



**Appendix B6
Stage 1 Archaeological Assessment
Report (Archaeological Services Inc.)**

ORIGINAL

Stage 1 Archaeological Assessment
(Background Study and Property Inspection)

Stouffville Corridor Rail Service Expansion
GO Transit Class Environmental Assessment Study
and Preliminary Design

Former Township of Scarborough and Former Township of Markham, York County

City of Toronto and Regional Municipality of York, Ontario

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(Background Study and Property Inspection)

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GO Transit Class Environmental Assessment Study
and Preliminary Design

Former Township of Scarborough and Former Township of
Markham, York County
City of Toronto and Regional Municipality of York, Ontario

EXECUTIVE SUMMARY

Archaeological Services Inc. (ASI) was contracted by R.J. Burnside & Associates Ltd., on behalf of Metrolinx to conduct a GO Transit Class Environmental Assessment (EA) study as part of the Stouffville Corridor Rail Service Expansion GO Transit Class EA Study and Preliminary Design in the City of Toronto and Regional Municipality of York, Ontario. The purpose of the project is to improve operational reliability, improve performance and allow for double tracking of the corridor, between the Scarborough junction and Unionville GO Station in Markham and improve train service to meet the growth demands. The study area has been sub-divided into two study areas for this assessment: the Rail Corridor study area and the Proposed Property Acquisition Buffer study area.

The Background Study determined that 17 archaeological sites have been registered within 1 km of the study area. A review of the history and geography of the study area suggested that the study area has potential for the identification of Aboriginal and Euro-Canadian archaeological resources. Further, the Background Study also determined that a section of the Rail Corridor study area lay adjacent to the Hood site (AkGt-21) and another section overlaps with the Ossuary Potential Model for the Alexandra site (AkGt-53).

The Property Inspection determined that the entirety of the Rail Corridor study area is disturbed and does not require Stage 2 Archaeological Assessment. The Property Inspection determined that while the majority of lands within the Proposed Property Acquisition study area have been subject to deep and pervasive disturbances that have removed archaeological potential, potential does exist in a small section of this study area.

In light of these results, ASI makes the following recommendations:

1. Archaeological potential exists within part of the Proposed Property Acquisition study area. These lands will require Stage 2 Archaeological Assessment by test-pit survey prior to any land disturbance;
2. The remainder of the Proposed Property Acquisition study area and the entirety of the Rail Corridor study area does not require further archaeological assessment;
3. The Background Study determined that a section of the Rail Corridor study area lays adjacent to the Hood site (AkGt-21) (Figure 7: area outlined in black hashed line), a pre-contact site with further cultural heritage value. Impact to this site by ground disturbance within the indicated area should be avoided. If this site is impacted by the project it will require further Archaeological Assessment;

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4. The Background Study has determined that a section of the Rail Corridor study area overlaps with the Ossuary Potential Model for the Alexandra site (AkGt-53). Impact by ground disturbance within the indicated area of this model by the project should be avoided. If such lands are impacted by the project they will require Archaeological Monitoring; and,
5. Should the proposed work extend beyond the current study area then further Stage 1 Archaeological Assessment must be conducted to determine the archaeological potential of the surrounding lands.

Notwithstanding the results and recommendations presented in this report, ASI notes that no archaeological assessment, no matter how thorough or carefully completed, can necessarily predict, account for, or identify every form of isolated or deeply buried archaeological deposit. In the event that archaeological remains are found during subsequent construction activities, the consultant archaeologist, approval authority, and the Cultural Programs Unit of the Ministry of Tourism, Culture, and Sport should be immediately notified.

ARCHAEOLOGICAL SERVICES INC.
ENVIRONMENTAL ASSESSMENT DIVISION

PROJECT PERSONNEL

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1.0 PROJECT CONTEXT

Archaeological Services Inc. (ASI) was contracted by R.J. Burnside & Associates Ltd., on behalf of Metrolinx to conduct a GO Transit Class Environmental Assessment (EA) study as part of the Stouffville Corridor Rail Service Expansion GO Transit Class EA Study and Preliminary Design in the City of Toronto and Regional Municipality of York, Ontario. The purpose of the project is to improve operational reliability, improve performance and allow for double tracking of the corridor, between the Scarborough junction and Unionville GO Station in Markham (Figure 1) and improve train service to meet the growth demands.

This assessment was conducted under the project direction and project management of Paul David Ritchie P392-0021-2013 and senior project management of Lisa Merritt, both of ASI.

The objectives of this report are:

- To provide information about the geography, history, previous archaeological fieldwork and current land condition of the study area;
- To evaluate in detail the archaeological potential of the study area which can be used, if necessary, to support recommendations for Stage 2 archaeological assessment for all or parts of the property; and,
- To recommend appropriate strategies for Stage 2 archaeological assessment, if necessary.

This report describes the Stage 1 archaeological assessment that was conducted for this project and is organized as follows: Section 1.0 describes the project context and summarizes the background study that was conducted to provide the historical and archaeological context for the project study area; Section 2.0 describes the field methods used during the assessment and summarizes the results of the property inspection; Section 3.0 provides an analysis of the assessment results and evaluates the archaeological potential of the study area; Section 4.0 provides recommendations for the next assessment steps; and the remaining sections contain other report information that is required by the Ministry of Tourism, Culture and Sport's (MTCS) 2011 document *Standards and Guidelines for Consultant Archaeologists (S & G)*, e.g., advice on compliance with legislation, works cited, mapping and photo-documentation.

1.1 Development Context

All work has been undertaken as required by the *Environmental Assessment Act*, RSO (1990) and regulations made under the Act, and are therefore subject to all associated legislation. This project is being conducted under Group B project designation of the GO Transit Class EA process.

All activities carried out during this assessment were completed in accordance with the GO Transit *Class Environmental Assessment Document* (2003, as amended 2005), the Ministry of the Environment document *Code of Practice: Preparing, Reviewing and Using Class Environmental Assessments in Ontario* (2009), the *Ontario Heritage Act* (2005), and the *S & G*.

Permission to carry out all activities necessary for the completion of the assessment was granted by R.J. Burnside & Associates Ltd. on April 3, 2013.

1.2 Historical Context

The purpose of this section, according to Section 7.5.7 (1) of the *S & G*, is to describe the past and present land use and the settlement history and any other relevant historical information gathered through the Stage 1 background research. First, a summary is presented of the current understanding of the Aboriginal land use of the study area. This is followed by a review of the historical Euro-Canadian settlement history.

1.2.1 Aboriginal Land Use

The Regional Municipality of York has been occupied by human populations, if only seasonally, since the retreat of the Laurentide glacier during what is known as the Paleo-Indian period, approximately 10,500 BP (Ellis and Deller 1990; e.g. Zander site: Stewart 1984). Populations at this period would have been highly mobile, inhabiting a boreal-parkland more similar to the modern sub-arctic. By the end of the 11th millennium BP the environment had progressively warmed (see Section 1.3.2) and populations now occupied less extensive territories (Ellis and Deller 1990: 62-63).

From the 10th and the first half of the 6th millennia BP the Great Lakes' basins experienced low-water levels and so it is likely that many sites which would have been located on those former shorelines are now submerged beneath Lake Ontario. This period produces the earliest evidence of heavy wood working tools and is indicative of greater investment of labour in felling trees for fuel, to build shelter, or to produce crafts and is ultimately indicative of prolonged seasonal residency at sites. By the 8th millennium BP evidence exists for polished stone implements and worked native copper. The latter's source from the north shore of Lake Superior is evidence of extensive exchange networks. By the middle of the 5th millennium BP, during the Late Archaic period the earliest evidence exists at this time of fish weirs and cemeteries, indicative of increased social organization and investment of labour into social infrastructure, increased procurement of food, and establishing territories (Brown 1995: 13; Ellis *et al.* 1990; Ellis *et al.* 2009; *cf.* Sauer 1952).

The settlement and subsistence systems of the Early Woodland (3000-2000 BP) period are not entirely clear. Populations continued a semi-permanent existence and exploited seasonally available resources, and the harvesting of spawning fish continued to be an important part of their subsistence. Evidence still exists for extensive and complex exchange networks (Spence *et al.* 1990: 136, 138). By the second millennium BP in the Middle Woodland period evidence exists for *macro-band* camps, focussing on the seasonal exploitation of resources such as spawning fish and wild rice (Spence *et al.* 1990: 155, 164). It is also during this period that maize was first introduced into southern Ontario, though it would have only supplemented Middle Woodland people's diet (Birch and Williamson 2013: 13-15). Bands likely retreated to interior camps during the winter.

The advent of Iroquoian culture occurs during the Late Woodland (AD 1000-AD 1649) period though full expression of Iroquoian culture is not recognised archaeologically until the fourteenth century AD. During the Early Iroquoian (AD 1000-AD 1300) phase, the communal site is replaced by the village focussed on agriculture. Seasonal disintegration of the community for the exploitation of a wider territory and more varied resource bases was still practised (Williamson 1990: 317). By the second quarter of the first millennium BP, during the Middle Iroquoian (AD 1300-AD 1450) phase, this episodic community disintegration was no longer practised and populations now communally occupied sites year round (Dodd *et al.* 1990: 343). In the Late Iroquoian (AD 1450-AD 1649) phase this process continued with the coalescence of these small villages into larger communities (Birch and Williamson 2013). Through this

process, the socio-political organization of the First Nations as described historically by the French and English explorers who first visited southern Ontario, was developed.

The study area is in proximity to the Highland Creek and Rouge River drainages. Iroquoian settlement of the Highland Creek drainage is documented from the early fourteenth century (Thompson site, Woodland Park site, Elliot site: Kapches 1981; Konrad and Ross 1974) until the late fourteenth century (Alexandra site: ASI 2008). No Iroquoian settlement has been documented in the Highland Creek drainage post-dating the early fifteenth century. The population is believed to have relocated east to the Duffins Creek drainage or elsewhere (Birch and Williamson 2013: 29).

Iroquoian settlement of the Rouge River drainage is documented from the late fourteenth century (Hamlin site: MPP 1988) until the early fifteenth century (Milroy site: Kapches 1981). As with the Highland Creek area, no Iroquoian settlement has been documented in the Rouge River drainage post-dating the early fifteenth century. The population is believed to have relocated east to the Duffins Creek drainage or elsewhere (Birch and Williamson 2013: 29).

By AD 1600, most of the Aboriginal communities located on the north shore of Lake Ontario had moved inland. The Five Nations Iroquois, and in particular the Seneca, however, were still using the central north shore of Lake Ontario for hunting, fishing, and for participation in the fur trade. The main settlements were located near the mouths of the Humber and Rouge Rivers, two branches of the Toronto Carrying Place, which was the route that linked Lake Ontario to the upper Great Lakes through Lake Simcoe.

The contact period for the north shore of Lake Ontario begins in the early seventeenth century with the arrival of French explorers, traders and missionaries. The ancestral Huron-Wendat are thought to have been the main group who controlled the region and the presence of European trade goods is first evident in the mid-sixteenth century when European artifacts start to make an appearance at some ancestral Huron-Wendat sites. The occurrence of European artifacts on Huron-Wendat sites increases towards the end of the sixteenth century as the interaction between the Huron-Wendat and French explorers, traders, and missionaries continued to increase in frequency and intensity. The Huron-Wendat were eventually dispersed by the Five Nations Iroquois in 1649 at which point the Seneca mainly took over control of the region (Ramsden 1990).

Compared to settlements of the New York Iroquois the “Iroquois du Nord” occupation of the landscape was less intensive. Only seven villages are identified by the early historic cartographers on the north shore and they are documented as considerably smaller than those in New York State. The populations were agriculturalists, growing maize, pumpkins and squash. These settlements also played the important alternate role of serving as stopovers and bases for New York Iroquois travelling to the north shore for the annual beaver hunt (Konrad 1974).

The first Europeans to arrive in the area were transient merchants and traders from France and England, who followed Aboriginal pathways and set up trading posts at strategic locations along the well-traveled river routes. All of these occupations occurred at sites that afforded both natural landfalls for Great Lakes traffic and convenient access, by means of the various waterways and overland trails, into the hinterlands. Early transportation routes followed existing Aboriginal trails, both along the lakeshore and adjacent to various creeks and rivers with the primary North-South route being the Carrying Place Trail, which connected Lake Ontario, via the Humber River and other waterways and trails, to Georgian Bay (ASI 2006).

Beginning in the mid-eighteenth century, the Anishnaabeg began to replace the Seneca as the controlling Aboriginal group in the region since the Iroquois confederacy had overstretched their territory between the 1650s and 1670s (Williamson 2008). The Iroquois could not hold the region and agreed to form an alliance with the Anishnaabeg and share hunting territories with them. In the late 1690s, the Anishnaabeg established their settlement of Teiaiagon on the Humber River, which sat astride the most important route of the Toronto Passage. This route connected Lake Ontario with waterways and trails to Georgian Bay and the north and gave the Anishnaabeg a strategic trading position (Williamson 2008). The Anishnaabeg traded with both the British and the French in order to have wider access to European materials at better prices, and used their strategic position on the Humber to act as trade intermediaries between the British and tribes in the north.

1.2.2 *Historic Euro-Canadian Landuse: Township Survey and Settlement*

Historically, the study area is located in the Former Township of Scarborough and Former Township of Markham, York County in the following Lots and Concessions:

Former Township of Scarborough, York County

- Lots 7 and 8, Concessions C and D, and 1-5

Former Township of Markham, York County

- Lots 1-8, Concession 5

The *S & G* stipulates that areas of early Euro-Canadian settlement (pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries, are considered to have archaeological potential. Early historical transportation routes (trails, passes, roads, railways, portage routes), properties listed on a municipal register or designated under the *Ontario Heritage Act* or a federal, provincial, or municipal historic landmark or site are also considered to have archaeological potential.

For the Euro-Canadian period, the majority of early nineteenth century farmsteads (i.e., those which are arguably the most potentially significant resources and whose locations are rarely recorded on nineteenth century maps) are likely to be located in proximity to water. The development of the network of concession roads and railroads through the course of the nineteenth century frequently influenced the siting of farmsteads and businesses. Accordingly, undisturbed lands within 100 m of an early settlement road are also considered to have potential for the presence of Euro-Canadian archaeological sites.

Scarborough Township

To the east of the Township of York the Township of Scarborough was partially laid out. Scarborough was surveyed by Augustus Jones beginning in 1791, when the baseline was laid out, and it was then known as Glasgow Township. The early survey of the township was found to be faulty and carelessly done, resulting in numerous law suits between property owners. To remedy this situation, a new survey of the township was undertaken under F.F. Passmore in 1864 to correct and confirm the township concession lines. In August 1793, Mrs. Simcoe noted in her Diary that she and her party “came within sight of what is named in the Map the high lands of Toronto--- the shore is extremely bold and has the appearance of Chalk Cliffs... they appeared so well that we talked of building a Summer Residence there and calling it Scarborough” (quoted in Bonis 1968:38). The first land grants were patented in

Scarborough in 1796, and were issued to Loyalists, high ranking Upper Canadian government officials, and some absentee Loyalist grantees.

Settlement in Scarborough remained slow, and in 1802, there were just 89 inhabitants within the township. In 1803, the township contained just one assessable house and no grist or sawmills. The livestock was limited to five horses, eight oxen, 27 milk cows, seven “horned cattle” and 15 swine. In 1809 the population had increased to 140 men, women and children. The settlement and improvement of the township was aided when the Danforth Road was constructed across the township, but was checked in 1812 with the outbreak of the War. By 1819, new settlement was augmented by settlers from Britain, Scotland and Ireland, but the population remained low at just 349 inhabitants (Bonis 1968:52).

Markham Township

The land within Markham Township was first settled by German families from New York State, who arrived around 1790, before the township had been surveyed. At this time, York was just a hamlet and Yonge Street did not exist, although its line had been established. As more settlers began to arrive, Governor Simcoe encouraged United Empire Loyalists to take up land alongside English immigrants who also came in increasing numbers. Markham Township was then partially surveyed in 1794, being the third in the county to be marked, Yonge Street became the base of the township and each concession, of which there were ten, contained 35 lots, making the township an almost perfect square.

The township’s many rivers and tributaries soon supported water-powered mills, and a number of historic communities were established around these sites. Such hamlets include German Mills, Almira, Buttonville, Cedar Grove and Unionville. By 1857, the lumber industry had managed to clear most of the township of trees and the land was then under cultivation. Improved transportation routes such as Yonge Street and increased populations led to the expansion of such villages as Markham, Thornhill and Unionville, and the establishment of more specialized industries, such as tanneries, wagon works, and furniture factories.

The arrival of the Toronto and Nipissing Railway in 1871, with stations in Unionville and Markham, brought additional growth and prosperity to the township. The Village of Markham itself, which was incorporated in 1873, had a population of 1,100 in 1891. Increased contact with Toronto brought about by the rail line and other transportation and communication improvements however, diminished the industrial role of the villages within the Township of Markham by the turn of the century. The township returned to its agricultural roots and relied on such industries until after World War II (Mika and Mika 1981).

Scarboro Junction

The village of Scarboro Junction grew up around the station at the junction of the Toronto and Nipissing Railway and the Grand Trunk Railway. Despite its nature as a hub it was only sparsely populated. The area was predominantly engaged in market gardening (Bonis 1968: 184).

Ellesmere

In 1873, this village contained two stores and one sawmill with a population of 40 inhabitants (Crosby 1873: 110). The village continued to grow and prosper, and it eventually attained a population of about 100 inhabitants. The village once contained two blacksmiths, two general stores, a butcher, carpenter, jeweler, shoemaker, wagon factory and post office as well as a number of private residences (Brown 1997:127). The Ellesmere post office was opened on June 1, 1853 with Archie Glendenning as the first

postmaster. This office remained in operation until at least 1896 although it appears to have closed during the first quarter of the twentieth century. The West Ellesmere post office was re-opened in September 1954, although the name was changed to the Scarborough sub post office #5.

Agincourt

This community was little more than a crossroads at the intersection of Sheppard Avenue and Brimley Road. On June 1, 1858, this settlement became a post office village. The name of the post office is said to have been selected when a local inhabitant, named John Hill, petitioned to have this service extended to the community. Local legend relates that Hill appealed to a friend, Joseph-Elie Thibaudeau, who promised to secure a post office for the settlement provided that a French name was selected. Hill decided upon the name “Agincourt,” which was a fifteenth century battle site where English and French forces clashed (Rayburn 1997: 5; Mika and Mika 1977: 26-27). By 1873, the village contained a small population of just 50 inhabitants but could boast the existence of a telegraph office and sawmill (Crosby 1873:16). The village also contained a general store, grist and sawmill, Temperance Hall, and an Anglican and Presbyterian Church. In 1871, the Toronto and Nipissing Railway built a station at Agincourt, which was followed by a second station built by the Ontario and Quebec Railway in 1884. Following this, the village experienced significant growth. During the first quarter of the twentieth century, a new bank, school, and library were built in Agincourt. The community was incorporated as a police village in 1913, and hydro electric power was extended here in 1917. The area experienced significant industrial and residential growth following the Second World War (Mika and Mika 1977:26-27).

Hagerman’s Corners

Hagerman’s Corners was first settled in 1803 by Nicholas Hagerman, a Berczy settler. In 1849 a Wesleyan Methodist church was built on Hagerman property. The associated cemetery was originally private to the family but was eventually made public to neighbours. In 1874 the original frame church was replaced by a brick structure. Hagerman’s Corners hosted the Markham and East Riding of York agricultural societies Union Spring Fairs during the 1860s. Nicholas Hagerman died in 1902 but the crossroads retained the family name (Champion 1979: 243-245).

Milliken

Milliken or Milliken’s Corners was first settled in 1798 by Capt. William Demont (Dumont). In 1807 Norman Milliken settled in the vicinity (Lot 1, Concession 5). Milliken owned a lumbering business with a supply contract to the British Navy. Milliken also owned the hotel/tavern which was operated by his daughter, Charlotte. In 1859 a post office was established at Milliken. Though the settlement continued to grow it never developed beyond being a crossroads (Champion 1979: 276-277).

Grand Trunk Railway

The Grand Trunk Railway Company of Canada was incorporated by the Canadian government in 1852 and was planned to connect Toronto to Montreal. It began in 1853 by constructing a railway between Toronto and Montreal. This line was completed in 1856. Subsequently the Grand Trunk Railway Company purchased five existing railways: the St. Lawrence and Atlantic Railroad Company, the Quebec and Richmond Railroad Company, the Toronto and Guelph Railroad Company, the Grand Junction Railroad Company, and the Grand Trunk Railway Company of Canada East. The company fell into great debt in 1861 and while it was saved from bankruptcy by the Canadian government, in 1919 the company

was bankrupt following its expansion west in an attempt to compete with the Canadian Pacific and Canadian Northern Railways (Library and Archives Canada 2005).

1.2.3 Historic Map Review

The 1878 *Illustrated Historical Map of the County of York* was reviewed to identify any historic features within the study area during the nineteenth century (Figures 2 and 3). It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases, given that they were financed by subscription, and subscribers were given preference with regard to the level of detail provided on the maps. Moreover, not every feature of interest would have been within the scope of the atlases.

Historically, the study area is located in the Former Township of Scarborough and the Former Township of Markham, York County. Details of historic property owners and features are provided in Table 1.

The 1878 map illustrates that the Rail Corridor study area corresponds with the historic Toronto & Nipissing Railway corridor. The map illustrates that two historic farmhouses are located within the Proposed Property Acquisitions study area. The map illustrates that Midland Avenue, Danforth Road, Eglinton Avenue East, Lawrence Avenue East, Ellesmere Road, Sheppard Avenue East, Finch Avenue East, Passmore Road, Steeles Road and 14th Avenue are all historic transportation routes.

The 1915 and 1931 topographic maps of Toronto and 1917 and 1930 topographic maps of Markham were reviewed to examine the development of the study area during the early twentieth century. The 1915 topographic map of Toronto indicates that just north of Eglinton Avenue East the former Toronto & Nipissing Railway (then Grand Trunk Railway – Midland Division) is underpassed by the Northern Ontario Railway, carried by an iron bridge. The landscape is rural however Scarborough Junction is now indicated to have several rows of residential streets flanking the study area to the west (Dept. Militia and Defence 1915).

The 1931 topographic map of Toronto indicates that both the former Grand Trunk Railway and Northern Ontario Railway were then now owned by the Canadian National Railway. South of Lawrence Avenue East the study area is crossed by the Hydro Electric Power Commission of Ontario's Toronto-Paugan Falls Transmission Line. The landscape is still rural however increased residential development is now indicated in the southeast corner of the intersection of Eglinton Avenue East and Midland Avenue, east of the study area (Dept. National Defence 1931).

The 1917 topographic map of Markham indicates that the study area is overpassed by the Canadian Pacific Railway and the Canadian Northern Railway south of Sheppard Avenue East. The map indicates a station on the former Toronto & Nipissing Railway (then Grand Trunk Railway) at the town of Agincourt. This station does not appear to equate with the location of the existing Agincourt Station house and may be impacted by the proposed property acquisitions at Agincourt Station. The map also indicates a station house at the town of Milliken north of Steeles Avenue. That station house no longer exists. The landscape is rural (Dept. Militia and Defence 1917).

The 1930 topographic map of Markham indicates a new area of residential development in the northwest corner of Sheppard Avenue East and Midland Avenue. In particular, it shows a tightly packed row of wooden houses on the west side of Agincourt Drive, backing onto the study area. The landscape is still very rural (Dept. National Defence 1930).

Table 1: Nineteenth-century property owner(s) and historical features(s)

<i>Township of Scarborough</i>			
Lot #	Concession #	Property Owner	Historical Feature(s)
27	C	Rob't Young	T&NR
27	C	Rob't Martin	T&NR
28	C	Wm. W. Walton	T&NR
28	C	R. Martin	T&NR
27	D	Jno. Fitzgibbon	T&NR
27	D	Dav'd McMichael	T&NR
28	D	Anth'y Ionson	T&NR
27	1	Seneca Thomson	T&NR
27	1	Ch's Thomson	T&NR
27	1	Dav'd Thomson	T&NR
27	1	Amos Thomson	T&NR
28	1	Arch'd Glendinning	T&NR
27	2	Jno. D. Thomson	T&NR
27	2	Jno. Walton	T&NR
28	2	Arch Farfar	T&NR
28	2	Jno Whiteside	T&NR
27	3	Jno. L. Patterson	T&NR; Orchard; Farmhouse
27	3	Dav'd Yeomans	T&NR
28	3	Jas. Patterson	T&NR
28	3	Tho. Patterson	T&NR
28	3	And'w Paterson	T&NR
28	3	And'w Paterson	T&NR
27	4	Est. of Jas. Chapman	T&NR
27	4	Elias Wood	T&NR
27	4	J. Macklin	T&NR
27	4	Simon Miller	T&NR
28	4	Elias Wood	T&NR
28	4	Simon Miller	T&NR
27	5	Wm. H. Lamoreaux	T&NR; Farmhouse
28	5	Oliver Harding	T&NR
<i>Township of Markham</i>			
Lot#	Concession#	Property owner	Historical feature(s)
1	5	Alex McPherson	T&NR
1	5	Mrs. Goodenough	T&NR
2	5	Alex McPherson	T&NR
3	5	Adam Hood	T&NR
4	5	Adam Hood	T&NR
4	5	Wm. Milliken	T&NR
5	5	Wm. Milliken	T&NR
6	5	Jno. Hagerman	T&NR
7	5	Jos'h Fierheller	T&NR
8	5	Jno. T. Carr	T&NR

NOTE: Lots in bold located within proposed property acquisitions buffer
 T&NR – Toronto & Nipissing Railway

1.2.4 Summary of Historical Context

The background research and historic mapping demonstrates that the Rail Corridor study area corresponds with the historic Toronto & Nipissing Railway corridor. The Proposed Property Acquisition

study area includes the locations of two historic farmhouses. The historic mapping illustrates that Midland Avenue, Danforth Road, Eglinton Avenue East, Lawrence Avenue East, Ellesmere Road, Sheppard Avenue East, Finch Avenue East, Passmore Road, Steeles Road and 14th Avenue are all historic transportation routes.

The review of the twentieth century mapping indicates that the Proposed Property Acquisition study area includes the location of the former Agincourt station house. The land use surrounding the study area has predominantly been rural into the mid-twentieth century.

Further, the background research demonstrates that the study area retains potential for the recovery of Aboriginal archaeological resources. The study area lands are part of the former territory of the Huron-Wendat and were subsequently occupied by the Seneca and Anishnaabeg and utilised for resource extraction.

1.3 Archaeological Context

This section provides background research pertaining to previous archaeological fieldwork conducted within and in the vicinity of the Stouffville Corridor Rail Service Expansion study area, its environmental characteristics (including drainage, soils or surficial geology and topography, etc.), and current land use and field conditions. Three sources of information were consulted to provide information about previous archaeological research in the study area; the site record forms for registered sites housed at the MTCS; published and unpublished documentary sources; and the files of ASI.

1.3.1 Current Land Use and Field Conditions

The assessment consists of two study areas: the Rail Corridor study area and the Proposed Property Acquisition study area. The Rail Corridor study area consists of the breadth and length of the existing rail corridor from its junction north of St. Clair Avenue East north until Unionville GO Station. The Proposed Property Acquisition study area exists in three parts and consists of the lands 50 m west of the Unionville GO Station extending the length of the station property, the lands 50 m east of the Milliken GO Station extending the length of the station property, and the lands 50 m east of the Agincourt GO Station extending from Sheppard Avenue East to Marilyn Avenue.

The Unionville GO Station proposed property acquisition is located within a rural landscape. The property is presently stripped of natural soil and overgrown by scrub brush vegetation. The Milliken GO Station proposed property acquisition is situated amongst low-density commercial land use within a suburban landscape. The property is presently a shopping plaza and part of a snow-plow depot. The Agincourt GO Station proposed property acquisition is situated amongst medium-density residential land use within a suburban landscape. The property is presently the back-gardens of houses. The Agincourt subdivision is one of the older subdivisions in the GTA and it is likely that the housing construction did not impact on the back of properties. The Kennedy GO Station proposed property acquisition is situated amongst medium-high density residential land use within a suburban landscape. The proposed acquisition is presently the property of the TTC and primarily is utilised as parking lot for the Kennedy TTC station. A small area to the south of the Kennedy Station parking lot is green space.

1.3.2 Geography

In addition to the known archaeological sites, the state of the natural environment is indicative of archaeological potential. Accordingly, a description of the physiography and soils are briefly discussed for the study area.

The *S & G* stipulates that primary water sources (lakes, rivers, streams, creeks, etc.), secondary water sources (intermittent streams and creeks, springs, marshes, swamps, etc.), ancient water sources (glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches, etc.), as well as accessible or inaccessible shorelines (high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.) are characteristics that indicate archaeological potential.

Water has been identified as the major determinant of site selection and the presence of potable water is the single most important resource necessary for any extended human occupation or settlement. Since water sources have remained relatively stable in Ontario since 5,000 BP (Karrow and Warner 1990: Figure 2.16), proximity to water can be regarded as a useful index for the evaluation of archaeological site potential. Indeed, distance from water has been one of the most commonly used variables for predictive modeling of site location.

Other geographic characteristics that can indicate archaeological potential include: elevated topography (eskers, drumlins, large knolls, and plateaux), pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground, distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings. Resource areas, including food or medicinal plants (migratory routes, spawning areas), are also considered characteristics that indicate archaeological potential (*S & G* Section 1.3.1).

The study area falls within the South Slope physiographic region of southern Ontario in drumlinized till plain and drumlin and in the Peel Plain physiographic region of southern Ontario in bevelled till plain. The South Slope region comprises the southern slope of the Oak Ridges Moraine (Chapman and Putnam 1984:172-174). The South Slope meets the moraine at heights of approximately 984 feet above sea level and descends southward toward Lake Ontario, ending at elevations below approximately 492 feet above sea level at some areas. The South Slope extends from the Niagara Escarpment to the Trent River and covers approximately 243,500 hectares (ha) (Chapman and Putnam 1984: 172). Numerous streams descend the South Slope, which have cut deep valleys into the till.

The Peel Plain is a level-to-undulating area of clay soil which covers an area of approximately 77,700 ha across the central portions of the Regional Municipalities of York, Peel, and Halton. The Peel Plain has a general elevation of between 500 and 750 feet above sea level with a gradual uniform slope towards Lake Ontario. The Peel Plain is sectioned by the Credit, Humber, Don, and Rouge Rivers with deep valleys as well as a number of other streams such as the Bronte, Oakville, and Etobicoke Creeks. These valleys are in places bordered by trains of sandy alluvium. The region is devoid of large undrained depressions, swamps, and bogs though nevertheless the dominant soil possesses imperfect drainage. The Peel Plain overlies shale and limestone till which in many places is veneered by occasionally varved clay. This clay is heavy in texture and more calcareous than the underlying till and was presumably deposited by meltwater from limestone regions and deposited in a temporary lake impounded by higher ground and the ice lobe of the Lake Ontario basin. The Peel Plain straddles across the contact of the grey and red shales

of the Georgian Bay and Queenston Formations, respectively, which consequently gives the clay southwest of the Credit River a more reddish hue and lower lime content than the clay in the eastern part of the plain. Additionally the region exhibits exceptional isolated tracts of sandy soil specifically in Trafalgar Township, near Unionville, and north of Brampton where in the latter location there is a partly buried esker. The region does not possess any good aquifers and the high level of evaporation from the clay's now deforested surface is a disabling factor in ground-water recharge. Further, deep groundwater accessed by boring is often found to be saline (Chapman and Putnam 1984: 174-175).

Soils in the study area consist of Bottom Lands, Woburn loam, Woburn sandy loam, Milliken loam, and Milliken sandy loam. Bottom Lands are low lying soils along stream courses which are subject to flooding. This is an immature soil type that shows little horizon differentiation. The drainage varies but is usually poor. Vegetation consists of willow, elm and cedar with bulrushes, sedges and marsh grasses where the land is flooded for most of the year (Hoffman and Richards 1955: 76).

Woburn loam occurs on smooth moderately sloping topography. The topography of this soil is usually moderately sloping though steep slopes occur in some localities. Woburn loam is susceptible to sheet erosion, noticeably so where slopes are steep. Both external and internal drainage is good. Most areas of this soil have been cleared of native vegetation however where small woodlots do occur, beech and hard maple are the predominant species with basswood, ironwood and soft maple also occurring (Hoffman and Richards 1955: 33-34). Woburn sandy loam differs little from Woburn loam except in surface texture and possesses lower natural fertility (Hoffman and Richards 1955: 34).

Milliken loam is an imperfectly to moderately well drained soil. The topography of Milliken loam ranges from smooth gently sloping to smooth moderately sloping. This soil is not prone to erosion on account of its moderately good external and internal drainage. Existing woodland is predominantly elm and soft maple but basswood, ash and some hard maple is also common (Hoffman and Richards 1955: 34-35). Milliken sandy loam differs from Milliken loam only by its lower level of natural fertility (Hoffman and Richards 1955: 35).

Surficial geology information is mapped and presented in Figure 4.

Water sources within 300 m of the study area include Highland Creek and a tributary of Bruce Creek, a subwatershed of the Rouge River. The Highland Creek watershed drains an area of approximately 10,200 ha and is approximately 74 km long. The Highland Creek watershed is constituted of four branches: West Hill Creek, Centennial Creek, East Highland Creek and West Highland Creek (TRCA 1999). Highland Creek originates in the South Slope physiographic region of southern Ontario and meets its confluence with Lake Ontario in the Iroquois Plain physiographic region of southern Ontario just west of Port Union.

The Rouge River watershed drains an area of approximately 33,600 ha (TRCA 2007) and is described as "the most significant system of linked natural areas along any of the lower river valleys draining into northwestern Lake Ontario" (Varga *et al.* 1991). The Rouge River originates in the Oak Ridges Moraine physiographic region of southern Ontario and transits the South Slope and Peel Plain physiographic regions of southern Ontario meeting its confluence with Lake Ontario at Rouge Marsh east of Port Union.

Palaeontological evidence can provide some information on the past environment of the region of the study areas. Isotope studies of Oxygen-18 and Carbon-13 can provide information on past climate conditions. By comparing quantities of Oxygen-18 and Carbon-13 in marl deposits with quantities found in normal meteoric water it is possible to estimate past temperatures and relative humidity. Following the retreat of the Laurentide glacier at approximately 12,000 BP, the climate of southern Ontario began to

warm. Until approximately 7,500 BP temperatures were still below the modern average and the climate was also quite dry. Between 7,500 BP and 5,800 BP, the climate of southern Ontario had reached the modern average humidity, but was approximately 2° C warmer than the modern average. Between approximately 5,800 BP and 1,500 BP, the climate continued to be warmer than the modern average, but was now a very moist climate. After 1,500 BP, the temperature and humidity began to approach the present day averages (Edwards and Fritz 1988).

By approximately 11,000 BP, the southern Ontario was predominantly spruce parkland. By approximately 10,000 BP this had transformed into a predominantly pine woodland. This pine woodland dominated until approximately 4,000 BP, at which point the environment transitioned into a mixed deciduous-coniferous forest of Birch, Maple, Beech and Hemlock. This woodland persisted until the beginnings of European settlement in southern Ontario, at which time the forests were cleared and the region began to be dominated by meadow species and birch (Bernabo and Webb 1976; McAndrews 1981).

Following the retreat of the Laurentide glacier, the southern Ontario was a boreal like environment and supported a sub-arctic ecosystem including extinct megafauna. Between 10,000 BP and 7,000 BP, the mixed coniferous-deciduous woodland would likely have been inhabited by more familiar species such as caribou or other *cervids*. By 2,000 BP, the ecosystem would have been similar to that of the present day.

1.3.3 Previous Archaeological Research

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database (OASD) maintained by the MTCS. This database contains archaeological sites registered within the Borden system. Under the Borden system, Canada has been divided into grid blocks based on latitude and longitude. A Borden block is approximately 13 km east to west, and approximately 18.5 km north to south. Each Borden block is referenced by a four-letter designator, and sites within a block are numbered sequentially as they are found. The study area under review is located in Borden blocks *AkGt* and *AIGt*.

According to the OASD (MTCS 2013a), 17 previously registered archaeological sites are located within 1 km of the study area. Details of the previously registered sites are provided in Table 2.

Four sites are located within 300 m of the study area. They are reviewed below.

The Jenkinson site (*AkGt-16*) is located in Lot 28, Concession D in Scarborough, on the site of an Ontario Hydro transformer area. The site was identified as a campsite but of undetermined cultural association. The site was researched by Victor Konrad in 1950.

The Hood site (*AkGt-21*) is located west of Old Kennedy Road between the two communities of Hagerman Corners and Milliken. There is very little information about this site. It appears to have been investigated in the 1950s. The site is described as within the Canadian National Rail (CNR) right-of-way (ROW), however, its exact location is unclear. The site was identified as a campsite but of undetermined cultural association. Skeletal remains were reported from the site, and are listed as located at McMaster University. The site was registered by Victor Konrad in the 1970s. While human remains are reported from the site, more detail about the nature of the site is not readily available. The Hood site has clear further cultural heritage value, and should be avoided from impact by the project.

Table 2: Details of previously registered archaeological sites registered within 1 km of the study area

Borden #	Site Name	Cultural Affiliation	Site Type	Researcher
AkGt-8	Tam O'Shanter	Historic, Mississauga	Campsite	Boyle 1896; Konrad 1972
AkGt-9	-	Historic, Mississauga	Campsite?; Village?	Konrad 1950
AkGt-12	Wallace	Undetermined	Campsite	Boyle 1896; Konrad 1971
AkGt-15	Heinze	Undetermined	Campsite	Konrad n.d.
AkGt-16	Jenkinson	Undetermined	Campsite	Konrad n.d.
AkGt-21	Hood	Undetermined	Campsite	Konrad n.d.
AkGt-53	Alexandra	Middle Iroquoian; Late Woodland	Village	Welsh [ASI] 2000; 2001
AkGt-60	Forfar	Euro-Canadian	Homestead	Slocki [AWI] 2006
AkGt-79	Clark	18 th C. Early-Late	Homestead, Historic, Euro-Canadian	Dunlop [ASI] 2011
AIGt-211	CNR Uxbridge 2	Euro-Canadian	-	Henderson 1995
AIGt-235	CNR Uxbridge 3	Euro-Canadian	Homestead	Muller 1995
AIGt-262	-	Pre-contact	Findspot	Cooper [ASI] 2000
AIGt-263	-	Pre-contact	Findspot	Cooper [ASI] 2000
AIGt-264	-	Pre-contact	Findspot	Cooper [ASI] 2000
AIGt-265	-	Pre-contact	Findspot	Cooper [ASI] 2000
AIGt-266	-	Pre-contact	Findspot	Cooper [ASI] 2000
AIGt-267	-	Euro-Canadian	Homestead	Clish [ASI] 2007

NOTE: Sites in bold are within 300 m of study area
ASI – Archaeological Services Inc.
AWI – ArcheoWorks Inc.

The Forfar site (AkGt-60) is located at the northeast corner of Midland Avenue and Progress Avenue in Toronto. The site's environment was a highly developed urban environment with industrial land use and manicured lawns. Stage 2 and Stage 3 archaeological assessments were conducted at the site by ArcheoWorks Inc. (Slocki 2006) recovering 109 artifacts including glass and ceramics, as well as architectural remains. The site was dated to the middle-late nineteenth century. No further work was recommended for this site.

The CNR Uxbridge 2 site (AIGt-211) is located west of Kennedy Road, south of the Town of Unionville, adjacent to the Unionville GO Station parking lot. The site was situated in a cultivated field sloping slightly to the east, approximately 150 m west of a creek. The site consisted of an area of approximately 40 m by 50 m and contained the remains of a cellar, a sub-floor pit, and three midden areas. Stage 3 and 4 archaeological assessments were conducted at the site by W. Bruce Stewart (1995) and recovered approximately 15,000 artifacts from a wide range of Euro-Canadian artifact classes and styles.

In addition to these sites in proximity to the study area, the Alexandra site (AkGt-53) is located within 1 km of the study area. The Alexandra site was excavated by ASI (2008a) and has been identified as a Middle Iroquoian/Late Woodland village site. These types of sites are considered by MTCS to have very high cultural heritage value. It has been proposed that the Fairty Ossuary may have been the ossuary for the Alexandra site (Birch and Williamson 2013: 28) (as well as for other sites), however, the great distance between these sites (approximately 6 km) places the Fairty Ossuary beyond the modelled catchment of the Alexandra site. Therefore, an Ossuary Potential Model was conducted (Figure 5). An

ossuary is a burial pit used to inter disarticulated human remains. The Ossuary Potential Model indicates lands within a 1 km radius of the village site as well as within 300 m of water as bearing potential for the location of an unknown ossuary. Lands within this model should be avoided from impact by the project.

According to the background research, 17 previous archaeological assessments have been conducted within 50 m of the study area (ASI 1994; 1998; 2001; 2003; 2004; 2005a; 2005b; 2005c; 2008b; 2009; 2010a; 2010b; 2011a; 2011b; Ontario Ministry of Transportation (MTO) 1995; This Land Archaeology Inc. 2009; URS 2010). They are reviewed below.

ASI (1994) conducted an archaeological assessment of North Denison subdivision 19T-93001 and Armadale East III subdivision 19T-93002, in the Town of Markham, Regional Municipality of York under the project direction of Martin S. Cooper (Licence #94-013). Field review as part of the project determined that both properties had been entirely stripped of topsoil prior to archaeological assessment. This disturbance was documented to have been deep and extensive. Both properties were recommended to be considered free from archaeological concern.

MTO (1995) conducted an archaeological assessment of the proposed Highway 407 corridor from Woodbine Avenue to Highway 48 in the Town of Markham, Regional Municipality of York under the project direction of Gary Warrick (Licence No. 91-30). Pedestrian survey of four properties was conducted in May of 1991. The archaeological assessment identified one archaeological site. The SLF site (AIGt-194) consisted of three flakes of Onondaga chert in an area of approximately 10 m in diameter. The site was located on a slight upland approximately 250 m west of Warden Avenue, 600 m north of 14th Avenue and 110 m south of the Rouge River in Lot 7, Concession 4, in the Town of Markham. No further archaeological assessment was recommended for this site. The assessment recommended that large segments of the study area still required assessment.

ASI (1998) conducted a Stage 2 archaeological assessment of proposed Subdivision 19TM-97005 in part of Lot 2, Concession 5 in the Town of Markham, Regional Municipality of York under the project direction of Dr. Ronald F. Williamson (Licence #98-014). The Stage 2 archaeological assessment was conducted on April 7 and 8, 1998 by means of test-pit survey. The property was recommended to be considered free of any further archaeological concern.

ASI (2001) conducted a Stage 1 and 2 archaeological resource assessment of the proposed Markham Centre development in part of Lots 8 and 9, Concession 5 in the Town of Markham, Regional Municipality of York under the project direction of Martin Cooper (CIF# 2000-016-043). The study area was determined to possess archaeological potential. The Stage 2 archaeological assessment was conducted on May 15 and July 27, 2000 by means of a combination of pedestrian survey and test-pit survey. The Stage 2 archaeological assessment identified six archaeological sites and two find spots within the study area. The AIGt-262 site was located in the northern portion of the study area along its western edge. The site consisted of a single indeterminate point fragment manufactured of Onondaga chert. The AIGt-263 site was located in the northern portion of the property approximately 50 m from AIGt-262. This site consisted of a single indeterminate point manufactured of Onondaga chert. The AIGt-264 site was located in the southwest area of the property on a south-facing slope. This site consisted of a single indeterminate point fragment manufactured of Onondaga chert. The P4 find spot was located approximately 20 m from the southern boundary of the property in a slight depression. The find spot included two flakes of Onondaga chert. The P5 find spot was located in the middle of property on a small knoll. The find spot included three flakes of Onondaga chert. The AIGt-265 site was located adjacent to a disturbed, low and wet area approximately 20 m from the P5 find spot. The site consisted of a single indeterminate biface manufactured of Onondaga chert. The AIGt-266 site was located on a small plateau

adjacent to the Rouge River. The site consisted of a single indeterminate point manufactured of Onondaga chert. The AIGt-267 site was located in the northern portion of the study area. The site consisted of a scatter of approximately 150 artifacts of Euro-Canadian origin dating broadly to the early-late nineteenth century. This site was recommended to be subject to Stage 3 archaeological assessment on the basis of the early nineteenth century finds. The assessment recommends that with the exception of the AIGt-267 site, the identified sites and findspots do not warrant further archaeological assessment and that the remainder of the property can be considered free of further archaeological concern.

ASI (2003) conducted a Stage 1 archaeological assessment of the Hagerman Grade Separation in the Town of Markham, Regional Municipality of York under the project direction of Martin Cooper (CIF# 2001-020-286). The Stage 1 archaeological assessment identified two sites that had previously been registered within the study area (AIGt-211, AIGt-235) which had previously been mitigated. The Stage 1 archaeological assessment determined that the study area retained archaeological potential and should be subjected to Stage 2 archaeological assessment.

ASI (2004) conducted a Stage 1 archaeological assessment of the Milliken GO Station between Redlea Avenue and the Rail Corridor in the City of Toronto, Ontario under the project direction of Robert Pihl (PIF# P057-068). The Stage 1 archaeological assessment determined that the property did not retain archaeological potential and should be considered free from further archaeological concern.

ASI (2005a) conducted a Stage 1-2 archaeological assessment of 190 Silverstar Boulevard in the Former Township of Scarborough, County of York, City of Toronto under the project direction of Dr. Bruce Welsh (CIF# P047-143). The Stage 1 archaeological assessment determined that the study area possessed archaeological potential. The Stage 2 archaeological assessment was conducted on August 12, 2005. The Stage 2 archaeological assessment determined that the study area did not retain archaeological potential on the basis of deep and extensive land disturbance. No further archaeological assessment was recommended.

ASI (2005b) conducted a Stage 1-2 archaeological assessment of 3250 Midland Avenue, part of Lot 27, Concession 4, Former Township of Scarborough, County of York, City of Toronto under the project direction of Dr. Bruce Welsh (CIF# P047-155). The Stage 1 archaeological assessment determined that the study area possessed archaeological potential. The Stage 2 archaeological assessment was conducted on September 24, 2005. The Stage 2 archaeological assessment determined that the study area did not retain archaeological potential on account of deep and extensive land disturbance. No further archaeological assessment was recommended.

ASI (2005c) conducted a Stage 1 archaeological assessment of the Highway 7 and Vaughan North-South Link Transitway in the City of Vaughan, the Town of Richmond Hill and the Town of Markham, Regional Municipality of York under the project direction of Rob Pihl (CIF# P057-140). The Stage 1 archaeological assessment determined that portions of the study area retained archaeological potential and that prior to any land disturbance these areas shall be subject to Stage 2 archaeological assessment. Further, lands adjacent to Brown's Corner United Church require Cemetery Investigation prior to any land disturbance.

ASI (2008b) conducted a Stage 1 archaeological assessment of the 407 Transitway from Highway 400 to Kennedy Road, Regional Municipality of York under the project direction of Rob Pihl (PIF# P057-348-2007). The Stage 1 archaeological assessment determined that portions of the study area retain archaeological potential and require Stage 2 archaeological assessment. Further, the study area had

changed during project design. These additional areas were recommended to be subject to Stage 1 archaeological assessment.

ASI (2009) conducted a Stage 1 archaeological assessment as part of the Transit Project Assessment Study of the Scarborough-Malvern Corridor in the City of Toronto under the project direction of Rob Pihl (PIF# P057-507-2008). The Stage 1 archaeological assessment determined that ROW areas did not retain archaeological potential on account of deep and extensive land disturbance however lands beyond ROW areas required Stage 2 archaeological assessment.

This Land Archaeology Inc. (2009) conducted a Stage 1 archaeological assessment of 1415 Kennedy Road in Toronto under the project direction of William D. Finlayson (PIF# P059-[REDACTED]-2009). The Stage 1 archaeological assessment determined that the study area retained archaeological potential and should be subject to Stage 2 archaeological assessment.

ASI (2010a) conducted a Stage 1 archaeological assessment of the Kennedy Station re-development in the City of Toronto under the project direction of Rob Pihl (PIF# P057-604-2010). The Stage 1 archaeological assessment determined that lands within the study area retained archaeological potential and that they should be subject to Stage 2 archaeological assessment.

ASI (2010b) conducted a Stage 1 archaeological assessment as part of the Kingston Road/Danforth Avenue Transit Project Assessment Study in the City of Toronto under the project direction of Katie Bryant (CIF# P264-078-2009). The Stage 1 archaeological assessment determined that the Kingston Road and Danforth Avenue ROWs did not retain archaeological potential on account of deep and extensive land disturbance. The Stage 1 archaeological assessment recommended that if lands beyond the ROWs are impacted by the project, that they be subject to Stage 2 archaeological assessment prior to any land disturbance.

URS (2010) conducted a Stage 1 archaeological assessment as part of the Preliminary Design and Class EA study of the Strategic Rehabilitation of Highway 401 from Warden Avenue to Brock Road under the project direction of Charlton Carscallen (PIF# P088-019-2010). The Stage 1 archaeological assessment recommended that portions of the study area possess archaeological potential and require Stage 2 archaeological assessment.

ASI (2011a) conducted a Stage 1-2 archaeological assessment of the Markham Centre Development Corporation Property, Enterprise Boulevard, West of Kennedy Road, part of Lots 8 and 9, Concession 5 in the Former Township of Markham, County of York, Town of Markham, Regional Municipality of York under the project direction of Dr. Andrew Riddle (PIF# P347-018-2011). The Stage 1 archaeological assessment determined that the study area possessed archaeological potential. The Stage 2 archaeological assessment was conducted on May 3 and 27, 2011. The Stage 2 archaeological assessment did not recover any archaeological resources. No further archaeological assessment was recommended for the study area.

ASI (2011b) conducted a Stage 2 archaeological assessment as part of the VIVA H3 Detailed Design: Public Transit and Associated Road Improvements, Highway 7 corridor from Bayview Avenue to Warden Avenue in the Regional Municipality of York under the project direction of Katie Bryant (PIF# P264-115-2010). The Stage 2 archaeological assessment was conducted on October 21, 2010 and November 11, 2010. The Stage 2 archaeological assessment did not identify any archaeological remains within the study area.

1.3.4 Summary of Archaeological Context

The review of archaeological work conducted in the area demonstrated that 17 previously registered archaeological sites are located within 1 km of the study area. The registered sites are predominantly culturally undetermined in nature, however, the presence of both Aboriginal and Euro-Canadian sites reflects the long term use and settlement of the locale. Four of these sites are located within 300 m of the study area. The Hood site is included in these four sites and should be treated as a sensitive site and avoided from impact by the project. The Rail Corridor study area also overlaps with the Ossuary Potential Model for the Alexandra site. Such lands included in this model should be considered to be sensitive and avoided from impact by the project. The study area is located in proximity to the Rouge River and Highland Creek watersheds. The study area includes well-drained soils.

The study area is located in proximity to historic transportation routes and historic features, including two historic farmhouses located in proximity to the rail line to the east of the present day Agincourt GO Station.

The above criteria are indicative that the study area has the potential for the recovery of Aboriginal and Euro-Canadian archaeological resources.

2.0 FIELD METHODS

The Stage 1 archaeological assessment property inspection was conducted by Peter Carruthers (P163), of ASI, on August 27, 2013, in order to gain first-hand knowledge of the geography, topography, and current conditions and to evaluate and map archaeological potential of the study area. It was a visual inspection only and did not include excavation or collection of archaeological resources.

Weather conditions for the inspection were a mixture of sun and cloud with hot temperatures between 29° and 31° C. Previously identified features of archaeological potential were examined; additional features of archaeological potential not visible on mapping were identified and documented as well as any features that will affect assessment strategies. Field observations are compiled onto maps of the study area in Section 7.0 (Figures 7-11) and associated photography is presented in Section 8.0 (Plates 1-19).

As per the MTCS (2013b) document, *Winter Archaeology: A Technical Bulletin for Consultant Archaeologists in Ontario*, Stage 1 property inspection cannot be carried out under winter conditions. Winter conditions such as snow cover and frozen ground as per *S & G* Section 1.2 Standard 2, do not allow for adequate visibility of land features.

3.0 ANALYSIS AND CONCLUSIONS

The historical and archaeological contexts have been analyzed to help determine the archaeological potential of the study area. This data is presented below in Section 3.1. Results of the analysis of the property inspection are then presented for the study area (Section 3.2).

3.1 Analysis of Archaeological Potential

Section 1.3.1 of the *S & G* lists criteria which are indicative of archaeological potential. The study area meets the following criteria indicative of archaeological potential:

- Water source: primary secondary, or past water source (e.g. Rouge River; Highland Creek)
- Previously identified archaeological sites (e.g. Hood site AkGt-21)
- Early historical transportation routes (e.g. Toronto & Nipissing Railway; Sheppard Avenue East)
- Pockets of well-drained sandy soil (e.g. Woburn sandy loam)
- Areas of early Euro-Canadian settlement (e.g. farmhouses)

These criteria are indicative of the study area having potential for the identification of Aboriginal and Euro-Canadian archaeological resources.

3.2 Analysis of Property Inspection Results

The entirety of the Rail Corridor study area and the majority of the Proposed Property Acquisition study area does not possess archaeological potential (Figures 7-11: areas marked in yellow and purple). As per Sections 1.3.2 of the *S & G*, these lands do not require Stage 2 archaeological assessment.

Portion of the Proposed Property Acquisition study area at the Agincourt GO Station and the Kennedy GO Station possesses archaeological potential. These lands will require Stage 2 archaeological assessment by test-pit survey at 5 m intervals (Figures 9: areas marked in green).

3.3 Conclusions

The Background Study determined that 17 archaeological sites have been registered within 1 km of the study area. A review of the history and geography of the study area suggested that the study area has potential for the identification of Aboriginal and Euro-Canadian archaeological resources. Further, the Background Study also determined that a section of the Rail Corridor study area lay adjacent to the Hood site (AkGt-21) and another section overlaps with the Ossuary Potential Model for the Alexandra site (AkGt-53).

The Property Inspection determined that the entirety of the Rail Corridor study area is disturbed and does not require Stage 2 Archaeological Assessment. The Property Inspection determined that while the majority of lands within the Proposed Property Acquisition study area have been subject to deep and pervasive disturbances that have removed archaeological potential, potential does exist in small sections of this study area.

4.0 RECOMMENDATIONS

In light of these results, ASI makes the following recommendations:

1. Archaeological potential exists within part of the Proposed Property Acquisition study area (Figure 9: areas marked in green). These lands will require Stage 2 archaeological assessment by test-pit survey prior to any land disturbance;
2. The remainder of the Proposed Property Acquisition study area and the entirety of the Rail Corridor study area does not require further archaeological assessment (Figures 7-11: areas marked in yellow and purple);
3. The Background Study determined that a section of the Rail Corridor study area lays adjacent to the Hood site (AkGt-21) (Figure 7: area outlined in black hashed line), a pre-contact site with further cultural heritage value. Impact to this site by ground disturbance within the indicated area should be avoided. If this site is impacted by the project it will require further Archaeological Assessment;
4. The Background Study has determined that a section of the Rail Corridor study area overlaps with the Ossuary Potential Model (Figure 5) for the Alexandra site (AkGt-53). Impact by ground disturbance within the indicated area of this model by the project should be avoided. If such lands are impacted by the project they will require Archaeological Monitoring; and,
5. Should the proposed work extend beyond the current study area then further Stage 1 Archaeological Assessment must be conducted to determine the archaeological potential of the surrounding lands.

Notwithstanding the results and recommendations presented in this report, ASI notes that no archaeological assessment, no matter how thorough or carefully completed, can necessarily predict, account for, or identify every form of isolated or deeply buried archaeological deposit. In the event that archaeological remains are found during subsequent construction activities, the consultant archaeologist, approval authority, and the Cultural Programs Unit of the MTCS should be immediately notified.

5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

ASI advises compliance with the following legislation:

- This report is submitted to the Minister of Tourism, Culture and Sport 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 MTCS, 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 Archaeology 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 sec. 48 (1) of the *Ontario Heritage Act*; and
- The *Cemeteries Act*, R.S.O. 1990 c. C.4 (as amended 2012) 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

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- 1998 Stage 2 Archaeological Assessment of Draft Plan of Subdivision, 19TM-97005, Part of Lot 2, Concession 5, town of Markham, Regional Municipality of York, Ontario.
- 2001 Stage 1 and 2 Archaeological Resource Assessment of Proposed Markham Centre Development, Part of Lots 8 and 9, Concession 5, Town of Markham, Regional Municipality of York, Ontario.
- 2003 Stage 1 Archaeological Assessment, Hagerman Grade Separation, Town of Markham (Former Markham Township, York County), Regional Municipality of York, Ontario.
- 2004 Stage 1 Archaeological Assessment, Milliken GO Station, Between Redlea Avenue and the Rail Corridor, City of Toronto, Ontario.
- 2005a Stage 1 and 2 Archaeological Assessment of 190 Silverstar Boulevard, Geographic Township of Scarborough, County of York, former City of Scarborough, Now the City of Toronto.
- 2005b Stage 1 and 2 Archaeological Assessment of 3250 Midland Avenue, Part of Lot 27, Concession 4, Scarborough Township, County of York, Now in the City of Toronto.
- 2005c Stage 1 Archaeological Assessment. Highway 7 and Vaughan North-South Link Transitway, City of Vaughan, Town of Richmond Hill and Town of Markham, Regional Municipality of York, Ontario.
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- 2010a Stage 1 Archaeological assessment (Background Research and Property Inspection), Kennedy Station Re-Development, City of Toronto, Ontario.
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ASI

- 2011a Stage 1 and 2 Archaeological Assessment of the Markham Centre Development Corporation Property, Enterprise Boulevard, West of Kennedy Road, Part of Lots 8 and 9, Concession 5, Geographic Township of Markham, Regional Municipality of York.
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7.0 MAPS



Figure 1: Stouffville Corridor Rail Service
Expansion Study Area Approximate
Location

Base map:
(NTS 30 M/11 & 30 M/14)

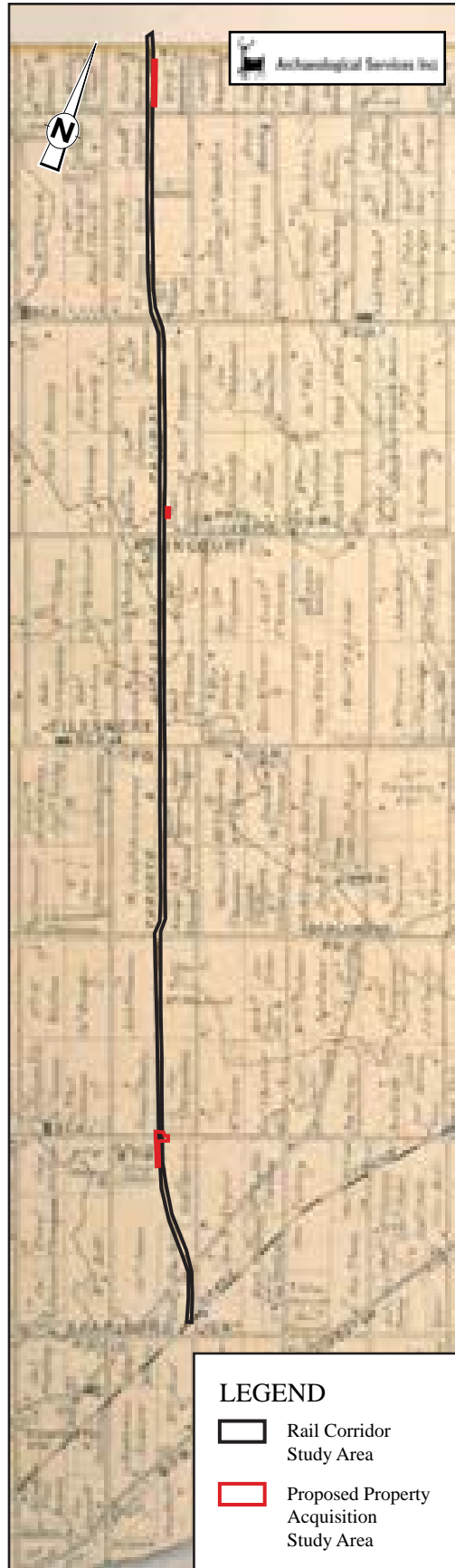


Figure 2: Stouffville Corridor Rail Service Expansion Study Area (Approximate Location) overlaid on 1878 map of Scarboeough

Base map: (H.R. Page & Co. 1878)

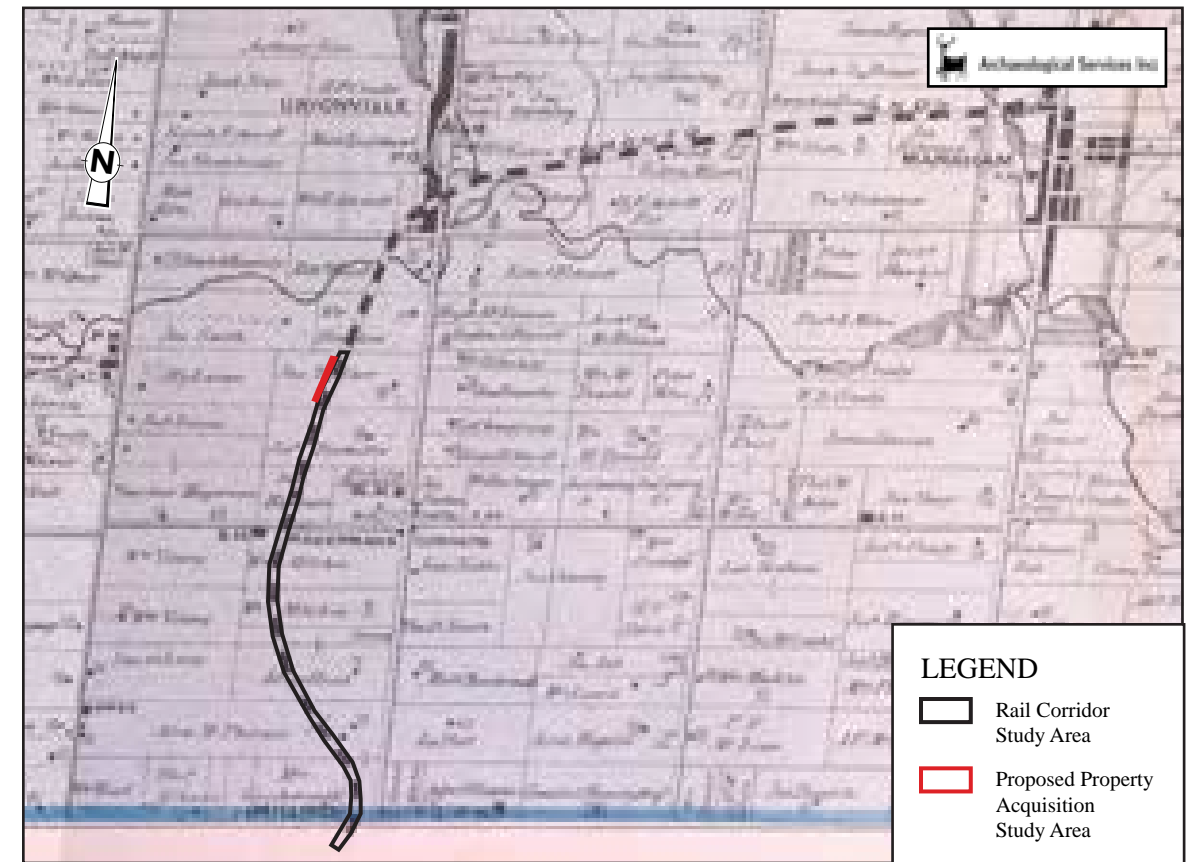
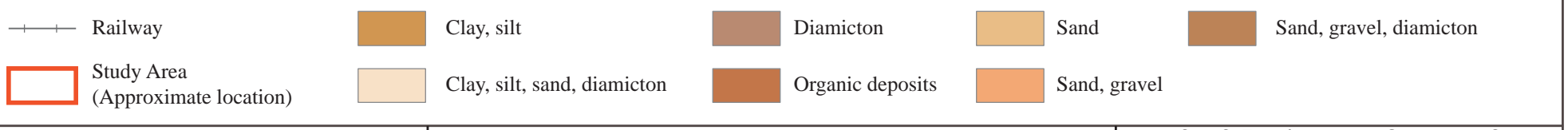
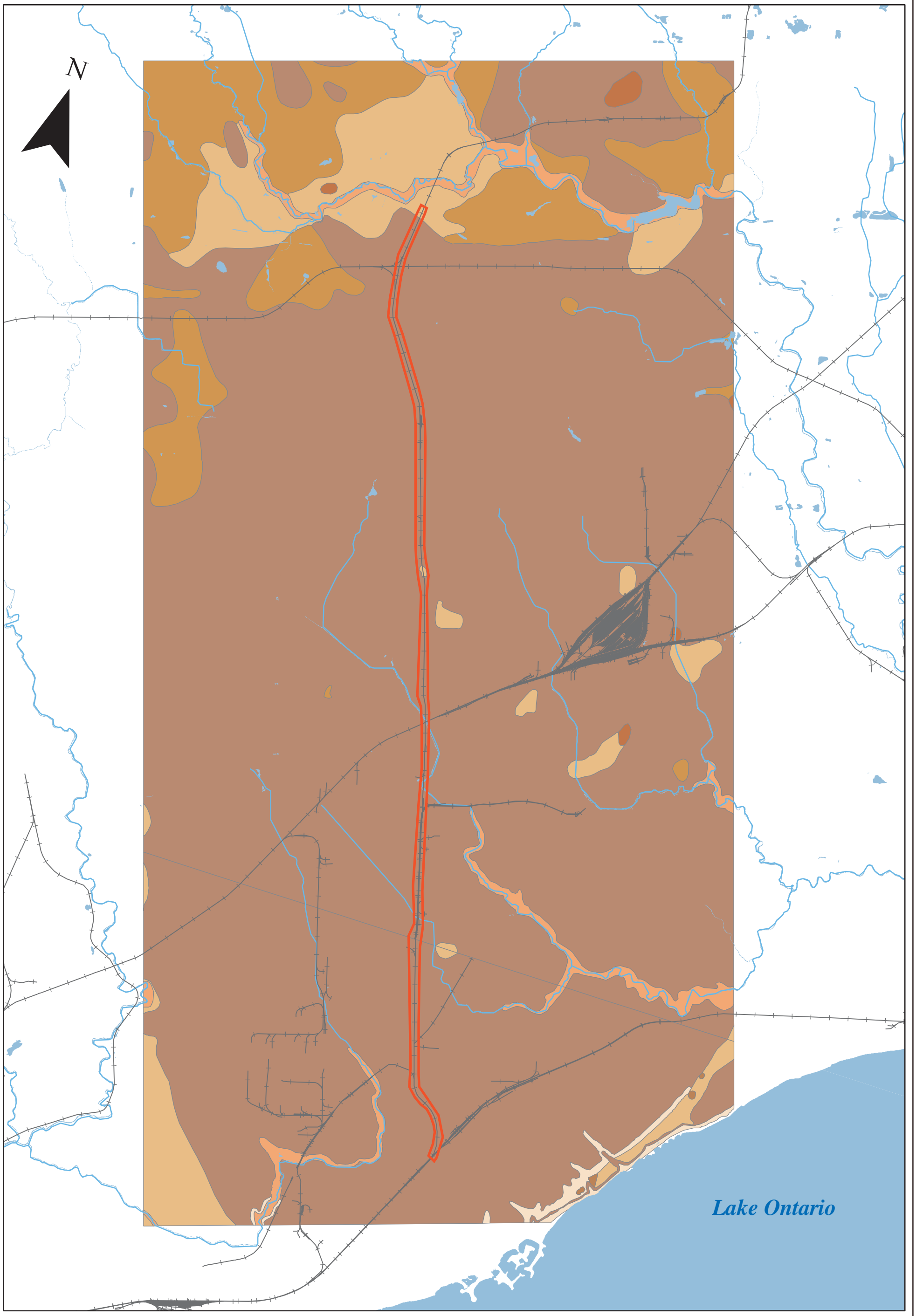


Figure 3: Stouffville Corridor Rail Service Expansion Study Area (Approximate Location) overlaid on 1878 map of Markham Township

Base map: (H.R. Page & Co. 1878)



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 info@IASI.to/www.IAS±.to

BASE:
 Ontario Ministry of Natural Resources
 UTM Zone 17, NAD 83

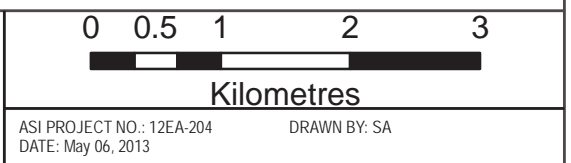
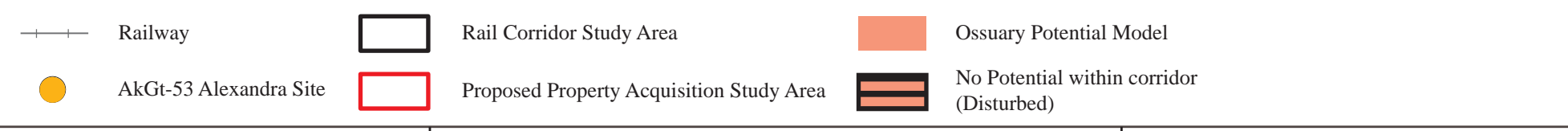
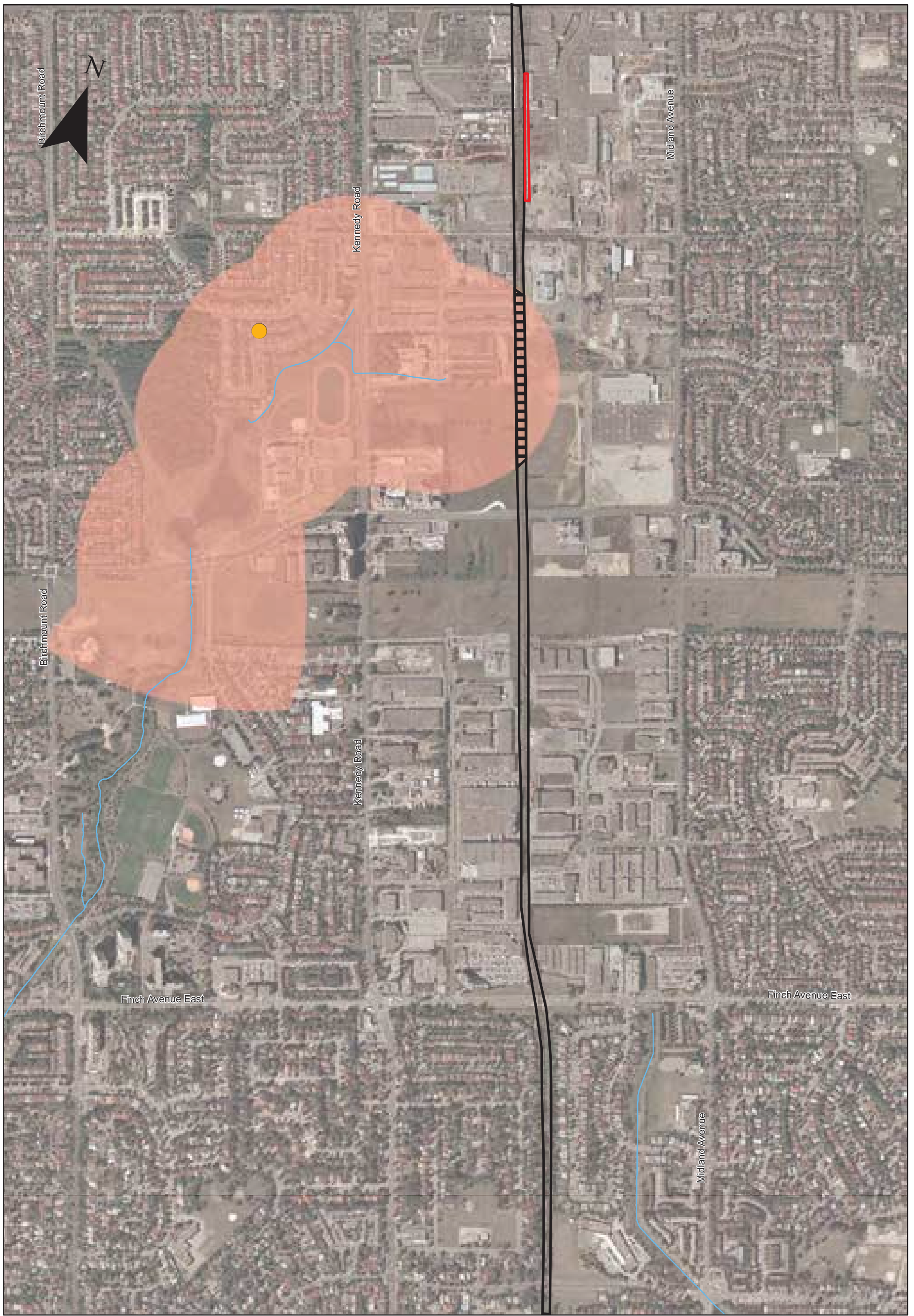


Figure 4: Stouffville Corridor Rail Service Expansion - Surficial Geology



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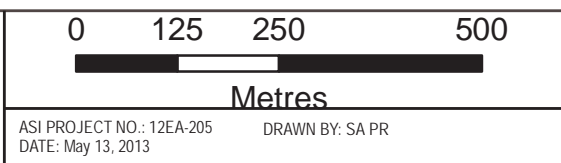
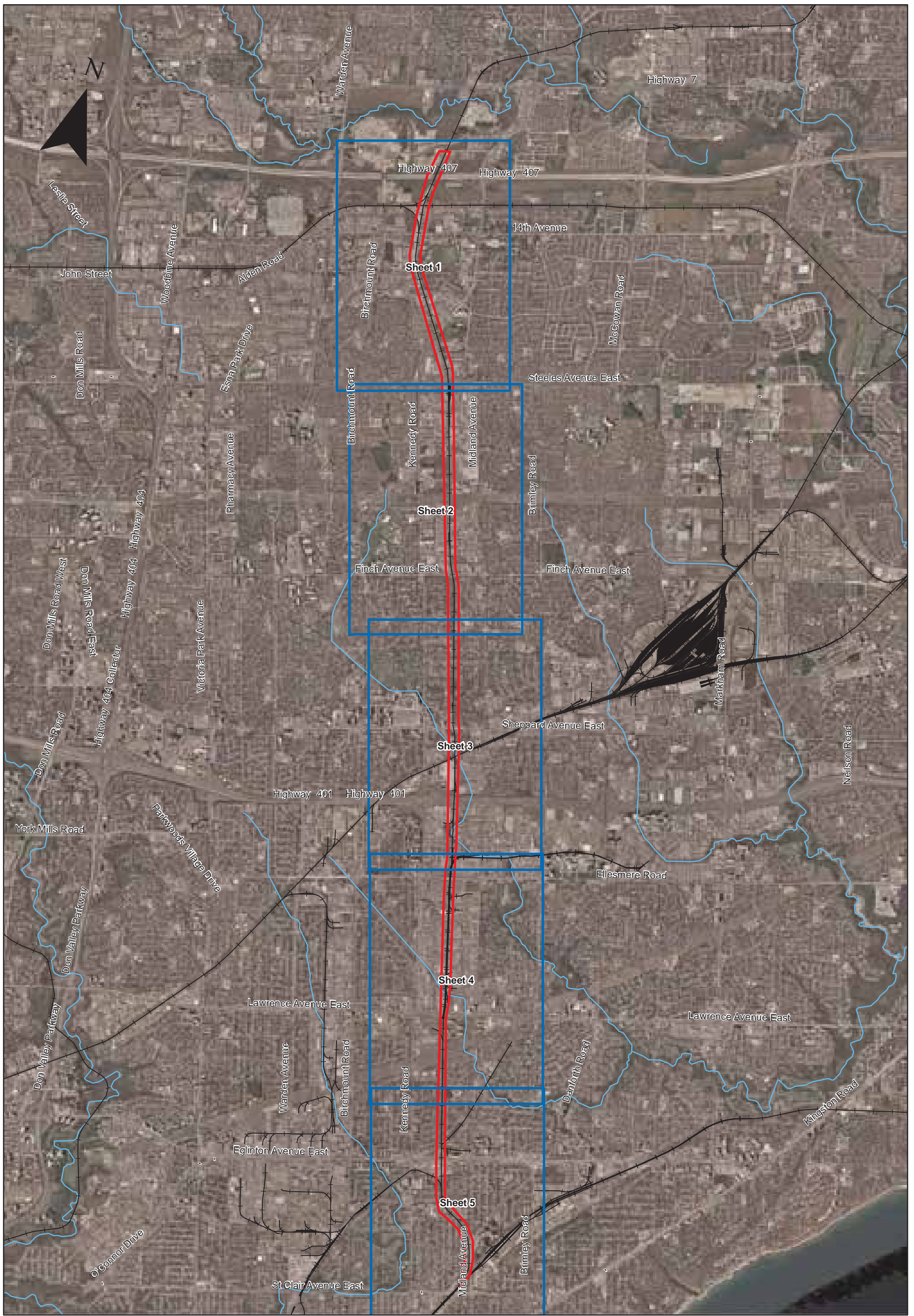




Figure 5: Stouffville Corridor Rail Service Expansion - Ossuary Potential Model

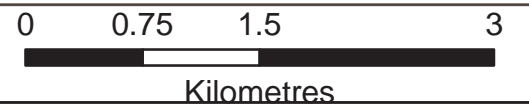


-  Railway
-  Study Area (Approximate)



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 DATE: May 06, 2013

Figure 6: Stouffville Corridor Rail Service Corridor Expansion - Property Inspection Results (Key Map)







<p>  Rail Corridor Study Area  Proposed Property Acquisitions Study Area </p>	<p>  Photographic Plate  No Potential (Disturbed) </p>	
<p> Archaeological Services Inc. 528 Bathurst St. T 416-966-1069 Toronto, Ontario F 416-966-9723 Canada, M5S 2P9 info@IASI.to/www.IASi.to </p>	<p> BASE: Ontario Ministry of Natural Resources UTM Zone 17, NAD 83 </p>	<p> 0 125 250 500 Metres </p>
<p> ASI PROJECT NO.: 12EA-204 DRAWN BY: SA PR DATE: January 07, 2014 FILE: 12EA-204_FieldMap_Sheet1 </p>		

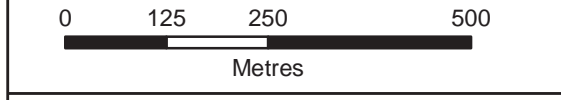
Figure 7: Stouffville Corridor Rail Service Expansion - Property Inspection Results (Sheet 1)



 Rail Corridor Study Area	 Photographic Plate
 Proposed Property Acquisitions Study Area	 No Potential (Disturbed)

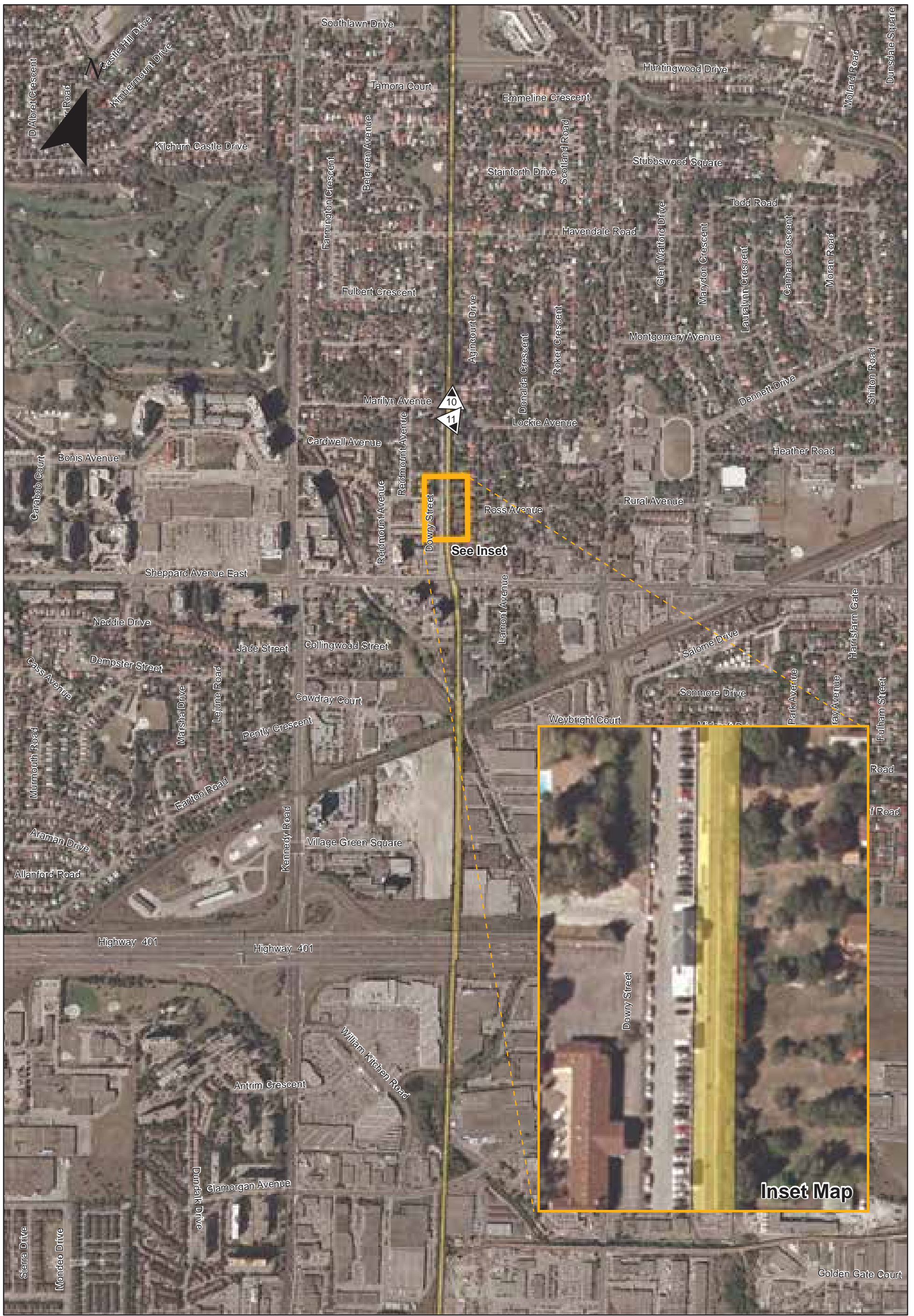
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BASE:
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 UTM Zone 17, NAD 83



ASI PROJECT NO.: 12EA-204 DRAWN BY: SA PR
 DATE: January 07, 2014 FILE: 12EA-204_FieldMap_Sheet2

Figure 8: Stouffville Corridor Rail Service Expansion - Property Inspection Results (Sheet 2)



Rail Corridor Study Area	Potential (Requires Stage 2 Test-pit Survey)	Photo Location
Proposed Property Acquisitions Study Area	No Potential (Disturbed)	

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0 125 250 500	
Metres	
ASI PROJECT NO.: 12EA-204 DATE: January 07, 2014	DRAWN BY: SA FILE: 12EA-204_FieldMap_Sheet3

Figure 9: Stouffville Corridor Rail Service Expansion - Property Inspection Results (Sheet 3) X:\2012 Projects\EA\12EA-204_205 Metrolinx Stouffville\12EA204_205_Workspace_FieldMap.mxd



	Rail Corridor Study Area		Photographic Plate
	No Potential (Disturbed)		

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 Toronto, Ontario F 416-966-9723
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BASE:
 Ontario Ministry of Natural Resources
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0	125	250	500
			
Metres			
ASI PROJECT NO.: 12EA-204 DATE: January 07, 2014		DRAWN BY: SA PR FILE: 12EA-204_FieldMap_Sheet5	

Figure 10: Stouffville Corridor Rail Service Expansion - Property Inspection Results (Sheet 4)










<p> Rail Corridor Study Area</p> <p> Proposed Property Acquisitions Study Area</p>	<p> Previously Assessed (ASI 2010a)</p> <p> No Potential (Disturbed)</p>	<p> Photographic Plate</p>
<p> Archaeological Services Inc. 528 Bathurst St. T 416-966-1069 Toronto, Ontario F 416-966-9723 Canada, M5S 2P9 info@IASI.to/www.IAS±.to</p>	<p>BASE: Ontario Ministry of Natural Resources UTM Zone 17, NAD 83</p>	<p>0 125 250 500  Metres</p> <p>ASI PROJECT NO.: 12EA-204 DRAWN BY: SA PR DATE: January 07, 2014 FILE: 12EA-204_FieldMap_Sheet5</p>

Figure 11: Stouffville Corridor Rail Service Expansion - Property Inspection Results (Sheet 5)

8.0 IMAGES



Plate 1: View southwest across rail corridor. Field beyond has been graded. No potential.



Plate 2: View northwest of east side of Unionville GO Station. Rail corridor disturbed. No potential.



Plate 3: View south down rail corridor. Rail corridor is disturbed. No potential.



Plate 4: View northwest up rail corridor. Rail corridor is disturbed. No potential.



Plate 5: View east of Hood site AkGt-21 property. Impact to site should be avoided.



Plate 6: View southeast down rail corridor. Rail corridor is disturbed. No potential.



Plate 7: View southwest down rail corridor. Rail corridor is disturbed. No potential.



Plate 8: View northeast of Milliken GO Station proposed property acquisition. Area is disturbed. No potential.



Plate 9: View southeast down rail corridor. Rail corridor is disturbed. No potential.



Plate 10: View northwest up rail corridor. Rail corridor is disturbed. No potential.

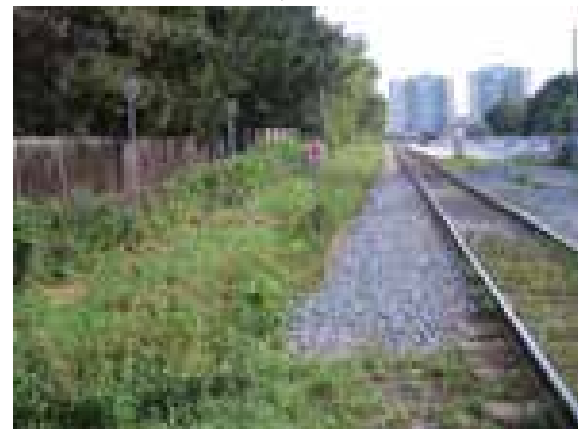


Plate 11: View southwest down rail corridor. Rail corridor is disturbed. No potential. Back gardens beyond fences are in proposed property acquisition study area. Require Stage 2 test-pit survey.



Plate 12: View north of rail corridor. Rail corridor is disturbed. No potential.



Plate 13: View southeast of rail corridor. Rail corridor is disturbed. No potential.



Plate 14: View northwest of rail corridor. Rail corridor is disturbed. No potential.



Plate 15: View southwest of rail corridor. Rail corridor is disturbed. No potential.



Plate 16: View northwest of rail corridor. Rail corridor is disturbed. No potential.



Plate 17: View southwest of rail corridor. Rail corridor is disturbed. No potential.



Plate 18: View WSW of Proposed Property Acquisition study area. Area is disturbed. No potential (*Google Earth™* Image).

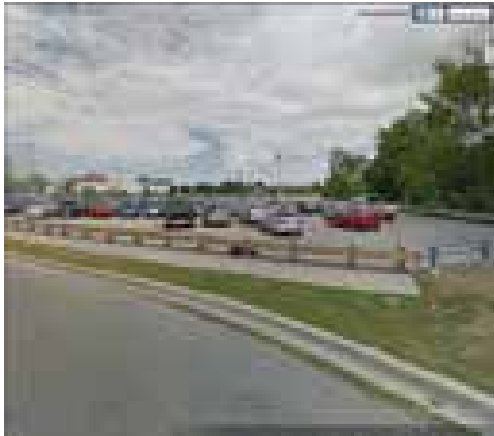


Plate 19: View southeast of Kennedy Station Parking Lot. Proposed Property Acquisition study area in background is disturbed. No potential (*Google Earth*TM Image).