

APPENDIX E ADDITIONAL ARCHAEOLOGY -ADELAIDE



July 26, 2012

STAGE 2 ARCHAEOLOGICAL ASSESSMENT

NextEra Adelaide Wind Energy Centre Additional Field Work Various Lots Concessions 1 to 5 N.E.R. and 1 to 4 S.E.R. Geographic Township of Adelaide and Concessions 9 to 14 W.C.R. Geographic Township of West Williams Middlesex County, Ontario

ORIGINAL REPORT

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1 Copy and 1 CD Copy - Ontario Ministry of
Tourism, Culture and Sport
2 Copies - Golder Associates Ltd.





Executive Summary

A Stage 2 archaeological assessment was conducted on behalf of NextEra Energy Canada, ULC (NEEC) by Golder Associates Ltd. (Golder) for an approximately 93 hectare study area located in the Geographic Township of Adelaide, now Township of Adelaide Metcalfe, Middlesex County, Ontario. The study area is located on various lots and concessions in the Geographic Township of Adelaide, now Township of Adelaide Metcalfe, Middlesex County, Ontario.

This area incorporates the proposed turbine locations, underground electric cable corridors, access roads, service roads, vehicle and crane turnarounds, substations, transmission lines, and equipment laydown and set-up locations for the 38 turbines included in the revised NEEC Adelaide Wind Energy Centre layout. This Stage 2 archaeological assessment was undertaken in order to meet the requirements for an application for a Renewable Energy Approval (REA), as outlined in Ontario Regulation 359/09 Section 22(3) of the *Environmental Protection Act* (EPA) (Government of Ontario 1990a). This report focuses upon additional Stage 2 archaeological assessment work that supplements Golder's existing Stage 2 archaeological report (Golder 2012a).

The *Green Energy Act* (2009) (Government of Ontario 2009) enabled legislation governing project assessments and approvals to allow for a more streamlined REA process. Under Section 22(1) of the REA, an archaeological assessment must be conducted if the proponent concludes that engaging in the project may have an impact on archaeological resources. Currently, Ontario Regulation 359/09 of the EPA governs the REA process for renewable energy projects such as wind, anaerobic digestions, solar and thermal treatment facilities.

Given additional changes to the Adelaide Wind Energy Centre layout in 2012, further Stage 2 archaeological assessment was required within the study area. The third portion of the Stage 2 archaeological assessment for the proposed Adelaide Wind Energy Centre was conducted between April 11, 2012 and July 17, 2012. This assessment resulted in the identification of 18 sites: 16 pre-contact Aboriginal and two historic Euro-Canadian. Additionally, one previously-identified multi-component site (Golder 2012a) was further assessed. A total of 19 sites are discussed in this report. **Stage 3 archaeological assessments are recommended to further evaluate the cultural heritage value or interest of two sites.**

The Ontario Ministry of Tourism, Culture and Sport is asked to review the results presented and to accept this report into the Ontario Public Register of Archaeological Reports. **Additional archaeological assessment is still required;** hence the archaeological sites recommended for further archaeological fieldwork remain subject to Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990b) and may not be altered, or have artifacts removed, except by a person holding an archaeological license.

The Executive Summary highlights key points from the report only; for complete information and findings, as well as the limitations, the reader should examine the complete report.



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APPENDICES

APPENDIX A

Background on Historic Euro-Canadian Artifacts



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1.0 PROJECT CONTEXT

1.1 Development Context

This Stage 2 archaeological assessment was undertaken in order to meet the requirements for an application for a Renewable Energy Approval (REA), as outlined in Ontario Regulation 359/09 Section 22(3) of the *Environmental Protection Act* (Government of Ontario 1990a). It was conducted on behalf of NextEra Energy Canada, ULC (NEEC) by Golder Associates Ltd. (Golder) for an approximately 93 hectare study area located in the Geographic Townships of Adelaide and West Williams, now the Township of Adelaide Metcalfe and Municipality of North Middlesex respectively, Middlesex County, Ontario (Figures 1A and 1B). Previous archaeological work was conducted and reported upon by Golder (2009, 2010a, 2010b, 2012a) to obtain a recommendation letter from the Ontario Ministry of Tourism, Culture and Sport (MTCS) to provide to the Ministry of the Environment as part of the REA submission. Further layout changes necessitated the Stage 2 archaeological assessment of additional properties within the study area. A more detailed discussion of past investigations is presented in Section 1.2 below. Table 1 lists the relevant lots and concessions.

Table 1: Additional NextEra Adelaide Wind Energy Centre Parcels Assessed by Golder, April to July 2012

Parcel Description	QP Number	Geographic Township	Lot	Concession	Map
T2	ADL0001	Adelaide	10	1 North of Egremont Road (N.E.R.)	Figure 5-07; Supplement A: Figure 07
T1	ADL1001	Adelaide	Part 11	1 N.E.R.	Figure 5-02; Supplement A: Figure 02
T1	ADL1001	Adelaide	Part 11	2 N.E.R.	Figure 5-02; Supplement A: Figure 02
T21 and Access to T22	ADL1004	Adelaide	Part 7	2 South of Egremont Road (S.E.R.)	Figure 5-14; Supplement A: Figure 14
T23	ADL1006	Adelaide	Part 9	2 S.E.R.	Figure 5-14; Supplement A: Figure 14
Access to T23	ADL1009	Adelaide	Part 9	2 S.E.R.	Figure 5-14; Supplement A: Figure 14
T26	ADL1011	Adelaide	Part 15	2 S.E.R.	Figure 5-16; Supplement A: Figure 16
T26	ADL1012	Adelaide	Part 15	2 S.E.R.	Figure 5-16; Supplement A: Figure 16
T28	ADL1016	Adelaide	Part 17	2 S.E.R.	Figure 5-17; Supplement A: Figure 17
T22	ADL1018	Adelaide	Part 8	2 S.E.R.	Figure 5-14; Supplement A: Figure 14
T31 and T32	ADL1021	Adelaide	Part 5	3 S.E.R.	Figure 5-18; Supplement A: Figure 18
T24	ADL1023	Adelaide	Part 11	2 S.E.R.	Figure 5-15; Supplement A: Figure 15
Access to T21	ADL1024	Adelaide	Part 7	2 S.E.R.	Figure 5-14; Supplement A: Figure 14



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Parcel Description	QP Number	Geographic Township	Lot	Concession	Map
T34 and Access to T33	ADL1025	Adelaide	Part 9	3 S.E.R.	Figure 5-19; Supplement A: Figure 19
Collector	ADL1026	Adelaide	Part 15	1 N.E.R.	Figure 5-11; Supplement A: Figure 11
T11, T12, and Access to T10	ADL1027	Adelaide	Part 18	1 N.E.R.	Figure 5-09; Supplement A: Figure 09
T14 and T15	ADL1028	Adelaide	Part 4	2 S.E.R.	Figure 5-13; Supplement A: Figure 13
T17, T18, and T20	ADL1030	Adelaide	Part 6	2 S.E.R.	Figure 5-13; Supplement A: Figure 13
T19	ADL1033	Adelaide	Part 5	2 S.E.R.	Figure 5-13; Supplement A: Figure 13
T4	ADL1035	Adelaide	Part 12	1 N.E.R.	Figure 5-02; Supplement A: Figure 02
T9	ADL1036	Adelaide	Part 17	1 N.E.R.	Figure 5-09; Supplement A: Figure 09
T27	ADL1038	Adelaide	Part 16	1 S.E.R.	Figure 5-13; Supplement A: Figure 17
T33	ADL1039	Adelaide	Part 8	3 S.E.R.	Figure 5-19; Supplement A: Figure 19
T25	ADL1040	Adelaide	Part 11	2 S.E.R.	Figure 5-15; Supplement A: Figure 15
T10	ADL1045	Adelaide	Part 17	1 N.E.R.	Figure 5-09; Supplement A: Figure 09
T16	ADL1046	Adelaide	Part 5	2 S.E.R.	Figure 5-13; Supplement A: Figure 13
T20	ADL1046	Adelaide	Part 6	2 S.E.R.	Figure 5-13; Supplement A: Figure 13
T37	ADL1047	Adelaide	Part 11	3 S.E.R.	Figure 5-20; Supplement A: Figure 20
T35 and Access to T34	ADL1049	Adelaide	Part 9	3 S.E.R.	Figure 5-19; Supplement A: Figure 19
T36	ADL1050	Adelaide	Part 10	3 S.E.R.	Figure 5-20; Supplement A: Figure 20
MET Tower	ADL1058	Adelaide	Part 4	3 S.E.R.	Figure 5-18; Supplement A: Figure 18
Laydown Area	ADL1059	Adelaide	Part 6	3 S.E.R.	Figure 5-18; Supplement A: Figure 18
T27 and Access to T28	ADL1061	Adelaide	Part 16	2 S.E.R.	Figure 5-17; Supplement A: Figure 17
Collector	ADL1081	Adelaide	Part 12	2 N.E.R.	Figure 5-03; Supplement A: Figure 03



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Parcel Description	QP Number	Geographic Township	Lot	Concession	Map
Collector	ADL1110	Adelaide	Part 12	2 N.E.R.	Figure 5-03; Supplement A: Figure 03
Collector	ADL1553	Adelaide	Part 11	3 N.E.R.	Figure 5-03; Supplement A: Figure 03
Collector	ADL1554	Adelaide	Part 10	3 N.E.R.	Figure 5-03; Supplement A: Figure 03
Collector	ADL1563	Adelaide	Part 12	3 N.E.R.	Figure 5-03; Supplement A: Figure 03
Substation	ADL1571	Adelaide	Part 7	3 N.E.R.	Figure 5-01; Supplement A: Figure 01
Collector	ADL1587	Adelaide	Part 10	3 N.E.R.	Figure 5-03; Supplement A: Figure 03
Collector	ADL1588	Adelaide	Part 11	3 N.E.R.	Figure 5-03; Supplement A: Figure 03
T-Line	ADL1571	Adelaide	Part 7	3 N.E.R.	Figure 5-01; Supplement A: Figure 01
T-Line	BOR1028	West Williams	Part 9	14 West of Centre Road (W.C.R.)	Figure 5-28; Supplement A: Figure 28
T-Line	BOR1538	West Williams	Part 8	13 W.C.R.	Figure 5-27; Supplement A: Figure 27
T-Line	BOR1538	West Williams	Part 8	14 W.C.R.	Figure 5-27; Supplement A: Figure 27
T-Line	BOR1686	West Williams	Part 8	13 W.C.R.	Figure 5-27; Supplement A: Figure 27
T-Line	BOR1726/1896	West Williams	Part 10	9 W.C.R.	Figure 5-25; Supplement A: Figure 25
T-Line	BOR1802	West Williams	Part 11	10 W.C.R.	Figure 5-25; Supplement A: Figure 25
T-Line	BOR2067	West Williams	Part 11	9 W.C.R.	Figure 5-25; Supplement A: Figure 25
T-Line	BOR2109B	West Williams	Part 11	10 W.C.R.	Figure 5-26; Supplement A: Figure 26

The *Green Energy Act* (2009) (Government of Ontario 2009) enabled legislation governing project assessments and approvals to be altered to allow for a more streamlined REA process. Under Section 22 (1) of the REA, an archaeological assessment must be conducted if the proponent concludes that engaging in the project may have an impact on archaeological resources. Golder (2009, 2010a, 2010b, 2012a) previously determined that there was potential for the recovery of pre- and post-contact Aboriginal and historic Euro-Canadian archaeological resources within the study area. Currently, Ontario Regulation 359/09 of the *Environmental Protection Act* (EPA) (Government of Ontario 1990a) governs the REA process for renewable energy projects such as wind, anaerobic digestions, solar and thermal treatment facilities.



The most recent NEEC Adelaide Wind Energy Centre layout will include 38 turbines (rated at 1.62 megawatts each) with a 77.76 megawatt capacity as well as associated infrastructure. This includes cable routes, access roads, crane turnarounds, construction roads, transmission lines, staging areas, and substations. The remainder of the project's transmission line and the entire point of interconnect are located in the Municipality of North Middlesex. The field work for these components is included as part of the archaeological work completed in relation to the NEEC Bornish Wind Energy Centre (PIFs P218-097-2011 and P319-013-2012; Golder 2012b and PIF P218-276-2012; Golder 2012d) and the Parkhill Point of Interconnect (POI) (PIF P319-018-2012; Golder 2012c and PIF P319-020-2012; Golder 2012e). These lands are not within 50 metres of the NEEC Adelaide Wind Energy Centre study area, and as such, will not be impacted by construction activities associated with this project. Permission to enter the optioned lots within the study area and to remove archaeological resources was given by Mr. Thomas Bird of NEEC. For the purposes of this Stage 2 archaeological assessment, the MTCS' 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011) were followed. The objectives of this Stage 2 archaeological assessment were to document archaeological resources present within the study area, to determine whether any of the resources might be artifacts or archaeological sites with cultural heritage value or interest requiring further assessment, and to provide specific Stage 3 direction for the protection, management and/or recovery of the identified archaeological resources (Government of Ontario 2011).

The NEEC Adelaide Wind Energy Centre is associated with part of the transmission line subsumed within the NEEC Bornish Wind Energy Centre, which is reported upon separately (Golder 2012b, 2012d), and with the Parkhill Point of Interconnect (POI), which is also reported upon separately (Golder 2012c, 2012e). The proposed NEEC Bornish Wind Energy Centre includes 47 turbines and associated infrastructure. It consists of properties on various lots and concessions in the Geographic Townships of West Williams and East Williams, now Municipality of North Middlesex, Middlesex County, and covers an approximate area of 492.77 hectares.

The proposed Parkhill POI is situated on an approximately 18.5 hectare property, located on part of Lot 18, Concession 17 East of Centre Road, in the Geographic Township of East Williams, now Municipality of North Middlesex, Middlesex County, and connects the hydro lines on its east side to the proposed NEEC Bornish and Adelaide Wind Energy Centre properties (Golder 2012c, 2012e). The associated proposed transmission line route is a parcel of approximately 40.5 hectares, located on part of Lots 3 to 18 and part of Lot 19 East of Centre Road, Concession 17 East of Centre Road, part of Lots 3 to 13 and part of Lot 18 East of Centre Road, Concession 16 East of Centre Road, and part of Lot 15, Concession 6 East of Centre Road, in the Geographic Township of East Williams and part of Lots 3 to 10 and part of Lot 19 West of Centre Road, Concession 17 West of Centre Road and part of Lots 3 to 9 and part of Lot 18 West of Centre Road, Concession 16 West of Centre Road, in the Geographic Township of West Williams, now Municipality of North Middlesex, Middlesex County (Golder 2012c, 2012e).

1.2 Archaeological Context

1.2.1 The Natural Environment

The study area is located within the southwestern end of the Horseshoe Moraines (Chapman and Putnam 1984:127-129), specifically the tail end of the Seaforth Moraine (Hagerty and Kingston 1992:11). The two major soil series present are Huron and Brantford. Both are silty clay loams and range from moderately well drained to



imperfectly drained within the area of interest. Six other soil series include the well to imperfectly drained Bennington silt loams, the well to imperfectly drained Brant silty loams, the rapid to imperfectly drained Caledon sand loams, the moderately well to imperfectly drained Melbourne silty clay loams, the poorly drained Watrin loamy fine sands, and the well to imperfectly drained Watford fine sandy loams. The topography is nearly level across the study area with only some gentle sloping which influences soil drainage characteristics. Most of these soils would have been suitable for pre-contact Aboriginal agriculture given their modern agricultural capability ratings (Hagerty and Kingston 1992:74-96) although they would not be the highest yielding soil types available in Middlesex County. There are potable water sources within the study area, including numerous small streams, such as Adelaide Creek in the western portion and Mud Creek in the eastern portion. The original survey of Egremont Road also noted swampy areas along the route, and a forest cover of basswood, beech, birch, black ash, elm, ironwood, maple, white ash and white oak (Carroll 1831a).

1.2.2 Previously Known Archaeological Sites and Surveys

A Stage 1 archaeological assessment of the wind farm study area (PIF P001-422-2008) was previously conducted on behalf of Air Energy TCI Inc. by Golder (2009) for a parcel of approximately 8,275 hectares in the Township of Adelaide Metcalfe, Middlesex County, Ontario (Figure 1). An inquiry of the Ontario Archaeological Sites Database (ASDB) in 2008 identified one archaeological site within one kilometre of the study area. The Armbro site (AfHj-107) is a 10 metre by 15 metre pre-contact Aboriginal lithic scatter containing a drill and chipping detritus recorded by Jacqueline Fisher in 2000 and located just east of the study area. Golder's (2009) Stage 1 assessment determined that the potential for pre-contact Aboriginal and Euro-Canadian sites was moderate to high on these properties. As a result, Stage 2 archaeological assessment was recommended for all areas to be impacted during the construction, operation, and decommissioning phases of the proposed wind energy centre.

A Stage 1 archaeological assessment of the transmission line study area (PIF P075-456-2008) was previously conducted on behalf of GENIVAR by Archaeological Services Inc. (ASI) (ASI 2009a) and is discussed below. This area had been previously investigated and discussed as part of the Bornish Wind Energy Centre by ASI.

The initial Stage 2 archaeological assessment (PIFs P001-452-2008, P001-526-2009, and P084-197-2010) was conducted from September 2008 to March 2010 on behalf of both Air Energy TCI Inc. and NEEC (Golder 2010a). During these investigations, thirteen archaeological sites were recorded (Table 2). Nine of the identified sites were pre-contact Aboriginal that consisted of lithic scatters and isolated findspots. Stage 3 archaeological assessments were recommended for three of these nine pre-contact sites, Location 2 (AfHk-29), Location 3 (AgHk-66) and Location 7 (AgHj-5) (Golder 2010a). The remaining four sites represent historic Euro-Canadian occupations. As noted in Table 2, three of the four historic Euro-Canadian sites [Location 9 (AfHk-30), representing early-to-late 19th century occupation, Location 5 (AgHk-67) and Location 11 (AgHk-68), both representing mid-to-late 19th century occupations] required further archaeological assessment (Golder 2010a).

An additional Stage 2 archaeological assessment (PIFs P218-096-2011 and P319-015-2012) was conducted by Golder (2012a) from July 11, 2011 to January 25, 2012 on behalf of NEEC. As a result of this survey, 15 archaeological sites were recorded (Table 2). Eight of the identified sites were pre-contact Aboriginal that consisted of lithic scatters and isolated findspots, while the remaining seven represented historic Euro-Canadian occupations. As noted in Table 2, six of these sites [Location 14 (AgHj-10), Location 19 (AeHk-42), Location 22



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(AgHk-122), Location 24 (AgHk-123), Location 26 (AfHk-34), and Location 28 (AgHk-124)] required further archaeological assessment (Golder 2012a).

Table 2: Summary of Locations 1 to 28 Investigated by Golder from 2008 to 2012 (Golder 2010a, 2012a)

Location	Borden Number	Affiliation	Date of Stage 3 Assessment	Stage 4 Mitigation Recommended
1	-	late 19 th to 20 th century historic Euro-Canadian	N/A	-
2	AfHk-29	pre-contact Aboriginal – Middle Woodland (<i>circa</i> 400 B.C. to A.D. 500)	December 5, 2009	No
3	AgHk-66	pre-contact Aboriginal – Small Point Late Archaic (<i>circa</i> 1500 to 1100 B.C.)	March 26, 2010	No
4	-	pre-contact Aboriginal	N/A	-
5	AgHk-67	mid-to-late 19 th century historic Euro-Canadian	March 25 and 26, 2010	No
6	-	pre-contact Aboriginal	N/A	-
7	AgHj-5	pre-contact Aboriginal	November 16, 2009	Yes
8	-	pre-contact Aboriginal	N/A	-
9	AfHk-30	early to late 19 th century historic Euro-Canadian	March 29, 2010	No
10	-	pre-contact Aboriginal	N/A	-
11	AgHk-68	mid-to-late 19 th century historic Euro-Canadian	March 24, 2010	No
12	-	pre-contact Aboriginal	N/A	-
13	-	pre-contact Aboriginal	N/A	-
14	AgHj-10	pre-contact Aboriginal – Early Archaic (<i>circa</i> 8000 to 6000 B.C.)	Recommended	-
15	-	pre-contact Aboriginal	N/A	-
16	-	pre-contact Aboriginal	N/A	-
17	-	late 19 th to early 20 th century historic Euro-Canadian	N/A	-
18	-	pre-contact Aboriginal	N/A	-
19	AeHk-42	mid-19 th century historic Euro-Canadian	Recommended	-
20	AgHk-121	late 19 th to early 20 th century historic Euro-Canadian	N/A	-
21	-	pre-contact Aboriginal	N/A	-
22	AgHk-122	mid-to-late 19 th century historic Euro-Canadian	Recommended	-



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Location	Borden Number	Affiliation	Date of Stage 3 Assessment	Stage 4 Mitigation Recommended
23	AfHk-33	pre-contact Aboriginal – Middle Archaic Brewerton (<i>circa</i> 6000 to 2500 B.C.)	N/A	-
24	AgHk-123	mid-to-late 19 th century historic Euro-Canadian	Recommended	-
25	-	pre-contact Aboriginal	N/A	-
26	AfHk-34	19 th century historic Euro-Canadian	Recommended	-
27	-	pre-contact Aboriginal	N/A	-
28	AgHk-124	mid-to-late 19 th century historic Euro-Canadian	Recommended	-

Golder (2010b) conducted Stage 3 archaeological assessments from November 2009 to March 2010 (PIFs P084-220-2009, P084-221-2009 and P084-198-2010). The Stage 3 excavations resulted in the following recommendations:

- Location 2 (AfHk-29) and Location 3 (AgHk-66) yielded no additional pre-contact Aboriginal material remains. Their cultural heritage value or interest was deemed to be low and sufficiently documented. Stage 4 archaeological mitigation of these sites was not recommended.
- Location 5 (AgHk-67), Location 9 (AfHk-30) and Location 11 (AgHk-68) yielded early-to-late 19th and early 20th century material culture. However, the nature of the assemblages (i.e. high proportions of breakable domestic items such as glass and ceramics and low proportions of personal and structural items) suggests that they are isolated mid-to-late 19th century domestic middens. As such, the cultural heritage value or interest of these sites was deemed to be low, sufficiently documented, and Stage 4 archaeological mitigation was not recommended.
- Location 7 (AgHj-5) yielded pre-contact Aboriginal material remains including a complete biface, 85 fragments of chipping detritus, a utilized flake and faunal remains. Given the number of artifacts recovered, the cultural heritage value or interest of the site was deemed to be high. Stage 4 archaeological mitigation was recommended for this site, and has yet to be conducted.

In addition, a further enquiry of the ASDB by Golder identified an additional pre-contact Aboriginal site within one kilometre of the study area (Robert von Bitter, personal communication, February 6, 2012). The Wooley site (AfHj-114), is a Late Middle Archaic habitation that was documented and excavated by Archaeologix Inc. in 2003 and is located southeast of the study area. Over 5,500 artifacts were recovered and analyzed during the Stage 2, 3 and 4 investigations of the site (Archaeologix Inc. 2003a, 2003b).

Further additional Stage 2 archaeological assessment for the revised NEEC Adelaide Wind Energy Centre layout was conducted from April 11, 2012 to July 18, 2012, under PIF P218-277-2012, issued to Scott Martin, Ph.D., by the MTCS. This work is the subject of this report.



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Permission to enter the optioned lots within the study area and to remove archaeological resources was given by Mr. Thomas Bird of NEEC.

To date, no previous fieldwork has been conducted within 50 metres of the study area. However, as was noted above, both past and recent surveys of the Geographic Township of Adelaide have identified a number of pre-contact Aboriginal and historic Euro-Canadian sites. Table 3 provides a general outline of the culture history of Middlesex County, based on chapters in Ellis and Ferris (editors) (1990).

Table 3: Cultural Chronology of Middlesex County

Period	Characteristics	Time Period	Comments
Early Palaeo-Indian	Fluted Projectiles	9000 - 8400 B.C.	spruce parkland/caribou hunters
Late Palaeo-Indian	Hi-Lo Projectiles	8400 - 8000 B.C.	smaller but more numerous sites
Early Archaic	Kirk and Bifurcate Base Points	8000 - 6000 B.C.	slow population growth
Middle Archaic	Brewerton-like points	6000 - 2500 B.C.	environment similar to present
Late Archaic	Lamoka (Narrow Points)	2000 - 1800 B.C.	increasing site size
	Broad Points	1800 - 1500 B.C.	large chipped lithic tools
	Small Points	1500 - 1100 B.C.	introduction of bow hunting
Terminal Archaic	Hind Points	1100 - 950 B.C.	emergence of true cemeteries
Early Woodland	Meadowood Points	950 - 400 B.C.	introduction of pottery
Middle Woodland	Dentate/Pseudo-Scallop Shell Pottery	400 B.C. - A.D.500	increased sedentism
Late Woodland	Cord-Wrapped Stick Pottery	A.D. 500 - 1000	introduction of corn
	Early Ontario Iroquoian	A.D. 900/1000 - 1300	emergence of agricultural villages
	Middle Ontario Iroquoian	A.D. 1300 - 1400	long longhouses (100 metres +)
	Late Ontario Iroquoian	A.D. 1400 - 1650	tribal warfare and displacement
Contact Aboriginal	Various Algonkian Groups	A.D. 1700 - 1875	early written records and treaties
Late Historic	Euro-Canadian	A.D. 1796 - present	European settlement

Information concerning specific site locations is protected by provincial policy, and is not fully subject to the *Freedom of Information Act*. The release of such information in the past has led to looting or various forms of illegally conducted site destruction. Confidentiality extends to all media capable of conveying location, including maps, drawings, or textual descriptions of a site location. The MTCS will provide information concerning site location to the party or an agent of the party holding title to a property, or to a licensed archaeologist with relevant cultural resource management interests.

Background research and field work associated with the NEEC Bornish Wind Energy Centre was conducted from 2008 to 2010 by ASI (2009a, 2009b, 2011) and in 2011 and 2012 by Golder (Golder 2012b). Four pre-contact Aboriginal archaeological sites [AgHk-4 (Wyoming Rapids), AgHk-7 (Wyoming Reach), AgHk-12 (June 21-1), and AgHk-17 (85-2-1)] were previously registered within one kilometre of the NEEC Bornish Wind Energy



Centre study area (Golder 2012b). During their Stage 2 archaeological assessment, ASI (2009b, 2011) documented 30 archaeological sites, 27 pre-contact Aboriginal and 30 historic Euro-Canadian.

During the subsequent Stage 2 archaeological assessment, Golder (2012b) documented 36 additional archaeological sites, 17 pre-contact Aboriginal, 18 historic Euro-Canadian and one multi-component. Given the present NEEC Bornish Wind Energy Centre layout, Golder (2012b) recommended that 23 of the sites [Location 2 (AgHk-95), Location 4 (AgHk-96), Location 5 (AgHk-97), Location 10 (AgHj-6), Location 11 (AgHj-7), Location 12 (AgHj-8), Location 13 (AgHk-100), Location 14 (AgHk-101), Location 15 (AgHk-102), Location 16 (AgHk-103), Location 17 (AgHk-104), Location 18 (AgHk-105), Location 19 (AgHk-119), Location 20 (AgHk-106), Location 21 (AgHk-107), Location 22 (AgHk-108), Location 23 (AgHk-109), Location 24 (AgHk-110), Location 25 (AgHk-111), Location 26 (AgHk-117), Location 31 (AgHk-116), Location 34 (AgHk-114) and Location 35 (AgHk-115)], identified during the 2011-2012 field seasons, undergo Stage 3 archaeological assessment to further evaluate their cultural heritage value or interest in advance of any ground disturbance activities. In addition, two sites previously identified by ASI, P16 (AgHk-82) and P17 (AgHk-83), still require Stage 3 archaeological assessment.

Further Stage 2 assessment was conducted at NEEC Bornish by Golder (2012d). The additional field work documented Location 37, a cluster of predominantly 20th century historic Euro-Canadian cultural material. Golder (2012d) indicated that the cultural heritage value or interest of Location 37 had been sufficiently documented.

Additionally, Golder (2012c) recently conducted a Stage 1 and 2 archaeological assessment of the Parkhill POI, which is located northeast of the study area and which will connect the NEEC Bornish and Adelaide Wind Energy Centre properties to the hydro grid. One unnamed pre-contact Aboriginal archaeological site, (AgHj-2), was previously registered within one kilometre of the POI study area. During the Stage 2 assessment of the Parkhill POI lands, a mid-to-late 19th century historic Euro-Canadian site, Location 1 (AgHj-9), was documented. Golder (2012c) recommended that Location 1 (AgHj-9) undergo Stage 3 archaeological assessment to further evaluate its cultural heritage value or interest in advance of any ground disturbance activities. Additional Stage 2 assessment was also subsequently conducted at the Parkhill POI by Golder (2012e). During that work, an isolated pre-contact Aboriginal findspot, Location 2, was located. Golder (2012e) indicated that the cultural heritage value or interest of Location 2 had been sufficiently documented.

1.2.3 Pre-contact Aboriginal Resources and Archaeological Potential

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Golder applied archaeological potential criteria commonly used by the MTCS (Government of Ontario 2011) to determine areas of archaeological potential within the study area. These variables include proximity to previously identified archaeological sites, distance to various types of water sources, soil texture and drainage, glacial geomorphology, elevated topography and the general topographic variability of the area.

Distance to modern or ancient water sources is generally accepted as the most important determinant of past human settlement patterns and, considered alone, may result in a determination of archaeological potential. However, any combination of two or more other criteria, such as well-drained soils or topographic variability, may also indicate archaeological potential. Finally, extensive land disturbance can eradicate archaeological potential (Wilson and Horne 1995).



In archaeological potential modeling, a distance to water criterion of 300 metres is generally employed. The closest potable water sources in the study area are Adelaide Creek in the western portion and Mud Creek in the eastern portion. These run throughout the study area from west to east, draining from Lake Huron (Figure 1A). Lake Huron is also only a few kilometres away from the study area and was likely frequently visited by pre-contact Aboriginal peoples.

Soil texture can be an important determinant of past settlement, usually in combination with other factors such as topography. The area surrounding the region of interest is mainly glacial till with predominantly clay soils (Chapman and Putnam 1984). These areas of glacial till have been called Horseshoe Moraines (Hagerty and Kingston 1992:11). The soils of the study area consist of the Huron and Brantford soils series, which are silty clay loams and range from moderately well drained to imperfectly drained within the area of interest. Most of these soils would have been suitable for pre-contact Aboriginal agriculture given their modern agricultural capability ratings (Hagerty and Kingston 1992:74-96) although they would not be the highest yielding soil types available in Middlesex County.

The study area falls within a climatic region which is slightly warmer, slightly drier, and providing slightly more frost-free days than the adjacent South Slopes area of Middlesex County, but is quite similar to the Lake Huron-Georgian Bay area (Hagerty and Kingston 1992:16). This may have ameliorated Aboriginal gathering, gardening and agriculture.

The MTCS views the presence of previously registered archaeological resources as a prime indicator of archaeological potential. Previous archaeological fieldwork resulted in the identification of ten pre-contact Aboriginal archaeological sites within or within one kilometre of the study area. Further, Golder's 2008 and 2009 Stage 2 archaeological assessments resulted in the identification of nine other pre-contact Aboriginal sites near the study area. These sites span the Early Archaic to the Middle Woodland periods, indicating pre-contact Aboriginal presence in the area from *circa* 8000 B.C. to A.D. 500.

Glacial till chert can be found in the moraines of the area (Chapman and Putnam 1984:Figure 16) and relatively high quality Kettle Point chert occurs to the west between Kettle Point and Ipperwash, on Lake Huron. Currently, Kettle Point chert occurs as submerged outcrops extending for approximately 1,350 metres into Lake Huron. Secondary deposits of Kettle Point chert have been reported in Essex County and in the Ausable Basin (Eley and von Bitter 1989; Fox 2009:362). Natural resources, such as game, fish and wild berries, have also been considered plentiful in the pre-contact period (Brock 1972:586).

Due to the proximity of the study area to Adelaide and Mud Creeks, which functioned as potable water sources, as well as transportation routes, and due to the presence of plentiful natural resources, as well as several previously documented sites near or within the study area, the potential for pre-contact Aboriginal archaeological resources within the study area was judged to be moderate to high.

1.2.4 Existing Conditions

The study area encompasses approximately 93 hectares and consists of ploughed and well-weathered agricultural fields, manicured lawns requiring test pitting, and a property disturbed by existing structures.



1.3 Historical Context

1.3.1 Post-contact Aboriginal Resources and Archaeological Potential

The post-contact Aboriginal occupation of southern Ontario was heavily influenced by the dispersal of various Iroquoian-speaking communities by the New York State Iroquois and the subsequent arrival of Algonkian-speaking groups from northern Ontario at the end of the 17th century and the beginning of the 18th century (Konrad 1981; Schmalz 1991). By 1690, Algonkian speakers from the north began to repopulate Bruce County (Rogers 1978:761). This is the period in which the Mississaugas are known to have moved into southern Ontario and the lower Great Lakes watersheds (Konrad 1981). In southwestern Ontario, however, members of the Three Fires Confederacy (Chippewa, Ottawa and Potawatomi) were immigrating from Ohio and Michigan in the late 1700s (Feest and Feest 1978:778-779).

The area first enters the Euro-Canadian historic record as part of Treaty Numbers 21 and 27½ made between the First Nation inhabitants of the area and the British. Treaty No. 21 was a provisional agreement signed on March 19, 1819, between John Aiken, Esquire, on behalf of His Majesty, and the Principal Men of the Chippewa Nation of Indians (Morris 1943:24). It encompassed the tract of land:

Commencing at the northerly side of the River Thames at the south west angle of the Township of London; thence along the western boundary of the Township of London, in a course north 21 degrees, 30 minutes west, twelve miles to the north west angle of the said Township; then on a course about south 62 degrees and 30 minutes west forty-eight miles more or less until it intersects a line on a course produced north two miles from the north east angle of the Shawnee [Sombra] Township; then along the eastern boundary line of the said Township, twelve miles and a half more or less to the northern boundary line of the Township of Chatham; then east twenty-four miles more or less to the River Thames; then along the waters edge of the River Thames against the stream to the place of beginning, reserving a tract of land situate[d] on the northerly side of the River Thames nearly opposite to the northerly angle of the Township of Southwold and south west angle of the Del[a]ware Township containing 15,360 acres; also reserving two miles square distant about four miles above the rapids where the Indians have their improvements and nearly parallel to the Moravian Village containing 5,120 acres.

(Morris 1943: 24-25)

Treaty No. 21 was further modified in Treaty No. 280½ (Canada 1891: 281-282) and finally confirmed in Treaty No. 25, which changed the method of quantity of payment to the First Nations groups concerned, with some minor variation in the description of the land surrender (Morris 1943: 25).

A small portion of the northwest corner of the Geographic Township of Adelaide was later surrendered in Treaty No. 27½,

being an agreement made at Amherstburg in the Western District of the Province of Upper Canada on the 26th of April, 1825, between James Givens, Esquire, Superintendent of Indian Affairs, on behalf of His Majesty King George the Fourth and the Chiefs and Principal Men of the part of the Chippewa Nation of Indians, inhabiting and claiming the tract of land Wawanosh Township in the County of Huron was named after Way-way-nosh the principal Chief of the Band making this Treaty.

(Morris 1943: 26-27)



Treaty No. 27½ was subsequently confirmed on July 10, 1827 as Treaty No. 29 with only a minor change in the legal description of the boundaries of the land surrender (Morris 1943: 27). While it is difficult to delineate treaty boundaries today, Figure 2 shows the approximate location of the current study area within the relevant Treaty areas.

Due to the proximity of the study area to Adelaide and Mud Creeks, which functioned as potable water sources and transportation routes, the potential for post-contact Aboriginal archaeological resources was judged to be moderate.

1.3.2 Historic Euro-Canadian Resources and Archaeological Potential

The criteria used by the MTCS to determine potential for historic Euro-Canadian archaeological sites includes the presence of: previously identified archaeological sites; particular, resource-specific features that would have attracted past subsistence or extractive uses; areas of initial, non-Aboriginal settlement; early historic transportation routes; elevated topography; and properties designated under the *Ontario Heritage Act* (Government of Ontario 1990b).

The first Euro-Canadian settlement of the area began in the 1830s after Egremont Road was laid through the study area in 1831 by the Deputy Surveyor Peter Carroll (Carroll 1831a, Carroll 1831b). He surveyed Egremont Road along with “three tiers of lots on either side” (Nielsen 1993:6). He then finished the remainder of the township in 1832 (Nielsen 1993:8). Close examination of the study area, as depicted on the original township map made by Peter Carroll in Oxford County on December 29, 1831, does not reveal any squatters recorded before 1831 or any notable First Nations activity in the area.

The 1862 Tremaine Map (Tremaine 1862) and the 1878 H.R. Page and Company Historical Atlas Map (H.R. Page 1878) record the Euro-Canadian settlers of Middlesex County. The Tremaine Map provides the names of all of the landowners but only illustrates a select number of structures on the properties. However, the later Historical Atlas Maps for the Township of Adelaide (Figure 3) and the Township of West Williams (Figure 4) not only provide the names of the landowners but also the structures observed on the majority of the properties. Houses, brickyards, cemeteries, churches, hotels, manufactories, mills and schools are all noted. Even though locations are only approximate on these maps, they do identify potential significant archaeological historic remains within the study area. Typically these locations no longer exhibit any visible evidence of their former structure, but if they are to be impacted by wind turbine placement, these locations require archaeological assessment. A number of locations and communities with potential archaeological significance were identified within the study area, and are discussed in detail in the Stage 1 archaeological assessment (Golder 2009).

Given the presence of Euro-Canadian peoples in the Geographic Township of Adelaide by the early 19th century, in addition to several abandoned village sites and the identification of 11 historic Euro-Canadian sites near or within the study area (Golder 2010a, 2010b, 2012a), the potential for historic Euro-Canadian archaeological resources was judged to be moderate to high.



1.3.3 Recent Reports

In addition to the existing historic documentation, the properties considered for the NEEC Adelaide Wind Energy Centre have been reported on in recent archaeological assessments. The Stage 1 archaeological assessment was conducted by Golder and was entitled *Stage 1 Archaeological Assessment, Air Energy TCI Adelaide Wind Farm Various Lots, Concession 1 to 5 N.E.R. and 1 to 4 S.E.R., Geographic Township of Adelaide, Middlesex County, Ontario* (Golder 2009), produced by Golder in April 2009 under PIF P001-422-2008. The first Stage 2 archaeological assessment was conducted by Golder and was entitled *Stage 2 Archaeological Assessment, NextEra Adelaide Wind Farm, Various Lots, Concession 1 to 5 N.E.R. and 1 to 4 S.E.R., Geo. Township of Adelaide, Middlesex County, Ontario* (Golder 2010a), produced by Golder in March 2010 under PIFs P001-452-2008, P001-526-2009, and P084-197-2010. A Stage 3 assessment was also conducted by Golder and was entitled *Stage 3 Archaeological Assessment, NextEra Adelaide Wind Farm, Various Lots, Concession 1 to 5 N.E.R. and 1 to 4 S.E.R., Geo. Township of Adelaide, Middlesex County, Ontario* (Golder 2010b), produced by Golder in April 2010 under PIFs P084-220-2009, P084-221-2009 and P084-198-2010. Most recently, Golder conducted and reported on additional Stage 2 archaeological assessment for the NEEC Adelaide Wind Energy Centre. This report was entitled *Stage 2 Archaeological Assessment, NextEra Adelaide Wind Energy Centre, Various Lots, Concessions 1 to 5 N.E.R. and 1 to 4 S.E.R., Geographic Township of Adelaide, Middlesex County, Ontario* (Golder 2012a), produced by Golder on April 10, 2012 under PIFs P218-096-2011 and P319-015-2012.

The properties considered for the NEEC Bornish Wind Energy Centre have also been reported on in recent archaeological assessments. The Stage 1 archaeological assessment was conducted by ASI and was entitled *Stage 1 Archaeological Assessment, Canadian Greenpower Wind Project, Counties of Huron, Middlesex and Lambton, Ontario* (ASI 2009a) produced by ASI in May 2009 under PIF P057-456-2008. The first part of the Stage 2 archaeological assessment was also conducted by ASI and was entitled *Stage 2 Property Assessment (June 2009 Field Season), Bornish Wind Farm Project Environmental Assessment, East Williams, West Williams, and Adelaide Townships, Middlesex County, Ontario* (ASI 2009b) produced by ASI in October 2009 under PIF P057-534-2009. The second part of the Stage 2 archaeological assessment was again conducted by ASI and was entitled *Stage 2 Archaeological Assessment (Property Assessment), Bornish Wind Farm Project, East Williams, West Williams, and Adelaide Townships, Middlesex County, Ontario* (ASI 2011) produced by ASI in March 2011 under PIF P057-534-2009. The third part of the Stage 2 archaeological assessment was conducted by Golder (2012b) in 2011 and 2012 and was entitled *Stage 2 Archaeological Assessment, NextEra Bornish Wind Energy Centre, Municipality of North Middlesex, Middlesex County, Ontario*, and was produced on February 14, 2012 under PIF P218-097-2011 and PIF P319-013-2012. The fourth part of the Stage 2 archaeological assessment was conducted by Golder (2012d) in 2012 and was entitled *Stage 2 Archaeological Assessment, NextEra Bornish Wind Energy Centre, Additional Field Work, Various Lots and Concessions, Municipality of North Middlesex, Middlesex County, Ontario*, and was produced on June 27, 2012 under PIF P218-276-2012.

Golder (2012c) also recently conducted a Stage 1 and 2 Archaeological Assessment of the Parkhill Point of Interconnect lands to the northeast of the study area. This report was entitled *Stages 1 and 2 Archaeological Assessment, Parkhill Point of Interconnect, Various Lots and Concessions, Geographic Townships of East Williams and West Williams now Municipality of North Middlesex, Middlesex County, Ontario*, and was produced on February 7, 2012 under PIF P319-018-2012. The second part of the Stage 2 archaeological assessment was conducted by Golder (2012e) in 2012 and was entitled *Stages 1 and 2 Archaeological Assessment, Parkhill*



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Point of Interconnect, Additional Lands, Part of Lot 18, Concession 17 E.C.R., Geographic Township of East Williams, now Municipality of North Middlesex, Middlesex County, Ontario, and a revised report was produced on July 11, 2012 under PIF P319-020-2012.



2.0 FIELD METHODS

Approximately 98.5% of the project area to be impacted by wind farm and transmission line development, as described in this report, was subject to pedestrian survey, approximately 0.5% was assessed by test pit survey, while approximately 0.5% comprised areas of steep slope and 0.5% comprised an area of disturbance by recent structures and were not assessed. As per the *Standards and Guidelines for Consultant Archaeologists* (Section 7.8.6, Standard 1a, Government of Ontario 2011), Plates 1 to 22 and 24 to 55 illustrate a representative sample of parts of the study area that confirm conditions met the requirements for pedestrian survey and test pit survey. Plate 23 illustrates an area disturbed by recent structures that was not assessed (Figure 5-18, Supplement A: Figure 18). Plates 56 to 58 show areas of steep slope that were not assessed (Figure 5-25, Supplement A: Figure 25 and Figure 5-27, Supplement A: Figure 27). Plate locations and photograph directions are provided in Figure 5 and Supplement A. During the Stage 2 pedestrian and test pit survey, the weather ranged from warm/hot, humid and sunny to cool and overcast. At no time were the field or weather conditions detrimental to the recovery of archaeological material and visibility was excellent. Permission to enter the optioned lots within the study area and to remove archaeological resources was given by Mr. Thomas Bird of NEEC.

As the study area is predominantly characterized by ploughed and well-weathered agricultural fields, the majority of the Stage 2 archaeological assessment was conducted using pedestrian survey at an interval of five metres. Numerous areas existed within the study area where pedestrian survey was possible, despite conditions visible on aerial photography. These included seasonal watercourses of widths less than one metre and treed windbreaks of widths less than five metres (in ploughed agricultural fields). Their presence did not impact pedestrian survey methods since they were accommodated within the five metre transects.

When archaeological resources were identified, the pedestrian survey transect was decreased to a one metre interval and spanned a minimal 20 metre radius around the identified artifact. This approach established if the artifact was an isolated find or, rather, if it was part of a larger artifact scatter. Should the artifact have been part of a larger scatter, the one metre interval would have been continued until the full extent of the scatter was defined (Government of Ontario 2011).

Additionally, two areas were assessed by test pit survey at an interval of five metres (Plate 55; Figure 5-25; Supplement A: Figure 25). Each test pit was approximately 30 centimetres in diameter, excavated five centimetres into subsoil by hand, and then back filled. All soil was screened through six millimetre mesh hardware cloth in order to facilitate the recovery of artifacts and each pit was examined for stratigraphy, evidence of cultural features, or fill. No artifacts were recovered during the test pit survey and so additional standards related to Stage 2 test pit archaeological assessment will not be discussed here (Government of Ontario 2011).

More specifically, to address concerns about the impact of the wind turbine infrastructure, standalone collector cable corridors or transmission line corridors on private lands were surveyed as 20 metre wide corridors and all roads or roads with collector cables alongside were surveyed as 60 metre wide corridors. Collector cable corridors that were limited to municipal right-of-ways were surveyed from the road edge to the edge of the right-of-way, and in all cases, were deemed disturbed due to ditching and recent disturbance through road construction. All turbine pads with associated vehicle and crane turnarounds and equipment laydown areas were assessed as a 70 metre radius centred on the turbine. Finally, all substation and laydown areas were assessed with 20 metre buffers.



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All formal and diagnostic artifact types were collected in the field and a UTM reading was taken using a Trimble Nomad handheld GPS unit with a Holux GR-271 CF GPS Receiver using the North American Datum (NAD) 83, with a minimal accuracy of two metres. UTM coordinates were recorded for a total of 19 archaeological sites. These are presented in Supplement B. Figure 5 illustrates the Stage 2 field assessment methods across the study area, while Supplement A illustrates both the Stage 2 field assessment methods and results. Two First Nations monitors participated in the Stage 2 archaeological assessment; their roles are summarized in Supplement C.



3.0 RECORD OF FINDS

The Stage 2 archaeological assessment was conducted using the methods described in Section 2.0. An inventory of the documentary record generated by field work is provided in Table 4 below and the Stage 2 archaeological assessment results are discussed here. Golder's additional Stage 2 survey of the proposed NEEC Adelaide Wind Energy Centre properties resulted in the identification of 18 sites: 16 pre-contact Aboriginal and two historic Euro-Canadian. Additionally, the multi-component Location 19 that was previously documented by Golder (2012a) was revisited. A total of 19 sites are discussed in this report. A summary of the artifacts collected from each of these sites, their spatial extent, and a description of the artifacts left in the field is presented below. Supplement A, which illustrates the Stage 2 survey methods and results, and Supplement B, which lists the UTM coordinates for each of these locations, are included as supplementary documents to this report.

Table 4: Inventory of Documentary Record

Document Type	Current Location of Document Type	Additional Comments
Field Notes	Golder offices in London and Mississauga	In original field book and photocopied in project file
Hand Drawn Maps	Golder offices in London and Mississauga	In original field book and photocopied in project file
Maps Provided by Client	Golder offices in London and Mississauga	Stored in project file
Digital Photographs	Golder office in Mississauga	Stored digitally in project file

All of the material culture collected during the additional NEEC Adelaide Wind Energy Centre Stage 2 archaeological assessment is contained in one banker's box. It will be temporarily housed at Golder's Mississauga office until formal arrangements can be made for its transfer to a MTCS collections facility.

The 19 archaeological sites include 17 locations with a pre-contact Aboriginal lithic industry component. The chert types identified in the discussion below include:

- **Kettle Point chert:** a relatively high quality raw material that outcrops between Kettle Point and Ipperwash, on Lake Huron. Currently, Kettle Point occurs as submerged outcrops extending for approximately 1,350 metres into Lake Huron. Secondary deposits of Kettle Point chert have been reported in Essex County and in the Ausable Basin (Eley and von Bitter 1989; Fox 2009:362).
- **Onondaga chert:** a high quality raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham (Eley and von Bitter 1989; Fox 2009:361-362).

All chert type identifications were accomplished visually using reference materials located in Golder's Mississauga office. The flake assemblage was subject to morphological analysis following the classification scheme described by Lennox *et al.* (1986) and expanded upon by Fisher (1997), with the exception that no attempt was made to distinguish "primary" from "primary bipolar" flakes.

In addition, the 19 sites include two single-component historic Euro-Canadian sites and one multi-component site with a historic Euro-Canadian component. For historic Euro-Canadian artifacts, Appendix A provides a more



comprehensive discussion of temporally diagnostic material culture to supplement the information provided below.

3.1 Location 19 (AeHk-42)

During the previous Stage 2 survey of parcel ADL1040 conducted by Golder (Golder 2012a), a mid-19th century historic Euro-Canadian site was identified as Location 19 (AeHk-42). Due to NEEC Adelaide Wind Energy Centre layout changes, the artifact scatter size of Location 19 (AeHk-42) was expanded and additional artifacts were collected on a cool and windy April 11, 2012, during the additional Stage 2 pedestrian survey (Plates 1 and 2; Supplement A: Figure 15) in this ploughed agricultural field. The multi-component Location 19 (AeHk-42) now measures 75 metres (along the north-south axis) by 35 metres (along the east-west axis). Artifacts from a portion of this site were previously reported on (Golder 2012a). Only those artifacts collected on April 11, 2012 are reported on below.

In total, 60 artifacts were recovered during the additional Stage 2 pedestrian survey of Location 19 (AeHk-42). The Euro-Canadian assemblage includes 49 domestic items, four personal items and three structural items. The pre-contact Aboriginal assemblage includes three fragments of chipping detritus and one retouched flake. Each artifact class is discussed in greater detail below.

Table 5 provides a summary of all of the Stage 2 artifacts collected from Location 19 (AeHk-42).

Table 5: Location 19 (AeHk-42) Artifact Summary

Artifact	Frequency	%
Euro-Canadian		
domestic	49	81.67
personal	4	6.67
structural	3	5
Total Euro-Canadian artifacts	56	93.33
Pre-contact Aboriginal		
chipping detritus	3	5
retouched flake	1	1.67
Total Pre-contact Aboriginal artifacts	4	6.67
Total	60	100.00

3.1.1 Domestic Artifacts

Forty-nine domestic artifacts were collected from Location 19 (AeHk-42), including 39 ceramic and 10 glass.



3.1.1.1 Ceramic Artifacts

The 39 ceramic fragments collected during the additional Stage 2 assessment of Location 19 (AeHk-42) include: 30 whiteware fragments, four ironstone fragments, three pearlware fragments, one piece of porcelain and one piece of yellowware. Table 6 provides a breakdown of the ceramic assemblage by ware type, while Table 7 provides a more detailed breakdown of the ceramic assemblage by decorative style.

Table 6: Summary of Ceramic Collection According to Ware type, Location 19 (AeHk-42)

Artifact	Frequency	%
whiteware	30	76.93
ironstone	4	10.26
pearlware	3	7.69
porcelain	1	2.56
yellowware	1	2.56
Total	39	100.00

Table 7: Summary of Ceramic Collection According to Decorative Style, Location 19 (AeHk-42)

Artifact	Frequency	%
whiteware, transfer printed	7	17.95
whiteware, sponged	7	17.95
whiteware, flow transfer printed	5	12.82
whiteware, plain	5	12.82
whiteware, edged	3	7.69
ironstone, moulded	3	7.69
whiteware, stamped	2	5.13
pearlware, sponged	2	5.13
whiteware, hand painted	1	2.56
ironstone, plain	1	2.56
pearlware, plain	1	2.56
porcelain, transfer printed	1	2.56
utilitarian earthenware, yellow	1	2.56
yellowware, plain	1	2.56
Total	39	100.00

White Earthenware

The most common ceramic type in this assemblage (n=30 or 76.93% of the ceramic collection) is whiteware. A total of 30 whiteware fragments were collected during the additional Stage 2 assessment of Location 19 (AeHk-42). Whiteware is a variety of earthenware with a near-colourless glaze that replaced earlier near-white ceramics such as pearlware and creamware. This shift in ware types began by the early 1830s (Miller 1991).



Early whiteware tends to have a porous paste, with more vitrified, harder ceramics becoming increasingly common later in the 19th century. Five fragments of whiteware in this assemblage are plain (Plate 59:1), seven fragments are transfer printed (Plate 59: 2), seven fragments are sponged (Plate 59:3), five fragments are flow transfer printed (Plate 59:4), one fragment is hand painted (Plate 59:5), three fragments are edged (Plate 59:6) and two fragments are stamped (Plate 59:7).

Seven transfer printed fragments were recovered during the Stage 2 assessment. Transfer printed whiteware involved the transfer of an intricate pattern from a sheet of treated paper to the underglaze surface of the clay. Before 1830, almost all transfer printed wares were blue. After 1830, colours such as light blue, black, brown, green, purple and red became more common (Collard 1967). Transfer printed whiteware ceramics were less densely decorated than the earlier pearlware types, with more of the white background showing through the designs. Two of the fragments of transfer printed whiteware in the assemblage are blue floral, two are blue willow, one is black floral, one is blue, and one is brown displaying a man and a woman.

Seven fragments in the whiteware assemblage are sponged. Sponged whiteware ceramics were a form of inexpensive tableware in which a sponge was used to apply an underglaze pigment. All-over sponging became popular by the 1840s and remained common until the 1870s. Four of the sponged fragments are blue, one is red, one is purple, and one is blue and red.

Five pieces of flow transfer printed whiteware were found during the additional Stage 2 assessment of Location 19 (AeHk-42). Two are fragmentary and monochromatic blue; no design is visible. One fragment has a visible floral pattern, and the other two are indistinguishable. Flow blue transfer ware enjoyed a long period of popularity, beginning around 1844 and tapering off around 1900 (Collard 1967; Miller 1991). It is difficult to provide a more specific date of manufacture for these poorly preserved sherds.

One fragment of hand painted whiteware was recovered during the Stage 2 assessment. The fragment is polychromatic and the colours visible are bright green and black, forming part of a broad-stroke floral pattern. Chrome painted designs of this type were popular between approximately 1830 and 1860 (Collard 1967). The colours seen here are considered "Late Palette" colours.

Three fragments of edged whiteware were also recovered from the assemblage, all dating to the last half of the 19th century. Edged wares have enjoyed popularity through the late 18th and 19th centuries, and the moulding on the edge has changed through time. Before about 1840 most edged ceramics had a scalloped or undulating edge. After 1840 the edges did not normally have scallops. Green and blue are the most common colours for edged plateware (Adams 1994).

Two fragments of whiteware in the assemblage are stamped. Stamping is a variation of the sponging decorative method. With this technique, a sponge was cut into simple designs (e.g. geometric shapes, leaves, flowers). These stamps were then loaded with pigment and repeatedly dabbed around the ceramic to form a coarse design. This technique was used from the 1850s to the early 20th century (Adams 1994). One fragment of stamped whiteware in the assemblage has a blue floral pattern and one has a polychromatic geometric design.

Ironstone

Four fragments of ironstone were collected, three being moulded (Plate 60:1) and one plain (Plate 60:2). Ironstone, or graniteware, is a variety of refined white earthenware introduced in the 1840s that became



extremely popular by the 1870s and 1880s due to its robust structure which made it more durable for life on Canadian homesteads (Kenyon 1985). It is usually much thicker than other whiteware and often decorated with raised moulded designs of wheat or fruit.

Three fragments in the ironstone assemblage are moulded. During the 1870s to 1880s, it was the most popular type of tableware in Ontario, and its white varieties rarely had coloured decoration. Instead, it often had raised moulded designs. The most popular and enduring of these was the “wheat” pattern. All three fragments in this assemblage have designs that have been rendered indistinguishable due to damage.

Pearlware

Three fragments of pearlware were collected from Location 19 (AeHk-42). Pearlware, sometimes referred to as “China glazed”, is a variety of earthenware that was popular from 1780 to 1840. When placed on white earthenware bisque, this glaze gave the impression of a “whiter” ware than the earlier yellow tinted creamware (Miller 1987). It can be distinguished by a bluish tint where the glaze pools on a vessel. Two of the pearlware fragments collected from Location 19 (AeHk-42) have a blue and red sponged design (Plate 61:1), and one is plain (Plate 61:2).

Porcelain

There is one fragment of porcelain in the assemblage from Location 19 (AeHk-42). Porcelain is a type of earthenware fired at such a high temperature that the clay has begun to vitrify; consequently the ceramic is translucent when held up to a light. Because of its high cost, porcelain is extremely rare on 19th century sites in Ontario. However, by the turn of the century it becomes relatively common as production techniques were developed in Europe which greatly reduced costs.

The porcelain piece in this assemblage is a small fragment with a blue geometric transfer printed pattern (Plate 62:1). Transfer printing was (and continues to be) a popular decorative technique for porcelain.

Yellowware

One fragment of plain yellowware (Plate 63:1) was recovered from Location 19 (AeHk-42). Yellowware ceramics were first manufactured in the 1840s, and continue to be manufactured in limited quantities today (Adams 1994:100). They have a yellow paste and a clear glaze that brings out the yellow colour on the surface. Typical forms of yellowware are bowls and jugs.

3.1.1.2 Glass Artifacts

Ten fragments of domestic glass were collected from the expanded Stage 2 survey of Location 19 (AeHk-42). This assemblage includes 9 pieces of bottle glass and one piece of press-moulded dish glass.

Glass bottles occur in a wide variety of shapes, sizes and colours. In archaeological surface collections, bottles are usually highly fragmented, thus making identification difficult. The lip area or “finish” and the base may be



found relatively intact; however, an examination may provide some dating clues. The bottle glass in this assemblage includes four aqua fragments, two black fragments, one purple fragment, one olive fragment, and one sun-coloured amethyst fragment. One of the aqua fragments is an open pontil base, likely manufactured prior to 1870. Another aqua fragment is a neck with an oil or tapered collar finish (Plate 64:1). The oil finish was one of the most commonly used finishes on a wide array of different types of bottles from the 1830s until the 1920s (Lindsey 2009). Generally, aqua coloured glass fragments originate from medical and pharmaceutical products including patent medicine bottles of the 19th and 20th century. The presence of sun coloured amethyst glass in the assemblage generally indicates a date range of 1880 to 1920 (Kendrick 1971).

Pressed glass item of various forms (plates, compotes, goblets), often with intricate decoration, were very popular in Canada from the 1870s to the 1920s (Adams 1994). The press-moulded dish fragment in this assemblage is colourless, with a thick scalloped rim (Plate 64:2).

3.1.2 Personal Artifacts

Four personal artifacts were collected during the additional Stage 2 assessment of Location 19 (AeHk-42). This includes two fragments of white clay pipe stems, one fragment of a white clay pipe bowl, and one “agate” pressed ceramic button.

White clay pipes were very popular throughout the 19th century, with a decline in use by 1880 when they were replaced by briar pipes and cigarettes (Adams 1994:93). Most white clay pipes found in Upper Canada were manufactured either in Quebec or Scotland; occasionally examples from English, Dutch, French and American makers are also found. Sometimes the maker’s name and/or city of manufacture were impressed on one side of the pipe stem, a practise which did not become popular until the 1840s (Adams 1994:93). Both of the pipe stems in the assemblage bear the maker’s mark of “Murray” and “Glasgow” (Plate 65:1). The pipe bowl is undecorated.

The button in the assemblage is white, 4-holed and made of pressed ceramic (Plate 65:2). These “agate” buttons are similar in colour and size (usually about 10 millimetres) to modern shirt buttons. The “agate” was a type of pressed ceramic powder made using the so-called “Prosser” process patented in 1840. Agate buttons became widely distributed in Canada by the late 1840s and are common on sites from this time on (Adams 1994).

3.1.3 Structural Artifacts

Two structural artifacts were collected from Location 19 (AeHk-42). These artifacts consist of two heavily corroded machine cut nails. Cut nails are temporally later than wrought nails, the result of a machinated process for cutting metal (Adams 1994). They are square and often have a square or rectangular head, though early varieties can exhibit hand-hammered heads. They were invented as early as 1790, but did not become common in Ontario until 1830. They continued to be popular until the 1890s, when wire nails began to be manufactured and used widely. The nails in the assemblage are both machine-cut, and heavily corroded.



3.1.4 Pre-contact Aboriginal Artifacts

Four pre-contact Aboriginal artifacts were collected during the additional Stage 2 archaeological assessment of Location 19 (AeHk-42). The pre-contact assemblage includes one retouched flake (Plate 66:1) and three pieces of chipping detritus (two secondary flakes and one tertiary flake) manufactured from Kettle Point chert.

3.1.4.1 Chipping Detritus

A total of three lithic flakes, all Kettle Point chert, were collected during the Stage 2 investigation of Location 19 (AeHk-42). Their morphology is presented in Table 8. Secondary flakes comprise 66.67% (n=2) of the sample, suggesting that most primary tool production occurred elsewhere, although sample size is small.

Table 8: Location 19 (AeHk-42) Chipping Detritus

Chert	Primary		Secondary		Tertiary		Broken		Shatter		Micro		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Kettle Point	0	0.00	2	66.67	1	33.33	0	0.00	0	0.00	0	0.00	3	100.00
Total	0	0.00	2	66.67	1	33.33	0	0.00	0	0.00	0	0.00	3	100.00

3.1.5 Artifact Catalogue

Table 9 provides the revised Stage 2 catalogue for Location 19 (AeHk-42).

Table 9: Location 19 (AeHk-42) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
15	surface collection	0 cm	whiteware, flow transfer	1	flow blue, floral
16	surface collection	0 cm	whiteware, sponged	1	blue and red
17	surface collection	0 cm	whiteware, sponged	1	blue
18	surface collection	0 cm	whiteware, sponged	1	red
19	surface collection	0 cm	whiteware, sponged	1	blue
20	surface collection	0 cm	whiteware, transfer print	1	willow pattern
21	surface collection	0 cm	whiteware, edged	1	blue, no rim, non-incised
22	surface collection	0 cm	whiteware, edged	1	blue, scalloped, faintly incised curved
23	surface collection	0 cm	porcelain, transfer print	1	blue
24	surface collection	0 cm	pearlware	1	plain
25	surface collection	0 cm	whiteware, stamped	1	blue, floral
26	surface collection	0 cm	ironstone, moulded	1	indeterminate pattern
27	surface collection	0 cm	whiteware, sponged	1	blue
28	surface collection	0 cm	whiteware, transfer print	1	brown, man and woman
29	surface collection	0 cm	whiteware, sponged	1	purple
30	surface collection	0 cm	whiteware, stamped	1	pink, blue and green



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Cat. #	Context	Depth	Artifact	Freq.	Comments
31	surface collection	0 cm	whiteware, painted	1	green and black floral
32	surface collection	0 cm	whiteware	1	burnt
33	surface collection	0 cm	button, agate	1	4 hole, Prosser
34	surface collection	0 cm	white clay pipe bowl	1	plain
35	surface collection	0 cm	white clay pipe stem	1	Murray, Glasgow (1830-1861)
36	surface collection	0 cm	nail, cut	1	square head
37	surface collection	0 cm	nail, cut	1	square head
38	surface collection	0 cm	glass, bottle	1	olive, neck fragment, patina
39	surface collection	0 cm	glass, bottle	1	aqua, cloudy, panel bottle body fragment
40	surface collection	0 cm	glass, bottle	1	light aqua, neck and finish, patina
41	surface collection	0 cm	glass, bottle	1	amethyst, body fragment
42	surface collection	0 cm	glass, serving dish	1	clear, moulded, scalloped edge
43	surface collection	0 cm	glass, bottle	1	clear, body
44	surface collection	0 cm	glass, window	1	>1.7mm
45	surface collection	0 cm	retouched flake	1	Kettle Point chert, 1 x 1 edge; manufactured from large secondary flake
46	surface collection	0 cm	chipping detritus	1	Kettle Point chert, secondary
47	surface collection	0 cm	chipping detritus	1	Kettle Point chert, tertiary
48	surface collection	0 cm	chipping detritus	1	Kettle Point chert, secondary
49	surface collection	0 cm	yellowware	1	clear glaze exterior
50	surface collection	0 cm	whiteware, transfer print	1	rim, black floral, interior and exterior decorated
51	surface collection	0 cm	pearlware, sponged	1	blue and red, rim
52	surface collection	0 cm	pearlware, sponged	1	blue and red
53	surface collection	0 cm	whiteware, edged	1	blue, unscalloped, impressed straight lines
54	surface collection	0 cm	whiteware, transfer print	1	blue, willow pattern
55	surface collection	0 cm	whiteware, transfer print	1	blue
56	surface collection	0 cm	whiteware, flow transfer	1	blue
57	surface collection	0 cm	whiteware, flow transfer	1	blue
58	surface collection	0 cm	whiteware, flow transfer	1	blue
59	surface collection	0 cm	whiteware, flow transfer	1	blue
60	surface collection	0 cm	whiteware, transfer print	1	blue, floral and lettering, makers mark
61	surface collection	0 cm	whiteware, transfer print	1	blue, floral
62	surface collection	0 cm	whiteware, sponged	1	blue, rim
63	surface collection	0 cm	ironstone, moulded	1	rim, indeterminate pattern
64	surface collection	0 cm	ironstone, moulded	1	plain
65	surface collection	0 cm	whiteware	1	plain



Cat. #	Context	Depth	Artifact	Freq.	Comments
66	surface collection	0 cm	ironstone	1	plain
67	surface collection	0 cm	whiteware	1	plain
68	surface collection	0 cm	whiteware	1	plain
69	surface collection	0 cm	whiteware	1	plain
70	surface collection	0 cm	white clay pipe stem	1	partial mark, Murray, Glasgow
71	surface collection	0 cm	glass, bottle	1	sun-coloured amethyst, body or neck fragment
72	surface collection	0 cm	glass, bottle	1	light aqua, body fragment
73	surface collection	0 cm	glass, bottle	1	dark olive, body fragment, patina
74	surface collection	0 cm	glass, bottle	1	dark olive, wine bottle base

3.2 Location 29 (AfHk-37)

Location 29 (AfHk-37) is an isolated projectile point identified in parcel ADL1006 on a hot and sunny June 14, 2012, during the additional Stage 2 pedestrian survey (Plates 3, 4 and 42; Supplement A: Figure 14) of the ploughed agricultural field. This Innes projectile point manufactured from Kettle Point chert (Plate 67:1), is side-notched and is complete. It measures 44.80 millimetres long, 21.93 millimetres wide and 8.20 millimetres thick with a basal width of 19.19 millimetres and an inter-notch width of 15.46 millimetres. In Ontario, this projectile point type dates to *circa* 1500-1400 B.C., during the Small Point Late Archaic (Burse 1994:57; Lennox 1982; cf. Ellis et al. 2009:819-820). As detailed in Section 2.0, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found.

3.2.1 Artifact Catalogue

Table 10 provides the Stage 2 artifact catalogue for Location 29 (AfHk-37).

Table 10: Location 29 (AfHk-37) Artifact Catalogue

Cat #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	projectile point	1	Kettle Point chert; Innes point

3.3 Location 30 (AfHk-38)

Location 30 (AfHk-38), a pre-contact Aboriginal site, was identified in parcel ADL1040 on cool and windy April 11, 2012, during the additional Stage 2 pedestrian survey (Plates 1 and 2; Supplement A: Figure 15) of a ploughed agricultural field. This location is a small site consisting of a 10 metre (along the north-south axis) by 12 metre (along the east-west axis) surface scatter of five lithic artifacts. One artifact is a thumbnail scraper manufactured from Kettle Point chert (Plate 68:1) that is 22.02 millimetres long, 18.95 millimetres wide, and 1.91 millimetres thick. Two artifacts are utilized flakes with use on one edge and manufactured from Kettle Point chert (Plate 68:2 and Plate 68:3), while the remaining two artifacts are Kettle Point chert chipping detritus (Plate 68:4 and Plate 68:5).



3.3.1 Chipping Detritus

A total of two lithic flakes, both Kettle Point chert, were collected during the Stage 2 investigation of Location 30 (AfHk-38). Their morphology is presented in Table 11. Primary and secondary flakes comprise 100.00% of the sample, suggesting that most later stage tool production occurred elsewhere, although the sample size is small.

Table 11: Location 30 (AfHk-38) Chipping Detritus

Chert	Primary		Secondary		Tertiary		Broken		Shatter		Micro		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Kettle Point	1	50.00	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	2	100.00
Total	1	50.00	1	50.00	0	0.00	0	0.00	0	0.00	0	0.00	2	100.00

3.3.2 Artifact Catalogue

Table 12 provides the Stage 2 artifact catalogue for Location 30 (AfHk-38).

Table 12: Location 30 (AfHk-38) Artifact Catalogue

Cat #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	utilized flake	1	Kettle Point chert; use along one edge
2	surface collection	0 cm	utilized flake	1	Kettle Point chert; use along one edge
3	surface collection	0 cm	scraper	1	Kettle Point chert, thumbnail scraper
4	surface collection	0 cm	chipping detritus	1	Kettle Point chert, secondary
5	surface collection	0 cm	chipping detritus	1	Kettle Point chert, primary

3.4 Location 31 (AfHk-35)

Location 31 (AfHk-35) consists of an isolated projectile point that was identified in parcel ADL1023 on a cool and sunny April 12, 2012, during the Stage 2 pedestrian survey (Plate 5; Supplement A: Figure 15) of this ploughed agricultural field. The projectile point is a Crawford Knoll type manufactured from Kettle Point chert (Plate 69:1). It is notched on one side while the other tang is broken, and measures 33.62 millimetres long, 16.44 millimetres wide, and 5.58 millimetres thick, with a basal width of 8.38 millimetres and an inter-notch width of 7.22 millimetres. In Ontario, this projectile point type dates to *circa* 1800/1700-1100 B.C., during the Small Point Late Archaic (Ellis et al. 1990:97, 107-108; Ellis et al. 2009:818-821). As detailed in Section 2.0, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found.



3.4.1 Artifact Catalogue

Table 13 provides the Stage 2 artifact catalogue for Location 31.

Table 13: Location 31 (AfHk-35) Artifact Catalogue

Cat #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	projectile point	1	Kettle Point chert; Crawford Knoll point, missing one tang

3.5 Location 32 (AgHk-132)

Location 32 (AgHk-132), which is located in the southern portion of parcel ADL1563, was identified on a cool and overcast May 3, 2012, during the additional Stage 2 pedestrian survey (Plate 12; Supplement A; Figure 3) of a ploughed agricultural field. This historic Euro-Canadian site consists of a 45 metre (along the north-south axis) by 55 metre (along the east-west axis) surface scatter of late 19th to early 20th century artifacts. In total, 69 artifacts were collected during the Stage 2 assessment and approximately 60 were left behind. The 69 collected artifacts include 66 domestic, one personal, one structural and one metal. Each artifact class is discussed in greater detail below. Table 14 provides a summary of all of the Stage 2 artifacts collected from Location 32 (AgHk-132).

Table 14: Location 32 (AgHk-132) Artifact Summary

Artifact	Frequency	%
Euro-Canadian		
domestic	66	95.65
personal	1	1.45
structural	1	1.45
metal	1	1.45
Total	69	100.00

3.5.1 Domestic Artifacts

A total of 66 domestic artifacts were collected from Location 32 (AgHk-132). This assemblage consists of 52 ceramic artifacts and 14 glass artifacts.

3.5.1.1 Ceramic Artifacts

The 52 ceramic fragments collected during the Stage 2 assessment of Location 32 (AgHk-132) include a variety of ware types, including 22 ironstone fragments, 19 whiteware fragments, four utilitarian earthenware fragments, four pearlware fragments, one creamware fragment, one yellowware fragment and one semi-porcelain fragment. Table 15 provides a breakdown of the ceramic assemblage by ware type, while Table 16 provides a more detailed breakdown of the ceramic assemblage by decorative style.



Table 15: Summary of Ceramic Collection According to Ware Type, Location 32 (AgHk-132)

Artifact	Frequency	%
ironstone	22	42.31
whiteware	19	36.54
utilitarian	4	7.69
pearlware	4	7.69
creamware	1	1.92
semi-porcelain	1	1.92
yellowware	1	1.92
Total	52	100.00

Table 16: Summary of Ceramic Collection According to Decorative Style, Location 32 (AgHk-132)

Artifact	Frequency	%
ironstone, moulded	10	19.23
ironstone, plain	9	17.31
whiteware, transfer print	9	17.31
whiteware, sponge	4	7.69
pearlware	4	7.69
whiteware, plain	3	5.77
ironstone, transfer print	3	5.77
whiteware, banded	2	3.85
earthenware, red	2	3.85
yellowware, banded	1	1.92
whiteware, edged	1	1.92
stoneware, Rockingham glaze	1	1.92
stoneware, Bristol Glaze	1	1.92
semi-porcelain	1	1.92
creamware	1	1.92
Total	52	100.00

Ironstone

The most common ceramic type collected during the Stage 2 assessment of Location 32 (AgHk-132) is ironstone (n=22, or 42.31%). Ironstone (or graniteware as it is sometimes known) is a variety of refined white earthenware introduced in the 1840s that became extremely popular by the 1870s and 1880s due to its robust structure which made it more durable for life on Canadian homesteads (Kenyon 1985). It is usually much thicker than other whiteware and often decorated with raised moulded designs of wheat or fruit. The ironstone in this assemblage includes ten moulded fragments (Plate 70:1), nine plain fragments (Plate 70:2), and three transfer-printed fragments (Plate 70:3).



Ten fragments in the ironstone assemblage are moulded, some with a floral pattern and some with the classic wheat motif. During the 1870s to 1880s it was the most popular type of tableware ceramic in Ontario, and its white varieties rarely had coloured decoration. Instead, it often had raised moulded designs. The most popular and enduring of these was the “wheat” pattern, patented in 1848 (Sussman 1985:7).

Three ironstone fragments in the assemblage are transfer printed. In the 1830s and 1840s, the blue shade used in transfer printing became lighter in hue and the designs more open, and colours other than blue increased in popularity. From about 1850 to 1890 only the colours blue, black, and brown were common (Adams 1994). Two of the fragments have partial obscured makers’ marks in black ink, and one displays a blue willow pattern.

Whiteware

There were 19 whiteware fragments collected from Location 32 (AgHk-132). Whiteware is a variety of earthenware with a near colourless glaze that replaced earlier near white ceramics such as pearlware and creamware by the early 1830s. Whiteware in this assemblage includes nine fragments with transfer print (Plate 71:1), four fragments with sponged decoration (Plate 71:2), three plain fragments (Plate 71:3), two banded fragments with industrial slip (Plate 71:4), and one edged fragment (Plate 71:5).

Nine transfer printed fragments were recovered during the Stage 2 assessment. Transfer printed whiteware involved the transfer of an intricate pattern from a sheet of treated paper to the underglaze surface of the clay. Before 1830, almost all transfer printed wares were blue. After 1830, colours such as light blue, black, brown, green, purple and red became more common (Collard 1967). Transfer printed whiteware ceramics were less densely decorated than the earlier pearlware types, with more of the white background showing through the designs. Six fragments are blue (five of which are the blue willow design) and two of the fragments are brown.

Four fragments in the whiteware assemblage are sponged. Sponged whiteware ceramics were a form of inexpensive tableware in which a sponge was used to apply an underglaze pigment. All-over sponging became popular by the 1840s and remained common until the 1870s. All four of the sponged fragments are blue.

Two fragments of industrial slip banded whiteware are included in the assemblage. Banded whiteware is decorated with coloured slip (liquid clay) and then glazed. It was the main decorative technique in the 17th and mid-18th centuries before the introduction of enamels. Typically the slip is a blue, black, brown or earth colour, often appearing in combination. The most common design consists of bands encircling the ceramic item, but swags, mocha (a seaweed-like motif) and “cat’s eyes” sometimes appear. Both fragments in the assemblage are brown and blue, and one displays a marbled pattern, which is a common variation of banded ware. Banded whiteware suggests an early to mid-19th century manufacture date.

A fragment of edged whiteware was also recovered from the assemblage. Edged wares have enjoyed popularity through the late 18th and 19th centuries, and the moulding on the edge has changed through time. Before about 1840 most edged ceramics had a scalloped or undulating edge. After 1840 the edges did not normally have any scallops. Green and blue are the most common colours for edged plateware (Adams 1994). The sherd of edged ware recovered in the Stage 2 assessment is blue and has an unscaloped rim with an impressed “chicken foot” pattern. The unscaloped impressed rim generally suggests a manufacture date of 1825 to 1891.



Utilitarian Ware

There were four fragments of utilitarian earthenware and stoneware collected from Location 32 (AgHk-132). Red and yellow earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian ware in the first half of the 19th century, eventually being replaced by more durable stoneware vessels (Miller 1987). The red earthenware artifacts include a thick base fragment from a large storage container with a clear interior and exterior glaze, and a hollowware body fragment with a brownish salt glaze on both the interior and the exterior.

One fragment of stoneware was collected from this location. Stoneware vessels were produced throughout the 19th century and became more durable and refined over time. The artifact is a hollowware shoulder with a Bristol Glaze exterior.

Rockinghamware

This ware type is very similar to yellowware, and became popular around 1850, with manufacture continuing into the 20th century (Gallo 1985). The main difference between the two is that Rockinghamware displays a unique glaze type. It involves splattering a brown manganese glaze onto a piece that has already been covered with a clear glaze. The result is a dripping, mottled glaze effect, as the two glazes are melted together during firing. Another technique sometimes used was to dip the ceramic piece directly into the already-mixed glaze, which results in a reddish-brown finish (Gallo 1985:39). A thick handle from a Rockinghamware vessel was recovered from Location 32 (AgHk-132).

Pearlware

A total of four fragments of pearlware were collected from Location 32 (AgHk-132). Pearlware, sometimes referred to as “China glazed”, is a variety of earthenware that was popular from 1780 to 1840. When placed on white earthenware bisque, this glaze gave the impression of a “whiter” ware than the earlier yellow tinted creamware (Miller 1987). All four collected pearlware pieces were plain fragments (Plate 72:1). One piece has a foot ring from a small plate or saucer.

Creamware

One fragment of plain moulded creamware was collected (Plate 73:1). Creamware became a common tableware in Upper Canada by 1770 and continued in popularity until about 1820 when it started to be replaced by later pearlware and whiteware types (Miller 1987).

Semi-Porcelain

There was one semi-porcelain artifact collected from Location 32 (AgHk-132), a plain rim from a teacup or mug (Plate 74:1). During the first half of the 19th century, the English improved pottery techniques resulting in the production of durable and decorative wares with trade names such as semi-porcelain. This hard earthenware sought to emulate imported porcelains but lacked true translucency. In 1850, semi-porcelains were reintroduced



and this vitreous, hard-glazed white earthenware resembling bone china soon dominated the marketplace (Hughes 1961).

Yellowware

One fragment of banded yellowware was recovered from Location 32 (AgHk-132). Yellowware ceramics were first manufactured in the 1840s, and continue to be manufactured in limited quantities today (Adams 1994:100). The banded pieces are decorated with brown, white and/or blue annular bands. Banded pieces were quite common during the second half of the 19th century. The yellowware fragment collected (Plate 75:1) has a blue dendritic pattern characteristic of the banded mocha decoration style, which was common through the second half of the 19th century (Miller 1991:6).

3.5.1.2 Glass Artifacts

Fourteen fragments of domestic glass were collected during the Stage 2 survey of Location 32 (AgHk-132). The assemblage includes 12 bottle glass fragments, two press-moulded glass fragments.

Glass bottles occur in a wide variety of shapes, sizes and colours. In archaeological surface collections, bottles are usually highly fragmented, thus making identification difficult. The lip area or “finish” and the base may be found relatively intact; however, an examination may provide some dating clues. The bottle glass in the assemblage includes four clear fragments, two fragments of light aqua glass, one body fragment from a panel bottle with embossed letters and a narrow part of the neck, one amber case bottle body fragment, a dark amber threaded finish and handle from a large glass jug, a purple bottle body fragment, a cobalt blue bottle base with an embossed Dominion Glass makers mark (Plate 76:1) which is a registered mark beginning in 1828 (Miller and Jorgenson 1986:3), a light green bottle body fragment, and a bright green body fragment.

Pressed glass items of various forms (plates, compotes, goblets), often with intricate decoration, were very popular in Canada from the 1870s to the 1920s (Adams 1994). The assemblage contains two press-moulded pieces, one of which is a sun-coloured amethyst fluted tumbler fragment (Plate 76:2). The other is a clear moulded fragment from a serving dish (Plate 76:3). The presence of sun coloured amethyst glass in the assemblage generally indicates a date range of 1880 to 1920 for manufacture (Kendrick 1971).

3.5.2 Personal Artifacts

There was one personal artifact collected from Location 32 (AgHk-132). This artifact was a fragment of a corroded mouth harp (Plate 77:1). The mouth harp is a small instrument that is also commonly referred to as a “Jew’s harp”. A person would play this ancient style of instrument using their mouth, and different sounds were created by altering the shape of the mouth and position of the tongue (Kenyon 1981). The harp in this assemblage is heavily corroded and one of the tines is broken.



3.5.3 Structural Artifacts

There was one structural artifact collected from Location 32 (AgHk-132). This artifact was a fragment of window glass. Kenyon (1980a) provides a pre-1850 date for window panes that have an average thickness of less than 1.6 millimetres. Window pane thickness increased throughout the 19th century as the trend shifted towards using larger windows when building homes. The fragment in this assemblage is less than 1.6 millimetres thick, and can be dated to pre-1850.

3.5.4 Metal Artifacts

There was one tool collected from Location 32 (AgHk-132). This artifact was a fragment of a broken iron file. It is heavily corroded and broken.

3.5.5 Artifact Catalogue

Table 17 provides the Stage 2 artifact catalogue for Location 32 (AgHk-132).

Table 17: Location 32 (AgHk-132) Artifact Catalogue

Cat #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	whiteware, banded	1	industrial slip, blue and brown
2	surface collection	0 cm	whiteware, banded	1	industrial slip, blue and brown
3	surface collection	0 cm	yellowware, banded	1	blue mocha
4	surface collection	0 cm	whiteware, transfer print	1	blue willow pattern
5	surface collection	0 cm	whiteware, transfer print	1	blue willow pattern
6	surface collection	0 cm	whiteware, transfer print	1	blue willow pattern
7	surface collection	0 cm	whiteware, transfer print	1	blue willow pattern
8	surface collection	0 cm	whiteware, edged	1	blue, unscaloped, chickenfoot
9	surface collection	0 cm	ironstone, moulded	1	wheat pattern
10	surface collection	0 cm	ironstone, moulded	1	indeterminate pattern
11	surface collection	0 cm	ironstone	1	plain
12	surface collection	0 cm	whiteware	1	plain
13	surface collection	0 cm	whiteware, transfer print	1	blue willow pattern
14	surface collection	0 cm	whiteware, sponged	1	blue
15	surface collection	0 cm	whiteware, sponged	1	blue
16	surface collection	0 cm	whiteware, sponged	1	blue
17	surface collection	0 cm	whiteware, sponged	1	blue
18	surface collection	0 cm	whiteware, transfer print	1	blue
19	surface collection	0 cm	whiteware, transfer print	1	blue willow pattern
20	surface collection	0 cm	ironstone	1	plain
21	surface collection	0 cm	glass, serving dish	1	clear, moulded
22	surface collection	0 cm	glass, drinking	1	sun-coloured amethyst, fluted tumbler



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Cat #	Context	Depth	Artifact	Freq.	Comments
23	surface collection	0 cm	glass, bottle	1	light aqua, embossed
24	surface collection	0 cm	glass, window	1	>1.7mm
25	surface collection	0 cm	mouth harp	1	heavily corroded
26	surface collection	0 cm	file	1	broken file
27	surface collection	0 cm	Rockingham ware	1	thick handle
28	surface collection	0 cm	stoneware	1	buff paste, Bristol glaze with dot border
29	surface collection	0 cm	glass, bottle	1	dark amber, large handle and threaded finish from large jug
30	surface collection	0 cm	ironstone, transfer print	1	black, makers mark
31	surface collection	0 cm	ironstone, transfer print	1	black, makers mark
32	surface collection	0 cm	semi-porcelain	1	plain
33	surface collection	0 cm	ironstone, moulded	1	wheat pattern
34	surface collection	0 cm	ironstone, moulded	1	indeterminate pattern
35	surface collection	0 cm	ironstone	1	plain
36	surface collection	0 cm	ironstone, moulded	1	indeterminate pattern
37	surface collection	0 cm	ironstone, moulded	1	indeterminate pattern
38	surface collection	0 cm	ironstone	1	plain
39	surface collection	0 cm	ironstone	1	plain
40	surface collection	0 cm	creamware	1	plain
41	surface collection	0 cm	earthenware, red	1	dark brown glaze on interior and exterior
42	surface collection	0 cm	earthenware, red	1	dark brown salt glaze on interior and exterior
43	surface collection	0 cm	pearlware	1	foot ring
44	surface collection	0 cm	pearlware	1	plain
45	surface collection	0 cm	pearlware	1	plain
46	surface collection	0 cm	pearlware	1	plain
47	surface collection	0 cm	whiteware	1	plain, burnt
48	surface collection	0 cm	whiteware	1	plain, burnt
49	surface collection	0 cm	whiteware, transfer print	1	brown transfer
50	surface collection	0 cm	ironstone, moulded	1	plain
51	surface collection	0 cm	ironstone	1	plain
52	surface collection	0 cm	ironstone, moulded	1	indeterminate pattern
53	surface collection	0 cm	ironstone, moulded	1	floral border
54	surface collection	0 cm	ironstone, moulded	1	indeterminate pattern
55	surface collection	0 cm	ironstone	1	plain
56	surface collection	0 cm	ironstone	1	plain
57	surface collection	0 cm	ironstone	1	rim
58	surface collection	0 cm	ironstone, transfer print	1	blue, willow pattern
59	surface collection	0 cm	whiteware, transfer print	1	brown transfer



Cat #	Context	Depth	Artifact	Freq.	Comments
60	surface collection	0 cm	glass, bottle	1	light green, body fragment, machine made
61	surface collection	0 cm	glass, bottle	1	lime green body fragment
62	surface collection	0 cm	glass, bottle	1	light aqua, narrow neck fragment
63	surface collection	0 cm	glass, bottle	1	cobalt base, embossed Dominion Glass makers mark
64	surface collection	0 cm	glass, bottle	1	amber case bottle fragment
65	surface collection	0 cm	glass, bottle	1	sun-coloured amethyst, body fragment
66	surface collection	0 cm	glass, bottle	1	clear body fragment
67	surface collection	0 cm	glass, bottle	1	clear body fragment
68	surface collection	0 cm	glass, bottle	1	clear body fragment
69	surface collection	0 cm	glass, bottle	1	clear body fragment

3.6 Location 33

Location 33 is a pre-contact Aboriginal site that was identified on parcel ADL1012 on May 11, 2012, during the additional Stage 2 pedestrian survey (Supplement A: Figure 16). It consists of an isolated bifacially-flaked end scraper manufactured from Onondaga chert (Plate 78:1). This scraper measures 39.90 millimetres long, 23.65 millimetres wide and 9.61 millimetres thick. As detailed in Section 2.0, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found.

3.6.1 Artifact Catalogue

Table 18 provides the Stage 2 artifact catalogue for Location 33.

Table 18: Location 33 Artifact Catalogue

Cat #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	scraper	1	Onondaga chert, bifacially flaked, end scraper

3.7 Location 34

Location 34 is a pre-contact Aboriginal site that was identified on parcel ADL1058 on a hot and overcast May 25, 2012, during the additional Stage 2 pedestrian survey (Plates 22 and 23; Supplement A: Figure 18). It consists of an isolated utilized flake manufactured from Onondaga chert (Plate 79:1). This flake shows use wear along one edge. As detailed in Section 2.0, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found.



3.7.1 Artifact Catalogue

Table 19 provides the Stage 2 artifact catalogue for Location 34.

Table 19: Location 34 Artifact Catalogue

Cat #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	utilized flake	1	Onondaga chert, one edge

3.8 Location 35

Location 35 is a pre-contact Aboriginal site that was identified on parcel ADL1058 on a hot and overcast May 25, 2012, during the additional Stage 2 pedestrian survey (Plates 22 and 23; Supplement A: Figure 18). It consists of an isolated unifacial perforator manufactured from Kettle Point chert (Plate 80:1) that measures 20.26 millimetres long, by 15.39 millimetres wide, and 4.69 millimetres thick. As detailed in Section 2.0, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found.

3.8.1 Artifact Catalogue

Table 20 provides the Stage 2 artifact catalogue for Location 35.

Table 20: Location 35 Artifact Catalogue

Cat #	Context	Depth	Artifact	Freq.	Comment
1	surface collection	0 cm	perforator	1	Kettle Point chert, unifacial

3.9 Location 36 (AgHk-133)

Location 36 (AgHk-133) is a pre-contact Aboriginal site identified on parcel ADL1571 on a cool and sunny May 31, 2012, during the additional Stage 2 pedestrian survey (Plates 31 and 32; Supplement A: Figure 01). It consists of an isolated and nearly complete non-diagnostic stemmed projectile point manufactured from Kettle Point chert (Plate 81:1). The stem is unfinished due to a longitudinal seam in the material and may have been used as is. This point measures 48.03 millimetres in length, 24.49 millimetres in width, and is 9.41 millimetres thick. As detailed in Section 2.0, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found.

3.9.1 Artifact Catalogue

Table 21 provides the Stage 2 artifact catalogue for Location 36 (AgHk-133).

Table 21: Location 36 Artifact Catalogue

Cat #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	projectile point	1	Kettle Point chert, stemmed, unfinished



3.10 Location 37

Location 37 is a pre-contact Aboriginal site identified on parcel ADL1571 on a cool and sunny May 31, 2012, during the additional Stage 2 pedestrian survey (Plates 31 and 32; Supplement A: Figure 01). It consists of an isolated piece of Kettle Point chert secondary chipping detritus (Plate 82:1). As detailed in Section 2.0, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found.

3.10.1 Artifact Catalogue

Table 22 provides the Stage 2 artifact catalogue for Location 37.

Table 22: Location 37 Artifact Catalogue

Cat #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	chipping detritus	1	Kettle Point chert, secondary

3.11 Location 38

Location 38 is pre-contact Aboriginal site identified on parcel ADL1061 on a cool and sunny May 31, 2012, during the additional Stage 2 pedestrian survey (Plate 39; Supplement A: Figure 17). It consists of an isolated graver with one spur and a worked edge manufactured from Kettle Point chert (Plate 83:1). It is 28.38 millimetres long, 21.18 millimetres wide, and 4.10 millimetres thick. As detailed in Section 2.0, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found.

3.11.1 Artifact Catalogue

Table 23 provides the Stage 2 artifact catalogue for Location 38.

Table 23: Location 38 Artifact Catalogue

Cat #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	graver	1	Kettle Point chert, one spur, worked edge

3.12 Location 39 (AfHk-36)

Location 39 (AfHk-36) is a pre-contact Aboriginal site identified on parcel ADL1023 (Plate 5; Supplement A: Figure 15) on an overcast, windy, and cool May 2, 2012, during the additional Stage 2 pedestrian survey. It consists of an isolated Lamoka Stemmed projectile point manufactured from Kettle Point chert (Plate 84:1). This point which may have had an expanding stem before tang breakage, is missing its tip, and shows signs of retouch along the base. It measures 31.77 millimetres in length, 20.75 millimetres in width, is 7.94 millimetres thick, with an inter-notch width of 13.57 millimetres. In Ontario, this projectile point type dates to *circa* 3200-2200 B.C., during the Narrow Point Late Archaic (Ellis et al. 2009:812; Ritchie 1971:29, 82-85). As detailed in Section



2.0, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found.

3.12.1 Artifact Catalogue

Table 24 provides the Stage 2 artifact catalogue for Location 39 (AfHk-36).

Table 24: Location 39 (AfHk-36) Artifact Catalogue

Cat #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	projectile point	1	Kettle Point chert, Lamoka Stemmed point, missing tip, reworked

3.13 Location 40

Location 40 is a pre-contact Aboriginal site identified on parcel ADL1006 on a hot and sunny June 14, 2012, during the additional Stage 2 pedestrian survey (Plates 3, 4 and 42; Supplement A: Figure 14). It consists of one fragment of Kettle Point chert secondary chipping detritus (Plate 85:1) and one burnt retouched flake manufactured from Kettle Point chert (Plate 85:2) in an area spanning 3 metres (along the north-south axis) by 15 metres (along the east-west axis). As detailed in Section 2.0, survey intervals were intensified to one metre within a twenty metre radius of the finds but no further artifacts were found.

3.13.1 Artifact Catalogue

Table 25 provides the Stage 2 artifact catalogue for Location 40.

Table 25: Location 40 Artifact Catalogue

Cat #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	chipping detritus	1	Kettle Point chert, secondary
2	surface collection	0 cm	retouched flake	1	Kettle Point chert, burnt

3.14 Location 41

Location 41 is a pre-contact Aboriginal site identified on parcel ADL1036 on a hot, humid, and sunny June 18, 2012, during the additional Stage 2 pedestrian survey (Supplement A: Figure 09). It consists of an isolated groundstone celt (Plate 86:1). The celt has a length of 104 millimetres, a width of 47 millimetres, and a thickness of 24 millimetres. The celt is not diagnostic.

3.14.1 Artifact Catalogue

Table 26 provides the Stage 2 artifact catalogue for Location 41.



Table 26: Location 41 Artifact Catalogue

Cat #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	groundstone celt	1	unknown material

3.15 Location 42 (AgHk-134)

Location 42 (AgHk-134), which is located on parcel BOR1028, is a historic Euro-Canadian site that was identified on a warm and sunny July 5, 2012, during the additional Stage 2 pedestrian survey (Plate 51; Supplement A: Figure 28). This location consists of a 45 metre (along the north-south axis) by 30 metre (along the east-west axis) scatter of approximately 51 fragments of Euro-Canadian domestic debris spanning the 19th century. In total, 32 historic Euro-Canadian items were collected during the Stage 2 assessment and approximately 19 were left behind. Of the 32 collected pieces, 28 are domestic items, two are personal items, one is a structural item and one is a metal item (Table 27). Each artifact class is discussed in greater detail below.

Table 27: Location 42 (AgHk-134) Artifact Summary

Artifact	Frequency	%
Euro-Canadian		
domestic	28	87.50
personal	2	6.25
structural	1	3.125
metal	1	3.125
Total Euro-Canadian artifacts	32	100.00

3.15.1 Domestic Artifacts

A total of 28 domestic artifacts were collected from Location 42 (AgHk-134): 24 ceramic and four glass.

3.15.1.1 Ceramic Artifacts

The 28 ceramic fragments collected during the additional Stage 2 assessment of Location 42 (AgHk-134) includes: 14 whiteware fragments, six pearlware fragments, three fragments of utilitarian earthenware and stoneware and one fragment of undetermined ceramic. Table 28 provides a breakdown of the ceramic assemblage by ware type, while Table 29 provides a more detailed breakdown of the ceramic assemblage by decorative style.



Table 28: Summary of Ceramic Collection According to Ware type, Location 42 (AgHk-134)

Artifact	Frequency	%
whiteware	14	58.33
pearlware	6	25
utilitarian	3	12.5
undetermined	1	4.17
Total	24	100.00

Table 29: Summary of Ceramic Collection According to Decorative Style, Location 42 (AgHk-134)

Artifact	Frequency	%
whiteware, painted	6	25
pearlware, plain	5	20.83
whiteware, sponged	4	16.67
whiteware, stamped	3	12.5
whiteware, plain	1	4.17
pearlware, edged	1	4.17
stoneware	1	4.17
earthenware, red	1	4.17
earthenware, yellow	1	4.17
ceramic, undetermined	1	4.17
Total	24	100.00

White Earthenware

The most common ceramic type in this assemblage (n=14 or 58.33% of the ceramic collection) is whiteware. A total of 14 whiteware fragments were collected during the Stage 2 assessment of Location 42 (AgHk-134). Whiteware is a variety of earthenware with a near-colourless glaze that replaced earlier near-white ceramics such as pearlware and creamware. This shift in ware types began to occur by the early 1830s (Miller 1991). Early whiteware tends to have a porous paste, with more vitrified, harder ceramics becoming increasingly common later in the 19th century. Six fragments of whiteware in the assemblage are painted (Plates 87:1 to 3), four fragments are sponged (Plate 87:4), three fragments are sponge-stamped (Plate 87:5) and one fragment is undecorated.

Six fragments of hand painted whiteware were recovered during the Stage 2 assessment. The majority of the fragments are polychromatic, forming part of a broad-stroke floral pattern. Chrome painted designs of this type were popular between approximately 1830 and 1860 (Collard 1967). The colours seen here are considered “Late Palette” colours, including bright green, red and black.

Four fragments in the whiteware assemblage are sponged. Sponged whiteware ceramics were a form of inexpensive tableware in which a sponge was used to apply an underglaze pigment. All-over sponging became



popular by the 1840s and remained common until the 1870s. All four sponged whiteware fragments in the assemblage are blue.

Three fragments of whiteware in the assemblage are stamped. Stamping is a variation of the sponging decorative method. With this technique, a sponge was cut into simple designs (e.g. geometric shapes, leaves, flowers). These stamps were then loaded with pigment and repeatedly dabbed around the ceramic to form a coarse design. This technique was used from the 1850s to the early 20th century (Adams 1994). All three fragments of stamped whiteware in the assemblage are blue.

Pearlware

A total of six fragments of pearlware were collected from Location 42 (AgHk-134). Pearlware, sometimes referred to as “China glazed”, is a variety of earthenware that was popular from 1780 to 1840. When placed on white earthenware bisque, this glaze gave the impression of a “whiter” ware than the earlier yellow tinted creamware (Miller 1987). It can be distinguished by a bluish tint where the glaze pools on a vessel. Of the pearlware fragments collected from Location 42 (AgHk-134), five are undecorated (Plate 88:1) and one is edged (Plate 88:2). The edged pearlware fragment is red.

Utilitarian

There were three fragments of utilitarian ceramic collected during the Stage 2 assessment of Location 42 (AgHk-134).

One fragment of salt glazed earthenware and one fragment of black lead glazed yellow earthenware are included in the assemblage. Red and yellow earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian ware in the first half of the 19th century, eventually being replaced by more durable stoneware vessels (Miller 1987).

One fragment of yellow-grey lead glazed stoneware was collected from this location. Stoneware vessels were produced throughout the 19th century and became more durable and refined over time.

Undetermined Ceramics

One of the ceramic pieces recovered from Location 42 (AgHk-134) could not be catalogued into a specific ceramic-ware classification. This piece is so heavily damaged and fragmentary that it is impossible to accurately identify it by ceramic type. In order to avoid altering the separate ceramic totals, percentages and ultimately the temporal data for the site, the damaged piece was simply classified as miscellaneous undetermined ceramic.

3.15.1.2 Glass Artifacts

Four fragments of domestic glass were collected from the Stage 2 survey of Location 42 (AgHk-134). Glass bottles occur in a wide variety of shapes, sizes and colours. In archaeological surface collections, bottles are usually highly fragmented, thus making identification difficult. The lip area or “finish” and the base may be found



relatively intact; however, an examination may provide some dating clues. The bottle glass in this assemblage includes two olive fragments (Plate 89:1), one green fragment with white paint, and one aqua fragment. Generally, aqua coloured glass fragments originate from medical and pharmaceutical products including patent medicine bottles of the 19th and 20th century (Lindsey 2012).

3.15.2 Personal Artifacts

Two personal artifacts were collected during the Stage 2 assessment of Location 42 (AgHk-134). These consisted of one fragmented white clay pipe bowl (Plate 90:1) and one agate button (Plate 90:2). White clay pipes were very popular throughout the 19th century, with a decline in use by 1880 when they were replaced by briar pipes and cigarettes (Adams 1994:93). Most white clay pipes found in Upper Canada were manufactured either in Quebec or Scotland; occasionally examples from English, Dutch, French and American makers are also found. Sometimes the maker's name and/or city of manufacture were impressed on one side of the pipe stem, a practise which did not become popular until the 1840s (Adams 1994:93). The pipe stem in the assemblage is undecorated.

The button in the assemblage is white, 4-holed and made of pressed ceramic. These “agate” buttons are similar in colour and size (usually about 10 millimetres) to modern shirt buttons. The “agate” was in fact a type of pressed ceramic powder made using the so-called “Prosser” process patented in 1840. Agate buttons became widely distributed in Canada by the late 1840s and are common on sites from this time on (Adams 1994).

3.15.3 Structural Artifacts

The single structural artifact recovered during the Stage 2 assessment of Location 42 (AgHk-134) is a heavily corroded machine cut nail (Plate 91:1). Cut nails are temporally later than wrought nails, the result of a machinated process for cutting metal. They are square and often have a square or rectangular head, though early varieties can exhibit hand-hammered heads. They were invented as early as 1790, but did not become common in Ontario until 1830. They continued to be popular until the 1890s, when wire nails began to be manufactured and used widely.

3.15.4 Metal Artifacts

A single metal artifact was recovered during the Stage 2 assessment of Location 42 (AgHk-134). It is heavily corroded and unidentifiable.



3.15.5 Artifact Catalogue

Table 30 provides the Stage 2 artifact catalogue for Location 42 (AgHk-134).

Table 30: Location 42 (AgHk-134) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	whiteware, stamped	1	blue
2	surface collection	0 cm	whiteware, sponged	1	blue
3	surface collection	0 cm	whiteware, sponged	1	blue
4	surface collection	0 cm	pearlware, plain	1	
5	surface collection	0 cm	glass, bottle	1	olive
6	surface collection	0 cm	whiteware, sponged	1	blue
7	surface collection	0 cm	whiteware, painted	1	green/black floral
8	surface collection	0 cm	whiteware, painted	1	blue/pink
9	surface collection	0 cm	whiteware, sponged	1	blue
10	surface collection	0 cm	stoneware	1	yellow-grey lead glaze
11	surface collection	0 cm	glass, bottle	1	aqua
12	surface collection	0 cm	pearlware, plain	1	
13	surface collection	0 cm	button, agate	1	small white agate, 4 holes
14	surface collection	0 cm	pearlware, plain	1	
15	surface collection	0 cm	whiteware, plain	1	
16	surface collection	0 cm	whiteware, painted	1	green/black floral
17	surface collection	0 cm	pearlware, plain	1	
18	surface collection	0 cm	white clay pipe, bowl	1	
19	surface collection	0 cm	whiteware, stamped	1	blue
20	surface collection	0 cm	pearlware, edged	1	smooth rim, pink, no indentations, damaged
21	surface collection	0 cm	earthenware, red	1	salt glaze, burnt
22	surface collection	0 cm	glass, bottle	1	green glass painted white
23	surface collection	0 cm	glass, bottle	1	olive
24	surface collection	0 cm	metal, undetermined	1	heavily corroded
25	surface collection	0 cm	pearlware, plain	1	
26	surface collection	0 cm	earthenware, yellow	1	black lead glaze
27	surface collection	0 cm	ceramic, undetermined	1	burnt
28	surface collection	0 cm	whiteware, painted	1	blue/green
29	surface collection	0 cm	whiteware, painted	1	blue
30	surface collection	0 cm	whiteware, painted	1	
31	surface collection	0 cm	whiteware, stamped	1	blue



Cat. #	Context	Depth	Artifact	Freq.	Comments
32	surface collection	0 cm	nail, machine cut	1	heavily corroded

3.16 Location 43 (AgHk-135)

Location 43 (AgHk-135) was identified in parcel BOR1686 on a hot, humid, and sunny June 18, 2012, during the additional Stage 2 pedestrian survey (Plates 49 and 50; Supplement A: Figure 27). It is a pre-contact Aboriginal site that spans an area of 200 metres (along the north-south axis) by 25 metres (along the east-west axis) from which 20 lithic artifacts were documented. Nine pre-contact Aboriginal items were collected during the Stage 2 assessment and approximately 11 pieces of chipping detritus were left behind. Of the nine collected pieces, one is a biface preform, manufactured from Kettle Point chert (Plate 92:1) and measuring 71.00 millimetres long by 33.00 millimetres wide, and 7.00 millimetres thick, two are retouched flakes manufactured from Kettle Point chert (Plate 92:2 and Plate 92:3) and six are chipping detritus of Kettle Point chert (Plate 93:1), five of which are broken, and one of which is a tertiary flake.

3.16.1 Chipping Detritus

A total of six lithic flakes, all Kettle Point chert, were collected during the Stage 2 investigation of Location 43 (AgHk-135). Their morphology is presented in Table 31. Tertiary and broken flakes comprise 100.00% (n=6) of the sample, suggesting that most primary tool production occurred elsewhere, although sample size is small.

Table 31: Location 43 (AgHk-135) Chipping Detritus

Chert	Primary		Secondary		Tertiary		Broken		Shatter		Micro		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Kettle Point	0	0.00	0	0.00	1	16.67	5	83.33	0	0.00	0	0.00	6	100.00
Total	0	0.00	0	0.00	1	16.67	5	83.33	0	0.00	0	0.00	6	100.00

3.16.2 Artifact Catalogue

Table 32 provides the Stage 2 artifact catalogue for Location 43 (AgHk-135).

Table 32: Location 43 (AgHk-135) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	biface	1	Kettle Point, preform
2	surface collection	0 cm	retouched flake	1	Kettle Point
3	surface collection	0 cm	retouched flake	1	Kettle Point
4	surface collection	0 cm	chipping detritus	1	Kettle Point, tertiary
5	surface collection	0 cm	chipping detritus	1	Kettle Point, broken



Cat. #	Context	Depth	Artifact	Freq.	Comments
6	surface collection	0 cm	chipping detritus	1	Kettle Point, broken
7	surface collection	0 cm	chipping detritus	3	Kettle Point, broken

3.17 Location 44 (AgHk-136)

Location 44 (AgHk-136) was identified in parcel BOR1686/1538 on a hot, humid, and sunny June 18, 2012, during the additional Stage 2 pedestrian survey (Plates 49 and 50; Supplement A: Figure 27). This location is a pre-contact Aboriginal site that consists of a 45 metre (along the north-south axis) by 15 metre (along the east-west axis) surface scatter of seven lithic artifacts, all of which were collected during the Stage 2 assessment. Of the seven identified pieces, one is a projectile point, manufactured from Onondaga chert (Plate 94:1), one is a side scraper manufactured from Kettle Point chert (Plate 94:2), one is a utilized flake manufactured from Kettle Point chert (Plate 94:3) and four are chipping detritus of Kettle Point chert (Plate 94:4). The projectile point is a Meadowood point. It measures 60.00 millimetres in length, 28.50 millimetres in blade width, is 7.00 millimetres thick, with a basal width of 29.50 millimetres, and an inter-notch width of 4.00 millimetres. In Ontario, this projectile point type dates to *circa* 1000-500 B.C., during the Early Woodland period (Kenyon 1980b, 1980c; Spence et al. 1990:128-137; Ritchie 1971:35, 89).

The side scraper measures 5.10 millimetres long, 1.60 millimetres wide, and is 0.70 millimetres thick. The chipping detritus is composed of one tertiary Kettle Point chert flake, one broken Kettle Point chert flake, one piece of shatter from an unknown chert type, and one primary flake of an unknown chert type.

3.17.1 Chipping Detritus

A total of four lithic flakes, all Kettle Point chert, were collected during the Stage 2 investigation of Location 44 (AgHk-136). Their morphology is presented in Table 33. Early and late stages of tool production are evenly represented, although sample size is small.

Table 33: Location 44 (AgHk-136) Chipping Detritus

Chert	Primary		Secondary		Tertiary		Broken		Shatter		Micro		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Kettle Point	0	0.00	0	0.00	1	25.00	1	25.00	0	0.00	0	0.00	2	50.00
unknown	1	25.00	0	0.00	0	0.00	0	0.00	1	25.00	0	0.00	2	50.00
Total	1	25.00	0	0.00	1	25.00	1	25.00	1	25.00	0	0.00	4	100.00



3.17.2 Artifact Catalogue

Table 34 provides the Stage 2 artifact catalogue for Location 44 (AgHk-136).

Table 34: Location 44 (AgHk-136) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	projectile point	1	Onondaga, Meadowood
2	surface collection	0 cm	scraper	1	Kettle Point, side
3	surface collection	0 cm	chipping detritus	1	Kettle Point, tertiary
4	surface collection	0 cm	utilized flake	1	Kettle Point
5	surface collection	0 cm	chipping detritus	1	Kettle Point, broken
6	surface collection	0 cm	chipping detritus	1	Unknown, shatter
7	surface collection	0 cm	chipping detritus	1	Unknown, primary

3.18 Location 45 (AgHk-137)

Location 45 (AgHk-137) was identified on parcel ADL0001 on a hot, sunny, and humid July 17, 2012, during the additional Stage 2 pedestrian survey (Plate 52; Supplement A: Figure 3). This is a pre-contact Aboriginal site that consists of a 3.5 metre (along the north-south axis) by 1 metre (along the east-west axis) surface scatter of four Kettle Point chert lithic flakes, all of which were collected during the Stage 2 assessment (Plate 95:1).

3.18.1 Chipping Detritus

A total of four lithic flakes, all Kettle Point chert, were collected during the Stage 2 investigation of Location 45 (AgHk-137). Their morphology is presented in Table 35. Secondary and broken flakes comprise 100.00% (n=6) of the sample.

Table 35: Location 45 (AgHk-137) Chipping Detritus

Chert	Primary		Secondary		Tertiary		Broken		Shatter		Micro		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Kettle Point	0	0.00	1	25.00	0	0.00	3	75.00	0	0.00	0	0.00	4	100.00
Total	0	0.00	1	25.00	0	0.00	3	75.00	0	0.00	0	0.00	4	100.00



3.18.2 Artifact Catalogue

Table 36 provides the Stage 2 artifact catalogue for Location 45 (AgHk-137).

Table 36: Location 45 (AgHk-137) Artifact Catalogue

Cat. #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	chipping detritus	1	Kettle Point, secondary
2	surface collection	0 cm	chipping detritus	1	Kettle Point, broken
3	surface collection	0 cm	chipping detritus	1	Kettle Point, broken
4	surface collection	0 cm	chipping detritus	1	Kettle Point, broken

3.19 Location 46

Location 46 is a pre-contact Aboriginal site identified on parcel ADL1563 (Plate 13; Supplement A: Figure 03) on a cool and overcast May 3, 2012, during the additional Stage 2 pedestrian survey. An isolated piece of secondary Kettle Point chert chipping detritus (Plate 96:1) was recovered from this location. As detailed in Section 2.0, survey intervals were intensified to one metre within a twenty metre radius of the find but no further artifacts were found.

3.19.1 Artifact Catalogue

Table 37 provides the Stage 2 artifact catalogue for Location 46.

Table 37: Location 46 Artifact Catalogue

Cat #	Context	Depth	Artifact	Freq.	Comments
1	surface collection	0 cm	chipping detritus	1	Kettle Point chert, secondary



4.0 ANALYSIS AND CONCLUSIONS

The additional Stage 2 assessment of the revised NEEC Adelaide Wind Energy Centre resulted in the identification of 18 sites: 16 pre-contact Aboriginal and two historic Euro-Canadian. The previously identified multi-component Location 19 (AeHk-42) (Golder 2012a) was also re-examined. A total of 19 sites are discussed in this report. Analyses of each location are provided below, determining whether further assessment is recommended for each site. At the end of this section, a preliminary indication is provided as to whether any of these sites may require Stage 4 archaeological assessment.

4.1 Location 19 (AeHk-42)

Given the nature of the artifacts collected during the previous Stage 2 survey of Location 19 (AeHk-42), this historic Euro-Canadian site was recommended for Stage 3 archaeological investigation and was assigned Borden number AeHk-42. As mentioned above, due to changes in layout of the planned development, the Stage 2 sample area was expanded in this additional survey which resulted in the collection of more artifacts, an increased site size, and a new designation as a multi-component site based on the identification of four pre-contact Aboriginal lithic artifacts (see Golder 2012a). The artifacts collected during the Stage 2 assessment of Location 19 (AeHk-42) represent a multi-component site consisting of a scatter of 56 predominantly mid-to-late 19th century Euro-Canadian domestic debris, and four pre-contact Aboriginal non-diagnostic lithic artifacts. The most common ceramic type collected was whiteware, representing 76.92% of the ceramic assemblage. Considering the fragile nature of the material present (i.e. glass and ceramics) and the absence of structural remains, Location 19 (AeHk-42) is interpreted as a multi-component site with the remains of a domestic midden and a small pre-contact Aboriginal lithic scatter.

Spatially, Location 19 (AeHk-42) is located on Lot 11, Concession 2 (South), in the Geographic Township of Adelaide, Middlesex County, Ontario. Isaac Thrower is listed as owning this portion of the lot on the 1878 map of the Township of Adelaide. The location is situated in the south-eastern tip of this lot where a house and orchard are located (H.R. Page 1878). Based on the previous analysis of Location 19 (AeHk-42) (Golder 2012a) and the current collection from Location 19 (AeHk-42), which includes multi-component artifacts, the site still exhibits cultural heritage value or interest based on the presence of more than 20 artifacts dating the period of use prior to 1900. Based on this consideration, the artifacts identified fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1c of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), to further evaluate its cultural heritage value or interest. The site has previously been registered with the MTCS.

4.2 Location 29 (AfHk-37)

Location 29 (AfHk-37) is identified on the basis of a single, complete Small Point Late Archaic Innes projectile point dating to *circa* 1500-1400 B.C. The archaeological survey documented an isolated pre-contact Aboriginal location and adds to the body of knowledge concerning land use by Archaic people in Ontario. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented. The recovered artifact does not fulfill any of the criteria for a Stage 3 archaeological investigation



as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The site has been registered with the MTCS and has been assigned Borden Number AfHk-37.

4.3 Location 30 (AfHk-38)

Location 30 (AfHk-38) is a small pre-contact lithic scatter of five artifacts. This assemblage includes one thumbnail scraper, two utilized flakes and two fragments of chipping detritus manufactured from Kettle Point chert. All artifacts are temporally non-diagnostic except for the fact that they were produced by pre-contact Aboriginal people. The archaeological survey documented a spatially discrete pre-contact Aboriginal site which adds to the body of knowledge concerning land use by pre-contact Aboriginal peoples in Ontario. Given the limited size of the artifact collection, the cultural heritage value or interest of the site is considered to be sufficiently documented. The recovered artifact does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The site has been registered with the MTCS and has been assigned Borden Number AfHk-38.

4.4 Location 31 (AfHk-35)

Location 31 (AfHk-35) is identified on the basis of a single, complete Small Point Late Archaic Crawford Knoll projectile point dating to *circa* 1800/1700-1100 B.C. The archaeological survey documented an isolated pre-contact Aboriginal location and adds to the body of knowledge concerning land use by Archaic people in Ontario. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented. The recovered artifact does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The site has been registered with the MTCS and assigned Borden Number AfHk-35.

4.5 Location 32 (AgHk-132)

The artifacts collected during the Stage 2 assessment of Location 32 (AgHk-132) represent a scatter of 69 predominantly mid-to-late 19th century Euro-Canadian domestic debris, especially ceramics and bottle glass. The most common types of ceramic artifacts recovered from this location were mid-to-late 19th century ironstone (42.31% of the ceramic assemblage) and whiteware (36.54% of the ceramic assemblage). Considering the fragile nature of the material present (i.e. glass and ceramics) and the absence of structural remains, Location 32 (AgHk-132) is interpreted as the remains of a domestic midden.

Spatially, Location 32 (AgHk-132) is located on Part Lot 11, Concession 3 (North), Geographic Township of Adelaide, Middlesex County, Ontario. On the 1878 map of the Township of Middlesex, William J. Freele is listed as owning the portion of lot where this artifact assemblage was collected. On the map, a house and orchard are depicted roughly in the area where Location 32 (AgHk-132) was identified (H.R. Page 1878). The presence of more than 20 artifacts dating the period of use prior to 1900 lends cultural heritage value or interest to the site. Based on this consideration, the artifacts identified fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1c of the *Standards and Guidelines for Consultant Archaeologists* (Government of



Ontario 2011), to further evaluate its cultural heritage value or interest. The site has been registered with the MTCS and has been assigned Borden Number AgHk-132.

4.6 Location 33

One artifact was collected from Location 33, a biface preform manufactured from Onondaga chert. This artifact is temporally non-diagnostic, with the exception that it was manufactured by pre-contact Aboriginal people. However, the archaeological survey identified a spatially discrete pre-contact Aboriginal location that adds to the body of knowledge concerning land use by pre-contact Aboriginal peoples in Ontario. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented. The recovered artifact does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.7 Location 34

An isolated utilized flake manufactured from Onondaga chert was identified at Location 34. This artifact is temporally non-diagnostic, with the exception that it was manufactured by pre-contact Aboriginal people. However, the archaeological survey identified a spatially discrete pre-contact Aboriginal location that adds to the body of knowledge concerning land use by pre-contact Aboriginal peoples in Ontario. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented. The recovered artifact does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.8 Location 35

A unifacial perforator manufactured from Kettle Point chert was identified at Location 35. This artifact is temporally non-diagnostic, with the exception that it was manufactured by pre-contact Aboriginal people. However, the archaeological survey identified a spatially discrete pre-contact Aboriginal location that adds to the body of knowledge concerning land use by pre-contact Aboriginal peoples in Ontario. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented. The recovered artifact does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.9 Location 36 (AgHk-133)

An unfinished, stemmed projectile point was recovered from Location 36 (AgHk-133). This artifact is temporally non-diagnostic, with the exception that it was manufactured by pre-contact Aboriginal people. However, the archaeological survey identified a spatially discrete pre-contact Aboriginal location that adds to the body of knowledge concerning land use by pre-contact Aboriginal peoples in Ontario. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented. The recovered artifact does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the



Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011). The site has been registered with the MTCS and has been assigned Borden Number AgHk-133.

4.10 Location 37

A single piece of chipping detritus manufactured from Kettle Point chert was identified at Location 37. This artifact is temporally non-diagnostic, with the exception that it was manufactured by pre-contact Aboriginal people. However, the archaeological survey identified a spatially discrete pre-contact Aboriginal location that adds to the body of knowledge concerning land use by pre-contact Aboriginal peoples in Ontario. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented. The recovered artifact does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.11 Location 38

Location 38 consists of a graver manufactured from Kettle Point chert. This artifact is temporally non-diagnostic, with the exception that it was manufactured by pre-contact Aboriginal people. However, the archaeological survey identified a spatially discrete pre-contact Aboriginal location that adds to the body of knowledge concerning land use by pre-contact Aboriginal peoples in Ontario. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented. The recovered artifact does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.12 Location 39 (AfHk-36)

A single, Narrow Point Late Archaic Lamoka Stemmed projectile point, missing its tip, dating to *circa* 3200 to 2200 B.C. was recovered from Location 39 (AfHk-36). The archaeological survey documented an isolated pre-contact Aboriginal location and adds to the body of knowledge concerning land use by Archaic people in Ontario. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented. The recovered artifact does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The site has been registered with the MTCS and has been assigned Borden Number AfHk-36.

4.13 Location 40

Two flakes were recovered from Location 40. The assemblage includes one piece of chipping detritus manufactured from Kettle Point chert, and a retouched flake manufactured from Kettle Point chert, which has been burnt. Both artifacts are temporally non-diagnostic except for the fact that they were produced by pre-contact Aboriginal people. The archaeological survey documented a spatially discrete pre-contact Aboriginal site which adds to the body of knowledge concerning land use by pre-contact Aboriginal peoples in Ontario. Given the limited size of the artifact collection, the cultural heritage value or interest of the site is considered to be



sufficiently documented. The recovered artifact does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.14 Location 41

A complete groundstone celt was the only artifact noted at Location 41. This artifact is temporally non-diagnostic, with the exception that it was manufactured by pre-contact Aboriginal people. However, the archaeological survey identified a spatially discrete pre-contact Aboriginal location that adds to the body of knowledge concerning land use by pre-contact Aboriginal peoples in Ontario. Given the isolated nature of the find, the cultural heritage value or interest of the site is considered to be sufficiently documented. The recovered artifact does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.15 Location 42 (AgHk-134)

Spatially, Location 42 (AgHk-134) is located on Lot 9, Concession 14 W.C.R., in the Geographic Township of West Williams, Middlesex County, Ontario. Malcolm McIntosh is listed as owning the southeastern portion of the lot on the 1878 map of the Township of West Williams, although no structure is shown by H.R. Page (1878). Given the current assemblage from Location 42 (AgHk-134), the site still exhibits cultural heritage value or interest based on the presence of more than 20 artifacts dating the period of use prior to 1900. Based on this consideration, the artifacts identified fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1c of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), to further evaluate its cultural heritage value or interest. The site has been registered with the MTCS and has been assigned Borden Number AgHk-134.

4.16 Location 43 (AgHk-135)

Location 43 (AgHk-135) was identified on the basis of a pre-contact Aboriginal lithic scatter of approximately 20 artifacts. The recovered assemblage includes one biface, two retouched flakes and six fragments of chipping detritus, all manufactured from Kettle Point chert. Given the current collection from Location 43 (AgHk-135), the site still exhibits cultural heritage value or interest based on the number of artifacts encountered at the site. Based on this consideration, the artifacts identified fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1a of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), to further evaluate its cultural heritage value or interest. The site has been registered with the MTCS and has been assigned Borden Number AgHk-135.

4.17 Location 44 (AgHk-136)

Location 44 (AgHk-136) was identified on the basis of a pre-contact Aboriginal lithic scatter of seven artifacts. This assemblage includes one projectile point, manufactured from Onondaga chert, one side scraper, one



utilized flake and two fragments of chipping detritus, all manufactured from Kettle Point chert, and two fragments of chipping detritus manufactured from an unknown chert. The projectile point is an Early Woodland Meadowood point, dating to *circa* 1000–500 B.C. Given the current collection from Location 44 (AgHk-136), the site still exhibits cultural heritage value or interest. Based on this consideration, the artifacts identified fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 Standard 1a of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), to further evaluate its cultural heritage value or interest. The site has been registered with the MTCS and has been assigned Borden Number AgHk-136.

4.18 Location 45 (AgHk-137)

Location 45 (AgHk-137) is a small pre-contact lithic scatter of four artifacts. The assemblage includes four pieces of chipping detritus manufactured from Kettle Point chert. All artifacts are temporally non-diagnostic except for the fact that they were produced by pre-contact Aboriginal people. The archaeological survey documented a spatially discrete pre-contact Aboriginal site which adds to the body of knowledge concerning land use by pre-contact Aboriginal peoples in Ontario. Given the limited size of the artifact collection, the cultural heritage value or interest of the site is considered to be sufficiently documented. The recovered artifact does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). The site has been registered with the MTCS and has been assigned Borden Number AgHk-137.

4.19 Location 46

A single piece of chipping detritus manufactured from Kettle Point chert was identified at Location 46. This artifact is temporally non-diagnostic, with the exception that it was manufactured by pre-contact Aboriginal people. However, the archaeological survey identified a spatially discrete pre-contact Aboriginal location that adds to the body of knowledge concerning land use by pre-contact Aboriginal peoples in Ontario. Given the isolated nature of the find, the cultural heritage value or interest of the sites is considered to be sufficiently documented. The recovered artifact does not fulfill any of the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

4.20 Preliminary Indication of Sites Possibly Requiring Stage 4 Archaeological Assessment

The preliminary indication of whether any site could be eventually recommended for Stage 4 archaeological assessment is required under the *Standards and Guidelines for Consultant Archaeologists* Section 7.8.3 Standard 2c (Government of Ontario 2011). No firm recommendation for, or against, Stage 4 archaeological assessment will be made until the recommended Stage 3 archaeological assessments have been conducted. The following sites could be recommended for Stage 4 should the Stage 3 assessment produce such a determination (Table 38):



**STAGE 2 ARCHAEOLOGICAL ASSESSMENT
NEXTERA ENERGY CANADA, ULC**

Table 38: Preliminary Indication of Sites Possibly Requiring Stage 4 Archaeological Assessment

Location	Borden Number	Affiliation	Probable Reason
19	AeHk-42	Multi-component	Portion of historic Euro-Canadian occupation could date prior to 1870; multi-component
32	AgHk-132	Historic Euro-Canadian	Portion of occupation could date prior to 1870
42	AgHk-134	Historic Euro-Canadian	Portion of occupation could date prior to 1870



5.0 RECOMMENDATIONS

A Stage 2 archaeological assessment was conducted on behalf of NextEra Energy Canada, ULC (NEEC) by Golder Associates Ltd. (Golder) for an approximately 93 hectare study area located in the Geographic Township of Adelaide, now Township of Adelaide Metcalfe, Middlesex County, Ontario. The study area is located on various lots and concessions in the Geographic Township of Adelaide, now Township of Adelaide Metcalfe, Middlesex County, Ontario.

This area incorporates the proposed turbine locations, underground electric cable corridors, access roads, service roads, vehicle and crane turnarounds, substations, transmission lines, and equipment lay down and set-up locations for the 38 turbines included in the revised NextEra Adelaide Wind Energy Centre. This Stage 2 archaeological assessment was undertaken in order to meet the requirements for an application for a Renewable Energy Approval, as outlined in Ontario Regulation 359/09 Section 22(3) of the *Environmental Protection Act* (Government of Ontario 1990a).

This additional Stage 2 assessment of the revised NEEC Adelaide Wind Energy Centre layout resulted in the identification of 18 sites: 16 pre-contact Aboriginal and two historic Euro-Canadian. The previously-identified multi-component Location 19 (AeHk-42) (Golder 2012a) was also further investigated and is included here. A total of 19 sites are discussed in this report. Recommendations for each location are outlined below.

5.1 Location 19 (AeHk-42)

Given that the Stage 2 assessment of Location 19 (AeHk-42) was previously recommended for Stage 3 investigation, and that the additional Stage 2 assessment of Location 19 resulted in the recovery of an extension of the site including artifacts dating to the mid-to-late 19th century as well as pre-contact Aboriginal lithics artifacts, **it is recommended that a Stage 3 archaeological assessment be conducted in advance of any ground disturbance activities to further test the nature and density of the site.**

The Stage 3 assessment should employ both the controlled surface pick-up and hand excavated test unit methodology as outlined in Sections 3.2 and 3.3, as well as Table 3.1, of the MTCS's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Prior to conducting the field work, the area should be re-ploughed and allowed to weather for the controlled surface pick-up. The test unit excavation should consist of one metre by one metre square units laid out in a five metre grid and should be excavated by hand to a depth of five centimetres into the subsoil. The already existing program of Aboriginal engagement should be continued during the Stage 3 archaeological assessment.

5.2 Location 29 (AfHk-37)

The Stage 2 assessment of Location 29 (AfHk-37) resulted in the recovery of an isolated pre-contact Aboriginal Small Point Late Archaic (*circa* 1500-1400 B.C.) projectile point. Despite the intensified survey, no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 29 (AfHk-37).**



5.3 Location 30 (AfHk-38)

The Stage 2 assessment of Location 30 (AfHk-38) resulted in the recovery of five pre-contact Aboriginal artifacts, one scraper, two utilized flakes and two pieces of chipping detritus. Despite the intensification of survey intervals, no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 30 (AfHk-38).**

5.4 Location 31 (AfHk-35)

The Stage 2 assessment of Location 31 (AfHk-35) resulted in the recovery of an isolated pre-contact Aboriginal Small Point Late Archaic (*circa* 1800/1700-1100 B.C.) projectile point. Despite the intensification of survey intervals, no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 31 (AfHk-35).**

5.5 Location 32 (AgHk-132)

The Stage 2 assessment of Location 32 (AgHk-132) revealed a spatially discrete cluster of mid-to-late 19th century historic Euro-Canadian cultural material. The most common type of ceramic artifacts recovered from Location 32 (AgHk-132) was mid-to-late 19th century ironstone and whiteware. Given the number of artifacts and the location of the site in the vicinity of a homestead depicted on the historic map, **it is recommended that a Stage 3 archaeological assessment be conducted in advance of any ground disturbance activities to further test the nature and density of the site.**

The Stage 3 assessment should employ both the controlled surface pick-up and hand excavated test unit methodology as outlined in Sections 3.2 and 3.3, as well as Table 3.1, of the MTCS's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Prior to conducting the field work, the area should be re-ploughed and allowed to weather for the controlled surface pick-up. The test unit excavation should consist of one metre by one metre square units laid out in a five metre grid and should be excavated by hand to a depth of five centimetres into the subsoil.

5.6 Location 33

The Stage 2 assessment of Location 33 resulted in the recovery of an isolated pre-contact Aboriginal biface preform. Despite the intensification of survey intervals, no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 33.**



5.7 Location 34

The Stage 2 assessment of Location 34 resulted in the recovery of an isolated pre-contact Aboriginal utilized flake. Despite the intensification of survey intervals, no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 34.**

5.8 Location 35

The Stage 2 assessment of Location 35 resulted in the recovery of an isolated pre-contact Aboriginal unifacial perforator. Despite the intensification of survey intervals, no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 35.**

5.9 Location 36 (AgHk-133)

The Stage 2 assessment of Location 36 (AgHk-133) resulted in the recovery of an isolated pre-contact Aboriginal artifact. The find is an unfinished, stemmed projectile point. Despite the intensification of survey intervals, no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 36 (AgHk-133).**

5.10 Location 37

The Stage 2 assessment of Location 37 resulted in the recovery of an isolated pre-contact Aboriginal artifact, a piece of chipping detritus. Despite the intensification of survey intervals, no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 37.**

5.11 Location 38

The Stage 2 assessment of Location 38 resulted in the recovery of an isolated pre-contact Aboriginal graver. Despite the intensification of survey intervals, no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 38.**

5.12 Location 39 (AfHk-36)

The Stage 2 assessment of Location 39 (AfHk-36) resulted in the recovery of an isolated pre-contact Aboriginal Narrow Point Late Archaic (*circa* 3200-2200 B.C.) projectile point. Despite the intensification of survey intervals,



no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 39 (AfHk-36).**

5.13 Location 40

The Stage 2 assessment of Location 40 resulted in the recovery of one fragment of pre-contact Aboriginal chipping detritus and one pre-contact Aboriginal retouched flake. Despite the intensified survey, no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 40.**

5.14 Location 41

The Stage 2 assessment of Location 41 resulted in the recovery of an isolated pre-contact Aboriginal groundstone celt. Despite the intensification of survey intervals, no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 41.**

5.15 Location 42 (AgHk-134)

The Stage 2 assessment of Location 42 (AgHk-134) revealed a spatially discrete cluster of early-to-late 19th century historic Euro-Canadian cultural material. The most common type of ceramic artifacts recovered from Location 42 (AgHk-134) was mid-to-late 19th century whiteware. Given the number of artifacts and the location of the site in the vicinity of a post office noted on the historic map, **it is recommended that a Stage 3 archaeological assessment be conducted in advance of any ground disturbance activities to further test the nature and density of the site.**

The Stage 3 assessment should employ both the controlled surface pick-up and hand excavated test unit methodology as outlined in Sections 3.2 and 3.3, as well as Table 3.1, of the MTCS's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Prior to conducting the field work, the area should be re-ploughed and allowed to weather for the controlled surface pick-up. The test unit excavation should consist of one metre by one metre square units laid out in a five metre grid and should be excavated by hand to a depth of five centimetres into the subsoil.

5.16 Location 43 (AgHk-135)

Due to the fact that Location 43 (AgHk-135) is a spatially discrete area producing pre-contact Aboriginal cultural material, **it is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest.** The Stage 3 assessment should employ both the controlled surface pick-up and hand excavated test unit methodology as outlined in Sections 3.2 and 3.3, as well as Table 3.1, of the MTCS's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Prior to conducting the field work, the area should be re-ploughed and allowed to weather for the controlled surface pick-up. The test unit excavation should consist of one metre by one metre square units laid out in a five



metre grid and should be excavated by hand to a depth of five centimetres into the subsoil. The already existing program of Aboriginal engagement should be continued during the Stage 3 archaeological assessment of Location 43 (AgHk-135).

5.17 Location 44 (AgHk-136)

Due to the fact that Location 44 (AgHk-136) is a spatially discrete area producing pre-contact Aboriginal cultural material, including Early Woodland material, **it is recommended that this site be subject to a Stage 3 archaeological investigation to further evaluate its cultural heritage value or interest.** The Stage 3 assessment should employ both the controlled surface pick-up and hand excavated test unit methodology as outlined in Sections 3.2 and 3.3, as well as Table 3.1, of the MTCS's *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Prior to conducting the field work, the area should be re-ploughed and allowed to weather for the controlled surface pick-up. The test unit excavation should consist of one metre by one metre square units laid out in a five metre grid and should be excavated by hand to a depth of five centimetres into the subsoil. The already existing program of Aboriginal engagement should be continued during the Stage 3 archaeological assessment of Location 44 (AgHk-136).

5.18 Location 45 (AgHk-137)

The Stage 2 assessment of Location 45 (AgHk-137) resulted in the recovery of four pre-contact Aboriginal artifacts, all chipping detritus manufactured from Kettle Point chert. Despite the intensification of survey intervals, no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 45 (AgHk-137).**

5.19 Location 46

The Stage 2 assessment of Location 46 resulted in the recovery of an isolated piece of pre-contact Aboriginal chipping detritus. Despite the intensification of survey intervals, no additional artifacts were recovered. Given that the cultural heritage value or interest of the site has been sufficiently documented, **no further archaeological assessment is recommended for Location 51.**

5.20 Summary

The above recommendations determine that five of the 19 sites discussed require further Stage 3 archaeological assessment. As such, 14 sites are not recommended for further archaeological work. Table 39 provides a breakdown of Golder's recommendations based on the additional Stage 2 archaeological assessment for the NEEC Adelaide Wind Energy Centre:



STAGE 2 ARCHAEOLOGICAL ASSESSMENT NEXTERA ENERGY CANADA, ULC

Table 39: Recommendations for Further Stage 3 Assessment

Location	Borden Number	Affiliation	Stage 3 Recommended?
19	AeHk-42	multi-component pre-contact Aboriginal and historic Euro-Canadian	Yes
29	AfHk-37	Small Point Late Archaic	No
30	AfHk-38	pre-contact Aboriginal	No
31	AfHk-35	Small Point Late Archaic	No
32	AgHk-132	historic Euro-Canadian	Yes
33	-	pre-contact Aboriginal	No
34	-	pre-contact Aboriginal	No
35	-	pre-contact Aboriginal	No
36	AgHk-133	pre-contact Aboriginal	No
37	-	pre-contact Aboriginal	No
38	AgHj-18	pre-contact Aboriginal	No
39	AfHk-36	Narrow Point Late Archaic	No
40	-	pre-contact Aboriginal	No
41	-	pre-contact Aboriginal	No
42	AgHk-134	historic Euro-Canadian	Yes
43	AgHk-135	pre-contact Aboriginal	Yes
44	AgHk-136	Early Woodland	Yes
45	AgHk-137	pre-contact Aboriginal	No
46	-	pre-contact Aboriginal	No

While all of these sites were documented during the Stage 2 archaeological field work conducted within the proposed NEEC Adelaide Wind Energy Centre study area, **one multi-component site Location 19 (AeHk-42), two historic Euro-Canadian sites, Location 32 (AgHk-132) and Location 42 (AgHk-134), and two pre-contact Aboriginal sites, Location 43 (AgHk-135) and Location 44 (AgHk-136), require further Stage 3 assessment.** The remaining 14 sites have been sufficiently documented.

The Ontario Ministry of Tourism, Culture and Sport is asked to review the results presented and to accept this report into the Ontario Public Register of Archaeological Reports. **Additional archaeological assessment is still required;** hence the archaeological sites recommended for further archaeological fieldwork remain subject to Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990b) and may not be altered, or have artifacts removed, except by a person holding an archaeological license.



6.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18 (Government of Ontario 1990b). 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, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regards to alterations to archaeological sites by the proposed development.

It is an offence under Section 48 and 69 of the *Ontario Heritage Act* (Government of Ontario 1990b) for any party other than a licensed archaeologist to make any alterations to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the *Ontario Heritage Act* (Government of Ontario 1990b).

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990b). 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* (Government of Ontario 1990b).

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

Additional archaeological assessment is still required. Archaeological sites recommended for further archaeological fieldwork remain subject to Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990b) and may not be altered, or have artifacts removed, except by a person holding an archaeological licence.



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8.0 IMAGES

Plate 1: Stage 2, ground surface conditions, facing north, ADL1040, April 11, 2012.



Plate 2: Stage 2, pedestrian survey at 5 metre intervals, facing north, ADL1040, April 11, 2012.



Plate 3: Stage 2, ground surface conditions, facing west, ADL1006, April 12, 2012.



Plate 4: Stage 2, pedestrian survey at 5 metre intervals, facing west, ADL1006, April 12, 2012.

