Appendix I

Heritage Resources Impact Assessment Report

Western Heritage

INNOVATIVE SOLUTIONS TO AGE-OLD QUESTIONS

HRIA FINAL REPORT

Heritage Resource Impact Assessment of the
Canadian Premium Sand Inc.
Wanipigow Sand Extraction Project

in T25-R09-E & T25-R08-E

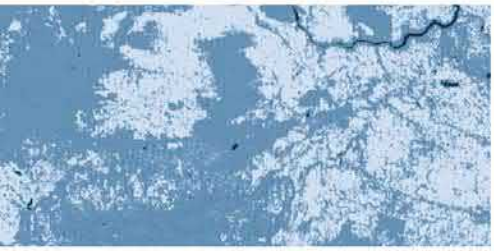
HRIA Permit #A96-18

Prepared For:
AECOM

Prepared By:
Cara Pollio, M.A.
Western Heritage

November 2018

WH Project 18-040-01

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Kristiina Cusitar
AECOM
99 Commerce Drive
Winnipeg, MB
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November 25, 2018

Attention: Ms. Cusitar

Reference: Heritage Resource Impact Assessment of the Canadian Premium Sand Inc. Wanipigow Sand Extraction Project in T25-R09-E & T25-R08-E (HRIA Permit #A96-18)

Dear Kristiina,

Please find enclosed the requested copy of the final report regarding the above referenced project. No heritage resources were discovered during the Heritage Resource Impact Assessment (HRIA). Note that a small portion of the revised project footprint was not included in the HRIA. While the field inspection extended to the south boundary of this portion, separate clearance may still be required for this portion at the discretion of the Historic Resources Branch (HRB).

The Historic Resources Branch has the authority to issue heritage clearance or make recommendations based on the findings in this report.

Sincerely,

Cara Pollio, M.A.
Project Archaeologist

Distribution List:
Manitoba Historic Resources Branch; 2 hard copies; 2 .pdf copies
AECOM; 1 .pdf copy
Canadian Premium Sand Inc. (formerly Claim Post Resources Inc.); 1 .pdf copy
Western Heritage; 1 .pdf copy

EXECUTIVE SUMMARY

Canadian Premium Sand Inc. (formerly Claim Post Resources Inc.) is proposing the construction of a silica sand quarry located 200 km north of Winnipeg, Manitoba. The Wanipigow Sand Extraction Project (formerly the Seymourville Silica Sand Extraction Project) is located on the east side of Lake Winnipeg, south of the community of Seymourville, west of the Hollow Water First Nation Reserve, and north of the community of Manigotagan. The project will include a large area of quarry leases, a proposed sand wash plant (within an approximately 4 km x 3 km area), and a south access road approximately 4 km in length (assessed within a 300 m wide right-of-way). The proposed development is within T25-R09-E & T25-R08-E on NTS 1:50,000 topographic map sheet 62 P/01, within the Wrong Lake Ecodistrict of the Lac Seul Upland Ecoregion of the Boreal Shield Ecozone.

AECOM submitted the proposed Sand Extraction Project to the Manitoba Historic Resources Branch (HRB) for heritage screening. The HRB examined the development location in conjunction with their records for areas of potential concern (HRB File Number AAS-18-13794) and found that the proposed project area is situated in a region with high potential for heritage resources, as the entire project area lies on a peninsula with pre-contact and historic significance (see Appendix A, email response dated Oct 17, 2018). Lake Winnipeg, which is directly adjacent to the west, is an ancient waterbody and waterway well travelled and visited by Past Peoples, as were the Wanipigow and Manigotagan Rivers. Known archaeological sites surround the proposed project area from north of Wanipigow along the shoreline south to Manigotagan, east of Clangula Lake south to English Brook, and all along the Manigotagan River to the south. The proposed development is also in the region of historic Hudson's Bay Company (HBC) fur trade posts (Manigotagan Post aka Bad Throat Post and Winnipeg Lake Post). Of particular heritage concern are portions of proposed quarry areas that are situated on an area of elevated topography, which could have provided a vista of the surrounding region in the past. Based on these factors the HRB has concerns that any future planned development within the area has the potential to impact heritage resources, therefore, the HRB required that an Heritage Resource Impact Assessment (HRIA) be conducted by a qualified archaeological consultant prior to the project's start, as per Section 12(2) of the Manitoba *Heritage Resources Act*.

AECOM, on behalf of Canadian Premium Sand Inc., requested that Western Heritage Services Inc. (Western Heritage), undertake the HRIA of the Wanipigow Sand Extraction Project. The HRIA was completed on November 1-8, 2018 by Cara Pollio (permit holder) and Lisa Bobbie (field technician), and with the assistance of two First Nations field assistants from the Hollow Water First Nation, Faron Young and Palmi Moneas. The field work was completed under Heritage Permit No. A96-18. The HRIA included a pedestrian survey of the proposed impact area, focussing on selected areas of higher elevation (250 + m asl) as well as post-impact assessment of recently cleared access trails associated with test drilling operations. Judgmental shovel testing and examination of over 100 tree throws in the project area was also conducted.

No archaeological artifacts or features were identified during the HRIA. Several areas of raised topography (indicated as 250 m asl on topographic maps) were examined and the post-impact assessment of access roads provided an ideal sample of sub-surface exposure across the project area. In addition, the southeast end of the proposed access road crosses several large rock outcroppings that could have been utilized as a dry elevated area in the past and these were noted and examined for evidence of petroforms or surface artifacts, but none were found. Reconnaissance of the existing cemetery located at the north end of the proposed project area was conducted. The cemetery will be avoided by a 100 m buffer and will not be impacted. A noted historic trail, identified as an old sleigh trail that residents would use to travel from Seymourville and Wanipigow down to Manigotagan, was also examined; it is currently a cleared ATV trail.

Based on field observations, as well as anecdotal evidence associated with Traditional Ecological Knowledge (TEK) discussions with local elders conducted by the client, it is apparent that the project area has been historically utilized for multiple natural resources (blueberry picking and grouse hunting areas, trapping lines, and logging activities were noted in particular), however permanent occupations are concentrated closer to significant water sources (Lake Winnipeg, and the Wanipigow and Manigotagan Rivers), all of which lie well outside the project area. The closest points to the Lake are over 750 m from the northwest and southwest project boundaries and, while there are many areas of muskeg and vegetated wetland within the proposed development, there are no optimal water sources and no navigable waterways. It is possible that the project area does contain small archaeological sites representative of transient utilization of the landscape for these resources (both during pre-contact and historic times), but these could not be found during the HRIA. It was also anecdotally noted that medicine bundles or other items of spiritual significance may have been hidden within the forest near Hollow Water First Nation in the past either to protect them or for other unknown reasons.

Since no archaeological resources were found during the HRIA, Western Heritage recommends that the project be granted clearance to proceed in compliance with Section 12(2) of the Manitoba *Heritage Resources Act*. However, despite a thorough investigation, fortuitous discovery of additional heritage resources may occur during the construction phase of the proposed development. In these cases, the discovery of heritage resources should be reported immediately to the Manitoba HRB and Western Heritage to determine on-site assessment. Further development within approximately 30 m of the discovery location should cease temporarily. In the event that human remains or suspected human remains are encountered, both the local RCMP detachment and Manitoba HRB (1-204-945-2118) must be contacted.

This report has been reviewed and approved by the senior archaeologist whose signature is below:

Peggy McKeand November 25, 2018

CREDITS

Permit Holder	Cara Pollio, M.A. (Western Heritage)
Field Inspection	Cara Pollio, M.A. Lisa Bobbie, M.A. (North Roots Research) Faron Young (Hollow Water First Nation) Palmi Moneas (Hollow Water First Nation)
Report Graphics	Lisa Bobbie, M.A. Sauvelm McClean, B.A. (Western Heritage)
Report Author	Cara Pollio, M.A.
Errors & Omissions (E&O) Review	Peggy McKeand, M.A. (Western Heritage)

The project personnel wishes to thank the Hollow Water First Nation, its elders and representatives, and respectfully recognize that the project takes place on Treaty 5 lands. Many thanks also to Mr. Cliff Samoiloff and Ms. Kristiina Cusitar from AECOM; Mr. Bob Archibald, Ms. Bronwyn Weaver, and Mr. Denelle Bushie from Canadian Premium Sand Inc. (formerly Claim Post Resources Inc.), and representatives from Apex Geoscience Ltd. Philo Schoeman and Rachelle Hough, all of whom provided support for the successful implementation and completion of the HRIA of the proposed development.

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1.1 Introduction

Canadian Premium Sand Inc. (formerly Claim Post Resources Inc.) is proposing the construction of a silica sand quarry located 200 km north of Winnipeg, Manitoba. The Wanipigow Sand Extraction Project (formerly the Seymourville Silica Sand Extraction Project) is located on the east side of Lake Winnipeg, south of the community of Seymourville, west of the Hollow Water 10 First Nation Reserve, and north of the community of Manigotagan (Figures 1 and 2). The project will include a large area of quarry leases, a proposed sand wash plant (within an approximately 4 km x 3 km area), and a south access road approximately 4 km in length (assessed within a 300 m wide right-of-way). The proposed development is within T25-R09-E & T25-R08-E on NTS 1:50,000 topographic map sheet 62 P/01, within the Wrong Lake Ecodistrict of the Lac Seul Upland Ecoregion of the Boreal Shield Ecozone.

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The following final report describes the results of the HRIA completed by Western Heritage for the proposed development.

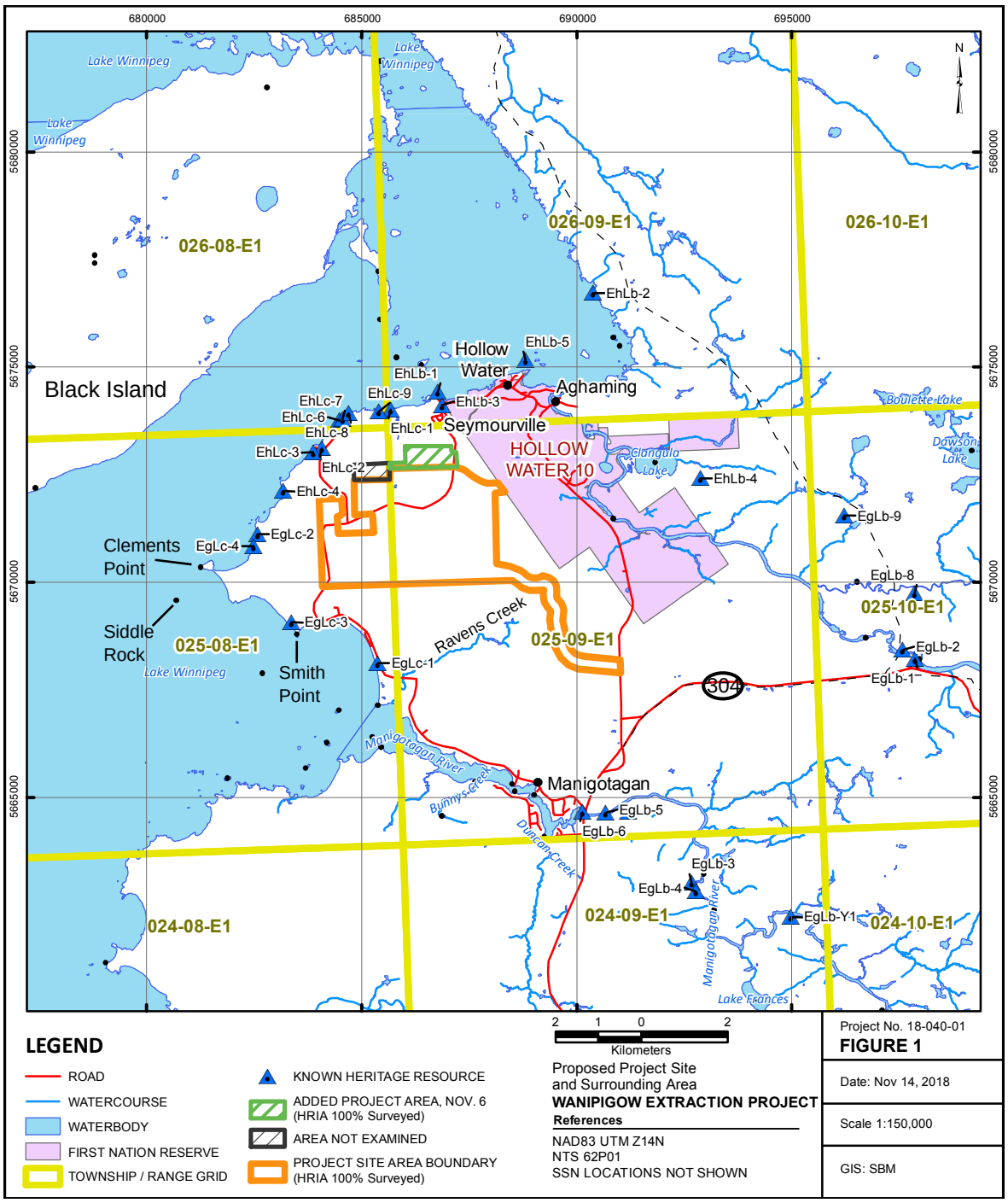

Figure 1. Project location and known heritage sites in the vicinity (Scale 1:150,000).

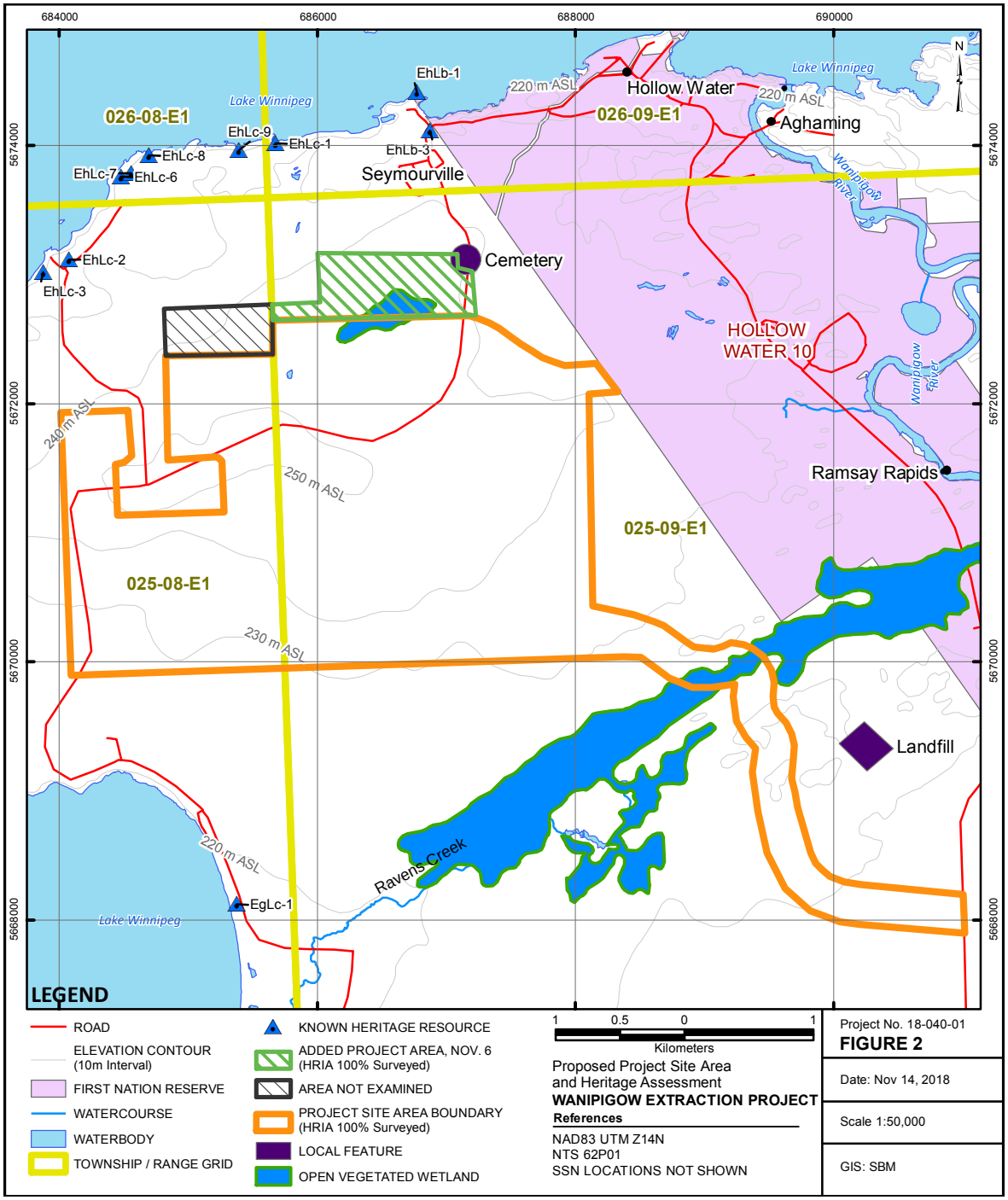

Figure 2. Project location and known heritage sites in the vicinity (Scale 1:50,000).

1.2 Screening Criteria

AECOM submitted the proposed Sand Extraction Project to the Manitoba Historic Resources Branch (HRB) for heritage screening. Relevant factors considered when evaluating the overall heritage potential of an area include, but are not limited to, the environmental context (such as proximity to water sources, hummocky terrain, or notable uplands or escarpments), presence of known historic sites in the area, and degree of previous impacts in an area.

The HRB examined the development location in conjunction with their records for areas of potential concern (HRB File Number AAS-18-13794) and found that the proposed project area is situated in a region with high potential for heritage resources, as the entire project area lies on a peninsula with pre-contact and historic significance (see Appendix A, email response dated Oct 17, 2018). Lake Winnipeg, which is directly adjacent to the west, is an ancient waterbody and waterway well travelled and visited by Past Peoples, as were the Wanipigow and Manigotagan Rivers. Known archaeological sites surround the proposed project area from north of Wanipigow along the shoreline south to Manigotagan, east of Clangula Lake south to English Brook, and all along the Manigotagan River to the south. The proposed development is also in the region of historic Hudson's Bay Company (HBC) fur trade posts (Manigotagan Post aka Bad Throat Post and Winnipeg Lake Post). Of particular heritage concern are portions of proposed quarry areas that are situated on an area of elevated topography, which could have provided a vista of the surrounding region in the past. Based on these factors the HRB has concerns that any future planned development within the area has the potential to impact heritage resources, therefore, the HRB required that an Heritage Resource Impact Assessment (HRIA) be conducted by a qualified archaeological consultant prior to the project's start, as per Section 12(2) of the Manitoba *Heritage Resources Act*.

2.0 ENVIRONMENTAL OVERVIEW

2.1 General Environment

The proposed development is located within the Wrong Lake (371) Ecodistrict of the Lac Seul Upland Ecoregion of the Boreal Shield Ecozone (Figure 3). The Boreal Shield Ecozone is the largest ecozone in Canada, extending from Saskatchewan to Newfoundland. Smith et al. (1998:66) notes that the Boreal Shield Ecozone "is dominated by a broadly rolling mosaic of uplands and lowlands. Precambrian granitic bedrock outcrops interspersed with ridged to hummocky discontinuous veneers and blankets of glacial moraine, fluvioglacial and colluvium are characteristic surface deposits. Small to large lakes are common throughout the ecozone." The Lac Seul Upland Ecoregion extends from the eastern shore of Lake Winnipeg to the Manitoba-Ontario border and lies within the Nelson River watershed with drainage into Lake Winnipeg (Smith et al. 1998:116). The Wrong Lake (371) Ecodistrict extends from the northern to the southern boundaries of the Lac Seul Upland Ecoregion, with a portion extending into Ontario.

2.2 Wrong Lake (371) Ecodistrict

The Wrong Lake (371) Ecodistrict is transitional between the peat-covered lowland area of the Berens River Ecodistrict to the west, and the bedrock-dominated Nopiming. This ecodistrict, bounded to the south in part by the Winnipeg River and to the north by the Gunisao River, drains westward to Lake Winnipeg (Smith et al. 1998:121). Many rivers, including the Bloodvein, Pigeon, Berens, Poplar, Wanipigow, Manigotagan and Black, and tributary streams flow through the ecodistrict from east to west. All are part of the Lake Winnipeg east drainage division, which is part of the Nelson River drainage system.

Regarding land use in the area, Smith et al. (1998:121) note that the "largest community in the ecodistrict is the mining town of Bissett, whose gold mine has opened and closed many times, but is not currently in operation. The Hollow Water, Little Black River and Sagkeeng First Nation communities are located close to the shore of Lake Winnipeg and derive economic benefits from the Lake Winnipeg fishery. Significant pulpwood and local sawlog forestry is conducted in the southern part of the ecodistrict. Water-oriented recreation and trapping and hunting are other important natural resource uses." In the immediate vicinity of the proposed development, there are several small communities that share services: Manigotagan, Aghaming, Seymourville, and Hollow Water 10 Reserve. There are also newer cottage developments (Pelican Point, Blueberry point, Driftwood Beach, Ayer's Cove and Mantago Bay) on the shore of Lake Winnipeg.

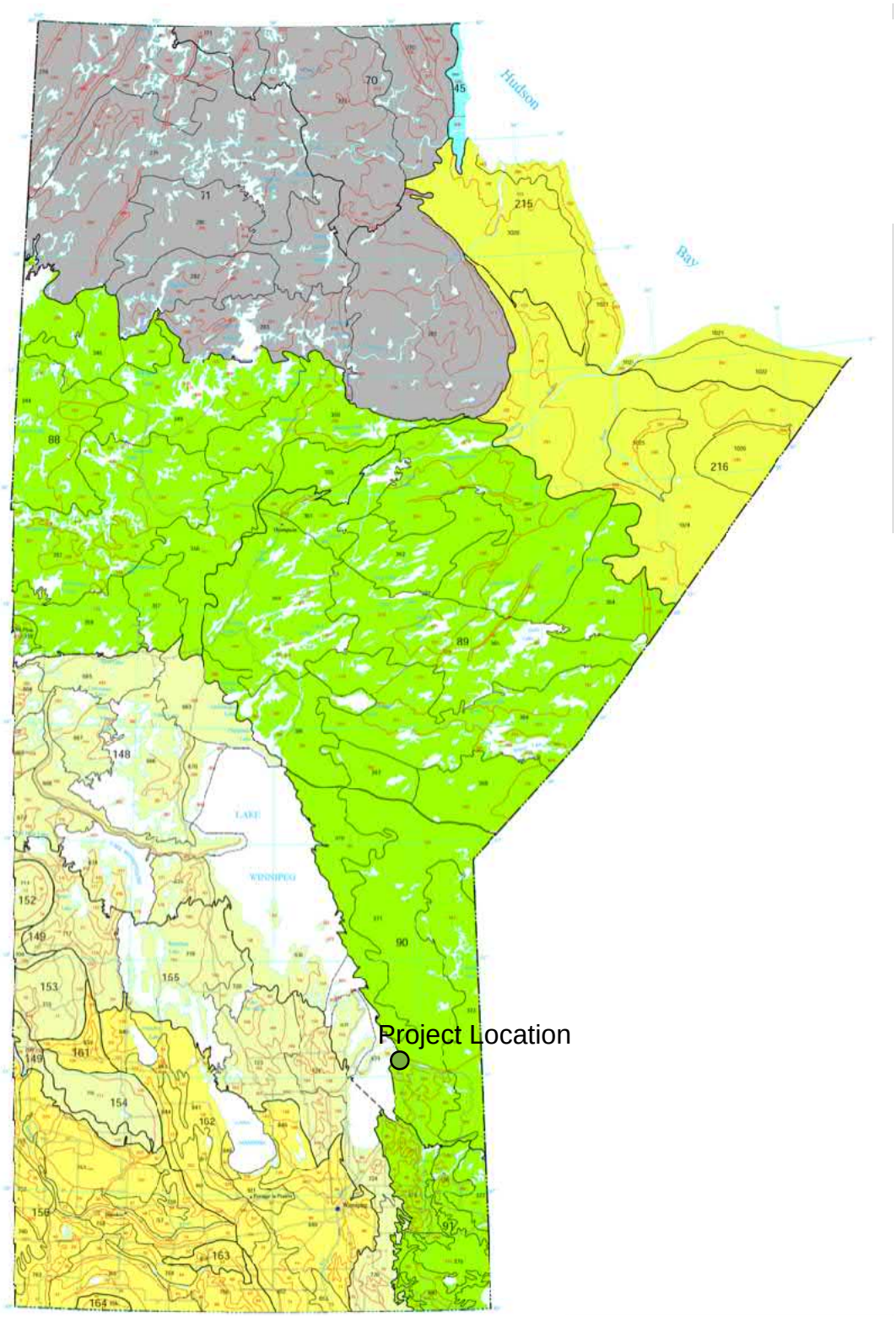

Figure 3. Project location within the Wrong Lake (371) Ecodistrict of the Lac Seul Upland Ecoregion of the Boreal Shield Ecozone (modified from Smith et al, 1998).

The soils in the Wrong Lake (371) Ecodistrict are listed by Smith et al. (1998:121) as "Bedrock and well drained Dystric Brunisols that have developed on thin, discontinuous, very cobbly and stony morainal veneers are dominant, especially in the eastern half. Significant areas of very poorly drained Typic (deep) and Terric (shallow) Fibrisolic and Mesisolic Organic soils overlying loamy to clayey glaciolacustrine sediments occur in the peatlands, which are increasingly more widespread towards the west. Poorly drained Gleysols and moderately well to imperfectly drained Gray Luvisolic soils are associated respectively with lowland and upland glaciolacustrine sediments."

Soils in the area are of limited agricultural use, though some local success has been found in wild rice planting and harvesting along the Manigotagan River to Turtle Lake and surrounding area. Smith et al. (1998:269) note that "Due to extensive and repeated fires, the forest cover is very fragmented. As a result, jack pine, and to a lesser extent, trembling aspen, is common on upland sites. However, black spruce is the dominant tree species, and is especially widespread on imperfectly drained uplands and bog peatlands." Smith et al. (1998:121) also explain that medium to stunted stands of black spruce are supported in poorly drained bogs, with dwarf birch and ericaceous shrubs understory, and a moss ground cover. Fens have a vegetative cover of sedges, shrubs and tamarack (Smith et al. 1998:121).

3.0 HISTORICAL OVERVIEW

3.1 Culture History of Manitoba

The culture history for Manitoba is complex and covers a period of approximately 12,000 years, from the receding of the glaciers to present day. The complexity of the human occupation is mirrored by the geography of the province, which simultaneously invites and prohibits the flow of cultural knowledge across the landscape. Manitoba can be divided into four geographical regions (prairies, boreal forest, subarctic, and arctic). Although these regions share many of the same cultural characteristics, regional differences necessitate the need for distinct cultural histories (Hlady 1970). The following is a brief summary of the cultural history in southern Manitoba. This includes a description of the heritage sites with a known cultural affiliation found in the vicinity of the proposed development. A timeline illustrating the cultural sequence in Manitoba is presented in Figure 4.

The earliest period, known as the Palaeo (or Early) Period, begins approximately ca. 12,000 years ago and ranges to ca. 8000 years ago. Before this time, glaciers covered Manitoba and prevented the spread of people into the province. This is a time when the Wisconsin Ice Sheet had begun its retreat north, opening up an environment capable of supporting plants and megafauna. This time period has been subdivided into three successive traditions based on projectile point typologies: Clovis, Folsom, and Plano. These large lanceolate projectile points were hafted at the ends of thrusting or throwing spears. People subsisted by hunting now-extinct giant mammals, such as mammoth. Palaeo peoples, Clovis and Folsom traditions especially, are only represented archaeologically in the southwest portion of the province.

The Archaic (or Middle) Period (8,000 to 2000 B.P.) represents a time of technological shift reflected by atlatl darts and side-notched projectile points, and a shift of subsistence strategies from megafauna to small-scale hunting. As the glaciers receded people were exposed to changing environmental conditions and adapted their subsistence strategies to better take advantage of local resources. The first direct evidence of mortuary practices and burials appear during this time.

The Archaic Period was followed in the south portion of the province by the Woodland (or Late) Period (2,000 to 300 B.P.), which is characterized by pottery manufacture, maize cultivation, elaborate burial mound construction, and the use of the bow and arrow. Rock art, in the form of petroforms, pictographs, and petroglyphs, also become prominent throughout the landscape.

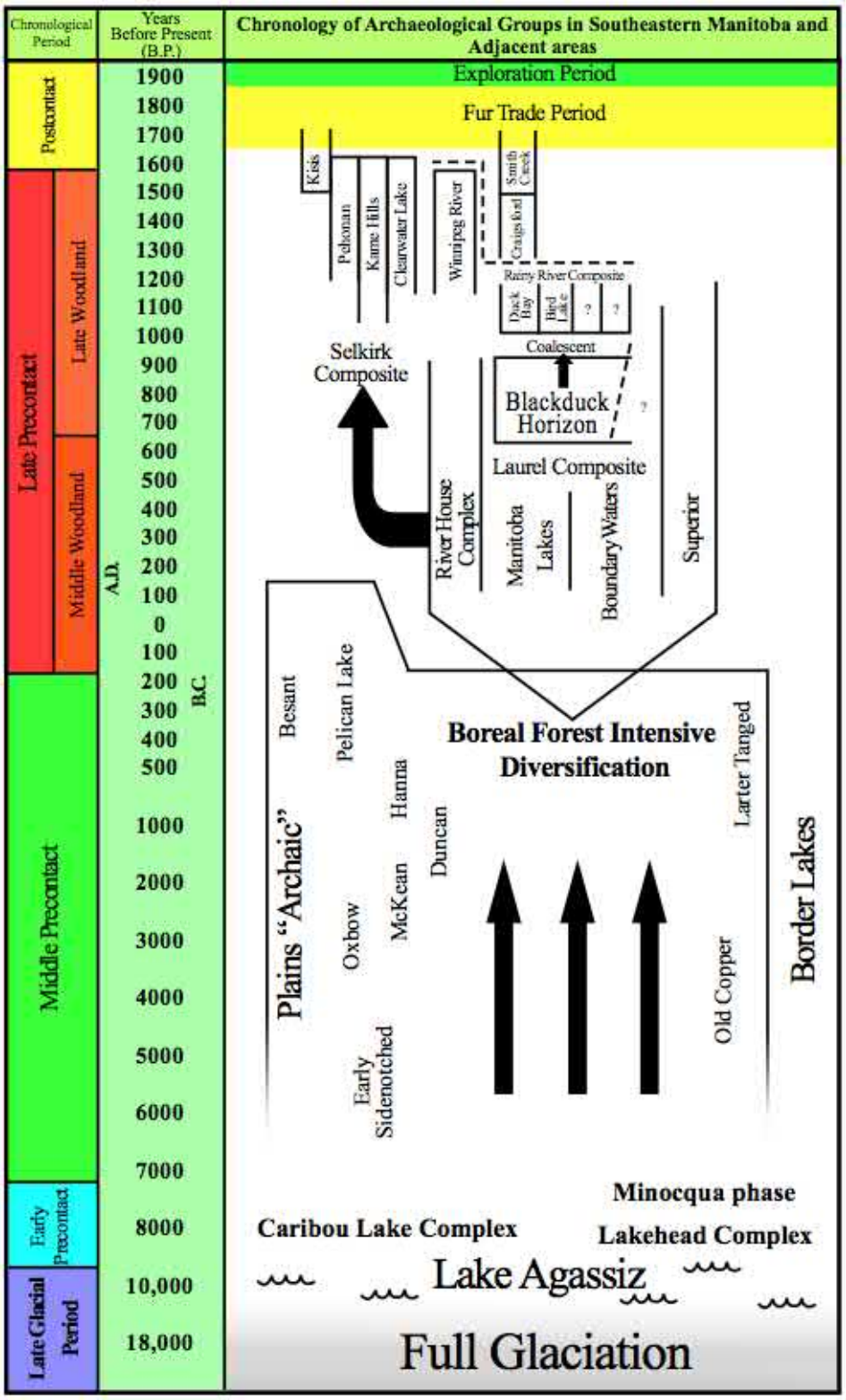

Figure 4. Culture History of southern Manitoba (adapted from Manitoba Archaeological Society 1998)

3.2 First Nations and Metis

There are seven treaties with First Nations in Manitoba, though five Manitoba First Nations are not signatory to any treaty with Canada (Birdtail Sioux, Sioux Valley, Canupawakpa, Dakota Tipi, and Dakota Plains). The Hollow Water First Nation is an Anishinaabe (Ojibwa) First Nation occupying the Hollow Water 10 Indian Reserve located immediately east of the project area. The Hollow Water First Nation is a signatory to Treaty 5 (also known as the Winnipeg Treaty), signed in 1875–76 by the federal government, Ojibwa peoples, and the Swampy Cree of Lake Winnipeg. A Métis population (mostly of Scottish and French descent) is also present in the area and the location is within a large recognized Métis game hunting area.

Though Hollow Water First Nation is the only reserve in the immediate area, the proposed project is located within a designated Northern Affairs Community area (Government of Manitoba 2015). As such ongoing plans are in place to include Hollow Water First Nation, Seymourville, and Manigotagan in community engagement strategies including recent Traditional Ecological Knowledge (TEK) consultation with elders.

3.3 Historic Context of the Project Area

Ethnographic, historical, and sociocultural evidence describe a vibrant Anishinaabe (Ojibway) presence in the region (Government of Manitoba 2015). Historical research done for the Wabanong Nakaygum Okimawin (WNO) East Side planning initiative contains substantial information relating to the Manigotagan area (Sutherland 2008:11-15). The area's role in the fur trade has been historically defined by its association with Fort Alexander, located at the mouth of the Winnipeg River, 60 km south of the project area. Fort Alexander was primarily used as a supply depot for brigades on the Superior route. First referred to historically as Bas de la Rivière, the region was at its zenith during the heyday of the North West Company (1732-1821), but declined in importance once the Hudson's Bay Company dominated and pushed the main transportation routes of the fur trade further north after 1821. The first fur trade fort was called Fort Maurepas. Numerous contemporary sources refer to the area as a gathering place for fur traders and local peoples. Fort Alexander itself was built sometime before 1800 (Williamson 1977). The Hudson's Bay Company Archives (HBCA) note two fur trade posts in the project area, the "Winnipeg Lake Post", a more northerly positioned post (possibly located in the vicinity of Wanipigow), and the more southerly located "Bad Throat River Post", a HBC outpost of Fort Alexander at Manigotagan that existed from 1887 to 1893 (Sutherland 2008:11), closing after the fur industry came to a halt.

The project area also has a rich mining history. In the 1730s, Europeans explored mineral deposits on Black Island that were already known to the aboriginal population. Black Island was formerly a gathering place (Boulette 1957). Red Rock on Black Island was a well-known source of red iron ore, which the local population used for ceremonial purposes. Various attempts were made by Europeans to mine the ore up to the 1960s (Reynolds 1971). As well, gold mining has been conducted in various forms along the Wanipigow River since 1911

(Sutherland 2008:13). During this time, the Manigotagan River was used as a major transportation route to access gold mines near Bissett. This lasted until the 1960s when the last mine closed. The archaeological site EgLa-15 (common name “The Alligator”) is a prominent remnant of the East Central Manitoba Gold Rush, includes an ore crusher mounted on a flat barge that was intended for use on Long Lake, but was abandoned in 1920.

Some logging was also done in the Manigotagan area in 1868 and 1869 by Henry McKenney in his attempt to establish a sawmill (Reynolds 1969). TEK discussions have indicated that several sawmills were present in the area, and small-scale logging is also conducted in the area by locals.

3.4 Previous Archaeological Investigations in the Project Area

There have been no known archaeological investigations conducted in the immediate project area and there are no known archaeological sites in conflict with the boundaries of the proposed project.

Previous archaeological research in the surrounding area includes research surveys conducted by the University of Winnipeg in 1986. As well, the Archaeological Predictive Model Feasibility Assessment Project, run by Manitoba Model Forest in 2000, was conducted along the water system that includes Wanipigow River, Round Lake, Horseshoe Lake, and Rice Lake (Petch et al. 2000). Though the assessment encompassed an area located approximately 25-50 km southeast of the proposed project, this water system flows through the Hollow Water 10 Reserve and empties into Lake Winnipeg approximately 3 km east of the project area. The same water system was the focus of more detailed archaeological investigations in the 1970s as a response to local gold mining south of the town of Bissett (Buchner 1979; Saylor 1976,1977). In addition, SNC Lavalin conducted Traditional Ecological Knowledge (TEK) studies with the Hollow Water First Nation in 2009 as part of their Large Area Transportation Network Study on the east side of Lake Winnipeg (SNC Lavalin 2011). Archaeological work and community engagement has also been an integral part of the mandate of the Wabanong Nakaygum Okimawin (WNO) Planning Initiative on Sustainable Development (Government of Manitoba 2015). Current information regarding the WNO East side planning initiative is available at the Manitoba Wildlands website (Manitoba Wildlands 2014).

Western Heritage has completed heritage studies in the region as part of our work on the East Side Road Authority upgrades in 2010, 2011, and 2012. These studies included work at locations along the Wanipigow River and English Brook River approximately 10 km east of the proposed project (Western Heritage 2011).

3.4.1 Recorded Sites in the Project Area

The project is located on NTS map sheet 62 P/01 (Figures 1 and 2). An examination of the provincial archaeological database indicates that there are 43 known sites found on NTS 1:50,000 map sheet 62 P/01 where the proposed development is located. Eight of these sites

are historic in nature, dating from the late 1800s to the late 1900s. Twenty-three sites can be attributed to a specific pre-contact cultural affiliation, including Woodland (n=18), Archaic Woodland (n=3), and Blackduck (n=2).

Thirteen sites are located approximately 25 km southeast of the proposed development along the shores of Lake Wanipigow. This lake is part of the Wanipigow River system that skirts the east side of the project boundary. Another eight sites are located approximately 8-11 km south of the proposed developments along the Manigotagan River, which empties into Lake Winnipeg within 5 km of the project's south boundary.

There area 21 archaeological sites located within approximately 5 km of the project boundaries (Table 1; Figures 1 and 2). The majority of these sites are located along the Lake Winnipeg shoreline, with several located along interior river systems. They represent a wide range of site types (including campsites, pictographs, petroforms, burials, and historic homesteads) and a deep time range that goes back several thousands years.

Table 1. Archaeological Sites in the Vicinity of the Project Area

Borden	Common Name	Site Type	Affiliation	Comments
EgLc-1	Name Not Available	A.CAMPSITE	Archaic – Woodland	
EhLc-2	EMMA BAILEY GRAVE	F.BURIAL	HISTORIC	1936
EhLc-3	PELICAN STORE	J.FARMSTEAD	HISTORIC	EARLY 1900S
EhLc-4	PELICAN CHIMNEY	J.FARMSTEAD	HISTORIC	1930S-1960S
EgLc-4	Relic	I.ISOLATED FIND	unknown	n/a
EgLc-3	Bruno	I.ISOLATED FIND	unknown	n/a
EhLc-6	Name Not Available	H.UNINTERPRETED	Woodland Period	
EhLc-7	Name Not Available	H.UNINTERPRETED	Woodland period	
EhLc-8	Name Not Available	H.UNINTERPRETED	None	
EhLc-9	Name Not Available	H.UNINTERPRETED	Woodland	
EgLb-3	RAPIDS NORTH SIDE	A.CAMPSITE	Woodland Period	
EgLb-4	CASCADE RAPIDS	A.CAMPSITE	Woodland Period	
EgLb-Y1	Name Not Available	A.CAMPSITE	Woodland Period	
EhLb-4	CLANGULA LAKE MINE	L.INDUSTRIAL	HISTORIC	1900S
EgLb-5	Manigotagan Root Cellar Site	Q.STRUCTURAL	Late Historic	ca. 1870 A.D. – 1930 A.D.
EgLb-6	Wood Falls Site	A.SETTLEMENT; A.CAMPSITE	Terminal Woodland Period	ca. 800 A.D. – 1700 A.D.
EhLb-5	HOLLOWATER PETROFORM	G.PETROFORM		
EhLb-1	SEYMOURVILLE BEACH SITE	A.CAMPSITE	Woodland Period	
EhLb-2	WANIPIGOW EAST SITE	G.PICTOGRAPH		
EhLb-3	WANIPIGOW PICTOGRAPH SITE	G.PICTOGRAPH		
EhLc-1	SEYMOURVILLE SITE	A.CAMPSITE	Woodland Period	

Of particular note is archaeological site EgLc-5, the “Indian Village of Sandy River” site. The village of approximately 200 individuals was wiped out by the 1876/77 small pox epidemic, and consisted of a clearing containing 30 cabins as well as tents. The community was visited by DR. Baldwin, his interpreter Magnus Stefansson, and guide John Ramsay in January/February 1877, who burned it to the ground after discovering all the residents dead from small pox and/or starvation. The site was described in literature as being on the east shore of Lake Winnipeg, directly opposite the southernmost tip of the “Big Island” (interpreted as Hecla Island), which is located approximately 16 km south of the project area at mouth of Sandy River. The presence of this site has not been ground truthed by archaeologists and was recorded based on literature review due to the potential biohazard. Anecdotally, it was reported to Western Heritage that one of the elders recalled a site of this nature located at Clements Point (approximately 2.5 km west of the western development boundary), which is a prominent point of land located at the edge of Lake Winnipeg directly opposite the southernmost tip of Black Island, adjacent to the mouth of the Manigotagan River. However, no archaeological sites have been recorded at Clements Point at this time.

Though not in the immediate project area, the Wanipigow Lake Archaeological Site (EgKx-1), is a designated Provincial Heritage Site located in T24-R12-E. It covers a large area (approximately 2.5 ha) and is one of the most significant archaeological sites in Manitoba. The site was occupied as early as 6,000 years ago, with more intensive use of the site by Laurel peoples (identified by their distinctive Laurel-type pottery) around 2000 years ago. The HRB website page dedicated to the site notes that the first solid evidence of intensive harvesting of wild rice and goosefoot in Manitoba was found at the Wanipigow Site. The most intensive and continuous utilization of the site occurred between 1,200 and 300 years ago, marked by the presence of large quantities of distinctive types of pottery (Blackduck, Selkirk and Sandy Lake types) were recovered in large quantities.

Though the spatial distribution of the known sites encircles the project area, it is reasonable to assume that past peoples crossed through the project area and utilized it for hunting, gathering, and other activities. The sparseness of the archaeological record is more likely due to a low volume of archaeological research in the area, combined with a potential small or transient nature of the sites likely to be present in the area.

4.0 METHODS

4.1 Introduction

HRIAs are an important component of archaeological research in Manitoba. HRIAs serve four functions:

1) to locate and document the presence of heritage resources within the project area;

2) to determine the content, structure, and integrity of the heritage resource;

3) to establish significance of the heritage resource, and;

4) to facilitate heritage resource avoidance when necessary.

Developments are assessed using one of three methods: pre-construction testing, on-site monitoring, and post-impact assessments. Sometimes it is necessary to combine one or more methods, particularly in areas deemed highly sensitive for heritage sites. The HRIA also serves as a means to find suitable measures to avoid sites, including the relocation of the proposed development. If it is not possible to avoid impacting a site then mitigation, including archaeological salvage excavation, would be implemented.

4.2 Desktop Analysis

The desktop analysis of the project area including associated wash plant, access road, and active quarry locations incorporated various resources. A current listing of known historic resources in the project area was obtained from the HRB, who maintains a database of recorded archaeological sites in the province. Reports regarding previous archaeological investigations in the immediate and general area, as well as archival sources regarding potential trading posts and settlements were consulted. Web based search tools and map sources including those provided by AECOM were also employed. Map-based data sources serve to aid in the identification of vegetation and terrain to be impacted by the proposed development. This information along with professional experience were used to determine specific areas of high heritage potential that required further ground-truthing and investigation.

4.3 Field Methods

The HRIA for the proposed development was accomplished using conventional pre-impact and post-impact archaeological methods. Field work was conducted under a heritage permit issued by the HRB and proposed methodology was discussed with the HRB prior to field work. The field inspection included a systematic pedestrian survey and judgemental shovel testing.

Pedestrian ground surveys serve to locate surface archaeological features and artifacts, to assess the heritage potential of the micro-topography, and evaluate the overall vegetation cover and surface visibility. The spacing of pedestrian transects depends on surface visibility and heritage potential. The survey focussed on high visibility areas, such as well defined landforms and along exposed roads and at recent drill locations.

Shovel testing serves to identify the presence of sub-surface cultural materials and previous soil disturbance. Shovel tests are excavated in areas having the potential for buried cultural materials, areas of significant soil deposition, and areas of poor-surface visibility due to thick vegetation. Shovel tests are approximately 40 cm x 40 cm in size and are excavated to subsoil. The soil matrix is screened through 1/4 inch mesh or is sorted through by hand with trowels if the soil matrix has high clay content. Information regarding location, stratigraphy, and presence or absence of artifacts is recorded for each shovel test. Shovel tests are then backfilled. Low heritage potential areas such as low wet areas and steeply sloping terrain are not typically shovel tested. An abundance of tree throws (fallen trees that have caused a subsurface disturbance associated with the removal of the roots from the soil), were examined in the project area as a supplement to excavated shovel tests. The soil from these tree throws were examined with trowels and comments regarding the nature of the soils taken from representative throws. The depth of the disturbance of examined tree throws varied, but was typically between 10-30 cm depth below surface (DBS).

Hand-held GPS units with an estimated point collection accuracy of ± 5 m, averaged over 30 seconds per location are used to record the the survey transects, shovel tests and tree throw locations, photograph locations, and any points of interest. The inspected areas were throughly photographed. Information regarding landforms, heritage potential, ground surface visibility, shovel test descriptions, and photos was recorded in a field notebook.

5.0 RESULTS

5.1 Project Description

The Wanipigow Sand Extraction Project is located within T25-R09-E & T25-R08-E on the east side of Lake Winnipeg, south of the community of Seymourville, west of the Hollow Water First Nation Reserve, and north of the community of Manigotagan. The silica sand deposit was discovered in 1977. In 1980, the deposit was evaluated to a feasibility study level by the Manitoba government and was drilled by Manitoba government geologists in 1981 and 1989. The deposit is hosted within a 25m high hill composed mainly of Lake Winnipeg Formation, which is the on-shore extension of the Historical Black Island silica deposit.

The proposed Wanipigow Sand Extraction Project currently consists of three elements: a quarry development area, a wash and dry plant and associated infrastructure, and a wash plant access road (Figures 5-8 and Appendix D). The examined project footprint includes an irregularly shaped quarry area that is approximately 4 km x 3 km in size and the proposed access road is approximately 4 km in length with a 300 m right-of-way (ROW). The quarry development area is an amalgamation of 44 contiguous silica sand quarry leases (see Figure B-1, Appendix B), though not all of the quarry lease area is expected to be impacted and many of the leases fall entirely or partially outside the investigated project area. The proposed wash plant is currently located in Section 29-25-9 EPM. The proposed access road to the wash plant begins at the existing highway in Section 15-25-9 EPM and is expected to be located in Sections 16/21/29-25-9 EPM. The total area expected to be impacted by the proposed development over the course of the 54 year life of the project is estimated to be 353 ha (Table 2).

For clarification, the project footprint outline in Figures 1-2 and shown in the plans in Appendix B (Figure B-1), illustrates the original project area boundaries as per the initial estimate from Western Heritage to AECOM. While in the field it was found that a more recent proposed project footprint (as per Figures B-2a through B-2c, Appendix B), included an area to the north that was not part of the original project footprint outline covered by the HRIA. Canadian Premium Sand Inc. requested that the portion indicated as “added project area Nov. 6” in Figures 1-2 be assessed during the HRIA. Following the field work, it was also determined that a small (approximately 850 m x 350 m) area at the northwest side of the updated project map was not included in the assessment (indicated as “area not examined” in Figures 1-2). This area covers the north half of quarry lease QL-1276 (shown in Figure B-1). Though this portion was not part of the examined project area, the south boundary was examined during the HRIA.

For several reasons, the project area could have been an attractive location to past peoples. The northern extent of the proposed developments are located within 500 m of the Lake Winnipeg shoreline. The proposed developments are also situated between the Wanipigow River (3 km to the east) and the Manigotagan River (3 km to the south), making the project area ideally situated in relation to various water accesses. It is also located in close proximity

to Black Island (less than 5 km northwest across the strait). The project area is also situated on elevated hummocky terrain. The central portion of the project area rises to a hill approximately 20 m higher than the current shoreline. The hill may have been incorporated into the shoreline itself in the past when water levels were much higher. The sand dune structure of the project area also lends credence to the idea that there could have been a time period in which the landform represented a dry oasis for people to utilize. The project area also hosts several seasonal sloughs and muskegs that could have been more permanent water bodies in the past. Much of the project area has been impacted by small-scale development, including an ongoing program of drill hole testing that has required the contraction of many new temporary access roads across the project area, but a large portion of undisturbed terrain still exists.

Known cultural resources in the project area include hunting trails, traplines, gathering places for berries or medicinal plants, and a historic sleigh trail. Logging activity and old sawmills were also identified during TEK consultation, with 2 old sawmills flagged as in the vicinity of the northwest portion of the project boundary (on or around the west 250 m asl topography line and the large disturbed quarry areas). While multiple small scale logging areas were observed across the project area during the HRIA, no examples of old sawmills were observed in the proposed project footprint.

Table 2. Estimated Project Footprint Areas

Project Components	**Area (ha)**
Permanent Components	
Wash and Dry Plant and Associated Infrastructure	15
Main Access Road Right-of-Way (estimated 60 m wide x 6 km long)	36
115 kV Power Line Right-of-Way (estimated 30 m wide x 6 km long)*	18
Construction and Emergency Use Access Road Right-of-Way (estimated 60 m wide x 1.5 km long)	9
Annually Disturbed Quarry Area	
Active Quarry Site Area (maximum disturbed area in any given year with previous year active areas under rehabilitation)	5
Project Totals	**Area (ha)**
Total Disturbed Footprint Area in any given year of the life of Project (54 years)	83
Total Footprint Area during life of Project (including all sequentially used and rehabilitated quarry areas, i.e. 5 ha x 54 years)	353

**Adjacent to Main Access Road Right-of-Way*

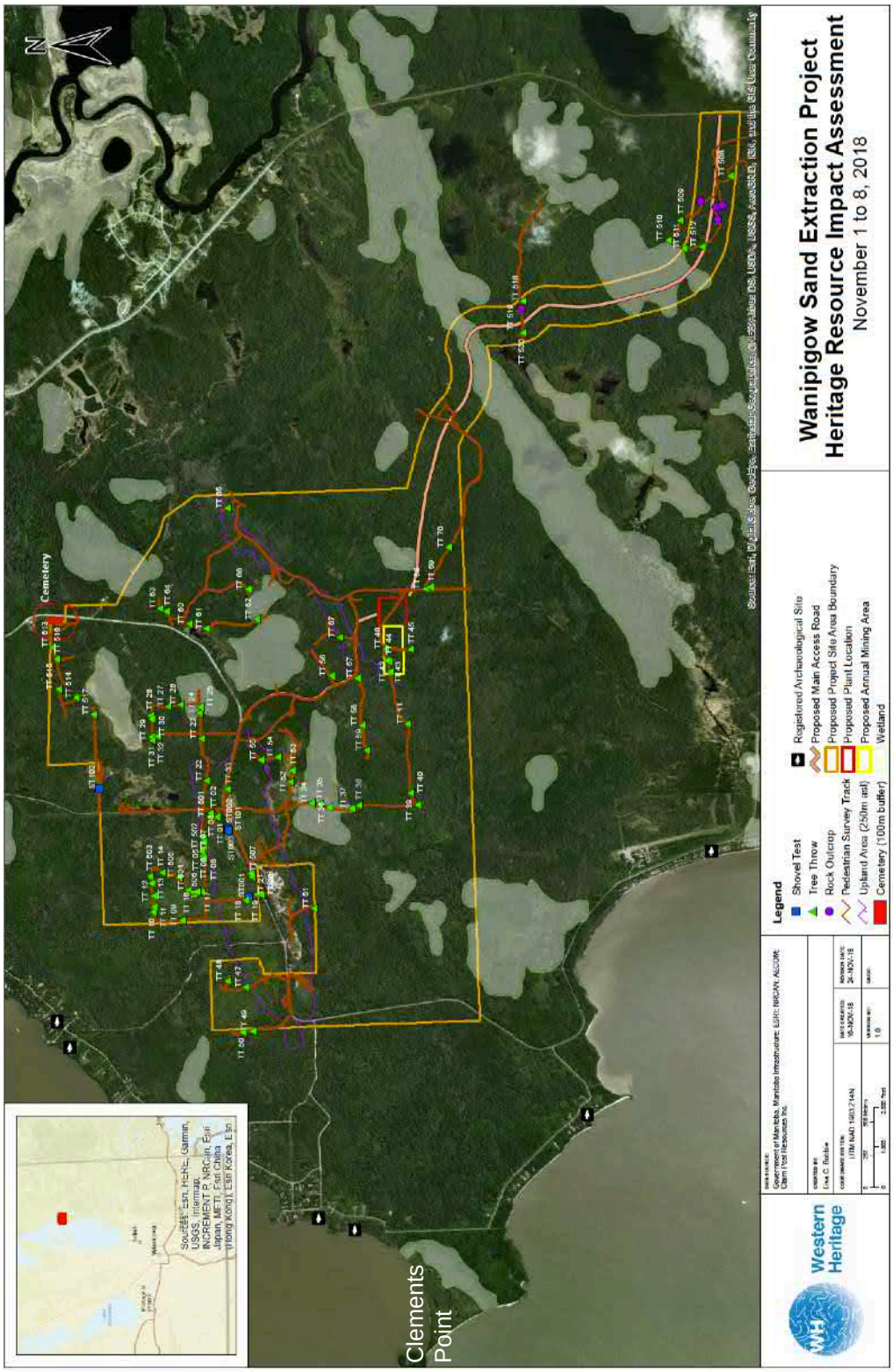

Figure 5. Project footprint showing tracklogs, shovel tests, and examined tree throws (see also Appendix D for 11x17 version).

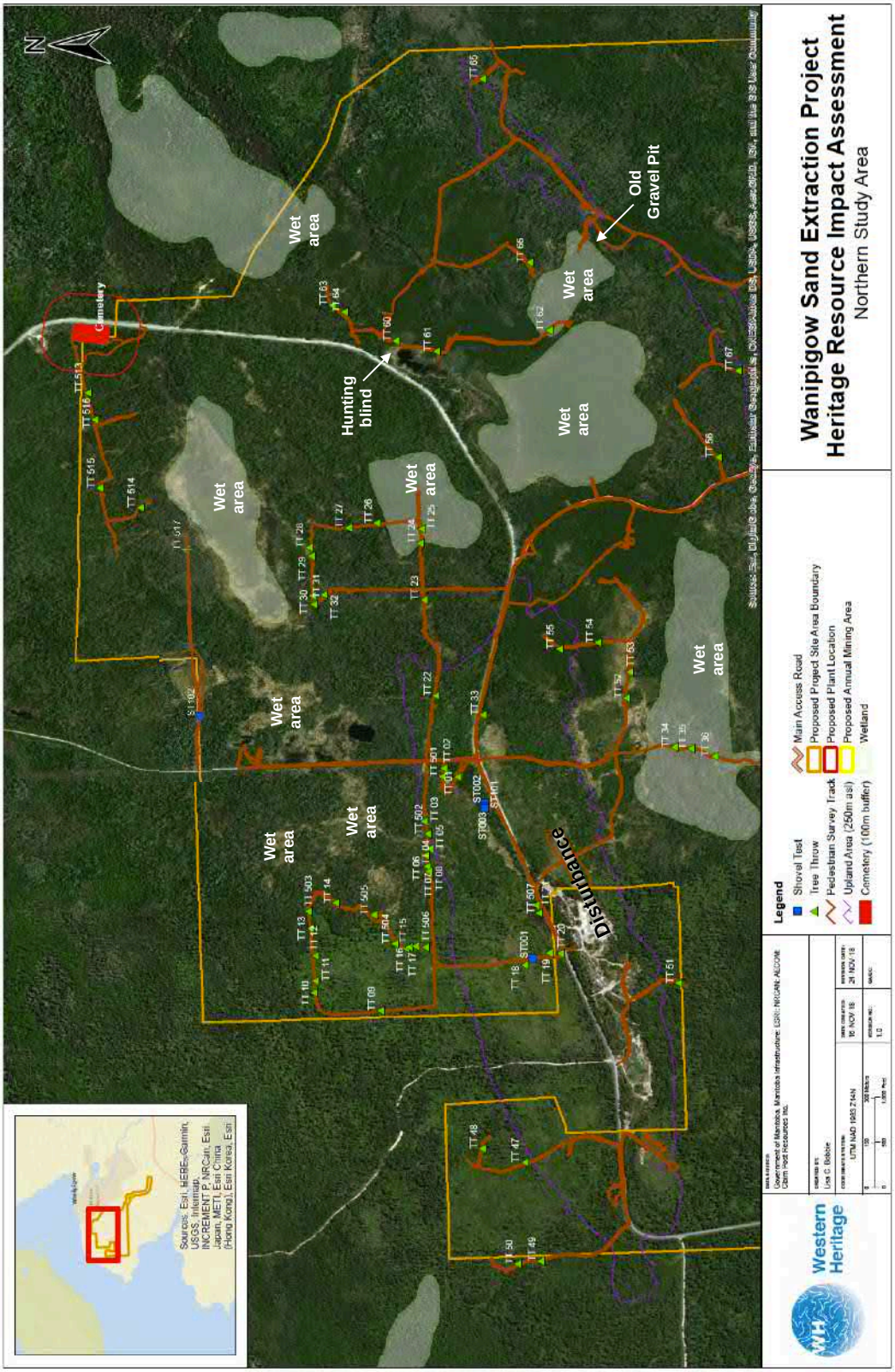

Figure 6. Detail of North area of proposed project footprint (see also Appendix D)

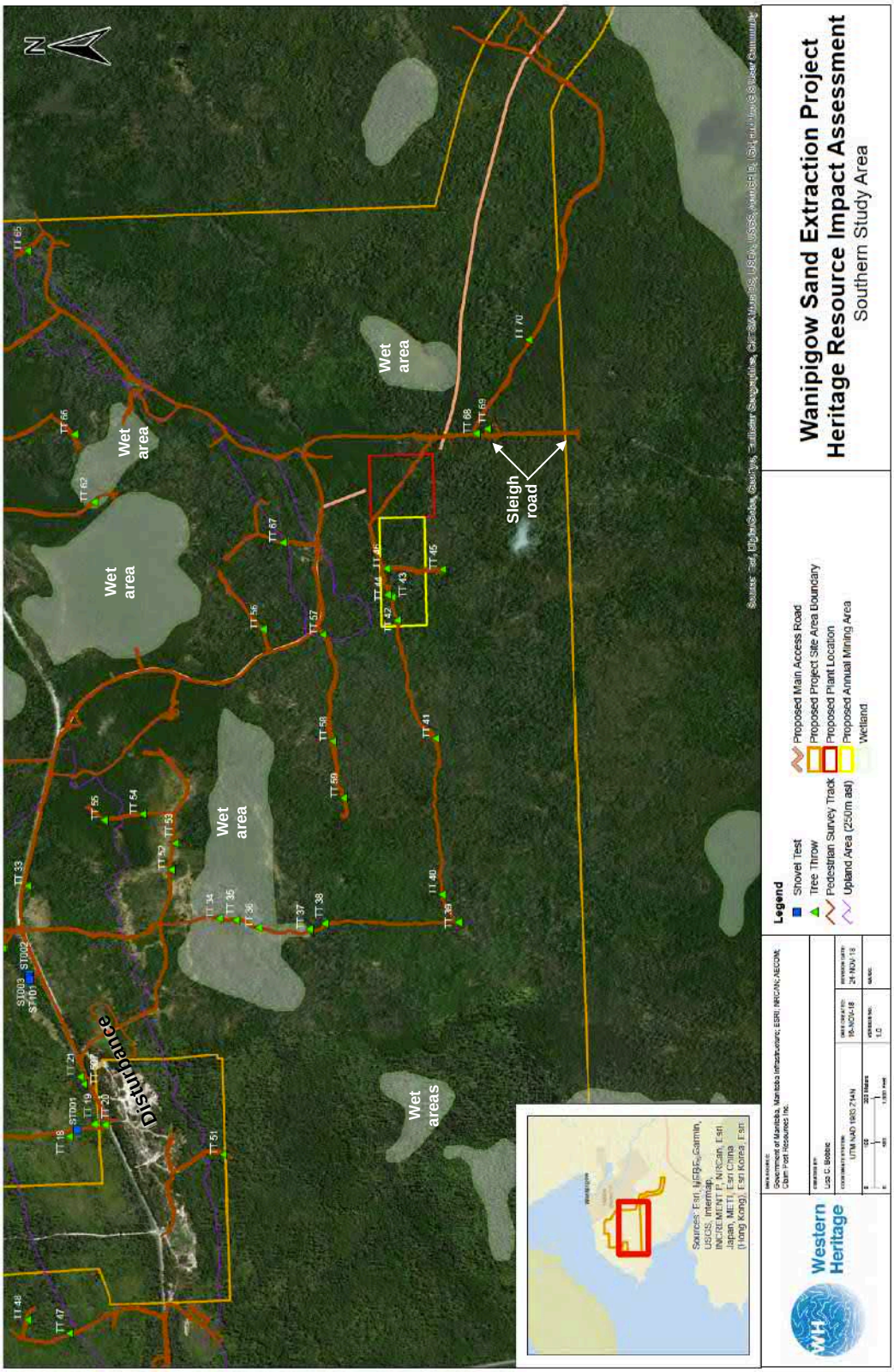

Figure 7. Detail of South area of proposed project footprint (see also Appendix D)

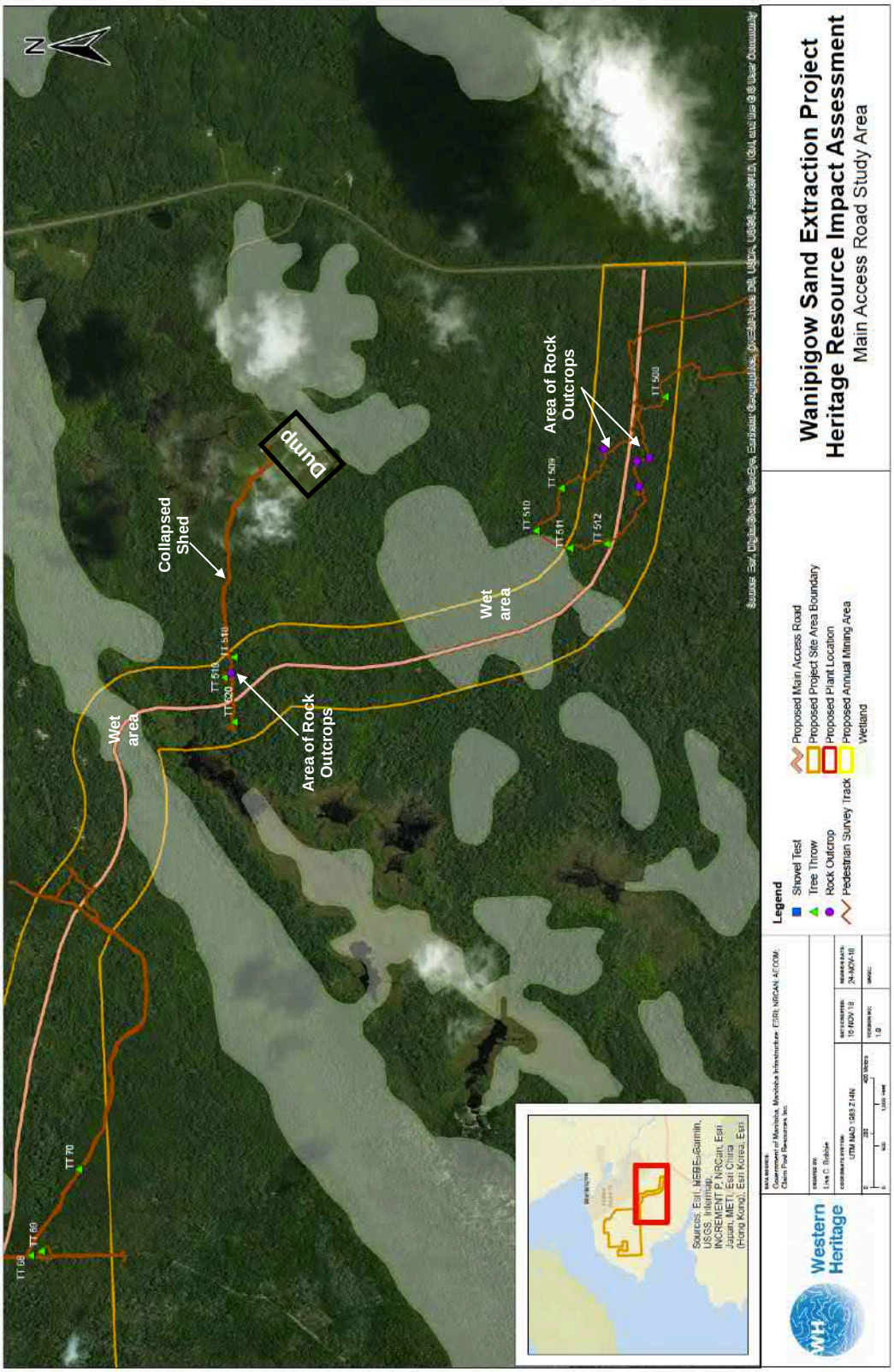

Figure 8. Detail of proposed main access road (see also Appendix D)

5.2 Fieldwork Summary

The HRIA was completed on November 1-8, 2018 by Cara Pollio (permit holder) and Lisa Bobbie (field technician), with the assistance of First Nations field assistants from the Hollow Water First Nation, Faron Young and Palmi Moneas. The field work was completed under Permit No. A96-18. The HRIA included a pedestrian survey of the proposed impact area, the excavation of judgmental shovel tests, and examination of tree throws in the project area. A particular focus of the investigation centred on selected areas of raised topography (indicated as 250 m asl on topographic maps) on the west and east sides of the main project area.

A systematic pedestrian survey was conducted across the project area (see track logs depicted on Figures 5-8). Ground surface visibility was moderate to poor in locations of intact forest. Conducting the work in late fall allowed for additional visibility through trees, unobscured leaves or verdant underbrush. Large open areas of muskeg and deforested locations also had generally poor surface visibility, but allowed for very good line of sight while searching for evidence of historic structures and similar archaeological surface features (Figures 9-11). Several large exposed rock outcroppings were also identified and examined for surface features or artifacts, located along the proposed access road ROW (Figure 12).

The primary focus of the majority of the pedestrian survey included post-impact investigation of recently constructed access roads and drill pads for the ongoing drill testing program, as well as previously existing roads, ATV trails, and hunting trails in the project area (Figures 13-14). This included an identified historic sleigh trail at the southeast end of the proposed development footprint, that has since been adapted as an ATV trail (Figure 15). Old quarry areas on the east and west sides of the project area also provided large areas of previous disturbance that were examined (Figure 16). The post-impact assessment allowed for a representative sample of the project area to be examined, including over 40 km of tracks by each of the four field staff across the proposed project area. New access roads to drill pads are typically 3 m wide ROW disturbance, showing cleared vegetation and levelled exposed ground surface. Drill pads were typically observed to be cleared surface disturbances approximately 20 m x 20 m in size.

No archaeological surface features or artifacts were identified during the pedestrian survey. Multiple examples of recent refuse dumps were encountered in the vicinity of utilized trails (Figures 17-19). Several examples of structures indicating anthropogenic utilization of the landscape were recorded, including multiple animal traps (several martin box traps and one example of an old trap constructed from a bucket lodged between trees), a hunting blind, and a collapsed shack structure (Figure 20-23). A discarded pile of beaver (*Castor canadensis*) bones with at least six individuals observed, indicating relatively recent skinning activities in the vicinity of the old cemetery at the north end of the project area (Figure 24). The periphery of the old cemetery at the north side of the project area was also examined (Figure 25). A tree with “tobacco ties” representing individual prayers was observed to the south of the proposed access road ROW (Figure 26). This location is along an existing vehicle trail that will not be impacted by the proposed project footprint and no other such locations of potential spiritual significance were observed within the proposed project area.

Figure 9. Example of a large open vegetated wetland. View facing east taken across wetland to the west of ST 102.

Figure 10. Example of a large open vegetated wetland. View facing south taken across wetland located west of the observed hunting blind and "TT60".

Figure 11. View showing stacked logs in open area adjacent to TT 53.

Figure 12. View facing west along open area of rock outcrop, located near the southeast end of the proposed access road ROW.

Figure 13. View facing north along example of typical drill access, taken from TT67 (being examined on left side of image).

Figure 14. View facing east across example of an examined drill pad, located east of TT63.

Figure 15. View facing northeast across area of disturbance (location marked as "Disturbance" on Figure 6).

Figure 16. View facing north along the "Sleigh Trail", taken from the south boundary of the project area.

Figure 17. Discarded tire adjacent to access road, located approximately 50 m southeast of "TT 61".

Figure 18. Discarded cans (left) and "stubby" beer bottle in tree (right), located adjacent to access road approximately 50 m southeast of "TT 61".

Figure 19. Enamel bucket observed adjacent to the "Sleigh Trail"; photo taken from the south boundary of the project area.

Figure 20. Front (left) and back (right) of observed hunting blind.

Figure 21. Example of a martin box trap observed in the project area.

Figure 22. Example of an old style of trap utilizing a bucket fitted between two trees, observed at the southeast end of the proposed access road ROW.

Figure 23. View of collapsed shed observed along the trail to the east of the proposed access (located approximately halfway between the dump and the proposed access road).

Figure 24. View of some of the beaver remains observed on trail, immediately northwest of the old cemetery at the northeast end of the proposed development.

Figure 25. View facing west across old cemetery at north end proposed project area.

Figure 26. Tobacco ties observed on a tree located south of the proposed development.

In total, five shovel tests were excavated in three locations of concern with no available tree throws to provide subsurface soil exposure (Table C-1; Appendix C). Medium and large tree throws were ubiquitous across the project area (Figure 27); 111 tree throws were examined at 70 locations across the project area (Table C-2; Appendix C). All of the shovel tests and tree throw exposures were sterile for cultural materials. Labelled shovel tests and tree throw locations are shown on Figures 5-8.

Soil stratigraphy in the project area is described in Tables C-1 and C-2. Typical stratigraphy included light grey to brown sand, silty sand, or silt (Figure 28). Wet areas often showed higher relative silt/clay content while ares near to uplands showed higher incidences of sand and gravels.

Figure 27. Example of a typical large tree throw examined (TT 7).

Figure 28. Stratigraphy at ST101.

6.0 CONCLUSIONS

Canadian Premium Sand Inc. is proposing the construction of a silica sand quarry located 200 km north of Winnipeg, Manitoba. The Wanipigow Sand Extraction Project is located on the east side of Lake Winnipeg, south of the community of Seymourville, west of the Hollow Water 10 First Nation Reserve, and north of the community of Manigotagan. The project will include a large area of quarry leases, a proposed sand wash plant (within an approximately 4 km x 3 km area), and a south access road approximately 4 km in length (assessed within a 300 m wide right-of-way). The quarry development area is an amalgamation of 44 contiguous silica sand quarry leases, but many of the leases fall entirely or partially outside the investigated project area. The total area expected to be impacted by the proposed development over the course of the 54 year life of the project is estimated to be 353 ha.

The HRB examined the development location in conjunction with their records for areas of potential concern (HRB File Number AAS-18-13794; Appendix A). The proposed project location is considered to be of high archaeological significance due to its presence in the vicinity of major water sources that provided access to travel routes and natural resources. Known archaeological sites surround the proposed project area from north of Wanipigow along the shoreline south to Manigotagan, east of Clangula Lake south to English Brook and all along the Manigotagan River to the south. In addition, historic activities in the area are associated with two known HBC trade posts near to the project as well as sites associated with past mining activities.

AECOM, on behalf of Canadian Premium Sand Inc., requested that Western Heritage Services Inc. (Western Heritage), undertake the HRIA of the Wanipigow Sand Extraction Project. The HRIA was completed on November 1-8, 2018 by Cara Pollio (permit holder) and Lisa Bobbie (field technician), with the assistance of two First Nations field assistants from the Hollow Water First Nation, Faron Young and Palmi Moneas. The field work was completed under Heritage Permit No. A96-18. The HRIA included a pedestrian survey of the proposed impact area, focussing on selected areas of higher elevation (250 + m asl) as well as post-impact assessment of recently cleared access trails associated with test drilling operations. Judgmental shovel testing and examination of over 100 tree throws in the project area was also conducted.

No archaeological artifacts or features were identified during the HRIA. Several areas of raised topography (indicated as 250 m asl on topographic maps) were examined and the post-impact assessment of access roads provided an ideal sample of surface exposure across the project area. In addition, the southeast end of the proposed access crosses several large rock outcroppings that could have been utilized as a dry elevated area in the past and these were noted and examined for evidence of petroforms or surface artifacts, but none were found. Reconnaissance of the existing cemetery located at the north end of the proposed project area was conducted, but the cemetery will be avoided by a 100 m buffer and will not be impacted. A noted historic trail, identified as an old sleigh trail that residents would use to travel from

Seymourville/Wanipigow to Manigotagan, was also examined. The trail currently appears as a cleared ATV track.

Based on field observations, as well as anecdotal evidence associated with TEK discussions with local elders conducted by the client, it is apparent that the project area has been historically utilized for multiple natural resources (blueberry picking and grouse hunting areas, trapping lines, and logging activities were noted in particular), however permanent occupations are all concentrated closer to the nearby significant water sources (Lake Winnipeg, and the Wanipigow and Manigotagan Rivers), all of which lie well outside the project area. The closest points to the Lake are over 750 m from the northwest and southwest project boundaries and, while there are many areas of muskeg and vegetated wetland, these are not optimal water sources and would have provided no value in terms of navigable waterways. It is therefore probable that the project area does contain small archaeological sites representative transient utilization of the landscape for these resources (both during pre-contact and historically), but evidence of these could not be found during the HRIA. It was also anecdotally noted that medicine bundles or other items of spiritual significance may have been hidden within the forest near Hollow Water First Nation Reserve in the past to protect them or for other reasons.

7.0 RECOMMENDATIONS

Based on the findings outlined in this report, Western Heritage makes the following recommendations:

1. Since no archaeological resources were found during the HRIA, **Western Heritage recommends that the project be granted clearance to proceed** with the proposed development in compliance with Section 12(2) of the Manitoba *Heritage Resources Act*.

2. Western Heritage recommends strict adherence to the planned 100 m avoidance buffer around the old cemetery located at the north end of the proposed footprint. This will help mitigate the potential for impacting unmarked graves that sometimes occur in the vicinity of such features.

3. While no surface or sub-surface archaeological sites were found during the HRIA, it remains probable that small sub-surface or surface archaeological sites representing transient utilization of the natural resources in the area or even historically placed items of spiritual significance may be present within the project area. It is therefore recommended that Canadian Premium Sand Inc. follow through with a proposed plan to conduct a “walk-through" of any quarry leases prior to their disturbance over the course of the planned 54 year life of the project. This will allow for supplemental identification of any surface evidence of small scale historic occupation within the targeted leases, and enable preemptive mitigation and/or avoidance of spiritually significant locations that could not be identified during the HRIA.

4. It is also encouraged that on site workers be oriented regarding the potential for heritage concerns, and the methodology of stopping work and reporting any suspicious finds prior to continued impacts if potential archaeological or culturally sensitive sites are found. Items of concern might include, but are not limited to, marked trees, historic structures or refuse, precontact pottery, stone tools or debitage, and/or petroforms or petroglyphs (especially in the vicinity of rock outcroppings). Workers excavating in the vicinity of the cemetery should be made aware of the potential for unmarked graves in the area.

These recommendations are those of the author and are subject to review by the Archaeological Assessment Services (AAS) unit at the HRB. Despite a thorough investigation, fortuitous discovery of additional heritage resources may occur during the construction phase of the proposed development. In these cases, the discovery of heritage resources should be reported immediately to the Manitoba HRB and Western Heritage to determine on-site assessment. Further development within approximately 30 m of the discovery location should cease temporarily. In the event that human remains or suspected human remains are encountered, both the local RCMP detachment and Manitoba HRB (1-204-945-2118) must be contacted.

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