

**Stage 1 & 2 Archaeological Assessment
Silvercreek Solar Park
Substation and Transmission Line
Geographic Township of Malahide
Elgin County, Ontario
FIT REFERENCE #: FIT - FEA8Z1X**

Submitted to

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and

The Ontario Ministry of Tourism and Culture

Prepared by



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Executive Summary

A Stage 1 and Stage 2 archaeological assessment was conducted for a substation and transmission line associated with the planned Silvercreek Solar Park in the Township of Malahide, Elgin County. The substation will be located on a 6 hectare property in Malhide Township, north of the Town of Aylmer, while the transmission line will be a subsurface cable running approximately 15 km south to the Silvercreek Solar Park. Timmins Martelle Heritage Consultants Inc. was hired to carry out this work, in accordance with the *Green Energy Act*, under the Renewable Energy Approvals (REA) process. The purpose of the archaeological assessment was to determine whether there are archaeological resources present that may be adversely affected by the proposed development.

The Stage 1 background study included a review of current land use, historic and modern maps, past settlement history for the area and a consideration of topographic and physiographic features, soils, and drainage. Background research indicated that the substation property had potential for the recovery of archaeological resources based on the proximity of the property to a primary water source (a tributary of Catfish Creek) and a 19th-century thoroughfare (Imperial Road). A Stage 2 field survey was subsequently recommended for the substation property.

A Stage 1 property inspection was conducted for the transmission corridor to assess the degree of past disturbance, as the corridor lies entirely within existing municipal road allowances. The inspection revealed that there is extensive disturbance along the entire transmission line corridor. Accordingly, we conclude that archaeological potential has been removed for the transmission line corridor and it is recommended that Stage 2 archaeological assessment is not required for the transmission line.

A Stage 2 archaeological assessment was carried out on the substation property, consisting of a standard test pit survey at a five metre interval (100%). No archaeological materials were recovered. It is recommended that no further assessment of the substation property is required.

The Ministry of Tourism and Culture is asked to review the information presented herein, issue comment and offer written confirmation of their acceptance of this report into the provincial repository.



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<i>Leah Deveaux</i>	<i>EA Specialist</i> ORTECH Power



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1.0 PROJECT CONTEXT

1.1 Project Context: Development Context

1.1.1 Introduction

A Stage 1 and Stage 2 archaeological assessment was conducted for a substation and transmission line associated with the planned Silvercreek Solar Park in the Township of Malahide, Elgin County. The substation will be located on a 6 hectare property north of the Town of Aylmer, while the transmission line will be a subsurface cable running approximately 15 km south to the Silvercreek Solar Park (Map 1). Timmins Martelle Heritage Consultants Inc. was hired to carry out this work, in accordance with the *Green Energy Act*, under the Renewable Energy Approvals (REA) process. The purpose of the archaeological assessment was to determine whether there are archaeological resources present that may be adversely affected by the proposed development.

The Stage 1 and 2 fieldwork was conducted on October 6th, 7th, 11th and Nov. 16th, 2011, in sunny weather that ranged from warm to cool. There were no conditions encountered that inhibited the recognition and recovery of archaeological materials. All archaeological consulting activities were performed under the Professional Archaeological License of Arthur Figura (P083) and in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011). Permission to enter the property, carry out all required archaeological work, and collect artifacts when present, was given by Leah Deveaux of ORTECH Power on behalf of the landowner. It was anticipated that any artifacts recovered during the archaeological assessment work would be stored at the office of Timmins Martelle Heritage Consultants Inc. until arrangements can be made for their transfer to the Ministry of Tourism and Culture (London) or another appropriate curatorial facility.

1.1.2 Purpose and Legislative Context

The *Ontario Heritage Act* makes provisions for the protection and conservation of heritage resources in the Province of Ontario. Heritage concerns are recognized as a matter of provincial interest in Section 2.6.2 of the *Provincial Policy Statement* and 3.5 of the *Planning Act* which stipulate that municipalities shall have regard for the conservation of features of significant architectural, cultural, historical, archaeological or scientific interest. The purpose of a Stage 1 background study is to determine if there is

potential for cultural resources to be found on a property for which a change in land use is pending. It is used to determine the need for a Stage 2 field assessment involving the search for archaeological sites. In accordance with *Provincial Policy Statement 2.6*, if significant sites are found, a strategy (usually avoidance, preservation or excavation) must be put forth for their mitigation.

The *Green Energy Act* and the Renewable Energy Approvals (REA) process requires that an archaeological assessment be conducted of all areas to be impacted by renewable energy projects.

2.0 STAGE 1 ARCHAEOLOGICAL ASSESSMENT

2.1 Background

2.1.1 Stage 1 Research Methods and Sources

A Stage 1 overview and background study was conducted to gather information about known and potential cultural heritage resources within the study area. According to the Ministry of Tourism and Culture's 2011 *Standards and Guidelines for Consultant Archaeologists*, a Stage 1 background study must include a review of:

- an up-to-date listing of sites from the Ministry of Tourism and Culture's archaeological sites database of 1 km around the property and reports of previous archaeological fieldwork within a radius of 50 metres around the property;
- topographic maps at 1:10,000 (recent and historical) or the most detailed scale available;
- historic settlement maps (e.g., historical atlas)
- archaeological management plans or other archaeological potential mapping (when available); and
- commemorative plaques or monuments on or near the property.

For this project, the following activities were carried out to satisfy or exceed the above requirements:

- a database search was filed with Robert von Bitter of the Ministry of Tourism and Culture requesting a listing of registered archaeological sites within 1 km of the subject lands;
- a review of known prior archaeological reports for the property and adjacent lands
- Ontario Base Mapping (1:10,000) was reviewed through ArcGIS and mapping layers provided by geographynetwork.ca; mapping providing by the client was also reviewed; and
- a series of historic maps was reviewed related to pre- and post-1800 land settlement.



Additional sources of information were also consulted, including modern aerial photographs, local history accounts, soils and physiography data provided by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), and both 1:50,000 (Natural Resources Canada) and finer scale topographic mapping.

When compiled, this information was used to create a summary of the characteristics of the subject lands, in an effort to evaluate their archaeological potential.

The Province has recently refined the criteria to be used to evaluate archaeological potential in their 2011 *Standards and Guidelines for Consultant Archaeologists*. Section 1.3 in the *Standards and Guidelines* describes how consultant archaeologists are to evaluate the archaeological potential of a subject property and subsection 1.3.1 lists the following features that indicate archaeological potential:

- previously identified archaeological sites
- water sources
 - primary water sources (lakes, rivers, streams, creeks)
 - secondary water courses (intermittent streams and creeks, springs, marshes, swamps)
 - features indicating past water sources (e.g., 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 topography, shorelines of drained lakes or marshes, cobble beaches)
 - accessible or inaccessible shoreline (e.g., high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh)
- elevated topography (e.g., eskers, drumlins, large knolls, plateaux)
- pockets of well-drained sandy soil, especially near areas of heavy soil or rock 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 (e.g., migratory routes, spawning areas, prairie)
 - scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert)
 - early Euro-Canadian industry (e.g., fur trade, logging, prospecting, mining)
- areas of early Euro-Canadian settlement. These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.
- early historical transportation routes (e.g., trails, passes, roads, railways, portage routes)



- property listed on a municipal register or designated under the *Ontario Heritage Act* or that is a federal, provincial, or municipal historic landmark or site
- property that local histories or informants have identified with possible archaeological sites, historical events, activities or occupations.

Typically, a Stage 1 assessment will determine potential for precontact First Peoples' and historic era sites independently. This is due to the fact that lifeways varied considerably during these eras so that criteria used to evaluate potential for each type of site also differs.

Some factors can also negate the potential for discovery of intact archaeological deposits. Subsection 1.3.2 of the *2011 Standards and Guidelines for Consultant Archaeologists* indicates that archaeological potential can be removed in instances where land has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources. Major disturbances indicating removal of archaeological potential include, but are not limited to:

- quarrying
- major landscaping involving grading below topsoil
- building footprints
- sewage and infrastructure development.

Some activities (agricultural cultivation, surface landscaping, installation of gravel trails, etc.) may result in minor alterations to the surface topsoil but do not necessarily affect or remove archaeological potential. It is not uncommon for archaeological sites, including structural foundations, subsurface features and burials, to be found intact beneath major surface features like roadways and parking lots. Archaeological potential is, therefore, not removed in cases where there is a chance of deeply buried deposits, as in a developed or urban context or floodplain where modern features or alluvial soils can effectively cap and preserve archaeological resources.

A Stage 1 property inspection is carried out to gain first-hand knowledge of the subject property's geography, topography and current condition, and to evaluate and map archaeological potential. According to the Ministry of Tourism and Culture's 2011 Standards and Guidelines for Consultant Archaeologists, a Stage 1 property inspection must include:

- sufficient inspection coverage to identify the presence or absence of any feature of archaeological potential;
- confirmation that previously identified features are present where they were previously identified (e.g., watercourses and land formations are present where mapped and have not been altered and are not artificial);
- documentation of any additional features of archaeological potential not visible on mapping;



- documentation of features that will affect assessment strategies (e.g., woodlots, steep grades, overgrown vegetation that does not allow ploughing);
- documentation of structures and built features that will affect assessment strategies (e.g., heritage structures or landscapes, cairns, monuments or plaques, cemeteries).

For this project, a Stage 1 property inspection was not conducted for the substation property since the archaeological potential of property was apparent from background research. A Stage 1 property inspection was conducted on the transmission line corridor on November 16th, 2011.

2.1.2 Project Context: Archaeological Context

2.1.2.1 Subject Property: Overview and Physical Setting

The subject property consists of a 6 hectare parcel of land for the proposed substation, located along the northern edge of the Town of Aylmer, and a 15 km corridor for the proposed subsurface transmission line, extending from the substation to the proposed Silvercreek Solar Park, located on Vienna Line in Malahide Township (Maps 1, 2 and 12). The substation lands are bounded on the east by Imperial Road and existing houses and businesses (Images 1 and 2), on the south by an existing Hydro One facility (Image 3), and on the north and west by soybean fields (Image 4). The transmission corridor follows local road allowances for its entire length (Maps 1, 2 and 13). More specifically, it follows the west side of Imperial Road (Image 5), the south side of Glencolin Line (Image 6), the east side of Hacienda Road (Image 7), the north side of Tobacco Line (Image 8), the east side of Imperial Road (Image 9) and the north side of Vienna line (Image 10).

The substation property lies within an easterly extension of the Ekfrid Clay Plain (Chapman and Putnam 1984:113, 146). The segment of the transmission line running north and east from the substation also falls within this area (Map 3). Once the transmission line turns south on Hacienda Road it enters the Norfolk Sand Plain physiographic region (Map 3). The sands of this plain were laid down during the formation of a delta within glacial Lakes Whittlesey and Warren and were created as melt water from the Grand River entered the lakes between the ice front and the moraines to the northwest (Chapman and Putnam 1984:154). One of these moraines, part of the Horseshoe Moraine system, is crossed by the transmission line along Imperial Road, however, the remainder of the route lies on the sand plain (Map 3).

The soils on the substation are not classified as the property lies within an urban area (Map 4), however, the substation abuts an area characterized by Tavistock silt loam which is imperfectly drained. The soils observed in the field were described as clay sandy loam and were poorly drained in some areas.



The soils along the transmission line corridor are highly varied (Map 4). In sequence, from north to south, the corridor crosses imperfectly drained Gobles Loam, poorly drained Kelvin Clay Loam, Valley lands, poorly drained Granby Sand Loam, imperfectly drained Vittoria Fine Sand Loam, Brady Loam Sand, and Walsingham Loam Fine Sand, rapidly drained Fox Loam Sand, imperfectly drained Brady Loam Sand, rapidly drained Plainfield Fine sand, imperfectly drained Vittoria Fine Sand Loam, Berrien Fine Sand Loam, Gobles Fine Sand Loam and Gobles Loam, rapidly drained Plainfield Fine Sand, imperfectly drained Gobles Loam, Gobles Clay Loam, Tavistock Loam, Normandale Fine Sand Loam, Berrien Fine Sand Loam, and Vittoria Fine Sand Loam, and rapidly drained Plainfield Fine Sand (Map 4).

The substation property is located about 250 metres north of a small tributary of Catfish Creek, which flows southwesterly, eventually emptying into Lake Erie at Port Stanley (Map 5). Similarly, the northern segment of the transmission line is drained by tributaries of Catfish Creek that flow in a southwesterly direction. The segment of the transmission line along Tobacco Line and Imperial Road, just south of Aylmer, is drained by Bradley's Creek, which flows westerly into Catfish Creek. The central portion of the Imperial Road segment between Aylmer and Vienna Line crosses the aforementioned moraine and is distant from water sources (Map 5). The southernmost part of the Imperial Road segment and the short segment on Vienna Line are drained by tributaries of Silver Creek, which flow southeasterly into Lake Erie (Figure 5).

2.1.2.2 Summary of Registered or Known Archaeological Sites

According to the Ministry of Tourism and Culture's provincial site database, there are 14 registered archaeological sites within one kilometre of the study area (Table 1). The majority consist of pre-contact First Peoples sites that were identified by Dana Poulton during an archaeological survey conducted in 1980 (Poulton 1980). Other sites have been found during Stage 1 and 2 development-related archaeological assessments. The sites with known cultural affiliation are all Late Woodland Iroquoian camps, hamlets or villages. The closest site to the study area is AeHf-27 (Rollins 2), a precontact camp of unknown age and cultural affiliation.

Six more precontact sites were discovered in 2010 during the Stage 2 archaeological survey of the Silvercreek Solar Park, which is associated with the present study (Timmins Martelle Heritage Consultants 2010b). These sites have not yet been registered with the Ministry of Tourism and Culture although site registration numbers for them have been requested. The sites include four small lithic scatters and two much larger sites with Late Woodland components (TMHC 2010b).



Table 1: Summary of Registered Sites within 1 km of the Study Area

Borden	Site Name	Site Type	Cultural Affiliation	Researcher
AeHf-15	R. Verbuyst	hamlet/village?	Late Woodland	Poulton 1980
AeHf-16	Underhill 1	unknown	Late Woodland-Glen Meyer?	Poulton 1980
AeHf-19	G. Van Patter 2	village?	Late Woodland (Middle Iroquoian)	Poulton 1980
AeHf-20	M. Horeth	camp	Precontact	Poulton 1980
AeHf-21	DeRyk	camp	Precontact	Poulton 1980
AeHf-26	Rollins 1	camp	Middle Woodland	Poulton 1980
AeHf-27	Rollins 2	camp	Precontact	Poulton 1980
AeHf-29	Robinson 1	Hamlet/village?	Late Woodland	Poulton 1980
AeHf-30	Robinson 2	village	Late Woodland – Glen Meyer	Poulton 1980; TMHC 2004
AeHf-32	Underhill 2	hamlet	Late Woodland – Glen Meyer	Poulton 1980
AeHf-35	Boehm	camp	Precontact	Poulton 1980
AeHf-35	Dickhout	village?	Late Woodland (Middle Iroquoian)	Poulton 1980
AeHf-4	Vandierendonck	unknown	unknown	N. McWilliam 1978
AeHf-38	--	camp	Late Woodland	MHCI 1996

2.1.2.3 Summary of Past Archaeological Investigations Within 50 Metres

In 2009 and 2010, Timmins Martelle Heritage Consultants Inc. carried out a Stage 1 and 2 archaeological assessment for the Silvercreek Solar Park, which is located at the south end of the transmission line and is related to the present study (TMHC 2010a,b). The Stage 2 survey of the solar park lands resulted in the discovery of archaeological material in 15 locations, six of which were recommended for Stage 3 assessment. As noted above, the six potentially significant sites include four small lithic scatters and two larger sites with Late Woodland components (THMC 2010b). The Stage 3 investigations of these sites are in process as of the writing of this report.

There have also been two small Stage 1-2 archaeological assessments for severances conducted adjacent to the study area, although neither resulted in the discovery of archaeological sites (Poulton 2001, Wilson 2006).

2.1.2.4 Pre- and Early Post-Contact First Peoples Settlement in Southern Ontario

The Norfolk Sand Plain was a popular area for precontact Aboriginal settlement, largely due to its well-drained soils. Unfortunately, we know less about this area than we might like because there have been relatively few intensive investigations in this part of the Province. However, past research hints at the intensive occupation of the sand plain and the Catfish Creek Drainage. Since the late 1800s, avocational and professional archaeologists have been reporting sites in this area, many of which have subsequently been destroyed by construction and building-related activities. The earliest reports of documented sites were those of David Boyle and Robert Anderson working in the late 1800s and early 1900s. Wilfrid Jury spent some time in the area during the 1920s and the first extensive site excavation was carried out in 1938 by Philleo Nash of the University



of Toronto (Poulton 1980:1-2). Prior to recent times, the most intensive survey of East Elgin was conducted by Thomas Lee, of the National Museum, between 1949 and 1952. He was responsible for recording 71 sites, with most identified in the Catfish Creek Drainage. Many older East Elgin residents still remember Lee's visits to their farms.

Although there were a few small surveys carried out in subsequent years, the most extensive recent work was conducted by Dana Poulton in 1980. Poulton conducted an extensive survey of properties in the drainage with one of his primary goals being the relocation of Lee's earlier reported sites (Poulton 1980). Poulton's work has proved invaluable since many of these sites have subsequently been destroyed.

Table 2 summarizes the cultural chronology for First Peoples settlement in the study area.

Table 2: Culture Chronology for First Peoples Settlement in Malahide Township

Period			Time Range (circa)	Diagnostic Features	Complexes
Paleoindian	Early		9000 - 8400 B.C.	fluted projectile points	Gainey, Barnes, Crowfield
	Late		8400 - 8000 B.C.	non-fluted and lanceolate points	Holcombe, Hi-Lo, Lanceolate
Archaic	Early		8000 - 6000 B.C.	serrated, notched, bifurcate base points	Nettling, Bifurcate Base Horizon
	Middle		6000 - 2500 B.C.	stemmed, side & corner notched points	Brewerton, Otter Creek, Stanly/Neville
	Late		2000 - 1800 B.C.	narrow points	Lamoka
			1800 - 1500 B.C.	broad points	Genesee, Adder Orchard, Perkiomen
			1500 - 1100 B.C.	small points	Crawford Knoll
	Terminal		1100 - 950 B.C.	first true cemeteries	Hind
Woodland	Early		950 - 400 B.C.	expanding stemmed points, Vinette pottery	Meadowood
	Middle		400 B.C. - A.D. 500	dentate, pseudo-scallop pottery	Saugeen
	Transitional		A.D. 500 - 900	first corn, cord-wrapped stick pottery	Princess Point
	Late	Early Iroquoian	A.D. 900 - 1300	first villages, corn horticulture, longhouses	Glen Meyer, Pickering
		Middle Iroquoian	A.D. 1300 - 1400	large villages and houses	Uren, Middleport
		Late Iroquoian	A.D. 1400 - 1650	tribal emergence, territoriality	Neutral Iroquois
Contact		Aboriginal	A.D. 1700 - 1875	treaties, mixture of Native & European items	
		Euro-Canadian	A.D. 1796 - present	English goods, homesteads	European settlement, pioneer life

2.1.3 Project Context: Historical Context

2.1.3.1 Historic Period, Euro-Canadian and Municipal Settlement

A brief discussion of early Euro-Canadian settlement in the study area is provided below, together with a consideration of features that indicate archaeological potential for historic era sites.

The Township of Malahide received its name from Colonel Talbot, who sought to honour the Castle of Malahide in Ireland. The earliest settlers to the township were the five Davis brothers, American immigrants who arrived in 1810. Although Malahide did not grow significantly until much later, it boasted a population of some 800 people by 1817. At this time, nearly all of the first, eighth, and ninth concessions had been settled. The earliest businesses, including a general store (est.1830), hotel, tailor and blacksmith shop (est. 1835), were established in the early to mid-1830s, although the County's first



schoolhouse was erected in the township in 1816 (H.R. Page and Co. 1877:8). Passage through the township was aided by the graveling of the Aylmer–Port Bruce Road (Highway 73/Imperial Road) in 1855. Many of the communities in the general study area, including Aylmer, began as small postal stations.

The 1864 Tremaine map shows that the entire study area was settled by that time (Tremaine 1864) (Map 6). While this map shows property ownership, few structures are shown. There are four structures shown at the intersection of Calton Line and Imperial Road, however, some of these have probably been impacted by the re-alignment of Imperial Road through this area (Map 6). The 1877 historical atlas map shows both property ownership and structures (H.R. Page & Co. 1877) (Map 7). This map shows that the substation property was owned by one W. McCausland at that time, however, there are no structures shown on the property. Several residential structures and a cemetery occur adjacent to the road corridors along the transmission line route, however, they are all located outside the study area, which is confined to local municipal road allowances.

2.2 Property Inspection – Field Methods

A Stage 1 property inspection was not conducted for the substation property since background research revealed that the property had archaeological potential and required Stage 2 assessment. A Stage 1 property inspection was conducted for the transmission line.

Since the transmission line will be a buried cable placed within municipal road allowances, the Stage 1 property inspection involved examining the proposed route for evidence of archaeological potential, or extensive disturbance that would remove archaeological potential. The results of the property inspection are described in Section 2.3 below.

2.3 Analysis and Conclusions

As noted in Sections 1.2 and 1.3 there are several factors that indicate the potential of both the substation property and the transmission line. In the case of the substation property, archaeological potential for the discovery of First Peoples sites is indicated by the proximity (less than 300 metres) of the property to a primary water source (a tributary of Catfish Creek), while potential for the discovery of historic era Euro-Canadian sites is demonstrated by the property's proximity to a 19th century thoroughfare (Imperial Road). The consulted maps and aerial photos of the property indicate that it has undergone some alteration with the planting of trees, but otherwise consists of former agricultural lands; as such, archaeological potential is retained (Map 8).

There are also several factors that indicate archaeological potential for the transmission line (proximity to water sources, historic era roads), however, the Stage 1 property inspection revealed that the transmission corridor has been extensively



disturbed. The following discussion describes existing conditions along the transmission line corridor. Images 5-26 provide photo documentation and photo locations and orientations are shown on Map 9. The development map for the transmission line is provided as Map 13.

Beginning at the south end of the project, the segment of the transmission line corridor along the north side of Vienna Line between the solar farm and Imperial Road has been impacted by ditching, telephone utilities and sewer infrastructure (Images 10 and 11).

Turning north on Imperial Road, the transmission line follows the east side of the road allowance. The area between the paved roadway and the edge of ROW has been extensively impacted by ditching, fill slopes, a gas pipeline, a telephone cable, a fibre optic cable, sewer infrastructure, and landscaping (Images 12-17).

Turning east on Tobacco Line, the transmission line follows the north side of the road allowance. This area has also been impacted by extensive ditching and a buried telephone cable (Images 8, 18 and 19).

Continuing north on the east side of Hacienda Road the transmission line corridor has been impacted by ditching, a gas line, and buried telephone and fibre optic cables (Images 7, 20 - 22).

Turning west the transmission line follows the south side of Glencolin Line. The southern edge of this road allowance has been extensively impacted by ditching, extensive fill slopes and landscaping (Images 6, 23-25).

Finally turning south, the transmission line follows the west side of Imperial Road from Glencolin Line to the substation. The road allowance in this segment has been impacted by ditching, a gas pipeline, telephone cables and the entrances of several businesses (Images 5 & 26).

In summary, given the evidence of extensive disturbance along the entire study area, we conclude that archaeological potential has been removed for the transmission line corridor.

2.4 Recommendations

Based on the analysis conducted in Section 2.3 above, it is recommended that a Stage 2 archaeological assessment be conducted on the substation property.

Based on the analysis conducted in Section 2.3 above, it is recommended that Stage 2 archaeological assessment is not required for the transmission line.



3.0 STAGE 2 ARCHAEOLOGICAL ASSESSMENT

3.1 Field Methods

Stage 2 assessment was confined to the substation lands which consisted of a dense pine plantation with a narrow strip of grass and tall weeds around its periphery (Images 2, 3, 4, 27-31). A narrow section at the southeast part of the property, fronting on Imperial Road, was overgrown in weeds and small trees (Image 27). Similarly, an area in the northwest part of the property was also in tall weeds and small trees (Image 28). As the area could not be ploughed, it was assessed using the standard test pit method, employing a five metre transect interval (Images 29 - 31). Each test pit measured approximately 30 cm (shovel-width) in diameter and was excavated into the first five centimetres of subsoil. The soil from each test pit was passed through 6 mm hardware cloth to check for artifacts. When the screening process was completed, the test pits were filled in and capped with sod. The test pits showed typical ploughzone soils of brown clay sandy loam topsoil over yellow/brown sandy clay subsoil (Image 32). Test pits were 25 - 30 cm in depth. All of the subject property was test pitted (100%). There were no built structures on the property and no disturbances were noted.

The Stage 2 field conditions and assessment methods are presented in Map 9. Images 2-4 and 23-31 document the Stage 2 field condition on the substation property. Map 10 shows the locations and orientation of photographs of the Stage 2 fieldwork. The development map for the substation is provided as Map 12.

3.2 Record of Finds

No finds were made during the Stage 2 investigation of the substation property. The inventory of documentary records for the project is presented in Table 3.

Table 3: Documentary Records for the Archaeological Assessment of the Silvercreek Solar Park Substation and Transmission Line

- Project field notes and field maps for October 6, 7, 11, and Nov. 16, 2011
- Digital photos and photo catalogues for October 6, 7, 11, and Nov. 16, 2011
- Paper and electronic files housed at the office of Timmins Martelle Heritage Consultants Inc., @ the Museum of Ontario Archaeology, 1600 Attawandaron Road, London, ON N6E 1A4

3.3 Analysis and Conclusions – Stage 2 Assessment

A Stage 2 field assessment of the Silvercreek Solar Park Substation was carried out in accordance with the Ministry of Tourism and Culture's *Standards and Guidelines for Consultant Archaeologists* (2011). No archaeological materials were recovered.



3.4 Recommendations

As the Stage 2 assessment of the substation property did not identify any archaeological sites, it is recommended that no further assessment of the substation property is required.

4.0 SUMMARY

A Stage 1 and Stage 2 archaeological assessment was conducted for a substation associated with the planned Silvercreek Solar Park. The substation is located on a 6 hectare property on the northern edge of the Town of Aylmer in the Township of Malahide, Elgin County. Concurrently, a Stage 1 archaeological assessment was conducted for a subsurface transmission line that will run approximately 15 km south to the Silvercreek Solar Park on Vienna Line.

The Stage 1 assessment of the transmission line determined that the proposed corridor was heavily disturbed and that archaeological potential has been removed. Accordingly, it was recommended that a Stage 2 archaeological assessment was not required for the transmission corridor.

The Stage 1 assessment of the substation property indicated that it has archaeological potential and a Stage 2 assessment was recommended. A subsequent Stage 2 assessment of the substation property was conducted and no archaeological sites were found. Accordingly, it was recommended that no further archaeological assessment of the substation property is required.

The Ministry of Tourism and Culture is asked to review the information presented herein, issue comment and offer written confirmation of their acceptance of this report into the provincial repository.

5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

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



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

Should previously undocumented (i.e., unknown or deeply buried) archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*. Further, archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

The Cemeteries Act, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33* (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Small Business and Consumer Services. The Registrar of Cemeteries, Cemeteries Regulation Unit can be reached at (416)326-8404 or (416)326-8393.

6.0 BIBLIOGRAPHY AND SOURCES

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2010b *Stage 2 Archaeological Assessment, Silver Creek Solar Park, Geographic Township of Malahide, Elgin County, Ontario*. Report on file with the Ministry of Tourism and Culture, Toronto.

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7.0 IMAGES





Image 1: East edge of substation property looking west from Imperial Road



Image 2: East edge of substation property, looking south along rear of lots on Imperial Road



Image 3: South edge of substation property looking west from Imperial Road



Image 4: West edge of substation property looking north



Image 5: Location of transmission line on the west side of Imperial Road, looking south



Image 6: Location of transmission line on the south side of Glencolin Line, looking east



Image 7: Location of transmission line on the east side of Hacienda Road, looking south



Image 8: Location of transmission line on the north side of Tobacco Line, looking east



Image 9: Location of transmission line on the east side of Imperial Road, looking south



Image 10: Location of transmission line on the north side of Vienna Line, looking east (note ditching and sewer)



Image 11: Location of transmission line on the north side of Vienna Line, looking west (note ditching and fire hydrant)



Image 12: Location of transmission line on the east side of Imperial Road, looking north (note ditching, sewer, gas pipeline)



Image 13: Location of transmission line on the east side of Imperial Road, looking north (note ditching, telephone cable and gas pipeline)



Image 14: Location of transmission line on the east side of Imperial Road, looking south at crossing of a tributary of Silver Creek (note ditching, fill slopes, telephone cable, gas pipeline)



Image 15: Location of transmission line on the east side of Imperial Road, looking north (note ditching, fill slopes, telephone poles, gas pipeline)



Image 16: Location of transmission line on the east side of Imperial Road, adjacent to cemetery, looking north (note ditching, fill slopes, telephone cable)



Image 17: Location of transmission line on the east side of Imperial Road, south of Tobacco Line, , looking north (note ditching, sewer, fibre optic cable)



Image 18: Location of transmission line on the north side of Tobacco Line, looking east (note ditching, telephone poles)



Image 19: Location of transmission line on the north side of Tobacco Line, looking west (note ditching, telephone poles and flagged buried cable)



Image 20: Location of transmission line on the east side of Hacienda Road, looking south (note ditching and buried gas line)



Image 21: Location of transmission line on the east side of Hacienda Road just north of Talbot Line, looking north (note marked buried telephone and fibre optic cables)



Image 22: Location of transmission line on the east side of Hacienda Road, looking north (note ditching and marked fibre optic cable)



Image 23: Location of transmission line on the south side of Glencolin Line, looking east (note extensive fill slope and ditch)



Image 24: Location of transmission line on the south side of Glencolin Line, looking west (note and ditching, driveways and landscaping)



Image 25: Location of transmission line on the south side of Glencolin Line adjacent to woodlot, looking east (note extensive fill slope and ditch)



Image 26: Location of transmission line on the west side of Imperial Road just south of Glencolin Line, looking south (note fill slope, ditch, telephone cable and gas pipeline)



Image 27: Narrow southeast portion of substation property looking east



Image 28: Northeast corner of the property looking southeast



Image 29: Test pitting dense pine plantation along the south central edge of the substation property, looking north



Image 30: Test pitting northeast part of the substation area, looking west



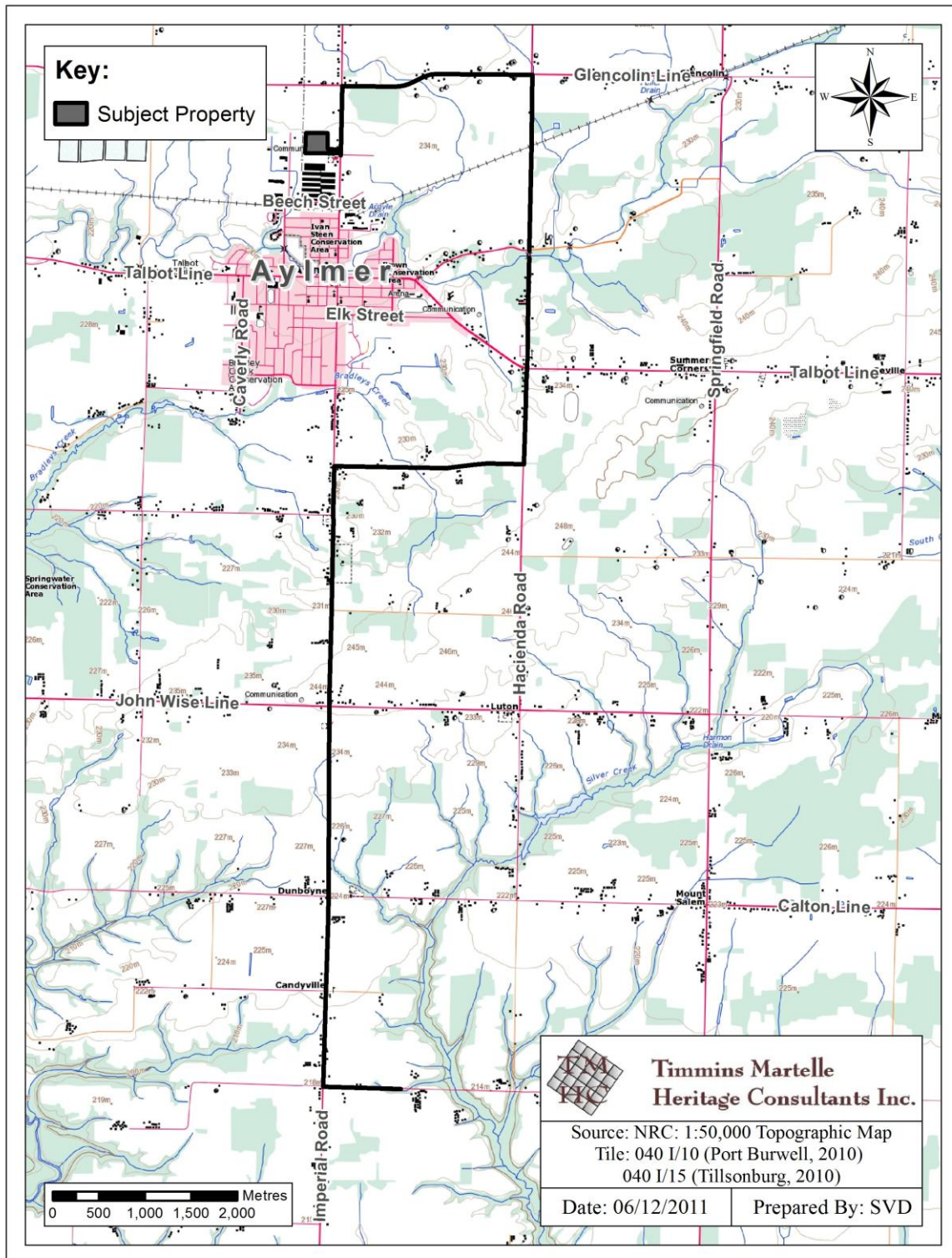
Image 31: Test pitting central part of substation area, looking west



Image 32: Typical test pit on the substation property

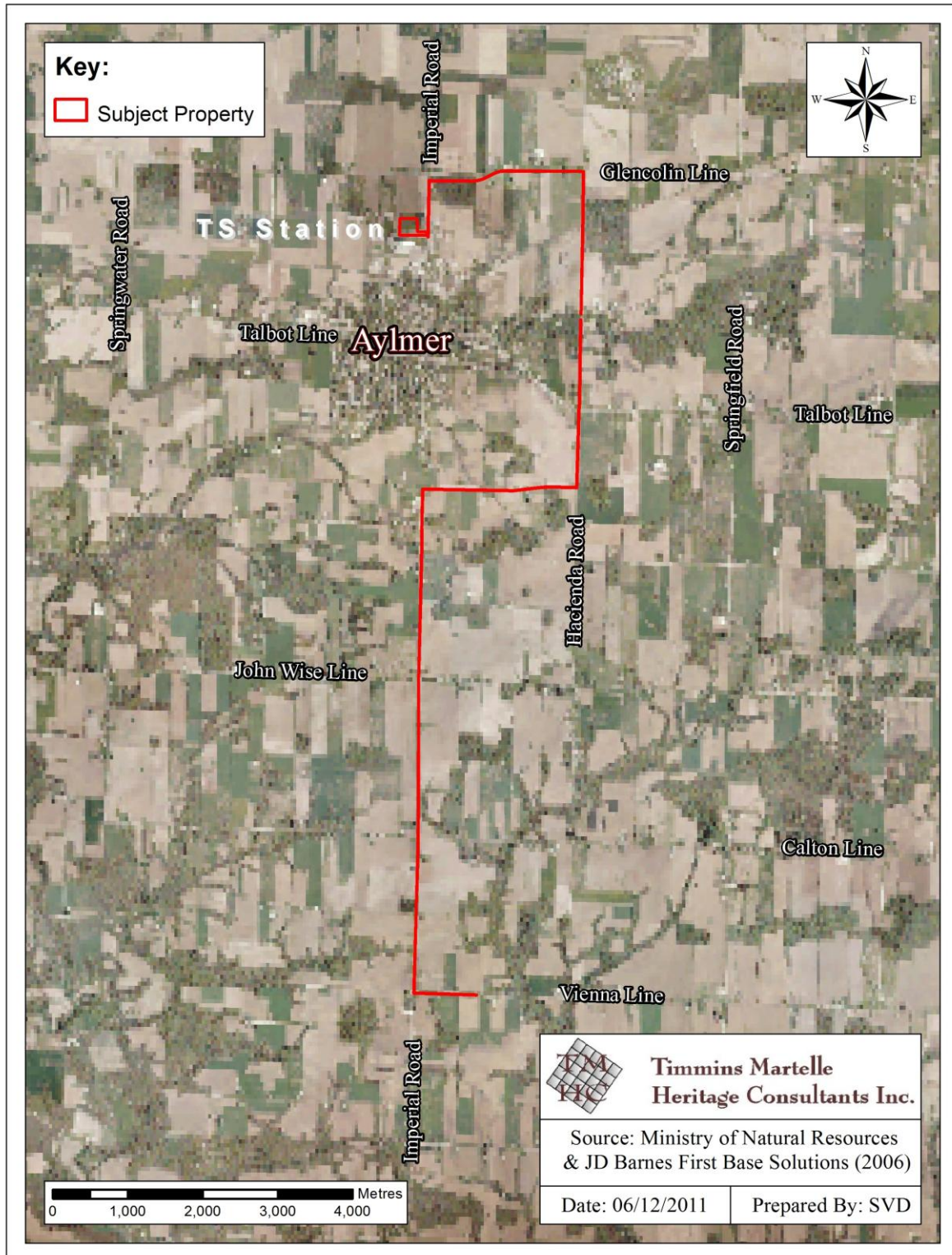
8.0 MAPS





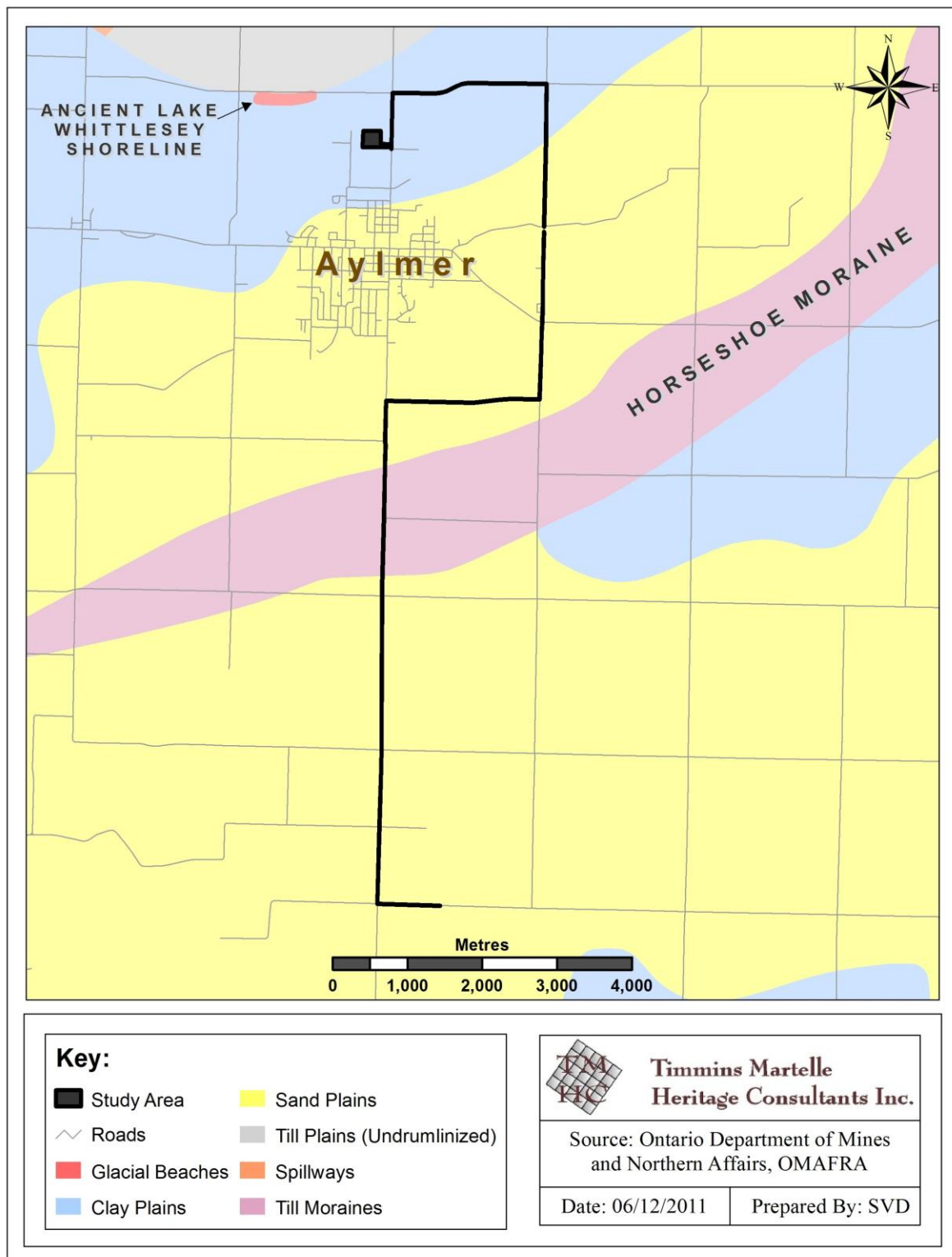
Map 1: Location of the Study Area in Malahide Township





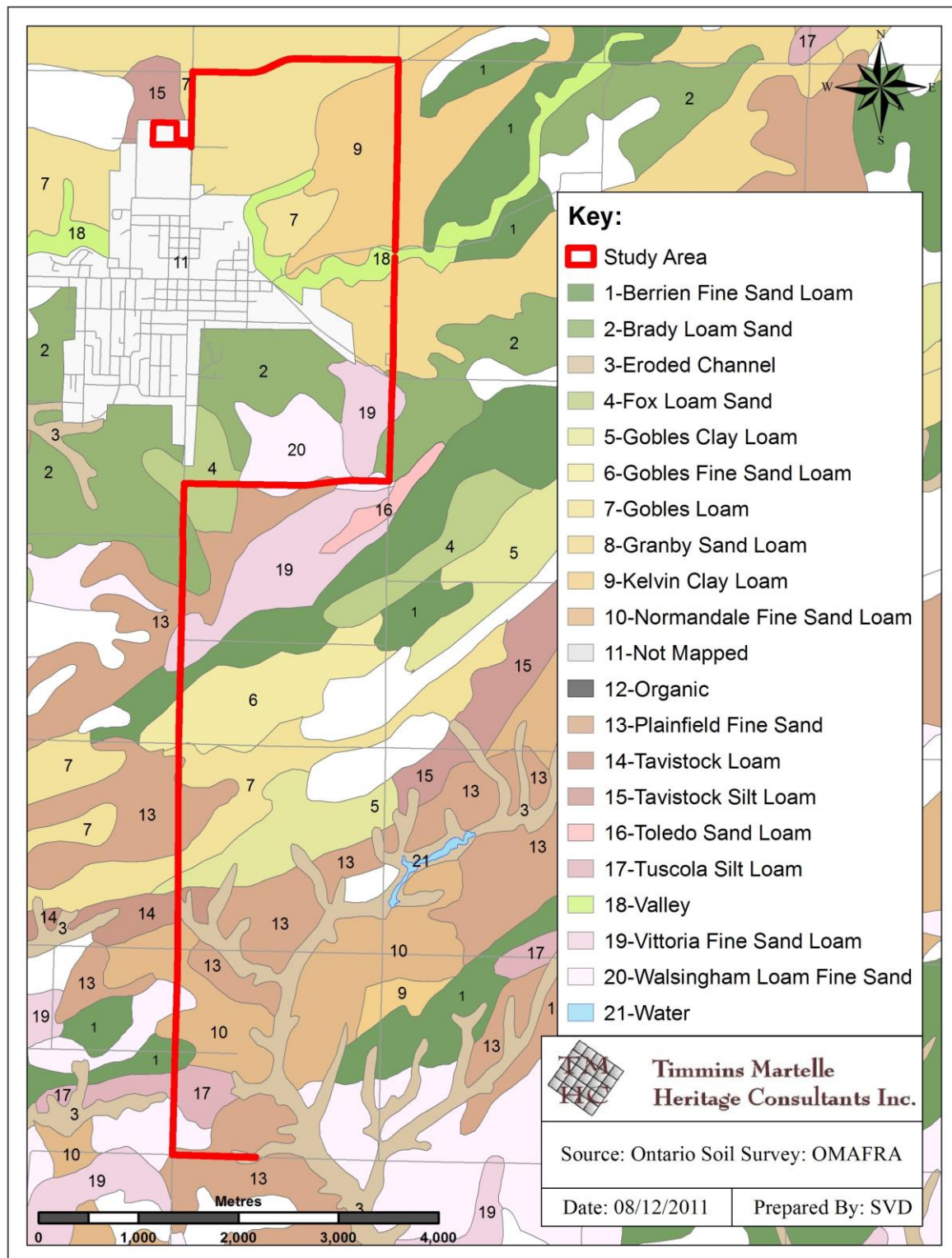
Map 2: Aerial Photo of the Study Area





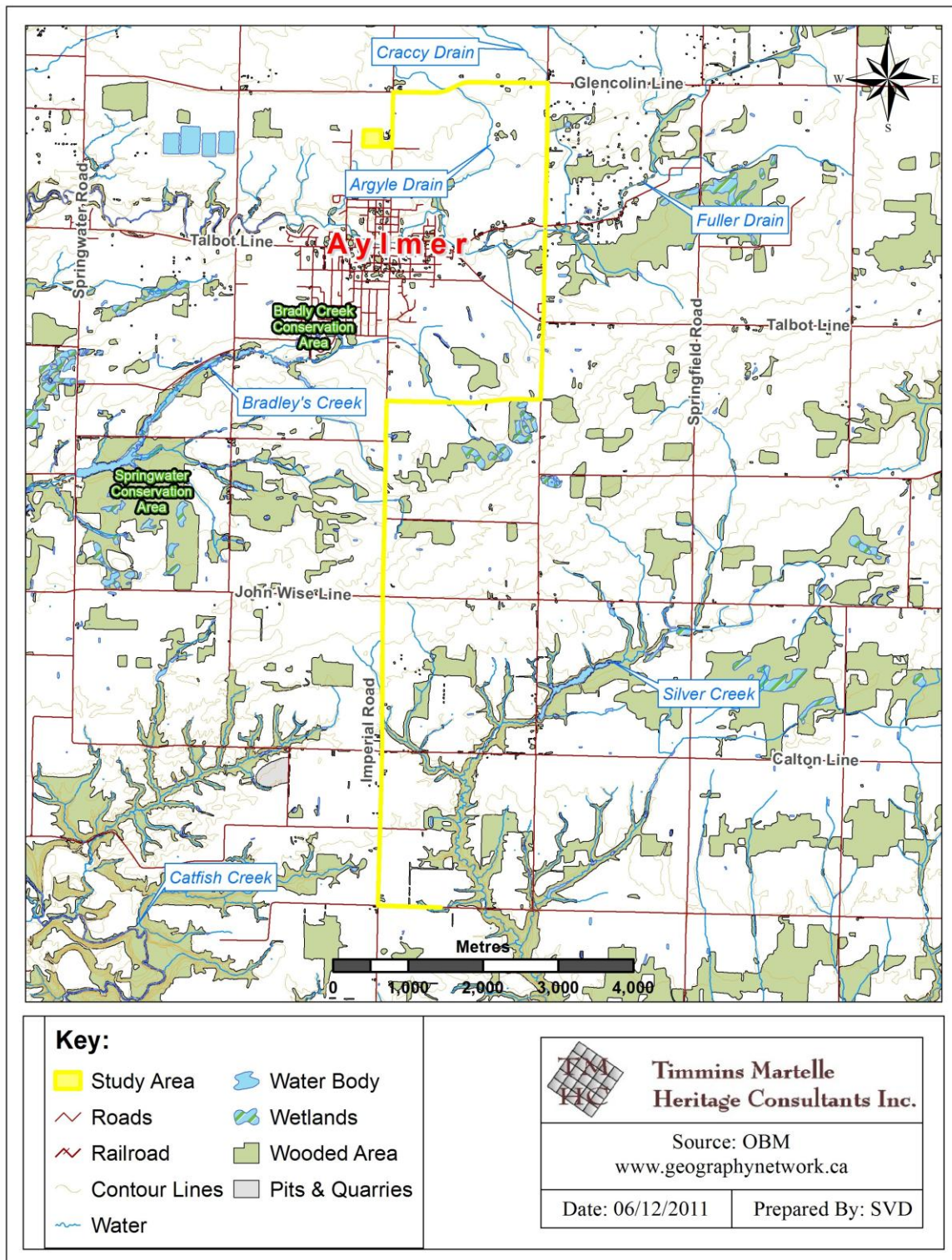
Map 3: Physiography of the Study Area





Map 4: Soils of the Study Area



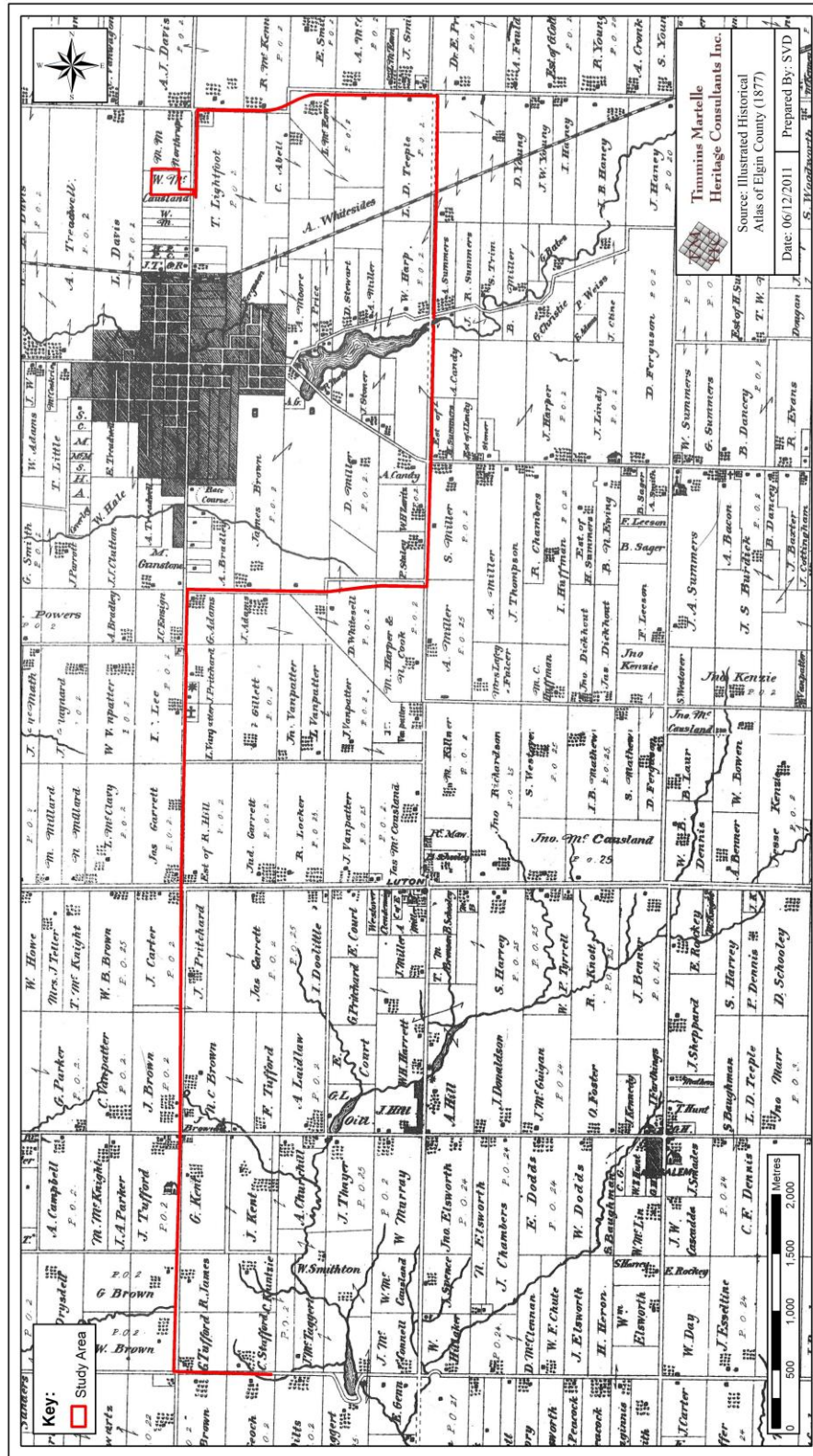


Map 5: Drainage of the Study Area



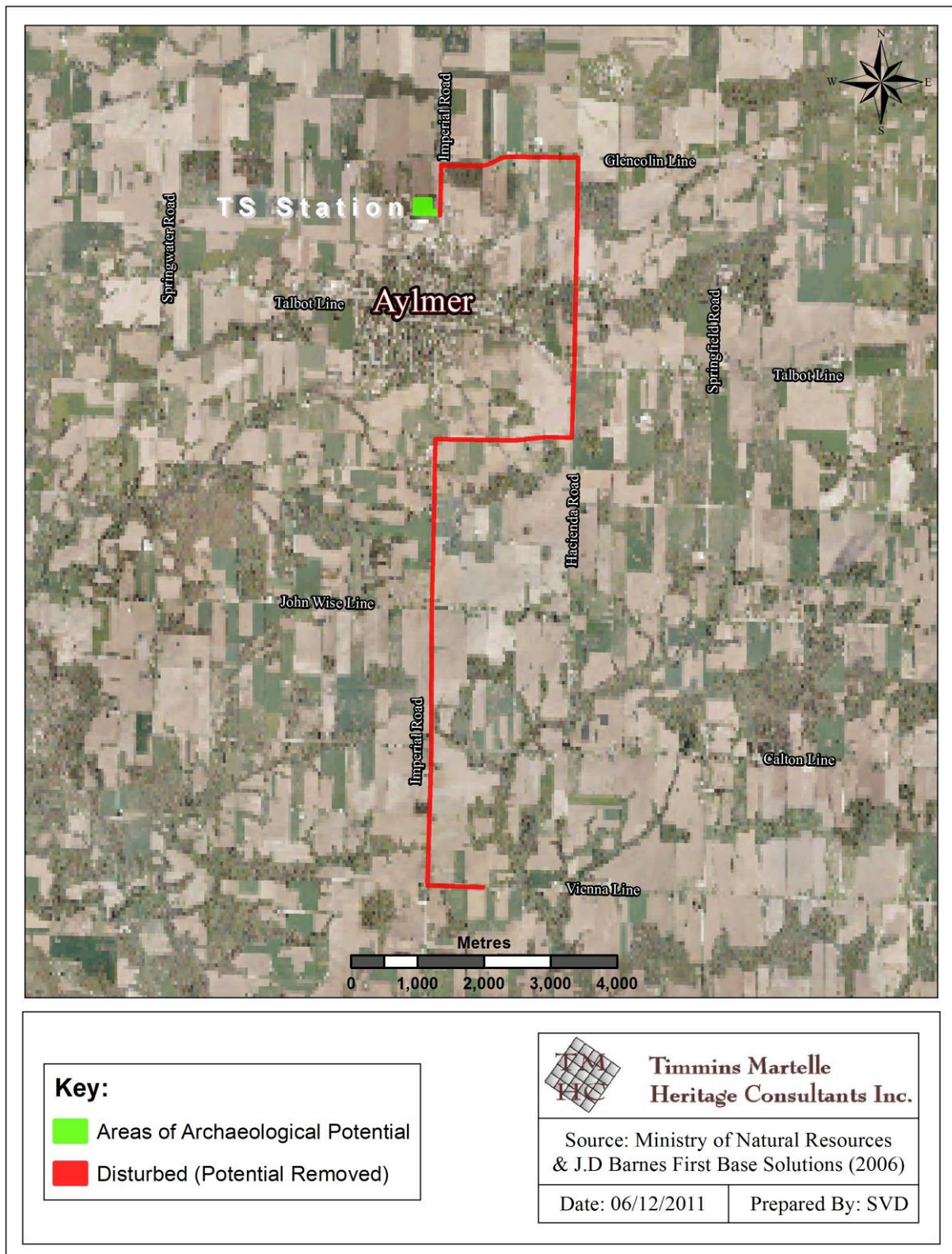


Map 6: The Study Area shown on the 1864 Tremaine Map



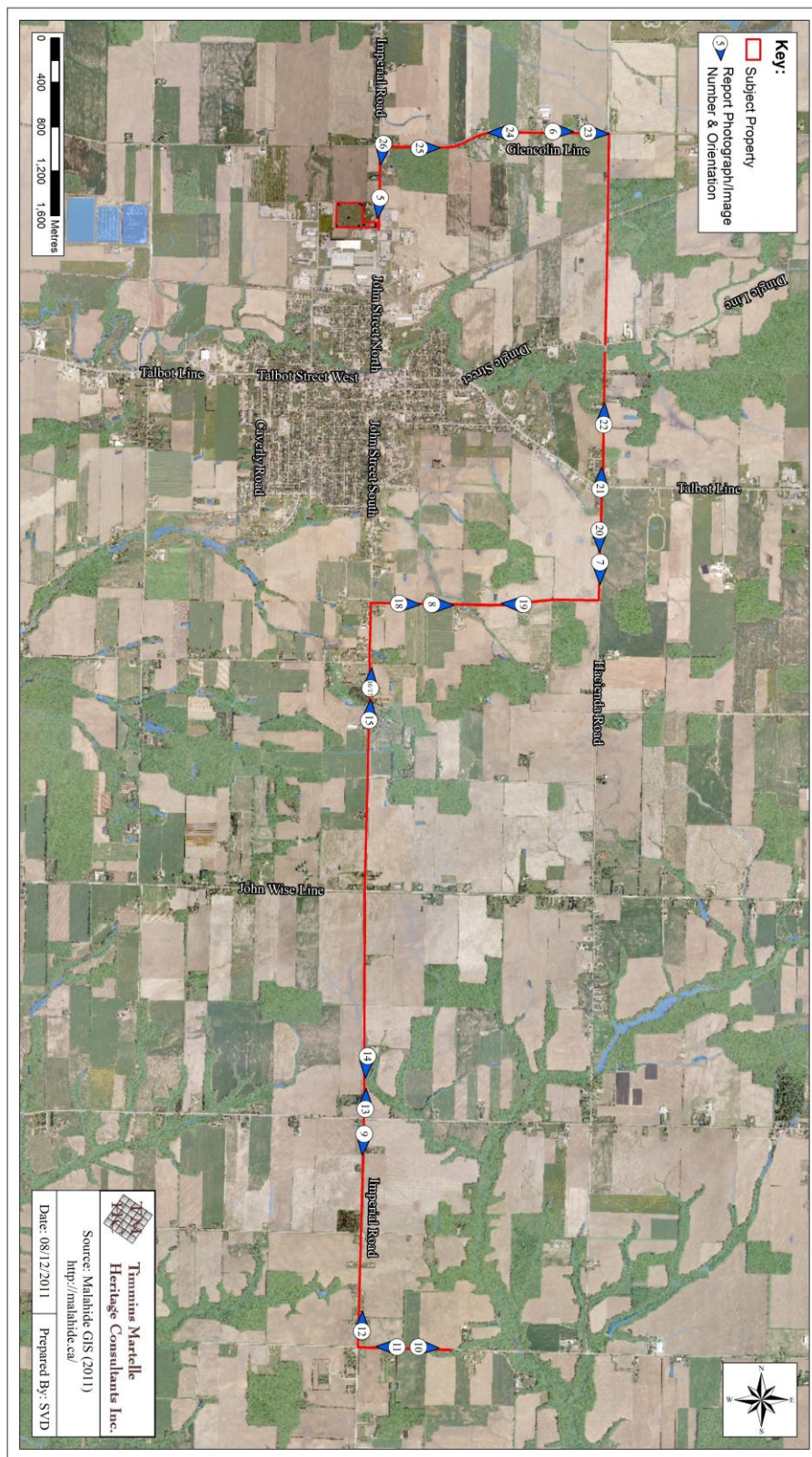
Map 7: The Study Area shown on the 1877 Historical Atlas Map



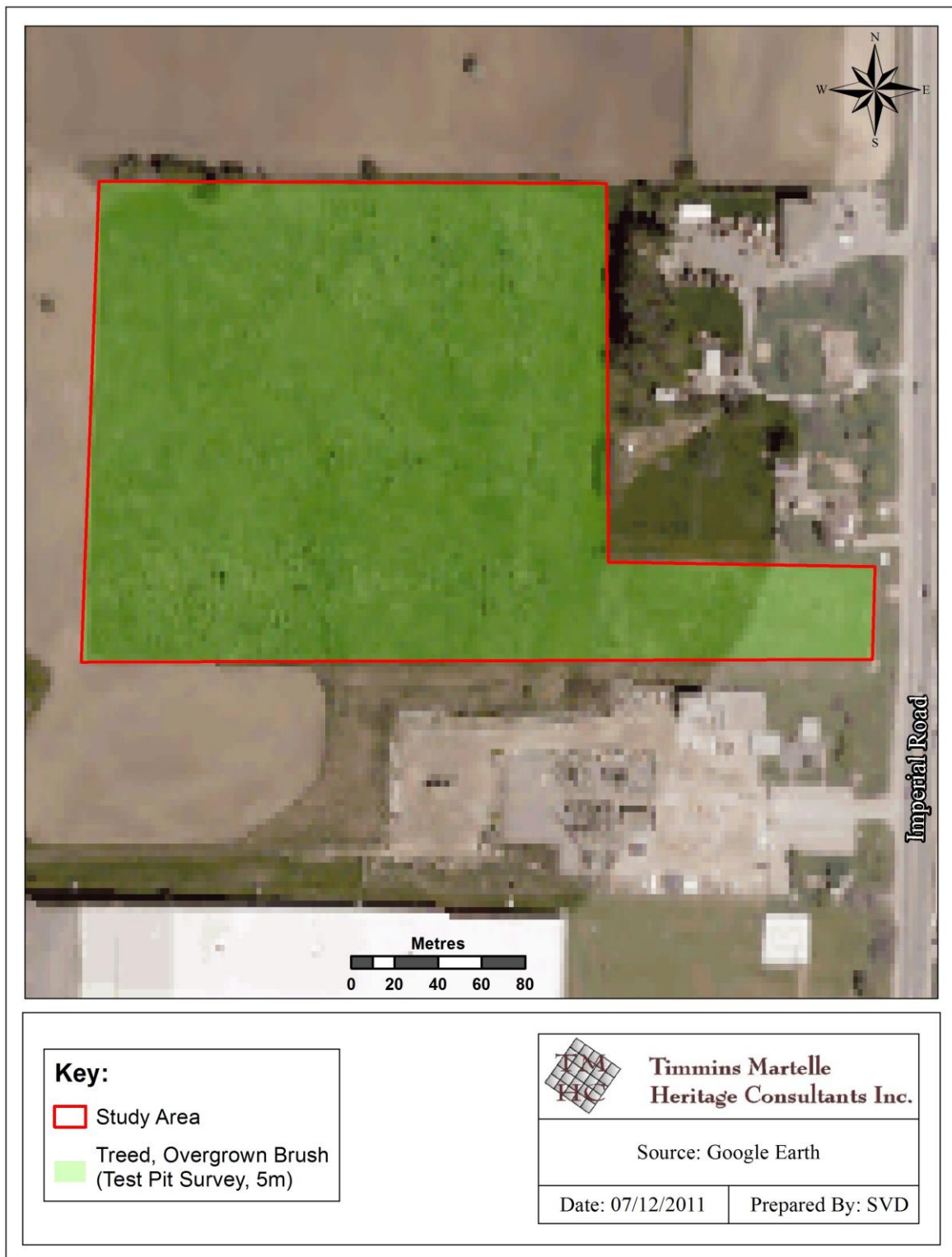


Map 8: Archaeological Potential of the Study Area



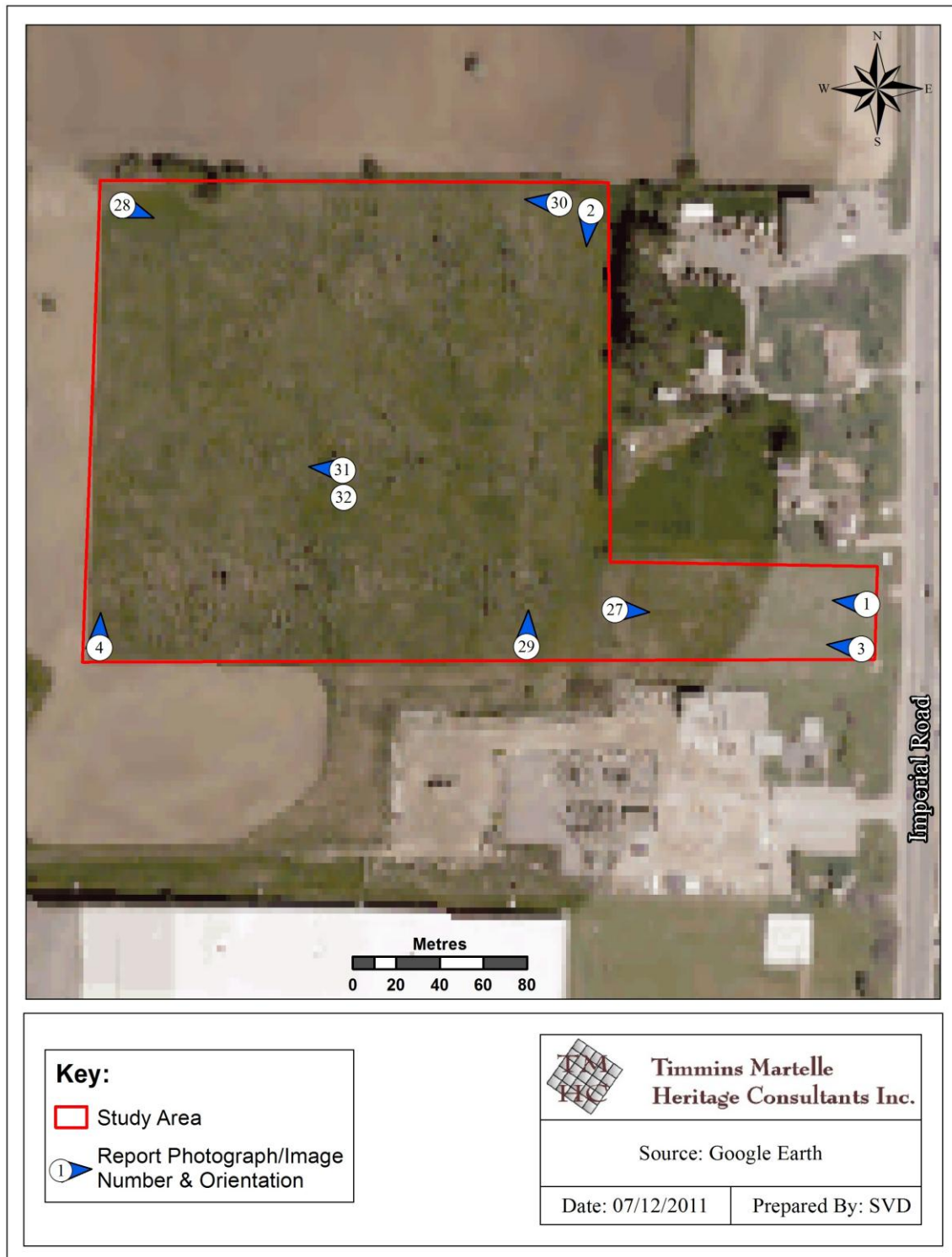


Map 9: Photo Locations and Orientations for the Transmission Line Corridor



Map 10: Stage 2 Methods and Results for the Substation

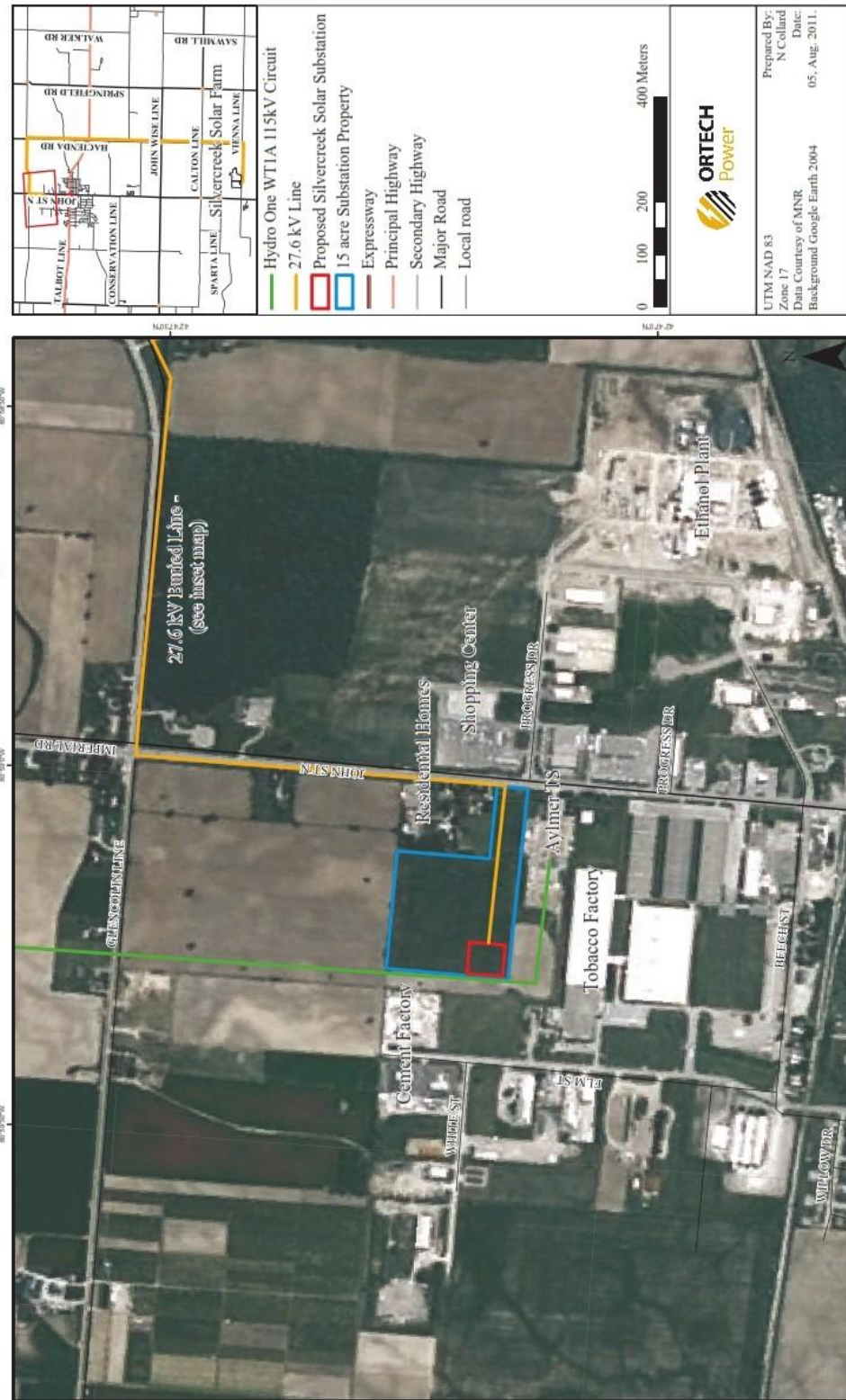




Map 11: Photo Locations and Orientations for the Substation



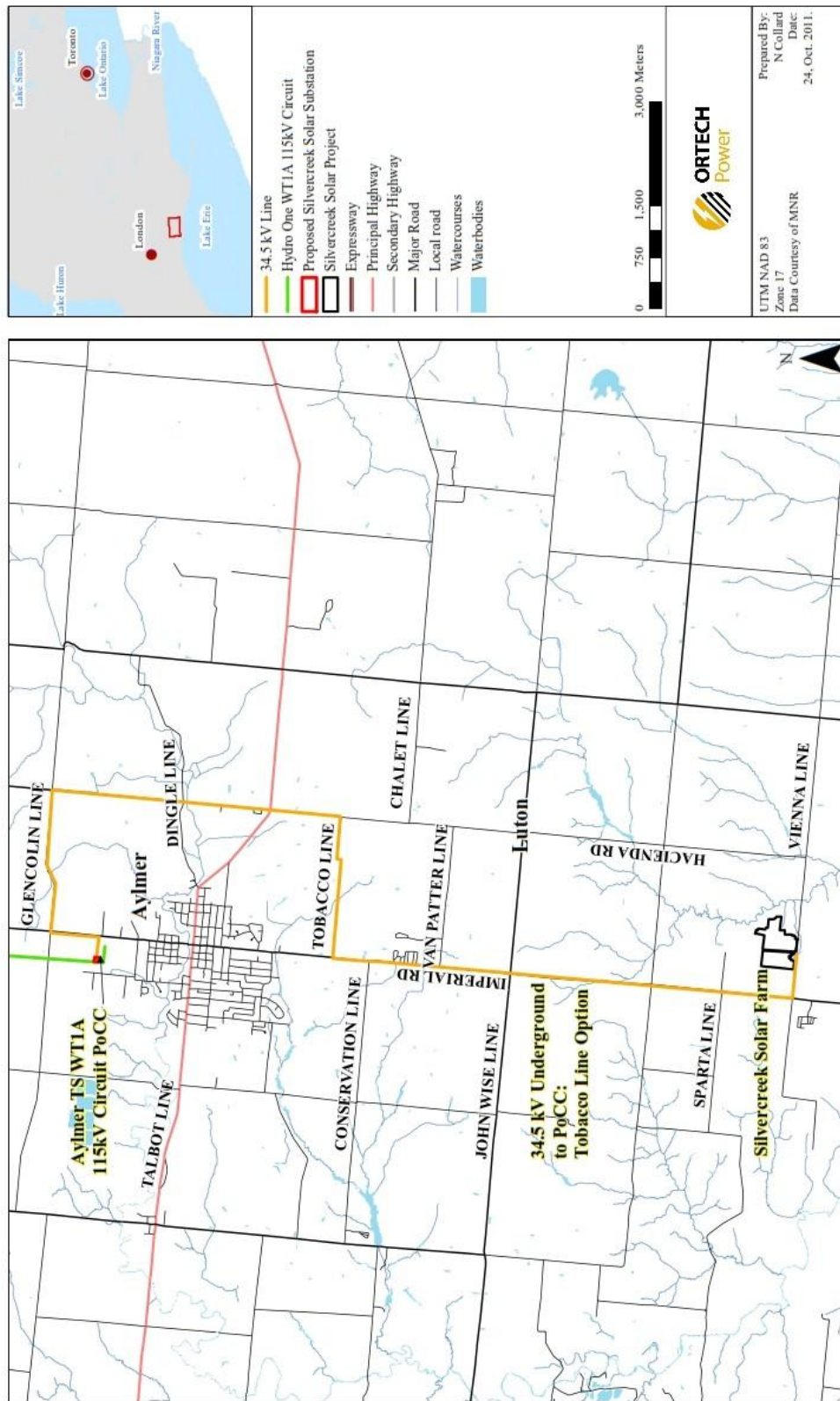
Silvercreek Solar - Aylmer



Map 12: Development Map – Substation



Silvercreek Solar - Option A



Map 13: Development Map – Transmission Line



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January 5, 2012

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**RE: Silvercreek Solar Park, Township of Malahide, Elgin County
FIT-FEAZ1X
MTC File HD00671, PIF #P083-152-2011**

Dear Ms. Deveaux:

This letter constitutes the Ministry of Tourism and Culture's written comments as required by s. 22(3)(a) of O. Reg. 359/09 under the *Environmental Protection Act* regarding archaeological assessments undertaken for the above project.

Based on the information contained in the report you have submitted for this project, the Ministry believes the archaeological assessment complies with the *Ontario Heritage Act's* licensing requirements, including the licence terms and conditions and the Ministry's 2011 Standards and Guidelines for Consultant Archaeologists. Please note that the Ministry makes no representation or warranty as to the completeness, accuracy or quality of the Report.*

The report recommends the following:

Stage 1 (PIF # P083-152-2011), December 2011, Received December 21, 2011

2.4 Recommendations

Based on the analysis conducted in Section 2.3 above, it is recommended that a Stage 2 archaeological assessment be conducted on the substation property.

Based on the analysis conducted in Section 2.3 above, it is recommended that Stage 2 archaeological assessment is not required for the transmission line.

Stage 2 (PIF # P083-152-2011), December 2011, Received December 21, 2011

3.4 Recommendations

As the Stage 2 assessment of the substation property did not identify any archaeological sites, it is recommended that no further assessment of the substation property is required.

The Ministry is satisfied with these recommendations.

This letter does not waive any requirements which you may have under the Ontario *Heritage Act*. A separate letter addressing archaeological licensing obligations under the Act will be sent to the archaeologist who completed the assessment and will be copied to you.

This letter does not constitute approval of the renewable energy project. Approvals of the project may be required under other statutes and regulations. It is your responsibility to obtain any necessary approvals or licences.

Please feel free to contact me if you have questions or require additional information.

Sincerely,

Andrea Williams
A/ Archaeology Review Officer

cc. Mr. Arthur Figura, Timmins Martelle Heritage Consultants

*In no way will the Ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.