HPA-05
CIAI-04
CIAI-01
CIAI-06
CIAI-05
HPA-04
HPA-03
Hunting Camp
CIAI-03
HPA-11
Hunting Camp
CIAk-02
HPA-12
CkAI-09
CkAI-07
CkAI-05
CkAI-08
CkAI-06
CkAI-04
CkAk-01

Google Earth

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image © 2025 Maxar Technologies
Image © 2025 Airbus
Image © 2025 CNES / Airbus

Data Source: Natural Resources Canada

CRM Group
Cultural Resource Management Group Ltd.

Results of Reconnaissance

NORTH ATLANTIC WIND TO HYDROGEN PROJECT
HISTORIC RESOURCES IMPACT ASSESSMENT 2025
ARCHAEOLOGICAL FIELD ACTIVITIES
SUNNYSIDE, NEWFOUNDLAND & LABRADOR

Figure 36

July 2025

Scale: 1:70,000 cm

5.5 Contingency Plan

Despite the lack of specific potential for archaeological sites surrounding the HPAs, the entire region contains ethnographic potential. Furthermore, despite the lack of identification of campsites or archaeological material during the HRIA field activities, the likelihood of discovery of archaeological resources throughout the course of the ground-disturbing activities is still possible. As such, a detailed contingency plan is included within this report (***Appendix B***). This includes information on the identification of historic resources during construction and development, and protocols to follow in the rare instance of encountering historic resources during construction.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The 2025 HRIA of the proposed Study Area consisted of both pedestrian and aerial reconnaissance of the 20 HPAs identified during the HROA.

In total, the HROA ascribed high archaeological resource potential to 2.38 square kilometres, or 3.97% of the Study Area. The Archaeological Predictive Model identified 20 HPAs within the Study Area, wherein the proposed footprint of Project infrastructure layout would overlap a buffer zone of high archaeological resource potential.

The field activities of the HRIA identified one remaining area of high potential within HPA-04, as well as within re-visited sites ClAk-02 and ClAl-04. It also recorded the presence of two ethnographic locations within the Study Area. All other HPAs were revoked and reclassified as exhibiting low archaeological resource potential.

Based on these results, CRM Group offers the following management recommendations for the Study Area:

1. It is required that confirmed zones of high archaeological resource potential, as identified in **Section 5.0** of this report, be avoided, if possible, in the design and development of the Project.

2. If avoidance of the remaining portion of HPA-04 is impractical, it is required that planned Project development areas that overlap this area zones of high archaeological resource potential, be subjected to the Archaeological Mitigation phase of an HRIA. This phase is designed to confirm or revoke the ascription of high archaeological resource potential made during the HROA and HRIA.

3. If avoidance of HPA-12 is impractical, it is required that planned Project development areas that overlap this area be subjected to the Archaeological Monitoring phase of an HRIA, during construction activities. This phase is designed to monitor ground disturbance activities for signs of archaeological features or deposits. Should historic resources be encountered during monitoring, further mitigation may be required through engagement with the Client and the PAO.

4. It is recommended that the detailed Contingency Plan (or Chance-Find Plan) outlining the protocols should be followed by all Project personnel if any suspected historic resources or archaeological materials be encountered on the surface or are unearthed during any phase of the Project. It is also recommended that the Contingency Plan be provided to and discussed with all personnel working on the Project, particularly those involved in ground disturbing activities.

5. As Project details emerge, any changes to the Project infrastructure layout within the Study Area beyond the area assessed in this report, must be subjected to an HROA, at minimum.

6. Should archaeological deposits or human remains be encountered during any Project activities, all work in the associated area(s) must be halted and immediate contact made with the PAO (Jamie Brake, 709-729-2462).

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8.0 APPENDICES

Appendix A: Permit Documents

Government of Newfoundland and Labrador
Department of Tourism, Culture, Arts & Recreation

ARCHAEOLOGICAL INVESTIGATION PERMIT

granted by:
Provincial Archaeology Office
Dept. of Tourism, Culture, Arts and Recreation
P.O. Box 8700
St. John's, NL
A1B 4J6

PERMIT NO. 25.05

NAME Sarah Ingram

ADDRESS 1519 Bedford Highway, Bedford, Nova Scotia, B4A 1E3

INSTITUTION Cultural Resource Management Group Limited (CRM Group)

is authorized to conduct archaeological investigations at the location(s) stated below, subject to the terms and conditions of the Application for Permit and the *Historic Resources Act*, RSNL 1990, c. H-4

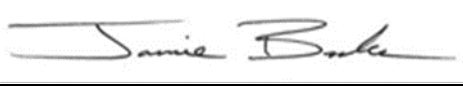
LOCATION(S) Between Bull Arm and Deer Harbour, adjacent to Trinity Bay - North Atlantic Wind to Hydrogen Project

All material recovered is the property of the Province.

VALID FOR THE PERIOD April 29, 2025 – December 31, 2025

NOTE: All material recovered during excavation is to be recorded using three dimensional provenience unless permission to do otherwise has been granted from the Provincial Archaeology Office

Minister of Tourism, Culture, Arts and Recreation

Date: April 23, 2025 **per:** 

ARCHAEOLOGICAL INVESTIGATION PERMIT HOLDER DEADLINE CHECKLIST

According to Newfoundland Regulation 143/91 AArchaeological Investigation Permit Regulations under The Historic Resources Act (O.C. 574-91)@ *the following deadlines should be adhered to. Any requests for extensions should be cleared with the Provincial Archaeologist in the Provincial Archaeology Office*

PERMIT NUMBER: 25.05

PROJECT AND/OR LOCATION Between Bull Arm and Deer Harbour, adjacent to Trinity Bay - North Atlantic Wind to Hydrogen Project

START DATE: April 29, 2025 EXPIRES: December 31, 2025

PERMIT HOLDER: Sarah Ingram

ADDRESS: 1519 Bedford Highway, Bedford, Nova Scotia, B4A 1E3

PHONE: Cell: (902) 292-4291

Email: singram@crmgroup.ca

INSTITUTION OR COMPANY: Cultural Resource Management Group Limited (CRM Group)

ITEMS DUE 30 DAYS AFTER PERMIT EXPIRES:

Item	Date Due	Date Received
1) Completed Site Record Form(s) (Including one for each **revisited** site)	January 31, 2026	
2) 1:50,000 scale map(s) noting the site location, areas surveyed and methodology (ie. areas test pitted, surface walked, etc.)	January 31, 2026	

ITEMS DUE 180 DAYS AFTER PERMIT EXPIRES:

Item	Date Due	Date Received
1) Archaeological Record Forms from Field Work	June 30, 2026	
2) Site Plans, sectional drawings	June 30, 2026	
3) A Sample of Photographs	June 30, 2026	
4) Interim report	June 30, 2026	

ITEMS DUE 1 YEAR AFTER PERMIT EXPIRES:

Item	Date Due	Date Received
1) Site Report following the requirements outlined in the Regulations *if project is more than one season long then the final report is due **2 YEARS** after the **final permit** expires, however an **interim report** is still required 180 days after **each** permit expires	December 31, 2026	

ITEMS DUE 2 YEARS AFTER PERMIT EXPIRES:

Item	Date Due	Date Received
1) Artifact Catalogue sheets, complete with measurements	December 31, 2027	
2) Artifact Treatment sheets	December 31, 2027	
3) Artifacts, catalogued and treated according to the regulations	December 31, 2027	

Appendix B: Contingency Plan

NORTH ATLANTIC WIND TO HYDROGEN PROJECT
HISTORIC RESOURCES IMPACT ASSESSMENT 2025
ARCHAEOLOGICAL RECONNAISSANCE
SUNNYSIDE, NEWFOUNDLAND & LABRADOR

CONTINGENCY PLAN

JULY 2025

CRM Group
Cultural Resource Management Group Ltd.

1.0 PROTECTION MEASURES FOR KNOWN SITES

The following measures will be undertaken for Project activities located within the predetermined protected archaeological buffers.

1.1 Mitigation Measures

Avoidance of archaeological or historical remains is the preferred method of mitigation. However, in instances where avoidance is impossible or impractical, partial or complete archaeological excavation or monitoring, along with thorough documentation, may be approved by the Provincial Archaeology Office (PAO) and undertaken by an archaeologist operating under the terms of a Historic Resources Impact Assessment (HRIA) Permit.

1.2 Archaeological Sites

As noted above, the following measures will be undertaken for Project activities at protected archaeological buffers of a known site:

- Flag or delineate the buffer area around the site and mark as a "No Work Zone."
- Construction monitoring during activities within the buffer of the site.
- If the site is impacted, the Client contacts the PAO to determine if additional mitigation measures are required.
- If the site cannot be avoided, then mitigation must be conducted prior to impact. Procedures to record, analyze and mitigate effects on a site will be determined through engagement with the PAO and carried out by an archaeologist under the **Historic Resources Act**. Mitigation may involve detailed mapping, photography, and systematic data recovery through surface collection and controlled excavations of evaluative units if subsurface deposits are present.

1.3 Palaeontological Sites

There are no known paleontological sites located within the Project area. If paleontological sites are encountered, work will be stopped pending engagement with the PAO. The site will also be flagged or delineated by an area of at least 50 metres around the site and marked as a "No Work Zone" from the site boundary.

1.4 Confidentiality

The knowledge of archaeological sites constitutes sensitive archaeological site data. Consequently, this knowledge or that of traditional Indigenous usage of an area must not be published or made public without the written consent of the PAO.

2.0 COMPLIANCE OBLIGATIONS, GUIDANCE, AND BEST MANAGEMENT PRACTICES

2.1 Legislation

Federal legislation applicable to archaeological sites include:

- **Impact Assessment Act**; and
- **United Nations Declaration on the Rights of Indigenous Peoples Act**.

Provincial legislation applicable to the HRIA include:

- **Historic Resources Act** [RSNL1990 CHAPTER H-4];
- Archaeological Investigation Permit Regulations [963/96]; and
- Palaeontological Resource Regulations [67/11]

Historic Resources Act

The **Historic Resources Act (HRA)** of Newfoundland and Labrador (NL) outlines the legal framework for the preservation of historic and palaeontological resources within the province. It defines key terms, establishes the responsibilities of the Minister in protecting these resources, and details procedures for acquiring, investigating, and managing sites and objects of significance. Notably, the **HRA** also addresses the establishment and functions of the Heritage Foundation, highlighting its role in safeguarding architectural heritage and managing funding for related initiatives. The legislation includes provisions for permits, penalties for contraventions, and acknowledges the rights of the Labrador Inuit regarding land claims.

The **HRA** is administered by the Provincial Archaeology Office of the NL Department of Tourism, Culture, Arts and Recreation which ensures the protection of historic resources and provides quality control for archaeological practice in NL. The PAO aids the Minister in protecting, preserving, developing, studying, interpreting, and promoting an appreciation of the historic resources of the province. It also aids the Minister in protecting, preserving, developing, studying, interpreting, and promoting an appreciation of the palaeontological resources of the province.

Per the provisions of the **Historic Resources Act** RSNL1990 CHAPTER H4, protecting archaeological sites and artifacts, and procedures to be followed in the event that either is found:

> 10(1) A person who discovers an archaeological object in, on or forming part of the land within the province shall report the discovery forthwith to the Minister stating the nature of the object, the location where it was discovered and the date of the discovery.
>
> 10(2) No person other than one to whom a permit has been issued under this Act, who discovers an archaeological object shall move, destroy, damage, deface, obliterate, alter, add to, mark or in any other way interfere with, remove, or cause to be removed from the province that object.
>
> 11(1) The property in all archaeological objects found in, on or taken from the land within the province, whether or not these objects are in the possession of Her Majesty is vested in Her Majesty. Should any archaeological remains be encountered, such as stone, bone or iron tools, concentrations of bone, charcoal or burned rock, fireplaces, house pits and/or foundations, activity in the area of the find must cease immediately and contact should be made with the Provincial Archaeologist in St. John's (729-2462) as soon as possible.

The alteration of an archaeological site or removal of artifacts can only be done by an archaeologist granted a job-specific Archaeological Investigation Permit by the PAO. The permit requires application to be made to PAO by an experienced archaeologist or accompanying mentor. A formal report must be submitted upon completion of the outlined work within the specified time on the application. Likewise, the permit holder must deliver all heritage objects recovered to The Rooms or another approved public institution.

Enforcement of the **HRA** includes management of the Historic Resources Impact Assessment Permit system and designation of protected sites. The Minister may issue stop work orders if ongoing work has the potential to damage historic resources. If convicted, one could incur a debt to the province for the amount spent on restoring the damaged historic resource or site.

2.2 Burials

Specific protocols are to be followed in the event that suspected human remains or a burial are discovered, in order to comply with **Cemeteries and Monuments Protection Act**.

Agencies Involved:
Depending on the circumstances surrounding the discovery of human remains, several agencies may be involved and include:

- Lead police agency (RCMP or municipal police force)
  The lead police agency will decide what course of action to initiate.

- Regional Coroner's Office
  The Coroner's Office may become involved in criminal investigations and in determining the cause of death.

- Chief Medical Officer's Office
  The interest of the Chief Medical Officer relates to health issues.

- PAO
  (709) 729-2462

Protocol:

If suspected human remains or possible evidence of a burial is found, the following steps are to be immediately taken:

1. Cease work in the area and notify personnel to stay clear of the findspot. Until determined otherwise, the remains must be treated as evidence in a forensic investigation. If the remains are found in the bucket of heavy equipment, the bucket must not be emptied as physical evidence may be destroyed. When remains are found during monitoring/testing, the potential for additional burials must be acknowledged and future monitoring/testing strategies must reflect this elevated potential.

2. The Project Archaeologist should be contacted once work has ceased. It may be prudent to include an archaeologist under permit for the Project for every calendar year, which can help expedite the response process.

3. Secure the area. The area must immediately be designated as Out of Bounds to all personnel and the public. Depending on the weather and other conditions, the human remains discovered must be provided with non-intrusive protection, such as covering with a cloth or canvas tarp (non-plastic preferred). All personnel and traffic must exit the site by one common non-intrusive path. Curiosity seekers must be kept off the site.

4. Notify the following parties and adhere to directions given by the police, who have full authority: Client, RCMP, PAO.

If it is determined that the human remains are not associated with a forensic matter or recent mishap, the PAO will be engaged to determine the proper course of action.

Resuming Work:
Work can only resume in the vicinity of the discovery once clearance has been received from all of the authorities and agencies concerned."

Section 182(b) of the Criminal Code of Canada states: "*Every one who improperly or indecently interferes with or offers any indignity to a dead human body or human remains, whether buried or not, is guilty of an indictable offence and liable to imprisonment for a term not exceeding five years*."

Excerpts from the **Exhumation Act, RSNL1990 CHAPTER E-18**

Supporting Directives:

Consequences of discovery of human remains:

2 A person shall not remove a body, or the remains of a body interred in a place of burial, except under a licence signed by the Minister of Justice or Chief Medical Examiner in accordance with the duties of the Chief Medical Examiner, and with precautions which may be prescribed by the Minister of Health.

2.3 Guidelines and Best Management Practices

Guidelines and best management practices related to cultural resources include:

- **Historic Resources Act** [RSNL1990 CHAPTER H-4];
- Archaeological Investigation Permit Regulations [963/96];
- And Palaeontological Resource Regulations

3.0 CHANCE FIND PROTOCOL

The Chance Find Protocol (CFP) procedure applies to unidentified archaeological or cultural heritage resources including features, structures, sites, or items of cultural or historical significance. By addressing the possibility of encountering archaeological or cultural heritage resources prior to commencement of activities, the potential for loss of material can be partially mitigated. As archaeological sites are non-renewable, finite, and often susceptible to disturbance, they warrant protection for their cultural, educational, and heritage values. The CFP provides guidance on mitigation to avoid or minimalize adverse impacts to such resources.

Procedure
Employees and on-site contractors will receive information related to the known heritage resources identified on site as well as be informed of the CFP and have a copy available while on site. The CFP should be regularly reviewed and updated based on planning changes, training objectives, and regulatory requirements.

Potential forms of Impact to Archaeological Sites
Activities taking place related to the Project that involve the excavation, movement, or disturbance of soils has the potential to impact archaeological resources. Examples may include road construction, land clearance, or infrastructure installation.

Prior to work Commencement
In advance of work within the Project area, all workers will:

1. Have reviewed and be aware of the requirements of this procedure;
2. Have reviewed and understood information pertaining to Chance Find Procedures appropriate for the work activity being undertaken.

Should any potential archaeological or cultural heritage resources be discovered outside of a known archaeological site, stop work and follow the procedure below:

On Discovery
1. Immediately cease all work in the vicinity of the discovery with the exception of work required to protect the integrity of the discovery.
2. Delineate an area of at least 50 metres around the discovery as a ‘no work’ zone.
3. Record the location of the discovery (GPS coordinates) and take photographs.
4. Inform the on-site supervisor who will contact the PAO.
5. Prepare an initial Chance Find Report Form (refer to next page).
6. Await further guidance from the PAO regarding best course of action.

After Discovery
1. The PAO will assess the discovery and its surroundings in accordance with provincial standards and guidelines.
2. If the significance of the archaeological or CHR is judged to be sufficient to warrant further attention and it cannot be avoided, mitigation may be required by a qualified archaeologist under permit.

Archaeological and Cultural Heritage Chance Find Report Form

Name of Recorder / Affiliation:
Date and Time of Discovery:
Location of Chance Find (site name, location description, GPS coordinates, depth below surface):

Description of Find:

Photographs (taken by, number of images, general compass direction facing):

Who was contacted regarding the discovery (including name, date, time, phone number):

Methods used to mark and protect the Chance Find:

Moveable or Immovable:

If moved, to where and how:

Name and signature of on-site supervisor:

Sketch Map	Photo

4.0 EXAMPLES OF CULTURAL HERITAGE RESOURCES

- Lithic (stone) tools, possibly created by stone grinding or flaking. This can include projectiles points and other formal tools, as well as debitage flakes from the making or maintenance of tools.

- Clay pottery. May possibly be decorated and a similar colour to the soil.

- Historic artifacts, including architectural, domestic, and personal materials.

- Depressions, stone piles, walls, wells, or other cultural features. If these features are not identified as trenches, adits, pits, or waste rock piles related to past mining, it is possible that they may represent historic residences, logging camps, or other cultural heritage features.