

Stage 1 Archaeological Assessment

**407 Transitway,
From Highway 400 to Kennedy Road,
Regional Municipality of York, Ontario**

GWP 252-96-00

Submitted to:

**LGL Limited
environmental research associates**

22 Fisher Street, PO Box 280
King City, Ontario L7B 1A8
Tel: 905-833-1244
Fax: 905-833-1255
Website: www.lgl.com

Prepared by:

Archaeological Services Inc.

528 Bathurst Street
Toronto, Ontario M5S 2P9
Tel.: 416-966-1069
Fax: 416-966-9723
Email: asitoronto@rogers.com
Website: www.iasi.to

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**ARCHAEOLOGICAL SERVICES INC.
ENVIRONMENTAL ASSESSMENT DIVISION**

PROJECT PERSONNEL

<i>Senior Project Manager:</i>	Robert Pihl, MA, CAHP [MCL licence P057] Partner and Senior Archaeologist, Manager, Environmental Assessment Division
<i>Project Director (licence):</i>	Robert Pihl
<i>Project Manager:</i>	Caitlin Pearce, Hon. BA [MCL licence R303] Staff Archaeologist
<i>Project Administrator:</i>	Andrew Douglas, BA Research Archaeologist
<i>Field Director:</i>	Peter Carruthers, MA, CAHP [MCL licence P163]
<i>Report Writers:</i>	Danielle Macdonald, MA Research Archaeologist Katie Bryant, MA [MCL licence P264] Staff Archaeologist Caitlin Pearce
<i>Graphics Preparation:</i>	Katie Bryant Caitlin Pearce
<i>Report Reviewer:</i>	Robert Pihl

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1.0 INTRODUCTION

Archaeological Services Inc. (ASI) was contracted by LGL Limited, King City, on behalf of the Ministry of Transportation (MTO), to conduct a Stage 1 Archaeological Assessment of the 407 Transitway project study corridor, from Highway 400 to Kennedy Road, Regional Municipality of York, Ontario (Figure 1).

The study corridor extends 500 metres on either side of Highway 407 and measures approximately 23 km in length. The project will improve the highway patterns through the construction of a high speed transit facility parallel to Highway 407.

Permission to carry out the activities necessary for the completion of the Stage 1 archaeological assessment was granted to ASI by LGL Limited, on July 9, 2007.

This report presents the results of the Stage 1 background research and field review, and makes several recommendations.

2.0 STAGE 1 BACKGROUND RESEARCH

The Stage 1 archaeological assessment of the study corridor was conducted in accordance with the *Ontario Heritage Act* (2005) and the Ontario Ministry of Culture's (MCL) draft *Standards and Guidelines for Consultant Archaeologists* (2006). A Stage 1 archaeological assessment involves research to describe the known and potential archaeological resources within the vicinity of a study corridor. Such an assessment incorporates a review of previous archaeological research, physiography, and land use history. Background research was completed to identify any archaeological sites in the study corridors and to assess their archaeological potential.

2.1 Previous Archaeological Research

In order that an inventory of archaeological resources could be compiled for the study corridor, three sources of information were consulted: the site record forms for registered sites housed at the Ministry of Culture, published and unpublished documentary sources, and the files of ASI.

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database (OASD) maintained by the Ministry of Culture. This database contains archaeological sites registered within the Borden system. The Borden system was first proposed by Dr. Charles E. Borden,

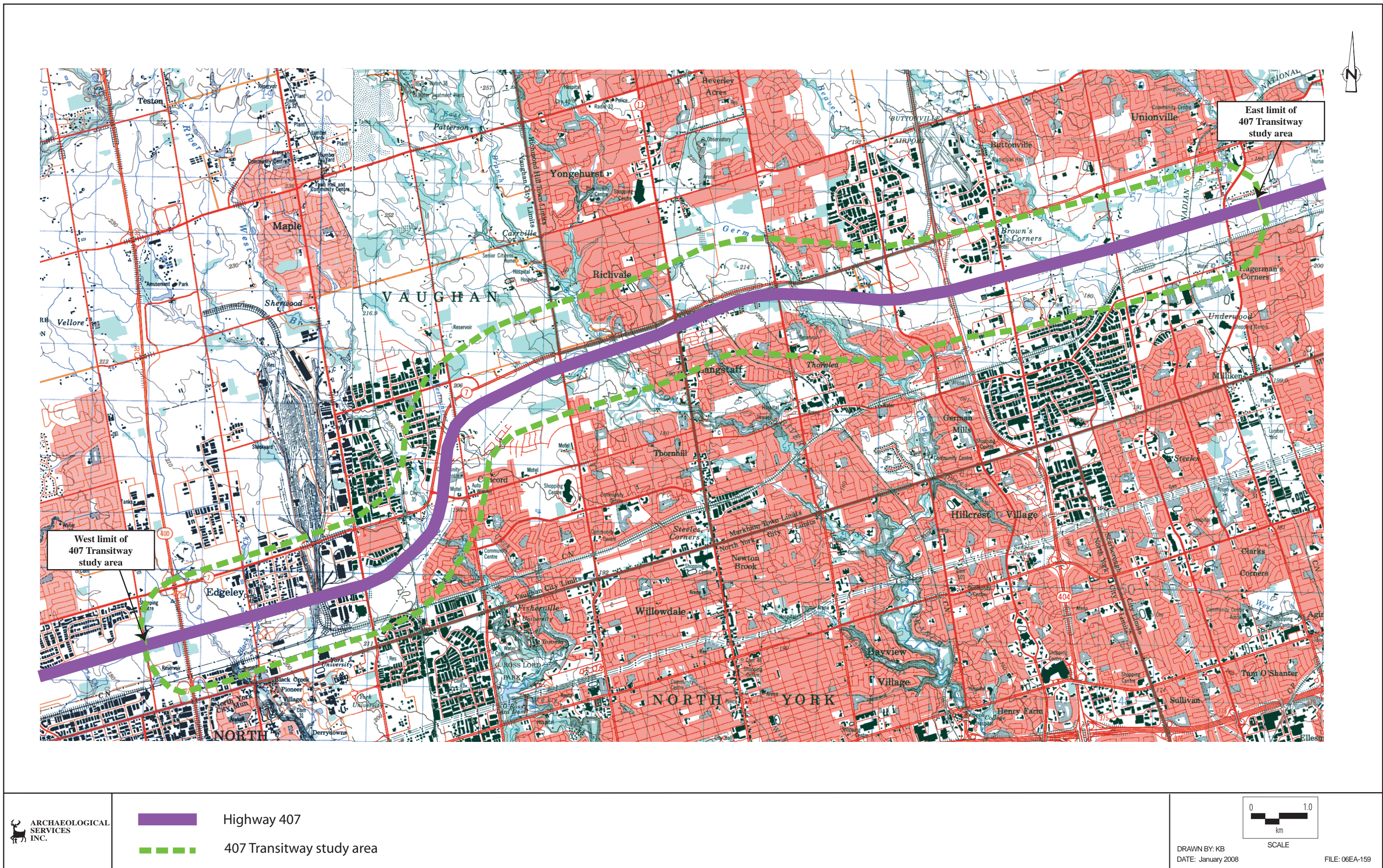


Figure 1: Location of the 407 Transitway study area [NTS Sheet 30M/13 (Bolton), 30 M/14 (Markham)]

and is based on a block of latitude and longitude. A Borden block is approximately 13 km east west by 18.5 km north south. Sites within each Borden block are numbered sequentially as they are found. The study corridor under review is located within the Borden blocks *AkGu*, *AkGv*, *AlGu* and *AlGt*.

A total of 47 sites have been registered within the 407 Transitway study corridor, including both Aboriginal and Euro-Canadian sites. These sites have been summarized in Table 1 and are discussed in further detail below. A number of field assessments have already been conducted for the Highway 407 right-of-way (ROW), and these are illustrated on Figures 3-1 to 3-10.

Table 1: Registered sites within the 407 Transitway study corridor

Borden #	Site Name	Cultural Affiliation	Site Type	Researcher	Recommendations
AkGv-104	Burkholder House	Euro-Canadian	Homestead	Warrick 1990	No further work.
AkGv-105	--	Aboriginal	Findspot	Warrick 1991	No further work.
AkGv-106	Goose	Aboriginal	--	Warrick 1991	No further work.
AkGv-107	Bingo	Aboriginal	Lithic Scatter	Warrick 1991	No further work.
AkGv-108	--	Early Archaic, Netting	Findspot	Warrick 1991	No further work.
AkGv-109	Left Shoe	Aboriginal	Findspot	Warrick 1991	No further work.
AkGv-110	Right Shoe	Aboriginal	Lithic Scatter	Warrick 1991	No further work.
AkGv-111	Boot	Aboriginal	Findspot	Warrick 1991	No further work.
AlGu-80	Pegasus	Aboriginal	Findspot	ASI 1988	No further work.
AlGu-116	POW	Aboriginal	Lithic Scatter	Warrick 1991	Further work recommended.
AlGu-117	--	Late Woodland, Iroquoian Early Archaic	Findspot	Warrick 1991	No further work.
AlGu-118	--	Archaic, Crawford Knoll	Findspot	Warrick 1991	No further work.
AlGu-119	--	Early Woodland	Findspot	Warrick 1991	No further work.
AlGu-120	Over	Euro-Canadian Late Woodland, Iroquoian	Industrial Complex Village	Warrick 1991 Poulton 1995?	No further concerns.
AlGu-121	Eleventh Hour	Aboriginal	Findspot	Warrick 1991	No further work.
AlGu-129	German Mills Creek	Late Woodland, Iroquoian	Campsite	Stewart 1994	No further work.
AlGu-131	Pristine	Late Archaic	Undetermined	Warrick 1993	No further work.
AlGu-160	--	Aboriginal	Lithic scatter	ASI 1996	No further work.
AlGu-354	Kizhep	Aboriginal	Campsite	Sutton 2005	No further work.
AlGt-194	SLF	Aboriginal	Findspot	Warrick 1991	No further work.
AlGt-211	CNR Uxbridge 2	Euro-Canadian	Midden, Cellar, Sub-floor Pit	Stewart 1995	No further work.
AlGt-219	J.J. Lunau 1	Euro-Canadian	Homestead	Stewart 1995 (Dillon)	Mapped during AlGt-236 Stage 3. Further work recommended.
AlGt-235	CNR Uxbridge 3	Euro-Canadian	Homestead	Stewart 1995 (Dillon)	Destroyed before mitigated.
AlGt-236	J.J. Lunau 2	Euro-Canadian	Homestead	Stewart 1995 (Dillon)	No further work.
AlGt-264	--	Aboriginal	Findspot	ASI 2002	No further work.

Borden #	Site Name	Cultural Affiliation	Site Type	Researcher	Recommendations
AkGu-15	Baker	Undetermined	Campsite	Roberts 1972; ASI 2000	No further work.
AkGu-16	Reaman	Woodland, Iroquoian	Campsite	Arnold 1994 (MTO); ASI 1990a ASI 1990b; Poulton 2001	Partially excavated. Further work recommended.
AkGu-20	14 th Avenue	Aboriginal	Campsite	A.J. Clark 1920 MPP 1986	Status unknown
AkGu-33	--	Undetermined	Findspot	MPP 1987	No further work.
AkGu-34	--	Aboriginal	Findspot	MPP 1987	No further work.
AkGu-35	--	Undetermined	Findspot	MPP 1987	No further work.
AkGu-36	Bathurst	Undetermined	Campsite	MPP 1987	Further work recommended.
AkGu-37	Beartrap	Late Woodland, Iroquoian	Undetermined	MPP 1989	No further work.
AkGu-38	Lewis Page	Euro-Canadian	Cabin	MPP 1989	No further work.
AkGu-39	Thomas Page	Woodland	Campsite	MPP 1987	Further work recommended.
AkGu-48	Deer Hoof	Aboriginal	Campsite, Kill site	Warrick 1993 (MTO)	No further work.
AkGu-49	Caleb	Undetermined	Findspot	Warrick 1992 (MTO)	No further work.
AkGu-50	Wild Canary I	Aboriginal	Findspot	Warrick 1993 (MTO)	No further work (Arnold 1994)
AkGu-51	Wild Canary II	Aboriginal	Findspot	Warrick 1993 (MTO)	No further work (Arnold 1994)
AkGu-52	Wild Canary III	Aboriginal	Findspot	Warrick 1993 (MTO)	No further work (Arnold 1994)
AkGu-53	--	Middle Archaic	Findspot	Warrick 1993 (MTO)	No further work.
AkGu-54	--	Aboriginal	Findspot	Warrick 1993 (MTO)	No further work.
AkGu-55	Hawk	Iroquoian	Findspot	Warrick 1993 (MTO)	No further work (Arnold 1994)
AkGu-56	Two Pines	Huron	Cabin, Midden, Burial	Arnold 1994 & 1995 (MTO) Warrick 1993 (MTO)	No further work (Arnold 1994)
AkGu-60	Murray Knoll	Euro-Canadian	Well, Sub-floor Pit	Stewart 1995 (Dillon)	No further work.
AkGu-62	--	Early Archaic, Netting	Lithic Scatter	ASI 1997	No further work.
AkGu-67	Reaman Homestead	Euro-Canadian	Homestead	ASI 2000	No further work.

¹ ASI-Archaeological Services Inc., MPP-Mayer Pihl Poulton and Associates, MTO-Ontario Ministry of Transportation, Dillon-Dillon Consulting Ltd., Poulton-D.R. Poulton & Associates Inc.

Sites AkGv-104 to AkGv-111, were all located by Andrew Murray of MTO in 1990-1991. One site (AkGv-104) is a Euro-Canadian homestead site, while the remaining sites are Aboriginal in origin. These sites have all been cleared of any further archaeological concern (MTO 1993).

The Pegasus site (AlGu-80) was documented by ASI in the Master Plan of Archaeological Resources for the Town of Richmond Hill, Ontario (ASI 1998). Only one Aboriginal artifact was found, and no further work was recommended for the Pegasus site.

AlGu-116, the POW site, was identified in 1991 by Gary Warrick of MTO, for an archaeological assessment of Highway 407 (MTO 1995b). Nine Onondaga chert flakes were collected from a 100 m² area in a ploughed field in Lot 36, Concession 1 EYS. No further work was recommended at the time, as the site fell 20 m outside of the proposed ROW and would not be impacted. If this site is to be affected by 407 Transitway construction, a Stage 3 archaeological assessment will be required. Several other sites and findspots were also located during the survey. AlGu-117, -118, -119 were all isolated Aboriginal findspots, for which no further work was recommended. AlGu-121, the Eleventh Hour site, consisted of eight Onondaga chert flakes located within a single test pit in Lot 35, Concession 1 EYS. No additional artifacts were found in the surrounding area, and no further work was recommended for the site. AlGu-131, the Pristine site, consisted of two projectile point fragments and two chert flakes located within Lot 10, Concession II EYS. No other cultural material was encountered in the surrounding area, and no further work was recommended for the site.

The Over site, AlGu-120, an Iroquoian village, was located by MTO archaeologists in 1991, on the northeast corner of Yonge Street and Highway 7 (MTO 1994b). Subsequent Stage 3 and 4 salvage excavations were conducted by Scientific Excavation and D.R. Poulton and Associates Inc. (under MTO contract), between 1991 and 1993, revealing a 0.8 ha, early 15th century Huron village. The salvage excavation is complete, and no further work is recommended for the site.

AlGu-129, German Mills Creek site, was a Late Woodland, Iroquoian campsite located within Lot 10, Concession 2. The site was fully excavated and discussed in the 1994 report by W.B. Stewart.

A Stage 1 and 2 archaeological assessment of part of Lots 9 and 10, Concession 2 in the Town of Markham, was conducted by ASI in 1996 (ASI 1996). AlGu-160, a small Aboriginal lithic scatter, was located during the survey. No further work was recommended for the site.

AlGu-354, Kizhep site, was documented in 2005 by Rick Sutton. The site consisted of 11 Onondaga chert artifacts found during a survey of the IBM Option Lands. No further work was recommended for the site.

AlGt-194, the SLF site, was identified in 1991 by Gary Warrick for an archaeological assessment of Highway 407 from Woodbine Avenue to Highway 48 (MTO 1995a). The site contained three Onondaga chert flakes over an area approximately 10 m in diameter. No further work was recommended for the site.

AlGt-211, the CNR Uxbridge 2 site, was documented in 1995 by W.B. Stewart as a Euro-Canadian midden and cellar, located in Lot 8, Concession 5. Fifteen thousand artifacts were collected during the Stage 3 and 4 excavations. The site was fully mitigated, and there are no further concerns for this site (Stewart 1995). AlGt-235, the CNR Uxbridge 3, site was a Euro-Canadian homestead site, also documented in 1995 by W.B. Stewart, however the site was destroyed before mitigation could take place (Stewart 1995).

The J.J. Lunau 1 site, AlGt-219, and the J.J. Lunau 2 site, AlGt-236, were both Euro-Canadian homestead sites, containing domestic artifacts that were discovered W. B. Stewart in 1995 in Lot 8, Concession 4 in the former Markham Township. Stage 3 testing was recommended for both sites, however testing was only done for AlGt-236, as AlGt-219 was not to be impacted by the construction of Highway 407. Based on the Stage 3 testing of the J.J. Lunau 2 site, no further work was recommended (Dillon Consulting 1997). If the J.J. Lunau 1 site is to be affected by 407 Transitway construction, a Stage 3 archaeological assessment will be required.

In 2000, ASI undertook a Stage 1 and 2 archaeological assessment of the proposed Markham Centre Development in the Town of Markham. Six sites were registered, including five Aboriginal sites and one Euro-Canadian site (AlGt-262 to AlGt-267). Only AlGt-264 falls within the study corridor, and no further work was recommended (ASI 2000).

AkGu-15, the Baker site, was documented by Victor Konrad in 1972, and AkGu-16, the Reaman site, was documented in 1924 by A.J. Clark. Both are listed as Late Woodland Iroquoian village sites in the 1986 Archaeological Master Plan for the Town of Vaughan (MPP 1986b). The Baker site was relocated by ASI in 1999, and a salvage excavation was conducted in 2000. There are no further concerns for this site (ASI 2006). In 1990, ASI undertook a Stage 1-2 archaeological assessment for the Claireville TS x Cherrywood TS 500kV Transmission Line 2, as well as a Stage 3-4 archaeological assessment and mitigation of Tower 122, which encompassed part of the Reaman Site (ASI 1990). A Stage 4 mitigation also took place in 1994 for the site area within the 407 ROW by W.B. Stewart. Stage 3-4 excavations took place in 1995 by D.R. Poulton & Associates on part of the Reaman site which was to be affected by the PD6 Interconnecting Watermain. Based on email communication with Malcolm Horne, MCL, the majority of the site is located outside the previously assessed 407 ROW and will require further work if it is to be affected by the 407 Transitway.

AkGu-20, the 14th Avenue site, was first documented in 1920 by A.J. Clark and was classed as an indeterminate prehistoric habitation by Victor Konrad in 1973. It was reclassified in 1986 as an Indeterminate Woodland site, in the Archaeological Masterplan for the Town of Markham (MPP 1986a). References to the site are, however, spurious.

AkGu-33, -34, -35, -36, -37, -38, and -39 were all documented in 1987 by Mayer, Pihl, Poulton & Associates. The first three sites were Aboriginal findspots found during the assessment of the Richmond Hill Golf and Country Club Development. No further work was recommended for these three sites (MPP 1988). The last four sites are all located in Lot 9, Concession 2 in the Town of Vaughan. AkGu-37, the Beartrap site, was a Late Woodland Aboriginal site, and AkGu-38, the Lewis Page site, was a Euro-Canadian cabin site, and both sites were mitigated and documented in 1989 (MPP 1989). AkGu-36, the Bathurst site, was an Aboriginal site that may have been partially destroyed by the construction of a laneway. AkGu-39, the Thomas Page site, was a possible Woodland campsite. Based on email communication with Malcolm Horne, MCL, further work is recommended for AkGu-36 and AkGu-39.

AkGu-48, the Deer Hoof site, was first identified in 1993 within the path of proposed construction for the Highway 407 ROW (MTO 1994a). One biface fragment, end scraper and fire-cracked rock were found in

Lot 5, Concession 3 WYS. A Stage 3 assessment was undertaken in 1994. No additional remains were encountered, and no further work was recommended. AkGu-49, the Caleb site, was located in 1992 during an earlier phase of the Highway 407 survey. The site consisted of two Onondaga chert flakes. No further work was recommended.

AkGu-50, -51, -52, -53, -54, -55 and -56 were all discovered in 1993 by Gary Warrick during an archaeological assessment of Highway 7 and Highway 407 (MTO 1994b). AkGu-50, -51 and -52, the Wild Canary I, II and III sites, were all Aboriginal findspots for which further work was recommended, but they were cleared of any further archaeological concern in 1994 by Tom Arnold (according to O.A.S.D. – no reference given). AkGu-53 and AkGu-54 were also Aboriginal findspots, however no further work was recommended for either site. AkGu-55, the Hawk site, was an Iroquoian findspot for which further work was initially recommended, but it was also cleared of any additional archaeological concern in 1994 by Tom Arnold (according to O.A.S.D. – no reference given). AkGu-56, the Two Pines site, was a Huron village site for which further work was recommended. It was subjected to Stage 3 testing and Stage 4 mitigation in 1994 by Tom Arnold and subsequently cleared of any additional archaeological concern (Arnold 1994 and 1995).

AkGu-60, the Murray Knoll Site, was a Euro-Canadian homestead site found by W.B. Stewart during the 1995-1996 archaeological assessment of the Highway 407 ROW. It was subsequently subjected to Stage 3 testing and Stage 4 mitigation (Dillon 1997). There are no further concerns for this site.

AkGu-62, an early Archaic lithic scatter, was located by ASI during the Stage 1-2 Archaeological Resource Assessment of Block 10, OPA 400 in the City of Vaughan (ASI 2000b). No further work was recommended for the site.

AkGu-67, the Reaman Homestead site, was located by ASI in 2000 during the Stage 1 and 2 archaeological assessment of the Draft Plan of Subdivision 19T-98VO5, in the City of Vaughan (ASI 2000a). Seventeen ceramic artifacts were found, however, no further work was recommended for the site.

The results of previous archaeological assessments within the 407 Transitway study corridor have been illustrated on Figures 3-1 to 3-10.

2.2 Physiography and Assessment of Aboriginal Archaeological Potential

The study corridor is located in the South Slope physiographic region. This physiographic region spans an area of approximately 2300 square kilometres extending from the Oak Ridges Moraine south to Lake Ontario, and from the Niagara Escarpment east to the Trent River. The South Slope overlies the limestones of the Verulam and Lindsay Formations, the grey shale of the Georgian Bay Formation and the red shale of the Queenston Formation. The eastern till soils of this physiographic region are sandy, while the western soils are filled with clay (Chapman and Putnam 1984).

Potable water is the single most important resource necessary for any extended human occupation or settlement. As water sources have remained relatively stable in southcentral Ontario since the Pleistocene era, 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. More specifically, (from west to east) Black Creek, the Don River, Westminster Creek, German Mills, Beaver Creek, and the Rouge River would have been important foci for Aboriginal people.

The Ministry of Culture's draft *Standards and Guidelines for Consultant Archaeologists* (2006: Unit 1c 5–7, 10) stipulates that undisturbed land within 300 m of a primary water source (lakeshore, river, large creek, etc.), undisturbed land within 200 m of a secondary water source (stream, spring, marsh, swamp, etc.), as well as undisturbed land within 300 m of an ancient water source (as indicated by remnant beaches, shorecliffs, terraces, abandoned river channel features, etc.), are considered to have archaeological potential. Therefore, due to the proximity of the numerous rivers and creeks, it may be concluded that there is potential for the recovery of Aboriginal archaeological remains within the study corridor depending on the degree of previous land disturbance.

The physiography of the study corridor and the close proximity of the above noted sites attest to the significant potential for the recovery of archaeological remains from undisturbed lands within the study corridor.

2.3 Assessment of Euro-Canadian Archaeological Potential

The *1878 Illustrated Atlas of York County* was reviewed to determine the potential for the presence of structures or other historic remains (Figure 2). The study corridor is located in the former Townships of Markham and Vaughan and passes through the historic communities of Edgeley, Concord, Langstaff and Dollar. According to the atlas, there are a number of structures, including homesteads, mills, post offices, churches and schools, within the study corridor.

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 captured by the basic proximity to water model outlined above, since these occupations were subject to similar environmental constraints. An added factor, however, is the development of the network of concession roads through the course of the nineteenth century. These transportation routes frequently influenced the siting of farmsteads. Accordingly, undisturbed lands within 100 metres of an early settlement road are also considered to have potential for the presence of Euro-Canadian archaeological sites. All of the major intersections bisected by the study corridor (Weston Road, Jane Street, Keele Street, Dufferin Street, Bathurst Street, Yonge Street, Bayview Avenue, Leslie Street, Woodbine Avenue, Warden Avenue and Kennedy Road) follow the old concession lines, and Langstaff Road and Highway 7 follow the major dividing line between lots.

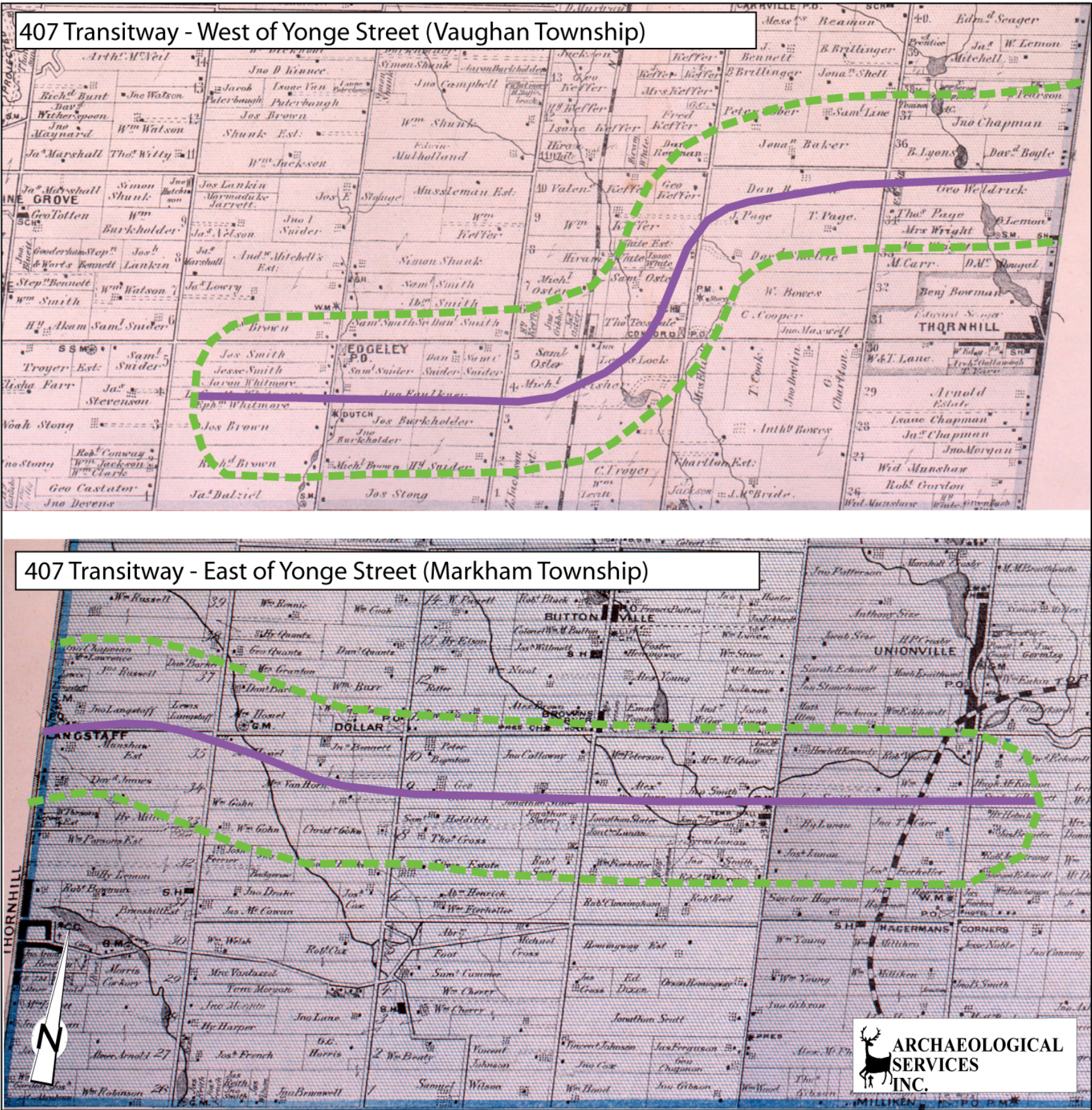


Figure 2: The study area overlaid on the Vaughan and Markham Township maps from the 1878 Illustrated Historical Atlas of York County.

In addition, the Bradford GO Line, which bisects the study corridor between Keele Street and Dufferin Street, and the Stouffville GO Line, which bisects it between Warden Avenue and Kennedy Road, both follow former historic railway lines.

The Bradford GO line follows the old Northern Railway line (Ontario Railway History Page), which began as the Toronto, Simcoe and Lake Huron Union Railroad Company in 1849. Groundbreaking took place in 1851, and in 1852 the name was changed to the Ontario, Simcoe and Huron Union Railway. The first segment was opened in 1853, from Toronto to Aurora, and had the first steam train to be operated in Ontario. It continued to expand, and, in 1858, the railway was reorganized as the Northern Railway Company of Canada. It merged with the Hamilton and Northwestern Railway in 1879 to create the Northern and Northwestern Railway, which was eventually taken over by the Grand Trunk Railway in 1888. Among others, the Maple Station is still in existence in its original location and is now used as a GO Transit Station.

The Stouffville GO line follows the old Toronto and Nipissing Railway (Ontario Railway History Page), which ran between the City of Toronto and the village of Coboconk. The Toronto and Nipissing Railway was chartered in 1868 and amalgamated with the Midland Railway System in 1881. Later it became part of the Grand Trunk Railway and finally the Canadian National Railway. It is still under Canadian National ownership, however, several tracks have been abandoned. Among others, the Markham and Unionville Stations are still in existence in their original locations, with the Markham Station being used as a GO Transit stop.

Therefore, depending on the degree of previous land disturbance, it may be concluded that there is potential for the recovery of Euro-Canadian cultural material within the study corridor.

3.0 FIELD REVIEW

A field review of the study corridor was conducted by Mr. Peter Carruthers (P163), ASI, on April 25-26, 2008, in order to confirm the assessment of archaeological site potential and to determine the degree to which development and landscape alterations may have affected that potential. Weather conditions during the field assessment were clear, sunny, with a light breeze. Field observations have been compiled onto maps of the study corridor (Figure 4-1 and 4-10). Associated photography can be found in Section 7.0.

Typically, ROWs can be divided into two areas: the disturbed ROW, and ROW lands beyond the disturbed ROW. The typically disturbed ROW extends outwards from either side of the centerline of the traveled lanes. The disturbed ROW includes the traveled lanes and shoulders, and extends to the toe of the fill slope, the top of the cut slope, or the outside edge of the drainage ditch, whichever is furthest from the centerline. Subsurface disturbance within these lands may be considered extreme and pervasive, negating any archaeological potential for such lands.

ROW construction disturbance may be found to extend beyond the typical disturbed ROW area. Such ROW disturbances generally include additional grading, cutting and filling, additional drainage ditching,

watercourse alteration or channelization, servicing, removals, intensive landscaping, and heavy construction traffic. Areas beyond the typically disturbed ROW generally require archaeological assessment in order to determine archaeological potential relative to the type or scale of disturbances that may have occurred in these zones.

The project involves the preliminary design of 23 km of Transitway mainline, a works yards located east of Highway 400, and 11 Transitway stations within the project limits. In light of the relative size of the study corridor, the field review was limited to areas immediately surrounding the proposed 407 Transitway alignment and the proposed station locations. The field review of the study corridor proceeded from west to east, starting at Highway 400.

From just west of Highway 400 to Jane Street, the proposed 407 Transitway alignment follows the hydro corridor (Plate 1) and passes through open fields (Plate 2) that have remained relatively undisturbed. A Transitway station has been proposed just west of Jane Street on lands that have also remained relatively undisturbed (Plate 3). Should the proposed project encroach upon these undisturbed lands, a Stage 2 assessment should be conducted (Figure 4-1: areas marked in green). Black Creek bisects a portion of the alignment. For the most part, the land around the creek can be characterized as being sloped (Figure 4-1: areas marked in purple). This portion of the study corridor does not have archaeological potential, and no further archaeological assessment is required.

Between Jane Street and Keele Street, the proposed alignment runs parallel to and within the existing Highway 407 ROW. For the most part, the area has been heavily disturbed by typical road construction (Plates 5-7; Figures 4-1 to 4-2: areas marked in yellow). Due to the extent of previous disturbance, the Highway 407 ROW does not exhibit archaeological site potential. Two small sections of land at the western and eastern edges of the Beechwood Cemetery have remained relatively undisturbed (Plate 4; Figures 4-1 to 4-2: areas marked in green). Should the proposed project encroach upon these undisturbed areas, a Stage 2 assessment should be conducted.

The Beechwood Cemetery is an active cemetery containing 120 ac of gently rolling landscape. If construction activities are proposed within the limits of the cemetery (Figure 4-1), a Stage 3 archaeological investigation will be necessary in order to determine the presence and extent of burial features in the proposed disturbance area.

From Keele Street to Dufferin Street, the proposed alignment dips north slightly to by-pass the Highway 407 interchange at Keele Street, and then heads northeast, crossing to the north side of the Highway 407 at the CN rail line. Two areas of archaeological potential are extant within this portion of the proposed alignment: immediately east of Keele Street, between Great Golf Drive and Highway 407 (Plate 8), and adjacent to the CN rail line, between Highway 7 and Highway 407 (Plates 10-11; Figures 4-2 to 4-3: areas marked in green). A Transitway station has been proposed at each of these locations as well. The east branch of the Don River also bisects this section of the study corridor. Should the proposed project encroach upon these undisturbed lands, a Stage 2 assessment should be conducted.

Between Dufferin Street and Bathurst Street, the proposed alignment crosses back over to the south side of Highway 407 and runs parallel to the hydro corridor. These lands have remained relatively undisturbed

and exhibit archaeological potential (Plates 15-16). A Transitway station has been proposed between Racco Parkway and Venice Crescent. Should the proposed project encroach upon these undisturbed lands, a Stage 2 assessment should be conducted (Figures 4-4 to 4-5: areas marked in green).

From Bathurst Street to Yonge Street, the proposed alignment once again crosses to the north side of Highway 407 and runs within the Highway 7 ROW. This area has been heavily disturbed by typical road construction and does not contain archaeological potential (Plate 19; Figures 4-5 to 4-6: areas marked in yellow). A Transitway station has been proposed immediately east of Bathurst Street, north of Highway 7, within an area that has undergone a previous archaeological assessment (Plates 17-18). No further archaeological assessment is required throughout this section of the study corridor.

Between Yonge Street and Bayview Avenue, the proposed alignment continues within the Highway 7 ROW. This area has also been heavily disturbed by typical road construction and does not contain archaeological potential (Plate 20; Figures 4-6 to 4-7: areas marked in yellow). A Transitway station has been proposed north of Highway 7 at the Yonge Street on/off ramp, within an area that has undergone a previous archaeological assessment. No further archaeological assessment is required throughout this section of the study corridor.

From Bayview Avenue to Leslie Street, the proposed alignment crosses to the south side of Highway 407 and runs between the Highway 407 ROW and the hydro corridor. These lands have remained relatively undisturbed and exhibit archaeological potential (Plate 21; Figures 4-7 to 4-8: areas marked in green). Two Transitway stations have been proposed within this section of the study corridor. The proposed station between South Park Drive and Highway 407 is located within an area that has undergone a previous archaeological assessment and does not require any further work. The second proposed station, located immediately west of Leslie Street and south of Highway 407, is within an area that has remained relatively undisturbed and exhibits archaeological potential. Should the proposed project encroach upon these undisturbed lands, a Stage 2 assessment should be conducted.

Between Leslie Street and Woodbine Avenue, the proposed alignment continues along the south side of Highway 407 ROW. For the most part, the area has been heavily disturbed by typical road construction and commercial development (Plate 22; Figures 4-8 to 4-9: areas marked in yellow). Due to the extent of previous disturbance, this section of the Highway 407 ROW does not exhibit archaeological site potential. One strip of land immediately east of Leslie Street and south of the proposed alignment has remained relatively undisturbed and exhibits archaeological potential (Figure 4-8: area marked in green). Should the proposed project encroach upon this undisturbed area, a Stage 2 assessment should be conducted.

From Woodbine Avenue to Warden Avenue, the proposed alignment continues along the south side of the Highway 407 ROW. East of Rodick Road, a tributary of the Rouge River bisects the proposed alignment. This area has remained relatively undisturbed and exhibits archaeological potential (Figure 4-9: area marked in green). The remainder of the lands within this section of the study corridor have been heavily disturbed by typical road construction and commercial development (Plate 23; Figures 4-9 to 4-10: areas marked in yellow). Two Transitway stations have also been proposed within these disturbed sections of

the study corridor. With the exception of the lands around the Rouge River, this portion of the study corridor does not have archaeological potential, and no further archaeological assessment is required.

Finally, between Warden Avenue to just east of Kennedy Road, the proposed alignment crosses to the north side of Highway 407 and then crosses back to the south side of Highway 407 at Kennedy Road. The majority of this section has undergone a previous archaeological assessment. These lands do not require any further archaeological assessment. Around Kennedy Road, two areas have remained relatively undisturbed and exhibit archaeological potential (Plate 26; Figure 4-10: areas marked in green). Should the proposed project encroach upon these undisturbed lands, a Stage 2 assessment should be conducted. A Transitway station has been proposed adjacent to the CN rail line and south of the Unionville GO Station. These lands have been heavily disturbed by previous construction activities and do not exhibit archaeological potential (Plate 25; Figure 4-10: area marked yellow). No further archaeological assessment is required at this location.

At the time of the initial field review, the technically preferred route(s) and station locations had not been determined. An additional field review will be necessary on lands not previously assessed to confirm the assessment of archaeological site potential and to determine the degree to which development and landscape alterations may have affected that potential (Figures 4-1 to 4-10: areas marked in red).

4.0 CONCLUSIONS AND RECOMMENDATIONS

A Stage 1 Archaeological Assessment of the 407 Transitway study corridor, from Highway 400 to Kennedy Road, in the Regional Municipality of York, Ontario, has determined that 47 archaeological sites have been registered within the study corridor. Additionally, a review of the general physiography and local nineteenth century land uses of the study corridor suggested that it encompasses large areas that exhibit archaeological potential.

The field review determined that although parts of the study corridor have been previously disturbed by typical road construction and commercial development, portions of the study area have remained undisturbed and are considered to have archaeological potential.

In light of these results, the following recommendations are made:

1. A field review should be conducted on the remaining parcels of land (Figures 4-1 to 4-10: areas marked in red). This work will be done in accordance with the Ministry of Culture's draft *Standards and Guidelines for Consultant Archaeologists* (MCL 2006), in order to identify any areas of archaeological potential that may be present within the study area.
2. A Stage 2 archaeological assessment should be conducted on lands determined to have archaeological potential (Figures 4-1 to 4-10: areas marked in green), if the proposed project is to impact these lands. This work will be done in accordance with the Ministry of Culture's draft

Standards and Guidelines for Consultant Archaeologists (MCL 2006), in order to identify any archaeological remains that may be present;

3. If sites AlGt-219 (J.J. Lunau 1) and AkGu-16 (Reaman) are to be affected by the construction of the 407 Transitway, further archaeological work will be required;
4. If construction activities are proposed in the vicinity of the Beechwood Cemetery, a Stage 3 archaeological assessment will be required, in accordance with the Ministry of Culture's draft *Standards and Guidelines for Consultant Archaeologists* (MCL 2006), to confirm the presence or absence of unmarked graves beyond the cemetery limits. This work should involve the removal of the topsoil with a Gradall followed by the shovel shining of the exposed surfaces and subsequent inspection for grave shafts; and
5. The remainder of the study area does not retain archaeological site potential (Figures 4-1 to 4-10: areas marked in yellow). Additional archaeological assessment is not required, and that portion of the study area can be cleared of further archaeological concern.

The following Ministry of Culture conditions also apply:

- This report is filed with the Minister of Culture in compliance with sec. 65 (1) of the Ontario Heritage Act. The ministry reviews reports to ensure that the licensee has met the terms and conditions of the licence and archaeological resources have been identified and documented according to the standards and guidelines set by the ministry, ensuring the conservation, protection and preservation of the heritage of Ontario. It is recommended that development not proceed before receiving confirmation that the Ministry of Culture has entered the report into the provincial register of reports.
- Should previously unknown or unassessed deeply buried archaeological resources be uncovered during development, 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 archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the Ontario Heritage Act.
- Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Services.

The documentation and artifacts related to the archaeological assessment of this project will be curated by Archaeological Services Inc. until such a time that arrangements for their ultimate transfer to Her Majesty the Queen in right of Ontario, or other public institution, can be made to the satisfaction of the project owner, the Ontario Ministry of Culture, and any other legitimate interest groups.

5.0 REFERENCES CITED

Archaeological Services Inc.

- 1988 Report on Phases 2 and 3 of the Master Plan of Archaeological Resources for the Town of Richmond Hill, Ontario. Report on file, Ontario Ministry of Culture, Toronto.
- 1996 Stage 1/2 Archaeological Assessment of Part Lots 9 and 10, Concession 2, Town of Markham, Regional Municipality of York, Ontario. Report on file, Ontario Ministry of Culture, Toronto.
- 2000a Stage 1 & 2 AA of Draft Plan of Subdivision 19T-98V05 (Revised), Part of Lot 10, Concession 2, Geographic Township of Vaughan, RM of York, Ontario. Report on file, Ontario Ministry of Culture, Toronto.
- 2000b Stage 1-2 ARA of Block 10, OPA 400, Part of Lots 11-15, Concession 2, City of Vaughan, RM of York. Report on file, Ontario Ministry of Culture, Toronto.
- 2002 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. Report on file, Ontario Ministry of Culture, Toronto.
- 2006 The Stage 4 Salvage Excavation of the Baker Site (AkGu-15), Lot 11, Concession 2 (WYS), Block 10, OPA 400, Former Township of Vaughan, City of Vaughan, Regional Municipality of York, Ontario. Report on file, Ontario Ministry of Culture, Toronto.

Arnold, Tom

- 1994 C.H.I.C. A.A. of Hwy 407 ROW Two Pines Sites (AkGu-56) Stage 3: Testing and Stage 4: Mitigation. Report on file, Ontario Ministry of Culture, Toronto.
- 1995 C.H.I.C. A.A. of Hwy 407 ROW Two Pines Sites (AkGu-56) Stage 3: Testing and Stage 4: Mitigation Volume II. Report on file, Ontario Ministry of Culture, Toronto.

Chapman, L. J. and F. Putnam

- 1984 *The Physiography of Southern Ontario. Ontario Geological Survey, Special Volume 2.*

Dillon Consulting Limited

- 1997 Canadian Highways International Constructors, Archaeological Assessment of Highway 407 ROW, 1995 and 1996 Field Seasons, Stage 2: Assessment and Stage 3: Testing. Report on file, Ontario Ministry of Culture, Toronto.

Mayer, Pihl, Poulton and Associates

- 1986a Report on Phase I of an Archaeological Masterplan for the Town of Markham. Volume II. Report on file, Ontario Ministry of Culture, Toronto.

- 1986b Report on Phase I of an Archaeological Masterplan for the Town of Vaughan: Background Research and Feasibility Study. Volume II. Report on file, Ontario Ministry of Culture, Toronto.
- 1988 An Archaeological Resource Assessment of the Richmond Hill Golf and Country Club Development (Register Plan 2766), Town of Richmond Hill, Ontario. Report on file, Ontario Ministry of Culture, Toronto.

Miles & Co.

- 1878 *Illustrated Historical Atlas of the County of York, Ontario*. Reprinted in 1972 by Mika Silk Screening Limited, Belleville, Ontario.

Ontario Ministry of Culture

- 2006 *Standards and Guidelines for Consulting Archaeologists* (final draft, September 2006). Archaeology and Heritage Planning Unit, Cultural Programs Branch, Ontario Ministry of Culture, Toronto.

Ontario Ministry of Transportation

- 1993 An Archaeological Assessment of Highway 407 and the Highway 407/Jane Street Interchange. Report on file, Ontario Ministry of Culture, Toronto.
- 1994a An Archaeological Assessment of Highway 407 (CNR MacMillan Yards to West of Bathurst St.) (WP 145-87-00). Report on file, Ontario Ministry of Culture, Toronto.
- 1994b An Archaeological Assessment of Highway 7N and Highway 407 (West of Bathurst St.- East of Yonge St.) (WP 233-89-00). Report on file, Ontario Ministry of Culture, Toronto.
- 1995a Archaeological Assessment of Highway 407 (Woodbine Ave. to Highway 48) (WP 90-78-00). Report on file, Ontario Ministry of Culture, Toronto.
- 1995b An Archaeological Assessment of Highway 407 (East of Yonge St. to German Mills Creek) (WP 255-89-00). Report on file, Ontario Ministry of Culture, Toronto.

The Ontario Railway History Page: The Midland Railway

<http://home.primus.ca/~robkath/railmid.htm>

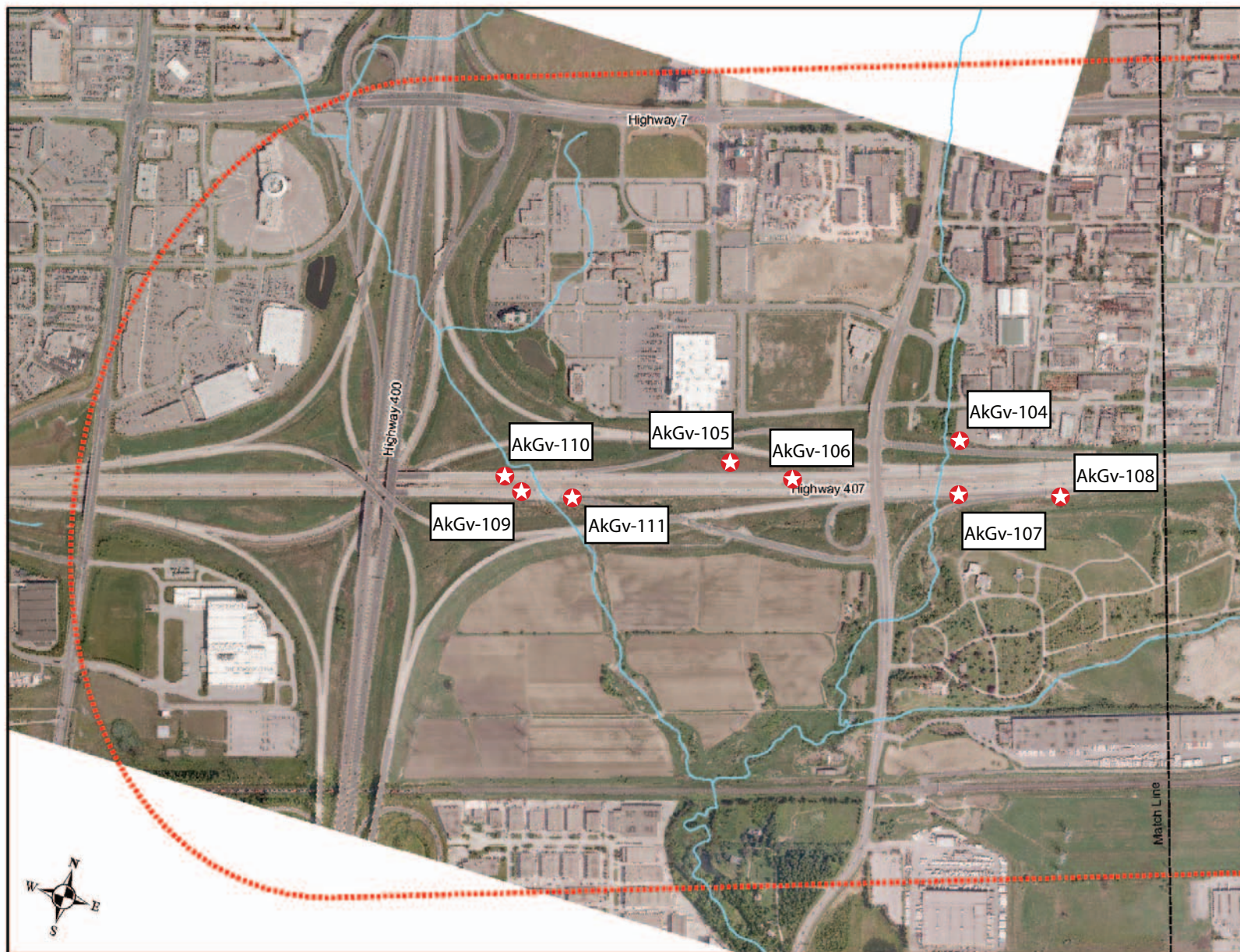
The Ontario Railway History Page: The Northern Railway of Canada

<http://home.primus.ca/~robkath/railnor.htm>

6.0 OVERSIZED GRAPHICS

Figure 3-1 to 3-10: Results of previous archaeological assessments within the 407 Transitway study corridor

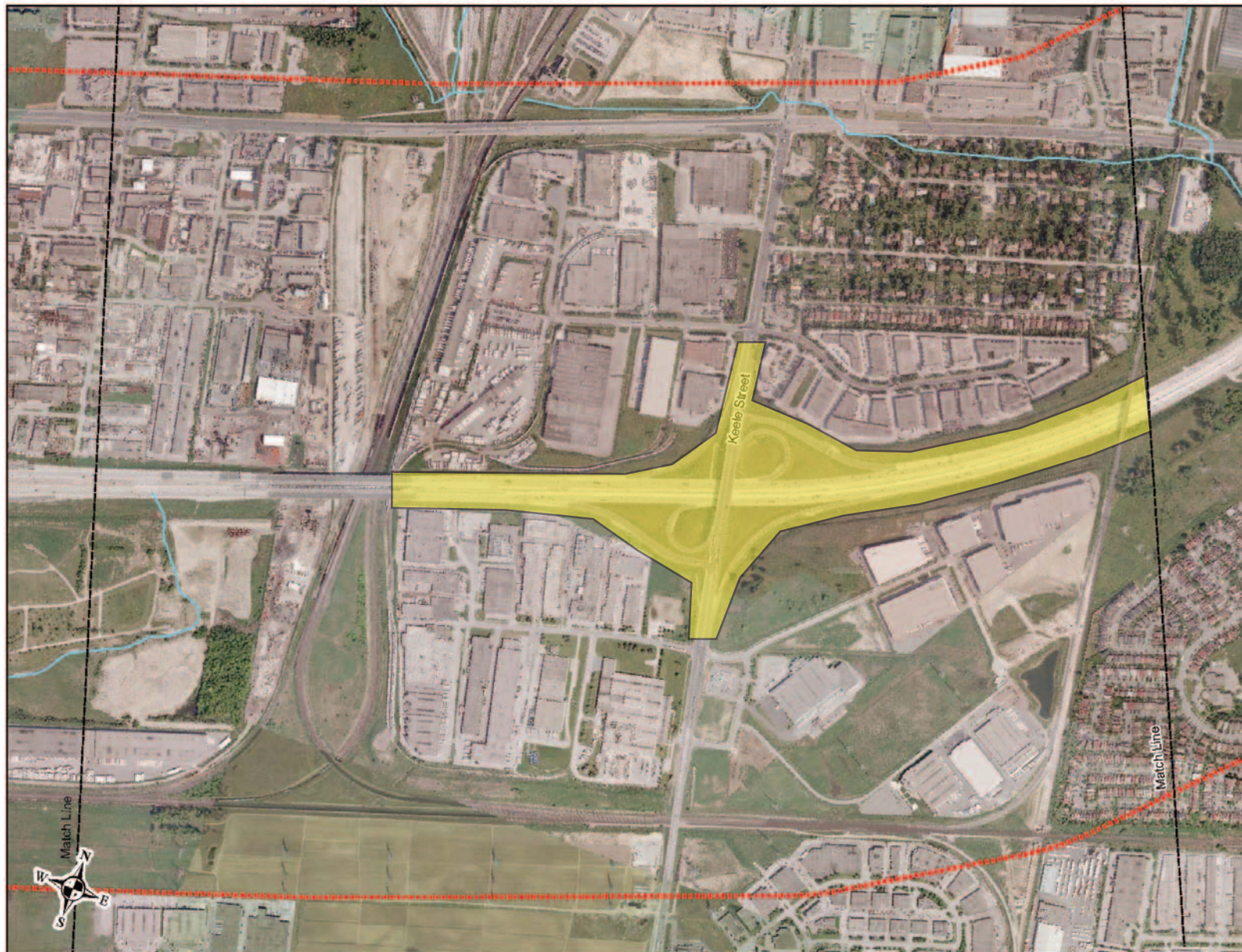
Figures 4-1 to 4-10: Highway 407 Transitway - Results of the Stage 1 Archaeological Assessment



LEGEND

★ Registered Site

FIGURE 3-1: Results of previous archaeological assessments within the 407 Transitway study area



LEGEND


 MTO 1994
(WP 145-87-00)

FIGURE 3-2: Results of previous archaeological assessments within the 407 Transitway study area



LEGEND

- MTO 1994
(WP 145-87-00)
- Registered Site

FIGURE 3-3: Results of previous archaeological assessments within the 407 Transitway study area



LEGEND

- MTO 1994
(WP 145-87-00)
- Dillon 1997
- ASI 2000b
- ★ Registered Site

FIGURE 3-4: Results of previous archaeological assessments within the 407 Transitway study area

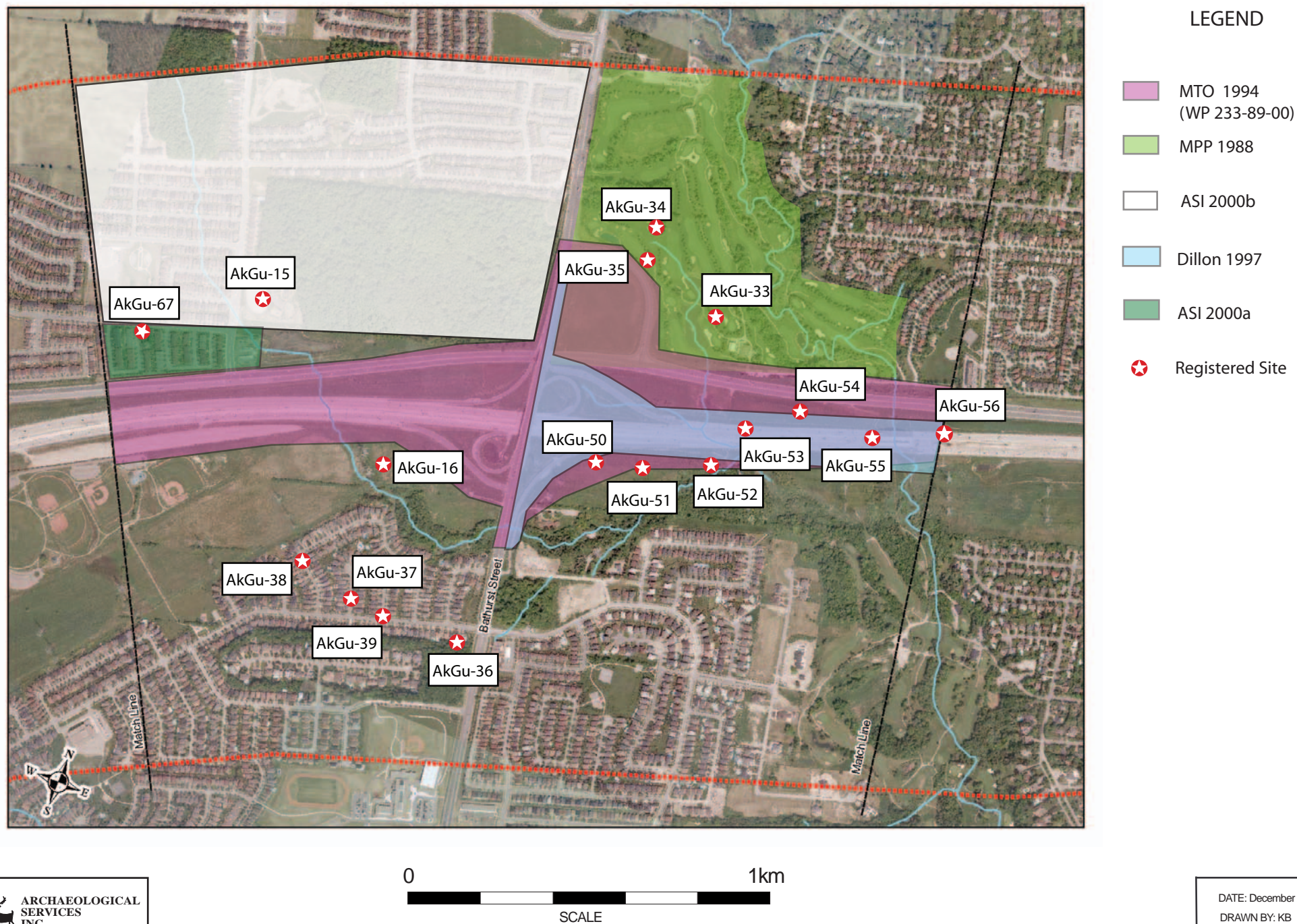


FIGURE 3-5: Results of previous archaeological assessments within the 407 Transitway study area



LEGEND

- MTO 1994
(WP 233-89-00)
- Dillon 1997
- Registered Site

0 1km
SCALE

FIGURE 3-6: Results of previous archaeological assessments within the 407 Transitway study area

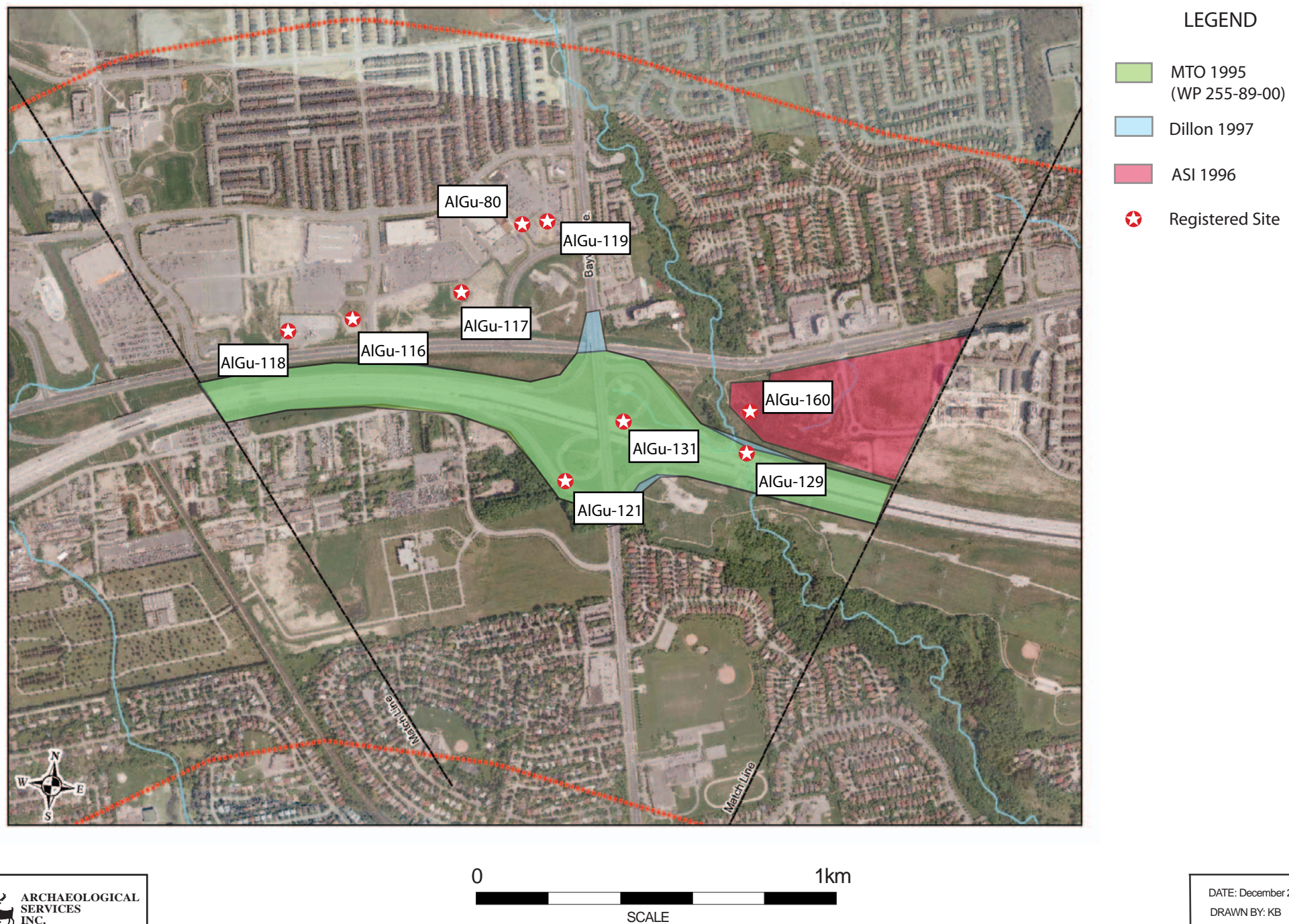


FIGURE 3-7: Results of previous archaeological assessments within the 407 Transitway study area



LEGEND

- ASI 1996
- Dillon 1997
- Registered Site

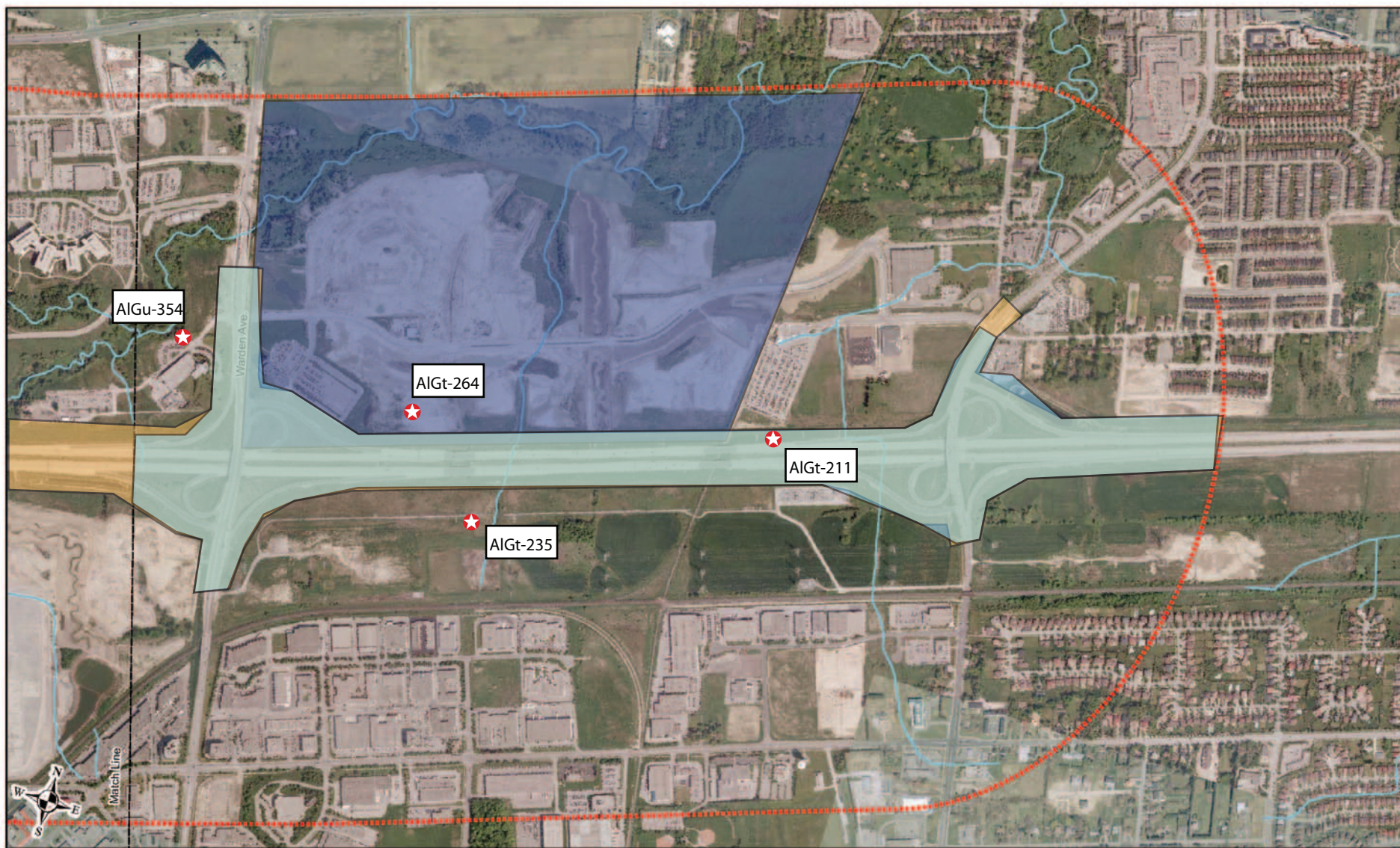
FIGURE 3-8: Results of previous archaeological assessments within the 407 Transitway study area



LEGEND

- MTO 1995
(WP 90-78-00)
- Dillon 1997
- Registered Site

FIGURE 3-9: Results of previous archaeological assessments within the 407 Transitway study area



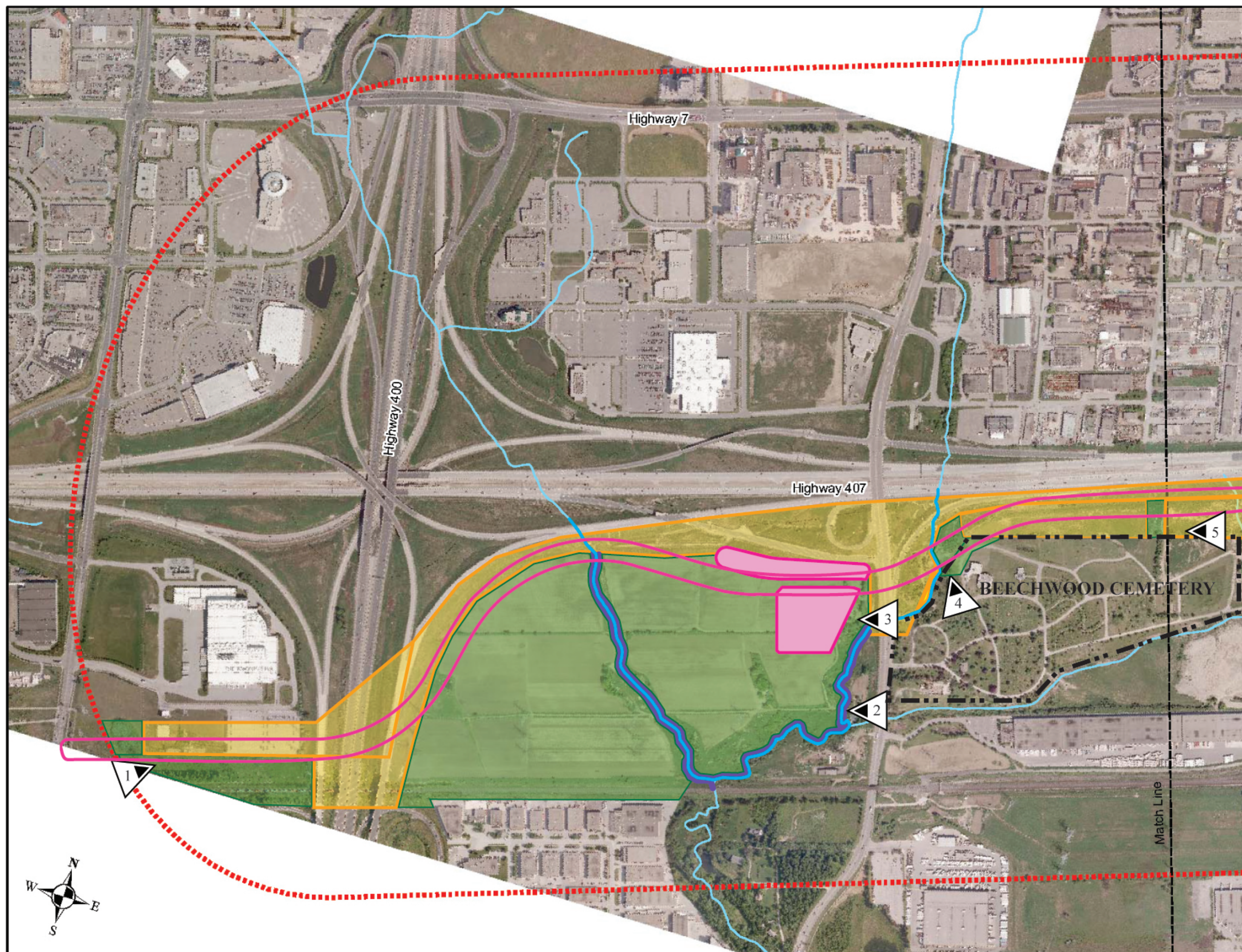
LEGEND

- | | |
|---|---|
|  Dillon 1997 |  MTO 1995
(WP 90-78-00) |
|  ASI 2002 |  Registered Site |











DATE: December 2007
DRAWN BY: KB
FILE: 06EA-159

FIGURE 3-10: Results of previous archaeological assessments within the 407 Transitway study area



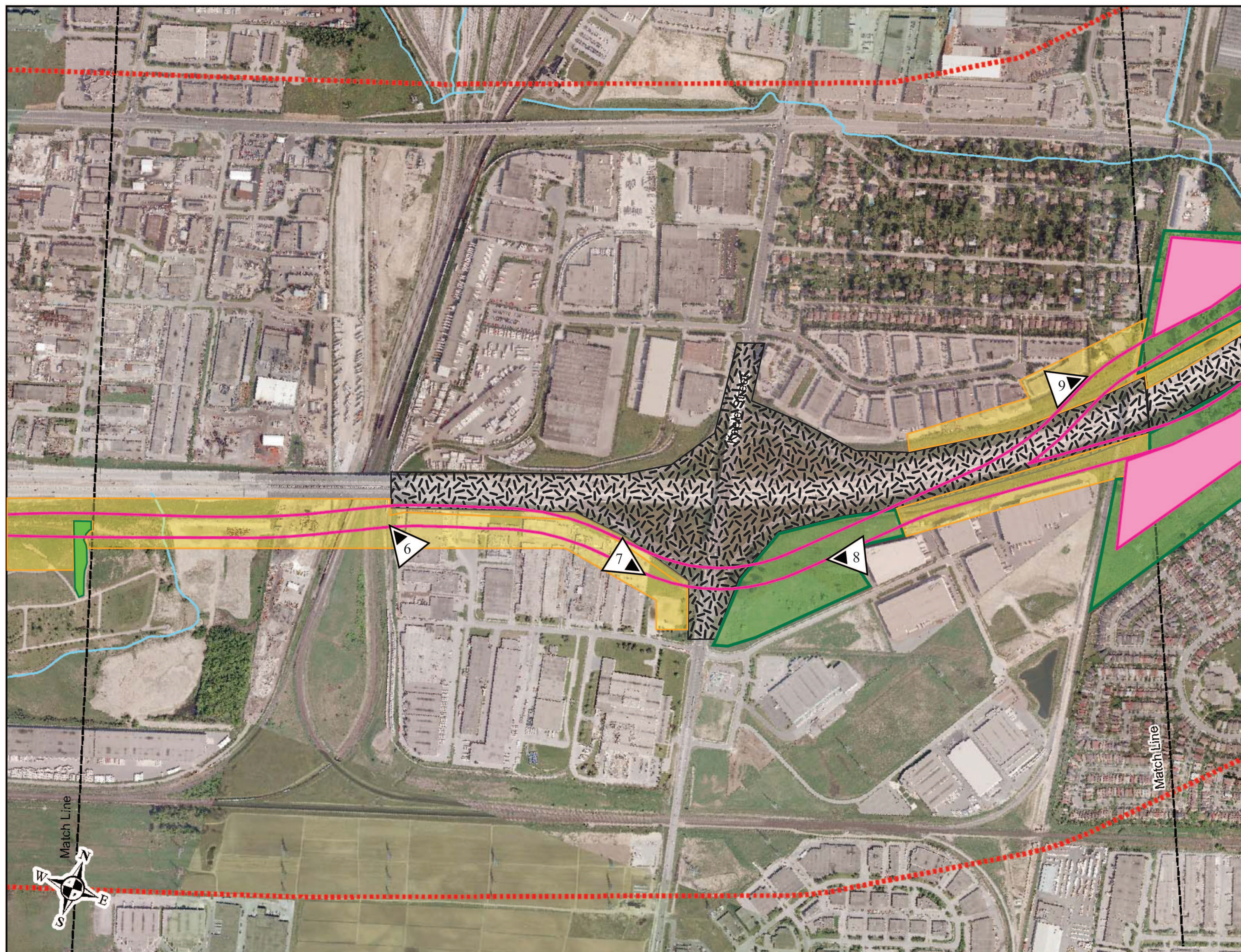
LEGEND

-  Previously Assessed
-  Proposed Highway 407 Transitway Alignment
-  Proposed Highway 407 Transitway Station
-  No Potential: disturbed
-  No Potential: slope
-  Archaeological Potential
-  Watersource
-  Photo Location & Direction











DATE: June 2008
DRAWN BY: CP
FILE: 06EA-159

FIGURE 4-1: Highway 407 Transitway - Results of the Stage 1 Archaeological Assessment



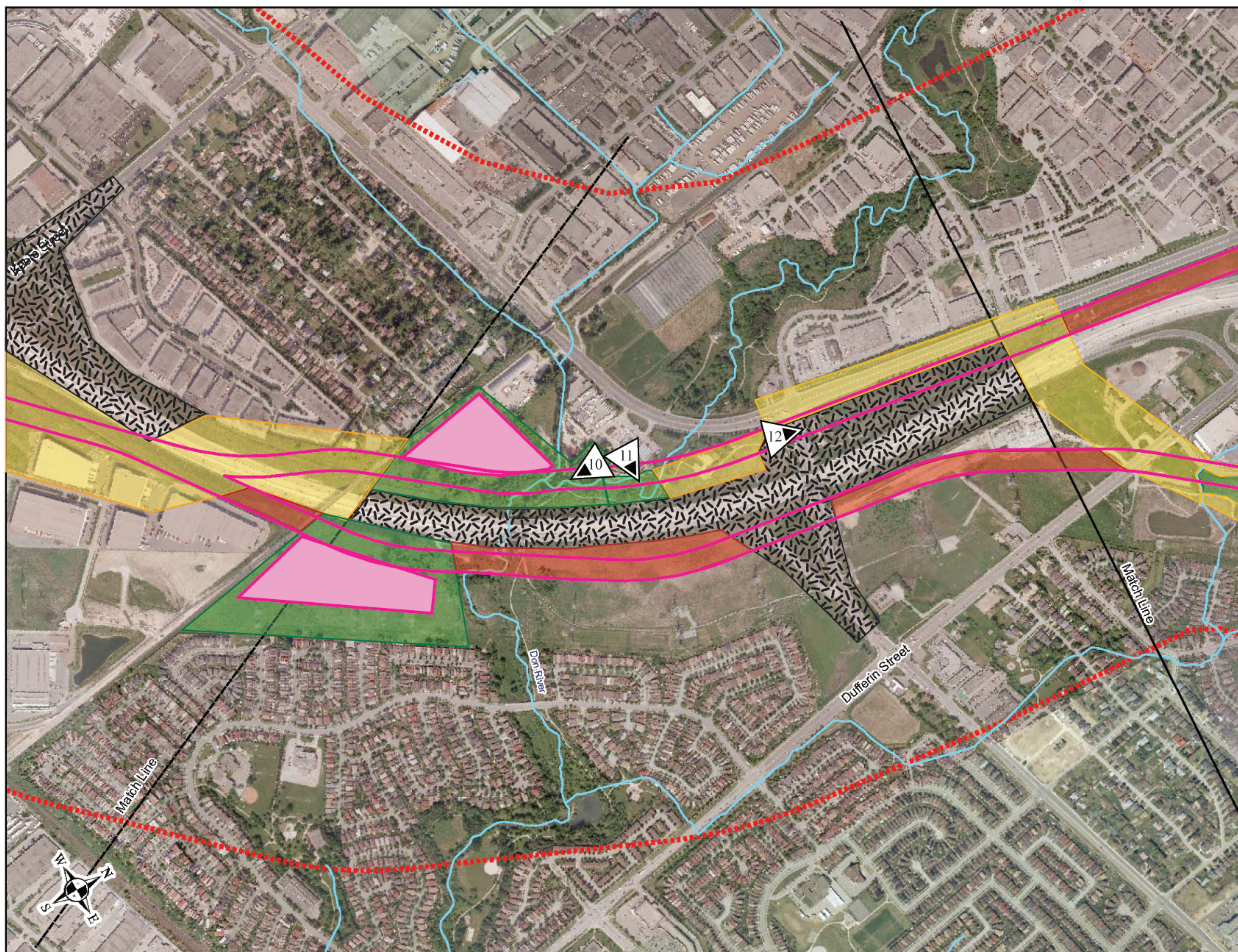
LEGEND

-  Previously Assessed
-  Proposed Highway 407 Transitway Alignment
-  Proposed Highway 407 Transitway Station
-  No Potential: disturbed
-  No Potential: slope
-  Archaeological Potential
-  Watersource
-  Photo Location & Direction










0 1km
SCALE

DATE: June 2008
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FILE: 06EA-159

FIGURE 4-2: Highway 407 Transitway - Results of the Stage 1 Archaeological Assessment



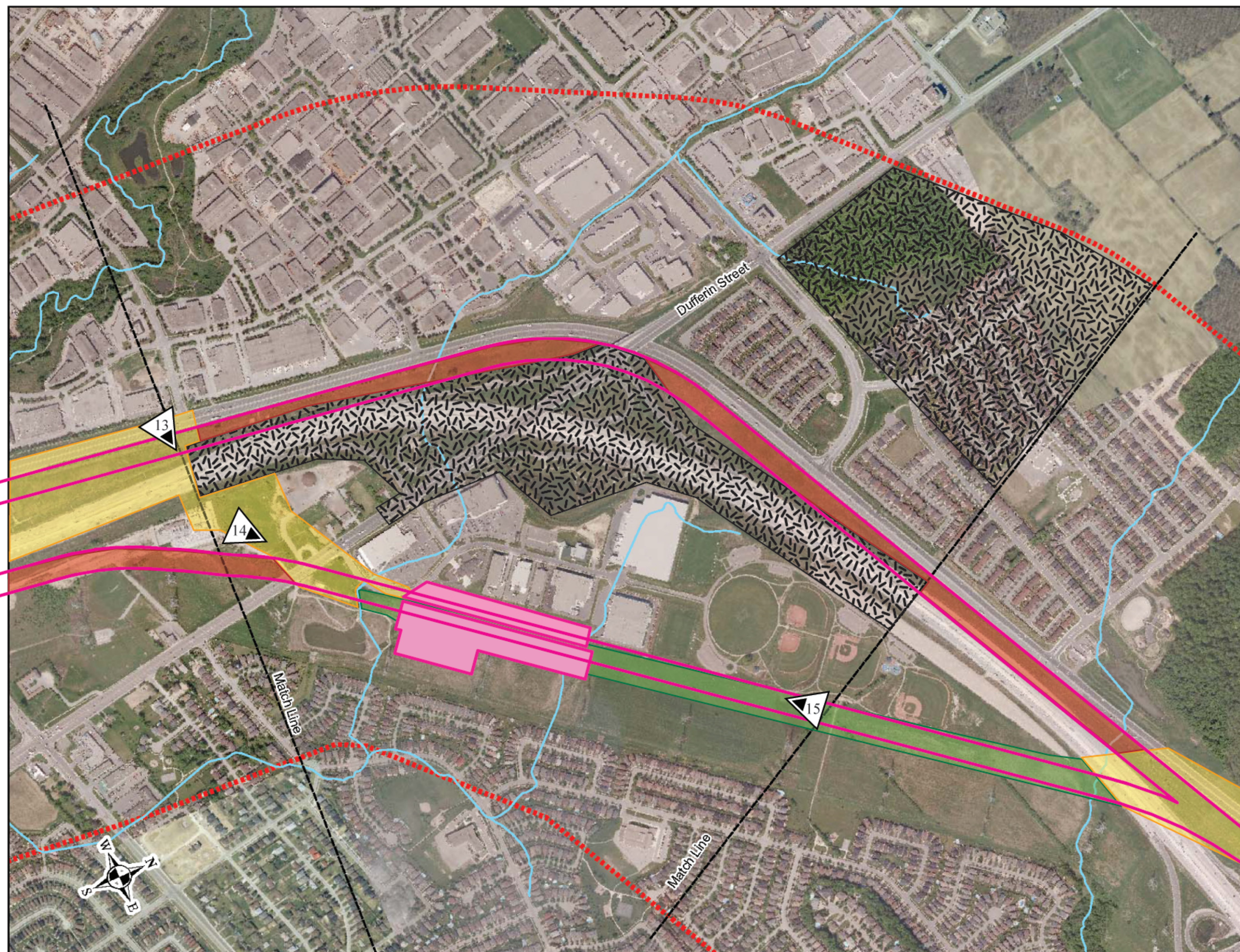
LEGEND

-  Previously Assessed
-  Proposed Highway 407 Transitway Alignment
-  Proposed Highway 407 Transitway Station
-  No Potential: disturbed
-  No Potential: slope
-  Archaeological Potential
-  To be Assessed
-  Watersource
-  Photo Location & Direction

0 1km
SCALE

DATE: June 2008
DRAWN BY: CP
FILE: 06EA-159

FIGURE 4-3: Highway 407 Transitway - Results of the Stage 1 Archaeological Assessment



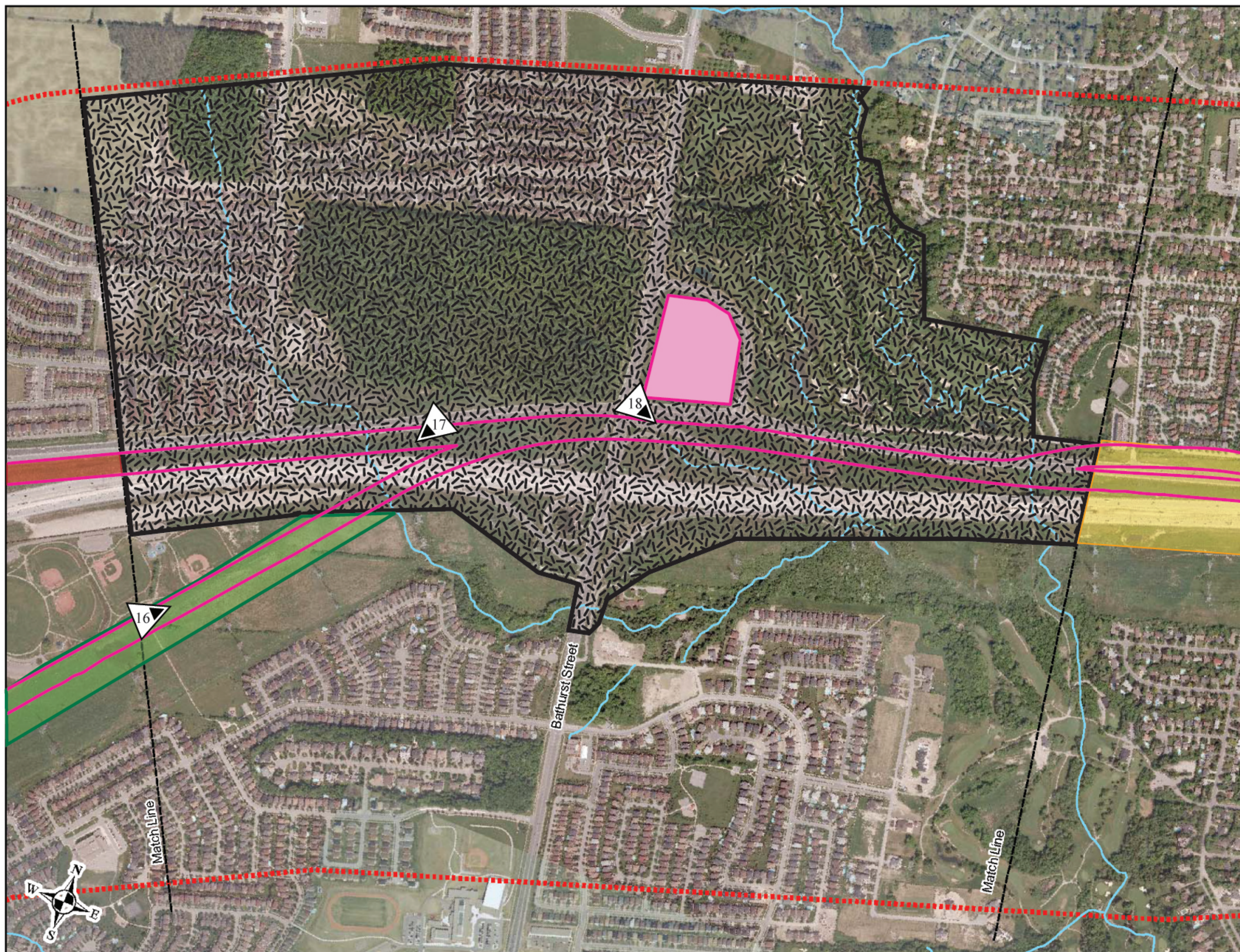
LEGEND

- Previously Assessed
- Proposed Highway 407 Transitway Alignment
- Proposed Highway 407 Transitway Station
- No Potential: disturbed
- No Potential: slope
- Archaeological Potential
- To be Assessed
- Watersource
- Photo Location & Direction










0 1km
SCALE

DATE: June 2008
DRAWN BY: CP
FILE: 06EA-159

FIGURE 4-4: Highway 407 Transitway - Results of the Stage 1 Archaeological Assessment



LEGEND

-  Previously Assessed
-  Proposed Highway 407 Transitway Alignment
-  Proposed Highway 407 Transitway Station
-  No Potential: disturbed
-  No Potential: slope
-  Archaeological Potential
-  To be Assessed
-  Watersource
-  Photo Location & Direction

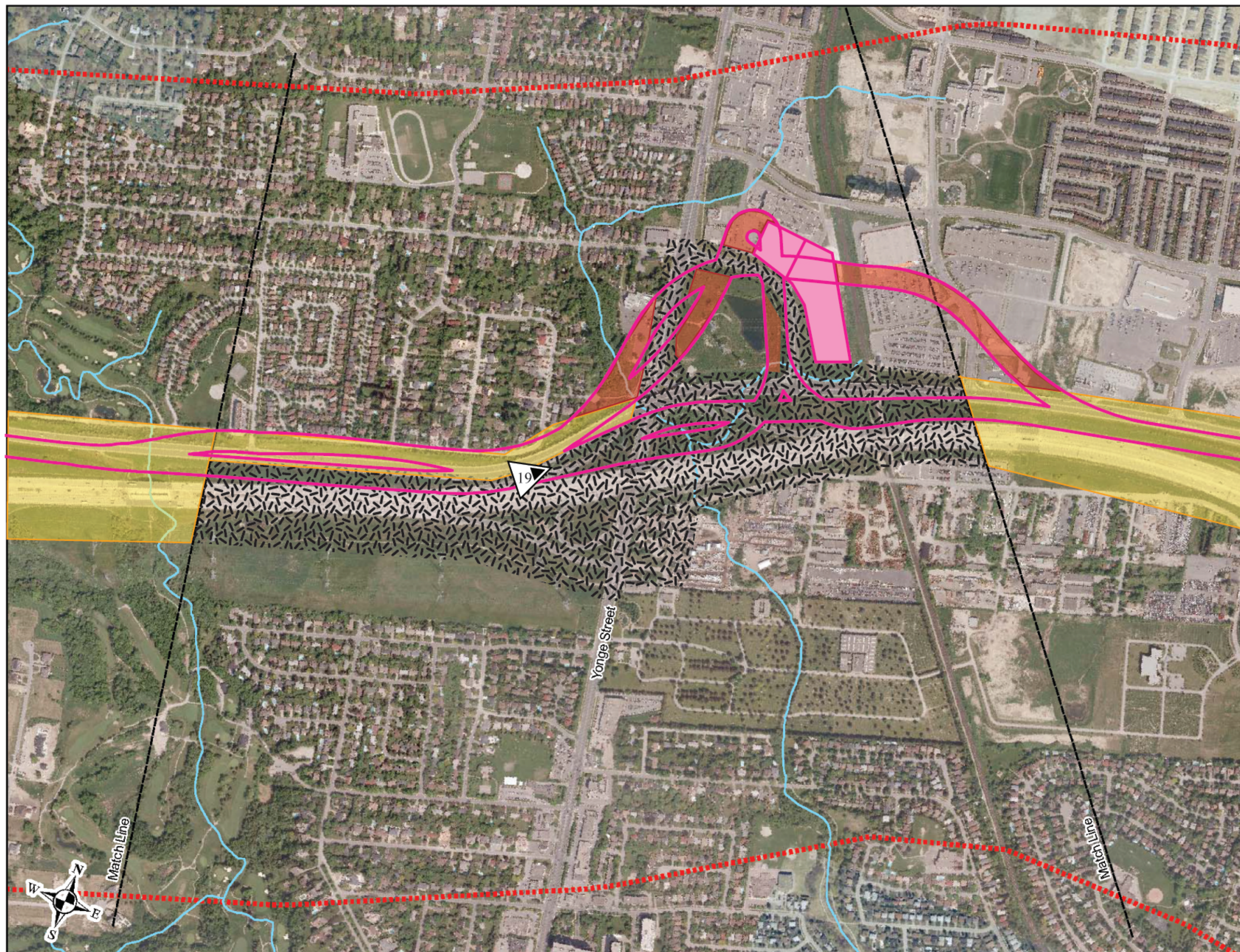
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1km










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DATE: June 2008
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FILE: 06EA-159

FIGURE 4-5: Highway 407 Transitway - Results of the Stage 1 Archaeological Assessment



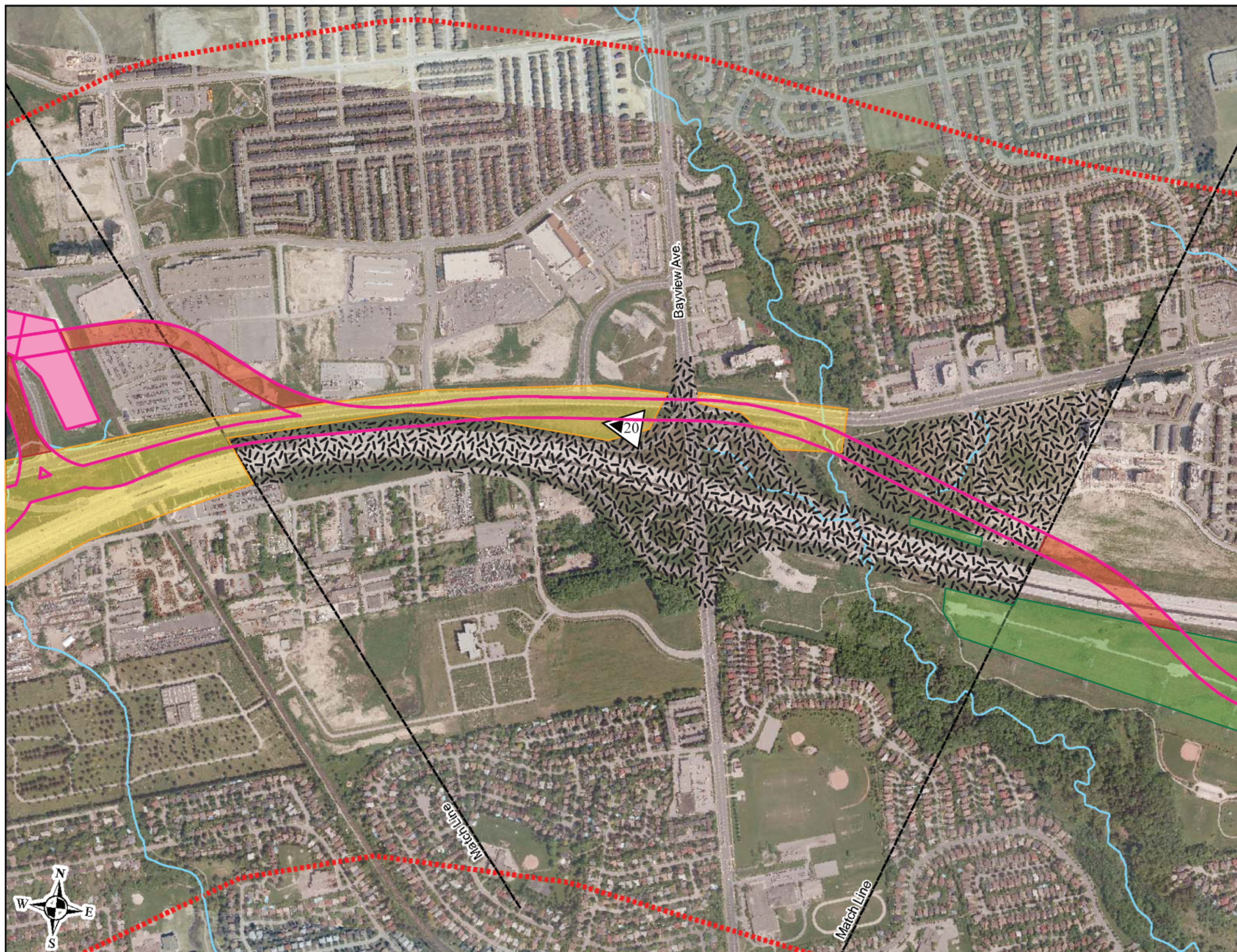
LEGEND

-  Previously Assessed
-  Proposed Highway 407 Transitway Alignment
-  Proposed Highway 407 Transitway Station
-  No Potential: disturbed
-  No Potential: slope
-  Archaeological Potential
-  To be Assessed
-  Watersource
-  Photo Location & Direction












DATE: June 2008
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FILE: 06EA-159

FIGURE 4-6: Highway 407 Transitway - Results of the Stage 1 Archaeological Assessment



LEGEND

-  Previously Assessed
-  Proposed Highway 407 Transitway Alignment
-  Proposed Highway 407 Transitway Station
-  No Potential: disturbed
-  No Potential: slope
-  Archaeological Potential
-  To be Assessed
-  Watersource
-  Photo Location & Direction

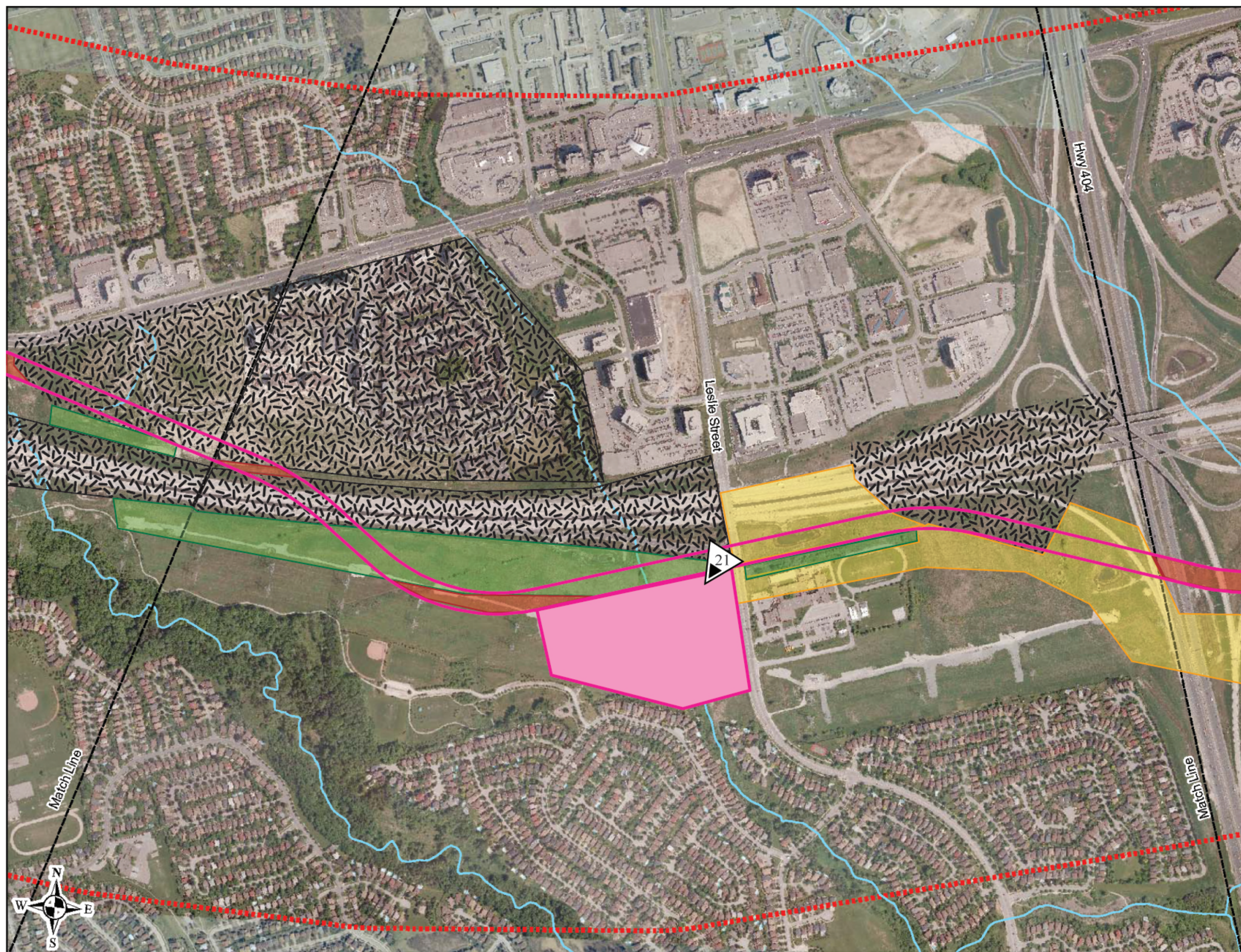
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1km










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DATE: June 2008
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FIGURE 4-7: Highway 407 Transitway - Results of the Stage 1 Archaeological Assessment



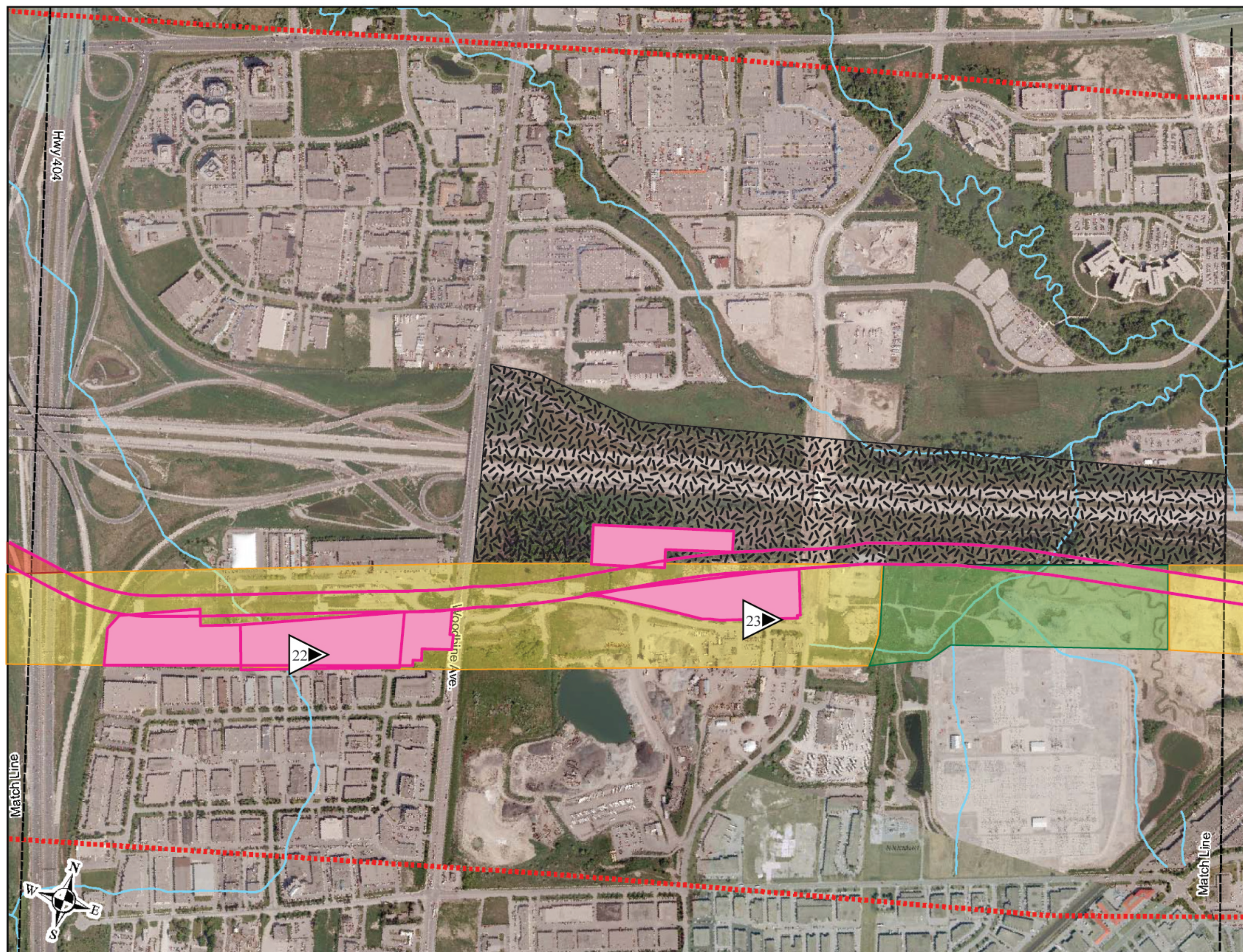
LEGEND

-  Previously Assessed
-  Proposed Highway 407 Transitway Alignment
-  Proposed Highway 407 Transitway Station
-  No Potential: disturbed
-  No Potential: slope
-  Archaeological Potential
-  To be Assessed
-  Watersource
-  Photo Location & Direction










0 1km
SCALE

DATE:: June 2008
DRAWN BY: CP
FILE: 06EA-159

FIGURE 4-8: Highway 407 Transitway - Results of the Stage 1 Archaeological Assessment



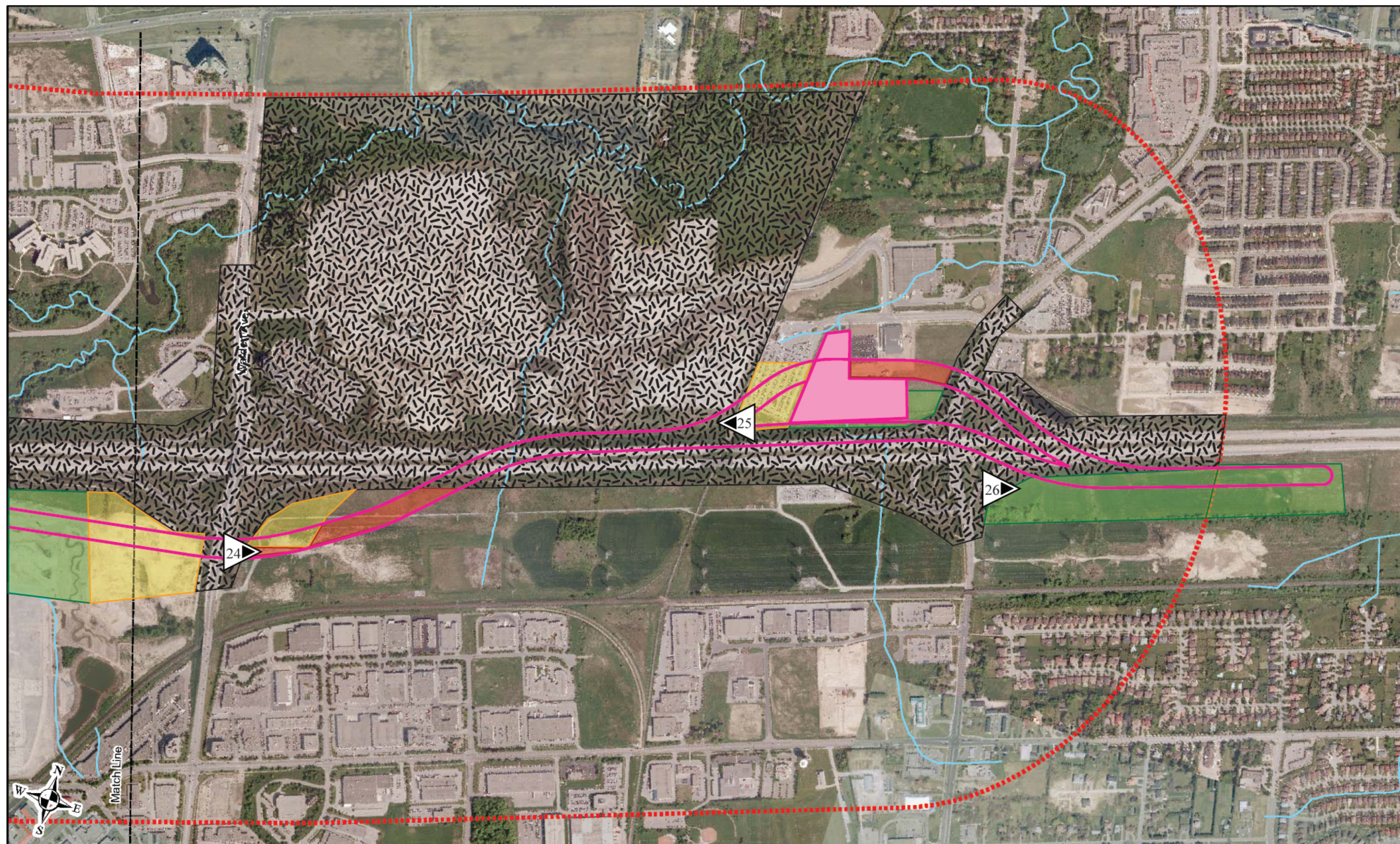
LEGEND

-  Previously Assessed
-  Proposed Highway 407 Transitway Alignment
-  Proposed Highway 407 Transitway Station
-  No Potential: disturbed
-  No Potential: slope
-  Archaeological Potential
-  To be Assessed
-  Watersource
-  Photo Location & Direction












DATE: June 2008
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FILE: 06EA-159

FIGURE 4-9: Highway 407 Transitway - Results of the Stage 1 Archaeological Assessment



LEGEND

- | | | | | | |
|---|---|---|--------------------------|---|----------------------------|
|  | Previously Assessed |  | No Potential: disturbed |  | To be Assessed |
|  | Proposed Highway 407 Transitway Alignment |  | No Potential: slope |  | Watersource |
|  | Proposed Highway 407 Transitway Station |  | Archaeological Potential |  | Photo Location & Direction |



DATE: June 2008
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FILE: 06EA-159

FIGURE 4-10: Highway 407 Transitway - Results of the Stage 1 Archaeological Assessment

7.0 PHOTOGRAPHY



Plate 1: View to northeast adjacent to hydro corridor and Toronto Star building. Area has potential.



Plate 2: View to west-southwest down access road into property east of Highway 400. Dip in road marks a tributary. Area has potential.



Plate 3: View to west-southwest across level ground adjacent to black creek. Area has potential.



Plate 4: View to north-northwest toward Highway 407 showing Black Creek culvert. Land on east side of creek has potential.



Plate 5: View to west-southwest from Beachwood Cemetery toward Black Creek. Area of potential exists beyond tree line.



Plate 6: View to northwest across industrial ground toward Highway 407 rail overpass. Area has been previously disturbed.



Plate 7: View to east-southeast toward Keele Street across disturbed ground. Area has no potential.



Plate 8: View to southwest across area with potential.



Plate 9: View to northeast along proposed ROW.
Area has been graded and has no potential.



Plate 10: View to south-southwest from north side
of Highway 407. Area has potential.



Plate 11: View to southeast across Don River.
ROW has potential where ground is not
wet.



Plate 12: View to north-northeast across Centre
Street. Area has been graded and has no
potential.



Plate 13: View to east along Rivermede Road extension toward Highway 407. Area has been previously disturbed and has no potential.



Plate 14: View to northeast toward Dufferin Street. Area has been graded and has no potential.



Plate 15: View to southwest along proposed ROW. Area has potential.



Plate 16: View to northeast along proposed ROW showing remnant historic tree line. Area has potential.



Plate 17: View to southwest across Highway 407 toward proposed ROW. Area has been previously assessed.



Plate 18: View to southeast across Highway 407. Area has been previously assessed.



Plate 19: View to northeast along proposed ROW. Area has been previously disturbed.



Plate 20: View to west along south side of Highway 7. Area has been previously disturbed.



Plate 21: View to southwest along proposed ROW. Area has potential.



Plate 22: View to east-northeast at land that has been graded. Area has no potential.



Plate 23: View to east-northeast at land that has been heavily disturbed by previous construction activities. Area has no potential.



Plate 24: View to east-northeast along proposed ROW into hydro corridor. Area has been graded and has no potential.



Plate 25: View to west-southwest from Unionville GO Station along proposed ROW. Area has been previously assessed.



Plate 26: View to east-northeast along proposed ROW. Area has potential.