Appendix H

Archaeological Assessment Landfill Expansion

Woodland Heritage Services Limited

ORIGINAL REPORT

Stage 1 and 2 Archaeological Assessment Landfill Expansion, City of Sault Ste. Marie

Report Author:

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Project Information:

Sault Ste. Marie Landfill Expansion

Sault Ste. Marie, Ontario

P065-0218-2013

Proponent Information:

AECOM

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June 14, 2014

EXECUTIVE SUMMARY

The City of Sault Ste. Marie proposes to expand the landfill on Fifth Line which is licensed to serve the residents of Sault Ste. Marie, Prince Township and Batchewana First Nation's Rankin Reserve. AECOM was engaged to undertake a Waste Management EA on behalf of the City of Sault Ste. Marie. Expansion of the existing landfill was identified as the preferred approach to dispose of residual waste in the future.

The expanded disposal footprint extends into or adjacent to an area that was previously identified as having archaeological potential based on a previously completed archaeological site potential assessment for the City of Sault Ste. Marie and adopted by Sault Ste. Marie City council as part of the City's Official Plan in 2011. In addition, there are other areas within the boundaries of the property that are identified as having archaeological potential that may be subject to redevelopment to accommodate future site infrastructure.

AECOM of Sault Ste. Marie, Ontario retained Woodland Heritage Services Limited to conduct the requisite Stage 1 and 2 archaeological assessment related to the proposed project.

As a result of the Stage 2 archaeological assessment, no archaeological sites were found.

No further archaeological assessment of the property is required.

Notice to Reader: This report is formatted according to the specific requirements and makes specific reference to the MTCS 2011 Standards and Guidelines for Consultant Archaeologists.

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PROJECT PERSONNEL

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PROJECT CONTEXT

Development Context

The City of Sault Ste. Marie proposes to expand the landfill on Fifth Line which is licensed to serve the residents of Sault Ste. Marie, Prince Township and Batchewana First Nation's Rankin Reserve. AECOM was engaged to undertake a Waste Management EA on behalf of the City of Sault Ste. Marie. Expansion of the existing landfill was identified as the preferred approach to dispose of residual waste in the future.

The expanded disposal footprint extends into or adjacent to an area that was previously identified as having archaeological potential based on a previously completed archaeological site potential assessment for the City of Sault Ste. Marie and adopted by Sault Ste. Marie City council as part of the City's Official Plan in 2011. In addition, there are other areas within the boundaries of the property that are identified as having archaeological potential that may be subject to redevelopment to accommodate future site infrastructure.

AECOM of Sault Ste. Marie, Ontario retained Woodland Heritage Services Limited to conduct the requisite Stage 1 and 2 archaeological assessment related to the proposed project.

AECOM granted permission to access the study area through The City of Sault Ste. Marie to conduct all required archaeological fieldwork activities, including the recovery of artifacts. No limits were placed on access - except that fieldwork could not take place in the active landfill area.

The archaeological assessment was undertaken in accordance with the requirements of the Ontario Heritage Act (R.S.O. 1990), the Environmental Assessment Act (R.S.O. 1990), the Standards and Guidelines for Consultant Archaeologists (2011) and the Planning Act (R.S.O. 1990). All archaeological consulting activities were performed under the Professional Archaeological License of Luke Dalla Bona (P065). The Ontario Ministry of Tourism, Culture and Sport issued PIF # P065-0218-2013 for this project.

All records pertaining to this project are currently housed in the corporate office of Woodland Heritage Services, Limited in Sault Ste. Marie, Ontario.

Historical Context

Record Review
Site files at the offices of the Archaeological Data Coordinator Ministry of Tourism, Culture and Sport (MTCS) and Woodland Heritage Services Limited site files were checked to determine if any prehistoric sites had been previously recorded and registered either in or near the study area.

Cultural Prehistory

People have been living in the study area since the time glaciers receded and the land could support plants and animals. Archaeologists have divided the precontact era (that is, before the time of European arrival) into time periods, described briefly below.

Paleo-Indian Period (ca. 10,000 - 7,000 B.P. [before present time])

These precontact peoples were the first inhabitants of the area. Most likely, they arrived by following herds of caribou across the tundra/parkland environment of newly opened lands left by the retreating glaciers. Within a few hundred years, the Boreal forest moved in, causing an adaptation to a forest environment and settlement concentrations along lakes and river systems. Several types of early spear points indicate that different groups of these early hunters moved in at various times. In the Thunder Bay region, Paleo-Indian sites are commonly associated with the 221 m contour elevation (±22 metres).

However, because of the later retreat of the glaciers in the northern part of the province and subsequent flooding of the glacially-compressed landscape by pre and post glacial lakes, there was a time delay in the settlement of northern regions by colonizing vegetation, animals and humans. It appears that people may have entered the eastern Lake Superior/northern Lake Huron area about 9,000 years ago, while archaeological work farther north in the Hudson's Bay Lowlands suggests that human occupation there may be limited to about the last 6,000 years.

Archaic Period (ca. 7,000 B.P. - 2,500 B.P.)

An environmental transition brought about warmer, drier conditions resulting in a change in the plant and animal communities, which consequently impacted the subsistence patterns of humans living in the region now represented by north-central Ontario. These alterations of subsistence patterns are reflected in the artifact assemblages. For instance, in response to the hunting of smaller game, large spear points were replaced by smaller, notched projectile points and stone knives generally became smaller. A new technology involving the production of stone tools by grinding rather than chipping was also utilized.

About 5,000 B.P., people started to make use of copper, which was cold-hammered to form spear points, knives, gaff hooks and elaborate jewelry. One of the most complete copper assemblages for northwestern Ontario comes from a burial south of Lake Nipigon, dating to about 3,500 B.P.

Initial Woodland Period (ca. 2,500 B.P. - 1,100 B.P.)

The Initial Woodland Period marks the first appearance of ceramics in the archaeological record, a technological development which becomes increasingly important to the archaeologist as a means of determining the age and occupation of a site. Just as projectile points in the preceding Archaic and Paleo stages underwent stylistic alterations through time, which permitted the determination of the age of a site, ceramics also reflect changes: in vessel form, method of construction, decorative motif (design) and mode of decoration (method). The evolution of ceramic construction was gradual and subtle enough to allow archaeologists to determine the placement of a site within a cultural chronology on the basis of the ceramics recovered from it.

Archaeologists refer to the first pottery-using period in northern Ontario as the Laurel Tradition. Laurel peoples sites are marked by the introduction of fired clay pottery vessels. These vessels were made by the coil method, had conical bases and were smooth, with the exception of the neck and rim which were decorated with distinctive toothed or sinuous-edged tools. The Laurel peoples also practised a way of life similar to the Archaic peoples who lived in the region before them: fishing, hunting and collecting wild plants on the major waterways.

There are two major theories concerning the origin of the Laurel culture. One is that it arose out of an Archaic base, differing only by the adoption of pottery. The other is that the people moved into the region following the expansion of wild rice habitats about 2500 B.P.

Terminal Woodland (ca. 1,100 B.P. - 400 B.P.)
Two distinctive cultures, both of which appear to have developed from a Laurel cultural base, are present in the Terminal Woodland Period. One of these cultures is referred to as the Blackduck tradition; the other distinct culture is the Selkirk tradition.

The Blackduck culture is characterized by unique globular pottery vessels. The body of these vessels is textured by cord-wrapped paddles and the rim is decorated with cord-wrapped object impression. Some archaeologists believe the Blackduck tradition was ancestral to the modern Ojibway (Anishnabek) Aboriginal Peoples and First Nations.

The other Terminal Woodland culture, the Selkirk tradition, is distinguished by their fabric-impressed globular vessels. They are found farther north. According to many archaeologists, the Selkirk peoples are ancestral to the Cree Aboriginal Peoples and First Nations.

Historic Period (ca. 400 B.P. to present)
This period begins with the arrival of Europeans and settlers to the area, specifically French, then English traders, bringing with them trade goods such as axes, guns, beads and metal products.

The area was known as Bawating or Pawating to the original First Nations inhabitants of the the area when Étienne Brulé became the first non-native person to visit the area in 1610. In 1623, Brulé gave the name “Sault de Gaston” in honour of the brother of the King of France and in that same year, Champlain drew a map identifying the Sault with a few Objiway tents.

In 1660, there was a significant battle between the local Ojibway and the attacking Iroquois at Iroquois Point on the St. Mary’s River.

In 1669, the Jesuits renamed the area Sault Ste. Marie (St. Mary’s Rapids). Shortly afterwards in 1671, St. Lusson was sent by Jean Talon (First Intendant of New France) to Sault Ste. Marie and he erected a large cross in the presence of thousands of people from fourteen different First Nations, formally taking possession of all the lands in the name of King Louis IV of France.

In 1734, the first wooden ship to sail Lake Superior was built by Louis Denis Sieur de la Ronde at Pointe aux Pins (above the St. Mary’s rapids). Later, Alexander Henry and Alexander Baxter, son of the Russian consul, continued building ships to explore and mine the area for copper and furs,

establishing Pointe aux Pins as the shipbuilding centre for the region. Some of the ships names included: the Athabaska, the Otter, the Mink, the Perseverance, the Fur Trader, the Invincible and the Discovery. Besides these ships, there were nine schooners on the lake in 1846.

By 1858, Sault Ste. Marie was considered a judicial district of Upper Canada. In 1871, the Municipality of Sault Ste. Marie was formed consisting of several townships: Township of Tarentorus, Township of St. Mary, Township of Awenge, Township of Parke and Township of Korah. Rankin was not a part of the municipality yet.

In 1887, The Town of Sault Ste. Marie was formed consisting of part of section 1 of Awenge Township and sections 6, 4, 9 and 10 as well as concessions 1, 2 and 3 of the Township of St. Mary. Concession 4 of the Township of St. Mary went under Tarentorus Township's jurisdiction in 1902 when they formed their own municipality. A new settlement, located within sections of Korah, Tarentorus and Awenge, severed from the main Townships and formed the Town of Steelton. The remainder of Korah then amalgamated with Parke and Awenge Townships and was known as Korah Township. The Sault continued to grow as a town making using of the electrical power generating opportunities offered by the St. Mary's rapids. Steel and paper industries sprung up at the rapids and the future of the City was assured. The Town of Sault Ste. Marie incorporated as a City in 1912.

The City of Sault Ste. Marie landfill is located on Fifth Line. Great Northern Road (located east of the subject property) was constructed as far as Fifth Line by 1878, the road had been extended as far as Sixth Line. Fifth Line was never a pioneer road and today terminates approximately 1.5 kilometres west of Great Northern Road. The landfill property started to receive municipal waste in the early 1960s when the site was owned by Cherokee Disposals and Construction Limited. The property was purchased by the City in early 1989. The use of the property prior to the 1960s is unclear but it was never an urban residential property.

Fieldwork Strategy
AECOM, through the City of Sault Ste. Marie provided a map of archaeological potential as well as development maps of the property. The fieldwork strategy was formulated using the map of potential in accordance with the 2011 Standards and Guidelines for Consultant Archaeologists. The property was first walked to determine what areas still had 'undisturbed integrity' *and* were identified as having archaeological potential *and* that potential was confirmed through field observation.

Areas that were confirmed as retaining archaeological potential through field observation were then subjected to Stage 2 test pitting.

Archaeological Context

Known/Registered Archaeological Sites
There are no known or registered archaeological sites within 1km of the study area.

Condition of the Property

The subject property demonstrates the entire range of conditions: from undisturbed to completely disturbed. Additionally, areas along the Canon Creek were subject to extraordinary natural disturbance a month prior to fieldwork as a result of an extreme weather event which eroded a considerable portion of the river's shoreline.

The property sits astride the southern edge of the Gros Cap/Algoma highlands. South of Fifth Line, the terrain is relatively flat, clay-based and known locally as the Korah Uplands. The topography of the Gros Cap Highland is primarily controlled by the bedrock, which ranges in elevation from approximately 300 metres asl to over 370 metres asl. In the lowlands, the topography is influenced by the bedrock, but largely controlled by the overlying Quaternary deposits. The main bedrock feature influencing the topography of the lowlands is a large, broad upland (herein, the Great Northern Road upland), approximately 3.5 kilometres east-west by 6 kilometres north-south, with its main axis roughly aligned along the Great Northern Road. A second, smaller upland (herein, the Korah upland), approximately 2.75 kilometres east-west by 3.5 kilometres north-south, occurs along Leigh Bay Road north of Baseline Road. The crests of these upland ridges stand at approximately 240 metres asl and 180 metres asl, respectively. To the east and west of these ridges, the underlying bedrock falls away to elevations as low as about 50 metres asl, which is approximately 133 metres below the current elevation of the St. Mary's River at 183 metres asl. (ASI 2011).

The glacial outwash plains and beaches of Glacial Lake Algonquin are thought to have been formed sometime around 11-10,500 years ago. Subsequent glacial events in the form of advances, uplift, lake discharges occurred creating numerous complicated beaches. With the filling of Lake Minong and the catastrophic outflows around 9,400 years ago, it is likely that significant portions of Sault Ste. Marie were flooded again.

It is important to note that the dynamic environment that existed at this time suggests that these various early post-glacial environments would not have been 'active' for long periods of time and lake levels would have risen/fallen on an annual basis. The nature of the topography in Sault Ste. Marie is such that a 1 metre vertical fall in water levels could have moved a shoreline several kilometres horizontally.

The existence of a late Palaeo Indian site at the southern end of Leigh's Bay Road (only 1 kilometre from the current shore of the St. Mary's River) suggests that beaches further removed inland may not have been suitable for occupation. This of course is speculation that can only be confirmed through fieldwork.

The main Canon Creek flows through the subject property and a smaller creek joins the Canon Creek near the eastern side of the property. The Canon Creek (and the associated creek) are not navigable where they cross the property and fall continuously over cobbles, bedrock and for much of the year (outside of spring melt) do not carry enough water to float a birch-bark canoe. Indeed a bark canoe would be damaged within minutes.

In terms of present day conditions, the property may be split into two parts: those areas north of the main Canon Creek and those areas south of the main Canon Creek.

North of the Canon Creek, the terrain is wildly undulating with a topographic bedrock high. Vegetation is dominated by a variety of second growth communities of softwoods and hardwoods. The diameters of the trees suggest that the property was likely harvested in the 1950s and the remnants of several tertiary harvest roads are still in evidence. Push piles, stumps, abandoned/ rusting vehicles attest to the previous uses of this area.

The area south of the Canon Creek is dominated by the City of Sault Ste. Marie Landfill. For the most part, this is an entirely disturbed area. What has not been excavated, leveled, developed for roads, buildings, or sewage infrastructure has been stripped of top soil and levelled again. In September 2013, an extreme weather event resulted in extreme erosion of the Canon Creek, primarily along the eastern extents of the property. From that point, the entire shoreline of the river (on both sides) was stripped of soil right down to bare rock for a distance of 30-50 metres back from the river.

Dates Of Fieldwork
Stage 2 fieldwork was conducted October 7,8, 21, and 22, 2013. The weather conditions on those days were ideal for Stage 2 fieldwork and in no way impacted the ability to conduct fieldwork.

Previous Archaeological Fieldwork
No archaeology project is known to have been carried out on the subject property. A master plan of archaeological resources was completed for the City of Sault Ste. Marie by ASI (2011) and adopted as part of the City's Official Plan in 2011.

Previous Findings & Recommendations
As it was the ASI archaeological master plan that initiated the present Stage 1 and Stage 2 archaeological study, it is appropriate to quote ASI (2011:103-104) with regards to using it's model results for Stage 1 and 2 assessments:

> The archaeological potential mapping will be used in determining requirements for archaeological assessments in the development review process. The process of implementation, maintenance and review of the archaeological potential model, and the associated issues, are fully discussed in the companion volume to this document, entitled, *Planning for the Conservation of Archaeological Resources in the City of Sault Ste. Marie*. The recommendations presented in the Planning report may be found in the Executive Summary of this report.
>
> Upon reviewing the City of Sault Ste. Marie's archaeological potential mapping, City staff will determine if any portion of an application falls within a zone of archaeological potential. Should any portion of the property have archaeological potential, the proponent will be required to undertake a Stage 1-2 Archaeological Assessment of the entire subject property, not simply the portion(s) that falls within the zone of archaeological potential. The Ministry of Tourism and Culture must approve any deviation from this approach.

If the development history of the property is in question or an assertion of complete disturbance is made by a development proponent, or it is uncertain whether archaeological deposits might have survived, a Stage 1-2 archaeological assessment (background research and field review) will be undertaken, to ascertain whether there remains any potential for the survival of deposits on the property. It must be recognized that some features associated with many historic archaeological sites are likely to have survived, as deeply buried deposits, in areas that have been developed and even re-developed. Research must be undertaken to determine whether the subject property was entirely disturbed during previous development, or just the footprint(s) of former or existing buildings. Only where land has been completely disturbed to a depth of ten or more feet should it be concluded that there is no potential for survival and therefore no requirement to carry out Stage 2 field work.

Once the archaeological assessment, consisting of background research and a field survey (Stage 1-2), has been completed, the archaeological consultant will submit a report to the Cultural Programs Branch of the Ministry of Tourism and Culture. Ministry staff will review the report to determine if the assessment has met current licensing and technical standards. If this is not the case, the Ministry will require the consultant to carry out additional fieldwork and/or provide more extensive documentation.

Unusual Physical Features Affecting Fieldwork Strategy Decisions

There were several features of the property that affected Stage 2 fieldwork strategy decisions. These areas are identified in Figure 6.

(a) Active landfill. A significant portion of the property is the current landfill for the City of Sault Ste. Marie. This is a significant industrial use of the terrain and it should be considered that there are no original soils within the active landfill. Any archaeological potential existing within this area has been removed.

(b) Supporting infrastructure: There is a considerable infrastructure associated with the city landfill. Administrative buildings, access roads, areas prepared for receiving different kinds of waste, fences, etc have all been constructed to support the service of a landfill. Any archaeological potential existing within this area has been removed.

(c) Natural damages: an extreme weather event in September 2013 caused massive erosion of the shore along the Canon Creek washing away the complete shoreline up to 50m from the river on both banks. Any archaeological potential existing within this area has been removed.

(d) Canon Creek banks: west of the junction of the two creeks on the property, the Canon Creek flows in from the west. The banks on both sides of the river are steeply sloped and bedrock. For almost the entire length of this river, the banks are either too steep to scale or the soil matrix is bedrock. Closer to the juncture of the two creeks, erosion and shoreline stabilization engineering

has resulted in completely impacted river banks. Any archaeological potential existing within this area has been removed.

For the creek flowing into the Canon Creek from the north, the shoreline along this stretch of river is low and undulating. The one are of archaeological potential in the northeast corner of the subject property is a poorly drained stretch of the river with undulating swales of terrain and backwater flood channels throughout. It should not be classified as high potential.

The remaining areas of the property that were identified as having archaeological potential were individually assesed through field observation.

Field Methods

100% of the subject property was examined during the Stage 1 fieldwork. The author walked over the entire property and personally observed all of the property. The following statements are made with the utmost confidence.

Test pits were excavated at 5m intervals in areas of archaeological potential where archaeological potential was confirmed to exist of sizes at least 30x30cm in size down to where either disturbed soils or sterile soils were observed. Test pits were backfilled. All excavated materials were screened through 1/4" mesh.

The ASI report identified a significant percentage of the subject property as having archaeological potential. As a result of the Stage 2 assessment, it is the professional opinion of the author that this determination of potential should be revised and/or reassessed. Please refer to Figure 5 for the following discussion.

Archaeological Potential Area A
It is unclear from the ASI report why this area was identified as having archaeological potential. It is more than 100m from the nearest permanent water source. There are several creeks that the topographic map shows as flowing though this area but upon field inspection, it was clear that they were not permanent drainages and were intermittently wet and dry upon inspection. I would suggest that this area of potential is a 'GIS mapping artifact' and should be reclassified as not archaeological potential.

Archaeological Potential Area B
This area is located in the northwest corner of the subject property. It is generally low and poorly drained. Because it is low, there are many remnant backwater channels that would be flooded when the water is higher (e.g., spring runoff). It would appear that ASI's predictive model identified potential 150m back from the river. As the first 50m does not exhibit qualities associated with archaeological potential, it is acceptable to discount the 100m beyond that as well. I would suggest that this area be reclassified as not having archaeological potential.

Archaeological Potential Area C

This thin triangle of potential was observed and exhibited none of the qualities associated with archaeological potential. It is several hundred metres from any significant water source, in undulating bedrock terrain and there is no feature associated with it that would suggest archaeological potential. I would suggest that, as in Area A, this is an artifact of GIS mapping and should be reclassified as not having archaeological potential.

Archaeological Potential Area D

This area is located primarily along the north bank of the Canon Creek. The western extents of this area are poorly mapped as the mapped potential is a thin strip that straddles the river as the river meanders. There are gravel banks here but the gravel has been stripped away by erosion and shoreline stablization engineering has been effected. If there was any archaeological potential here, it was washed away long ago. Along the eastern edge of the property north of the Canon Creek, there is a larger area of potential, seemingly falling within the 150m buffer from the Canon Creek. The first 50m of the river here is undulating, with exposed bedrock knobs, rocks and cobbles in the soils and poorly drained. This area does not exhibit the qualities of having archaeological potential and should be reclassified as not having archaeological potential.

Archaeological Potential Area E1

This area has all but been removed by earth moving operations. This area should be reclassified as not having archaeological potential.

Archaeological Potential Area E2

This area is a gravel hill. The hill was logged and cleared approximately 30-40 years ago (judging by the circumference of the trees and uniformity of their height/trunk thickness. There is signficant evidence of earth moving and likely the topsoil was stripped soon after logging with rocks and gravel observed on the ground surface. I did not observe any stumps lending credence to the stripping theory. Push piles of earth are found throughout as are remnant logging tracks. On the south side of the hill, considerable portions of the hillside have been removed through earthmoving. The portion of this area that is within 50m of the Canon Creek is too steep to scale. It would appear that this area was identified as having high potential due to being within 150m of water. Since the first 50m is not accessible from the river due to steep slopes (near vertical), the balance of the 150m should be reclassified. This, coupled with the likely stripping of topsoil indicates that this area should be reclassified as not having archaeological potential.

Archaeological Potential F, G, H

These areas are within the active landfill areas and have been extensively remodelled. There is no evidence that original landforms exist here and buried pipes for landfill gas collection suggest that signficant subsurface impacts have occurred. These areas should be reclassified as not having archaeological potential.

Archaeological Potential Area I

This is an area identified as having archaeological potential along the banks of the Canon Creek. This area includes previous landfilling activities and Canon Creek was realigned in this area in 2006 to increase separation from the landfill. In September 2013, an extreme weather event

resulted in record high water eroding the river banks down to rock - ALL the soils were removed. This stretch of river flows over exposed cobbles and river rocks and under normal circumstances could not be run in a bark canoe. Due to the soils being removed by erosion, and previous river course engineering, this area should be reclassified as not having archaeological potential.

Archaeological Potential Area J
This area of archaeological potential is a seasonally flooded embayment of the river. River flood channels and undrained pools, wetlands and trapped water predominate in this area. This area should be reclassified as not having archaeological potential due to wet soils, seasonal flooding and generally not being a place one would set up camp. This area should be reclassified as not having archaeological potential.

Archaeological Potential Area K
This area is a 100m stretch of potential coming back from Fifth Line East. The potential here was likely ascribed due to ASI's predictive model placing a 100m buffer around roads as pioneer potential. Fifth Line was never a pioneer road and even today, it does not extend more than 1.5 kilometres west of Great Northern Road. This area of archaeological potential was examined and there is no evidence for house foundations. A stand of pines at least 75 years old stands in plantation lines suggesting that this area has been undisturbed since the 1940s. The main access road into the landfill runs through this area as does the main sewage and underground utilities line. It is recommended that this area of archaeological potential be reclassified as not having archaeological potential.

Archaeological Potential Area L
This area is a relatively flat area, approximately 3-5 metres higher in elevation than Area J. The trees are generally uniform in age (having been cut in the last 30 years). Several larger spruces stand near the edge of area. Evidence of buried dumping is found throughout the area as is road/tracks for access. Test pits were excavated in this area. All test pits exhibited evidence that original soils did not exist. It would appear that this area was also stripped after logging. All the soils were unconsolidated and mixed with plastic and other modern materials being found 10-15cm below the surface. After evaluating the information obtained through test pitting, it became clear that this area should be reclassified as not having archaeological potential.

Analysis And Conclusions

No archaeological sites were identified.

RECOMMENDATIONS

As a result of the Stage 2 archaeological assessment, no archaeological sites were found.

It is recommended that no further archaeological assessment of the property is required.

ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Minister of Tourism and Culture as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism and Culture, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the Ontario Heritage Act for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest , and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the Ontario Heritage Act.

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

The Cemeteries Act, R.S.O. 1990 c. C.4 and the Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence."

REFERENCES

Archaeological Services Inc. (ASI)
2011 Master Plan Of Archaeological Resources City Of Sault Ste. Marie: Technical Report. Final. Report prepared for Engineering and Planning Department The Corporation of the City of Sault Ste. Marie, ASI File 09SP-81. December 2011.

Ministry of Tourism, Culture and Sport
2011 Standards and Guidelines for Consultant Archaeologists. Queen's Printer, Toronto.

Figures and Photos

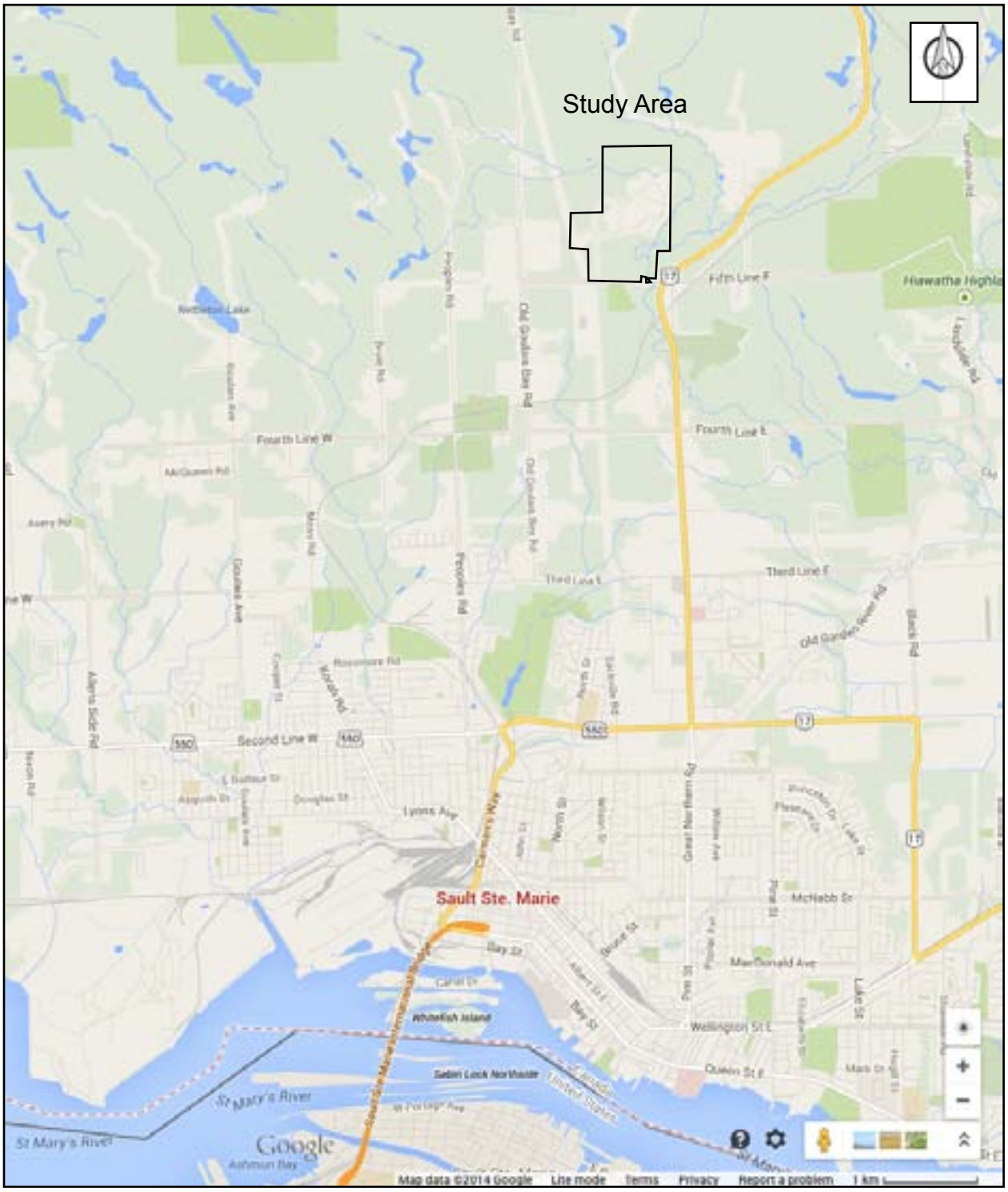

Figure 1. Location of the study area, Sault Ste. Marie, Ontario.

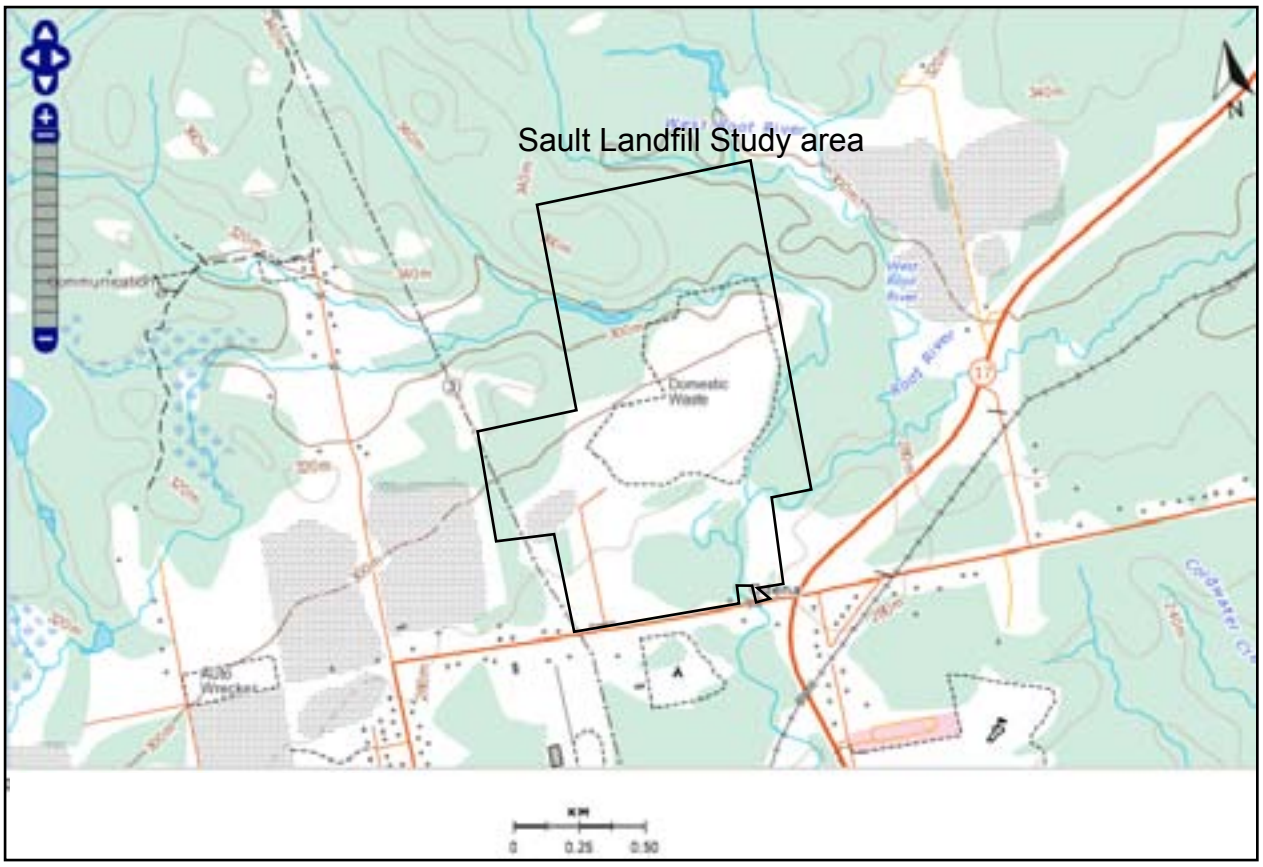

Figure 2. 1:15,000 NTS topographic map of the study area (Garden River 041K09). (map reduced to fit).

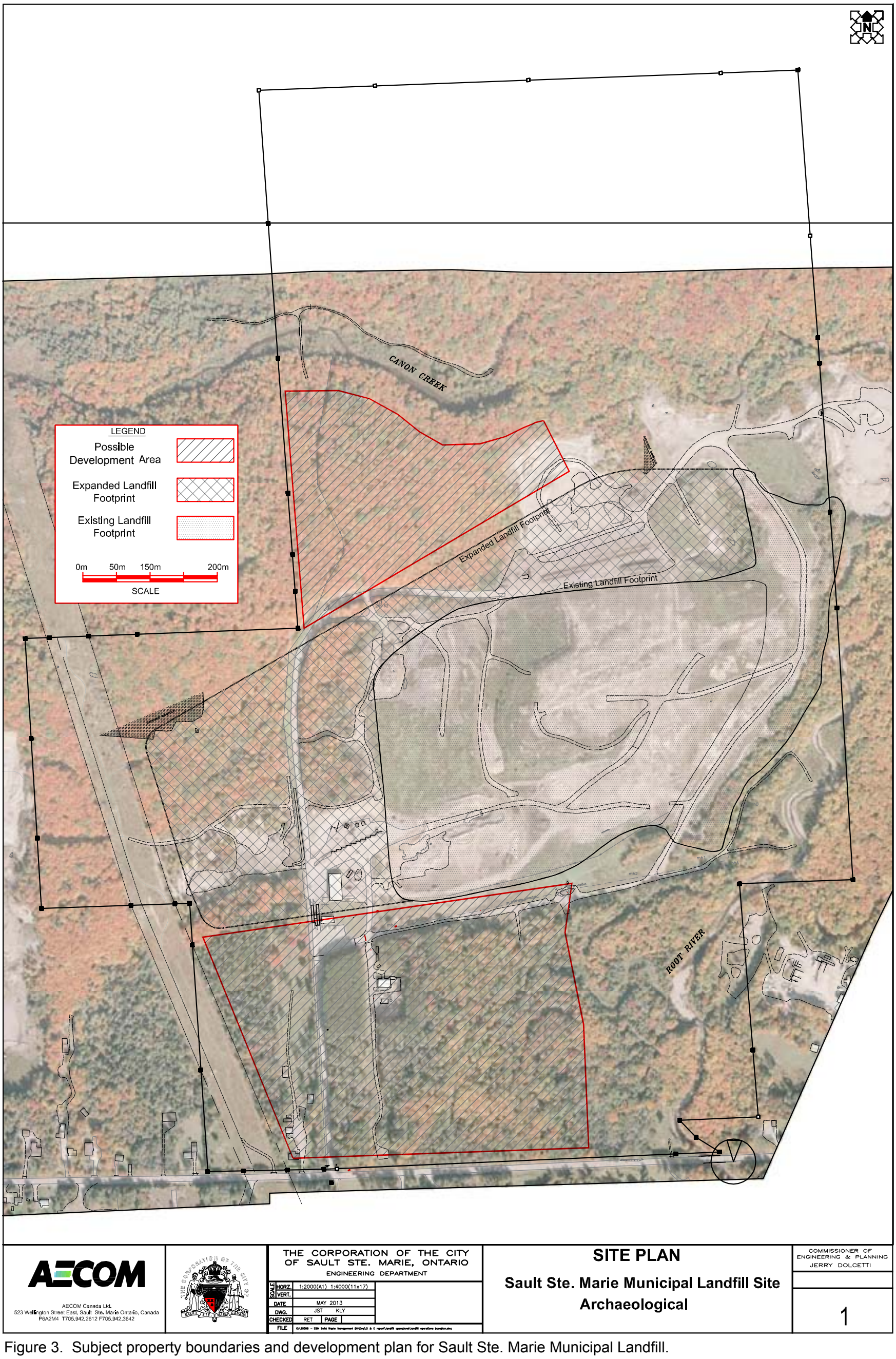

Figure 3. Subject property boundaries and development plan for Sault Ste. Marie Municipal Landfill.

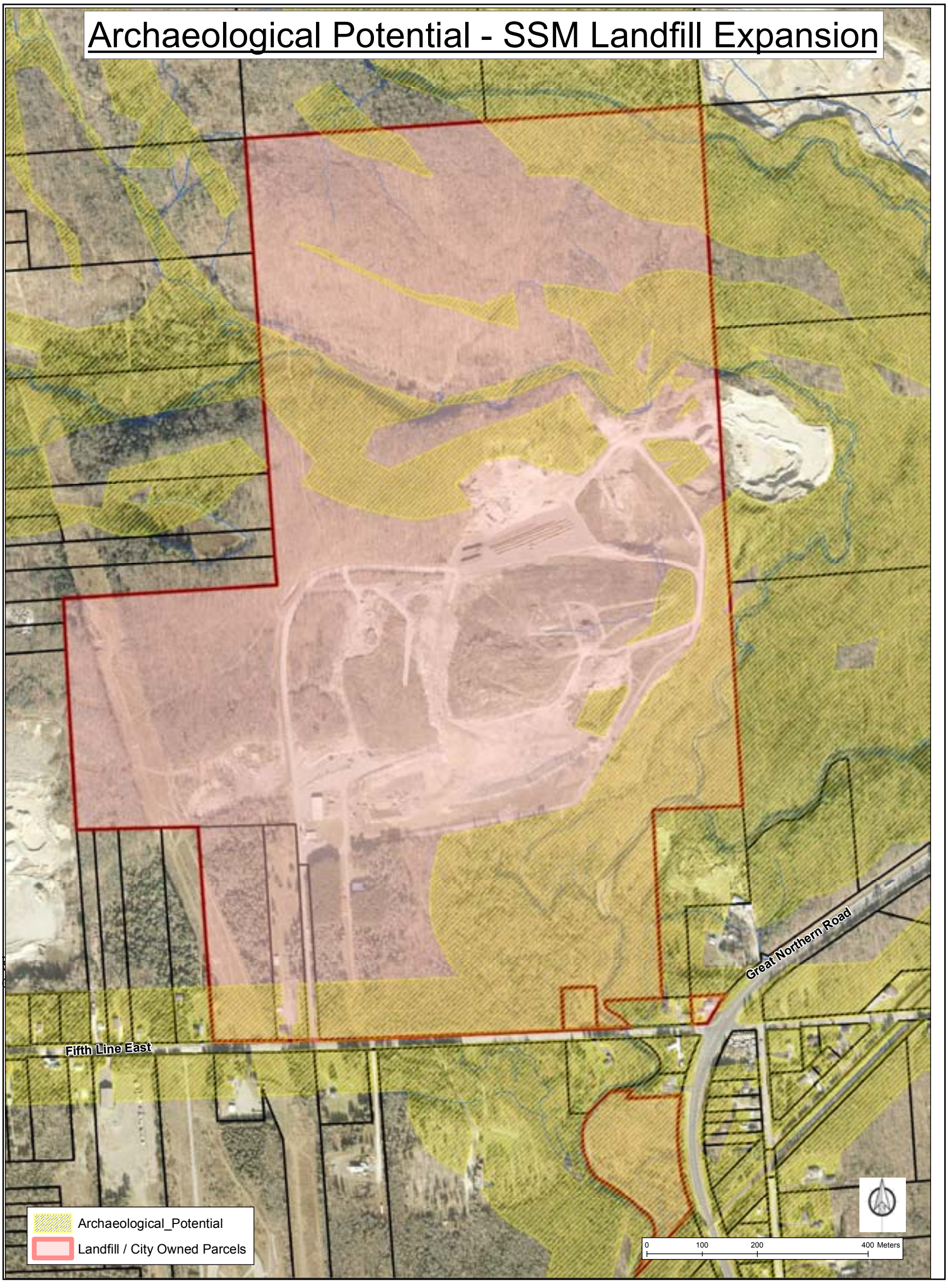

Figure 4. Archaeological Potential and subject property boundaries.

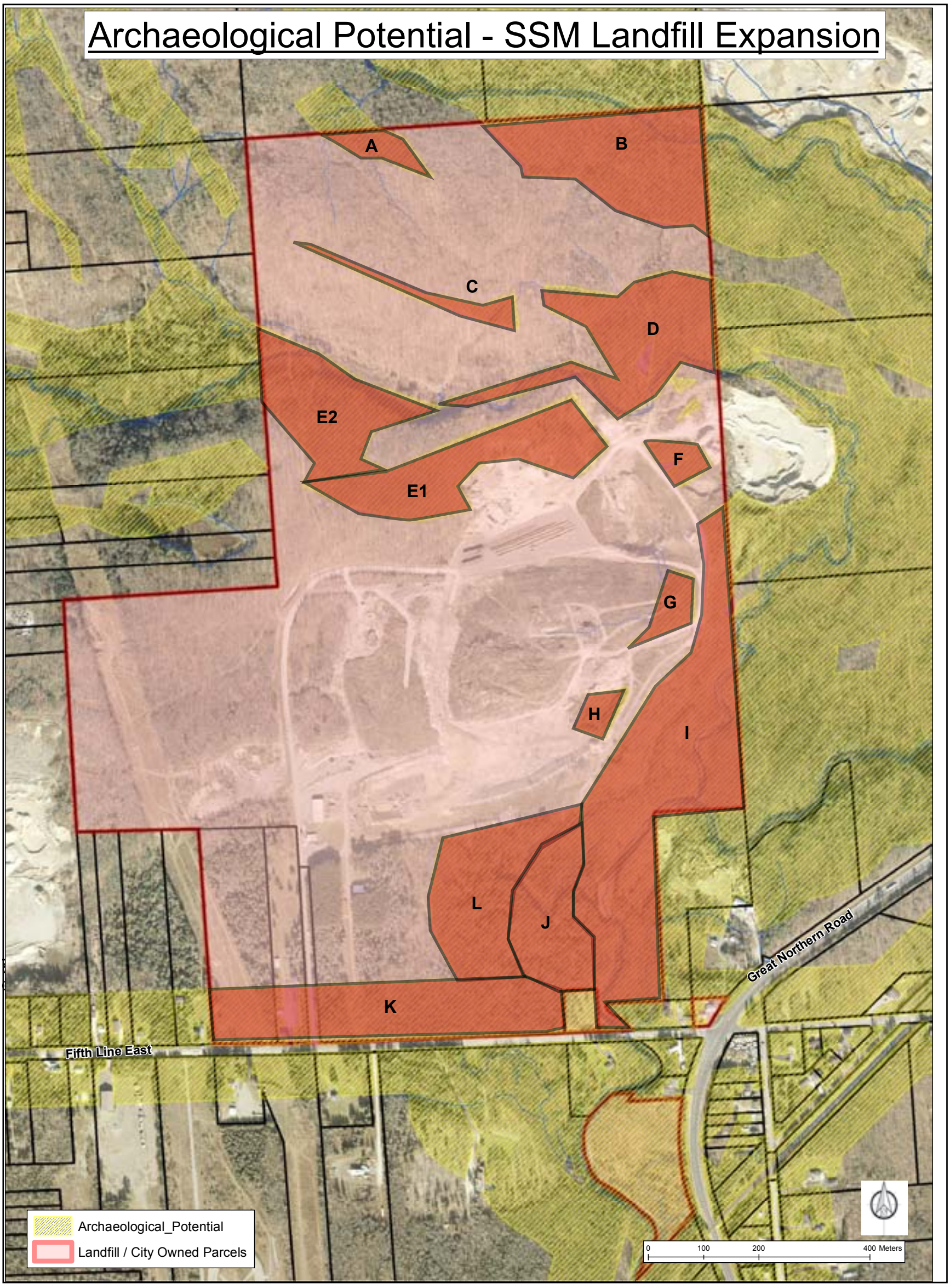

Figure 5. Archaeological potential areas within the subject property.

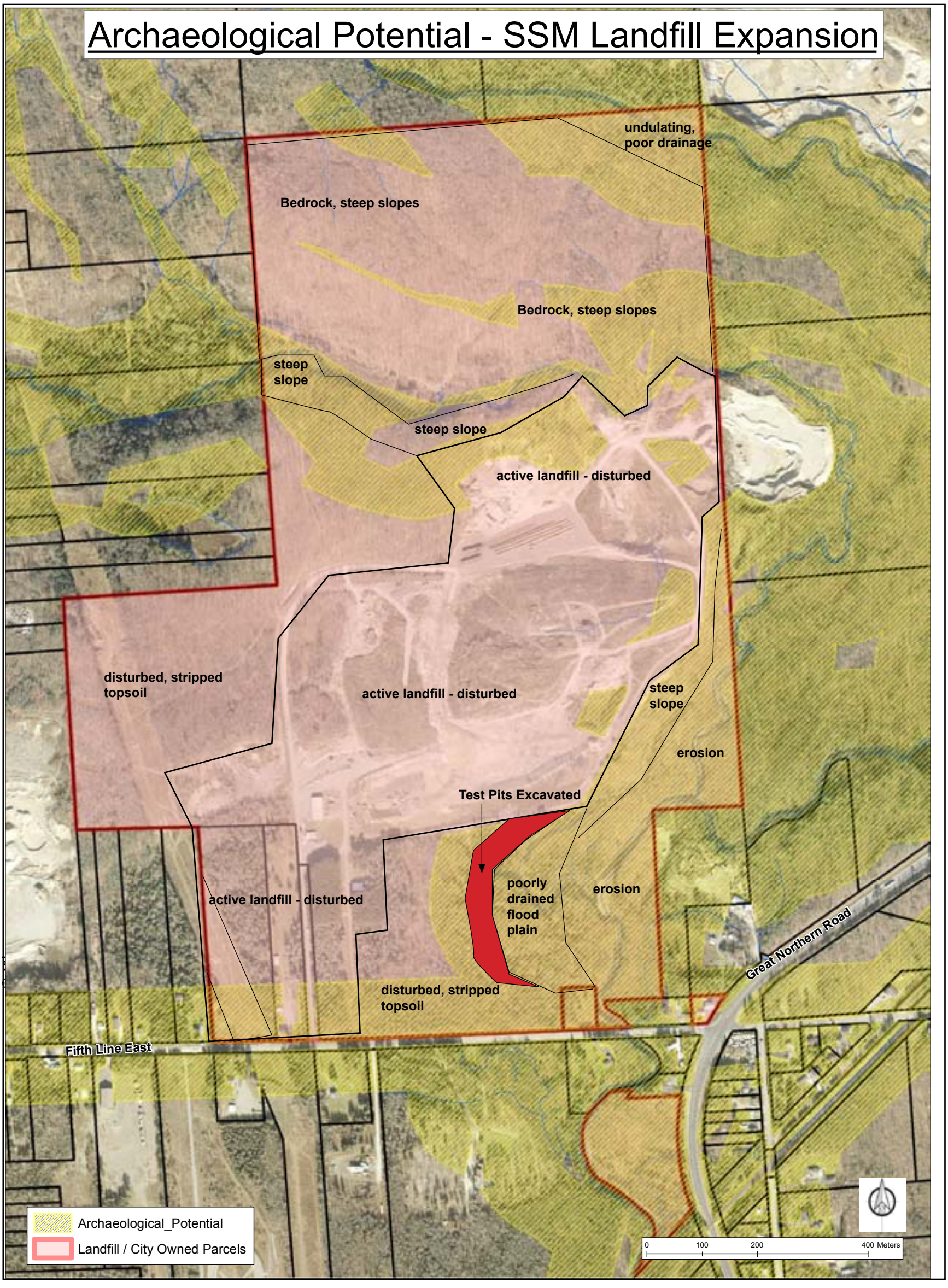

Figure 6. Archaeological Potential and subject property boundaries.

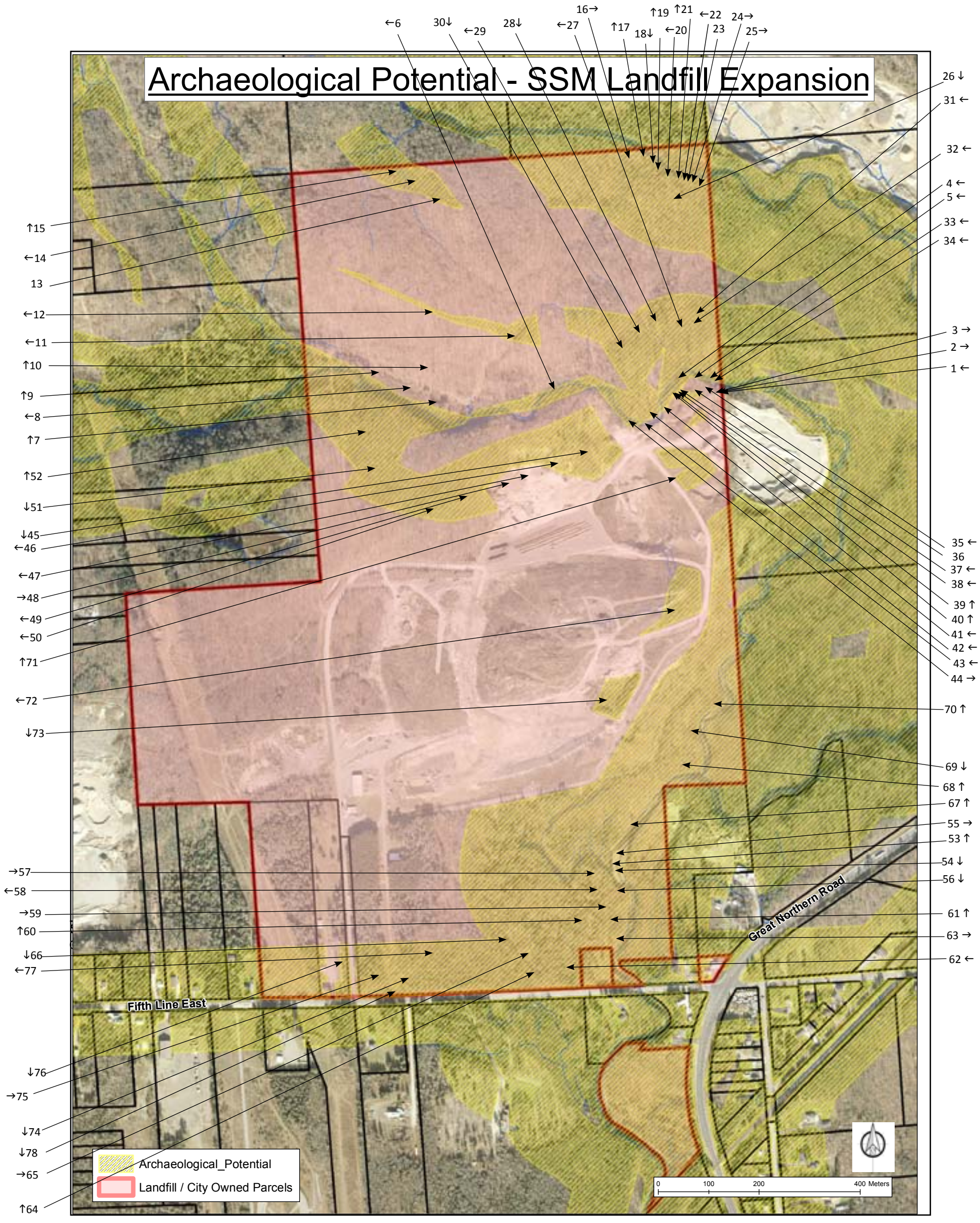

Figure 7. Location and direction of photos illustrated in this report.

Photo 1. Canon Creek, and erosion remediation, Area D

Photo 2. Canon Creek and erosion remediation, Area D.

Photo 3. Canon Creek and erosion remediation, Area D.

Photo 4. Evidence of old dumping north of Canon Creek, Area D.

Photo 5. Steep bedrock outcrops, old dumping north of Canon Creek Area D.

Photo 6. Steep bedrock outcrops along the north shore of Canon Creek Area D.

Photo 7. Steep shorelines on south shore of Canon Creek, archaeology potential area E2.

Photo 8. Steep shorelines on south shore of Canon Creek, archaeology potential area E2.

Photo 9. Steep shorelines on south shore of Canon Creek, archaeology potential area E2.

Photo 10. Steep slopes, north of Canon Creek Area D.

Photo 11. Steep slopes and abandoned forestry roads, north of Canon Creek Area C.

Photo 12. Steep slopes north of Canon Creek Area C.

Photo 13. Standing water north of Canon Creek Area A.

Photo 14. Standing water north of Canon Creek Area A.

Photo 15. General view of north of Canon Creek Area A. Note the young trees.

Photo 16. General view of creek, north end of subject property Area B.

Photo 17. General view of creek, north end of subject property Area B.

Photo 18. General view of undulating shorelines along creek, north end of subject property Area B.

Photo 19. General view of creek, north end of subject property Area B.

Photo 20. General view of undulating shoreline along creek, north end of subject property Area B.

Photo 21. General view of undulating shoreline along creek, north end of subject property Area B.

Photo 22. General view of undulating shoreline along creek, north end of subject property Area B.

Photo 23. General view of standing water along shore of creek, north end of subject property Area B.

Photo 24. General view of creek, north end of subject property Area B.

Photo 25. General view of creek, north end of subject property Area B.

Photo 26. General view of terrain, northeast portion of study area, Area B.

Photo 27. General view of terrain, northeast portion of study area, Area B. Note push piles of soil.

Photo 28. General view of terrain, northeast portion of study area, Area B. Note push piles of soil.

Photo 29. General view of terrain, northeast portion of study area, Area B. Note push piles of soil.

Photo 30. Looking south at the steep slopes looking south in Area B.

Photo 31. Steep slopes and exposed bedrock, Area D.

Photo 32. Steep slopes and standing water, Area D.

Photo 33. Steep slopes and exposed bedrock, Area D.

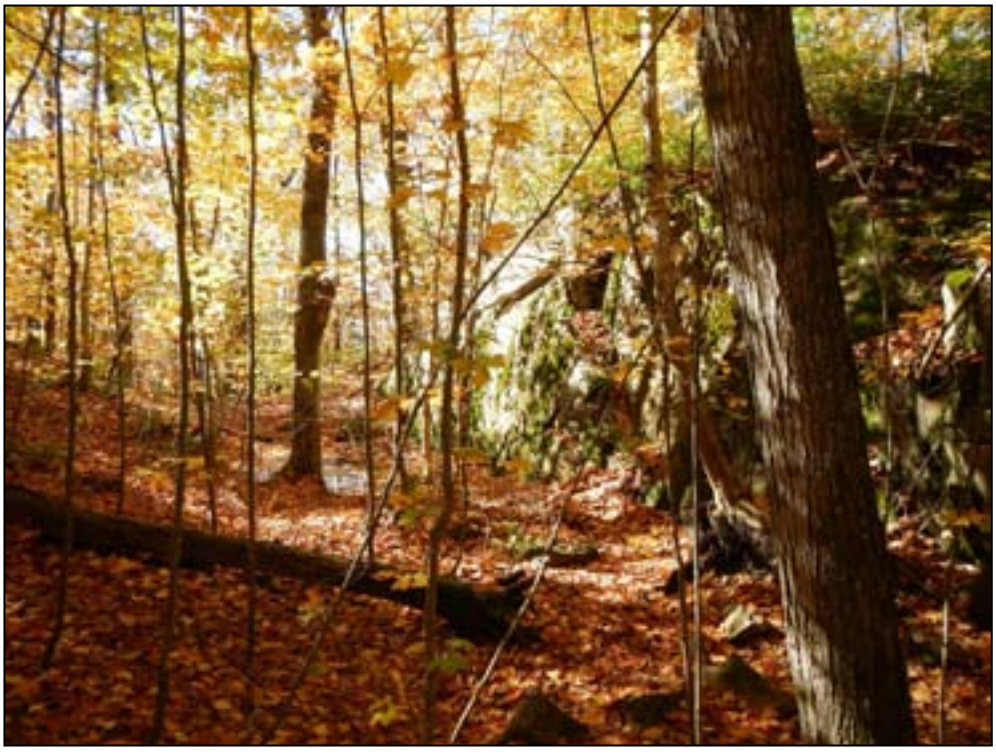

Photo 34. Steep slopes and exposed bedrock, Area D.

Photo 35. Steep slopes, Area D.

Photo 36. Steep slopes, Area D.

Photo 37. Steep slopes, Area D.

Photo 38. Steep slopes and exposed bedrock, Area D.

Photo 39. Steep slopes and exposed bedrock, Area D.

Photo 40. Steep slopes, Area D.

Photo 41. Standing water, Area D.

Photo 42. Steep slopes, Area D.

Photo 43. Canon Creek and bedrock shorelines, Area D.

Photo 44. Canon Creek Area D.

Photo 45. Active Landfill, Area E1

Photo 46. Earthmoving activities, Area E1.

Photo 47. Earthmoving activities, Area E1.

Photo 48. Earthmoving activities, Area E1.

Photo 49. Existing disturbances, Area E2.

Photo 50. Existing disturbances, Area E2.

Photo 51. Existing disturbances, Area E2.

Photo 52. Steep slopes, Area E2. Note the uniform age of the trees.

Photo 53. Erosion at Canon Creek, Area I.

Photo 54. Erosion at Canon Creek, Area I.

Photo 55. Erosion at Canon Creek, Area I.

Photo 56. Erosion at Canon Creek, Area I.

Photo 57. Backwater flood plain, Area J.

Photo 58. Backwater flood plain, Area J.

Photo 59. Backwater flood plain, Area J.

Photo 60. Existing roads, Area K.

Photo 61. Canon Creek, erosion.

Photo 62. Area K, existing roads.

Photo 63. Backwater flood plain, Area J.

Photo 64. General view of Area K.

Photo 65. General view of Area K.

Photo 66. General view of Area K.

Photo 67. General view Canon Creek near the southeastern corner of the subject property.

Photo 68. General view of the erosion at Canon Creek, eastern side of subject property.

Photo 69. General view of the erosion at Canon Creek, eastern side of subject property.

Photo 70. General view of the erosion at Canon Creek, eastern side of subject property.

Photo 71. General view Area F.

Photo 72. General view Area G.

Photo 73. General view of Area H.

Photo 74. General view of Area K.

Photo 75. General view of Area K.

Photo 76. General view of Area K.

Photo 77. General view of Area K., existing access road.

Photo 78. General view of Area K, utility cover demonstrating underground services.