REVISED REPORT

Stage 1 and 2 Archaeological Assessment

Sand Road Pit Entrance
Part Lot 15, Concession 6,
Geographic Township of Asphodel,
Current Township of Asphodel-Norwood
County of Peterborough, Ontario

Prepared For

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PIF: P378-0126-2025
Related PIF: P369-0508-2024

Nadine Kopp (License Number P378)

Report: MH1402-REP.01R

1.0 Executive Summary

Matrix Heritage, on behalf of Drain Bros. Excavating Limited, conducted a combined Stage 1 and 2 archaeological assessment for the proposed Sand Road Pit entrance on Part Lot 15, Concession 6 in the Geographic Township of Asphodel, Township of Asphodel-Norwood, County of Peterborough, Ontario (Map 1).

The archaeological assessment process supports a license application under the *Aggregate Resources Act* for an expansion to the Sand Road Pit. An initial assessment of the expansion area was conducted under PIF P369-0508-2024 (Matrix Heritage 2024). Following the completion of this assessment, the licensed area was revised to include the roadway, which now forms the current study area (Map 2). This assessment was completed in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MCM 2011).

The Stage 1 archaeological assessment included a review of the MCM's archaeological site databases, relevant environmental, historical literature, and primary historical research including: historical maps, land registry, and census records. The assessment concluded that, based on criteria outlined in the *Standards and Guidelines for Consultant Archaeologists* (Section 1.3, (2011)), the entire study area has both pre-contact Indigenous as well as historical Euro-Canadian archaeological potential due to the location within drumlin and esker fields, well-drained sandy loam and gravel soils, early patent dates, proximity to the historic road (Sand Road), and previously known archaeological sites in the area.

The Stage 2 archaeological assessment involved pedestrian survey and subsurface testing consisting of hand excavated test pits at 5 metre intervals in areas of archaeological potential as per Standard 1.a., Section 2.1.2 (MCM 2011). The fieldwork was undertaken on July 4, 2025. Weather conditions were sunny and humid with an average temperature of 26°C. Ground conditions were excellent with no saturation or other excessive ground cover to impede visual assessment as per Section 2.1. Standard 3 (MCM 2011). Permission to access the property was provided by the owner through the proponent without limitations.

The Stage 2 Archaeological Assessment resulted in no indication of archaeological remains with cultural heritage value or interest (CHVI) within the study area.

Based on the results of this investigation it is recommended:

1. No further archaeological study is required for the portion of the study area shown in pink as delineated in Map 3.

2. If there are areas within the tributary for the Ouse Creek that are to be impacted by this project, a Criteria for Evaluating Marine Archaeological Potential Checklist must be completed.

3. Due to the nature of archaeological assessments, the potential exists to miss information; and if any artifacts of Indigenous interest or human remains are encountered during the development of the subject property, please contact:

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3.0 Project Personnel

Licensee	Nadine Kopp, MA (P378)
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4.0 Project Context

4.1 Development Context

Matrix Heritage, on behalf of Drain Bros. Excavating Limited, conducted a combined Stage 1 and 2 archaeological assessment for the proposed Sand Road Pit entrance on Part Lot 15, Concession 6 in the Geographic Township of Asphodel, Township of Asphodel-Norwood, County of Peterborough, Ontario (Map 1).

The archaeological assessment process supports a license application under the *Aggregate Resources Act* for an expansion to the Sand Road Pit. An initial assessment of the expansion area was conducted under PIF P369-0508-2024 (Matrix Heritage 2024). Following the completion of this assessment, the licensed area was revised to include the roadway, which now forms the current study area (Map 2). This assessment was completed in accordance with the Standards and Guidelines for Consultant Archaeologists (MCM 2011).

Permission to access the property was granted by the owner prior to the commencement of any field work and no limits were placed on this access.

4.2 Historical Context

4.2.1 Historic Documentation

The study areas fall within the traditional territory of the Michi Saagiig, part of the larger Anishinaabeg Nation. Their lands extend across the Kawarthas, southern Ontario, and along the northern shores of Lake Ontario. The name Michi Saagiig translates to "Great River Mouth," reflecting a deep connection to the waterways that have sustained their communities for generations.

Historically, the Michi Saagiig were known for their extensive trade networks, expertise in hunting, fishing, and agriculture, and active participation in regional diplomacy. Like other Anishinaabe groups, they speak a dialect of Anishinaabemowin, which belongs to the broader Algonquian language family. Their presence is reflected in longstanding cultural landscapes, oral histories, and numerous treaty agreements that have shaped the region’s history.

Over time, the Michi Saagiig played a central role in treaties and agreements with the British Crown, influencing the governance of what is now Ontario. Recognizing their enduring relationship with these lands is essential to understanding the historical and cultural significance of the study areas and ensuring respectful engagement with the Nation throughout the assessment process. Today, the Michi Saagiig continue to uphold their cultural traditions and assert their inherent rights to their traditional lands.

The history of the Michi Saagiig homeland has been recounted in several published histories by members of the nation including the earliest publication, the autobiography of Kahgegagahbowh (George Copway) (1847), *Oshkigmong: The Curve in the Lake - A History* (Whetung 2015), and *Michi Saagiig Nishnaabeg: This is Our* Territory (Williams 2018).

4.2.2 Pre-Contact Period

Early Human Occupation

Indigenous histories speak of the advance and retreat of glaciers and of their presence on the land from time immemorial. Presently, the earliest human occupation of the Americas has been archaeologically documented to predate 14,000 years ago. However, at that time much of eastern Canada was covered by thick and expansive glaciers and the Laurentide Ice Sheet of the Wisconsinian glacier blanketed southwestern Ontario until about 12,500 B.P. At this time the receding glacial terminus was at the southern edge of present-day Georgian Bay and melt water in the region created Early Lake Erie and Lake Iroquois (the basin of today's Lake Ontario).

The earliest archaeologically recovered evidence in northeastern North America dates from circa 11,000 B.P. and relates to groups archaeologically referred to as Paleo people. For Ontario the Paleo period is divided into the Early Paleo period (11,000 - 10,400 B.P.) and the Late Paleo period (10,500-9,400 B.P.), based on changes in tool technology (Ellis and Deller 1990). The Paleo people, who had moved into hospitable areas of southwest Ontario (Ellis and Deller 1990), likely consisted of small groups of exogamous hunter-gatherers relying on a variety of plants and animals who ranged over large territories (Jamieson 1999).

Archaic Period

As the climate continued to warm, the forests became dominated with white pine and some deciduous trees and the ice sheet receded further northwards, allowing areas to be travelled and occupied in what is known as the Archaic Period (9,500 – 2,900 B.P.). Archaic populations generally remained hunter-gatherers with an increasing emphasis on fishing. People began to organise themselves into small family groups operating in a seasonal migration, congregating annually at resource-rich locations for social, religious, political, and economic activities. Often sites from this time are located on islands, waterways, and at narrows on lakes and rives where caribou and deer would cross, suggesting a common widespread use of the birchbark canoe that was so prominent in later history (McMillan 1995).

In the Boreal forests of the Canadian Shield, the Archaic period is referred to as the "Shield Archaic," characterized by adaptations to a forested environment with a focus on hunting, fishing, and gathering, using stone tools made from locally available materials. In contrast, the mixed forests to the south are associated with the "Laurentian Archaic," marked by a broader range of subsistence activities, including fishing with nets and woodworking using ground-stone tools such as axes and gouges.

Woodland / Pre-European Contact Period

Generally, the introduction of the use of ceramics marks the transition from the Archaic Period into the Woodland Period. Populations continued to participate in extensive trade networks that extended across much of North America. Social structure appears to have become increasingly complex with some status differentiation recognized in burials. Towards the end of this period domesticated plants were gradually introduced to the region. This coincided with other changes including the development of semi-permanent villages. The Woodland period is commonly divided into the Early Woodland (1000 – 300 B.C.), Middle Woodland (400 B.C. to A.D. 1000), and the Late Woodland (A.D. 900 – European Contact) periods.

The Early Woodland is typically noted via lithic point styles (i.e., Meadowood bifaces) and pottery types (i.e., Vinette I). The Middle Woodland period is identified primarily via changes in pottery style (e.g., the addition of decoration). The divides within the Middle Woodland and the shift into the period held as the Late Woodland are not well defined. There are general trends for increasingly sedentary populations, the gradual introduction of agriculture, and changing pottery and lithic styles. However, nearing the time of contact, Ontario was populated with somewhat distinct regional populations that broadly shared many traits. In the southwest, in good cropland

areas, groups were practicing corn-bean-squash agriculture in semi-permanent, often palisaded villages which are commonly assigned to Iroquoian-speaking peoples (Wright 2004:1297–1304). Algonquian-speaking peoples, including the Michi Saagiig (Mississauga) and the Chippewa, inhabited the same or neighbouring areas, but their presence in the archaeological record is less visible owing in part to seasonal rounds of hunting, fishing, and gathering, relying on the waterways of the Kawarthas, Rice Lake, and Georgian Bay for subsistence and travel (Kapyrka and Migizi 2016:4–5). These waterways supported extensive trade networks, connecting Indigenous communities across the region.

4.2.3 Contact Period

The appearance of European trade goods in archaeological material culture assemblages ushers in a new period of history. When the French arrived, there was already a long-standing and vast trade network extending from the Saguenay to Huronia. This route existed at least from the early beginnings of agricultural societies in Ontario around A.D. 1000 (Moreau et al. 2016). This trade increased rapidly after the arrival of the Europeans with the introduction of European goods and the demand for furs. The Huron held a highly strategic commercial location controlling the trade to the south and the west, and the Algonquin, Michi Saagiig, and Chippewa were their critical connection to goods from the east, including European products.

The so-called St. Lawrence Iroquoians were the first Iroquoian people to be contacted by Europeans, when Jacques Cartier encountered villages around present day Québec City and Montréal in 1535. A few decades later, they had disappeared with various branches likely being subsumed by the more powerful Huron-Petun (Wendat-Tionontate) or Five Nations (Haudenosaunee) Iroquoian confederacies and others incorporated into Algonquian groups in the Ottawa Valley or further east (Wabanaki) (Warrick 2008:203). At this time, late in the 16th century, several changes occurred in the distribution of Iroquoian villages in southern Ontario as well. Prior to contact with Europeans, Iroquoian communities along the north shore of Lake Ontario and the Trent River Valley appear to have dispersed, likely relocating to Huronia. By the 17th century, missionaries and explorers collectively referred to these groups as the Hurons. This migration is generally attributed to increased participation in the fur trade.

When Samuel de Champlain first passed through the region of the Bay of Quinte and the Kawarthas in 1615, he recounted that he found the area deserted, which is incorrect and in stark contrast to the long and continuous history of occupation of the area by Indigenous communities. The two most numerous confederacies in Ontario were the Huron-Petun and the Neutral, often amalgamated by archaeologists into a group called the Ontario Iroquois (Wright 2004:1299–1424). They numbered 30,000 and 20,000 respectively in the late 15th and early 16th centuries after substantial population booms in the 14th century (Warrick 2000:446). The Neutral were so named by Champlain because they did not participate in the conflict between the Wendat and Haudenosaunee confederacies. They were, however, involved in their own conflict with Central Algonquian groups to the southwest (called the Western Basin Tradition by archaeologists).

The French, as well as other Europeans making their way into North America like the Dutch and the English, were able to align their own political and economic rivalries with those of the native populations they encountered. The competitive greed and obsession with expanding the fur trade entrenched the rivalries that were already in place and were intensified by European weapons and economic ambition. Involving the native populations deeper in the fur trade promised more furs filling European ships and more Indigenous dependence on European goods. For their part, the Europeans offered the promise of safety and support to battle existing conflicts. The trading policies of Europeans created an imbalance between these native rivalries as the Haudenosaunee were readily supplied muskets by their Dutch allies, while the French, allied with the Huron and their trading partners the Algonquin, Nippissing, Michi Saagiig, and

Chippewa, only supplied guns to Christian converts (Lackenbauer et al. 2010:21–23). Prior to European contact, the hostilities between the native populations had been mainly skirmishes and raids, but everything changed as European reinforcement provided deadlier weapons and higher economic stakes with the introduction of the fur trade.

Besides the hostilities, the demands of the fur trade had caused major impacts to the traditional way of life including a change in tools, weapons, and a shift in diet to more European as hunting was more for furs and not for food. This dependence on European food, ammunition, and protection tied people to European settlements and the summer gathering sites shifted from prominent fishing areas to trading posts (McMillan 1995). This further spurred social changes in community structure and traditional land distribution and use. The introduction of European diseases, the devastating influence of alcohol, and the increasing pressure to convert to Christianity massively contributed to the weakening of the Indigenous populations of Ontario and their traditional culture in the 16th and 17th centuries (Warrick 2008:227–236).

As the increasing demand of the fur trade caused the depletion of the beaver population in the Haudenosaunee territory, they pushed into the lands of the Anishinabe Algonquin, Michi Saagiig, Chippewa, and Huron with the added strength of Dutch weaponry. Through the 1630s and 40s constant and increased raiding into other's territories by the Haudenosaunee nations had forced many multi-generational residents to leave their lands. By 1650 Huronia, the home of the Huron and traditional and treaty territory of the Chippewa, had been decimated by the Haudenosaunee.

The Haudenosaunee then attacked and destroyed the Attawandaron and Tionontati to their north, the Susquehanna to their east, and the Erie and Wenrohronon to their west (McMillan and Yellowhorn 2009:88). By the 1660s the Seneca, the western-most member of the Haudenosaunee Confederacy, occupied two sites—Teiaiagon, at the mouth of the Humber River, and Ganatsekwyagon, located near the mouth of the Rouge River.

Sometime after 1687, the Seneca were forced from these sites and rejoined the Haudenosaunee Confederacy south of Lake Ontario. Michi Saagiig oral traditions tell of how Anishinaabe groups came together to push the Haudenosaunee south. This oral history was documented in written form in 1905, by the telling of Robert Paudash (Guillet 1957) and recounted by Elder Gitiga Migizi (Williams 2018:41–44). Battles were fought along the Otonabee River and in the Rice Lake region. Eventually the Anishinaabe made peace with the Haudenosaunee nations. The agreements of peace between the Anishinaabe and Haudenosaunee are encoded on wampum belts.

As the British gained control of Canada from the French in 1758-1760, they included in the Articles of Capitulation a guarantee that the Indigenous allies of the French would be maintained in the lands they inhabited. By this time central and eastern Ontario was being surveyed by the British and fur traders arrived by the late 1700s. Those who had remained on the land and continued to be active in the fur trade, now did so with the English through companies in Montreal like the North West Company, and in the north with the Hudson Bay Company. Anishinaabe people continued to travel in their seasonal rounds, assembling in the summer months in the southern part of central Ontario along the larger river mouths and moving north and inland for the winter in smaller groups (Williams and Kapyrka 2015:101). Residing at the water's edge, they sustained themselves through a variety of means, including, hunting, trapping, gathering plants, fishing, and harvesting wild rice, called "manoomin", which was an important part of the diet. Kahgegagahbowh (George Copway), a Michi Saagiig born near the mouth of Trent River in 1818, shared in his autobiography the traditional migratory existence of his parents, who lived by fishing, hunting, and trapping in the Rice Lake area. He described Rice Lake as having "large quantities of wild rice…in almost every part of the lake; it resembles fields of wheat. As ducks of all kinds resort here in abundance, to feed upon the rice, consequently, there is much good

game in the fall of the year" (Copway 1847:65). The influx of European settlers resulted in the disruption of these practices.

By the late 1700s, the Indigenous peoples were entrenched in the British trade system, increasingly relying on goods such as iron axes and guns to maintain their lands and way of life. This reliance grew during the American Revolutionary War as they sought to secure their territories against encroachment. The aftermath of the war led to a series of land grants to Loyalists, formalized through various treaties signed between the 18th and 20th centuries which opened the door for significant Euro-Canadian immigration and settlement (Boyce 2009; Surtees 1984).

The Sand Road Pit is located on the eastern side of the Kawartha Lakes and Rice Lake regions which was a border area between the Michi Saagiig and the Iroquois prior to the arrival of Europeans. Located to the north of the study areas is the Quackenbush Site which was excavated between 1954 and 1973. This site is the closest known Iroquoian village to the Canadian Shield and the lands of the Algonquins, and thus acted as a centre of trade and interaction between the two peoples (Ministry of Natural Resources 1986).

The Michi Saagiig in this area had previously shared the land north of Lake Ontario with the Odawa and the Huron nations, but in the 16th and early 17th centuries they retreated inland in an attempt avoid European diseases and the pressures from the growing fur trade and European conflicts in the area (Curve Lake First Nation 2025). The Michi Saagiig returned to their traditional territory in southern Ontario around 1680. Following the American Revolution and the influx of European settlers, the Crown, seeking to use the land in the area for settlement, worked with a missionary group called the New England Company to encourage farming and the education of the local Indigenous populations. These entities chose a peninsula along Mud Lake to relocate the community to and to establish what is known as the Curve Lake First Nation. The Mud Lake settlement officially became a reserve in 1899, and the community officially changed its name to "Curve Lake First Nation #35" in 1964 (Curve Lake First Nation 2025).

4.2.4 Michi Saagiig Historical and Background Context

The following section was prepared by Gitiga Migizi, a respected Elder and Knowledge Keeper of the Michi Saagiig Nation (Migizi and Kapyrka 2015) and was graciously provided for inclusion herein by Dr. Julie Kapyrka.

The traditional homelands of the Michi Saagiig (Mississauga Anishinaabeg) encompass a vast area of what is now known as southern Ontario. The Michi Saagiig are known as "the people of the big river mouths" and were also known as the "Salmon People" who occupied and fished the north shore of Lake Ontario where the various tributaries emptied into the lake. Their territories extended north into and beyond the Kawarthas as winter hunting grounds on which they would break off into smaller social groups for the season, hunting and trapping on these lands, then returning to the lakeshore in spring for the summer months.

The Michi Saagiig were a highly mobile people, travelling vast distances to procure subsistence for their people. They were also known as the "Peacekeepers" among Indigenous nations. The Michi Saagiig homelands were located directly between two very powerful Confederacies: The Three Fires Confederacy to the north and the Haudenosaunee Confederacy to the south. The Michi Saagiig were the negotiators, the messengers, the diplomats, and they successfully mediated peace throughout this area of Ontario for countless generations.

Michi Saagiig oral histories speak to their people being in this area of Ontario for thousands of years. These stories recount the "Old Ones" who spoke an ancient Algonquian dialect. The histories explain that the current Ojibwa phonology is the 5th transformation of this language, demonstrating a linguistic connection that spans back into deep time. The Michi Saagiig of today are the descendants of the ancient peoples who lived in Ontario during the Archaic and Paleo periods. They are the original inhabitants of southern Ontario, and they are still here today.
The traditional territories of the Michi Saagiig span from Gananoque in the east, all along the north shore of Lake Ontario, west to the north shore of Lake Erie at Long Point. The territory spreads as far north as the tributaries that flow into these lakes, from Bancroft and north of the Haliburton highlands. This also includes all the tributaries that flow from the height of land north of Toronto like the Oak Ridges Moraine, and all the rivers that flow into Lake Ontario (the Rideau, the Salmon, the Ganaraska, the Moira, the Trent, the Don, the Rouge, the Etobicoke, the Humber, and the Credit, as well as Wilmot and 16 Mile Creeks) through Burlington Bay and the Niagara region including the Welland and Niagara Rivers, and beyond. The western side of the Michi Saagiig Nation was located around the Grand River which was used as a portage route as the Niagara portage was too dangerous. The Michi Saagiig would portage from present-day Burlington to the Grand River and travel south to the open water on Lake Erie.

Michi Saagiig oral histories also speak to the occurrence of people coming into their territories sometime between 500-1000 A.D. seeking to establish villages and a corn growing economy – these newcomers included peoples that would later be known as the Huron-Wendat, Neutral, Petun/Tobacco Nations. The Michi Saagiig made Treaties with these newcomers and granted them permission to stay with the understanding that they were visitors in these lands. Wampum was made to record these contracts, ceremonies would have bound each nation to their respective responsibilities within the political relationship, and these contracts would have been renewed annually (see Gitiga Migizi and Kapyrka 2015). These visitors were extremely successful as their corn economy grew as well as their populations. However, it was understood by all nations involved that this area of Ontario were the homeland territories of the Michi Saagiig.

The Odawa Nation worked with the Michi Saagiig to meet with the Huron-Wendat, the Petun, and Neutral Nations to continue the amicable political and economic relationship that existed – a symbiotic relationship that was mainly policed and enforced by the Odawa people. Problems arose for the Michi Saagiig in the 1600s when the European way of life was introduced into southern Ontario. Also, around the same time, the Haudenosaunee were given firearms by the colonial governments in New York and Albany which ultimately made an expansion possible for them into Michi Saagiig territories. There began skirmishes with the various nations living in Ontario at the time. The Haudenosaunee engaged in fighting with the Huron-Wendat and between that and the onslaught of European diseases, the Iroquoian speaking peoples in Ontario were decimated.

The onset of colonial settlement and missionary involvement severely disrupted the original relationships between these Indigenous nations. Disease and warfare had a devastating impact upon the Indigenous peoples of Ontario, especially the large sedentary villages, which mostly included Iroquoian speaking peoples. The Michi Saagiig were largely able to avoid the devastation caused by these processes by retreating to their wintering grounds to the north, essentially waiting for the smoke to clear.

Michi Saagiig Elder Gitiga Migizi (2017) recounts:

"We weren't affected as much as the larger villages because we learned to paddle away for several years until everything settled down. And we came back and tried to bury the bones of the Huron but it was overwhelming, it was all over, there were bones all over – that is our story.

There is a misnomer here, that this area of Ontario is not our traditional territory and that we came in here after the Huron-Wendat left or were defeated, but that is not true. That is a big misconception of our history that needs to be corrected. We are the traditional people, we are the ones that signed treaties with the Crown. We are recognized as the ones who signed these treaties and we are the ones to be dealt with officially in any matters concerning territory in southern Ontario.

We had peacemakers go to the Haudenosaunee and live amongst them in order to change their ways. We had also diplomatically dealt with some of the strong chiefs to the north and tried to make peace as much as possible. So we are very important in terms of keeping the balance of relationships in harmony.

Some of the old leaders recognized that it became increasingly difficult to keep the peace after the Europeans introduced guns. But we still continued to meet, and we still continued to have some wampum, which doesn't mean we negated our territory or gave up our territory – we did not do that.

We still consider ourselves a sovereign nation despite legal challenges against that. We still view ourselves as a nation and the government must negotiate from that basis."

Often times, southern Ontario is described as being "vacant" after the dispersal of the Huron-Wendat peoples in 1649 (who fled east to Quebec and south to the United States). This is misleading as these territories remained the homelands of the Michi Saagiig Nation.

The Michi Saagiig participated in eighteen treaties from 1781 to 1923 to allow the growing number of European settlers to establish in Ontario. Pressures from increased settlement forced the Michi Saagiig to slowly move into small family groups around the present-day communities: Curve Lake First Nation, Hiawatha First Nation, Alderville First Nation, Scugog Island First Nation, New Credit First Nation, and Mississauga First Nation.

The Michi Saagiig have been in Ontario for thousands of years, and they remain here to this day.

4.2.5 Chippewas of Rama Historical and Background Context

The following was provided by Chippewas of Rama First Nation (2023)

> *The Chippewas of Rama First Nation are an Anishinaabe (Ojibway) community located at Rama First Nation, ON. Our history began with a great migration from the East Coast of Canada into the Great Lakes region. Throughout a period of several hundred years, our direct ancestors again migrated to the north and eastern shores of Lake Huron and Georgian Bay. Our Elders say that we made room in our territory for our allies, the Huron-Wendat Nation, during their times of war with the Haudenosaunee. Following the dispersal of the Huron-Wendat Nation from the region in the mid-1600s, our stories say that we again migrated to our territories in what today is known as Muskoka and Simcoe County. Several major battles with the Haundenosaunee culminated in peace being agreed between the Anishinaabe and the Haudenosaunee, after which the Haudenosaunee agreed to leave the region and remain in southern Ontario. Thus, since the early 18th century, much of central Ontario into the lower parts of northern Ontario has been Anishinaabe territory.*
>
> *The more recent history of Rama First Nation begins with the creation of the "Coldwater Narrows" reserve, one of the first reserves in Canada. The Crown intended to relocate our ancestors to the Coldwater reserve and ultimately assimilate our ancestors into Euro-Canadian culture. Underlying the attempts to assimilate our ancestors were the plans to take possession of our vast hunting and*

harvesting territories. Feeling the impacts of increasingly widespread settlement, many of our ancestors moved to the Coldwater reserve in the early 1830s. Our ancestors built homes, mills, and farmsteads along the old portage route which ran through the reserve, connecting Lake Simcoe to Georgian Bay (this route is now called "Highway 12"). After a short period of approximately six years, the Crown had a change of plans. Frustrated at our ancestors continued exploiting of hunting territories (spanning roughly from Newmarket to the south, Kawartha Lakes to the east, Meaford to the west, and Lake Nipissing to the north), as well as unsuccessful assimilation attempts, the Crown reneged on the promise of reserve land. Three of our Chiefs, including Chief Yellowhead, went to York under the impression they were signing documents affirming their ownership of land and buildings. The Chiefs were misled, and inadvertently allegedly surrendered the Coldwater reserve back to the Crown.

Our ancestors, then known as the Chippewas of Lakes Simcoe and Huron, were left landless. Earlier treaties, such as Treaty 16 and Treaty 18, had already resulted in nearly 2,000,000 acres being allegedly surrendered to the Crown. The Chippewas made the decision to split into three groups. The first followed Chief Snake to Snake Island and Georgina Island (today known as the Chippewas of Georgina Island). The second group followed Chief Aissance to Beausoleil Island, and later to Christian Island (Beausoleil First Nation). The third group, led by Chief Yellowhead, moved to the Narrows between Lakes Simcoe and Couchiching and eventually, Rama (Chippewas of Rama First Nation).

A series of purchases, using Rama's own funds, resulted in Yellowhead purchasing approximately 1,600 acres of abandoned farmland in Rama Township. This land makes up the core of the Rama Reserve today, and we have called it home since the early 1840's. Our ancestors began developing our community, clearing fields for farming and building homes. They continued to hunt and harvest in their traditional territories, especially within the Muskoka region, up until the early 1920's. In 1923, the Williams Treaties were signed, surrendering 12,000,000 acres of previously unceded land to the Crown. Once again, our ancestors were misled, and they were informed that in surrendering the land, they gave up their right to access their seasonal traditional hunting and harvesting territories.

With accessing territories difficult, our ancestors turned to other ways to survive. Many men guided tourists around their former family hunting territories in Muskoka, showing them places to fish and hunt. Others worked in lumber camps and mills. Our grandmothers made crafts such as porcupine quill baskets and black ash baskets and sold them to tourists visiting Simcoe and Muskoka. The children were forced into Indian Day School, and some were taken away to Residential Schools. Church on the reserve began to indoctrinate our ancestors. Our community, along with every other First Nation in Canada, entered a dark period of attempted genocide at the hands of Canada and the Crown. Somehow, our ancestors persevered, and they kept our culture, language, and community alive.

Today, our community has grown into a bustling place, and is home to approximately 1,100 people. We are a proud and progressive First Nations community.

4.2.6 Colonial History

The study area is within Peterborough County. Notable references relating to the broader county include: *Peterborough and the Kawarthas* (Adams and Taylor 1985), *County of Peterborough* (Miles & Co 1879), *History of the County of Peterborough* (Mulvany 1884), and the *Illustrated Historical Atlas of Peterborough County* (Cole 1975).

Although the French exerted some influence in the region that would become central and eastern Ontario through the 17th and 18th centuries, with permanent settlements established to the east on the Island of Montreal and at Cataraqui (present day Kingston), permanent European settlement did not occur until the end of the 18th century. Despite having gained control of

Canada at the end of the Seven Years' War (1754–1763), the British did not express interest in establishing settlements until the end of the American Revolution, when United Empire Loyalists left the newly established Republic.

Early Euro-Canadian land divisions into districts, counties, townships, etc. and the expansion of settlement were facilitated by the Indigenous Nations who agreed to enter formal treaty relationships with the newcomers to share the land and resources. The study area is located within the traditional territory of the Michi Saagiig, which was part of the lands of the Rice Lake Purchase (Treaty 20).

The signing of Treaty 20, or the Rice Lake Purchase, on 5 November 1818, facilitated initial historical Euro-Canadian colonial settlement of the area. This treaty was part of a series of pre-Confederation purchases by the Crown known as the Upper Canada Land Surrender Treaties. The context of relationships between Indigenous peoples and the Crown had changed during this period. The military role of Indigenous Nations had ended following the end of the War of 1812, and with the growth of settlement in the preceding decades, colonial settlers had come to outnumber the Indigenous population of Upper Canada. The goal of the Indian Department with the Rice Lake Purchase (and the four other purchases in the decade after the War of 1812) was to open a secondary area of settlement north of the St. Lawrence River and Lake Ontario purchases. Thus, an area of more than 1.9 million acres was purchased for an annual sum of £740. The terms of the treaties, including the perpetual surrender of most hunting and fishing rights, have recently been questioned (Morin 2013).

The signing of the Williams Treaties in 1923 was a significant moment in the colonial settlement of the area (Surtees 1986). In the first decade of the 20th century, concerns were increasingly raised that some lands in Central Ontario were not covered by the pre-existing Upper Canada Land Surrenders and were being encroached upon by colonial settlement. Issues with these existing treaties spurred the federal government to convene with the Ontario government in an effort to address Indigenous claims of invalid treaties. A commission headed by A.S. Williams determined that the Indigenous claims were valid and in fact included more extensive areas than previously suggested. Two treaties were quickly signed: the first with the Chippewas of Rama, Christian Island (now Beausoleil) and Georgina Island, and the second with the Mississaugas of Alderville, Scugog Lake, Mud Lake (now Curve Lake), and Rice Lake (now Hiawatha). The treaties covered three large areas along the northern shore of Lake Ontario between the Etobicoke and Trent Rivers, north to Lake Simcoe, and between Lake Huron and the Ottawa River. Payments were made for only a fraction of the land's estimated value.

Anishinaabe peoples had numerous concerns regarding the 1923 Williams Treaties. These treaties were predetermined by the government without the involvement of the Michi Saagiig or Chippewa, who felt they were forced to sign without negotiation. The treaties claimed that these Anishinaabe groups surrendered their traditional rights to fishing, hunting, and harvesting, which they have consistently denied since 1923. Disagreements over the treaty's wording and implications persisted, with the Anishinaabe feeling continuously denied access to their ancestral lands while settlers were granted utilization rights. Pushback from the Michi Saagiig and Chippewa led to legal actions, and in 2018, after decades of dispute, the *Alderville Litigation and Settlement* was reached that compensated affected communities and confirmed their inherent rights to hunting, fishing, and harvesting in their territories (Cowie 2023:14–15).

Peterborough County

The area had been part of the Montreal District until 1788, when Lord Dorchester, Sir Guy Carleton formed four new districts west of Montreal. From east to west these were Lunenburg, Mecklenburg, Nassau, and Hesse, reflecting the German origins of the Royal family and the

many Germans among the Loyalists. With the Canada Act of 1791 that divided Quebec into Upper and Lower Canada, Colonel John Graves Simcoe, first Lieutenant-Governor of Upper Canada, established the original 19 counties. In 1792, the Nassau District was renamed the Home District. The lands that became the County of Peterborough, were originally part of the Newcastle District formed in 1802 from the Home District.

In 1841, the northern part of the Newcastle District was detached to form the Colborne District, centred on Peterborough, which became the County of Peterborough in 1850. In 1851, Peterborough County was divided into the counties of Peterborough and Victoria, which were united for municipal purposes as the United Counties of Peterborough and Victoria. Further townships were surveyed, extending the reach of the county northwards, but in 1874 were withdrawn from the county and transferred to the new Provisional County of Haliburton.

4.2.7 Asphodel Township

Asphodel Township was opened for European settlement in 1821 (Middleton 1927). Zaccheus Burnham acquired the patent for over a thousand acres in the spring of 1820 and hired his son-in law, Richard Birdsall, to survey the land. It was Birdsall who gave the township its name as he saw the similarity of the area's trilliums with the asphodel flowers of his home in England (Brunger 2020).

Birdsall settled in the township on Lot 1, Concession 1, becoming Justice of the Peace in 1821, a land agent for the Canada Company in 1830, the first representative for Asphodel on the new District Council from 1842 to 1843, and served as the township's first reeve from 1850 to 1852 (Brunger 2020). One of the Asphodel's earliest communities grew around the well-located Birdsall homestead on the eastern end of Rice Lake which served as port of access to the township. This community, called Birdsall's Landing, became an economic hub for the shipment of supplies and livestock by steamers and a railway stop (Graham 1978: 55-56).

In 1823, United Empire Loyalist Joseph Keeler established the town of Keeler's Mill (now Norwood) after receiving 500 acres of land along the Ouse River, where he developed mill operations (Middleton 1927). By 1836, Keeler expanded his holdings with the purchase of 2,000 acres and subdivided portions into village lots (Poole and Romaine 1867).

The Pearce family, notably mill operator Peter Pearce, became one of Norwood's most prominent families. Peter Pearce Jr. served on the township's first council and later as reeve, while the large Pearce family home functioned as a venue for public meetings and religious services for all denominations (Graham 1978: 60). By the 1830s, as Keeler's mill expanded and village lots were established, Norwood saw the construction of its first church, school, and store. The town continued to develop, eventually housing county offices and serving as the seat of the municipal government of Asphodel (Poole and Romaine 1867).

4.2.8 Study Area Specific History

The study area consists of a small parcel in the north section of Lot 15, Concession 6, within the Geographic Township of Asphodel, County of Peterborough (Map 1). Historic mapping from 1879 does not indicate any structures or owners within the lot (Map 4).

The Crown patent for the western 100 acres of Lot 15 was granted to John Weaver in 1823 (LRO (045)). In 1826, Weaver sold the land to Walter Scott, and the property remained within the Scott family for over six decades. During this time, the land underwent multiple mortgages, legal complications, conveyances, assignments, and a sheriff's deed before Walter Scott sold it to John and John W. Carberry in 1890.

In 1891, the Carberrys sold the property to George Read, who later deeded it to John C. and William G. Read in 1897. The Reads then granted the land to Stanley Comstock and Charles J. Blake in 1913. In 1917, Comstock quit his claim, leaving Blake as the sole owner. Following Blake's death in 1955, ownership passed to his wife, Susan Blake. After Susan's death in 1970, her estate granted the land to Ruby Cuthbertson, presumably her daughter.

In 1992, following Ruby Cuthbertson's passing, her estate transferred the property to Marion Robson, presumably her sister. Marion Robson sold the land to Drain Bros. Excavating in 1998 (LRO (045)).

4.3 Archaeological Context

4.3.1 Current Conditions

The 1.2-hectare study area is located between Highway 7 to the north and Sand Road to the south, approximately 5 km west of Norwood (Map 5). A dirt road runs through the centre of the study area in a generally north–south orientation. A tributary creek of the Ouse River passes through the study area. The northern portion of the study area comprises actively cultivated ploughed fields flanking either side of the dirt road. The southern portion is characterized by forested terrain on both sides of the road.

4.3.2 Physiography

The study area lies within the Peterborough Drumlin Field physiographic region (Map 6). The glacial eskers noted across the study area are characteristic of this region. The Peterborough Drumlin Field is a rolling till plain extending from Hastings County in the east to Simcoe County in the west. Generally, the rock underlying this region is limestone of the Lindsay and Verulam Formations which are somewhat softer and less massive; they are highly fossiliferous and disintegrate easily. The general orientation of the drumlin axes in this field is from northeast to southwest, but there are some local variations. The drumlins throughout this region, like the ones that travel just to the north of the study area, are composed of highly calcareous till with localised variations in size and composition. The Peterborough Drumlin Field is notable for its eskers as well as its drumlins. These gravel ridges provide poor soils but they area valuable as sources of good gravel. There are significant deposits of clay or sand flats that lie between the drumlins in some areas while in other areas these valleys can have wide swampy bottoms traversed by sluggish streams. The forest on the higher, well-drained areas consists largely of maple and beech with a fair mix of white pine and hemlock. Although the triple handicap of stoniness, steep slopes, and wet swampy hollows restricts most agricultural use, the uniform slopes of most drumlins are amenable to contour cultivation and strip cropping (Chapman and Putnam 2007).

The soils in the study area are varied and consist of Brinco Loamy Sand soils in the north section and Bottomland soils across the southern boundary (Map 6).

Brinco Loamy Sand soils are gently sloping, well-draining soils that have a coarse grade of sand and low clay content (Gillespie and Acton 1981:14). These soils have the ability for agriculture despite being somewhat prone to drought. With management these soils are known for supporting specialized fruit and vegetable crops but are most well known for well-established pine plantations (Gillespie and Acton 1981:14).

Bottom Land soils are immature, low-lying soils along stream courses that show little horizon differentiation and are subject to flooding. There are usually successive layers of alluvial silt, fine sand, and clay intermixed with layers of organic matter. The profile usually consists of a deep, dark-coloured surface underlain by greyish material. The drainage varies but is usually poor. Vegetation consists of willow, elm, and cedar with bulrushes, sedges, and marsh grasses occurring where the land is flooded for most of the season. Bottom Land is used largely for pasture but in some locations, it can be cultivated and used for general farm crops (Hoffman and Richards 1955).

The surficial geology of the study area mainly consists of coarse-textured foreshore-basinal deposits of sand, gravel, minor silt, and clay in the north and the southern boundary consists of ice-contact stratified deposits of sand, gravel, minor silt, clay, and till along the eskers (Map 6). There are significant drumlins to the immediate north and south of the study area.

4.3.3 The Peterborough Drumlin Field and the Norwood Esker

As noted, the study area lies within the Peterborough Drumlin Field physiographic region, a landscape dominated by drumlins and eskers (Map 6). These landforms were created when the Simcoe lobe of the Laurentide Ice Sheet advanced south across Lake Ontario and into the northern United States during its maximum extent (Hahn and Handley 2019:14). The Peterborough Drumlin Field extends through the south-central section of Peterborough County, containing thousands of drumlins that create an undulating and rolling topography. These drumlins generally align northeast to southwest, varying in size from 45 m to 5 km in length and rising 5 to 35 m above the surrounding landscape (Hahn and Handley 2019:12).

Esker ridges, common throughout the region, can reach heights of over 20 m. According to local geological surveys, these eskers contain valuable sand and gravel deposits, making them prime locations for aggregate extraction (Hahn and Handley 2019:14).

The Norwood Esker, a major glaciofluvial feature, crosses the study area. This esker extends nearly 25 km, running continuously from the southwestern end of Round Lake to the Trent River east of Keene (Hahn and Handley 2019:157). It ranges in height from 10 to 25 m and consists of a primary ridge surrounded by kame deposits and undifferentiated ice-contact stratified drift with glaciofluvial outwash deposits (Hahn and Handley 2019: 17). The Norwood Esker contains 16 active aggregate pits along its length, with an estimated 100 million tonnes of remaining aggregate material (Hahn and Handley 2019: 17).

The esker is subdivided into three sections (1a, 1b, and 1c), categorized by aggregate composition and quality. The study area falls within section 1b, which consists of cobble gravel forming the core of the esker, with fine-grained silty sand deposits running along its margins (Hahn and Handley 2019:18).

4.3.4 Previous Archaeological Assessments

Archaeological investigations in the region have primarily been cultural resource management studies conducted in response to specific property developments or infrastructure projects. A Stage 1 and 2 archaeological assessment was conducted by Matrix Heritage for the Sand Road Pit Expansion under the *Aggregate Resources Act* under PIF P369-0508-2024 (Matrix Heritage 2024). Following the completion of this assessment, the licensed area was revised to include the roadway, which now forms the current study area (Map 2). The Stage 2 archaeological assessment for the original expansion identified a small historic artifact scatter within the southeastern field of the southwestern parcel. This scatter has been registered with the MCM as Sand Road Pit 1 Site (BcGm-2), since fewer than 20 artifacts from the site predate 1900, it

did not meet the criteria for CHVI warranting Stage 3 assessment. and no further archaeological investigation was required (Matrix Heritage 2024).

In 2001, a Stage 1 and 2 archaeological assessment was conducted in advance of proposed quarrying operations in the western portions of Lots 15 and 16, Concession 6, overlapping with the eastern portion of the current study area boundaries. This Stage 1 and 2 assessment resulted in no archaeological resources identified (Adams Heritage Inc 2002). This assessment did not identify any archaeological resources (Adams Heritage Inc. 2002). However, as this work was completed prior to the implementation of the Ministry's Standards and Guidelines in 2011, a reassessment of the property was included in the current investigation to ensure compliance with updated methodologies.

Beyond this previous assessment, no other archaeological studies have been conducted in the immediate vicinity of the study area to the best of our knowledge. Most archaeological investigations within the township have been associated with development projects in Norwood and Hastings.

4.3.5 Registered Archaeological Sites and Commemorative Plaques

A search of the Ontario Archaeological Sites Database indicated that one registered archaeological sites exist within 1 km of the study area. The Sand Road Pit 1 Site (BcGm-2) consists of a small historic scatter consisting of fewer than 20 of the artifacts date the period of use of the site to before 1900. Accordingly, the site did not qualify as having cultural heritage value or interest (CHVI) and no further assessment was required (Matrix Heritage 2024).

Expanding the search to 3 km identified one additional registered archaeological sites. The Crowley Farm Site (BcGl-3) is a mid to late 19th century Euro-Canadian residential site that was partially excavated in 2016.

There are no known historical plaques within the vicinity of the study area.

4.4 Archaeological Potential

Potential for pre-contact Indigenous sites is based on physiographic variables that include distance from the nearest source of water, the nature of the nearest source/body of water, distinguishing features in the landscape (e. g. ridges, knolls, eskers, and wetlands), the types of soils found within the area of assessment and resource availability. The study area has high potential for pre-contact Indigenous archaeological resources due to the presence of eskers and drumlins, well-drained loamy sandy soils, and proximity to several large significant wetlands.

Potential for historical Euro-Canadian sites is based on proximity to the historical transportation routes, historical community buildings such as schools, churches, and businesses, and any known archaeological or culturally significant sites. The study area has potential for historical Euro-Canadian archaeological resources due to the relatively early patent dates, the proximity to historical Sand Road, and its location between the two historic villages of Norwood and Westwood.

5.0 Indigenous Engagement

Engagement for the Sand Road Pit Entrance included the seven Williams Treaties First Nations of Alderville First Nation, Beausoleil First Nation, Curve Lake First Nation, Chippewas of Georgina Island First Nation, Hiawatha First Nation, Mississaugas of Scugog Island First Nation,

and Chippewas of Rama First Nation along with the Kawartha Nishnawbe First Nation, and the Huron Wendat Nation. The Record of Engagement is provided in a separate Record of Indigenous Engagement document.

A draft of this report will be shared with Indigenous communities for review with comments to be addressed prior to MCM submission.

6.0 Field Methods

The 1.2 ha study area consists of a dirt road through the centre of the study area in a generally north–south orientation. The northern portion of the study area comprises actively cultivated ploughed fields flanking either side of the dirt road. The southern portion is characterized by overgrown areas on both sides of the road leading to forested areas in the south (Map 5).

A portion of the property was disturbed from the roadway and a culvert and gravel section to the west of the roadway (0.48 ha) (Figure 1 - Figure 3). Judgmental shovel testing to confirm disturbance, as per Section 2.1.8, Standard 2 (MCM 2011), was employed in these areas (Figure 4) (Map 5).

The tributary creek of the Ouse River and surrounding low-lying area (0.15 ha) is permanently wet and was excluded from assessment as per Section 2.1.2.a.i (MCM 2011) (Figure 5) (Map 5).

A portion of the property (0.45 ha) consists of an active agricultural field which met the standards for pedestrian survey as per Section 2.1.1. (MCM 2011). The fields were ploughed and weathered prior to the pedestrian survey. At the time of assessment, surface visibility was greater than 80%, with clear visibility across the field and minimal to no weed cover. The field conditions allowed for systematic walking between furrows, and the ploughed field was surveyed at 5 m intervals (Figure 6 - Figure 7) (Map 5).

The remainder of the study area (0.13 ha) was test pitted at 5 metre intervals as per Section 2.1.2, Standard 1a. and b. (Map 5) (Figure 8). All test pits were a minimum of 30 cm in diameter and were excavated 5 cm into subsoil or to bedrock and extended to within 1 m of structures (Section 2.1.2). All soil was screened using 6 mm mesh screens. All test-pits were examined for cultural features and stratigraphy then backfilled upon completion. The test pitting survey resulted in no positive test pits.

All Stage 2 field activity and testing areas were mapped using an iPad (9th generation) with ArcGIS Field Maps. Average accuracy at the time of survey was approximately 5 m horizontal. Study area boundaries were determined in the field using the area to be licensed as delineated by the proponent in project mapping, digitized and overlaid in ArcGIS Field Maps. All survey data is compiled into ArcGIS and every survey point has a UTM Zone 17N NAD 83 coordinate.

Field notes and photographs of the property were taken during fieldwork to document the current land conditions as per Standard 1.a., Section 7.8.6 (MCM 2011). Locations of all photos included in this report are shown on Map 5, identified by figure number. Site photograph, map, and document catalogues appear in Appendices A, B, and C.

The fieldwork was undertaken on July 4, 2025. Weather conditions were sunny and humid with an average temperature of 26°C. Ground conditions were excellent with no saturation or other excessive ground cover to impede visual assessment as per Section 2.1. Standard 3 (MCM 2011). Permission to access the property was provided by the owner through the proponent without limitations.

7.0 Record of Finds

Despite having archaeological potential, the Stage 2 assessment of the study area resulted in no archaeological remains, artifacts, or cultural soil profiles encountered. A photograph record, maps, and daily field notes are listed in Appendix A to C.

8.0 Analysis and Conclusions

The Stage 1 archaeological assessment concluded that the study area has both pre-contact Indigenous and post-contact Euro-Canadian archaeological potential and was therefore subject to Stage 2 assessment.

The Stage 2 archaeological assessment involved pedestrian survey and shovel testing at 5 metre intervals in areas of archaeological potential as per Standard 1.a., Section 2.1.2 (MCM 2011). No archaeological resources with cultural heritage value or interest were identified.

9.0 Recommendations

The Stage 1 assessment determined that the study area retained archaeological potential, requiring a Stage 2 field assessment. The Stage 2 archaeological assessment resulted in no indication of archaeological remains with cultural heritage value or interest within the study area.

Based on the results of this investigation it is recommended:

1. No further archaeological study is required for the portion of the study area shown in pink as delineated in Map 3.

2. If there are areas within the tributary for the Ouse Creek that are to be impacted by this project, a Criteria for Evaluating Marine Archaeological Potential Checklist must be completed.

3. Due to the nature of archaeological assessments, the potential exists to miss information; and if any artifacts of Indigenous interest or human remains are encountered during the development of the subject property, please contact:

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10.0 Advice on Compliance with Legislation

a. This report is submitted to the *Minister of Citizenship and Multiculturalism* as a condition of licencing 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 Citizenship and Multiculturalism, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

b. It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licenced 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 Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

c. 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 licenced consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.

d. 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.

11.0 Closure

Matrix has prepared this report in a manner consistent with the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made. The strategies incorporated in this study comply with those identified in the Ministry of Citizenship and Multiculturalism's *Standards and Guidelines for Consultant Archaeologists* (2011) however; archaeological assessments may fail to identify all archaeological resources.

The present report applies only to the project described in the document. Use of this report for purposes other than those described herein or by person(s) other than Drain Bros or their agent(s) is not authorized without review by this firm for the applicability of our recommendations to the altered use of the report.

Unless otherwise indicated, all materials in the report are copyrighted by Matrix Heritage. All rights reserved. Matrix Heritage authorizes the client and approved users to make and distribute copies of this report only for use by those parties. No part of this document either text, map, or image may be used for any purpose other than those described herein. Therefore, reproduction, modification, storage in a retrieval system or retransmission, in any form or by any means, electronic, mechanical or otherwise, for reasons other than those described herein, is strictly prohibited without prior written permission of Matrix Heritage.

This report is pending Ministry approval.

If you have any questions or we may be of further assistance, please contact the undersigned.

Matrix Heritage Inc.



Nadine Kopp, M.A., A.P.A.
Senior Archaeologist

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13.0 Images



Figure 1: General conditions of gravel road (MH1402-D002).



Figure 2: General conditions along roadway, showing disturbance from culvert (MH1402-D010).



Figure 3: Close up of gravel on slope of disturbed, built-up roadway (MH1402-D008).



Figure 4: Test pitting to confirm disturbance (MH1402-D011).



Figure 5: View of tributary creek of Ouse River (MH1402-D003).



Figure 6: General conditions of agricultural field (MH1402-D001).

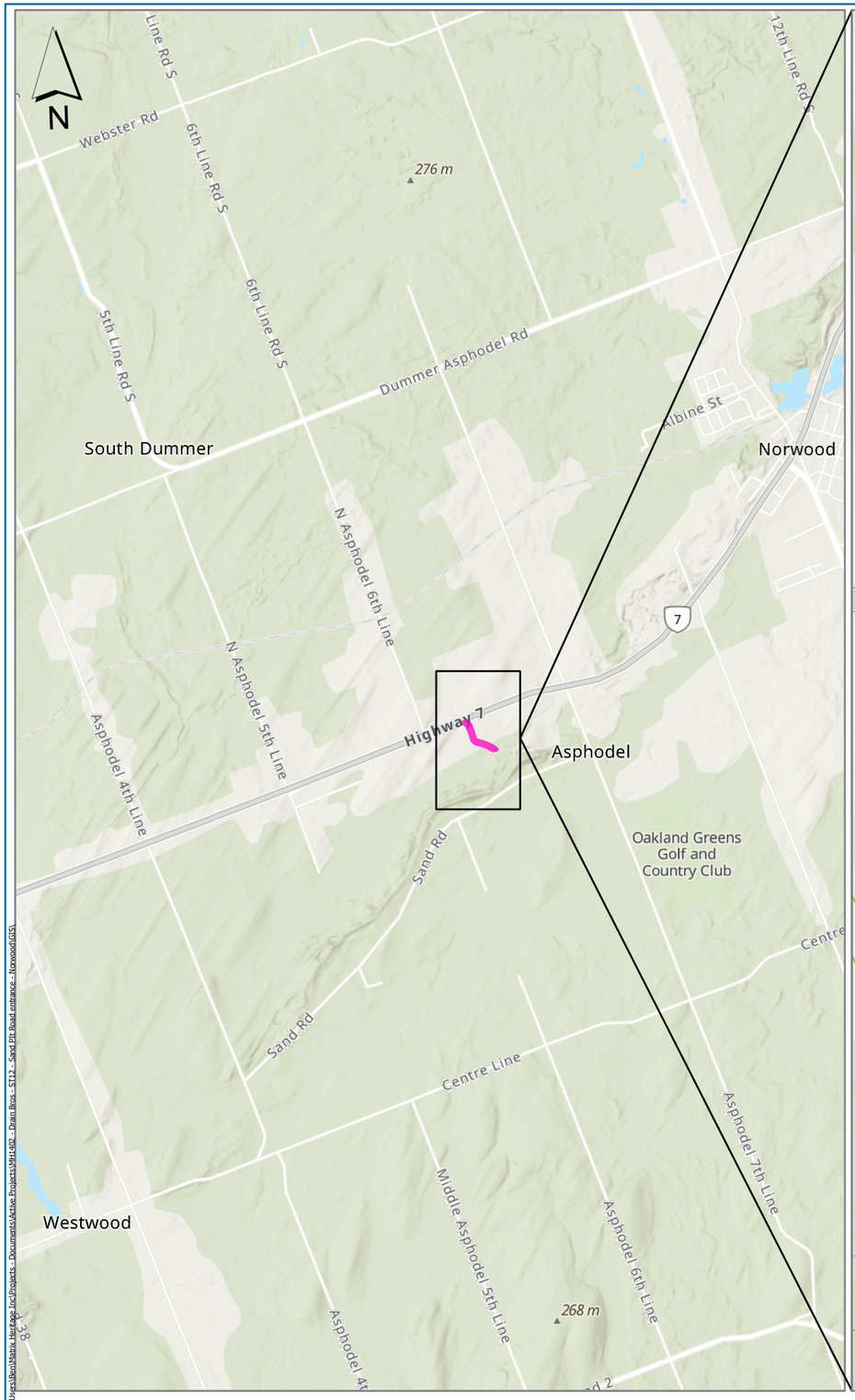


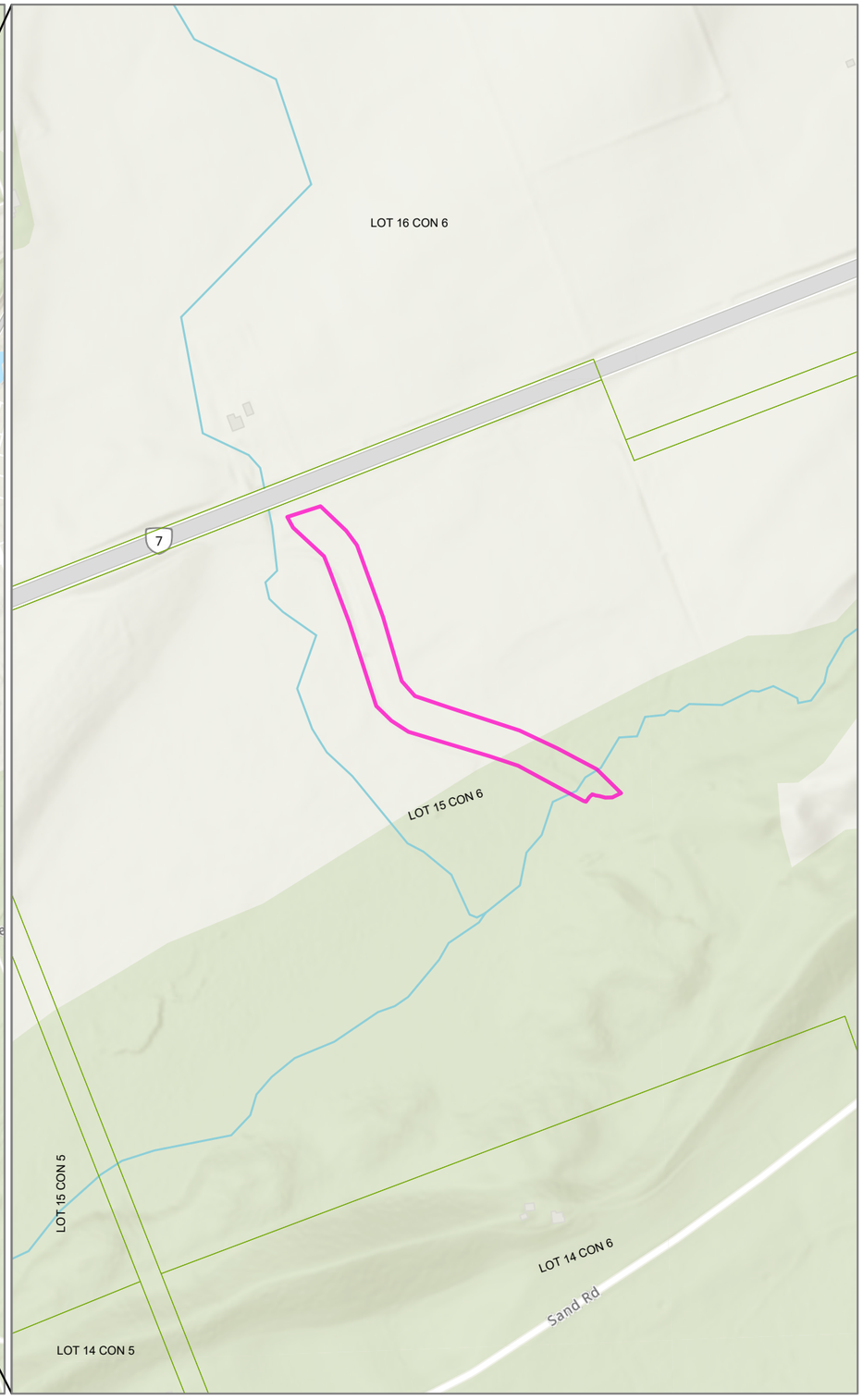
Figure 7: General conditions of agricultural field (MH1402-D006).

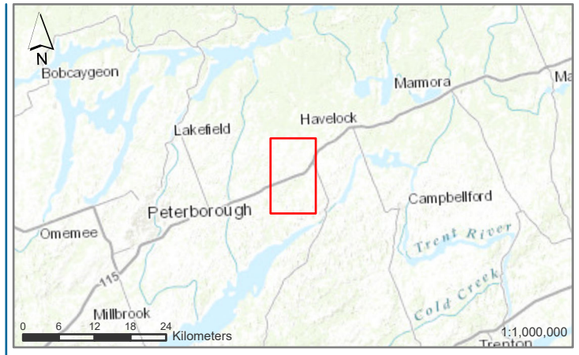


Figure 8: Test pitting in progress (MH1402-D004).

14.0 Maps







LEGEND

STUDY AREA

Matrix

REFERENCES:
ESRI, NASA, NGA, USGS, FEMA, SOURCES: ESRI, TOMTOM, GARMIN, FAO, NOAA, USGS, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY, ESRI, © OPENSTREETMAP CONTRIBUTORS, HERE, GARMIN, FAO, USGS, NGA, EPA, NPS, AAFC, NRCAN, HTTPS://WWW.ONTARIO.CA/PAGE/OPEN-GOVERNMENT-LICENCE-ONTARIO, SOURCES: ESRI, MAXAR, AIRBUS DS, USGS, NGA, NASA, CGIAR, N ROBINSON, NCEAS, NLS, OS, NMA, GEODATASTYRELSEN, RIJKSWATERSTAAT, GSA, GEOLAND, FEMA, INTERMAP, AND THE GIS USER COMMUNITY

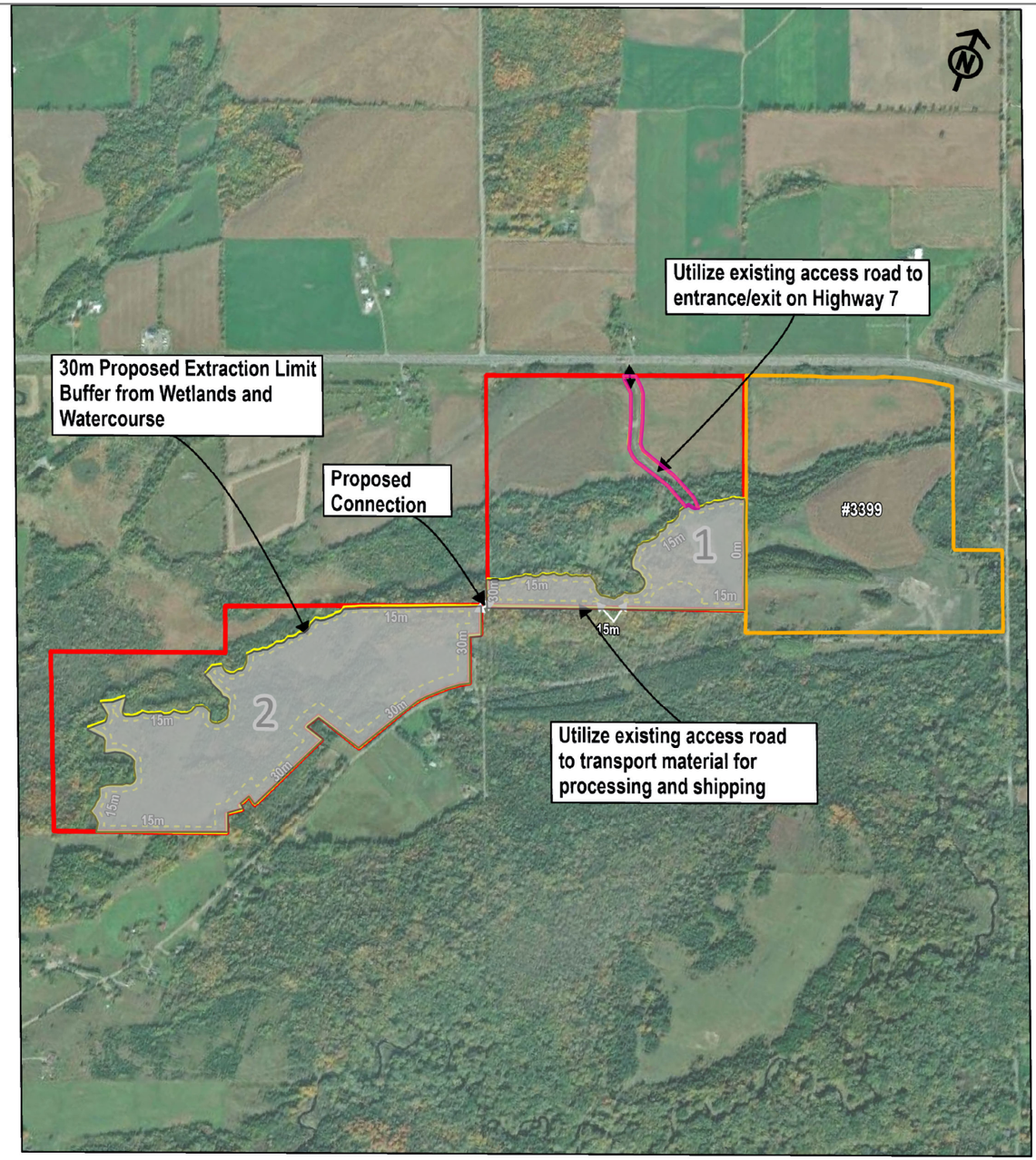
FILE MH1402 DATE 2025-07-15
CREATED BY: EM
PROJECTION: NAD 1983 UTM Zone 17N CHECKED BY: BM

PROJECT
STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT
SAND PIT ROAD HWY 7 ACCESS

TITLE
LOCATION

MAP
1

Folder: C:\Users\Becki\Matrix Heritage Inc\Projects - Documents\Active Projects\MH1402 - Drain Bros. - ST12 - Sand Pit Road entrance - Norwood\GIS\



POTENTIAL EXTRACTION LIMIT TO BE ASSESSED

Sand Road Expansion

Part of Lots 14 & 15, Con 5 & 6
Township of Asphodel–Norwood
County of Peterborough

LEGEND

- Existing ARA Licence
- Property Boundary
- Proposed Licence Boundary
- Proposed Limit of Extraction
- Wetlands
- Watercourse
- Entrance/Exit

1 3749 Highway 7
Potential Extraction Area of 6.02ha

2 926 Sand Road
Potential Extraction Area of 21.6ha

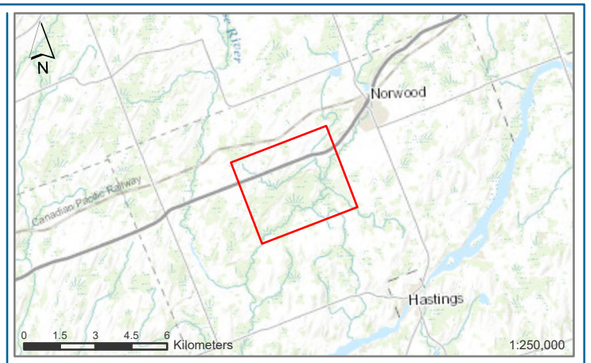
DATE June 05, 2025

SOURCES ESRI Aerial Imagery 2022
Geospatial Ontario
County of Peterborough GIS
RiverStone Environmental Solutions Inc

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Meters

21100C - Potential Limit of Extraction - November 2024

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE



LEGEND

AREA TO BE LICENSED

- ASSESSMENT AREA
- PREVIOUSLY ASSESSED (P369-0508-2024)

Matrix

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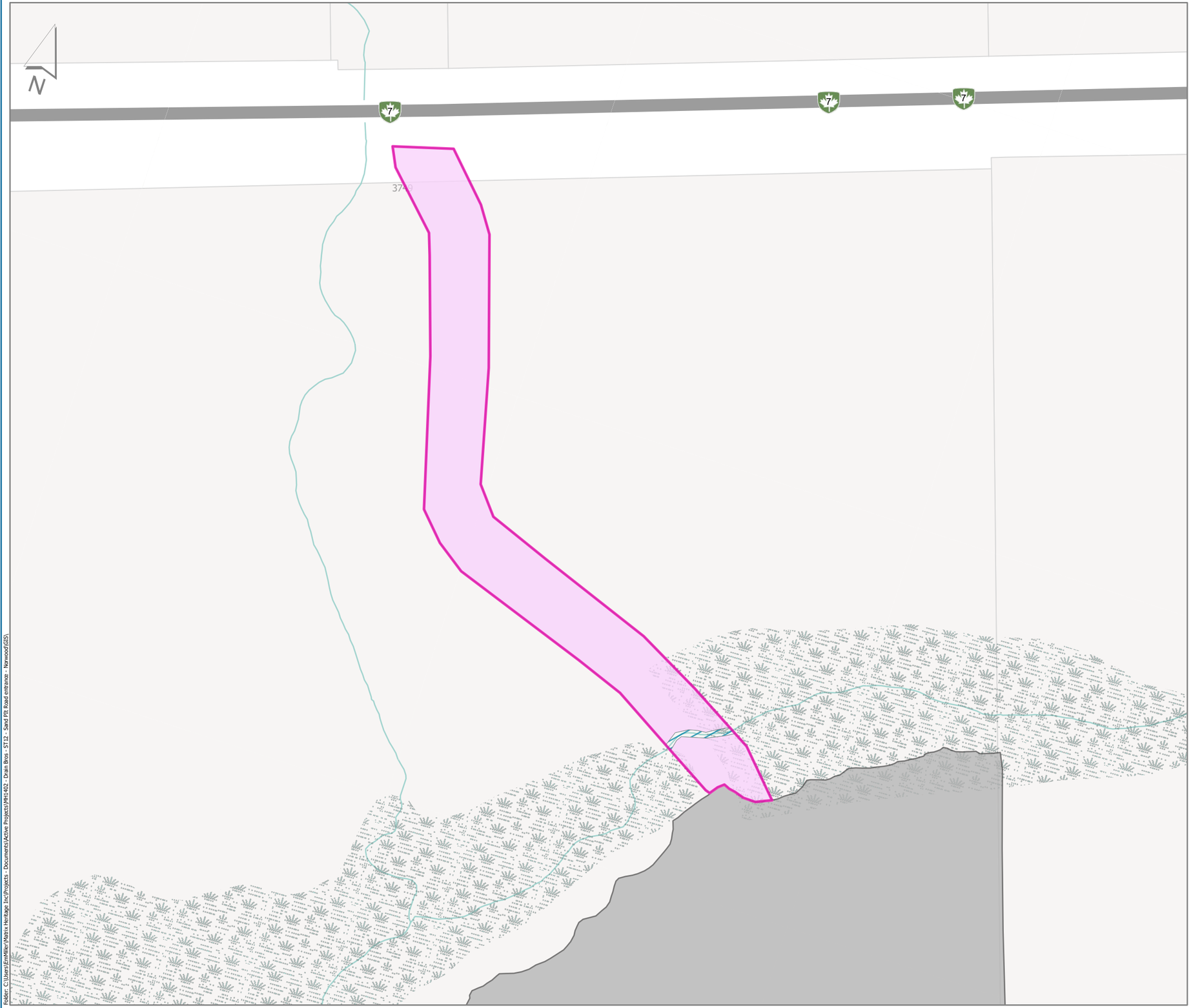
REFERENCES:
CITY OF PETERBOROUGH, HASTINGS COUNTY, PETERBOROUGH COUNTY, ONTARIO BASE MAP, PROVINCE OF ONTARIO, ONTARIO MNR, ESRI CANADA, ESRI, © OPENSTREETMAP CONTRIBUTORS, HERE, GARMIN, USGS, NGA, EPA, USDA, NPS, AAFC, NRCAN
PLAN DATED 25 JUNE 2024 PROVIDED BY THE PROPONENT

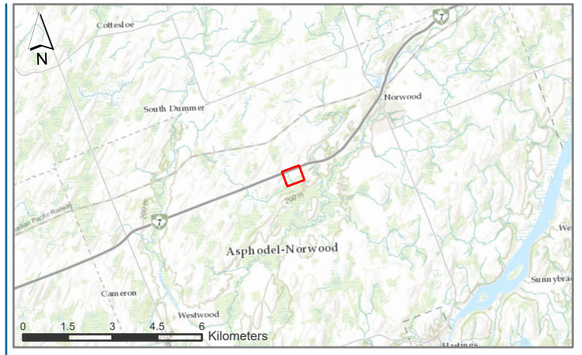
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PROJECTION: NAD 1983 UTM Zone 17N CHECKED BY: BM

PROJECT
STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT
SAND PIT ROAD HWY 7 ACCESS

TITLE **DRAFT PLAN** MAP 2

Folder: C:\Users\Ben\Matrix Heritage Inc\Projects - Documents\Active Projects\MH1402 - Drain Bros - ST12 - Sand Pit Road entrance - Norwood\GIS\





LEGEND

AREA TO BE LICENSED

ASSESSMENT AREA

PREVIOUSLY ASSESSED (P369-0508-2024)

RECOMMENDATIONS

MARINE ASSESSMENT (CHECKLIST) NEEDED IF IMPACTED

NO FURTHER ASSESSMENT REQUIRED

Matrix

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1:2,000

REFERENCES:
CITY OF PETERBOROUGH, HASTINGS COUNTY, PETERBOROUGH COUNTY, PROVINCE OF ONTARIO, ONTARIO MNR, ESRI CANADA, ESRI, HERE, GARMIN, USGS, NGA, EPA, USDA, NPS, AAFC, NRCAN, SOURCES: ESRI, VANTOR, AIRBUS DS, USGS, NGA, NASA, CGIAR, N ROBINSON, NCEAS, NLS, OS, NMA, GEODATASTYRELSEN, RIJKSWATERSTAAT, GSA, GEOLAND, FEMA, INTERMAP, AND THE GIS USER COMMUNITY, MICROSOFT, VANTOR

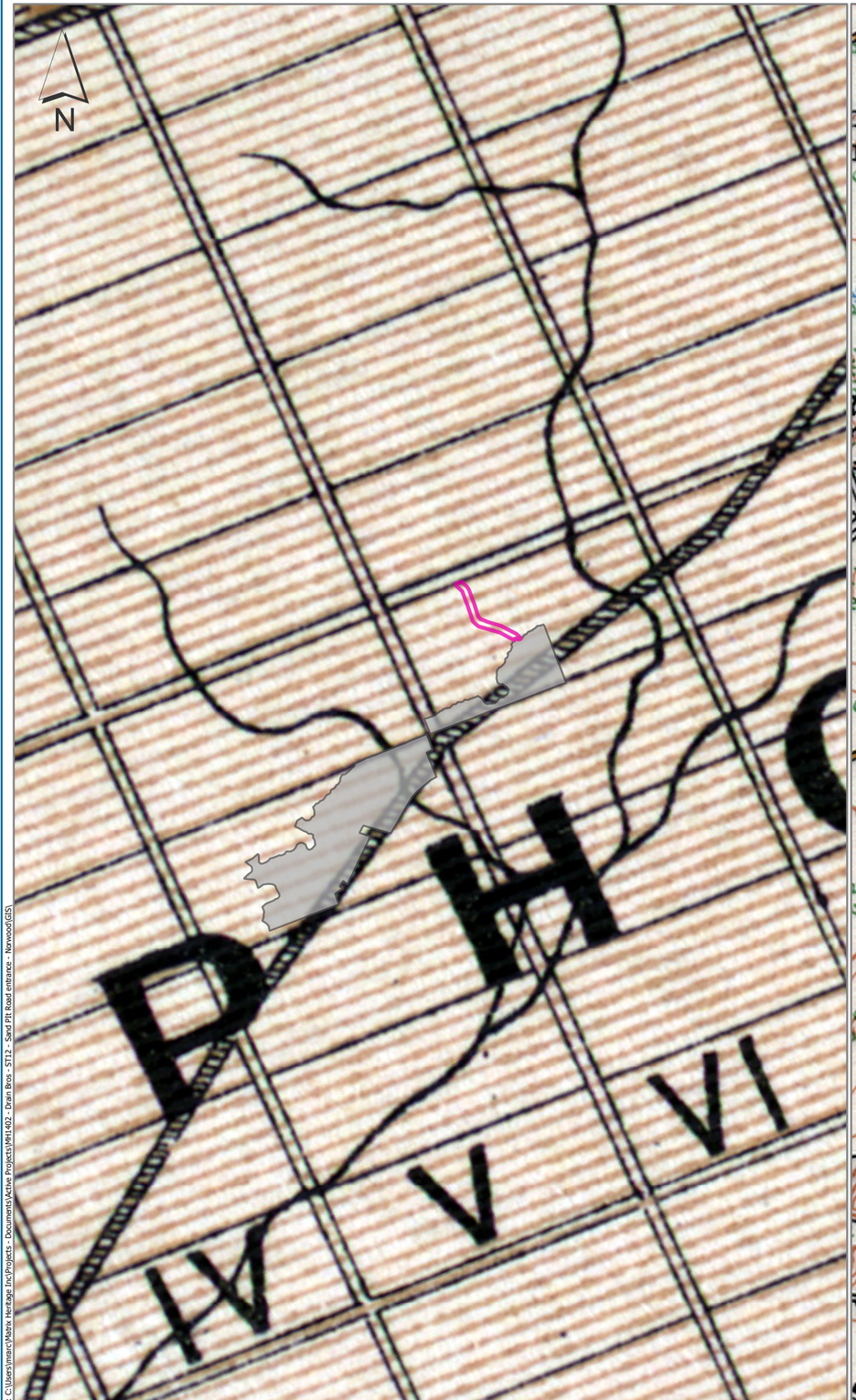
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PROJECT
STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT
SAND PIT ROAD HWY 7 ACCESS

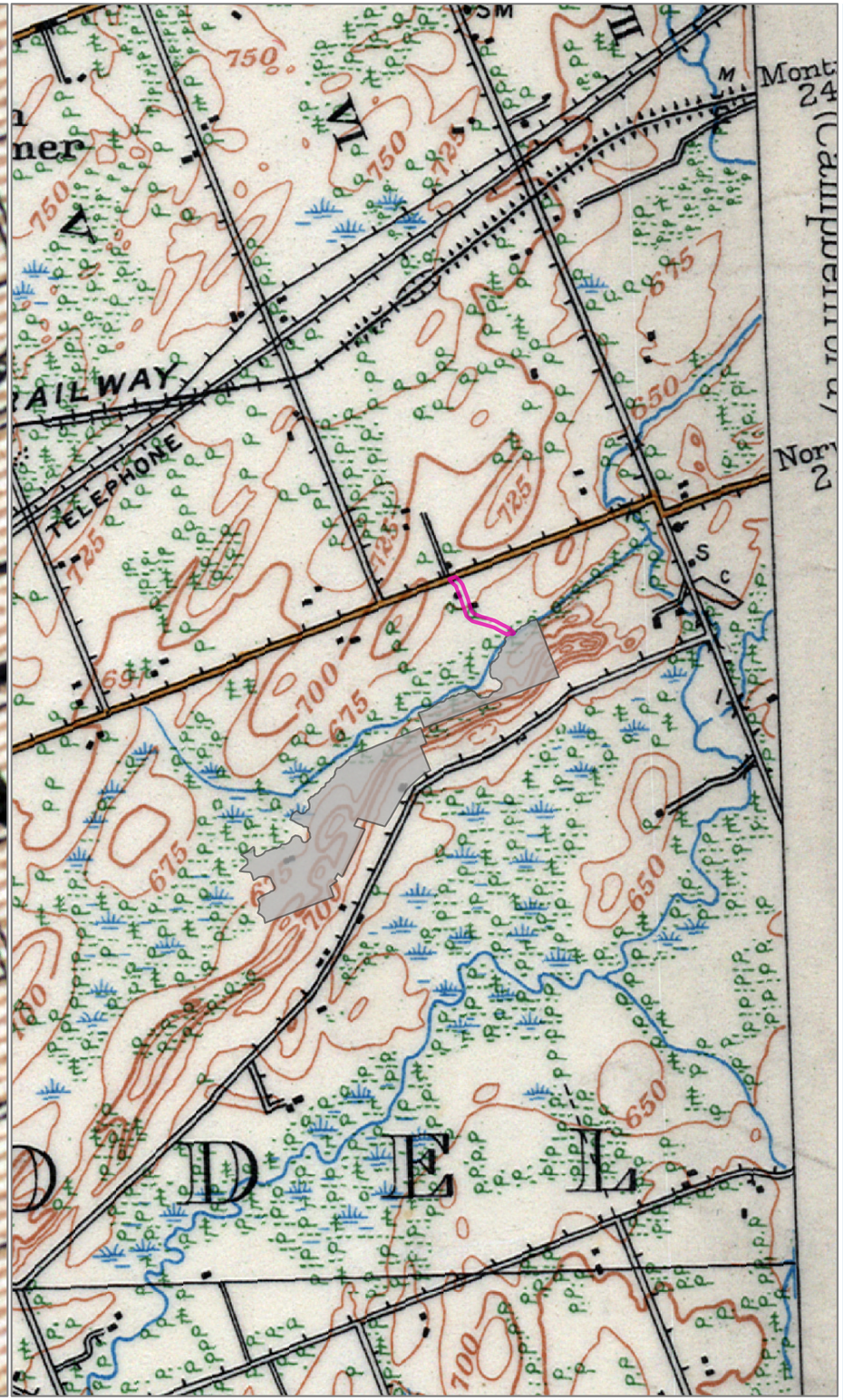
TITLE
RECOMMENDATIONS

MAP 3

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MILES 1879



DEPARTMENT OF NATIONAL DEFENCE 1933

LEGEND

AREA TO BE LICENSED

ASSESSMENT AREA

PREVIOUSLY ASSESSED (P369-0508-2024)

Matrix

REFERENCES:
CITY OF PETERBOROUGH, HASTINGS COUNTY, PETERBOROUGH COUNTY, PROVINCE OF ONTARIO, ONTARIO MNR, ESRI CANADA, ESRI, HERE, GARMIN, INCREMENT P, USGS, METI/NASA, EPA, USDA, AAFC, NRCAN, CITY OF PETERBOROUGH, HASTINGS COUNTY, PETERBOROUGH COUNTY, ONTARIO BASE MAP, PROVINCE OF ONTARIO, ONTARIO MNR, ESRI CANADA, ESRI, © OPENSTREETMAP CONTRIBUTORS, HERE, GARMIN, USGS, NGA, EPA, USDA, NPS, AAFC, NRCAN

TOPOGRAPHIC MAP, SHEET 31 D/8, CAMPBELLFORD. GEOPGRAPHICAL SECTION, DEPARTMENT OF NATIONAL DEFENCE, 1933.

TOWNSHIP OF ASPHODEL FROM COUNTY OF PETERBOROUGH. TORONTO: MILES & CO., 1879.

FILE MH1402

DATE 2025-07-15

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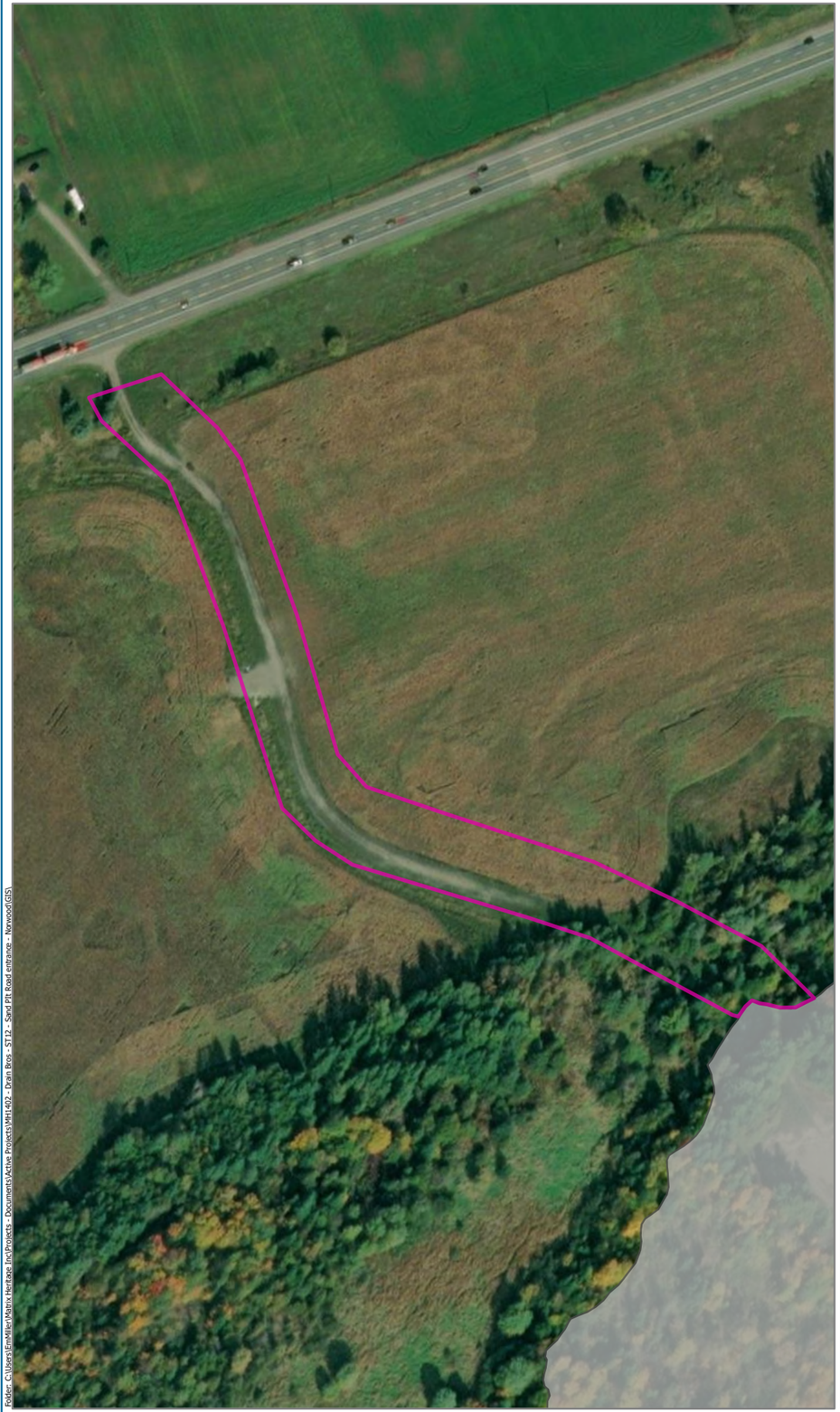
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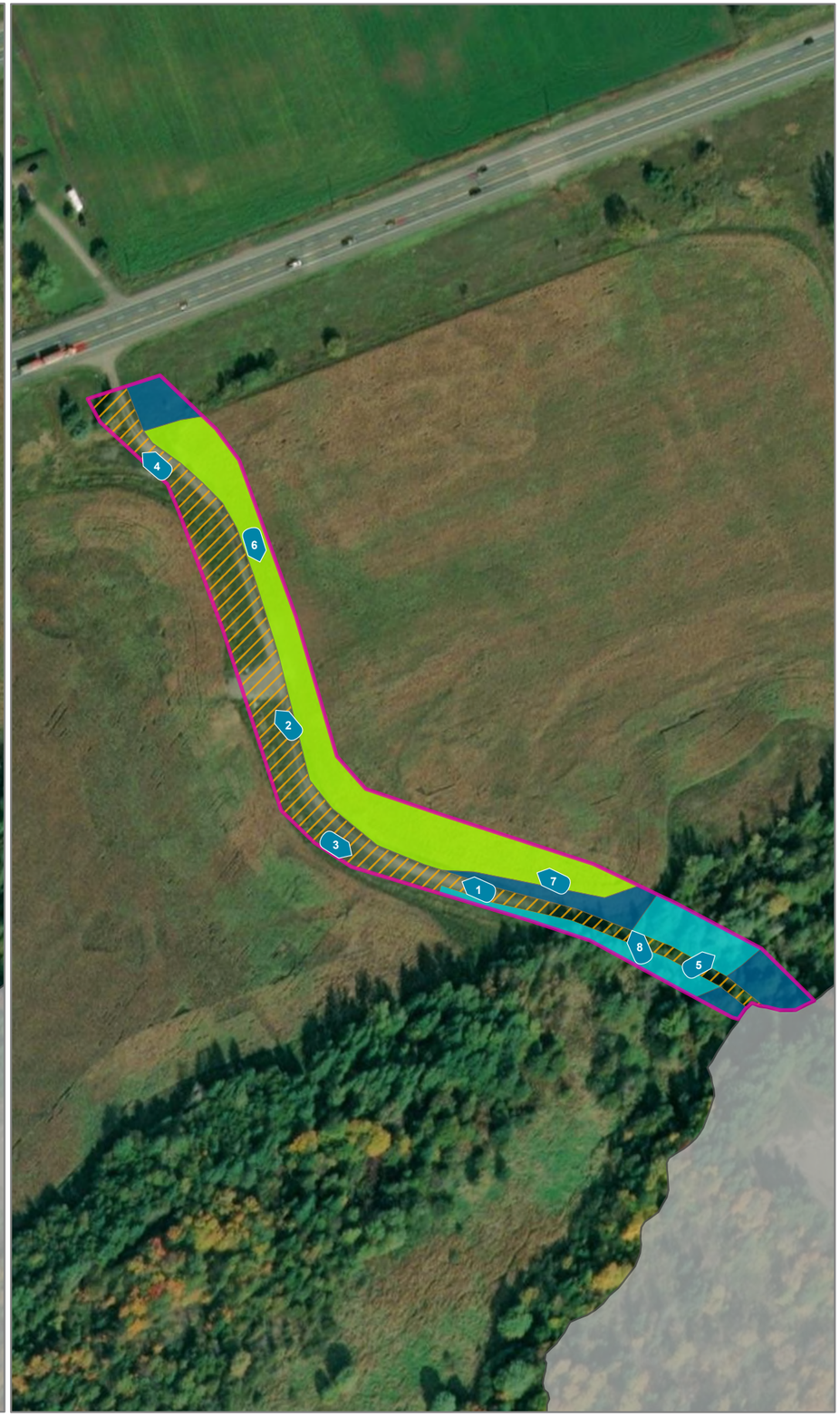
PROJECT
STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT
SAND PIT ROAD HWY 7 ACCESS

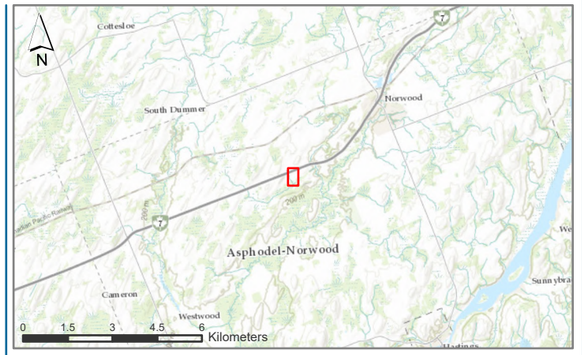
TITLE
HISTORIC

MAP
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LEGEND

AREA TO BE LICENSED

- ASSESSMENT AREA
- PREVIOUSLY ASSESSED (P369-0508-2024)

METHODS

ASSESMENT METHOD (ARCHAEOLOGICAL POTENTIAL)

- SHOVEL TEST (5 M INTERVAL)
- PEDESTRIAN (5 M INTERVAL)
- SHOVEL TESTED TO CONFIRM DISTURBANCE (JUDGEMENTAL)

EXCLUDED (LOW TO NO ARCHAEOLOGICAL POTENTIAL)

- PERMANENTLY WET
- PHOTO LOCATION, DIRECTION, AND FIGURE

0 30 60 90 120 Meters

1:2,250

REFERENCES:
CITY OF PETERBOROUGH, HASTINGS COUNTY, PETERBOROUGH COUNTY, PROVINCE OF ONTARIO, ONTARIO MNR, ESRI CANADA, ESRI, HERE, GARMIN, USGS, NGA, EPA, USDA, NPS, AAFC, NRCAN, MICROSOFT, VANTOR

FILE MH1402 DATE 2025-12-05

CREATED BY: EM

PROJECTION: NAD 1983 UTM Zone 17N CHECKED BY: BM

PROJECT

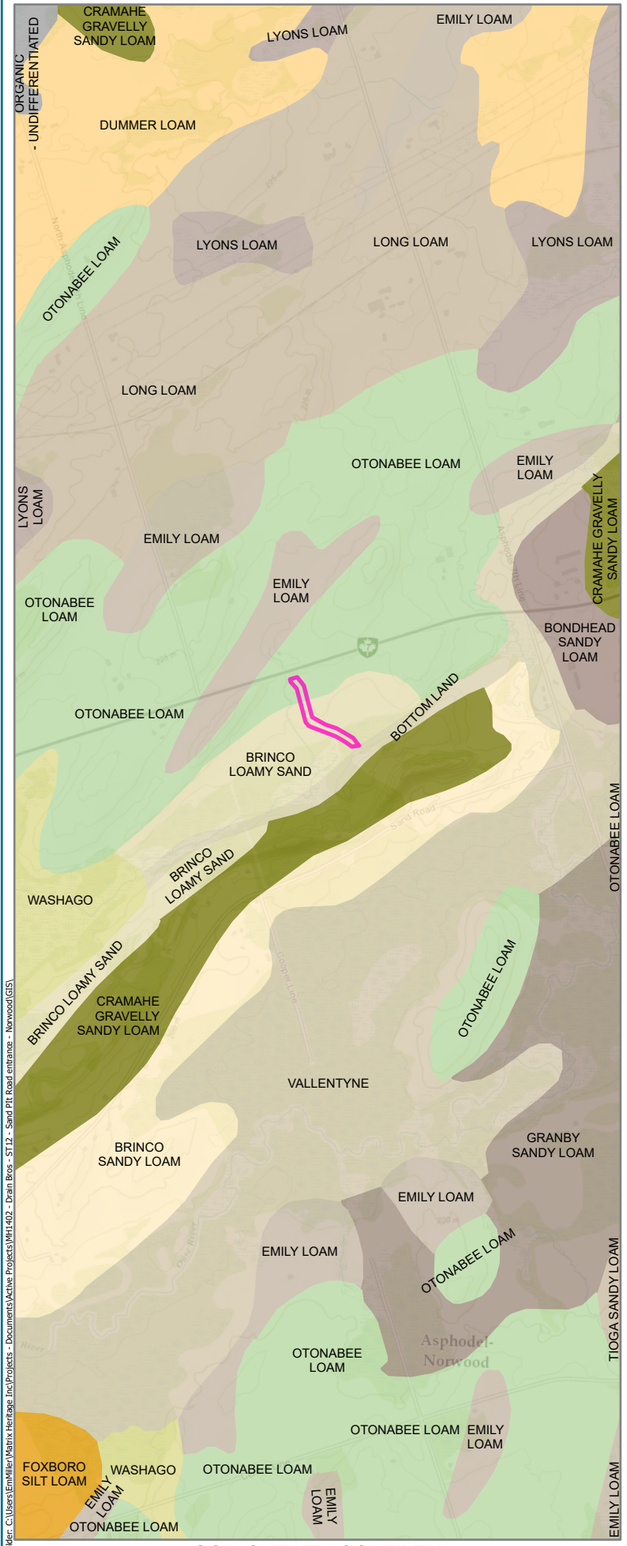
STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT
SAND PIT ROAD HWY 7 ACCESS

TITLE

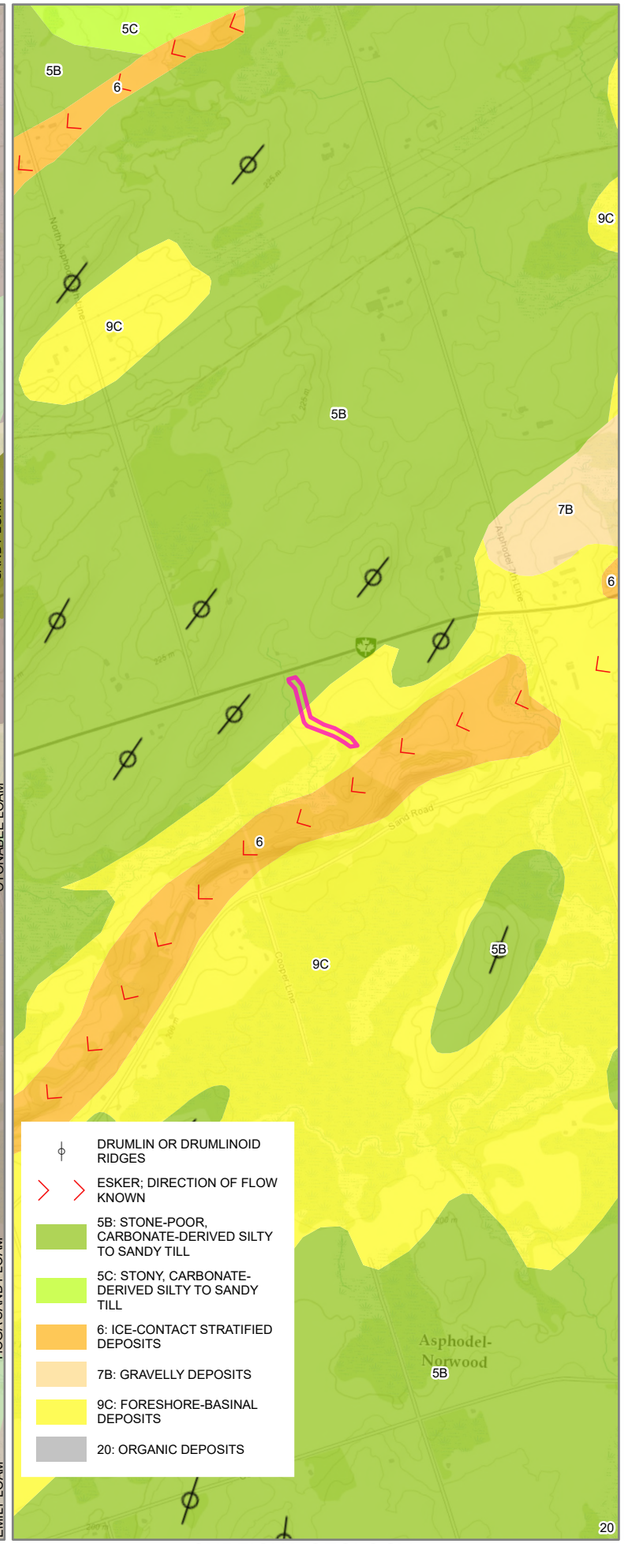
METHODS, CONDITIONS, AND KEY

MAP 5

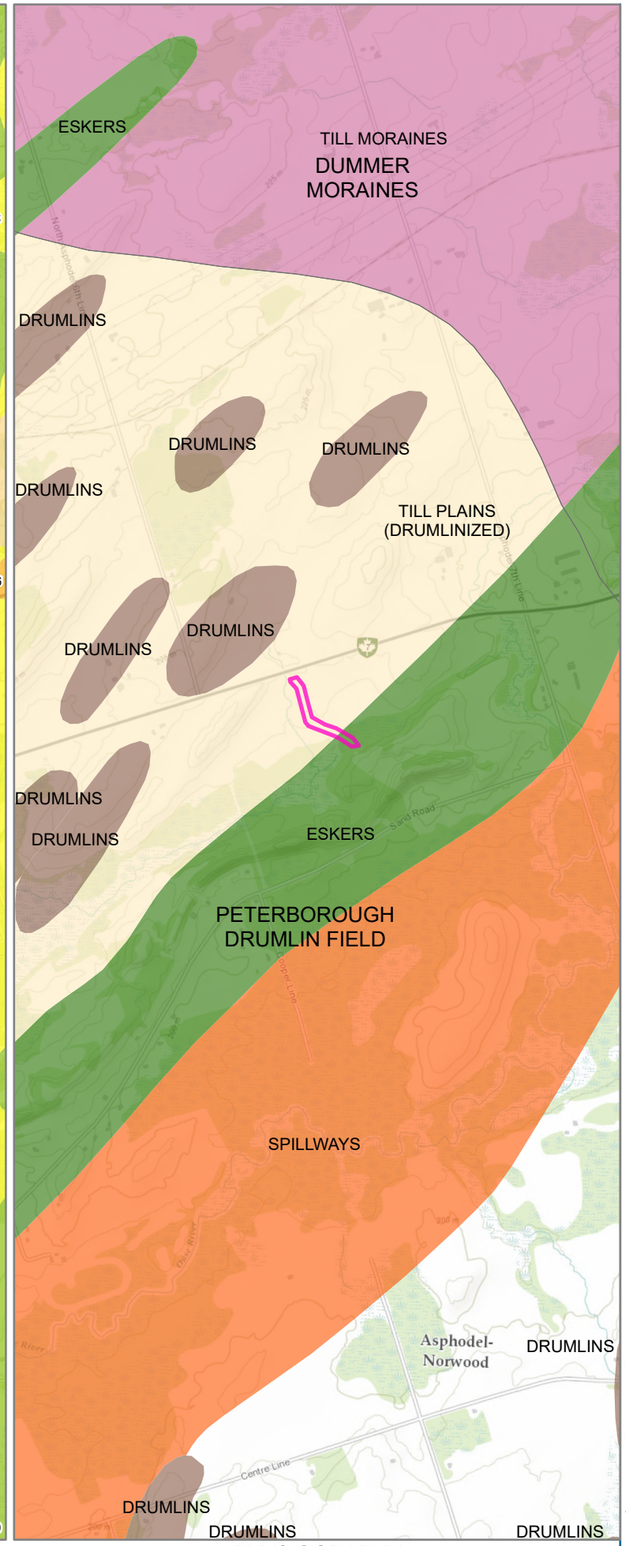
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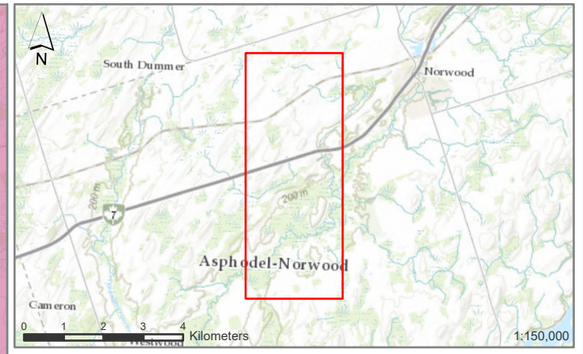
SOIL SURVEY COMPLEX



SURFICIAL GEOLOGY



PHYSIOGRAPHY



LEGEND

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Matrix

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REFERENCES:
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SOIL SURVEY COMPLEX LIO
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CHAPMAN AND PUTNAM 2007 PHYSIOGRAPHY OF SOUTHERN ONTARIO

FILE MH1402 DATE 2025-07-03
CREATED BY: EM
PROJECTION: NAD 1983 UTM Zone 18N CHECKED BY: BM

PROJECT
STAGE 1 AND 2 ARCHAEOLOGICAL ASSESSMENT
SAND PIT ROAD HWY 7 ACCESS

TITLE
SOILS AND GEOLOGY

MAP 6

Folder: C:\Users\EmMiller\Matrix Heritage Inc\Projects - Documents\Active Projects\MH1402 - Drain Bros - ST12 - Sand Pit Road entrance - Norwood\GIS\

Appendix A: Photo Catalogue

Number	Description	Direction	Photographer	Date
D001	General conditions of agricultural field	S	C. Hochgeschurz	04-Jul-25
D002	General conditions of gravel road	N	C. Hochgeschurz	04-Jul-25
D003	Wet conditions	NW	C. Hochgeschurz	04-Jul-25
D004	General conditions	N	C. Hochgeschurz	04-Jul-25
D005	Field walking in progress	S	C. Hochgeschurz	04-Jul-25
D006	General conditions of agricultural field	NW	C. Hochgeschurz	04-Jul-25
D007	Disturbed, built-up roadway	SE	C. Hochgeschurz	04-Jul-25
D008	Close up of gravel on slope of disturbed, built-up roadway	SE	C. Hochgeschurz	04-Jul-25
D009	General conditions	S	C. Hochgeschurz	04-Jul-25
D010	General conditions along roadway	N	C. Hochgeschurz	04-Jul-25
D011	Test pitting to confirm disturbance	N	C. Hochgeschurz	04-Jul-25

Appendix B: Map Catalogue

Map Number	Description	Created By
1	Location	E. Miller
2	Development Map	E. Miller
3	Recommendations	E. Miller
4	Historic	E. Miller
5	Methods, Conditions, Photo key	E. Miller
6	Soils and Geology	E. Miller

Appendix C: Document Catalogue

Project Number	Description	Created By
MH1402	Sand Road Pit Entrance – Norwood - Stage 2 Field Notes (One Note File)	C. Hochgeschurz