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**Stage 2 Property Assessment
Additional Lands and ROWs
Bluewater Wind Energy Centre
FIT-FJI7S7X
Municipalities of Bluewater and Huron East
Multiple Lots and Concessions
Geographic Townships of Hay, Stanley and
Tuckersmith, Huron County, Ontario**

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&
The Ministry of Tourism, Culture and Sport

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Original Report

EXECUTIVE SUMMARY

Under a contract awarded in February 2013, Archaeological Research Associates Ltd. carried out a Stage 2 property assessment of lands with the potential to be impacted by the proposed Bluewater Wind Energy Centre in the Municipalities of Bluewater and Huron East, Huron County, Ontario. Specifically, the Stage 2 assessment encompassed 32 parcels of various sizes within the project location, comprising additional lands and portions of several municipal Right-of-Ways where project infrastructure has been proposed. This report documents the background research, fieldwork and artifact processing involved in the assessment, and presents conclusions and recommendations pertaining to archaeological concerns in these areas.

The assessment was completed as a component of a Renewable Energy Approval application (FIT-FJI7S7X), in advance of construction and in compliance with the requirements set out in Section 22 of Ontario Regulation 359/09 made under the *Environmental Protection Act*. The assessment was conducted on behalf of Varna Wind, Inc., a wholly owned subsidiary of NextEra Energy Canada, ULC. On April 22, 2013 the Bluewater Wind Energy Centre received its Renewable Energy Approval (No. 7483-94DPRF).

The project location for the Bluewater Wind Energy Centre has been subjected to multiple archaeological assessments. A Stage 1 assessment was completed by Golder Associates Ltd. in February 2012 under licence #P001, PIF #P001-609-2010 (Golder 2012a). This study determined that Stage 2 assessment would be required “for potential wind turbine sites and their associated infrastructure. Further Stage 2 archaeological assessment is recommended for any areas to be impacted by turbine construction, access road construction, or other infrastructure construction related activities” (Golder 2012a:35). Two phases of Stage 2 fieldwork subsequently occurred: the first phase was carried out between May 5, 2011 and March 22, 2012 under licences #P218 and #P319, PIF #P218-040-2011 and #P319-017-2012 (Golder 2012b), and the second phase was conducted between April 4, 2012 and August 7, 2012 under licence #P218, PIF #P218-275-2012 (Golder 2013a). Archaeological Research Associates Ltd. carried out a Stage 2 assessment of heavy haul route turns in July and August 2013 under licence #P089, PIF #P089-032-2013 (ARA 2013b).

A total of 37 archaeological sites (Locations 1–35, Locations 38–39) were identified during the Stage 2 assessments, comprising 21 Pre-Contact sites and 16 Euro-Canadian sites. Eleven of these sites (Locations 13–14, 24–26 and 28–33) were recommended for Stage 3 site-specific assessment (Golder 2012b:Table 52; 2013a:Table 41). Golder and ARA subsequently conducted Stage 3 site-specific assessments and Stage 4 mitigations of development impacts at those sites within the project location that could not be avoided through project redesign (Golder 2013b; ARA 2013c–2013i).

Following the completion of the original investigations, it was determined that additional Stage 2 assessment was required for 32 parcels of various sizes within the project location, comprising additional lands and portions of several municipal Right-of-Ways where project infrastructure has been proposed. These areas were included in the original Stage 1 assessment conducted under licence #P001, PIF #P001-609-2010 (Golder 2012a).

The Stage 2 property assessment was conducted between May and August 2013 under licence #P007, PIF #P007-522-2013. Legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owners. This assessment resulted in the discovery of two locations of archaeological materials: Location 36 (AiHj-20) on parcel BLW1854 and Location 37 (AiHj-21) on parcel BLW1258. Location 36 comprised a 113 x 40 m scatter of 892 Euro-Canadian artifacts, and 403 artifacts were collected for laboratory analysis. The diagnostic artifacts indicated that the deposit dated to the late 19th century, and the site was found to be of further cultural heritage value or interest. Location 37 consisted of a 22 x 48 m scatter of 50 Euro-Canadian artifacts, and 16 artifacts were collected for laboratory analysis. The diagnostic artifacts indicated that the deposit dated to the late 19th and early 20th centuries, and the site was found to be of no further cultural heritage value or interest.

In order to avoid impacts to Location 36, the proponent removed the proposed infrastructure on parcel BLW1258. The site is now located 7.5 m south of a municipal Right-of-Way collector line (documented as disturbed under PIF #P218-040-2011 and #P319-017-2012) and 157 m east of the access road to Turbine 40. Given that the 20 m protective buffer around Location 36 is affected by permanently disturbed cultural form (the previously-assessed municipal Right-of-Way), a modified buffer zone that follows the edge of the disturbed area is warranted.

Based on these findings, Archaeological Research Associates Ltd. recommends that an avoidance and protection strategy be implemented to prevent any impacts to Location 36 during construction. In accordance with the directions set out in Section 4.1.1 and Section 7.8.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:68–69, 140–141), it is recommended that a temporary barrier be established along the edge of the municipal Right-of-Way, that the modified buffer zone be observed around the identified site extent (the ‘protected area’), and that all construction activities within 50 m of the protected area be monitored by a licensed archaeologist to ensure the effectiveness of the avoidance and protection strategy. A letter confirming the proponent’s commitment to implementing this strategy and outlining the designation of ‘No-Go’ zones has been included in the report submission package. If any future construction activities are proposed within the protected area, the site must be subjected to a Stage 3 site-specific assessment.

Archaeological Research Associates Ltd. recommends that no further archaeological assessment of Location 37 be required, and that the remainder of the assessed lands also require no further archaeological assessment. Should the proposed project location change in this area, these recommendations will need to be revised and additional archaeological work may be required.

A Letter of Review and Acceptance into the Ontario Public Register of Archaeological Reports is requested, as provided for in Section 65.1 of the *Ontario Heritage Act*.

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GLOSSARY OF ABBREVIATIONS

ARA – Archaeological Research Associates Ltd.
 CHVI – Cultural Heritage Value or Interest
 ED – Eastern Division
 FIT – Feed-in Tariff
 MTC – (Former) Ministry of Tourism and Culture
 MTCS – Ministry of Tourism, Culture and Sport
 NB – Northern Boundary
 PIF – Project Information Form
 O. Reg. – Ontario Regulation
 REA – Renewable Energy Approval
 ROW – Right-of-Way
 SB – Southern Boundary
 SBR – South of Bayfield Road
 SD – Supplementary Documentation
 SHR – South of Huron Road
 WD – Western Division

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1.0 PROJECT CONTEXT

1.1 Development Context

Under a contract awarded in February 2013, ARA carried out a Stage 2 property assessment of lands with the potential to be impacted by the proposed Bluewater Wind Energy Centre in the Municipalities of Bluewater and Huron East, Huron County, Ontario. Specifically, the Stage 2 assessment encompassed 32 parcels of various sizes within the project location, comprising additional lands and portions of several municipal ROWs where project infrastructure has been proposed. This report documents the background research, fieldwork and artifact processing involved in the assessment, and presents conclusions and recommendations pertaining to archaeological concerns in these areas.

The assessment was completed as a component of a REA application (FIT-FJI7S7X), in advance of construction and in compliance with the requirements set out in Section 22 of O. Reg. 359/09 made under the *Environmental Protection Act*. The assessment was conducted on behalf of Varna Wind, Inc., a wholly owned subsidiary of NextEra Energy Canada, ULC. On April 22, 2013 the Bluewater Wind Energy Centre received its REA (No. 7483-94DPRF).

The Bluewater Wind Energy Centre project consists of the site preparation, construction, operation and decommissioning of a Class 4 wind generating facility with a total nameplate capacity of 60 MW (see Appendix A). The major components of the project include 1) up to 41 1.6 MW GE model wind turbine generator locations and pad mounted step-up transformers (a maximum of 37 turbines will ultimately be constructed), 2) laydown and storage areas (including temporary staging areas, crane pads and turnaround areas surrounding each wind turbine), 3) approximately 52 km of 34.5 kV underground electrical collection lines to connect the turbines to the proposed transformer substation, 4) approximately 24 km of 115 kV transmission line proposed along Centennial Road and Hensall Road from the proposed transformer substation to the existing Hydro One Seaforth Transformer Station, 5) approximately 40 km of turbine access roads, and 6) an operations and maintenance building (NextEra 2013).

The majority of the project location for the Bluewater Wind Energy Centre was previously assessed (see Section 1.3.1). Following the completion of the original investigations, it was determined that additional Stage 2 assessment was required for 32 parcels of various sizes within the project location, comprising additional lands and portions of several municipal ROWs where project infrastructure has been proposed. These areas were included in the original Stage 1 assessment conducted under licence #P001, PIF #P001-609-2010 (Golder 2012a).

The study area for this assessment therefore comprises the 32 subject parcels, which have a total area of 19.32 ha and are widely distributed across the project location (see Map 2–Map 6). These parcels comprise parts of numerous municipal road ROWs (i.e., Bronson Line, Centennial Road, Goshen Line, Babylon Line, Kippen Road, Parr Line, Pavillion Road, Hensall Road, Crystal Spring Road, Blind Line, Staffa Road and Tower Line), private laneways and agricultural fields. In legal terms, the parcels fall within or adjacent to multiple lots and concessions in the Geographic Townships of Stanley, Hay and Tuckersmith (see Table 1).

Table 1: Locations of Assessed Parcels

Parcel	Type	Lot	Concession	Township
BLW1011	ROW	8	12	Stanley
BLW1018	Additional Lands	13	SBR	Stanley
BLW1022	ROW	3	12	Stanley
BLW1042	ROW (3 parts: west, central, east)	10	9	Stanley
BLW1043	ROW	11	10	Stanley
BLW1044	ROW	10	11	Stanley
BLW1052	ROW	21	11	Stanley
BLW1058	ROW	17	8	Stanley
BLW1065	ROW – Removed from Project Design	23	12	Stanley
BLW1066	ROW	26	SB	Stanley
BLW1069	ROW	17	7	Stanley
BLW1075/1542	ROW	13	12,13	Stanley
BLW1088	ROW (2 parts)	16	9	Stanley
BLW1091	ROW	15	12	Stanley
BLW1096	Additional Lands	7	6 SHR	Tuckersmith
BLW1129	Additional Lands	6	1 SHR	Tuckersmith
BLW1258	Additional Lands	7	6 SHR	Tuckersmith
BLW1261	Additional Lands	8	6 SHR	Tuckersmith
BLW1438	ROW	8	6	Stanley
BLW1505	ROW	19	12	Stanley
BLW1510	Additional Lands and ROW	24	12	Stanley
BLW1557	ROW	15	13	Stanley
BLW1591	Additional Lands	11	6	Stanley
BLW1600	ROW	8	7	Stanley
BLW1618	ROW	17	SB	Stanley
BLW1671	ROW and Additional Lands	5	9	Stanley
BLW1676	ROW	8,9	9	Stanley
BLW1748	Additional Lands	11,12	3	Stanley
BLW1813	ROW	27	13	Hay
BLW1845	ROW	27	9	Hay
BLW1853	ROW and Additional Lands	18	NB	Hay
BLW1854	Additional Lands	18	NB	Hay

The Stage 2 property assessment was conducted between May and August 2013 under licence #P007, PIF #P007-522-2013. Legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owners. In compliance with the objectives set out in Section 2.0 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:27–41), the Stage 2 assessment was carried out in order to:

- Empirically document all archaeological resources on the properties;
- Determine whether the properties contains resources requiring further assessment; and
- Recommend appropriate Stage 3 assessment strategies for identified archaeological sites.

The assessments were conducted in accordance with the provisions of the *Ontario Heritage Act*, R.S.O. 1990, c. O.18. All notes, photographs and records pertaining to the project are currently housed in ARA's processing facility located at 154 Otonabee Drive, Kitchener. Subsequent long-term storage will occur at ARA's head office located at 97 Gatewood Road, Kitchener.

The MTCS is asked to review the results and recommendations presented in this report and provide their endorsement through a *Letter of Review and Acceptance into the Ontario Public Register of Archaeological Reports*.

1.2 Historical Context

After a century of archaeological work in southern Ontario, scholarly understanding of the historic usage of lands in Huron County has become very well-developed. What follows is a detailed summary of the archaeological cultures that have settled in the vicinity of the study area over the past 11,000 years; from the earliest Palaeo-Indian hunters to the most recent Euro-Canadian farmers.

1.2.1 Pre-Contact

1.2.1.1 Palaeo-Indian Period

The first documented evidence of occupation in southern Ontario dates to around 9000 BC, after the retreat of the Wisconsinan glaciers and the formation of Lake Algonquin, Early Lake Erie and Early Lake Ontario (Karrow and Warner 1990; Jackson et al. 2000:416–419). At that time small Palaeo-Indian bands moved into the region, leading mobile lives based on the communal hunting of large game and the collection of plant-based food resources (Ellis and Deller 1990:38; MCL 1997:34). Current understanding suggests that Palaeo-Indian peoples ranged over very wide territories in order to live sustainably in a post-glacial environment with low biotic productivity. This environment changed considerably during this period, developing from a sub-arctic spruce forest to a boreal forest dominated by pine (Ellis and Deller 1990:52–54, 60).

An Early Palaeo-Indian period (ca. 9000–8400 BC) and a Late Palaeo-Indian period (ca. 8400–7500 BC) are discernable amongst the lithic spear and dart points. Early points are characterized by grooves or 'flutes' near the base while the later examples lack such fluting. All types would have been used to hunt caribou and other 'big game'. Archaeological sites from both time-periods typically served as small campsites or 'way-stations' (occasionally with hearths or fire-pits), where tool manufacture/maintenance and hide processing would have taken place. For the most part, these sites tend to be small (less than 200 sq. m) and ephemeral (Ellis and Deller 1990:51–52, 60–62). Many parts of the Palaeo-Indian lifeway remain unknown.

1.2.1.2 *Archaic Period*

Beginning in the early 8th millennium BC, the biotic productivity of the environment began to increase as the climate warmed and southern Ontario was colonized by deciduous forests. This caused the fauna of the area to change as well, and ancient peoples developed new forms of tools and alternate hunting practices to better exploit both animal and plant-based food sources. These new archaeological cultures are referred to as ‘Archaic’. Thousands of years of gradual change in stone tool styles allows for the recognition of Early (7500–6000 BC), Middle (6000–2500 BC) and Late Archaic periods (2500–900 BC) (MCL 1997:34).

The Early and Middle Archaic periods are characterized by substantial increases in the number of archaeological sites and a growing diversity amongst stone tool types and exploited raw materials. Notable changes in Archaic assemblages include a shift to notched or stemmed projectile points, a growing prominence of net-sinkers (notched pebbles) and an increased reliance on artifacts like bone fish hooks and harpoons. In addition to these smaller items, archaeologists also begin to find evidence of more massive wood working tools such as ground stone axes and chisels (Ellis et al. 1990:65–67).

Towards the end of the Middle Archaic (ca. 3500 BC), the archaeological evidence suggests that populations were 1) increasing in size, 2) paying more attention to ritual activities, 3) engaging in long distance exchange (e.g., in items such as copper) and 4) becoming less mobile (Ellis et al. 1990:93; MCL 1997:34). Late Archaic peoples typically made use of shoreline/riverine sites located in rich environmental zones during the spring, summer and early fall, and moved further inland to deer hunting and fruit-gathering sites during late fall and winter (Ellis et al. 1990:114).

During the Late Archaic these developments continued, and new types of projectile points appeared along with the first true cemeteries. Excavations of burials from this time-frame indicate that human remains were often cremated and interred with numerous grave goods, including items such as projectile points, stone tools, red ochre, materials for fire-making kits, copper beads, bracelets, beaver incisors, and bear maxilla masks (Ellis et al. 1990:115–117). Interestingly, these true cemeteries may have been established in an attempt to solidify territorial claims, linking a given band or collection of bands to a specific geographic location.

From the tools unearthed at Archaic period sites it is clear that these people had an encyclopaedic understanding of the environment that they inhabited. The number and density of the sites that have been found suggest that the environment was exploited in a successful and sustainable way over a considerable period of time. The success of Archaic lifeways is attested to by clear evidence of steady population increases over time. Eventually, these increases set the stage for the final period of Pre-Contact occupation—the Woodland Period (Ellis et al. 1990:120).

1.2.1.3 *Early and Middle Woodland Periods*

The beginning of the Woodland period is primarily distinguished from the earlier Archaic by the widespread appearance of pottery. Although this difference stands out prominently amongst the archaeological remains, it is widely believed that hunting and gathering remained the primary subsistence strategy throughout the Early Woodland period (900–400 BC) and well into the Middle Woodland period (400 BC–AD 600). In addition to adopting ceramics, communities also

grew in size during this period and participated in developed and widespread trade relations (Spence et al. 1990; MCL 1997:34).

The first peoples to adopt ceramics in the vicinity of the study area are associated with the Meadowood archaeological culture. This culture is characterized by distinctive Meadowood preforms, side-notched Meadowood points and Vinette 1 ceramics (thick and crude handmade pottery with cord-marked decoration). Meadowood peoples are believed to have been organized in bands of roughly 35 people, and some of the best documented sites are fall camps geared towards the hunting of deer and the gathering of nuts (Spence et al. 1990:128–137).

Ceramic traditions continued to develop during the subsequent Middle Woodland period, and three distinct archaeological cultures emerged in southern Ontario: ‘Point Peninsula’ north and northeast of Lake Ontario, ‘Couture’ near Lake St. Clair and ‘Saugeen’ in the rest of southwestern Ontario (see Map 7). These cultures all shared a similar method of decorating pottery, using either dentate or pseudo-scallop shell stamp impressions, but they differed in terms of preferred vessel shape, zones of decoration and surface finish (Spence et al. 1990:142–43).

The local Saugeen complex, which appears to have extended from Lake Huron to as far east as the Humber River, is characterized by stamped pottery, distinctive projectile points, cobble spall scrapers and a lifeway geared towards the exploitation of seasonally-available resources such as game, nuts and fish (Spence et al. 1990:147–156). Although relatively distant from the study area, the Donaldson site along the Saugeen River may be representative of a typical Saugeen settlement; it was occupied in the spring by multiple bands that came to exploit spawning fish and bury members who had died elsewhere during the year (Finlayson 1977:563–578). The archaeological remains from this site include post-holes, hearth pits, garbage-dumps (middens), cemeteries and even a few identifiable rectangular structures (Finlayson 1977:234–514).

During the Middle to Late Woodland transition (AD 600–900), the first rudimentary evidence of maize (corn) horticulture appears in southern Ontario. Based on the available archaeological evidence, which comes primarily from the vicinity of the Grand and Credit Rivers, this pivotal development was not particularly widespread (Fox 1990a:171, Figure 6.1). The adoption of maize horticulture instead appears to be linked to the emergence of the Princess Point complex, whose material remains include decorated ceramics (combining cord roughening, impressed lines and punctuate designs), triangular projectile points, T-based drills, steatite and ceramic pipes, and ground stone chisels and adzes (Fox 1990a:174-188).

The distinctive artifacts and horticultural practices of Princess Point peoples have led to the suggestion that they were directly ancestral to the later Iroquoian-speaking populations of southern Ontario (Warrick 2000:427). These artifacts have not been found in the vicinity of the study area, however, suggesting that a gradual transition between Middle Woodland and Late Woodland lifeways took place here instead.

1.2.1.4 Late Woodland Period

In the Late Woodland period (ca. AD 900–1600), the practice of maize horticulture spread beyond the western end of Lake Ontario, allowing for population increases which in turn led to larger settlement sizes, higher settlement density and increased social complexity among the peoples involved. During this time-frame two distinct linguistic groups are believed to have coexisted in southern Ontario, including Iroquoian-speaking peoples north and west of Lake Ontario and Algonkian-speaking peoples north of Lake Simcoe, along the Georgian Bay littoral, on the Bruce Peninsula and in the vicinity of Lake St. Clair. The study area is located in an area where the cultural remains of both of these peoples are archaeologically attested.

The Algonkians who lived in the vicinity of the study area are associated with the Western Basin Tradition—one of the most poorly understood Pre-Contact populations in southern Ontario. The Western Basin Tradition has a long developmental history of ceramic styles and settlement-subsistence strategies, and four distinct archaeological phases have been identified. These include the Riviere au Vase Phase (AD 600–800/900), the Younger Phase (AD 800/900–1200), the Springwells Phase (AD 1200–1400) and the Wolf Phase (AD 1400–1550/1600) (Murphy and Ferris 1990:189–194). The Simons site, a Western Basin settlement associated with the Riviere au Vase Phase, is located approximately 30 km southwest of the project location.

Riviere au Vase Phase peoples subsisted on seasonally-abundant resources and had a fair degree of mobility, and Younger Phase peoples continued the trend of exploiting seasonally-abundant resources (contrasting the complex developments of Early Iroquoians). During the Springwells Phase, a shift took place in settlement and subsistence patterns in which warm weather villages emerged with longhouses and palisades (likely related to an increased emphasis on maize horticulture). In the Wolf Phase, subsistence and settlement patterns are poorly understood due to a lack of excavated sites, which may be linked to the establishment of a frontier zone with the Iroquoian-speaking Neutral to the east (Murphy and Ferris 1990:261–263).

Iroquoian archaeological remains from this area show three major stages of cultural development prior to European contact: ‘Early Iroquoian’, ‘Middle Iroquoian’ and ‘Late Iroquoian’ (Dodd et al. 1990; Lennox and Fitzgerald 1990; Williamson 1990). Early Iroquoians (AD 900–1300) lived in small villages (ca. 0.4 ha) of between 75 and 200 people, and each settlement consisted of four or five longhouses up to 15 m in length. The houses contained central hearths and pits for storing maize (which made up 20–30% of their diet), and the people produced distinctive pottery with decorative incised rims (Warrick 2000:434–438). The best documented Early Iroquoian culture in the area is the Glen Meyer complex, which is characterized by well-made and thin-walled pottery, ceramic pipes, gaming discs, and a variety of stone, bone, shell and copper artifacts (Williamson 1990:295–304).

Over the next century (AD 1300–1400), Middle Iroquoian culture became dominant in southwestern Ontario, and distinct ‘Uren’ and ‘Middleport’ stages of development have been identified. Both houses and villages dramatically increased in size during this time: longhouses grew to as much as 33 m in length, settlements expanded to 1.2 ha in size and village populations swelled to as many as 600 people. Middle Iroquoian villages were also better planned, suggesting emerging clan organization, and most seem to have been occupied for perhaps 30 years prior to abandonment (Dodd et al. 1990:356–359; Warrick 2000:439–446). Both

Early Iroquoian and Middle Iroquoian site clusters are attested in the vicinity of the study area (Warrick 2000:434–446).

During the Late Iroquoian period (AD 1400–1600), the phase just prior to widespread European contact, it becomes possible to differentiate between the archaeologically-represented groups that would become the Huron/Petun and the Neutral Nations. The study area itself lies on the outskirts of the territorial boundaries of the Pre-Contact Neutral Nation.

The Neutral Nation is well represented archaeologically: typical artifacts include ceramic vessels and pipes, lithic chipped stone tools, ground stone tools, worked bone, antler and teeth, and exotic goods obtained through trade with other Aboriginal (and later European) groups (Lennox and Fitzgerald 1990:411–437). The population growth so characteristic of earlier Middleport times appears to have slowed considerably during the Late Iroquoian period, and the Pre-Contact Neutral population likely stabilized at around 20,000 by the early 16th century (Warrick 2000:446).

Pre-Contact Neutral villages were much larger than Middleport villages, with average sizes in the neighbourhood of 1.7 ha. Exceptional examples of these could reach 5 ha in size, containing longhouses over 100 m in length and housing 2,500 individuals. This seemingly rapid settlement growth is thought to have been linked to Middleport ‘baby boomers’ starting their own families and needing additional living space (Warrick 2000:446–449).

It has been suggested that the size of these villages, along with the necessary croplands to sustain them, may have had some enduring impacts on the landscapes that surrounded them. In particular, there has been a correlation postulated between Pre-Contact era corn fields and modern stands of white pine (Janusas 1987:69–70, Figure 7). Aside from these villages, the Pre-Contact Neutral also made use of hamlets, agricultural field cabins, specialized camps (e.g., fishing camps) and cemeteries (MCL 1997:35; Warrick 2000:449).

For the most part, Pre-Contact Neutral archaeological sites occur in isolated clusters defined by some sort of geographic region, usually within a watershed or another well-defined topographic feature. It is believed that these clusters represent distinct tribal units, which may have been organized as a larger confederacy akin to the historic Five Nations Iroquois (Lennox and Fitzgerald 1990:410). Nineteen main clusters of villages have been identified, the closest manifestation of which is known simply as the ‘London Cluster’. This cluster, which includes the Lawson, Windermere, Ronto, Smallman, Black Kat and Mathews sites, appears to have flourished primarily in the 15th century (Lennox and Fitzgerald 1990: Table 13.1).

Late Pre-Contact Neutral sites are largely absent in this part of southern Ontario, indicative of substantial shifts in local settlement patterns (see Map 8). There was a definite contraction of earlier territories by the early 16th century (perhaps linked to the consolidation of tribal units), and by AD 1534 the Neutral appear to have moved east of the Grand River (Warrick 2000:454). Although scholars once thought that this shift was linked to a desire for better access to European goods, the fact that the fur trade did not begin for several decades has led to the recognition of an alternate reason—war. Later historical sources suggest that the Neutral were engaged in hostilities with the Fire Nation (possibly the Mascouten), the Algonkian-speaking people to the

west known as the Western Basin Tradition. Remains from the frontier zone include strongly fortified villages and earthworks, clearly illustrating a defensive mindset (Lennox and Fitzgerald 1990:437–438; Warrick 2000:449–451).

The end of the Late Woodland period can be conveniently linked to the arrival and spread of European fur traders in southern Ontario, and a terminus of AD 1600 effectively serves to demarcate some substantial changes in Aboriginal material culture. Prior to the establishment of the fur trade, items of European manufacture are extremely rare on Pre-Contact Neutral sites, save for small quantities of reused metal scrap. With the onset of the fur trade ca. AD 1580, European trade goods appear in ever-increasing numbers, and glass beads, copper kettles, iron axes and iron knives have all been found during excavations (Lennox and Fitzgerald 1990:425–432).

1.2.2 Early Contact

1.2.2.1 European Explorers

The first European to venture into what would become southern Ontario was Étienne Brûlé, who was sent by Samuel de Champlain in the summer of 1610 to accomplish three goals: 1) to consolidate an emerging friendship between the French and the First Nations, 2) to learn their languages, and 3) to better understand their unfamiliar customs. Other Europeans would subsequently be sent by the French to train as interpreters. These men became *coureurs de bois*, “living Indian-style ... on the margins of French society” (Gervais 2004:182). Such ‘woodsmen’ played an essential role in all later communications with the First Nations.

Champlain himself made two trips to Ontario: in 1613, he journeyed up the Ottawa River searching for the North Sea, and in 1615/1616, he travelled up the Mattawa River and descended to Lake Nipissing and Lake Huron to explore Huronia (Gervais 2004:182–185). He learned about many First Nations groups during his travels, including prominent Iroquoian-speaking peoples such as the Wendat (Huron), Petun (Tobacco) and ‘*la nation neutre*’ (the Neutrals), and a variety of Algonkian-speaking Anishinabeg bands. Champlain’s map of *Nouvelle France* from 1632 encapsulates his accumulated knowledge of the area (see Map 9). Although the distribution of the Great Lakes is clearly an abstraction, prolific Neutral village sites can be seen ‘west’ of *Lac St. Louis* (Lake Ontario).

1.2.2.2 Trading Contacts and Conflict

The first half of the 17th century saw a marked increase in trading contacts between the First Nations and European colonists, especially in southern Ontario. Archaeologically, these burgeoning relations are clearly manifested in the widespread appearance of items of European manufacture by AD 1630, including artifacts such as red and turquoise glass beads, scissors, drinking glasses, keys, coins, firearms, ladles and medallions. During this time, many artifacts such as projectile points and scrapers began to be manufactured from brass, copper and iron scrap, and some European-made implements completely replaced more traditional tools (Lennox and Fitzgerald 1990:432–437).

Nicholas Sanson's *Le Canada, ou Nouvelle France* (1656) provides an excellent representation of southern Ontario at this time of heightened contact. Here the lands of the Neutral Nation are clearly labelled with the French rendering of their Huron name, 'Attawandaron' (see Map 10). Unfortunately, this increased contact had the disastrous consequence of introducing European diseases into First Nations communities. These progressed from localized outbreaks to much more widespread epidemics (MCL 1997:35; Warrick 2000:457). Archaeological evidence of disease-related population reduction appears in the form of reduced longhouse sizes, the growth of multi-ossuary cemeteries and the loss of traditional craft knowledge and production skills (Lennox and Fitzgerald 1990:432–433).

1.2.2.3 Five Nations Invasion

The importance of European trading contacts eventually led to increasing factionalism and tension between the First Nations, and different groups began to vie for control of the lucrative fur trade (itself a subject of competition between the French and British). In what would become Ontario, the Huron, the Petun, and their Anishinabeg trading partners allied themselves with the French. In what would become New York, the League of the Haudenosaunee (the Five Nations Iroquois at that time) allied themselves with the British. The latter alliance may have stemmed from Champlain's involvement in Anishinabeg and Huron attacks against Iroquoian strongholds in 1609 and 1615, which engendered enmity against the French (Lajeunesse 1960:xxix). Interposed between the belligerents, the members of the Neutral Nation refused to become involved in the conflict.

Numerous military engagements occurred between the two opposing groups during the first half of the 17th century, as competition over territories rich in fur-bearing animals increased. These tensions boiled over in the middle of the 17th century, leading to full-scale regional warfare (MNCFN 2010:5). In a situation likely exacerbated by epidemics brought by the Europeans and the decimation of their population, a party of roughly 1,000 Mohawk and Seneca warriors set upon Huronia in March 1649. The Iroquois desired to remove the Huron Nation altogether, as they were a significant obstacle to controlling the northern fur trade (Hunt 1940:91–92).

The Huron met their defeat in towns such as Saint Ignace and Saint Louis (Sainte-Marie was abandoned and burned by the Jesuits in the spring of 1649). Those that were not killed were either adopted in the Five Nations as captives or dispersed to neighbouring regions and groups (Ramsden 1990:384). The Petun shared a similar fate, and the remnants of the affected groups formed new communities outside of the disputed area, settling in Quebec (modern-day Wendake), in the area of Michilimackinac and near Lake St. Clair (where they were known as the Wyandot).

Anishinabeg populations from southern Ontario, including the Ojibway, Odawa, and Pottawatomi, fled westward to escape the Iroquois (Schmalz 1977:2). The Neutral were targeted in 1650 and 1651, and the Iroquois took multiple frontier villages (one with over 1,600 men) and numerous captives (Coyne 1895:18). The advance of the Iroquois led to demise of the Neutral Nation as a distinct cultural entity (Lennox and Fitzgerald 1990:456).

For the next four decades, southern Ontario remained an underpopulated wilderness (Coyne 1895:20). This rich hunting ground was exploited by the Haudenosaunee to secure furs

for trade with the Dutch and the English, and settlements were established along the north shore of Lake Ontario at places like Teiaiagon on the Humber River and Ganatswekwyagon on the Rouge River (Williamson 2008:51). The Haudenosaunee are also known to have traded with the northern Anishinabeg during the second half of the 17th century (Smith 1987:19).

Due to their mutually violent history, the Haudenosaunee did not permit French explorers and missionaries to travel directly into southern Ontario for much of the 17th century. Instead, they had to journey up the Ottawa River to Lake Nipissing and then paddle down the French River into Georgian Bay (Lajeunesse 1960:xxix). New France was consequently slow to develop in southern Ontario, at least until the fall of several Iroquoian strongholds in 1666 and the opening of the St. Lawrence and Lake Ontario route to the interior (Lajeunesse 1960:xxxii).

In 1669, the Haudenosaunee allowed an expedition of 21 men to pass through their territory. This expedition, which included François Dollier de Casson (a Sulpician priest) and René Bréhant de Galinée, managed to reach and explore the Grand River, which they named *le Rapide* after the swiftness of its current. These men descended the Grand to reach Lake Erie, and they wintered at the future site of Port Dover (Coyne 1895:21). Galinée's map is one of the earliest documented representations of the interior of southwestern Ontario (see Map 11). In it, he notes the locations of several former Neutral villages at the western end of Lake Ontario, likely consisting of abandoned ruins.

1.2.2.4 Anishinabeg Influx

The fortunes of the Five Nations began to change in the 1690s, as disease and casualties from battles with the French took a toll on the formerly-robust group (Smith 1987:19). On July 19, 1701, the Haudenosaunee ceded lands in southern Ontario to King William III with the provision that they could still hunt freely in their former territory (Coyne 1895:28). However, this agreement appears to have lacked any sort of binding formality.

According to the traditions of the Algonkian-speaking Anishinabeg, Ojibway, Odawa and Potawatomi bands began to mount an organized counter-offensive against the Iroquois in the late 17th century (MNCFN 2010:5). Around the turn of the 18th century, the Anishinabeg of the Great Lakes expanded into Haudenosaunee lands, and attempted to trade directly with the French and the English (Smith 1987:19). This led to a series of battles between the opposing groups, in which the Anishinabeg were more successful (Coyne 1895:28).

Haudenosaunee populations subsequently withdrew into New York State, and Anishinabeg bands established themselves in southern Ontario. Many of these bands were mistakenly grouped together by the immigrating Europeans under the generalized designations of 'Chippewa/Ojibway' and 'Mississauga'. 'Mississauga', for example, quickly became a term applied to many Algonkian-speaking groups around Lake Erie and Lake Ontario (Smith 1987:19), despite the fact that the Mississaugas were but one part of the larger Ojibway Nation (MNCFN 2010:3).

The Anishinabeg are known to have taken advantage of the competition between the English and French over the fur trade, and they were consequently well-supplied with European goods. The Mississaugas, for example, traded primarily with the French and received "everything from buttons, shirts, ribbons to combs, knives, looking glasses, and axes" (Smith 1987:22). The

British, on the other hand, were well-rooted in New York State and enjoyed mutually beneficial relations with the Haudenosaunee.

As part of this influx, many members of the Algonkian-speaking Ojibway, Potawatomi and Odawa First Nations came back to Lake Huron littoral. Collectively, these people came to be known as the Chippewas of Saugeen Ojibway Territory (also Saugeen Ojibway Nation). These Algonkian-speakers established themselves in the Bruce Peninsula, all of Bruce and Grey Counties, and parts of Huron, Dufferin, Wellington, and Simcoe Counties (Schmalz 1977:233).

Throughout the 1700s and into the 1800s, Anishinabeg populations hunted, fished, gardened and camped along the rivers, floodplains and forests of southern Ontario (Warrick 2005:2). However, their ‘footprint’ was exceedingly light, and associated archaeological sites are both rare and difficult to detect. Historical records often play a pivotal role in reconstructing Anishinabeg lifeways during the timeframe, as the first European colonists often wrote about the locations of Aboriginal camps and hunting grounds.

Historical maps from the 18th century shed valuable light on the cultural landscape of the Early Contact period. H. Popple’s *A Map of the British Empire in America* (1733), for example, does not show any prominent settlements in the vicinity of the study area, which is a result of the ephemeral environmental impact of the mobile Ojibway (see Map 12). The traditional territories of the former Neutral and Petun Nations are also depicted in this map.

1.2.2.5 Relations and Ambitions

The late 17th and early 18th centuries bore witness to the continued growth and spread of the fur trade across all of what would become the Province of Ontario. The French, for example, established and maintained trading posts along the Upper Great Lakes, offering enticements to attract fur traders from the First Nations. Even further north, Britain’s Hudson Bay Company dominated the fur trade. Violence was common between the two parties, and peace was only achieved with the Treaty of Utrecht in 1713 (Ray 2013). Developments such as these resulted in an ever-increasing level of contact between European traders and local Aboriginal communities.

As the number of European men living in Ontario increased, so too did the frequency of their relations with Aboriginal women. Male employees and former employees of French and British companies began to establish families with these women, a process which resulted in the ethnogenesis of a distinct Aboriginal people: the Métis. Comprised of the descendants of those born from such relations (and subsequent intermarriage), the Métis emerged as a distinct Aboriginal people during the 1700s (MNO 2011).

Métis settlements developed along freighting waterways and watersheds, and were tightly linked to the spread and growth of the fur trade. These settlements were part of larger regional communities, connected by “the highly mobile lifestyle of the Métis, the fur trade network, seasonal rounds, extensive kinship connections and a shared collective history and identity” (MNO 2011).

In 1754, hostilities over trade and the territorial ambitions of the French and the British led to the Seven Years' War (often called the French and Indian War in North America), in which many Anishinabeg bands fought on behalf of the French. After the French surrender in 1760, these bands adapted their trading relationships accordingly, and formed a new alliance with the British (Smith 1987:22). In addition to cementing British control over the Province of Quebec, the Crown's victory over the French also proved pivotal in catalyzing the Euro-Canadian settlement process. The resulting population influx caused the demographics of many areas to change considerably.

R. Sayer and J. Bennett's *General Map of the Middle British Colonies in America* (1776) provides an excellent view of the ethnic landscape of southern Ontario prior to the widespread arrival of European settlers. This map clearly depicts the Thames River, numerous tributaries draining into Lake Huron, the territory of the Ojibway, and the virtually untouched lands of southwestern Ontario (see Map 13).

1.2.3 The Euro-Canadian Era

1.2.3.1 British Colonialism

With the establishment of absolute British control came a new era of land acquisition and organized settlement. In the *Royal Proclamation* of 1763, which followed the Treaty of Paris, the British government recognized the title of the First Nations to the land they occupied. In essence, the 'right of soil' had to be purchased by the Crown prior to European settlement (Lajeunesse 1960:cix). Numerous treaties and land surrenders were accordingly arranged by the Crown, and great swaths of territory were acquired from the Ojibway and other First Nations. These first purchases established a pattern "for the subsequent extinction of Indian title" (Gentilcore and Head 1984:78).

The first land purchases in Ontario took place along the shores of Lake Ontario and Lake Erie, as well as in the immediate 'back country'. Such acquisitions began in August 1764, when a strip of land along the Niagara River was surrendered by Six Nations, Chippewa and Mississauga chiefs (NRC 2010). Although many similar territories were purchased by the Crown in subsequent years, it was only with the conclusion of the American Revolutionary War (1775–1783) that the British began to feel a pressing need for additional land. In the aftermath of the conflict, waves of United Empire Loyalists came to settle in the Province of Quebec, driving the Crown to seek out property for those who had been displaced. This influx had the devastating side effect of sparking the slow death of the fur trade, which was a primary source of income for many First Nations groups.

By the mid-1780s, the British recognized the need to 1) secure a military communication route from Lake Ontario to Lake Huron other than the vulnerable passage through Niagara, Lake Erie and Lake St. Clair; 2) acquire additional land for the United Empire Loyalists; and 3) modify the administrative structure of the Province of Quebec to accommodate future growth. The first two concerns were addressed through the negotiation of numerous 'land surrenders' with Anishinabeg groups north and west of Lake Ontario, and the third concern was mitigated by the establishment of the first administrative districts in the Province of Quebec.

On July 24, 1788, Sir Guy Carleton, Baron of Dorchester and Governor-General of British North America, divided the Province of Quebec into the administrative districts of Hesse, Nassau, Mecklenburg and Lunenburg (Archives of Ontario 2009). The vicinity of the study area fell within the Hesse District at this time, which consisted of a massive tract of land encompassing all of the western and inland parts of the province extending due north from the tip of Long Point on Lake Erie in the east. According to early historians, “this division was purely conventional and nominal, as the country was sparsely inhabited ... the necessity for minute and accurate boundary lines had not become pressing” (Mulvany et al. 1885:13).

Further change came in December 1791, when the Parliament of Great Britain’s *Constitutional Act* created the Provinces of Upper Canada and Lower Canada from the former Province of Quebec. Colonel John Graves Simcoe was appointed as Lieutenant-Governor of Upper Canada, and he became responsible for governing the new province, directing its settlement and establishing a constitutional government modelled after that of Britain (Coyne 1895:33).

Simcoe initiated several schemes to populate and protect the newly-created province, employing a settlement strategy that relied on the creation of shoreline communities with effective transportation links between them. These communities, inevitably, would be composed of lands obtained from the First Nations, and many more purchases were subsequently arranged. In July 1792, Simcoe divided the province into 19 counties consisting of previously-settled lands, new lands open for settlement and lands not yet acquired by the Crown. These new counties stretched from Essex in the west to Glengarry in the east. Three months later, in October 1792, an Act of Parliament was passed whereby the four districts established by Lord Dorchester were renamed as the Western, Home, Midland and Eastern Districts (Archives of Ontario 2009).

The vicinity of the study area nominally fell within the boundaries of Kent County in the Western District at this time, which comprised all of the territory of Upper Canada that was not included in the other 18 counties (Archives of Ontario 2009). In essence, Kent was the largest county ever created, stretching from Lake Erie to Hudson’s Bay (McGeorge 1939:36). This arrangement would not last, however, and the ‘northern’ parts of Kent County would soon be sectioned off to form separate counties.

D.W. Smyth’s *A Map of the Province of Upper Canada* (1800) clearly shows the layout of the earliest townships north and west of Lake Ontario, and demonstrates that the vicinity of the study area remained largely untouched by early British colonialism (see Map 14). This area comprised part of the ‘Great Tract of Wood Land’ that stretched from the St. Clair River to Lake Simcoe and beyond, and remained in the possession of the First Nations.

1.2.3.2 Huron County

Shortly after the creation of Upper Canada, the original arrangement of the province’s districts and counties was deemed inadequate. As population levels increased, smaller administrative bodies became desirable, resulting in the division of the largest units into more ‘manageable’ component parts. The first major changes in the southwest took place in 1798, when an Act of Parliament called for the realignment of the Home and Western Districts and the formation of the London and Niagara Districts. Many new counties and townships were subsequently created (Archives of Ontario 2009).

The vicinity of the study area nominally became part of the London District at this time (Archives of Ontario 2009), although the lands would remain in Aboriginal hands for nearly three decades. J. Purdy's *A Map of Cabotia* (1814) shows the layout of the London District during these early years, as well as the lands that would become Huron County (see Map 15).

Between 1815 and 1824, heavy immigration from the Old World resulted in the doubling of the non-Aboriginal population of Upper Canada from 75,000 to 150,000. This dramatic increase was a result of the outcome of the War of 1812 and the Crown's efforts to populate the province's interior. A total of six major land-cession agreements were then pursued, which would yield nearly 3,000,000 ha of lands for Euro-Canadian settlement (Surtees 1994:112). These agreements were concerned with lands located well beyond the original waterfront settlements of Upper Canada, and included the Lake Simcoe-Nottawasaga, Ajetance, Rice Lake, Rideau, Long Woods and Huron Tract Purchases (Surtees 1994:113–119).

In October 1818, John Askin, Superintendent of Indian Affairs at Amherstburg, was sent to the Thames River area between London and Chatham in order to arrange for the purchase of a large tract of land to the north. Askin met with the chiefs of the Ojibway bands of the Chenal Ecarté, the St. Clair River, Bear Creek, the Sable River and the Thames River, and began negotiations for lands on the Thames River and on Lake Huron just north of the Sable River, extending inland as far as the Grand River Tract. The Ojibway leaders agreed to sell the land, and stipulated that 1) six reserves be set aside for them and that 2) a blacksmith and farm instructor be stationed near the reserves (Surtees 1994:117).

Based on Askin's report, the government decided to purchase the subject tract through two agreements: the 'Long Woods Purchase' and the 'Huron Tract Purchase'. The Long Woods area interested the Crown the most, as it was immediately north of the Thames River and was the next logical destination for Euro-Canadian settlers. Askin met with the Ojibway in 1819, and a provisional agreement was created which involved the surrender of 210,000 ha in exchange for an annuity of 600 pounds in currency and goods. The Huron Tract provisional agreement was also negotiated that same year, in which over 1,000,000 ha were to be sold for an annuity of 1,375 pounds in currency and goods (Surtees 1994:117–118).

Neither agreement was executed, however, as objections over the nature of the cash payments led to the revision of both proposals. The Long Woods Purchase was finally completed on November 28, 1822, and almost 552,190 ha were exchanged for 600 pounds in currency (NRC 2010). Specifically, a *per capita* payment of 2 pounds 10 shillings was agreed upon, to a maximum of 240 persons (Surtees 1994:118). The Huron Tract Purchase took longer to settle, and it was not pursued in earnest until John Galt's Canada Company began to materialize. This purchase was completed on July 10, 1827 for 1,375 pounds in currency (NRC 2010). Over the ensuing years, these lands would become parts of Waterloo, Wellington, Huron, Lambton, Middlesex and Oxford Counties.

The initial settlement of the Huron Tract was largely tied to the activities of the Canada Company, which held its first meeting on July 30, 1824 in a tavern in London, England. The Canada Company consisted primarily of British businessmen, such as John Galt and Charles Bosanquet, who were brought together by a shared goal of increasing settlement and

prosperity in Upper Canada while turning a tidy profit at the same time (Coleman 1978:15). The Canada Company was officially incorporated on August 19, 1826 by royal charter, and the developers were granted significant powers and privileges by King George IV. Prominent among these powers was the ability to purchase large tracts of Crown Land and Reserve Land, including Clergy Reserves. The Company would eventually come to possess nearly 931,500 ha worth of properties in Upper Canada, subsequently selling them to early settlers (Cumming 1972:5).

Following the Crown's acquisition of the Huron Tract in 1827, the Canada Company came to own 19 of the first 21 townships established in the area. Specifically, Canada Company Lands included the Townships of Biddulph, Blanshard, Colborne, Downie, Ellice, South Easthope, North Easthope, Fullarton, Goderich, Hibbert, Hay, Hullett, Logan, McKillop, McGillivray, Stephen, Stanley, Tuckersmith and Usborne (Smith 1846:85). The Crown retained ownership of the Townships of Ashfield and Wawanosh, however, preferring to sell them independently (Smith 1846:85). The rest of the Crown Lands in the northeast remained unincorporated (see Map 16).

With these territories in hand, the Canada Company quickly began clearing and surveying operations to facilitate sales and settlement. Galt, for example, was granted funds to build a road connecting Guelph to Goderich. Tiger Dunlop was placed in charge of blazing the trail, while John McDonald and Samuel Smith were appointed as the principal surveyors (Robinson 1999:3). Roadwork began in June 1828 and was completed by November 1828, at which time the Huron Road opened. Prospective settlers attracted by the Company's advertisements and posters were given a map with the new road, and the Huron Tract began to develop just as the businessmen envisioned (Coleman 1978:33). Most of the settlers that arrived were English, Scottish and Irish, although a few Germans came as well (Smith 1846:85). By 1844, the Canada Company had successfully sold 5,241 ha of the Huron Tract (Coleman 1978:125).

Due to rising population levels, Huron County was created in the London District in 1835 to better serve the administrative needs of local residents (Archives of Ontario 2009). The Crown soon realized that the demand for land far exceeded the supply, and additional territories were sought out north of the 'Huron Tract'. The first and largest tract of land (the 'Saugeen Tract') was acquired in a treaty concluded by Sir Francis Bond Head with members of the Saugeen, Odawa and Chippewa First Nations on August 9, 1836. In addition to lands for settlement, Head also sought "the physical, cultural, and institutional separation of Aboriginal and Euro-Canadian populations" (Fitzgerald 2005:27). Forming parts of what would become Bruce, Grey, Wellington and Huron Counties, this tract consisted of 607,500 ha of land, and the only payment was a promise to assist and protect those who moved to the Bruce Peninsula (NRC 2010).

In 1837 and 1838, the layout of what would become southern Ontario was significantly altered through the creation of the Huron, Brock, Wellington, Talbot and Simcoe Districts (Archives of Ontario 2009). The vicinity of the study area became part of the Huron District at this time, but the majority of the northern lands remained unsurveyed. The Huron District was enlarged in 1840 with the addition of the Townships of Ashfield and Wawanosh (see Map 17), and in February 1841, it became part of Canada West in the new United Province of Canada. By 1845, the population of the Huron District reached 13,500, and it contained 8 grist mills, 21 saw mills and 39 schools (Smith 1846:85).

Following the abolition of the district system in 1849, the counties of Canada West were reconfigured once again. The boundaries of Huron County were redefined, and Perth County was created in the east (see Map 18). For the remainder of the Euro-Canadian era, Huron County consisted of the Townships of Stephen, Osborne, Hay, Stanley, Tuckersmith, Goderich, Colborne, Hullett, McKillop, Ashfield, Wawanosh, Morris, Grey, Turnberry and Howick (see Map 19).

The population of Huron County subsequently grew at a rapid pace, and by 1871 it had 66,165 inhabitants (Belden & Co. 1879:v). This growth later waned, however, and a population decline occurred between 1881 and 1941—likely a result of movement to other municipalities. The 2011 census profile for Huron County shows a population of 59,100 (Statistics Canada 2013), indicating that Huron County still has not recovered fully from this historic decline.

1.2.3.3 Township of Stanley

In historic times, the Township of Stanley was bordered by the Township of Goderich to the north, the Township of Tuckersmith to the east, the Township of Hay to the south and Lake Huron to the west. The earliest settlers in the township enjoyed a favourable environmental setting, and the land was well-watered by the Bayfield River, the Bannockburn River and by numerous unnamed tributaries draining into Lake Huron. According to W.H. Smith, “the soil of the township is good, with the exception of the land bordering on the lake, which is poor” (1846:176).

The Township of Stanley was named after Edward Smith Stanley, one of the most prominent early stakeholders in the Canada Company (H. Belden & Co. 1879:xviii). This land was acquired by the Crown in 1827 as part of the Huron Tract Purchase, and was subsequently sold to the Canada Company to facilitate its settlement (Mack 1992:4). In 1829, the Canada Company’s principle surveyor John MacDonald divided the township into 40.5 ha (100 acre) lots, and in 1830, Stanley was opened for settlement (SHC 1986:9).

The first pioneers arrived in 1832 and settled along London Road, which was the first surveyed thoroughfare in the township (SHC 1986:13). Some of the earliest documented land sales from 1832 and 1833 involved Henry Cooper (Lots 32–34), John Taylor (Lots 20–21), Donald McDonald (Lots 31, 16–18 and 27–28), Donald Ross (Lots 22–23), George Carter (Lot 26), Thomas McDonald (Lots 29–30), Edward Tegarg (Lot 6), John Cook (Lot 2) and Angus Campbell (Lot 19) (SHC 1986:14). In 1836, however, there was a considerable influx of new settlers, and the London Road became densely settled (H. Belden & Co. 1879:xviii).

In 1835, settlers began taking up lots along the Bayfield Road in the northern part of the township. The first settlers to arrive included Michael Kelly (Lot 25 B.R.S.), Alex Mitchell, Malcolm McNaughton, John McNaughton, Barth Griffin and David Ritchie (lots unknown) (SHC 1986:14). Other Euro-Canadian settlers subsequently arrived in the township and settled along the numerous concession roads, after the preferred London Road and Bayfield Road locations were taken up.

Although the Canada Company was responsible for surveying and cutting out the London Road and Bayfield Road, they but did little other roadwork within the township (SHC 1986:17). It was the local settlers, through statute labour, that were responsible for blazing trails through the rest

of the township. These trailblazers were supervised by Pathmasters appointed after the first township meeting in 1836 (SHC 1986:17). These new roads encouraged further settlement within the township and facilitated transportation throughout the region. Many of these roads were named after the early settlers who lived there, including Turner Line and McNaughton Line, whereas others were named for religious reasons, such as Goshen Line, where the Protestants refused to allow Catholics to settle, and Babylon Line, so named by the Protestants due to its exclusive settlement by Catholics (H. Belden & Co. 1879:xviii).

The rate of settlement within the township was initially slow; the usual price for a 100 acre lot was 50 to 100 pounds, and the Canada Company's policy of one-fifth down upon purchase prevented settlers who lacked funds from taking up land (SHC 1986:9). Once the Canada Company realized that the 20% down system was hampering settlement, they introduced a new lease arrangement in 1842, in which the settler would 1) pay no money down, 2) have ten years to pay for his lot, 3) be responsible for 6% interest per year, and 4) be responsible for clearing four acres of land per year (SHC 1986:12). This new lease system facilitated the area's rapid settlement, and by the 1850s, all the agriculturally favourable land was taken up (SHC 1986:12). The early settlers in the area were mainly English, Irish and Scottish, although there were also a number of French Canadians.

The most prominent historic communities in the Township of Stanley included Bayfield, Varna, Bannockburn and Brucefield, all of which developed along the London and Bayfield Roads. Aside from these larger centres, the township also contained numerous small communities that developed around local post offices, including Drysdale, Blake, Goshen, Hills Green and Kippen (see Map 20).

Bayfield, located in the northwest corner of the township, was founded on land purchased from the Canada Company by a Dutch speculator on the advice of British Naval Lieutenant Henry Wolsey Bayfield. In essence, the land was purchased as an investment due to its agricultural potential and viability for future commercial development (SHC 1986:55). A dam, gristmill and sawmill were built in Bayfield in the 1830s, and a number of inns were opened in subsequent years to provide accommodations for travelers and summer visitors to the area. Some of these inns remain standing today, including the Albion Hotel (1840), the Little Inn (1847) and the Ritz Hotel (built in the 1870s, but destroyed by fire in 1947 and rebuilt) (SHC 1986:55–58).

Varna was founded by Josiah Secord in 1854, and he named the hamlet after the prominent naval base from the Crimean War. When Mr. Secord arrived, there was already a school on one corner of Bayfield Road and a tavern run by Richard Seales on the other (SHC 1986:84). By 1879, the town contained two general stores, one hotel, two churches, a school house, a wagon shop, three blacksmiths shops, a cheese factory, two shoe shops and a cooperage, and it had a population of approximately 100 (H. Belden & Co. 1879:xix).

Bannockburn was located north of Bayfield Road and straddled the Bannockburn River. Although many anticipated that the location would have facilitated the growth of a successful village, Bannockburn never grew to anything larger than a small hamlet with a few buildings. Aside from these buildings, the Foote family ran a lime kiln west of the river and south of

Bayfield Road. A toll gate was also located at Bannockburn, where a few cents were charged to anyone using the Bayfield Road (SHC 1986:68).

Brucefield, located in the eastern part of the township along London Road, became an important station on the London, Huron & Bruce Division of the Great Western Railway, which was built through the area in 1875 (SHC 1986:70). Founded by Peter McMullen, this settlement was named after Major Bruce, brother-in-law of Earl Elgin (H. Belden & Co. 1879:xix). By the late 19th century, Brucefield contained three general stores, two hotels, one livery stable, two blacksmiths shops, one butcher, one tailor, one shoemaker, one harness maker, one implement agent, one wagon maker, one sawmill, two cheese factories, one post master, one veterinarian, one livestock dealer and one builder (SHC 1986:70–71). The population was approximately 200 at this time (H. Belden & Co. 1879:xix).

1.2.3.4 Township of Hay

In historic times, the Township of Hay was bordered by the Township of Stanley to the north, the Township of Stephen to the south, the Townships of Tuckersmith and Usborne to the east and Lake Huron to the west. The earliest settlers in the township also enjoyed a favourable environmental setting, and the land was well-watered by Black Creek and numerous unnamed tributaries draining into Lake Huron. According to W.H. Smith, “the soil is good, with the exception of the land bordering on the lake” (1846:79).

The Township of Hay was named after Robert William Hay, the second undersecretary of state for the colonies of the British government in 1825 (Lee 2004:230). This land was acquired by the Crown in 1827 as part of the Huron Tract Purchase, and was subsequently sold to the Canada Company to facilitate its settlement (Mack 1992:4). In 1835 and 1837, the Canada Company’s principle surveyor John MacDonald divided the township into lots for settlement, beginning with the four boundaries and finishing with the centre (McDonald 1835; 1837).

The Township of Hay was settled somewhat later than the surrounding townships, although a few settlers did arrive as early as 1832 along the London Road. Most came in 1837 and 1838, and when William Wilson arrived in 1839, the Walshes and the Bells already lived on the Tuckersmith side of the London Road, and the Cases and a few others dwelled on the Hay side (H. Belden & Co. 1879:xv). Other early residents of Hay included John Oesch, Peter Deichert, Frederick Axt, Henry Wohlrich, Henry Greb and John Goetz (Zurich Ontario 2006). The first settlers were mainly German, although those of English and Irish descent also come to the Township of Hay. Once the preferred London Road locations were taken up, the settlers established themselves along the numerous concession roads.

Overall, the rate of settlement was quite slow in the Township of Hay, and there were only 113 residents by 1846 (Smith 1846:79). As was the case in the Township of Stanley, the Canada Company’s new lease system encouraged more rapid settlement, and by 1879 the population reached 4,119 (H. Belden & Co. 1879:xv).

In the early years, the only way for the settlers of Hay to obtain goods was to travel to Goderich, located approximately 40 km to the north. Many settlers could not make this trip, and instead sent money with ‘Jack Quick’, who drove a stage between London and Goderich, to make

purchases on their behalf. Jack frequently spent this money on ‘sprees’, but he would repay the funds with money “given him by others for a similar purpose” (H. Belden & Co. 1879:xv). He met an untimely death falling from a wagon.

The most prominent historic communities in the Township of Hay included Zurich, Hensall, Dashwood and Exeter. Aside from these larger centres, the township also contained numerous small communities that developed around local post offices, including Drysdale, Blake, Hills Green, Kippen, Johnson’s Mills, Brewster, Sarepta and Hay (see Map 21).

The most prominent historic community in the vicinity of the project location was Zurich, which developed in the vicinity of Lot 21, Concession 11 in the central part of the township. This settlement was first organized by a Swiss man named Frederick Knell, who obtained the property in July 1856. Knell established a general store and a post office at Zurich, and later erected a grist mill and a saw mill on the property known as the Mill Survey (Zurich Ontario 2006). By 1879, many other businesses and shops had opened, including three general stores, one drug store, one merchant tailor, three harness shops, three carriage shops, one tannery, one woolen mill, one grist and flouring mill, one flax mill and two good hotels. The community had a population of approximately 600 at that time (H. Belden & Co. 1879:xv).

1.2.3.5 Township of Tuckersmith

In historic times, the Township of Tuckersmith was bordered by the Townships of Hullet and McKillop to the northeast, the Township of Hibbert to the southeast, the Township of Usborne to the south, and the Townships of Stanley and Hay to the west. The land was well-watered by two branches of the Bayfield River. According to early historical sources, “the land in the greater part of the township is good” (Smith 1846:198) and the topography “presents a beautiful and gently undulating surface of what is for the great part a most fertile and productive soil” (H. Belden & Co. 1879:xix).

The Township of Tuckersmith was named after Martin Tucker Smith, a banker and member of the Canada Company’s Provisional Committee (Lee 2004:232). Although it was the second smallest of the 16 townships comprising historic Huron County, Tuckersmith was the most densely settled and “best improved” by the late 19th century (H. Belden & Co. 1879:xix). Along with the Townships of Stanley and Hay, this land was acquired by the Crown in 1827 as part of the Huron Tract Purchase, and was subsequently sold to the Canada Company to facilitate its settlement (Mack 1992:4).

Tuckersmith’s early success was largely related to its position along the London Road and the Huron Road. The London Road, completed by 1832, separated Tuckersmith from the Townships of Stanley and Hay in the west, and the Huron Road, completed in 1828, divided Tuckersmith from the Townships of Hullet and McKillop in the north. These thoroughfares drew many settlers to the township, as they facilitated transportation and provided access to distant markets.

The earliest settlers arrived in 1830 and 1831, including Francis Fowler, Samuel Carnochan and Dr. Chalk (founder of Harpurhey) along the Huron Road and Neil Ross, James Campbell, John McIntosh, Robert Hunter, William Hunter, William Bell and Alexander McKenzie along the London Road. Neil Ross was actually the first settler along the London Road between London

and Goderich (September 1830), save for a few black refugees who had already settled north of London. In 1832, Arthur Squires, Mr. Leslie, Edward Craig and John Young also arrived in the township (H. Belden & Co. 1879:xix). By 1846, there were 599 people living in Tuckersmith and three mills in operation (Smith 1846:198).

The population of Tuckersmith reached 3,699 in 1871, although a slight decline occurred over the ensuing years and the population was only 3,048 in 1879 (H. Belden & Co. 1879:xix). The township was also commercially successful at this time, with railway stops at Seaforth and Clinton along the Buffalo & Lake Huron Branch of the Grand Trunk Railway and stops at Hensall, Kippen and Brucefield along the London, Huron & Bruce Division of the Great Western Railway (H. Belden & Co. 1879:iv–v).

The most prominent historic communities in the Township of Tuckersmith included Clinton, Harpurhey, Seaforth and Brucefield. Aside from these larger centres, the township also contained numerous smaller communities that developed around local post offices, including Hensall, Rodgerville, Kippen, Egmondville and Chiselhurst (see Map 22).

The closest historic community to the project location was Egmondville, located in the northeastern part of the township south of Seaforth on the banks of the Bayfield River. Egmondville was named by Constant Van Egmond, eldest son of Colonel Van Egmond, the contractor responsible for the construction of the Huron Road (H. Belden & Co. 1879:xix). The Canada Company erected a mill at Egmondville as early as 1832, and the location was known as ‘the Mill’ for many years. This mill was only the second ever built in Huron County, and the Canada Company surveyed ‘the Mill Road’ between London Road and ‘the Mill’ to provide access for early settlers (H. Belden & Co. 1879:xix).

1.2.3.6 *The Study Area*

As discussed in Section 1.1, the study area for this assessment comprises 32 parcels falling within or adjacent to multiple lots and concessions in the Geographic Townships of Stanley, Hay and Tuckersmith (see Table 1). The lots in these townships were laid out ca. 1830, and the vicinity of the study area was relatively well-settled for the remainder of the Euro-Canadian era.

In an attempt to reconstruct the historic land use of the study area, ARA examined three historical maps that documented past residents, structures (e.g., homes, businesses and public buildings) and features during the late 19th century. These maps, published in H. Belden & Co.’s *Illustrated Historical Atlas of the County of Huron, Ontario* (1879), were of the most detailed scale available (50 chains to 1 inch for the Townships of Stanley and Hay, 60 chains to 1 inch for the Township of Tuckersmith). Georeferenced views of these historical maps, showing the 32 parcels, appear in Map 23–Map 26 (McGill University 2001).

H. Belden & Co.’s *Illustrated Historical Atlas* (1879) indicates that all of the subject lots were settled by the late 19th century, and numerous Euro-Canadian owners are depicted on the township maps. These maps also provide useful information concerning historically-surveyed roadways, public buildings and prominent natural features in the area. These data are summarized in Table 2.

Table 2: Euro-Canadian Residents within or adjacent to the Subject Parcels, according to H. Belden & Co.'s *Illustrated Historical Atlas of the County of Huron, Ontario (1879)* (McGill University 2001)

Parcel	Lot	Concession	Township	Property Owner	Structures/Features
BLW1011	8	12	Stanley	John Dunn	Homestead indicated in the southwest portion of the lot
BLW1018	13	SBR	Stanley	Robert Reid and Alex Mitchell	Reid homestead indicated in the north-central portion of the lot; no structures indicated on the Mitchell property
BLW1022	3	12	Stanley	Peter Douglas	Homestead indicated in the northwest portion of the lot
BLW1042	10	9	Stanley	John Peck and Edward Curvin	No structures indicated on the Peck or Curvin properties
BLW1043	11	10	Stanley	John Dawson	Homestead indicated in the southwest portion of the lot
BLW1044	10	11	Stanley	Henry Dawson	Two homesteads and a church indicated in the northeast portion of the lot
BLW1052	21	11	Stanley	Joseph Davison	Homestead indicated in the southeast portion of the lot
BLW1058	17	8	Stanley	John Redmond	Homestead indicated in the west-central portion of the lot
BLW1065	23	12	Stanley	Mrs. Gorman	Homestead indicated in the west-central portion of the lot
BLW1066	26	SB	Stanley	James Johnston	Homestead indicated in the south-central portion of the lot along the creek
BLW1069	17	7	Stanley	David Erwin and J.E. Sparrow	Erwin homestead indicated in the southeast portion of the lot; Sparrow homestead indicated in the northeast portion of the lot
BLW1075/1542	13	12,13	Stanley	George Sparks and John Tough	Homestead indicated in the west-central portion of Lot 12; homestead indicated in the northeast portion of Lot 13
BLW1088	16	9	Stanley	George Stephenson and William Graham	No structures indicated on the Stephenson property; Graham homestead indicated in the east-central portion of the lot
BLW1091	15	12	Stanley	Robert Delgatty	Homestead indicated in the northwest portion of the lot
BLW1096	7	6 SHR	Tuckersmith	R. Hay and George Monk	Two homesteads indicated in the southeast of Hay's property; no structures indicated on the Monk property
BLW1129	6	1 SHR	Tuckersmith	R. McArthur	Homestead indicated in the west-central portion of the lot
BLW1258	7	6 SHR	Tuckersmith	R. Hay and George Monk	Two homesteads indicated in the southeast of Hay's property; no structures indicated on the Monk property
BLW1261	8	6 SHR	Tuckersmith	Mrs. A. Campbell	Homestead indicated in the southwest portion of the lot
BLW1438	8	6	Stanley	David Stephenson	Homestead indicated in the west-central portion of the lot
BLW1505	19	12	Stanley	Joseph Armstrong	Homestead indicated in the west-central portion of the lot
BLW1510	24	12	Stanley	William Campbell	Homestead indicated in the southwest portion of the lot
BLW1557	15	13	Stanley	Alex Sparks	No structure indicated on the Sparks' property
BLW1591	11	6	Stanley	John Dawson	Homestead indicated in the southwest portion of the lot

Parcel	Lot	Concession	Township	Property Owner	Structures/Features
BLW1600	8	7	Stanley	Joseph Forrest	Homestead indicated in the east-central portion of the lot
BLW1618	17	SB	Stanley	John Shaver	Homestead indicated in the southwest portion of the lot
BLW1671	5	9	Stanley	William Clark	Homestead indicated in the northwest portion of the lot; part of a large orchard exists within the east quarter of the property
BLW1676	8, 9	9	Stanley	John Peck	Two homesteads indicated in the east-central portion of the lot
BLW1748	11, 12	3	Stanley	George McNair and Mrs. Thomas Vine	Two homesteads indicated in the east-central portion of McNair's Lot 8; Vine homestead indicated in the northwest portion of Lot 9,
BLW1813	27	13	Hay	John Oesch	Homestead indicated in the east-central portion of the lot
BLW1845	27	9	Hay	Peter Rothermel	Homestead indicated in the west-central portion of the lot
BLW1853	18	NB	Hay	J. Neuschwanger and the Canada Company	No structures indicated on the Neuschwanger or Canada Company properties
BLW1854	18	NB	Hay	J. Neuschwanger and the Canada Company	No structures indicated on the Neuschwanger or Canada Company properties

1.2.4 Summary of Past and Present Land Use

During Pre-Contact and Early Contact times, the vicinity of the study area would have comprised a mixture of coniferous trees, deciduous trees and open areas. It seems clear that the First Nations managed the landscape to some degree, but the extent of such management is unknown. During the early 19th century, Euro-Canadian settlers arrived in the area and began to clear the forests for agricultural purposes. Over the course of the Euro-Canadian era, this locality would have comprised primarily agricultural lands and historically-surveyed road allowances in the Townships of Stanley, Hay and Tuckersmith. Presently, the project location consists of agricultural lands, hedgerows, woodlots and parts of several municipal road ROWs and private laneways. The subject parcels comprise parts of numerous municipal road ROWs (i.e., Bronson Line, Centennial Road, Goshen Line, Babylon Line, Kippen Road, Parr Line, Pavillion Road, Hensall Road, Crystal Spring Road, Blind Line, Staffa Road and Tower Line), private laneways and agricultural fields.

1.2.5 Additional Background Information

In the course of the previous archaeological assessments conducted for the project, additional research concerning the settlement history and land use of the study area was carried out. In accordance with the requirements set out in Section 7.5.7 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:125), the title, author and PIF number(s) of the related works appear below:

- Title: *Stage 1 Archaeological Assessment, NextEra Energy Canada, ULC, Bluewater Wind Energy Centre, Huron County, Ontario*. Author: Golder Associates Ltd. PIF #P001-609-2010 (Golder 2012a).
- Title: *Stage 2 Archaeological Assessment, NextEra Energy Canada, ULC, Bluewater Wind Energy Centre, Huron County, Ontario*. Author: Golder Associates Ltd. PIF #P218-040-2011 and #P319-017-2012 (Golder 2012b).
- Title: *Stage 2 Archaeological Assessment, Bluewater Wind Energy Centre, Location 26 through Location 35, Various Lots and Concessions, Geographic Townships of Stanley, Hay and Tuckersmith, now Municipalities of Bluewater and Huron East, Huron County, Ontario*. Author: Golder Associates Ltd. PIF #P218-275-2012 (Golder 2013a).
- Title: *Stage 3 Archaeological Assessment, Bluewater Wind Energy Centre, Locations 13, 14, 24 and 25, Various Lots and Concessions, Geographic Townships of Hay and Stanley, Huron County, Ontario*. Author: Golder Associates Ltd. PIF #P218-279, 280, 281, 282-2012 (Golder 2013b).
- Title: *Stage 2 Property Assessment, Heavy Haul Route Turns, Bluewater Wind Energy Centre, FIT-FJI7S7X, Multiple Lots and Concessions, Municipality of Bluewater, Geographic Townships of Hay and Stanley, Huron County, Ontario*. Author: Archaeological Research Associates Ltd. PIF #P089-032-2013 (ARA 2013b).
- Title: *Stage 3 Site-Specific Assessment, Location 13 (AiHj-6), Bluewater Wind Energy Centre, FIT-FJI7S7X, Part of Lot 10, Concession 11, Municipality of Bluewater, Geographic Township of Stanley, Huron County, Ontario*. Author: Archaeological Research Associates Ltd. PIF #P089-025-2013 (ARA 2013c).
- Title: *Stage 3 Site-Specific Assessment, Location 14 (AiHk-1), Bluewater Wind Energy Centre, FIT-FJI7S7X, Part of Lot 9, Concession 8, Municipality of Bluewater, Geographic Township of Stanley, Huron County, Ontario*. Author: Archaeological Research Associates Ltd. PIF #P089-026-2013 (ARA 2013d).
- Title: *Stage 3 Site-Specific Assessment, Location 24 (AjHj-9), Bluewater Wind Energy Centre, FIT-FJI7S7X, Municipality of Bluewater, Part of Lot 24, North Boundary, Geographic Township of Hay, Huron County, Ontario*. Author: Archaeological Research Associates Ltd. PIF #P089-027-2013 (ARA 2013e).
- Title: *Stage 3 Site-Specific Assessment, Location 25 (AjHj-14), Bluewater Wind Energy Centre, FIT-FJI7S7X, Municipality of Bluewater, Part of Lot 17, Concession 9, Geographic Township of Stanley, Huron County, Ontario*. Author: Archaeological Research Associates Ltd. PIF #P089-028-2013 (ARA 2013f).
- Title: *Stage 3 Site-Specific Assessment, Location 29 (AjHj-16), Bluewater Wind Energy Centre, FIT-FJI7S7X, Municipality of Bluewater, Part of Lot 15, Concession 9, Geographic Township of Stanley, Huron County, Ontario*. Author: Archaeological Research Associates Ltd. PIF #P089-031-2013 (ARA 2013g).
- Title: *Stage 3 Site-Specific Assessment, Location 30 (AjHi-12), Bluewater Wind Energy Centre, FIT-FJI7S7X, Municipality of Huron East, Part of Lot 23, Concession 4 ELR, Geographic Township of Tuckersmith, Huron County, Ontario*. Author: Archaeological Research Associates Ltd. PIF #P007-544-2013 (ARA 2013h).
- Title: *Stage 4 Mitigation of Development Impacts, Location 14 (AiHk-1), Bluewater Wind Energy Centre, FIT-FJI7S7X, Municipality of Bluewater, Part of Lot 9, Concession 8, Geographic Township of Stanley, Huron County, Ontario*. Author: Archaeological Research Associates Ltd. PIF #P007-506-2013 (ARA 2013i).

The additional information included in these reports was considered during the formulation of fieldwork strategies and recommendations pertaining to archaeological concerns within the study area (see Section 2.0).

1.3 Archaeological Context

1.3.1 Previous Archaeological Work

The project location for the Bluewater Wind Energy Centre has been subjected to multiple archaeological assessments. A Stage 1 assessment was completed by Golder in February 2012 under licence #P001, PIF #P001-609-2010 (Golder 2012a). This assessment encompassed an irregularly-shaped 19,500 ha block of lands located on multiple lots and concessions in the Geographic Townships of Stanley, Hay and Tuckersmith, Huron County. Based on the presence of multiple features of archaeological potential, including 12 previously-identified archaeological sites, proximity to primary and secondary water sources, level topography, agriculturally suitable soils and documented early settlement and historic transportation routes, it was determined that the majority of the study area had potential for both Pre-Contact and Euro-Canadian archaeological sites (Golder 2012a:1). Golder determined that Stage 2 assessment would be required “for potential wind turbine sites and their associated infrastructure. Further Stage 2 archaeological assessment is recommended for any areas to be impacted by turbine construction, access road construction, or other infrastructure construction related activities” (Golder 2012a:35).

Two phases of Stage 2 fieldwork subsequently occurred: the first phase was carried out between May 5, 2011 and March 22, 2012 under licences #P218 and #P319, PIF #P218-040-2011 and #P319-017-2012 (Golder 2012b), and the second phase was conducted between April 4, 2012 and August 7, 2012 under licence #P218, PIF #P218-275-2012 (Golder 2013a). ARA carried out a Stage 2 assessment of heavy haul route turns in July and August 2013 under licence #P089, PIF #P089-032-2013 (ARA 2013b).

A total of 37 archaeological sites (Locations 1–35, Locations 38–39) were identified during the Stage 2 assessments, comprising 21 Pre-Contact sites and 16 Euro-Canadian sites. Eleven of these sites (Locations 13–14, 24–26 and 28–33) were recommended for Stage 3 site-specific assessment (Golder 2012b:Table 52; 2013a:Table 41). Golder and ARA subsequently conducted Stage 3 site-specific assessments and Stage 4 mitigations of development impacts at those sites within the project location that could not be avoided through project redesign (Golder 2013b; ARA 2013c–2013i).

1.3.2 Summary of Registered Archaeological Sites

An archival search was conducted using the MTCS’s Ontario Archaeological Sites Database in order to determine the presence of any registered archaeological resources which might be located within a 1 km radius of the project location (MTCS 2013a). The results of this search, coupled with the results of past assessments carried out for the project (see Section 1.3.1), indicate that there are 38 registered or known archaeological sites within these limits. The excavation results from these sites are summarized in Table 3.

Table 3: Registered or Known Sites within 1 km of the Project Location

Site Name	Borden No.	Year(s) Assessed	Cultural Affiliation	Site Type	Comments
Clark	AiHj-1	1987–1988	Euro-Canadian	Homestead	463 Euro Canadian artifacts in a 60 x 45 m scatter; further work recommended
Location 1	N/A	2011	Undetermined Pre-Contact	Findspot	Isolated find of a complete ovate biface manufactured of Haldimand chert; no further work recommended
Location 2	N/A	2011	Undetermined Pre-Contact	Findspot	Isolated find of a piece of chipping detritus manufactured from Onondaga chert; no further work recommended
Location 3	N/A	2011	Undetermined Pre-Contact	Findspot	Isolated find of a piece of chipping detritus manufactured from Kettle Point chert; no further work recommended
Location 4	AiHj-5	2011	Early Woodland	Findspot	Isolated find of a Meadowood projectile point; no further work recommended
Location 5	N/A	2011	Undetermined Pre-Contact	Findspot	Isolated find of an ovate biface base manufactured from Kettle Point chert; no further work recommended
Location 6	AjHj-12	2011	Late Archaic	Findspot	Isolated find of a Crawford Knoll projectile point
Location 7	N/A	2011	Undetermined Pre-Contact	Findspot	Isolated find of a wedge reworked from a biface fragment manufactured from Kettle Point chert; no further work recommended
Location 8	AjHj-13	2011	Early Woodland	Findspot	Isolated find of a Meadowood projectile point
Location 9	N/A	2011	Undetermined Pre-Contact	Findspot	Isolated find of a side scraper manufactured from Haldimand chert; no further work recommended
Location 10	N/A	2011	Late 19 th –early 20 th century Euro-Canadian	Scatter	23 artifacts identified in a 63 x 44 m area, 16 of which were collected for laboratory analysis; no further work recommended
Location 11	N/A	2011	Undetermined Pre-Contact	Findspot	Two pieces of chipping detritus manufactured from Haldimand chert recovered in a 1 x 1 m area; no further work recommended
Location 12	N/A	2011	Undetermined Pre-Contact	Findspot	Isolated find of a biface tip manufactured from Kettle Point chert; no further work recommended
Location 13	AiHj-6	2011	Mid–late 19 th century Euro-Canadian	Scatter	55 Euro Canadian artifacts recovered during pedestrian survey; further work recommended
Location 14	AiHk-1	2011	Mid–late 19 th century Euro-Canadian	Scatter	205 artifacts identified in a 70 x 25 m area, 74 of which were collected for laboratory analysis; Further work recommended
Location 15	AiHj-7	2011	Terminal Archaic	Findspot	Isolated find of a Turkey Tail Fulton projectile point base; no further work recommended
Location 16	AiHk-2	2011	Late 19 th century Euro-Canadian	Scatter	52 artifacts identified in a 51 x 22 m area, 20 of which were collected for laboratory analysis; no further work recommended
Location 17	N/A	2011	Undetermined Pre-Contact	Findspot	Isolated find of a piece of chipping detritus manufactured from Kettle Point chert; no further work recommended
Location 18	N/A	2011	Undetermined Pre-Contact	Findspot	Isolated find of a piece of chipping detritus manufactured from Kettle Point chert; no further work recommended
Location 19	N/A	2011	Undetermined Pre-Contact	Findspot	Isolated find of a piece of chipping detritus manufactured from Kettle Point chert; no further work recommended

Site Name	Borden No.	Year(s) Assessed	Cultural Affiliation	Site Type	Comments
Location 20	AiHj-8	2011	Late 19 th century Euro-Canadian	Scatter	106 artifacts identified in a 40 x 24 m area, 39 of which were collected for laboratory analysis; No further work recommended
Location 21	N/A	2011	Undetermined Pre-Contact	Findspot	Isolated find of an ovate biface manufactured from Onondaga chert; no further work recommended
Location 22	N/A	2011	Undetermined Pre-Contact	Findspot	Isolated find of a piece of chipping detritus manufactured from Haldimand chert; no further work recommended
Location 23	N/A	2011	Undetermined Pre-Contact	Findspot	Isolated find of a biface tip manufactured from Onondaga chert; no further work recommended
Location 24	AiHj-9	2011	Mid-late 19 th century Euro-Canadian	Scatter	63 artifacts identified and collected within the study, higher concentration of artifacts noted to the west; further work recommended
Location 25	AjHj-14	2011	Mid-late 19 th century Euro-Canadian	Scatter	86 artifacts identified and collected from the study area, higher concentrations of artifacts noted to the west of the study area; further work recommended
Location 26	AjHj-15	2012	Mid-late 19 th century Euro-Canadian	Scatter	Over 100 artifacts identified in a 25 x 40 m area, 31 of which were collected (30 historic and 1 Pre-Contact); further work recommended
Location 27	N/A	2011	Undetermined Pre-Contact	Findspot	A fragment of a rejuvenated core possibly reused as a scraper and a piece of chipping detritus situated 6 m apart; no further work recommended
Location 28	AiHj-15	2012	Mid-late 19 th century Euro-Canadian	Scatter	26 artifacts identified in a 10 x 20 m area; further work recommended
Location 29	AjHj-16	2012	Mid-late 19 th century Euro-Canadian	Scatter	174 artifacts in a 55 x 33 m area; further work recommended
Location 30	AjHi-12	2012	Mid-late 19 th century Euro-Canadian	Scatter	64 artifacts in a 70 x 20 m area; further work recommended
Location 31	AjHj-17	2012	Mid-late 19 th century Euro-Canadian	Scatter	199 artifacts in a 12 x 24 m area; further work recommended
Location 32	AjHj-18	2012	Mid-late 19 th century Euro-Canadian	Scatter	632 artifacts in a 10 x 5 m area; further work recommended
Location 33	AiHj-16	2012	Mid-late 19 th century Euro-Canadian	Scatter	28 artifacts in a 5 x 5 m area; further work recommended
Location 34	AjHj-19	2012	Late Archaic	Findspot	Isolated find of a Narrow Point Late Archaic Projectile point; no further work recommended
Location 35	AjHj-20	2012	Middle Archaic	Findspot	Isolated find of a Brewerton Side Notched Middle Archaic projectile point; no further work recommended
Location 38	N/A	2013	20 th century Euro-Canadian	Scatter	Field and laboratory work in progress
Location 39	N/A	2013	20 th century Euro-Canadian	Scatter	Field and laboratory work in progress

Thirty-two of these previously-identified sites are located within 1 km of the specific parcels assessed for this report. These sites are summarized in Table 4. The relative abundance of registered sites in the vicinity of the study area demonstrates the desirability of this locality for early settlement and resource exploitation.

Table 4: Registered Archaeological Sites within 1 km of the Subject Parcels

Parcel	Sites within 1 km
BLW1011	Location 20 (AiHj-8), Location 4 (AiHj-5)
BLW1018	None
BLW1022	Location 18, Location 19, Location 24 (AiHj-9), Location 33 (AiHj-16)
BLW1042	Location 9, Location 14 (AiHk-1), Location 28 (AiHj-15), Location 31 (AiHj-17), Location 32 (AiHj-18)
BLW1043	Location 9, Location 13 (AiHj-6)
BLW1044	Location 1, Location 4 (AiHj-5), Location 13 (AiHj-6)
BLW1052	Location 2, Location 3, Location 22, Location 34 (AiHj-19)
BLW1058	Location 6 (AiHj-12), Location 7, Location 8 (AiHj-13), Location 10, Location 25 (AjHj-14), Location 29 (AjHj-16)
BLW1065	None
BLW1066	Location 16 (AiHk-2), Location 17
BLW1069	None
BLW1075	Location 21
BLW1088	Location 5, Location 6 (AiHj-12), Location 8 (AiHj-13), Location 10, Location 29 (AjHj-16)
BLW1091	None
BLW1096	None
BLW1129	None
BLW1258	None
BLW1261	None
BLW1438	None
BLW1505	None
BLW1510	None
BLW1542	Location 21
BLW1557	Location 23
BLW1591	None
BLW1600	None
BLW1618	Location 15 (AiHj-7)
BLW1671	Location 12, Location 15 (AiHj-7), Location 27
BLW1676	Location 9, Location 14 (AiHk-1), Location 28 (AiHj-15)
BLW1748	Location 26 (AjHj-15)
BLW1813	None
BLW1845	None
BLW1853	Location 15 (AiHj-7)
BLW1854	Location 15 (AiHj-7)

1.3.3 Natural Environment

Environmental factors played a substantial role in shaping early land-use and site selection processes, particularly in small Pre-Contact societies with non-complex, subsistence-oriented economies. Euro-Canadian settlers also gravitated towards favourable environments, particularly

those with agriculturally-suitable soils and a moderate climate. In order to fully comprehend the archaeological context of the study area, the following five features of the local natural environment must be considered: 1) forests; 2) drainage systems; 3) climatic conditions; 4) physiography; and 5) soil types.

The study area lies within the Great Lakes-St. Lawrence forest, which is a transitional zone between the southern deciduous forest and the northern boreal forest covering approximately 20,000,000 ha. Vegetation here consists of a mixture of coniferous trees and deciduous trees, as well as many species of ferns, fungi, shrubs and mosses. The most prominent conifers are eastern white pine, red pine, eastern hemlock and white cedar, while deciduous trees are best represented by yellow birch, sugar and red maple, basswood and red oak. Other species more commonly occurring in the north are also present, including white and black spruce, jack pine, aspen and white birch (MNR 2013).

Only part of the original forest cover remains standing today, however, as early Euro-Canadian agriculturalists conducted large-scale clearing operations to prepare the land for cultivation. In Pre-Contact times, however, this dense forest would have been particularly bountiful. It is believed that the First Nations of the Great Lakes region exploited close to 500 plant species for food, beverages, food flavourings, medicines, smoking, building materials, fibres, dyes and basketry (Mason 1981:59–60). Furthermore, this diverse vegetation would have served as both home and food for a wide range of game animals, including white tailed deer, turkey, passenger pigeon, cottontail rabbit, elk, muskrat and beaver (Mason 1981:60).

In terms of local drainage systems, the parcels fall within parts of the South Gilles, Bannockburn and Bayfield Headwaters watersheds, all of which comprise part of the Ausable Bayfield Conservation Authority (ABCA 2013). Multiple water sources are located in the vicinity of each parcel, and the distances between the sources and these parcels are summarized in Table 5.

Table 5: Summary of Distances between Parcels and Water Sources

Parcel	Closest Water Source	Distance to Closest Water Source	Closest Major Water Source	Distance to Closest Major Water Source
BLW1011	Tributary into Lake Huron	185 m south	Lake Huron	4,000 m west
BLW1018	Tributary of Bayfield River	Traversed	Bayfield River	1,271 m northeast
BLW1022	Tributary into Lake Huron	477 m southeast	Lake Huron	4,600 m west
BLW1042	Unnamed Stream	50 m south	Bannockburn Creek	4,540 m east
BLW1043	Unnamed Stream	492 m east	Bannockburn Creek	5,654 m east
BLW1044	Tributary into Lake Huron	73 m north	Lake Huron	4,852 m west
BLW1052	Tributary into Lake Huron	130 m north	Bayfield River	2,660 m northeast
BLW1058	Tributary of Bayfield River	876 m northeast	Bayfield River	2,880 m north
BLW1065	Tributary into Lake Huron	68 m southeast	Lake Huron	2,577 m west
BLW1066	Tributary into Lake Huron	16 m north	Lake Huron	3,762 m west
BLW1069	Tributary of Bannockburn Creek	389 m northwest	Bannockburn Creek	2,132 m east
BLW1075	Tributary into Lake Huron	151 m north	Lake Huron	3,602 m west
BLW1088	Unnamed Stream	1,101 m east	Bayfield River	4,063 m north

Parcel	Closest Water Source	Distance to Closest Water Source	Closest Major Water Source	Distance to Closest Major Water Source
BLW1091	Tributary into Lake Huron	60 m north	Lake Huron	4,103 m west
BLW1096	Unnamed Stream	273 m east	Silver Creek	2,595 m northeast
BLW1129	Tributary of Silver Creek	570 m north	Silver Creek	990 m south
BLW1258	Unnamed Stream	Traversed	Silver Creek	2,628 m northeast
BLW1261	Unnamed Stream	416 m northeast	Silver Creek	2,645 m northeast
BLW1438	Unnamed Stream	831 m northwest	Bannockburn Creek	2,166 m east
BLW1505	Tributary into Lake Huron	772 m north	Lake Huron	2,896 m west
BLW1510	Tributary into Lake Huron	181 m southwest	Bayfield River	2,238 m northeast
BLW1542	Tributary into Lake Huron	151 m north	Lake Huron	3,602 m west
BLW1557	Tributary into Lake Huron	97 m north	Lake Huron	3,362 m west
BLW1591	Tributary of Bannockburn Creek	796 m northeast	Bannockburn Creek	1,162 m east
BLW1600	Unnamed Stream	831 m northwest	Bannockburn Creek	2,166 m east
BLW1618	Unnamed Stream	373 m west	Hay Swamp	1,268 m southeast
BLW1671	Unnamed Stream	811 m west	Hay Swamp	3,084 m southeast
BLW1676	Unnamed Stream	352 m northeast	Bannockburn Creek	4,242 m east
BLW1748	Tributary of Bannockburn Creek	430 m south	Bannockburn Creek	855 m west
BLW1813	Tributary into Lake Huron	37 m north	Hay Swamp	3,685 m east
BLW1845	Unnamed Stream	500 m west	Hay Swamp	742 m southeast
BLW1853	Unnamed Stream	Adjacent	Hay Swamp	1,416 m southeast
BLW1854	Unnamed Stream	Adjacent	Hay Swamp	1,419 m southeast

The local climatic region is that of the Western Uplands, which comprises the majority of Huron County save for a narrow strip of land along the Lake Huron shoreline known as the Lake Huron-Georgian Bay region. In the vicinity of the study area (Brucefield), the climate is characterized by mean July temperatures of 20.0 °C and mean February temperatures of -7.8 °C. The area experiences a growing season that typically lasts between 189 and 196 days, with approximately 125 to 140 frost-free days per year. The average annual precipitation level is 874 mm, with between 200 and 300 cm of snowfall per year (Hoffman et al. 1952:19–23). On the whole, this agriculturally-favourable climate would have been well-suited for the general farm crops grown during the Euro-Canadian period.

Physiographically, the subject parcels fall within parts of the Huron Slope, the western belt of the Horseshoe Moraines and the Stratford Till Plain. The Huron Slope is a 258,999 ha strip of land situated between the Algonquin shorecliff and the Wyoming Moraine. In general terms, this area comprises a clay plain modified by a narrow strip of sand and the twin beaches of glacial Lake Warren (flanking the moraine). The surface below the beaches has been smoothed, whereas the surface above the beaches is similar to that of the Stratford till plain (Chapman and Putnam 1984:160–161). The Horseshoe Moraines region consists of two principal landform components: 1) irregular, stony knobs and ridges which are composed mostly of till with some sand and gravel deposits (kames); and 2) more-or-less pitted sand and gravel terraces and swampy valley floors

(Chapman and Putnam 1984:127–129). The Stratford Till Plain is a broad clay plain characterized by ground moraines interrupted by terminal moraines, extending from London to Listowel. The till, consisting of brown calcareous silty clay, is a product of the Huron ice lobe. The area tends to be muddy and prone to abundant rain and snow resulting from its location east of Lake Huron (Chapman and Putnam 1984:133-135). These diverse physiographic elements have accumulated over grey shale and limestone bedrock belonging to the Middle Devonian Dundee formation (Davidson 1989:42).

A wide variety of soil types occur within the subject parcels, which is unsurprising given their broad spatial distribution. In general, the assessed lands Huron clay loam, Toledo silt loam, Perth clay loam, Wauseon sandy loam, Brookston clay loam and/or Bottomland soils. The specific soil type(s) occurring within each parcel and their associated drainage qualities are summarized in Table 6.

Table 6: Summary of Soil Types by Parcel

Parcel	Material Type	Drainage Qualities
BLW1011	Huron Clay Loam	Good
BLW1018	Huron Clay Loam	Good
BLW1022	Huron Clay Loam	Good
BLW1042	Toledo Silt Loam	Poor
BLW1043	Huron Clay Loam; Toledo Silt Loam	Good; Poor
BLW1044	Huron Clay Loam; Bottom Land	Good; Variable
BLW1052	Huron Clay Loam	Good
BLW1058	Huron Clay Loam	Good
BLW1065	Perth Clay Loam	Imperfect
BLW1066	Brookston Clay Loam; Bottom Land Variable	Poor; Variable
BLW1069	Huron Clay Loam	Good
BLW1075/1542	Burford Loam; Huron Clay Loam	Good; Good
BLW1088	Perth Clay Loam	Imperfect
BLW1091	Huron Clay Loam	Good
BLW1096	Huron Clay Loam	Good
BLW1129	Perth Clay Loam	Imperfect
BLW1258	Huron Clay Loam; Bottom Land	Good; Variable
BLW1261	Huron Clay Loam	Good
BLW1438	Huron Clay Loam	Good
BLW1505	Perth Clay Loam	Imperfect
BLW1510	Perth Clay Loam	Imperfect
BLW1557	Wauseon Sandy Loam	Poor
BLW1591	Brookston Clay Loam; Perth Clay Loam; Huron Clay Loam	Poor; Imperfect; Good
BLW1600	Huron Clay Loam	Good
BLW1618	Perth Clay Loam	Imperfect
BLW1671	Huron Clay Loam	Good
BLW1676	Huron Clay Loam	Good
BLW1748	Perth Clay Loam; Huron Clay Loam	Imperfect; Good

Parcel	Material Type	Drainage Qualities
BLW1813	Huron Clay Loam	Good
BLW1845	Huron Clay Loam	Good
BLW1853	Brookston Clay Loam	Poor
BLW1854	Brookston Clay Loam	Poor

In summary, the study area possesses a number of environmental characteristics which would have made it attractive to both Pre-Contact and Euro-Canadian populations. The rich Great Lakes-St. Lawrence forest and the nearby water sources would have attracted a wide variety of game animals, and consequently, early hunters. The areas of well-drained soils would have been ideal for the maize horticulture of Middle to Late Woodland peoples and the mixed agriculture practiced by later Euro-Canadian populations. Finally, the proximity of the study area to the Bayfield River, the Bannockburn River and Lake Huron would also have influenced its settlement and land-use history. Such major waterways functioned as principal transportation routes in both Pre- and Post-Contact times.

1.3.4 Archaeological Fieldwork and Property Conditions

The Stage 2 property assessment was carried out on May 24, 28, June 6–7, 12–13, 21, July 18, 29, 31 and August 1–2, 6–8, 12–15, 2013 under MTCS licence #P007, PIF #P007-522-2013. This assessment encompassed all of the parcels indicated in Table 1 and involved 1) the on-site documentation of all areas of no archaeological potential, and 2) test pit and pedestrian survey in the identified areas of archaeological potential. Legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owners.

Key personnel involved during the assessment were P. Racher, Project Director; C.J. Gohm, Deliverables Manager; V. Cafik, Assistant Project Manager; S. Brown, Field Operations Manager; S. Bolstridge, P. Epler and A. O’Shaughnessy, Field Directors; H. Buckton and A. Moulton, Assistant Field Directors; J. Haxell and A. O’Shaughnessy, GPS Technicians; and 29 additional crewmembers.

As discussed in Section 1.2.4, the subject parcels comprise parts of numerous municipal road ROWs (i.e., Bronson Line, Centennial Road, Goshen Line, Babylon Line, Kippen Road, Parr Line, Pavillion Road, Hensall Road, Crystal Spring Road, Blind Line, Staffa Road and Tower Line), private laneways and agricultural fields. The specific property characteristics, assessment methods and rationale, and weather and lighting conditions for the days of assessment are summarized in Section 2.1.

No unusual physical features were encountered during the assessments that affected fieldwork strategy decisions or the identification of artifacts or cultural features (e.g., dense root mats, boulders, rubble, etc.).

2.0 STAGE 2 PROPERTY ASSESSMENT

2.1 Field Methods

Given that the subject parcels consisted of actively or recently cultivated fields and lands where ploughing was not possible or viable, it was necessary to utilize both the pedestrian survey and test pit survey methods to complete the Stage 2 property assessment. The specific property characteristics, assessment methods and rationale are summarized in Table 7.

Table 7: Summary of Property Characteristics, Assessment Methods and Rationale by Parcel

Parcel	Property Characteristics	Assessment Method(s)	Rationale
BLW1011	Bronson Line, Shoulders, Ditches, Laneways, Lawn	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1018	Recently Cultivated Agricultural Land	Pedestrian Survey	Ploughed and Weathered
BLW1022	Bronson Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1042 (3 parts: west, central, east)	Centennial Road, Babylon Line Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1043	Centennial Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1044	Centennial Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1052	Goshen Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1058	Babylon Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1065	Bronson Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1066	Kippen Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1069	Parr Line, Shoulders, Ditches, Laneways	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1075/1542	Bronson Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1088	Pavillion Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1091	Pavillion Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1096	Laneway and Lawn	Test Pit Survey and Visual Inspection	Non-Agricultural and not Plough-Accessible
BLW1129	Agricultural Field, Hensall Road, Shoulders and Ditches	Pedestrian Survey (West), Combination Test Pit and Visual Inspection to Confirm Disturbance (East)	Ploughed and Weathered Agricultural Field in the West; Non-Agricultural and not Plough-Accessible in the East
BLW1258	Recently Cultivated Agricultural Land	Pedestrian Survey	Ploughed and Weathered
BLW1261	Laneway and Lawn	Test Pit Survey and Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1438	Parr Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible

Parcel	Property Characteristics	Assessment Method(s)	Rationale
BLW1505	Bronson Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1510	Recently Cultivated Agricultural Land, Bronson Line, Shoulders, Ditches	Pedestrian Survey (South) Combination Test Pit and Visual Inspection to Confirm Disturbance (North)	Ploughed and Weathered Agricultural Field in the South; Non-Agricultural and not Plough-Accessible in the North
BLW1557	Staffa Road, Shoulders, Ditches, Part of an Agricultural Field	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural (North); Non-Plough Accessible Agricultural Field (South)
BLW1591	Recently Cultivated Agricultural Land	Pedestrian Survey	Ploughed and Weathered
BLW1600	Parr Line, Shoulders, Ditches	Visual Inspection	Clearly Disturbed Due to Grading and Road Buildup
BLW1618	Kippen Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1671 (Additional Lands)	Recently Cultivated Agricultural Land, Laneways, Outbuildings	Pedestrian Survey and Visual Inspection	Ploughed and Weathered Agricultural Field; Visually Assessed (Disturbed Areas such as Laneways and Structures)
BLW1671 (ROW)	Staffa Road, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1676	Babylon Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1748	Recently Cultivated Agricultural Land	Pedestrian Survey	Ploughed and Weathered
BLW1813	Bronson Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1845	Blind Line, Shoulders, Ditches	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible
BLW1853 (Additional Lands)	Recently Cultivated Agricultural Land, Unmaintained Lands with Brush and Weed Growth	Pedestrian Survey, Test Pit Survey and Visual Inspection	Ploughed and Weathered Agricultural Field; Non-Agricultural and not Plough-Accessible Areas; Visually Assessed (Natural Slope Greater than 20°)
BLW1853 (ROW)	Kippen Road, Shoulders, Ditches, Part of an Agricultural Field	Combination Test Pit and Visual Inspection to Confirm Disturbance	Non-Agricultural and not Plough-Accessible (South); Non-Plough Accessible Agricultural Field (North)
BLW1854	Recently Cultivated Agricultural Land, Unmaintained Lands with Brush and Weed Growth	Pedestrian Survey, Test Pit Survey and Visual Inspection	Ploughed and Weathered; Non-Agricultural and not Plough-Accessible

Parts of the ROW parcels associated with BLW1557 and BLW 1853 traversed agricultural lands that were unsuitable for pedestrian survey at the time of assessment (i.e., there was less than 80% ground surface visibility due to crop growth). Due to the nature of the project location, these areas could not be ploughed without impacting non-project lands. In order to confirm that test pitting was a viable field method in these areas, ARA submitted a Request for Technical Guidance under Section 5 of the Administrative Bulletin to the MTCS with the associated mapping and rationale (MTCS 2013b). The MTCS confirmed that “this would be an appropriate rationale as per Section 2.1.2 for carrying out a test pit survey as opposed to pedestrian survey in a given area” (MTCS 2013b).

Since the assessment took place over the course of several months, daily weather and lighting conditions were variable. On any given day, however, survey was only carried out when weather and lighting conditions were ideal for finding evidence of archaeological resources. A day-by-day breakdown of these weather and lighting conditions appears in Table 8. ARA therefore confirms that fieldwork was carried out under weather and lighting conditions that met the requirements set out in Section 2.1 Standard 3 of the *Standards and Guidelines for Consultant Archeologists* (MTC 2011:29).

Table 8: Summary of Weather and Lighting Conditions

Parcel	Assessment Date	Weather Conditions	Temperature (Max °C)	Lighting Conditions
BLW1011	August 7, 2013	Cloudy	29	Good
	August 12, 2013	Cloudy	25	Good
BLW1018	May 24, 2013	Partly Cloudy	8	Very Good
BLW1022	August 7, 2013	Cloudy	29	Good
BLW1042	July 31, 2013	Cloudy	24	Good
BLW1043	August 6, 2013	Partly Cloudy	26	Very Good
BLW1044	August 6, 2013	Partly Cloudy	26	Very Good
BLW1052	August 7, 2013	Cloudy	29	Good
BLW1058	August 7, 2013	Cloudy	29	Good
	August 13, 2013	Partly Cloudy	18	Very Good
BLW1065	August 7, 2013	Cloudy	29	Good
BLW1066	August 6, 2013	Partly Cloudy	26	Very Good
BLW1069	August 8, 2013	Partly Cloudy	21	Very Good
	August 13, 2013	Partly Cloudy	18	Very Good
BLW1075/1542	August 7, 2013	Cloudy	29	Good
	August 13, 2013	Partly Cloudy	18	Very Good
	August 14, 2013	Sunny	19	Excellent
BLW1088	August 8, 2013	Partly Cloudy	21	Very Good
BLW1091	August 8, 2013	Partly Cloudy	21	Very Good
BLW1096	July 29, 2013	Cloudy	20	Good
BLW1129	August 7, 2013	Cloudy	29	Good
BLW1258	June 6, 2013	Partly Cloudy	17	Very Good
BLW1261	July 29, 2013	Cloudy	20	Good
BLW1438	August 8, 2013	Partly Cloudy	21	Very Good
BLW1505	August 8, 2013	Partly Cloudy	21	Very Good
BLW1510	June 13, 2013	Partly Cloudy	19	Very Good
	August 8, 2013	Partly Cloudy	21	Very Good
BLW1557	August 6, 2013	Partly Cloudy	26	Good
	August 12, 2013	Cloudy	25	Good
BLW1591	July 18, 2013	Sunny	30	Excellent
BLW1600	August 8, 2013	Partly Cloudy	21	Very Good
	August 13, 2013	Partly Cloudy	18	Very Good
BLW1618	August 2, 2013	Sunny	23	Excellent

Parcel	Assessment Date	Weather Conditions	Temperature (Max °C)	Lighting Conditions
BLW1671	May 24, 2013	Partly Cloudy	8	Very Good
	May 28, 2013	Partly Cloudy	18	Very Good
BLW1676	August 7, 2013	Cloudy	29	Good
BLW1748	June 12, 2013	Partly Cloudy	21	Very Good
	June 13, 2013	Partly Cloudy	19	Very Good
	August 6, 2013	Partly Cloudy	26	Good
BLW1813	August 6, 2013	Partly Cloudy	26	Good
	August 12, 2013	Partly Cloudy	25	Very Good
BLW1845	August 8, 2013	Partly Cloudy	21	Very Good
BLW1853	May 24, 2013	Partly Cloudy	8	Very Good
	June 6, 2013	Partly Cloudy	17	Very Good
	August 1, 2013	Cloudy	23	Good
	August 13, 2013	Partly Cloudy	18	Very Good
BLW1854	May 24, 2013	Partly Cloudy	8	Very Good
	June 6, 2013	Partly Cloudy	17	Very Good

In the actively or recently cultivated parts of the study area, the property assessment was carried out using the pedestrian survey method. Section 2.1.1 of the *Standards and Guidelines for Consultant Archaeologists* provides clear requirements for the condition of such lands prior to the commencement of fieldwork: all fields must be recently ploughed; all soils must be well-weathered; and at least 80% of the ploughed ground surface must be visible (MTC 2011:30). These conditions were met during the pedestrian survey component of the Stage 2 assessment.

Following the standard strategy for pedestrian survey outlined in Section 2.1.1 of the *Standards and Guidelines for Consultant Archaeologists*, ARA crewmembers traversed the study area along parallel transects established at a maximum interval of 5 m, yielding at least 20 survey transects per hectare. If archaeological materials were encountered in the course of the pedestrian survey, the transect interval would be closed to 1 m and a close inspection of the ground would be conducted for 20 m in all directions (see SD Map 1–SD Map 2). For sites with potential for further CHVI, all diagnostic artifacts and a representative sample of non-diagnostic artifacts would then be collected for analysis. For large Euro-Canadian sites (e.g., Location 36), a sufficient sample of refined ceramic sherds would be collected to form the basis for accurate dating. All remaining artifacts would be left *in situ* until a proper Stage 3 Controlled Surface Pickup could be carried out. For small sites with little to no potential for further CHVI, all artifacts would be collected in order to fully document the deposit.

In those parts of the study area that physically could not be ploughed or where ploughing was not viable, the assessment was conducted using the test pit survey method (sometimes referred to as shovel-testing). In this method, ARA crewmembers hand-excavated small regular test pits with a minimum diameter of 30 cm at prescribed intervals across the study area. Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* stipulates that lands within 300 m of any feature of archaeological potential be examined at 5 m intervals, and any lands more than 300 m from such features be examined at 10 m intervals (MTC 2011:31–32). Given the presence of multiple indicators of archaeological potential in the vicinity of the study area (e.g., a variety

of water sources and historically-surveyed roadways), a 5 m interval was adopted for the property assessment.

In accordance with Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists*, each test pit was excavated into the first 5 cm of subsoil (MTC 2011:32). The resultant pits were then examined for stratigraphy, cultural features and/or evidence of fill. The soil from each test pit was screened through 6 mm mesh and examined for archaeological materials. If archaeological materials were encountered over the course of the test pitting survey, each Positive Test Pit would be documented and all artifacts would be collected according to their associated test pit. All test pits were backfilled upon completion, as per the property owners' instruction (MTC 2011:32).

In accordance with Section 2.1.8 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:38), a combination of property inspection and test pitting was used to confirm the extents of any disturbed areas identified during the test pit survey. These areas either initially appeared to have archaeological potential or were of indeterminate archaeological potential, and were therefore subjected to test pitting (i.e., shovel tested, found to be disturbed). Test pits were placed throughout these areas of unclear archaeological potential to confirm that these areas had been completely disturbed. In accordance with the requirements set out in Section 1.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:15–16), the visually inspected areas were examined systematically (at a 5 m interval) under ideal weather and lighting conditions with excellent ground surface visibility.

Artifacts that may indicate the presence of significant cultural deposits include bone, charcoal, lithics (stone tools and refuse generated by their production and use), ceramics, glass and metal. Archaeological features such as pits, foundations and other non-portable remains may also be detected during a Stage 2 property assessment. All archaeological materials with potential CHVI are documented, whether associated with Pre-Contact Aboriginal groups or Post-Contact First Nations, Métis and Euro-Canadian populations. Artifact locations are recorded on topographic maps, in field notes and on a variety of GPS handheld units. Specifically, ARA utilized a Topcon HiPer SR RTK GNSS Receiver and Field Controller capable of network-corrected measurements to 1 cm accuracy (using the UTM17 NAD83 coordinate system) on occasions in May, June and August 2013, a Topcon GRS-1 RTK GNSS Receiver and Field Controller capable of network-corrected measurements to 1 cm accuracy (using the UTM17 NAD83 coordinate system) on occasions in June and July 2013, and a Garmin eTrex Legend, WAAS-enabled, GPS handheld unit capable of +/- 2 m accuracy (using the UTM17 NAD83 coordinate system) on occasions in July and August 2013.

All parts of the study area were assessed according to these methods, save for those that clearly did not have archaeological potential and did not require any test pitting to confirm disturbance. Section 2.1 of the *Standards and Guidelines for Consultant Archaeologists* states that only those areas that have steep slopes greater than 20°, are permanently wet or consist of exposed bedrock, or have been subjected to deep land alterations that have severely damaged the integrity of archaeological resources can be considered exempt from requiring Stage 2 assessment (MTC 2011:28). These areas were subject to a property inspection in accordance the requirements set out in Section 1.2 of the *Standards and Guidelines for Consultant*

Archaeologists (MTC 2011:15–16). Specifically, the visually inspected areas were examined systematically (at a 5 m interval) under ideal weather and lighting conditions with excellent ground surface visibility.

ARA's on-site documentation resulted in the identification of numerous disturbed areas over the course of the Stage 2 assessment. Specifically, construction activities associated with the creation of paved roadways, embankments, drainage ditches and culverts have resulted in the removal of archaeological potential from many of the parcels, and others were negatively affected by building footprints for residential and agricultural structures. Lands sloped greater than 20° were also identified within the BLW1853 parcel. These areas were not subject to Stage 2 assessment, as they had no archaeological potential.

The results of the Stage 2 property assessment are summarized in Map 27–Map 60, and the specific field methods utilized at each parcel and the associated images are presented in Table 9. In fulfillment of the requirements set out in Section 7.8 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:137), the field methods utilized during the assessment as a whole are summarized in Table 10.

Table 9: Summary of Assessment Methods and Images by Parcel

Parcel	Assessment Method(s)	Image(s)	Area(s) of No Archaeological Potential	Image(s)
BLW1011	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 1–Image 2	Disturbed Lands	Image 3
BLW1018	Pedestrian Survey	Image 4–Image 5	None	N/A
BLW1022	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 6–Image 7	Disturbed Lands	Image 8
BLW1042 (3 parts: west, central, east)	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 9–Image 10, Image 12, Image 14	Disturbed Lands	Image 11, Image 13, Image 15
BLW1043	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 16–Image 17	Disturbed Lands	Image 18
BLW1044	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 19–Image 20	Disturbed Lands	Image 21
BLW1052	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 22–Image 23	Disturbed Lands	Image 24
BLW1058	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 25–Image 26	Disturbed Lands	Image 27
BLW1065	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 28–Image 29	Disturbed Lands	Image 30
BLW1066	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 31–Image 32	Disturbed Lands	Image 33
BLW1069	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 34–Image 35	Disturbed Lands	Image 36
BLW1075	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 37–Image 38	Disturbed Lands	Image 39
BLW1088	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 40–Image 41	Disturbed Lands	Image 42
BLW1091	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 43–Image 44	Disturbed Lands	Image 45
BLW1096	Test Pit Survey and Visual Inspection	Image 46–Image 47	Disturbed Lands	Image 48

Parcel	Assessment Method(s)	Image(s)	Area(s) of No Archaeological Potential	Image(s)
BLW1129	Pedestrian Survey (West), Combination Test Pit and Visual Inspection to Confirm Disturbance (East)	Image 49–Image 52	Disturbed Lands	Image 53
BLW1258	Pedestrian Survey	Image 54–Image 56	None	N/A
BLW1261	Test Pit Survey and Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 57–Image 59	Disturbed Lands	Image 60
BLW1438	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 61–Image 62	Disturbed Lands	Image 63
BLW1505	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 64–Image 65	Disturbed Lands	Image 66
BLW1510	Pedestrian Survey (South) Combination Test Pit and Visual Inspection to Confirm Disturbance (North)	Image 67–Image 70	Disturbed Lands	N/A
BLW1557	Test Pit Survey; Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 71–Image 73	Disturbed Lands	Image 74
BLW1591	Pedestrian Survey	Image 75–Image 76	None	N/A
BLW1600	Visual Inspection	Image 77	Disturbed Lands	Image 77
BLW1618	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 78–Image 79	Disturbed Lands	Image 80
BLW1671 (Additional Lands)	Pedestrian Survey and Visual Inspection	Image 81–Image 82	Disturbed Lands	Image 83– Image 85
BLW 1671 (ROW)	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 87	Disturbed Lands	Image 88
BLW1676	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 89–Image 90	Disturbed Lands	Image 91
BLW1748	Pedestrian Survey	Image 92–Image 93	None	N/A
BLW1813	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 94–Image 95	Disturbed Lands	Image 96
BLW1845	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 97–Image 98	Disturbed Lands	Image 99
BLW1853 (Additional Lands)	Pedestrian Survey, Test Pit Survey and Visual Inspection	Image 100–Image 103	Slope Greater than 20°	Image 104
BLW1853 (ROW)	Combination Test Pit and Visual Inspection to Confirm Disturbance	Image 105–Image 106	Disturbed Lands	Image 107
BLW1854	Pedestrian Survey, Test Pit Survey and Visual Inspection	Image 108–Image 112	None	Image 104

Table 10: Summary of Utilized Field Methods

Category	Study Area
Property assessed by test pit survey at a maximum interval of 5 m	1.86% (0.36 ha)
Property assessed by pedestrian survey at a maximum interval of 5 m	70.39% (13.60 ha)
Property assessed by test pit survey and visual inspection to confirm disturbance	14.29% (2.76 ha)
Property not assessed because of disturbed areas	13.20% (2.55 ha)
Property not assessed because of permanently wet areas	0.00% (0.00 ha)
Property not assessed because of sloped areas	0.26% (0.05 ha)

Category	Study Area
Property not assessed because of exposed bedrock	0.00% (0.00 ha)
Property assessed where standard survey intervals could not be maintained	0.00% (0.00 ha)
Total	100% (19.32 ha)

In keeping with the requirements set out in Section 2.1 Standard 4 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:29), GPS coordinates were recorded for fixed reference landmarks (e.g., Ontario Land Surveyor benchmarks, Hydro poles, standard iron bars, etc.) located in the vicinity of the study area. The GPS co-ordinates for the documented fixed reference landmarks appear in Table 11, and the locations of these landmarks are presented in Map 27–Map 60.

Table 11: GPS Co-ordinates for Fixed Reference Landmarks

Parcel	Fixed Reference Landmark	Label	UTM Zone	Easting (m)	Northing (m)
BLW1011	Utility Pole (AJM9AX)	FRL 5	17	446,378	4,814,592
BLW1018	Telephone Pole (No Designation)	FRL 34	17	449,649	4,820,948
	Telephone Pole (No Designation)	FRL 35	17	449,661	4,820,869
	Utility Pole (BRPUFE)	FRL 7	17	449,669	4,820,869
BLW1022, BLW1557	Utility Pole (AJMCJE)	FRL 8	17	446,664	4,812,355
BLW1042 (East, Centre and West)	Utility Pole (BRXGQX)	FRL 28	17	450,327	4,816,122
	Utility Pole (BRQ4TX)	FRL 9	17	450,300	4,816,125
BLW1043, BLW1044	Utility Pole (BRQ4TX)	FRL 10	17	448,287	4,815,841
BLW1052	Utility Pole (BRQ7FR)	FRL 12	17	447,693	4,819,977
BLW1058	Utility Pole (BRLP2C)	FRL 13	17	449,921	4,819,027
BLW1065, BLW1510	Utility Pole (BRLRHQ)	FRL 14	17	445,522	4,820,933
BLW1066	Utility Pole (AJM8BY)	FRL 15	17	445,717	4,811,382
BLW1069	Utility Pole (BRPVGN)	FRL 16	17	451,952	4,819,213
BLW1075/1542	Utility Pole (BRPXHA)	FRL 21	17	446,093	4,816,556
BLW1088	Utility Pole (BRLPGD)	FRL 18	17	450,061	4,818,187
BLW1091	Utility Pole (BRPWUR)	FRL 11	17	445,962	4,817,621
BLW1096	Utility Pole (No Designation)	FRL 3	17	466,095	4,816,423
BLW1129	Utility Pole (No Designation)	FRL 41	17	469,745	4,820,930
BLW1258	Utility Pole (No Designation)	FRL 4	17	466,192	4,816,353
BLW1261	Utility Pole (No Designation)	FRL 42	17	465,771	4,816,617
BLW1505	Utility Pole (BRPYWB)	FRL 19	17	445,772	4,818,759
BLW1510	Utility Pole (No Designation)	FRL 20	17	445,477	4,821,300
BLW1591	Utility Pole (BRXD9Z)	FRL 22	17	452,336	4,816,424
BLW1600	Utility Pole (BRXDTE)	FRL 23	17	452,457	4,815,530
BLW1618	Utility Pole (AJMMNM)	FRL 17	17	449,853	4,811,939
BLW1671 (ROW and Additional Lands)	Telephone Pole (No Designation)	FRL 38	17	448,546	4,813,910
	Utility Pole (C6MGSB)	FRL 25	17	448,498	4,813,798

Parcel	Fixed Reference Landmark	Label	UTM Zone	Easting (m)	Northing (m)
BLW1676	Utility Pole (BRXG5R)	FRL 27	17	450,434	4,815,363
BLW1748	Telephone Pole (No Designation)	FRL 39	17	456,416	4,816,980
		FRL 40	17	456,328	4,816,970
	Utility Pole (BRZXYL)	FRL 29	17	456,424	4,816,982
BLW1813	Utility Pole (AJMCMT)	FRL 30	17	447,013	4,809,882
BLW1845	Utility Pole (C6MG8W)	FRL 31	17	450,025	4,810,755
BLW1853 (Additional Lands)	Utility Pole (No Designation)	FRL 2	17	449,540	4,811,893
BLW1853 (ROW)	Utility Pole (AJMMFY)	FRL 32	17	449,394	4,811,876
BLW1854	Utility Pole (No Designation)	FRL 1	17	449,597	4,811,901

During the laboratory processing of the retained artifacts, ARA's Material Culturalist carried out detailed documentation and analyses of the archaeological materials in order to provide 1) a record of the artifacts and other materials from the site, 2) a basis for all recommendations and 3) enough basic information to help future researchers determine whether the site is relevant to their studies (MTC 2011:97). All of the artifacts were classified using ARA's devised typological system, which is an adaptation of the *Parks Canada Database Artifact Inventory Coding Guide* (Parks Canada 2002). Chert types are determined in accordance with the *Cherts of Southern Ontario* (Eley and von Bitter 1989), and lithics are classified using the definitions set out in the *Field Manual for Avocational Archaeologists in Ontario* (Adams et al. 1995) and *Archaeological Laboratory Methods: An Introduction* (Sutton and Arkush 2002). Euro-Canadian artifacts are classified into groups, materials, object types and object names using a variety of reference aids (e.g., Adams et al. 1995; Kenyon and Kenyon 2008; Miller 2000; Lindsey 2013).

2.2 Summary of Results

The Stage 2 property assessment, completed under optimal conditions, resulted in the identification of two locations of archaeological materials: Location 36 and Location 37. The positions of these sites are presented in SD Map 1–SD Map 2, and the associated GPS coordinates are presented in SD Table 1; these data reveal detailed site location information and therefore cannot be included in the main report.

In keeping with the requirements set out in Sections 7.8.2–7.8.4 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:137–139), the documentation of these archaeological findspots appears in Section 2.3–Section 2.4. These sections comprise an overview of the assessment results, a comprehensive record of finds, a discussion of the artifactual analysis and conclusions, and the presentation of ARA's recommendation for each site.

The artifact collection from the Stage 2 assessment is housed in polyethylene bags that are stored in Archive Box A249. This box is a 10"(H) x 12"(W) x 15"(D) light duty, double bottom corrugated cardboard box, and is labelled accordingly. Archive box numbers are assigned in numerical order and all associated information is entered into an Archive Box Catalogue for accurate tracking. All catalogue and collection information is kept on a secure server. Upon project completion, the Archive boxes are transported to ARA's head office

(located at 97 Gatewood Road, Kitchener) and are stored in numerical order on steel storage shelves.

2.3 Location 36 (AiHj-20)

2.3.1 Record of Finds

2.3.1.1 Overview

Site Type: A 113 x 40 m Euro-Canadian artifact scatter; 403 of 892 artifacts collected

Location: Northeastern part of parcel BLW1854

Property: Lot 18, Northern Boundary in the Geographic Township of Hay

GPS Co-ordinates: See Supplementary Documentation

Diagnostic Artifacts: 225

Material(s) Identified: Brass, Brick, Ceramic, Clay, Ferrous, Glass, White Clay

2.3.1.2 Description

Location 36 consists of a 113 x 40 m scatter of 892 Euro-Canadian artifacts identified during the pedestrian survey of parcel BLW1854 (see Map 61; SD Map 3). Despite an intensified survey of all agricultural lands within 20 m of this site, no other archaeological materials were identified.

A total of 403 artifacts were collected for laboratory analysis during the assessment, and the remaining 489 artifacts were left in the field to assist in site re-location, if necessary. The 403 artifacts from Location 36 are fully documented in Appendix G, Records 1–80 (see Image 113–Image 116). The full artifact analysis appears in Section 2.3.2, and glossaries of the significant types of artifacts found during the assessment appear in Appendix B–Appendix F.

The Location 36 artifact assemblage consisted primarily of fragmentary ceramic tableware (29.78%), glass storage containers (27.79%) and window glass (17.12%). A total of seven artifacts exhibited evidence of burning or heat alteration (1.74% of the total assemblage), including three fragments of ceramic tableware, two fragments of clay smoking pipes and two pieces of melted glass. One large artifact concentration was identified in the northeastern part of the scatter, close to the edge of the agricultural field. No cultural features or structural elements were identified in the vicinity of Location 36 during the Stage 2 assessment.

The artifacts from Location 36 can be effectively classified into ‘architectural’, ‘ceramic food related’, ‘ceramic non-food related’, ‘glass food related’, ‘glass non-food related’ and ‘non-architectural metal’ groups. A quantitative summary of artifacts by group appears in Table 12.

Table 12: Summary of Artifacts – Location 36

Group	Object Type	Object Name	Freq.	% of Assemblage	% of Group
Architectural	Construction Material	Brick (Unglazed)	1	0.25%	1.14%
		Drain Pipe	2	0.50%	2.27%
		<i>Construction Material Total</i>	3	0.74%	3.41%

Group	Object Type	Object Name	Freq.	% of Assemblage	% of Group
	Hardware	Nail	16	3.97%	18.18%
		<i>Hardware Total</i>	16	3.97%	18.18%
	Window Glass	Sheet	69	17.12%	78.41%
		<i>Window Glass Total</i>	69	17.12%	78.41%
	Architectural Total			88	21.84%
Ceramic Food Related	Serving Tableware	Egg Holder	1	0.25%	0.79%
		<i>Serving Tableware Total</i>	1	0.25%	0.79%
	Storage Container	Storage (Unidentifiable)	6	1.49%	4.72%
		<i>Storage Container Total</i>	6	1.49%	4.72%
	Tableware	Mug	1	0.25%	0.79%
		Plate	20	4.96%	15.75%
		Tableware (Unidentifiable)	98	24.32%	77.17%
		Tea Cup	1	0.25%	0.79%
		<i>Tableware Total</i>	120	29.78%	94.49%
	Ceramic Food Related Total			127	31.51%
Ceramic Non-Food Related	Decoration	Figurine	1	0.25%	4.17%
		<i>Decoration Total</i>	1	0.25%	4.17%
	Leisure	Miniature Tea Set	5	1.24%	20.83%
		<i>Leisure Total</i>	5	1.24%	20.83%
	Smoking	Pipe	2	0.50%	8.33%
		<i>Smoking Total</i>	2	0.50%	8.33%
	Storage Container	Storage (Unidentifiable)	16	3.97%	66.67%
		<i>Storage Container Total</i>	16	3.97%	66.67%
Ceramic Non-Food Related Total			24	5.96%	100.00%
Glass Food Related	Storage Container	Beer Bottle	5	1.24%	4.46%
		Bottle (Unidentifiable)	98	24.32%	87.50%
		Jar	4	0.99%	3.57%
		Liquor Bottle	5	1.24%	4.46%
		<i>Storage Container Total</i>	112	27.79%	100.00%
	Glass Food Related Total			112	27.79%
Glass Non-Food Related	Decoration	Decorative Dish	7	1.74%	15.56%
		<i>Decoration Total</i>	7	1.74%	15.56%
	Lighting	Oil Lamp	3	0.74%	6.67%
		<i>Lighting Total</i>	3	0.74%	6.67%
	Miscellaneous	Melted	11	2.73%	24.44%
		Miscellaneous (Unidentifiable)	7	1.74%	15.56%
		<i>Miscellaneous Total</i>	18	4.47%	40.00%
	Personal Care	Mirror	17	4.22%	37.78%
<i>Personal Care Total</i>		17	4.22%	37.78%	
Glass Non-Food Related Total			45	11.17%	100.00%
Non-Architectural	Furnishing	Bell	1	0.25%	14.29%

Group	Object Type	Object Name	Freq.	% of Assemblage	% of Group	
Metal		<i>Furnishing Total</i>	1	0.25%	14.29%	
	Hardware	Fastener	1	0.25%	14.29%	
		<i>Hardware Total</i>	1	0.25%	14.29%	
	Miscellaneous	O-Ring	1	0.25%	14.29%	
		Sheet Metal	1	0.25%	14.29%	
		Strapping	1	0.25%	14.29%	
		<i>Miscellaneous Total</i>	3	0.74%	42.86%	
	Personal Care	Compact	1	0.25%	14.29%	
		<i>Personal Care Total</i>	1	0.25%	14.29%	
	Storage Container	Gasket	1	0.25%	14.29%	
		<i>Storage Container Total</i>	1	0.25%	14.29%	
	Non-Architectural Metal Total			7	1.74%	100.00%
	Grand Total			403	100.00%	

2.3.1.3 Inventory of the Documentary Record

The inventory of the documentary record for Location 36 is included in the assessment summary presented in Appendix H. This inventory includes a quantitative summary of the field notes, photographs and mapping materials involved in the assessment, all of which are stored at ARA's processing facility located at 154 Otonabee Drive, Kitchener, Ontario.

2.3.2 Analysis and Conclusions

Of the 403 artifacts collected during the assessment of Location 36, a total of 225 (55.83% of the assemblage) can be dated based on the presence of recognizable diagnostic characteristics. The diagnostic artifacts are summarized in Table 13.

Table 13: Analysis of Diagnostic Artifacts – Location 36

Group	Material	Object Name	Datable Attribute	Freq.	% of Total Diagnostic	Date Range	Reference
Architectural	Clay	Drain Pipe	Clay	2	0.89%	ca. 1862–1960s	Stuyt et al 2005:1
	Ferrous	Nail	Cut	7	3.11%	ca. 1830–1890	Adams 1995:105
			Wire	8	3.56%	1890–Present	Adams 1995:105
Ceramic Food Related	Bone China	Tableware (Unidentifiable)	Decal Transfer (Over-Glaze)	4	1.78%	1890–Present	Miller 2000:13; Stelle 2001
			Plain	15	6.67%	ca. 1777–Present	Collard 1967:168
		Tea Cup	Gilded (Liquid Gold)	1	0.44%	1870–Present	Miller 2000:30
	Ironstone	Mug	Plain	1	0.44%	ca. 1820s–Present	Collard 1967:126

Group	Material	Object Name	Datable Attribute	Freq.	% of Total Diagnostic	Date Range	Reference
		Plate	Mellor, Taylor & Co., Burslem	2	0.89%	1880–1904	Dieringer and Dieringer 2000:139
			Wheat Pattern	1	0.44%	ca. 1865–Present	Kenyon 1987:25; Richardson 2013
		Tableware (Unidentifiable)	Alfred Meakin	2	0.89%	1875–1976	Birks 2013
			Plain	52	23.11%	ca. 1820s–Present	Collard 1967:126
	Porcelain	Egg Holder	Plain	1	0.44%	ca. 1768–Present	Miller 1991:11
		Plate	Plain	13	5.78%	ca. 1768–Present	Miller 1991:11
	Stoneware (Coarse)	Storage (Unidentifiable)	North American	2	0.89%	1840–1900	Richardson 2013
	Whiteware	Plate	Transfer	3	1.33%	1830–Present	FLMNH 2013
			Transfer (Blue)	1	0.44%	1830–Present	Kenyon 1991:9
		Tableware (Unidentifiable)	Plain	14	6.22%	ca. 1830–Present	Adams 1995:102
			Transfer (Blue)	7	3.11%	1830–Present	Kenyon 1991:9
			Transfer (Willow Pattern)	1	0.44%	ca. 1830–20th century	Kenyon 1991:10
	Yellowware	Storage (Unidentifiable)	Albany Slip	4	1.78%	1805–1920	Miller 2000:10
	Ceramic Non-Food Related	Bone China	Miniature Tea Set	Decal Transfer (Over-Glaze)	4	1.78%	1890–Present
Plain				1	0.44%	ca. 1777–Present	Collard 1967:168
Porcelain		Figurine	Plain	1	0.44%	ca. 1768–Present	Miller 1991:11
Stoneware (Coarse)		Storage (Unidentifiable)	Plain	7	3.11%	ca. 1630–Present	Miller 2000:10; Lennox and Fitzgerald 1990:432–437; Collard 1967:139
Stoneware (Fine)		Storage (Unidentifiable)	Plain	3	1.33%	ca. 1630–Present	Miller 2000:10; Lennox and Fitzgerald 1990:432–437; Collard 1967:139
Glass Food Related	Glass	Beer Bottle	Brandy and Wine Finish	5	2.22%	1860s–1920s	Lindsey 2012
		Bottle (Unidentifiable)	Applied Finish	1	0.44%	1856–1920s	Lindsey 2012
			Cup-Bottom Mould	1	0.44%	ca. 1850–1920	Jones and Sullivan 1975:43

Group	Material	Object Name	Datable Attribute	Freq.	% of Total Diagnostic	Date Range	Reference
			Dominion Glass (Diamond Mark)	1	0.44%	1928–Present	King 1987:247
			Double Ring Finish	1	0.44%	1840–1920s	Lindsey 2012
			Machine Made (Owens)	2	0.89%	1905–1915	Lindsey 2012
			Mould Blown	5	2.22%	18th century–Late 19th century	Jones and Sullivan 1985:24–35
			Press-and-Blow	2	0.89%	1900–1940	Lindsey 2012
			Pressed	1	0.44%	1860s–1930s	King 1987:179–183; Miller 2000:7
			Solarized (Manganese)	29	12.89%	ca. 1880–1920	Adams 1995:100
		Jar	Lug Top Closure (Machine-Made)	2	0.89%	1906–Present	Miller 2000:2
			Mould Blown	2	0.89%	18th century–Late 19th century	Jones and Sullivan 1985:24–35
		Liquor Bottle	Mould Blown	5	2.22%	18th century–Late 19th century	Jones and Sullivan 1985:24–35
Glass Non-Food Related	Glass	Decorative Dish	Cut Glass	1	0.44%	1771–Present	ACGA 2011
			Pressed	2	0.89%	1860s–1930s	King 1987:179–183; Miller 2000:7
			Solarized (Manganese)	3	1.33%	ca. 1880–1920	Adams 1995:100
		Melted	Milk Glass	2	0.89%	1870–1920	Lindsey 2012
			Solarized (Manganese)	2	0.89%	ca. 1880–1920	Adams 1995:100
		Oil Lamp	Crimped Lamp Chimney (Machine-Made)	1	0.44%	1879–Present	Miller 2000:15
		Total				225	100.00%

As Table 13 demonstrates, the diagnostics from Location 36 generally date between the mid-19th century and the present, although there are several notable finds from the late 18th and early 19th centuries. The most common diagnostic artifacts consisted of plain ironstone tablewares (n=52; 23.11% of the diagnostic assemblage), solarized manganese glass fragments (n=34; 15.11% of the diagnostic assemblage), and plain bone china tableware fragments (n=15; 6.67% of the diagnostic assemblage).

Unfortunately, many of the diagnostic types collected from Location 36 were produced over long periods of time in the 19th and 20th centuries—these types are of limited value for precision dating. More precisely dated pieces include Albany slip yellowware (1805–1920), cut nails (1830s–1900), North American stoneware (1840–1900), a double ring finish bottle (1840–1920s), a cup-bottom mould (ca. 1850–1920), an applied finish glass bottle (1856–1920s), a brandy and wine finish beer bottle (1860s–1920s), pressed glass (1860s–1930s), clay drain pipe fragments (1862–1960s), milk glass (1870–1920), ironstone plate fragments with an ‘Alfred Meakin’ maker’s mark (1875–1976), ironstone plate fragments with a ‘Mellor, Taylor & Co., Burslem’ maker’s mark (1880–1904), solarized manganese glass (ca. 1880–1920), a press and blow bottle (1900–1940), and an Owens machine made bottle (1905–1915).

Given that the assemblage from Location 36 consisted primarily of fragmentary ceramic tableware (29.78%), glass storage containers (27.79%) and window glass (17.12%), it is possible that the deposit represents the remains of a domestic midden. Based on the 225 diagnostic artifacts, this potential midden appears to date primarily to the late 19th century, with some overlap into the early 20th century. According to H. Belden & Co.’s *Illustrated Historical Atlas of the County of Huron, Ontario* (1879), the Canada Company owned this property ca. 1879. There are no structures indicated in the vicinity of Location 36 on this historic map (see Map 25).

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Post-Contact archaeological site requires further assessment when it consists of a minimum of 20 pre-1900 Euro-Canadian artifacts and/or a 20th century assemblage with possible CHVI (MTC 2011:41). Given that more than 20 pre-1900 Euro-Canadian artifacts were found at Location 36, this site meets at least one of the criteria established by the MTCS for determining whether further assessment is required.

Based on these findings, it is the considered opinion of ARA that Location 36 is of further CHVI and warrants a Stage 3 site-specific assessment. Given the evidence from the Stage 2 assessment, it is unclear whether the site will require a Stage 4 mitigation of development impacts.

2.3.3 Recommendations

Location 36 met at least one of the criteria defined in Section 7.12 of the *Standards and Guidelines for Consultant Archaeologists* for determining whether an archaeological site warrants a Site Record Form (MTC 2011:160–161). Accordingly, it has been assigned Borden No. AiHj-20.

When compared against the criteria in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:39–40), this archaeological site was found to be of further CHVI. In order to avoid impacts to Location 36, the proponent removed the proposed infrastructure on parcel BLW1258. The site is now located 7.5 m south of a municipal ROW collector line (documented as disturbed under PIF #P218-040-2011 and #P319-017-2012) and 157 m east of the access road to Turbine 40. Given that the 20 m protective buffer around Location 36 is affected by permanently disturbed cultural form (the previously-assessed municipal ROW), a modified buffer zone that follows the edge of the disturbed area is warranted in accordance with the directions set out in Section 3.2.3 Guideline 1a and Section 4.1 Standard 2 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:50, 68).

Based on these findings, ARA recommends that an avoidance and protection strategy be implemented to prevent any impacts to Location 36 during construction. In accordance with the directions set out in Section 4.1.1 and Section 7.8.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:68–69, 140–141), it is recommended that a temporary barrier be established along the edge of the municipal ROW, that the modified buffer zone be observed around the identified site extent (the ‘protected area’), and that all construction activities within 50 m of the protected area be monitored by a licensed archaeologist to ensure the effectiveness of the avoidance and protection strategy (see Map 61; SD Map 3). ‘No-Go’ instructions must be issued to all on-site construction crews and engineers for the protected area, and the location of this area must be shown on all appropriate contract drawings. The protected area must be inspected by a licensed archaeologist after the completion of grading and other soil disturbing activities, and that the effectiveness of the avoidance and protection strategy must be reported to the MTCS. A letter confirming the proponent’s commitment to implementing this strategy and outlining the designation of ‘No-Go’ zones has been included in the report submission package.

If any future construction activities are proposed within the protected area, ARA recommends that the site be subjected to Stage 3 site-specific assessment. An appropriate assessment strategy for Location 36 would involve a CSP (with re-cultivation and weathering if ground surface visibility has decreased since the Stage 2 assessment) followed by the excavation of an array of test units using the strategy for Pre-contact or Post-Contact sites where it is not yet evident that the level of CHVI will result in a recommendation to proceed to Stage 4 as set out in Section 3.2.3 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:Table 3.1). Specifically, this would involve the excavation of grid test units at a 5 m interval over the site and additional test units amounting to at least 20% of the grid unit total in areas of interest. All units must be excavated stratigraphically by hand into the first 5 cm of subsoil, and all soils must be screened through mesh with an aperture of no greater than 6 mm (MTC 2011:74–87).

2.4 Location 37 (AiHj-21)

2.4.1 Record of Finds

2.4.1.1 Overview

Site Type: A 22 x 48 m Euro-Canadian artifact scatter; 16 of approximately 50 artifacts collected

Location: South-central part of parcel BLW1258

Property: Lot 7, Concession 6 SHR in the Geographic Township of Tuckersmith

GPS Co-ordinates: See Supplementary Documentation

Diagnostic Artifacts: 7

Material(s) Identified: Ceramic, Glass, White Clay

2.4.1.2 Description

Location 37 consists of a 22 x 48 m scatter of approximately 50 Euro-Canadians identified during the pedestrian survey of parcel BLW1258 (see Map 63; SD Map 4). Despite an intensified survey of all agricultural lands within 20 m of this site, no other archaeological materials were identified.

A total of 16 artifacts were collected for laboratory analysis during the assessment, and the remaining 30+ artifacts were left in the field to assist in site re-location, if necessary. The 16 artifacts from Location 37 are fully documented in Appendix G, Records 81–96 (see Image 117). The full artifact analysis appears in Section 2.4.2, and glossaries of the significant types of artifacts found during the assessment appear in Appendix B–Appendix F.

The Location 37 artifact assemblage consisted primarily of fragmentary ceramic smoking pipes (53.25%), ceramic tableware (31.25%) and a fragment of a glass liquor bottle (6.25%). A total of three artifacts exhibited evidence of burning or heat alteration (18.75% of the total assemblage), including two fragments of ceramic tableware and one fragment of a ceramic storage container. One artifact concentration was noted in the south-central part of the scatter. No cultural features or structural elements were identified in the vicinity of Location 37 during the Stage 2 assessment.

The artifacts from Location 37 can be effectively classified into ‘ceramic food related’, ‘ceramic non-food related’ and ‘glass food related’ groups. A quantitative summary of artifacts by group appears in Table 14.

Table 14: Summary of Artifacts – Location 37

Group	Object Type	Object Name	Freq.	% of Assemblage	% of Group
Ceramic Food Related	Tableware	Plate	1	6.25%	20.00%
		Tableware (Unidentifiable)	4	25.00%	80.00%
		<i>Tableware Total</i>	5	31.25%	100.00%
	Ceramic Food Related Total		5	31.25%	100.00%
Ceramic Non-Food Related	Smoking	Pipe	9	56.25%	90.00%
		<i>Smoking Total</i>	9	56.25%	90.00%
	Storage Container	Storage (Unidentifiable)	1	6.25%	10.00%
		<i>Storage Container Total</i>	1	6.25%	10.00%
	Ceramic Non-Food Related Total		10	62.50%	100.00%
Glass Food Related	Storage Container	Liquor Bottle	1	6.25%	100.00%
		<i>Storage Container Total</i>	1	6.25%	100.00%
	Glass Food Related Total		1	6.25%	100.00%
Grand Total			16	100.00%	

2.4.1.3 Inventory of the Documentary Record

The inventory of the documentary record for Location 37 is included in the assessment summary presented in Appendix H. This inventory includes a quantitative summary of the field notes, photographs and mapping materials involved in the assessment, all of which are stored at ARA’s processing facility located at 154 Otonabee Drive, Kitchener, Ontario.

2.4.2 Analysis and Conclusions

Of the 16 artifacts collected during the assessment of Location 37, a total of 8 (50.00% of the assemblage) can be dated based on the presence of recognizable diagnostic characteristics. The diagnostic artifacts are summarized in Table 15.

Table 15: Analysis of Diagnostic Artifacts – Findspot 37

Group	Material	Object Name	Datable Attribute	Freq.	% of Total Diagnostic	Date Range	Reference
Ceramic Food Related	Ironstone	Tableware (Unidentifiable)	Plain	1	12.50%	ca. 1820s–Present	Collard 1967:126
	Whiteware	Plate	Transfer (Blue)	1	12.50%	1830–Present	Kenyon 1991:9
		Tableware (Unidentifiable)	Plain	1	12.50%	ca. 1830–Present	Adams 1995:102
Ceramic Non-Food Related	White Clay	Pipe	Bannerman, Montreal	4	50.00%	1870–1902	Smith 2008
Glass Food Related	Glass	Liquor Bottle	Turn Paste Mould	1	12.50%	1870–1920s	Jones and Sullivan 1985:31
Total				8	100.00%		

As Table 15 demonstrates, the diagnostics from Location 37 generally date between the early 19th century and the present, although there are several notable finds from the late 19th and early 20th centuries. The most common diagnostic artifacts were white clay pipe fragments with a ‘Bannerman Montreal’ maker’s mark (n=4, 50.00% of the diagnostic assemblage), followed by isolated examples of plain whiteware tableware, transfer blue whiteware plate, plain ironstone tableware and part of a turn paste mould liquor bottle (each 12.50% of the diagnostic assemblage). Based on these diagnostic artifacts, Location 37 appears to date primarily to the late 19th and early 20th centuries.

Given that the assemblage from Location 37 was relatively sparse and comprised generic domestic artifacts, it seems likely that the deposit represents a site locality rather than the remains of a midden or demolished structure. Light artifact scatters such as Location 37 tend to be common in the localities of historic sites; given the long occupational history associated with many Euro-Canadian farmsteads, a certain quantity of diffuse cultural materials tends to build up around them. According to H. Belden & Co.’s *Illustrated Historical Atlas of the County of Huron* (1879), R. Hay owned this property in the late 19th century. The deposit may therefore be associated with the former Hay homestead or a structure associated with one of the later occupants of the lot (see Map 26).

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Post-Contact archaeological site requires further assessment when it consists of a minimum of 20 pre-1900 Euro-Canadian artifacts and/or a 20th century assemblage with possible CHVI (MTC 2011:41). Given that less than 20 pre-1900 diagnostic artifacts were identified at Location 37, and that there is no other indication that the assemblage has CHVI, this site does not meet any of the criteria established by the MTCS for determining whether further assessment is required.

Based on these findings, it is the considered opinion of ARA that Location 37 is of no further CHVI and does not warrant a Stage 3 site-specific assessment. Based on the evidence from the Stage 2 assessment, it is also clear that the site will not require Stage 4 mitigation of development impacts.

2.4.3 Recommendations

Location 37 met at least one of the criteria defined in Section 7.12 of the *Standards and Guidelines for Consultant Archaeologists* for determining whether an archaeological site warrants a Site Record Form (MTC 2011:160–161). Accordingly, it has been assigned Borden No. AiHj-21.

When compared against the criteria in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:39–40), this archaeological site was found to be of no further CHVI. ARA accordingly recommends that no further archaeological assessment of Location 37 be required.

3.0 SYNTHESIS OF CONCLUSIONS AND RECOMMENDATIONS

The Stage 2 property assessment of the additional lands and municipal ROW portions was completed in August 2013. Legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owners. This assessment resulted in the discovery of two location of archaeological materials: Location 36 (AiHj-20) on parcel BLW1854 and Location 37 (AiHj-21) on parcel BLW1258. Location 36 comprised a 113 x 40 m scatter of 892 Euro-Canadian artifacts, and 403 artifacts were collected for laboratory analysis. The diagnostic artifacts indicated that the deposit dated to the late 19th century, and the site was found to be of further CHVI. Location 37 consisted of a 22 x 48 m scatter of 50 Euro-Canadian artifacts, and 16 artifacts were collected for laboratory analysis. The diagnostic artifacts indicated that the deposit dated to the late 19th and early 20th centuries, and the site was found to be of no further CHVI.

In order to avoid impacts to Location 36, the proponent removed the proposed infrastructure on parcel BLW1258. The site is now located 7.5 m south of a municipal ROW collector line (documented as disturbed under PIF #P218-040-2011 and #P319-017-2012) and 157 m east of the access road to Turbine 40. Given that the 20 m protective buffer around Location 36 is affected by permanently disturbed cultural form (the previously-assessed municipal ROW), a modified buffer zone that follows the edge of the disturbed area is warranted in accordance with the directions set out in Section 3.2.3 Guideline 1a and Section 4.1 Standard 2 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:50, 68).

Based on these findings, ARA recommends that an avoidance and protection strategy be implemented to prevent any impacts to Location 36 during construction. In accordance with the directions set out in Section 4.1.1 and Section 7.8.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:68–69, 140–141), it is recommended that a temporary barrier be established along the edge of the municipal ROW, that the modified buffer zone be observed around the identified site extent (the ‘protected area’), and that all construction activities within 50 m of the protected area be monitored by a licensed archaeologist to ensure the effectiveness of the avoidance and protection strategy (see Map 61; SD Map 3). ‘No-Go’ instructions must be issued to all on-site construction crews and engineers for the protected area, and the location of this area must be shown on all appropriate contract drawings. The protected area must be inspected by a licensed archaeologist after the completion of grading and other soil disturbing activities, and that the effectiveness of the avoidance and protection strategy must be reported to the MTCS. A letter confirming the proponent’s commitment to implementing this strategy and outlining the designation of ‘No-Go’ zones has been included in the report submission package.

If any future construction activities are proposed within the protected area, ARA recommends that Location 36 be subjected to Stage 3 site-specific assessment. An appropriate assessment strategy for Location 36 would involve a CSP (with re-cultivation and weathering if ground surface visibility has decreased since the Stage 2 assessment) followed by the excavation of an array of test units using the strategy for Pre-contact or Post-Contact sites where it is not yet evident that the level of CHVI will result in a recommendation to proceed to Stage 4 as set out in Section 3.2.3 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:Table

3.1). Specifically, this would involve the excavation of grid test units at a 5 m interval over the site and additional test units amounting to at least 20% of the grid unit total in areas of interest. All units must be excavated stratigraphically by hand into the first 5 cm of subsoil, and all soils must be screened through mesh with an aperture of no greater than 6 mm (MTC 2011:74–87).

ARA recommends that no further archaeological assessment of Location 37 be required, and that the remainder of the assessed lands also require no further archaeological assessment. Should the proposed project location change in this area, these recommendations will need to be revised and additional archaeological work may be required.

A Letter of Review and Acceptance into the Ontario Public Register of Archaeological Reports is requested, as provided for in Section 65.1 of the Ontario Heritage Act.

4.0 ADVICE ON COMPLIANCE WITH LEGISLATION

Section 7.5.9 of the *Standards and Guidelines for Consultant Archaeologists* requires that the following information be provided for the benefit of the proponent and approval authority in the land use planning and development process (MTC 2011:126–127):

- This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.
- It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.
- Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.
- Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.
- The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

5.0 IMAGES



Image 1: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1011
(Photo Taken August 7, 2013; Facing South)



Image 2: View of Disturbed Test Pit at BLW1011
(Photo Taken August 12, 2013)



Image 3: Area of No Archaeological Potential – Disturbed Lands at BLW1011
(Photo Taken August 7, 2013; Facing South)



Image 4: View of Field Conditions during Pedestrian Survey at BLW1018
(Photo Taken on May 24, 2013; Facing North)



**Image 5: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m
at BLW1018**
(Photo Taken on May 24, 2013; Facing South)



Image 6: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1022
(Photo Taken August 7, 2013; Facing South)



Image 7: View of Disturbed Test Pit at BLW1022
(Photo Taken August 7, 2013)



Image 8: Area of No Archaeological Potential – Disturbed Lands at BLW1022
(Photo Taken August 7, 2013; Facing Southeast)



**Image 9: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1042
(Centre Part)**
(Photo Taken July 31, 2013; Facing Southeast)



Image 10: View of Disturbed Test Pit at BLW1042 (Centre Part)
(Photo Taken July 31, 2013)



**Image 11: Area of No Archaeological Potential – Disturbed Lands at BLW1042
(Centre Part)**
(Photo Taken July 31, 2013; Facing West)



Image 12: View of Disturbed Test Pit at BLW1042 (East Part)
(Photo Taken July 31, 2013)



**Image 13: Area of No Archaeological Potential – Disturbed Lands at BLW1042
(East Part)**

(Photo Taken July 31, 2013; Facing East)



**Image 14: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1042
(West Part)**

(Photo Taken July 31, 2013; Facing East)



**Image 15: Area of No Archaeological Potential – Disturbed Lands at BLW1042
(West Part)**

(Photo Taken July 31, 2013; Facing East)



Image 16: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1043

(Photo Taken August 6, 2013; Facing West) (7059)



Image 17: View of Disturbed Test Pit at BLW1043
(Photo Taken August 6, 2013)



Image 18: Area of No Archaeological Potential – Disturbed Lands at BLW1043
(Photo Taken August 6, 2013; Facing East)



Image 19: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1044
(Photo Taken August 6, 2013; Facing West)



Image 20: View of Disturbed Test Pit at BLW1044
(Photo Taken August 6, 2013)



Image 21: Area of No Archaeological Potential – Disturbed Lands at BLW1044
(Photo Taken August 6, 2013; Facing East)



Image 22: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1052
(Photo Taken August 7, 2013; Facing North)



Image 23: View of Disturbed Test Pit at BLW1052
(Photo Taken August 7, 2013)



Image 24: Area of No Archaeological Potential – Disturbed Lands at BLW1052
(Photo Taken August 7, 2013; Facing South)



Image 25: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1058
(Photo Taken August 7, 2013; Facing South)



Image 26: View of Disturbed Test Pit at BLW1058
(Photo Taken August 13, 2013)



Image 27: Area of No Archaeological Potential – Disturbed Lands at BLW1058
(Photo Taken August 7, 2013; Facing South)



Image 28: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1065
(Photo Taken August 7, 2013; Facing South)



**Image 29: View of Test Pit Excavated into Subsoil at BLW1065
(Photo Taken on August 7, 2013)**



**Image 30: Area of No Archaeological Potential – Disturbed Lands at BLW1065
(Photo Taken August 7, 2013; Facing South)**



Image 31: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1066
(Photo Taken August 6, 2013; Facing West)



Image 32: View of Disturbed Test Pit at BLW1066
(Photo Taken August 6, 2013)



Image 33: Area of No Archaeological Potential – Disturbed Lands at BLW1066
(Photo Taken August 6, 2013; Facing West)



Image 34: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1069
(Photo Taken August 8, 2013; Facing North)



Image 35: View of Disturbed Test Pit at BLW1069
(Photo Taken August 8, 2013)



Image 36: Area of No Archaeological Potential – Disturbed Lands at BLW1069
(Photo Taken August 13, 2013; Facing North)



Image 37: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1075/1542
(Photo Taken August 7, 2013; Facing Northeast)



Image 38: View of Disturbed Test Pit at BLW1075/1542
(Photo Taken August 13, 2013)



**Image 39: Area of No Archaeological Potential – Disturbed Lands at BLW1075/1542
(Photo Taken August 14, 2013; Facing South)**



**Image 40: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1088
(Photo Taken August 8, 2013; Facing East)**



Image 41: View of Disturbed Test Pit at BLW1088
(Photo Taken August 8, 2013)



Image 42: Area of No Archaeological Potential – Disturbed Lands at BLW1088
(Photo Taken August 7, 2013; Facing East)



Image 43: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1091
(Photo Taken August 8, 2013; Facing West)



Image 44: View of Disturbed Test Pit at BLW1091
(Photo Taken on August 8, 2013)



Image 45: Area of No Archaeological Potential – Disturbed Lands at BLW1091
(Photo Taken August 8, 2013; Facing East)



Image 46: View of Crewmembers Test Pitting at a Maximum Interval of 5 m at BLW1096
(Photo Taken July 29, 2013; Facing Northeast)



Image 47: View of Typical Test Pit Excavated into Subsoil at BLW1096
(Photo Taken on July 29, 2013)



Image 48: Area of No Archaeological Potential – Disturbed Lands at BLW1096
(Photo Taken July 29, 2013; Facing Northeast)



Image 49: View of Field Conditions during Pedestrian Survey at BLW1129
(Photo Taken on August 7, 2013; Facing Northwest)



Image 50: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m at BLW1129
(Photo Taken on August 7, 2013; Facing Southeast)



Image 51: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1129
(Photo Taken August 15, 2013; Facing South)



Image 52: View of Disturbed Test Pit at BLW1129
(Photo Taken on August 15, 2013)



Image 53: Area of No Archaeological Potential – Disturbed Lands at BLW1129
(Photo Taken August 15, 2013; Facing Northeast)



Image 54: View of Field Conditions during Pedestrian Survey at BLW1258
(Photo Taken June 6, 2013; Facing Northwest)



Image 55: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m at BLW1258
(Photo Taken June 6, 2013; Facing Northwest)



Image 56: View of Crewmembers Conducting Intensified Survey at Location 37
(Photo Taken June 6, 2013; Facing South)



**Image 57: View of Crewmembers Test Pitting at a Maximum Interval of 5 m at BLW1261
(Photo Taken July 29, 2013; Facing South)**



**Image 58: View of Typical Test Pit Excavated into Subsoil at BLW1261
(Photo Taken on July 29, 2013)**



Image 59: View of Disturbed Test Pit at BLW1261
(Photo Taken on July 29, 2013)



Image 60: Area of No Archaeological Potential – Disturbed Lands at BLW1261
(Photo Taken July 29, 2013; Facing West)



Image 61: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1438
(Photo Taken August 8, 2013; Facing South)



Image 62: View of Disturbed Test Pit at BLW1438
(Photo Taken on August 8, 2013; Facing North)



Image 63: Area of No Archaeological Potential – Disturbed Lands at BLW1438
(Photo Taken August 8, 2013; Facing North)



Image 64: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1505
(Photo Taken August 8, 2013; Facing South)



Image 65: View of Disturbed Test Pit at BLW1505
(Photo Taken on August 8, 2013) (7357)



Image 66: Area of No Archaeological Potential – Disturbed Lands at BLW1505
(Photo Taken August 8, 2013; Facing North)



Image 67: View of Field Conditions during Pedestrian Survey at BLW1510
(Photo Taken June 13, 2013; Facing South)



Image 68: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m
at BLW1510
(Photo Taken June 13, 2013; Facing North)



Image 69: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1510
(Photo Taken August 13, 2013; Facing North)



Image 70: View of Disturbed Test Pit at BLW1510
(Photo Taken on August 13, 2013)



**Image 71: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1557
(Photo Taken August 6, 2013; Facing West)**



**Image 72: View of Disturbed Test Pit at BLW1557
(Photo Taken August 6, 2013)**



Image 73: View of Typical Test Pit Excavated into Subsoil at BLW1557
(Photo Taken on August 12, 2013)



Image 74: Area of No Archaeological Potential – Disturbed Lands at BLW1557
(Photo Taken August 6, 2013; Facing East)



**Image 75: View of Field Conditions during Pedestrian Survey at BLW1591
(Photo Taken July 18, 2013)**



**Image 76: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m
at BLW1591
(Photo Taken July 18, 2013; Facing West)**



Image 77: Area of No Archaeological Potential – Disturbed Lands at BLW1600
(Photo Taken August 13, 2013; Facing South)



Image 78: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1618
(Photo Taken August 2, 2013; Facing East)



Image 79: View of Disturbed Test Pit at BLW1618
(Photo Taken August 2, 2013)



Image 80: Area of No Archaeological Potential – Disturbed Lands at BLW1618
(Photo Taken August 2, 2013; Facing East)



**Image 81: View of Field Conditions during Pedestrian Survey at BLW1671
(Photo Taken on May 24, 2013; Facing Northeast)**



**Image 82: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m
at BLW1671
(Photo Taken on May 24, 2013; Facing North)**



Image 83: Area of No Archaeological Potential – Disturbed Lands at BLW1671
(Photo Taken May 24, 2013; Facing East)



Image 84: Area of No Archaeological Potential – Disturbed Lands at BLW1671
(Photo Taken May 28, 2013; Facing North)



Image 85: Area of No Archaeological Potential – Disturbed Lands at BLW1671
(Photo Taken May 28, 2013; Facing West)



Image 86: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1671
(Photo Taken August 6, 2013; Facing East)



Image 87: View of Disturbed Test Pit at BLW1671
(Photo Taken August 6, 2013)



Image 88: Area of No Archaeological Potential – Disturbed Lands at BLW1671
(Photo Taken August 6, 2013; Facing West)



Image 89: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1676
(Photo Taken August 7, 2013; Facing Southeast)



Image 90: View of Disturbed Test Pit at BLW1676
(Photo Taken August 7, 2013)



Image 91: Area of No Archaeological Potential – Disturbed Lands at BLW1676
(Photo Taken August 7, 2013; Facing South)



Image 92: View of Field Conditions during Pedestrian Survey at BLW1748
(Photo Taken June 13, 2013)



Image 93: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m at BLW1748
(Photo Taken June 12, 2013; Facing West)



Image 94: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1813
(Photo Taken August 6, 2013; Facing South)



Image 95: View of Disturbed Test Pit at BLW1813
(Photo Taken August 12, 2013)



Image 96: Area of No Archaeological Potential – Disturbed Lands at BLW1813
(Photo Taken August 6, 2013; Facing South)



Image 97: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1845
(Photo Taken August 8, 2013; Facing South)



Image 98: View of Disturbed Test Pit at BLW1845
(Photo Taken August 8, 2013)



Image 99: Area of No Archaeological Potential – Disturbed Lands at BLW1845
(Photo Taken August 8, 2013; Facing North)



Image 100: View of Field Conditions during Pedestrian Survey at BLW1853
(Photo Taken May 24, 2013; Facing South)



Image 101: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m at BLW1853
(Photo Taken May 24, 2013; Facing North)



Image 102: View of Crewmembers Test Pitting at a Maximum 5 m Interval at BLW1853
(Photo Taken June 6, 2013; Facing South)



Image 103: View of Typical Test Pit Excavated into Subsoil at BLW1853
(Photo Taken June 6, 2013)



Image 104: Area of No Archaeological Potential – Slope of Greater than 20° at BLW1853
(Photo Taken May 24, 2013; Facing Southwest)



Image 105: View of Crewmembers Test Pitting to Confirm Disturbance at BLW1853
(Photo Taken August 1, 2013; Facing East)



Image 106: View of Disturbed Test Pit at BLW1853
(Photo Taken August 13, 2013)



Image 107: Area of No Archaeological Potential – Disturbed Lands at BLW1853
(Photo Taken August 1, 2013; Facing West)



Image 108: View of Field Conditions during Pedestrian Survey at BLW1854
(Photo Taken May 24, 2013; Facing South)



Image 109: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m at BLW1854
(Photo Taken May 24, 2013; Facing North)



Image 110: View of Crewmembers Conducting Intensified Survey at Location 36
(Photo Taken May 24, 2013; Facing North)



Image 111: View of Crewmembers Test Pitting at a Maximum 5 m Interval at BLW1854
(Photo Taken June 6, 2013; Facing Southwest)



Image 112: View of Typical Test Pit Excavated into Subsoil at BLW1854
(Photo Taken June 6, 2013)

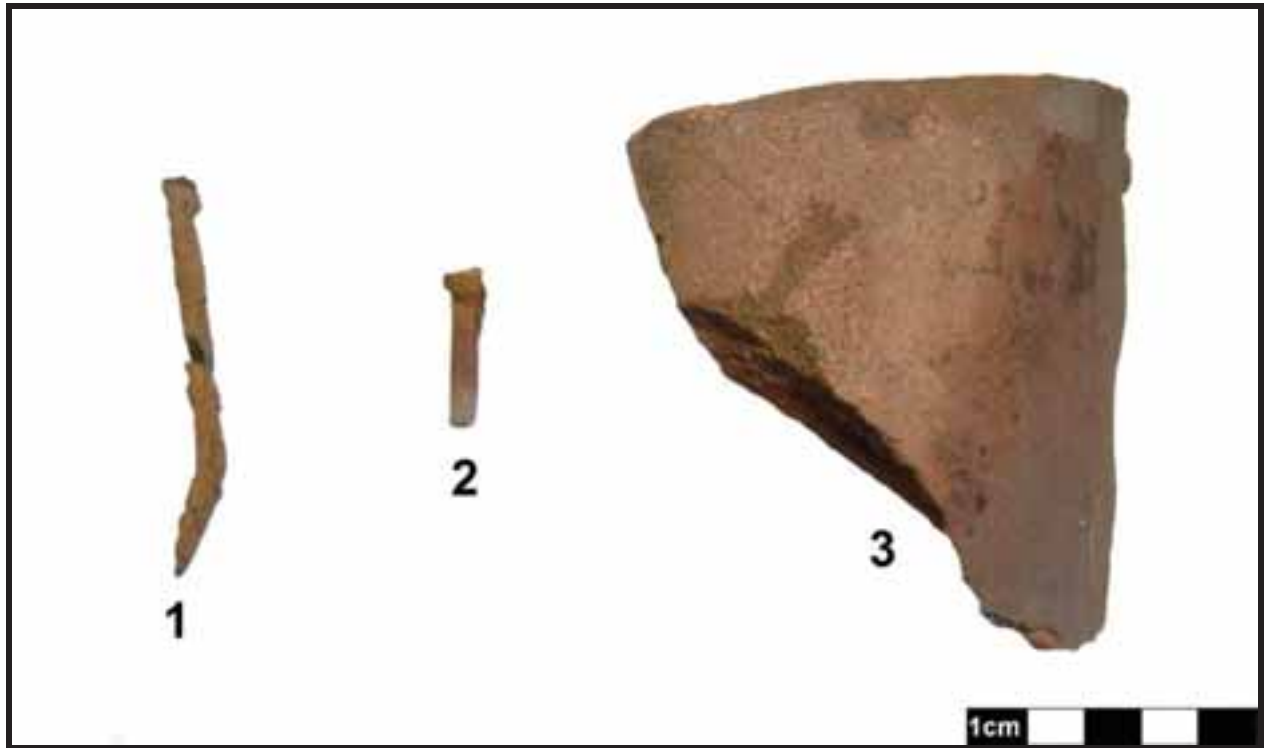


Image 113: Sample of Architectural Artifacts from Location 36
(1: Wire Nail; 2: Cut Nail; 3: Clay Drain Pipe)



Image 114: Sample of Ceramic Artifacts from Location 36

(1: Plain Porcelain Egg Holder; 2: Wheat Pattern Ironstone; 3: Over-Glaze Decal Transfer Bone China Miniature Tea Cup; 4: Mellor, Taylor & Co., Burslem Ironstone; 5: Plain Whiteware; 6: Over-Glaze Decal Transfer Bone China; 7: Plain Porcelain; 8: Green Transfer Whiteware; 9: Gilded (Liquid Gold) Bone China; 10: Albany Slip Yellowware; 11: Blue Transfer Whiteware; 12: Plain Stoneware (Glazed); 13: Alfred Meakin Ironstone; 14: Willow Pattern Transfer; 15: Plain Porcelain Figurine; 16: Plain Ironstone; 17: North American Stoneware)

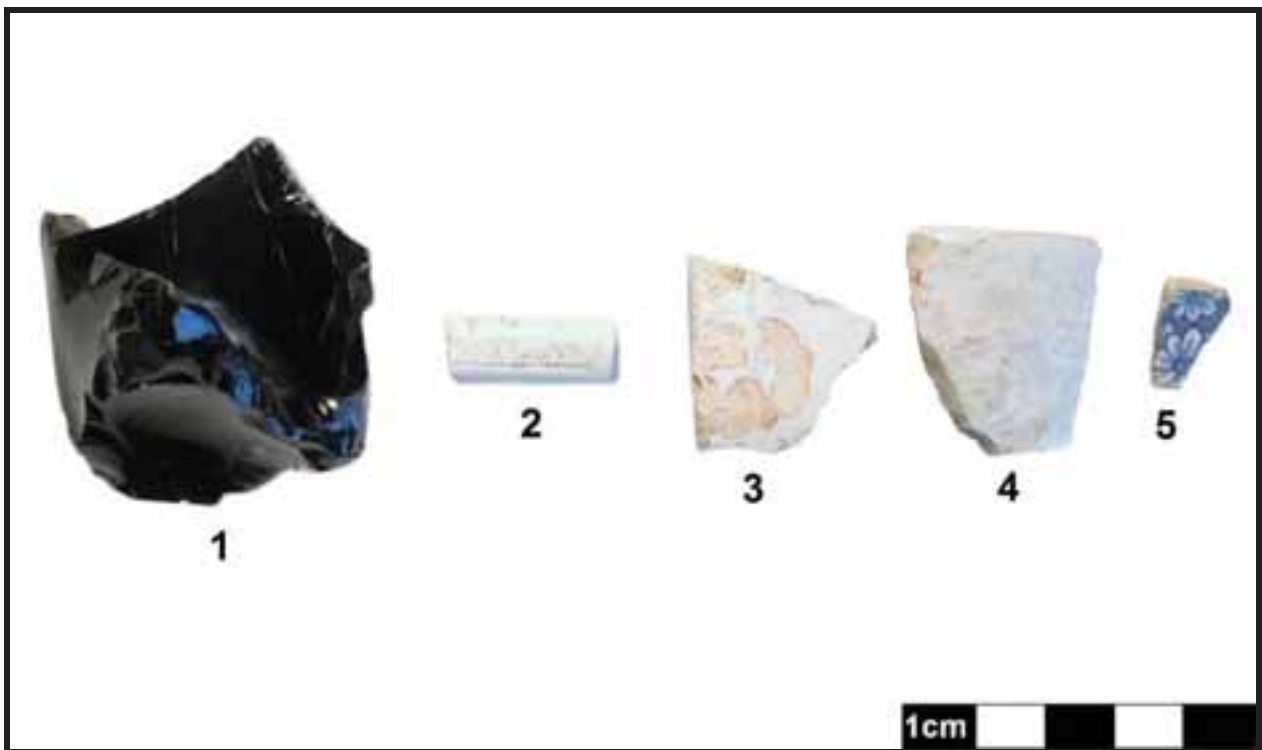


Image 115: Sample of Glass Artifacts from Location 36

(1: Turn Paste Mould; 2: Machine Made (Owens); 3: Press-and-Blow; 4: Mould Blown; 5: Cup-Bottom Mould; 6: Applied Finish; 7: Pressed Glass; 8: Dominion Glass (Diamond Mark); 9: Solarized; 10: Decorative Cut Glass; 11: Solarized Decorative Cut Glass; 12: Double Ring Finish; 13: Pressed; 14: Machine Made Crimped Oil Lamp Chimney; 15: Milk Glass; 16: Brandy and Wine Finish)



**Image 116: Sample of Non-Architectural Metal Artifacts from Location 36
(1: Makeup Compact; 2: Bell)**

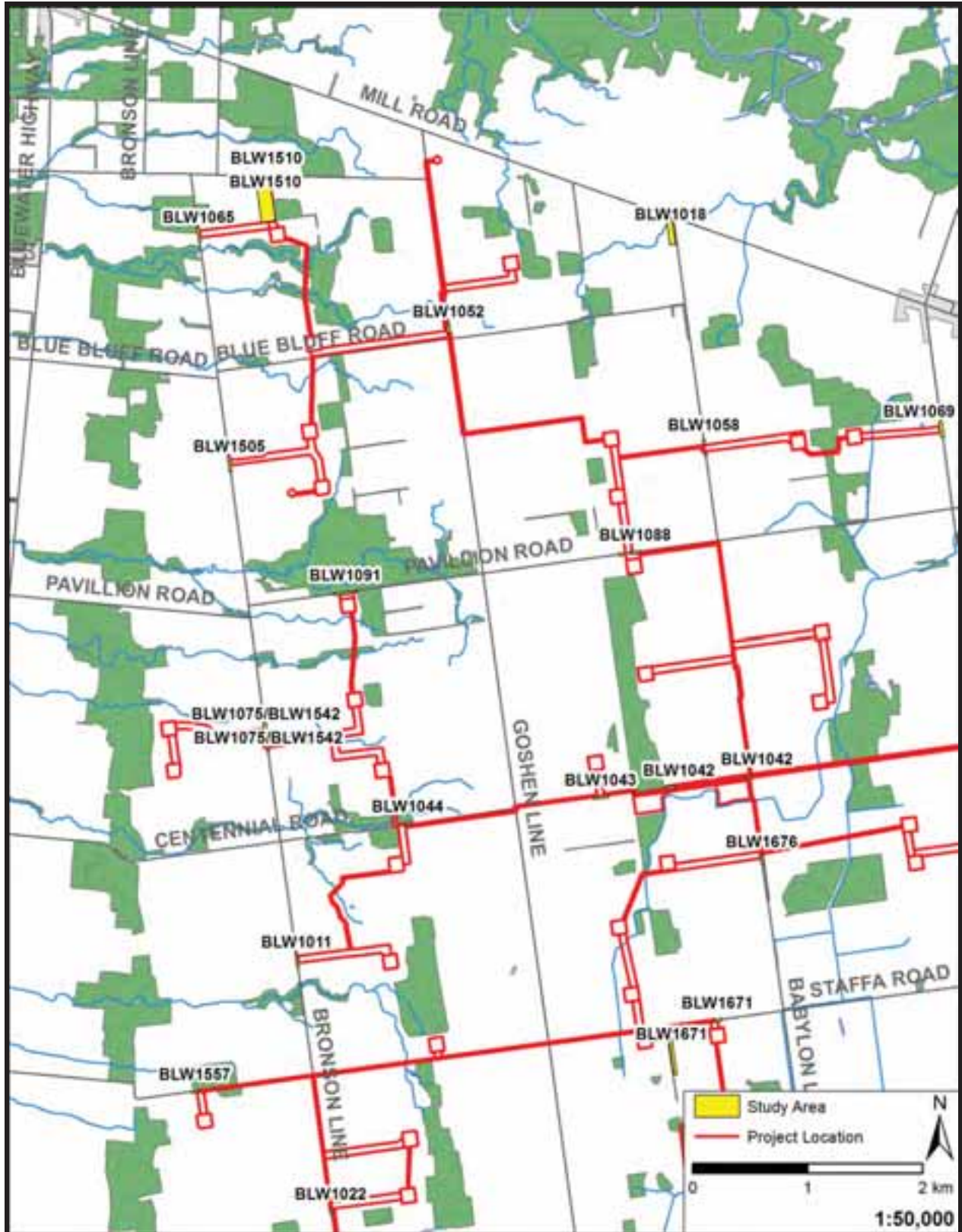


**Image 117: Sample of Artifacts from Location 37
(1: Turn Paste Mould (Glass Food Related); 2: Bannerman, Montreal Clay Pipe (Ceramic Non-Food Related); 3: Plain Whiteware (Ceramic Food Related); 4: Plain Ironstone (Ceramic Food-Related); 5: Blue Transfer Whiteware (Ceramic Food Related))**

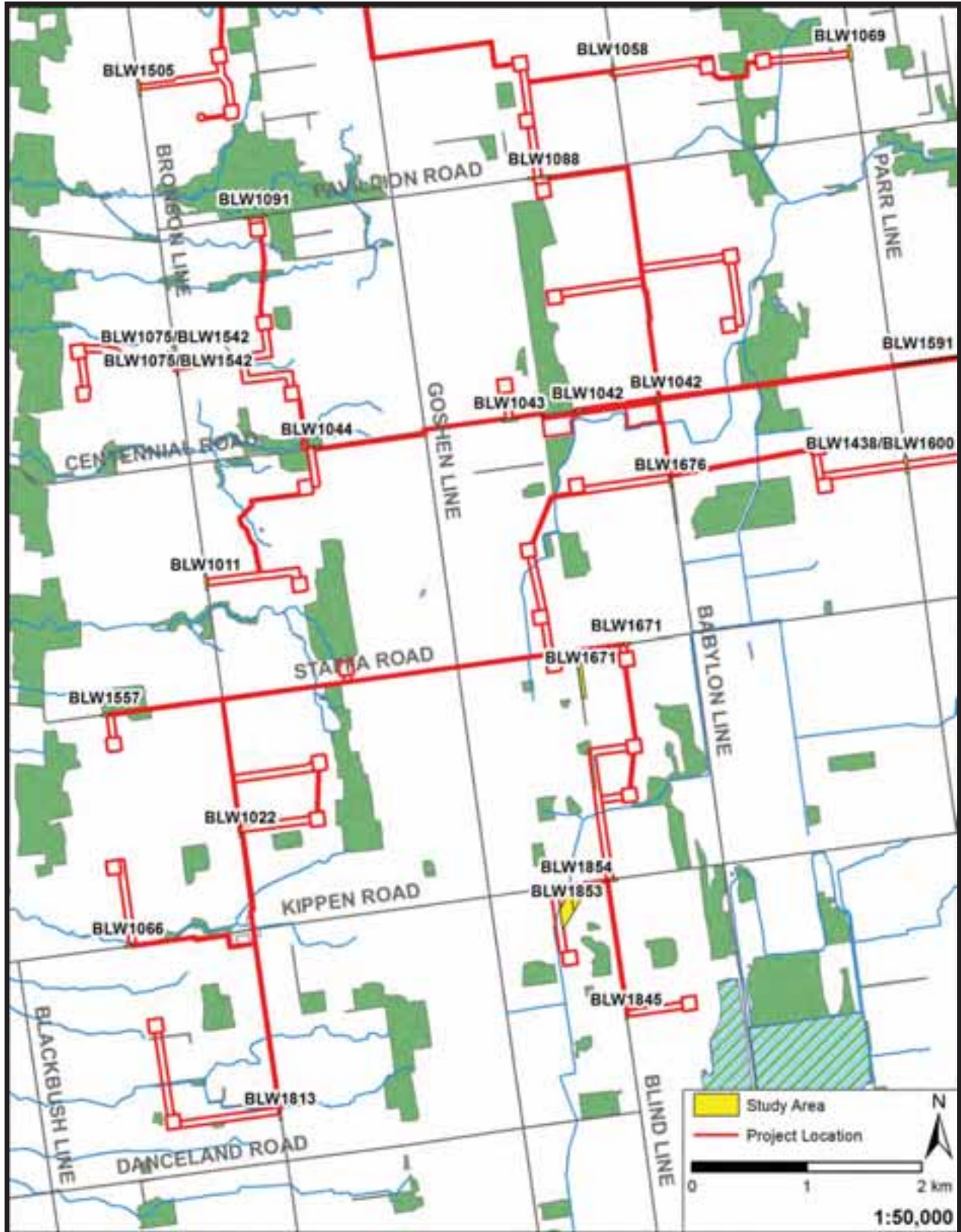
6.0 MAPS

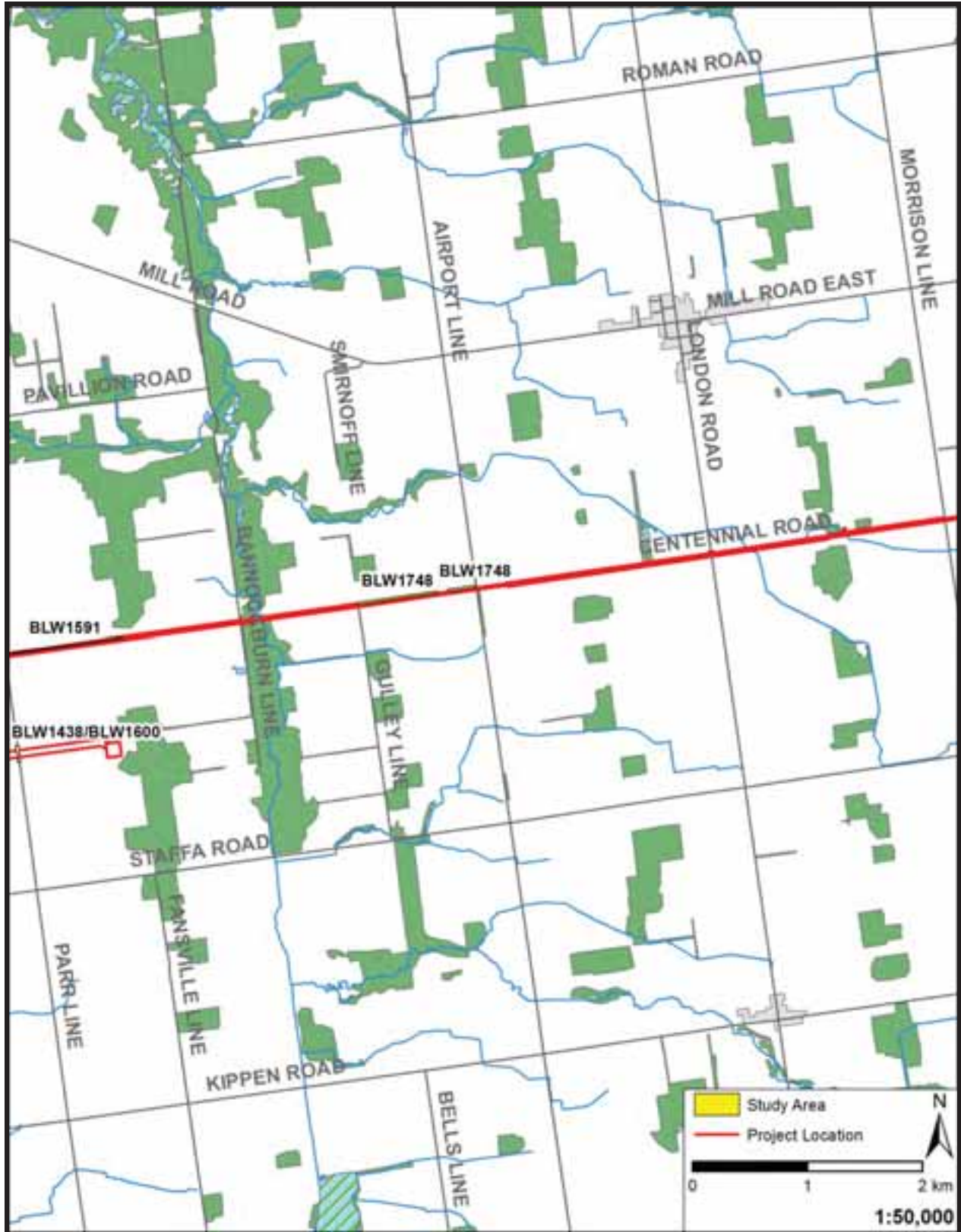


Map 1: Location of the Study Area in the Province of Ontario
(NRC 2004)

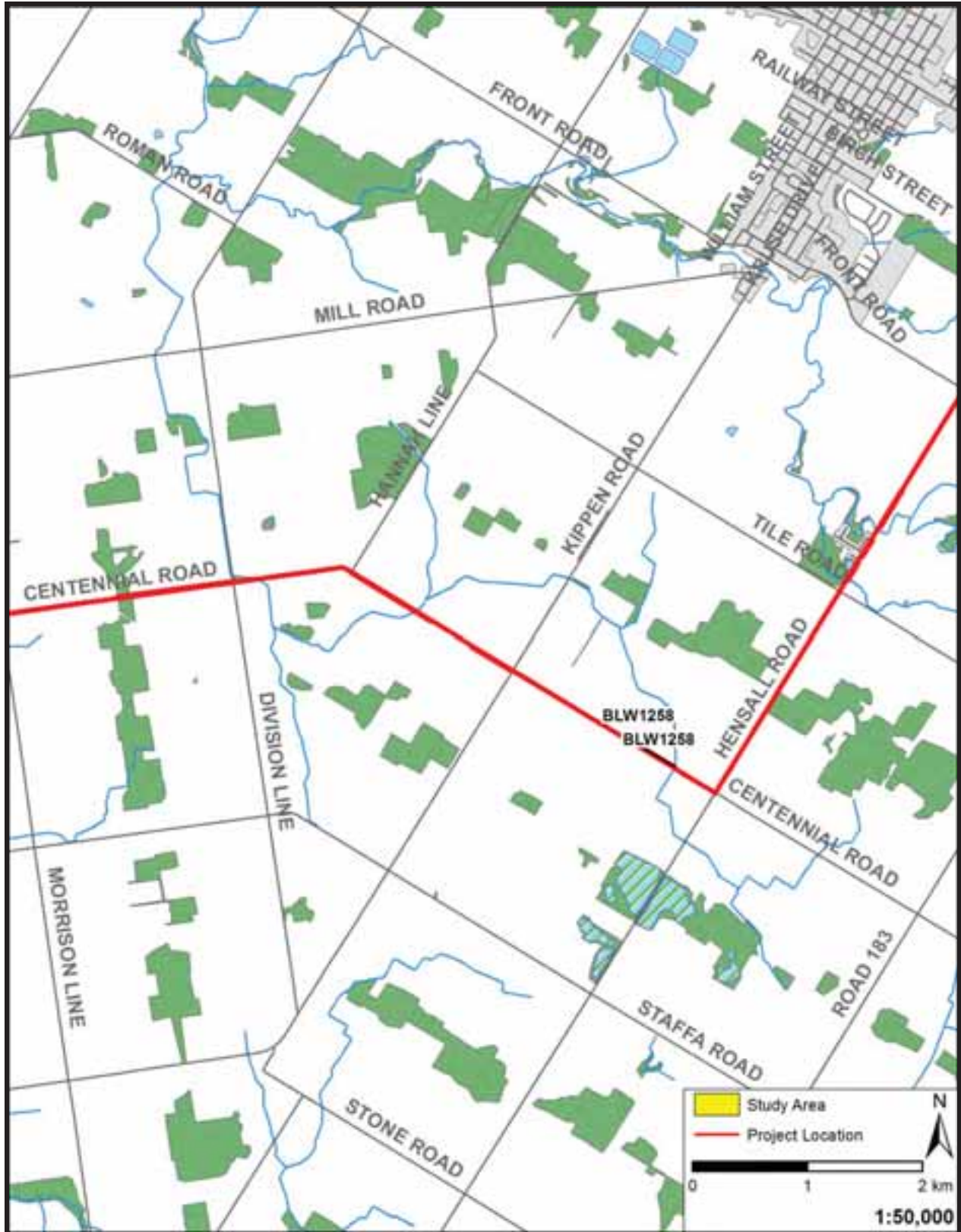


Map 2: View of the Northwestern Part of the Project Location, Showing the Parcels
 (Produced by ARA under licence from Ontario MNR, © Queens Printer 2013)

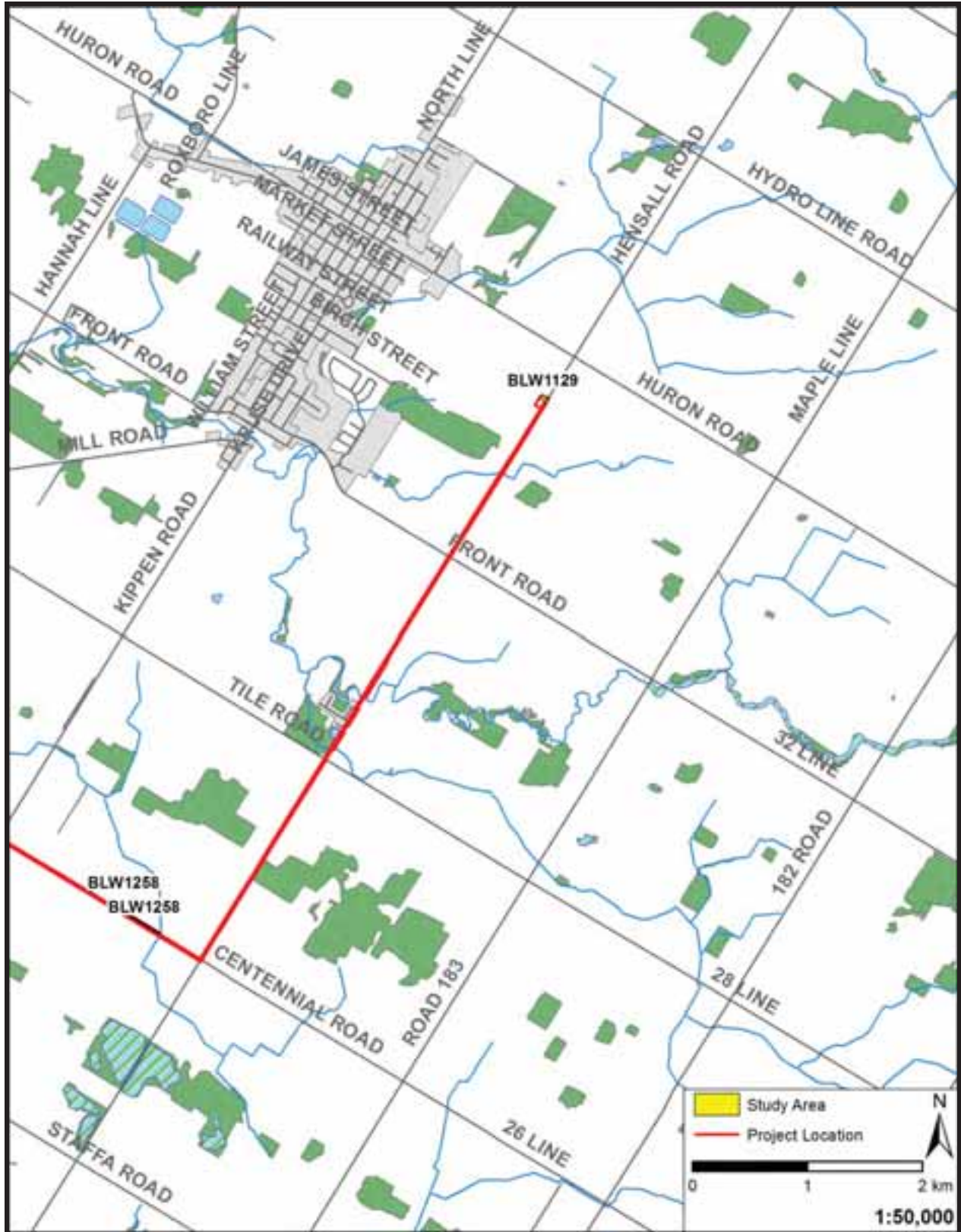




Map 4: View of the West-Central Part of the Project Location, Showing the Parcels
(Produced by ARA under licence from Ontario MNR, © Queens Printer 2013)



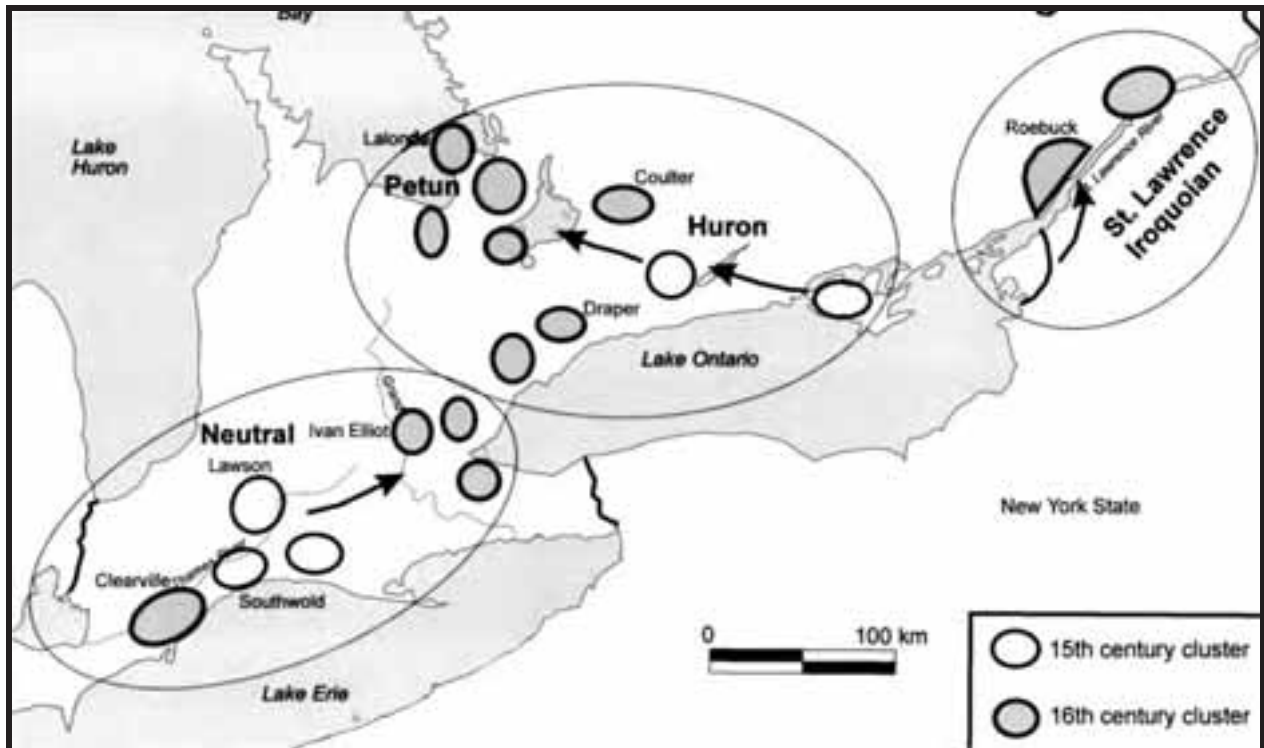
Map 5: View of the East-Central Part of the Project Location, Showing the Parcels
(Produced by ARA under licence from Ontario MNR, © Queens Printer 2013)



Map 6: View of the Eastern Part of the Project Location, Showing the Parcels
(Produced by ARA under licence from Ontario MNR, © Queens Printer 2013)



Map 7: Middle Woodland Period Complexes
(Wright 1972:Map 4)



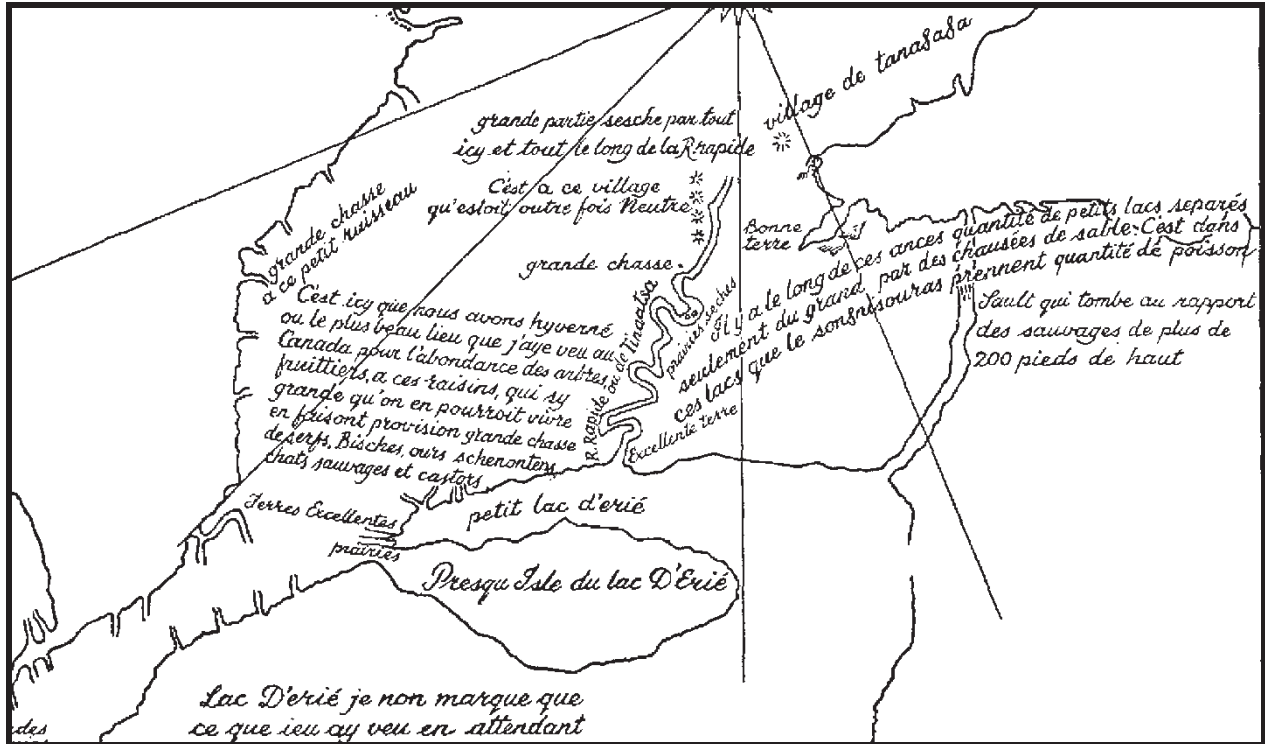
Map 8: Pre-Contact Iroquoian Site Clusters
(Warrick 2000:Figure 10)



Map 9: Detail from S. de Champlain's Carte de la Nouvelle France (1632)
(Gentilcore and Head 1984:Map 1.2)



Map 10: Detail from N. Sanson's Le Canada, ou Nouvelle France (1656)
(Gentilcore and Head 1984:Map 1.10)



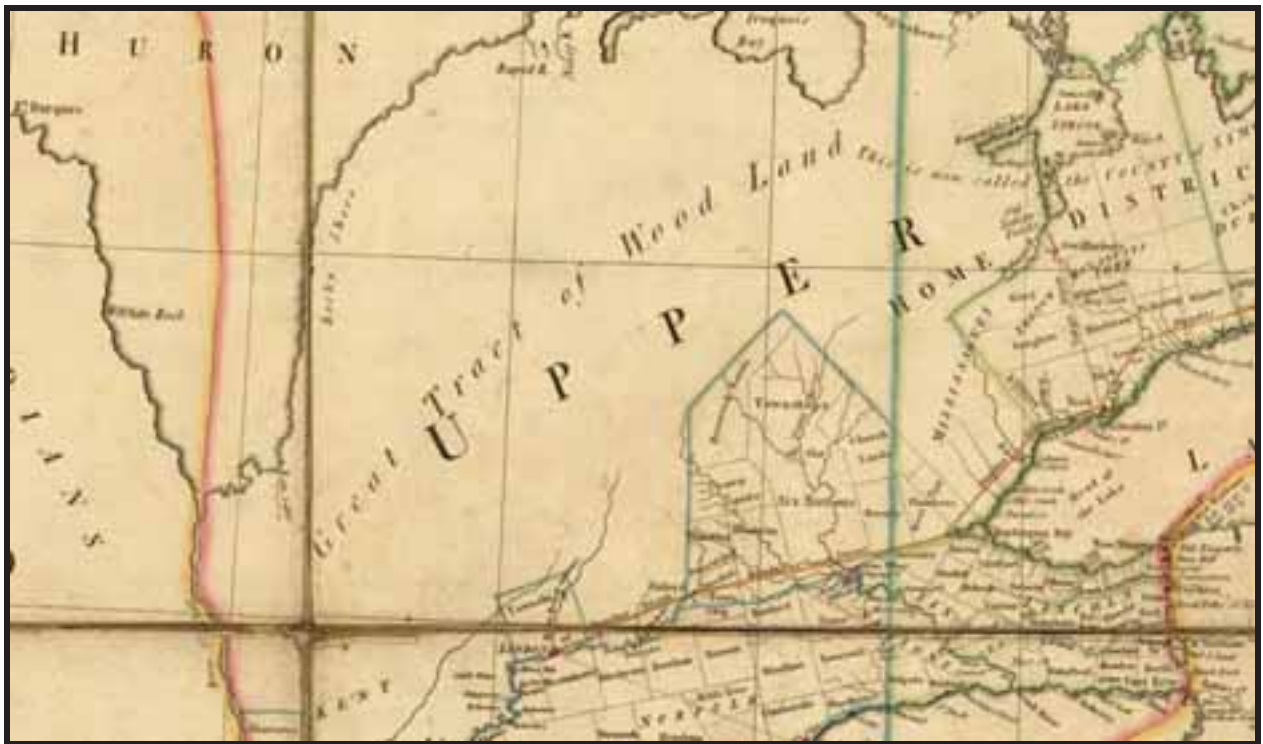
Map 11: Detail from the Map of Galinée's Voyage (1670)
(Lajeunesse 1960:Map 2)



Map 12: Detail from H. Popple's *A Map of the British Empire in America* (1733)
(Cartography Associates 2009)



Map 13: Detail from R. Sayer and J. Bennett's General Map of the Middle British Colonies in America (1776)
(Cartography Associates 2009)



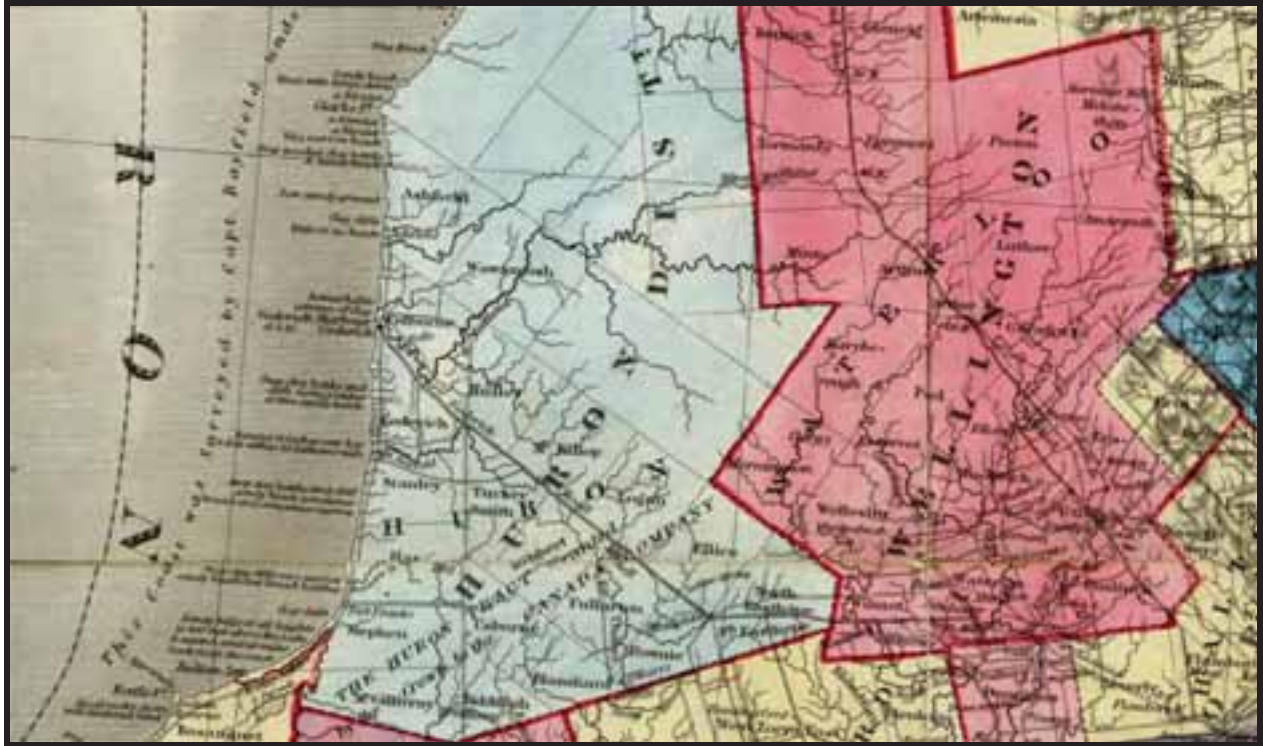
Map 14: Detail from D.W. Smyth's A Map of the Province of Upper Canada (1800)
(Cartography Associates 2009)



Map 15: Detail from J. Purdy's *A Map of Cabotia* (1814)
(Cartography Associates 2009)



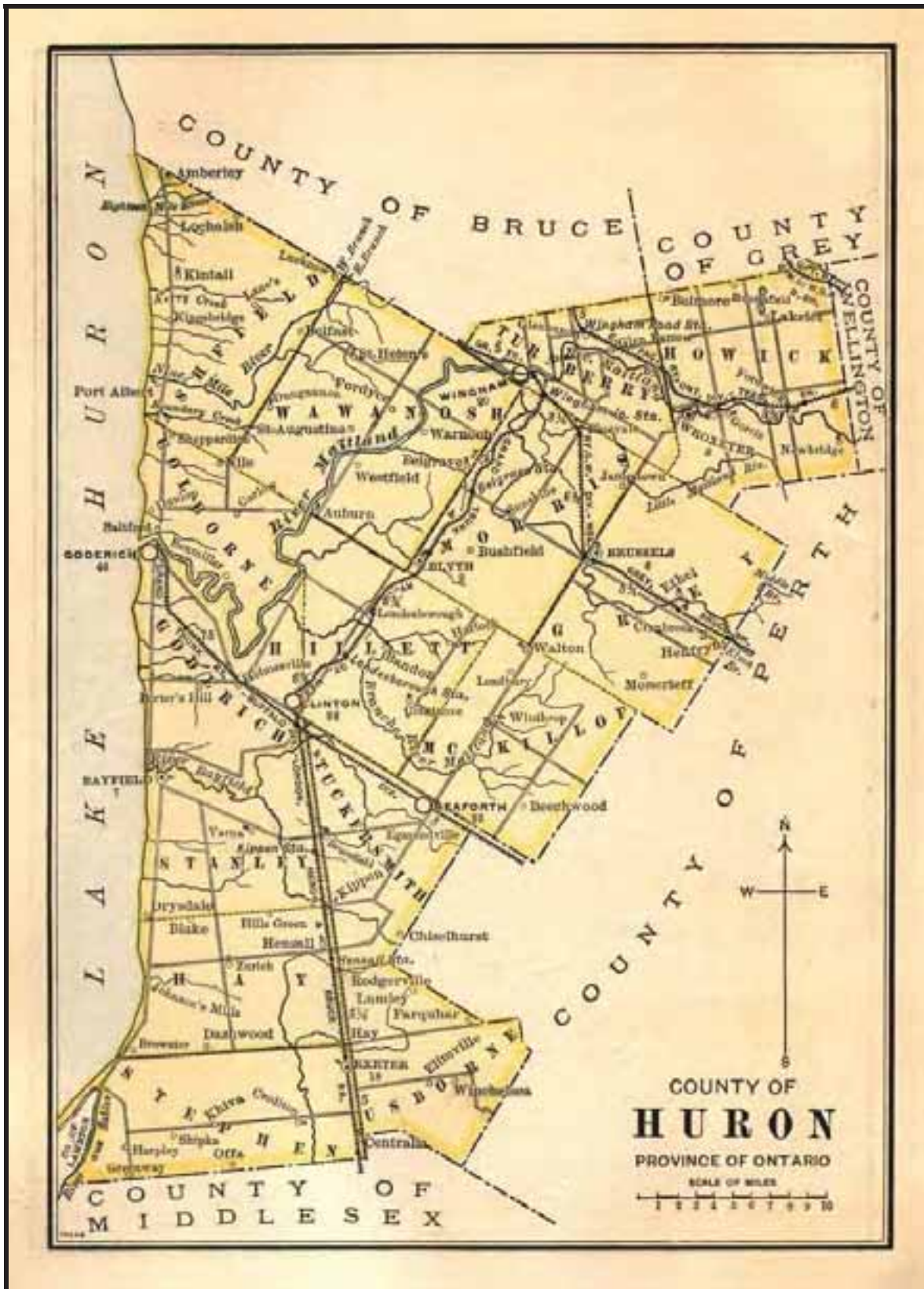
Map 16: Detail from J. Arrowsmith's *Upper Canada* (1837)
(Cartography Associates 2009)



Map 17: Detail from J. Bouchette's *Map of the Provinces of Canada* (1846)
(Cartography Associates 2009)



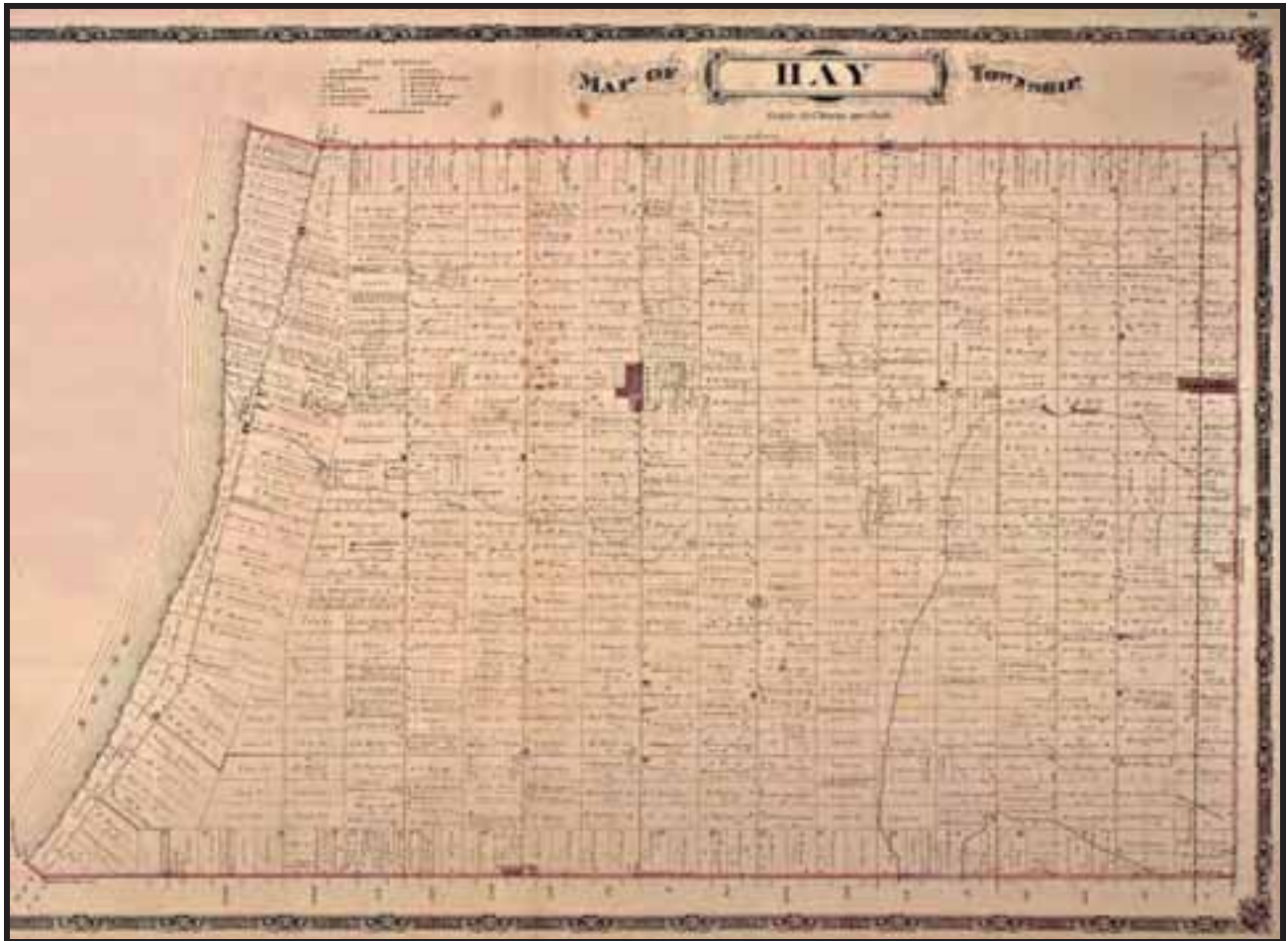
Map 18: Detail from G.W. Colton's *Canada West* (1856)
(Cartography Associates 2009)



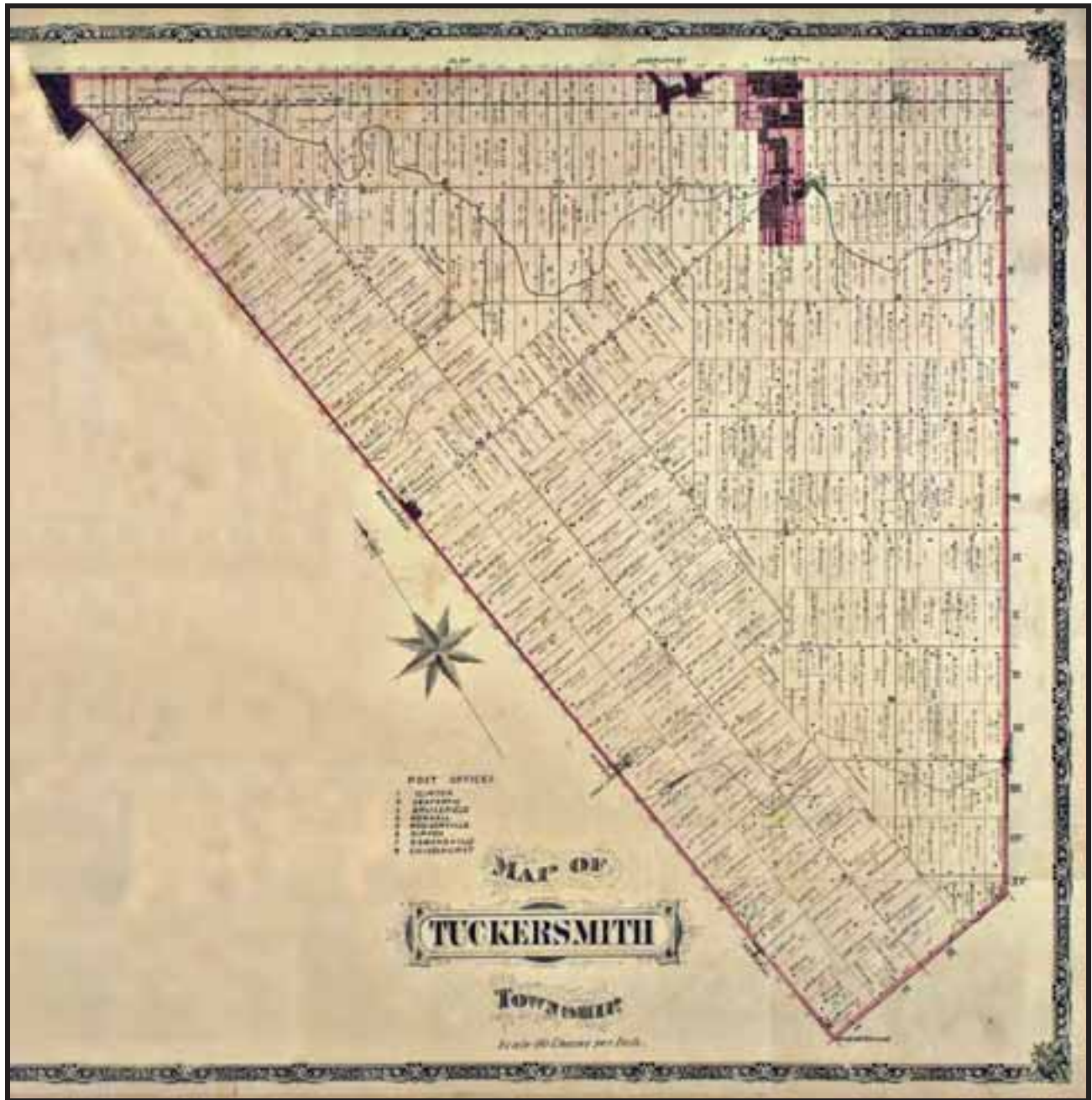
Map 19: Huron County from W.J. Gage and Co.'s *Gage's County Atlas* (1886)
(W.J. Gage and Co. 1886)



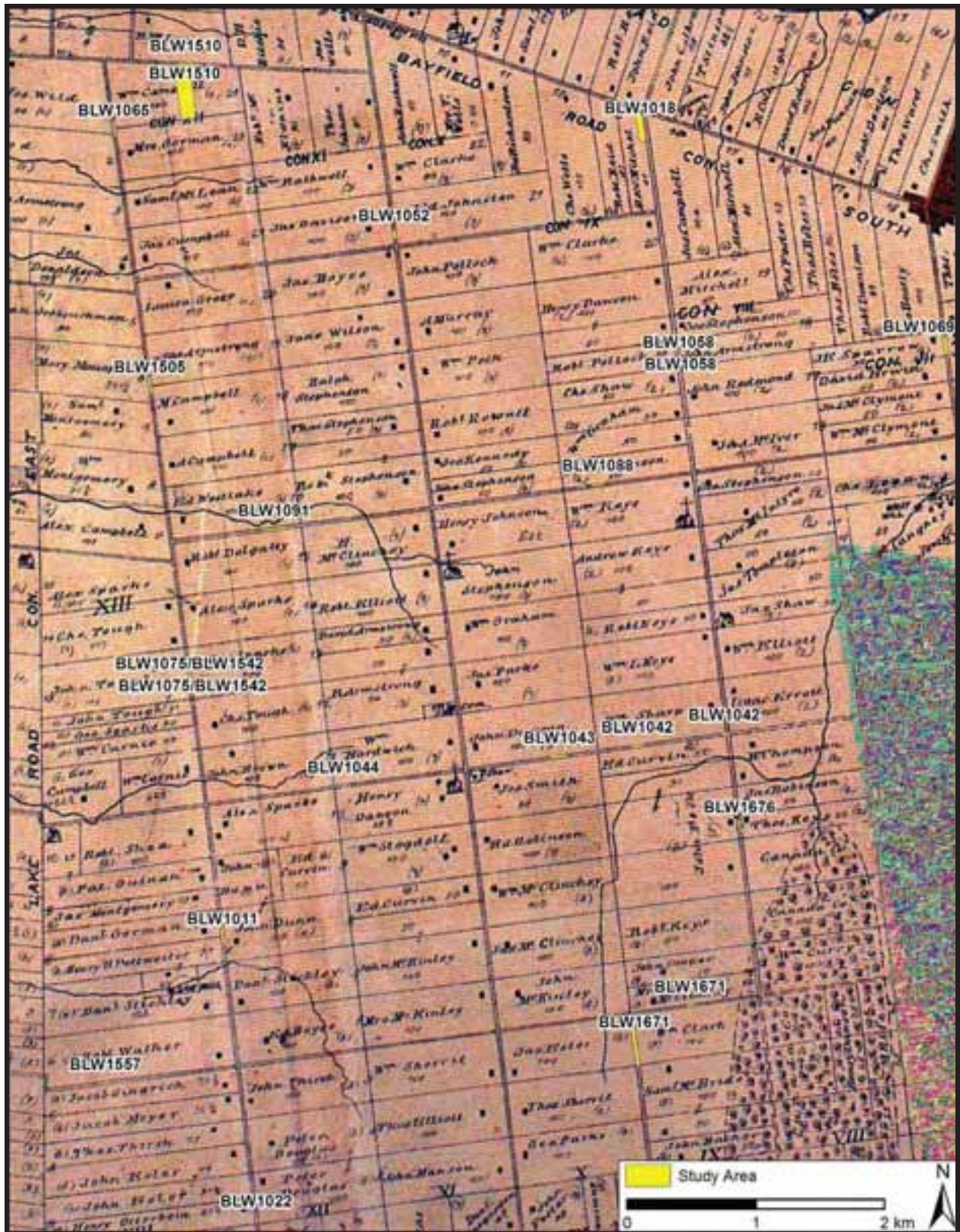
**Map 20: The Township of Stanley from H. Belden & Co.'s *Illustrated Historical Atlas of the County of Huron* (1879)
(McGill University 2001)**



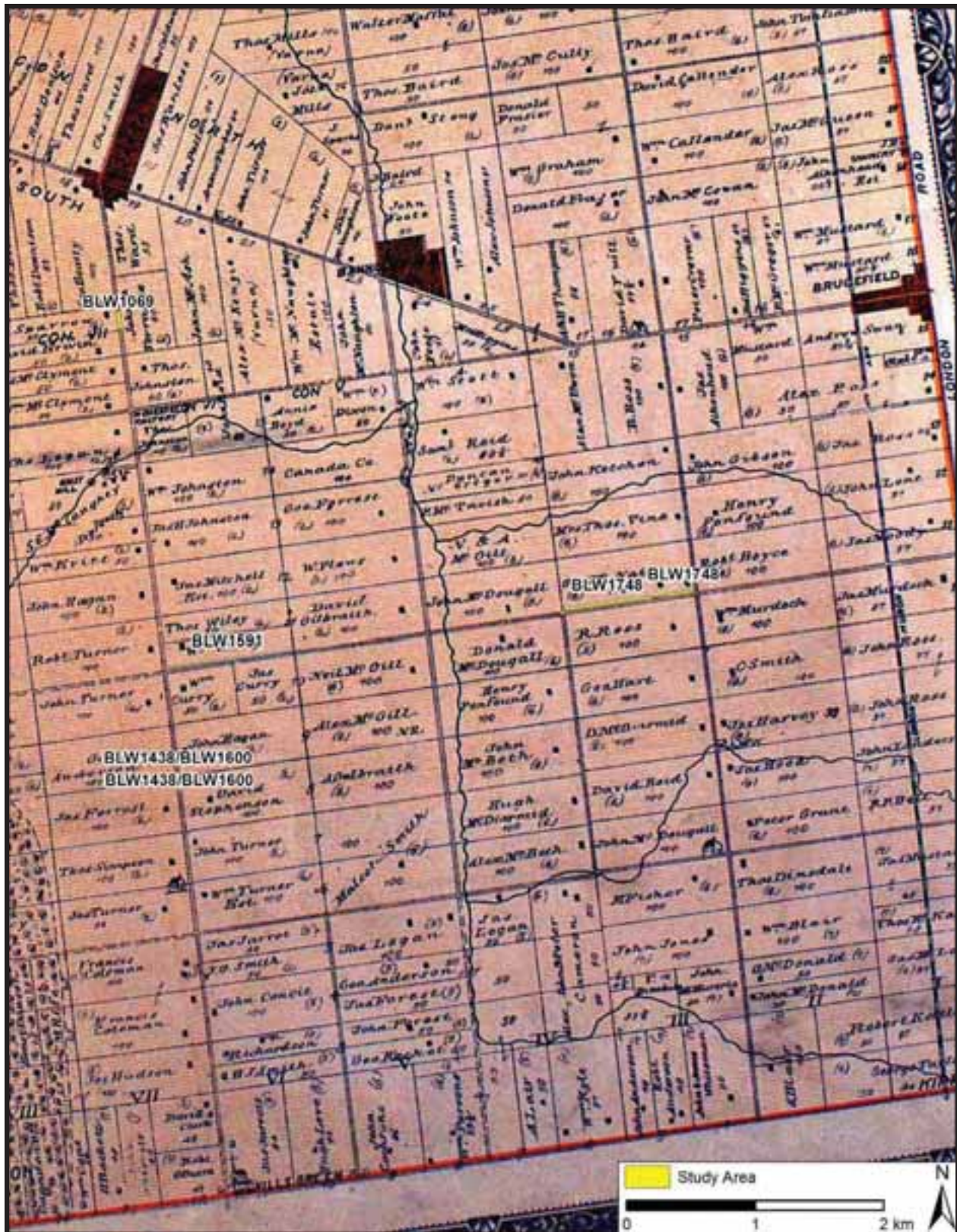
**Map 21: The Township of Hay from H. Belden & Co.'s *Illustrated Historical Atlas of the County of Huron* (1879)
(McGill University 2001)**



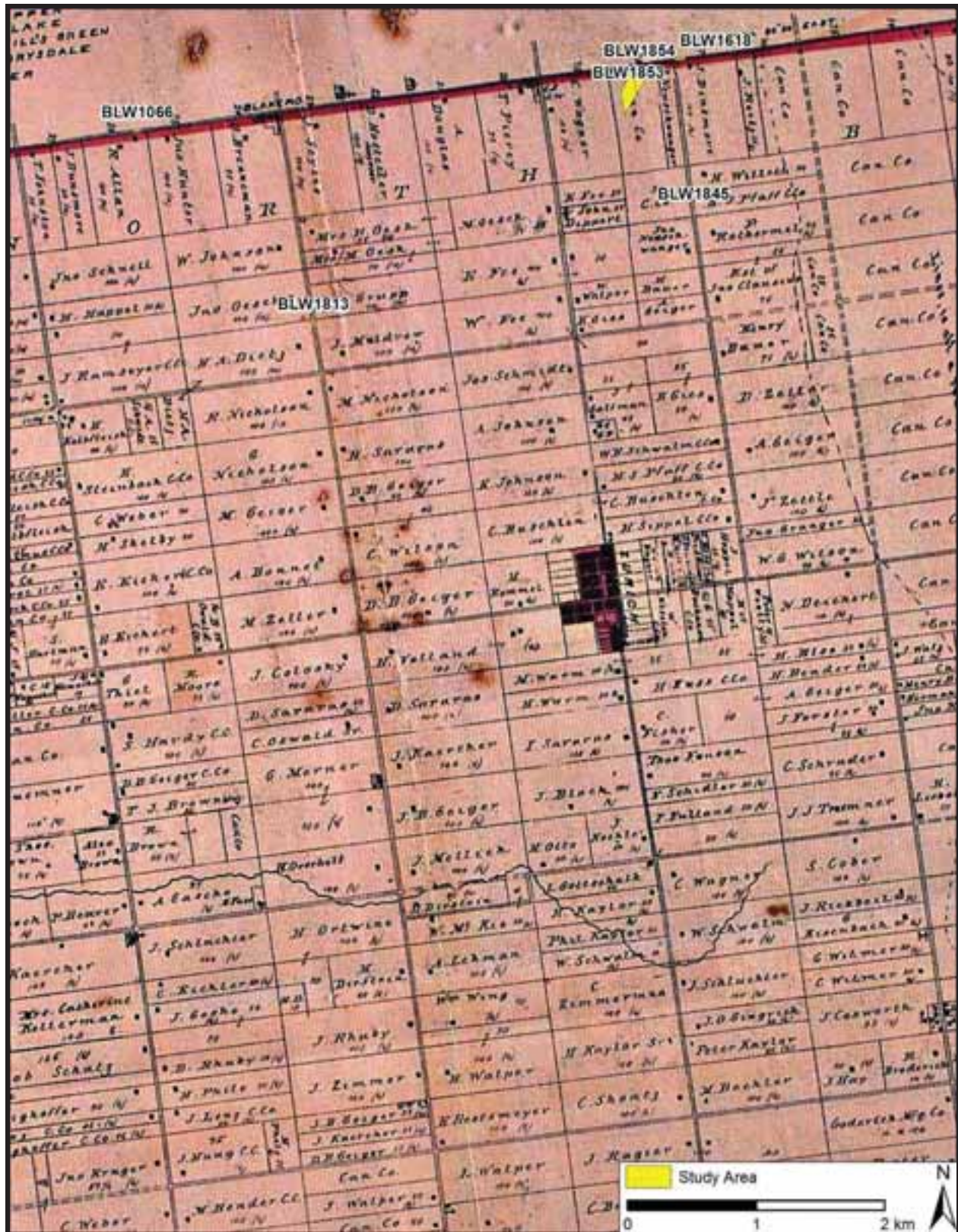
**Map 22: The Township of Tuckersmith from H. Belden & Co.'s *Illustrated Historical Atlas of the County of Huron* (1879)
(McGill University 2001)**



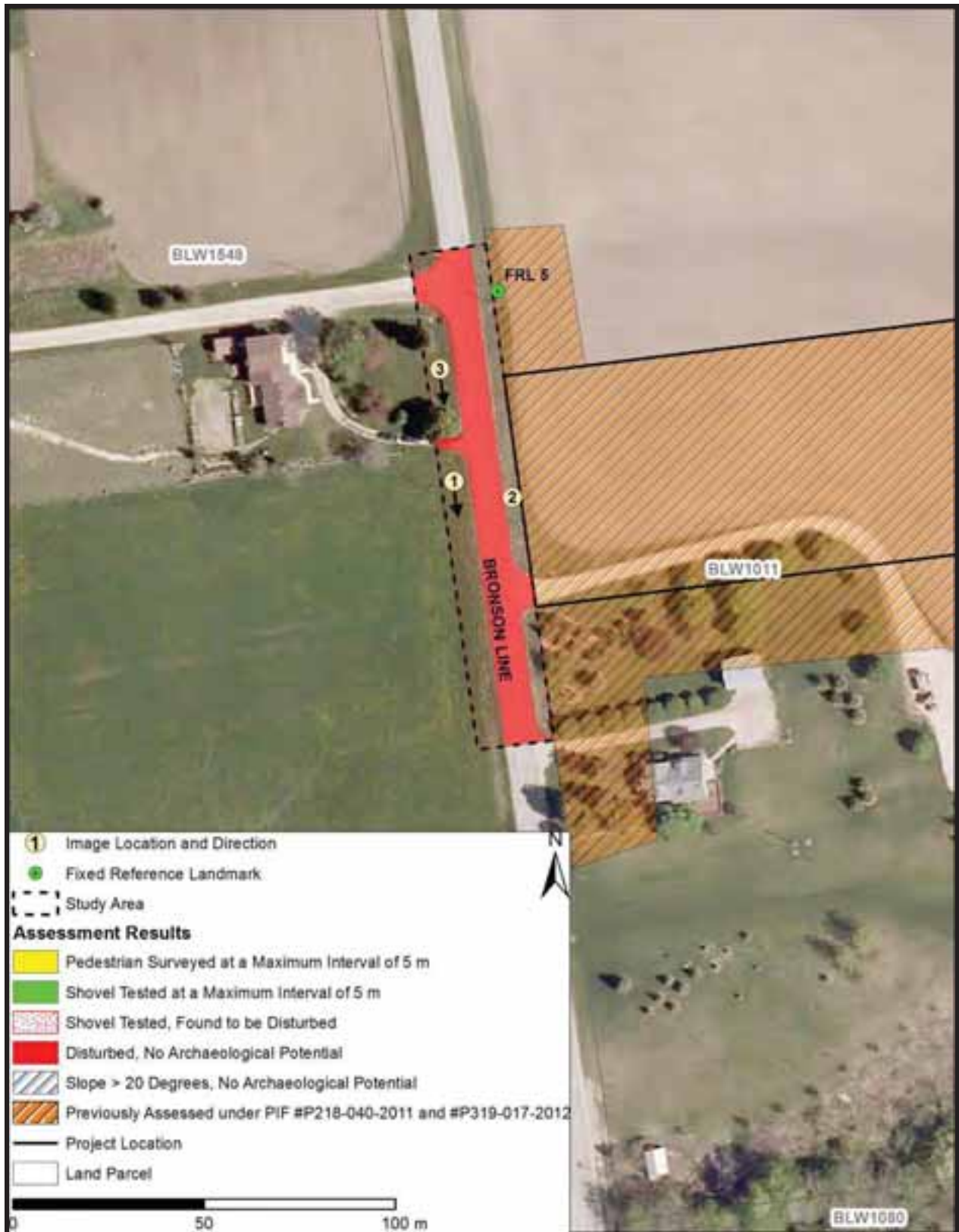
Map 23: Detail of the Western Part of the Township of Stanley from H. Belden & Co.'s *Illustrated Historical Atlas of the County of Huron* (1879), Showing the Parcels (McGill University 2001)



Map 24: Detail of the Eastern Part of the Township of Stanley from H. Belden & Co.'s *Illustrated Historical Atlas of the County of Huron* (1879), Showing the Parcels (McGill University 2001)



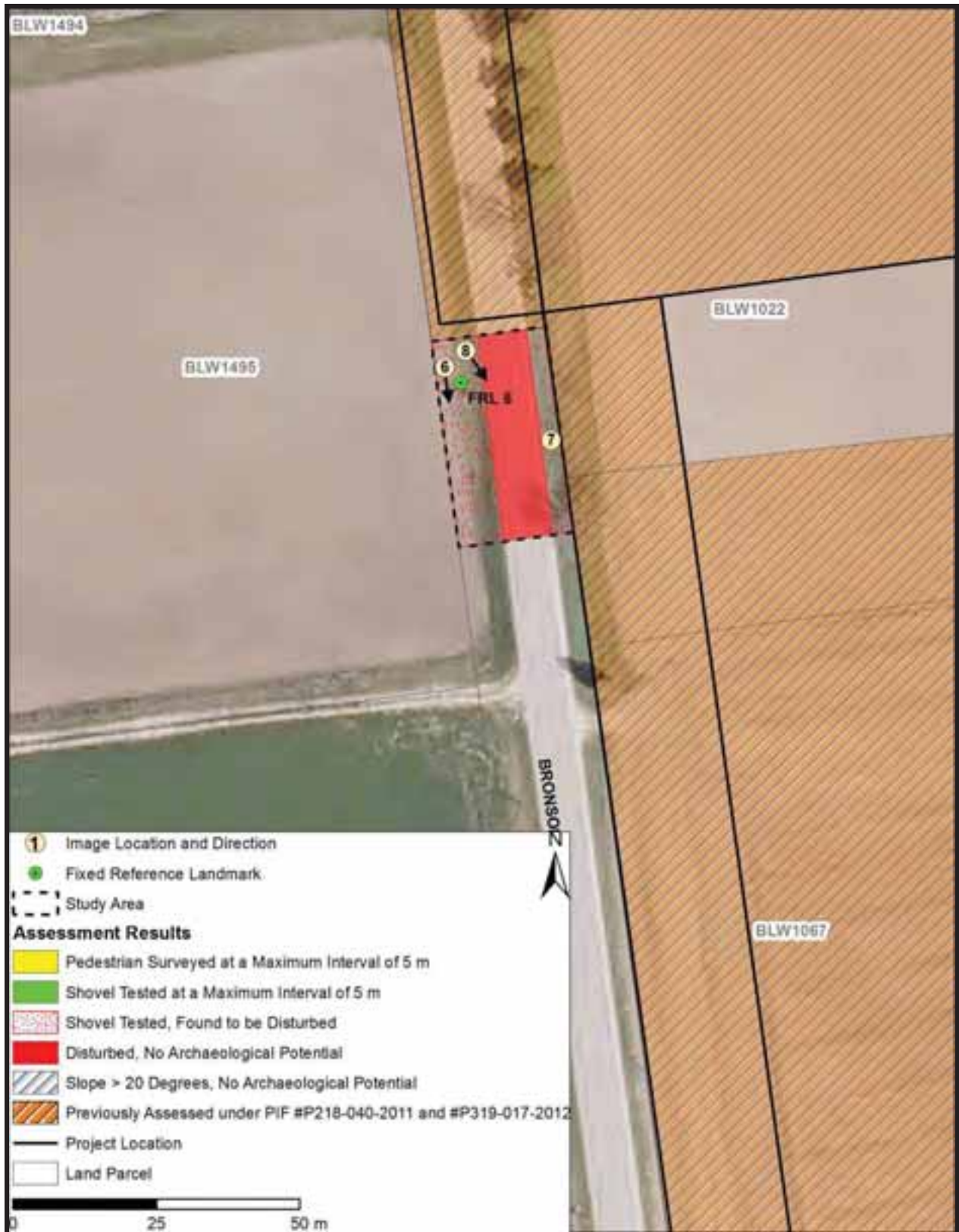
Map 25: Detail of the Northern Part of the Township of Hay from H. Belden & Co.'s *Illustrated Historical Atlas of the County of Huron* (1879), Showing the Parcels (McGill University 2001)

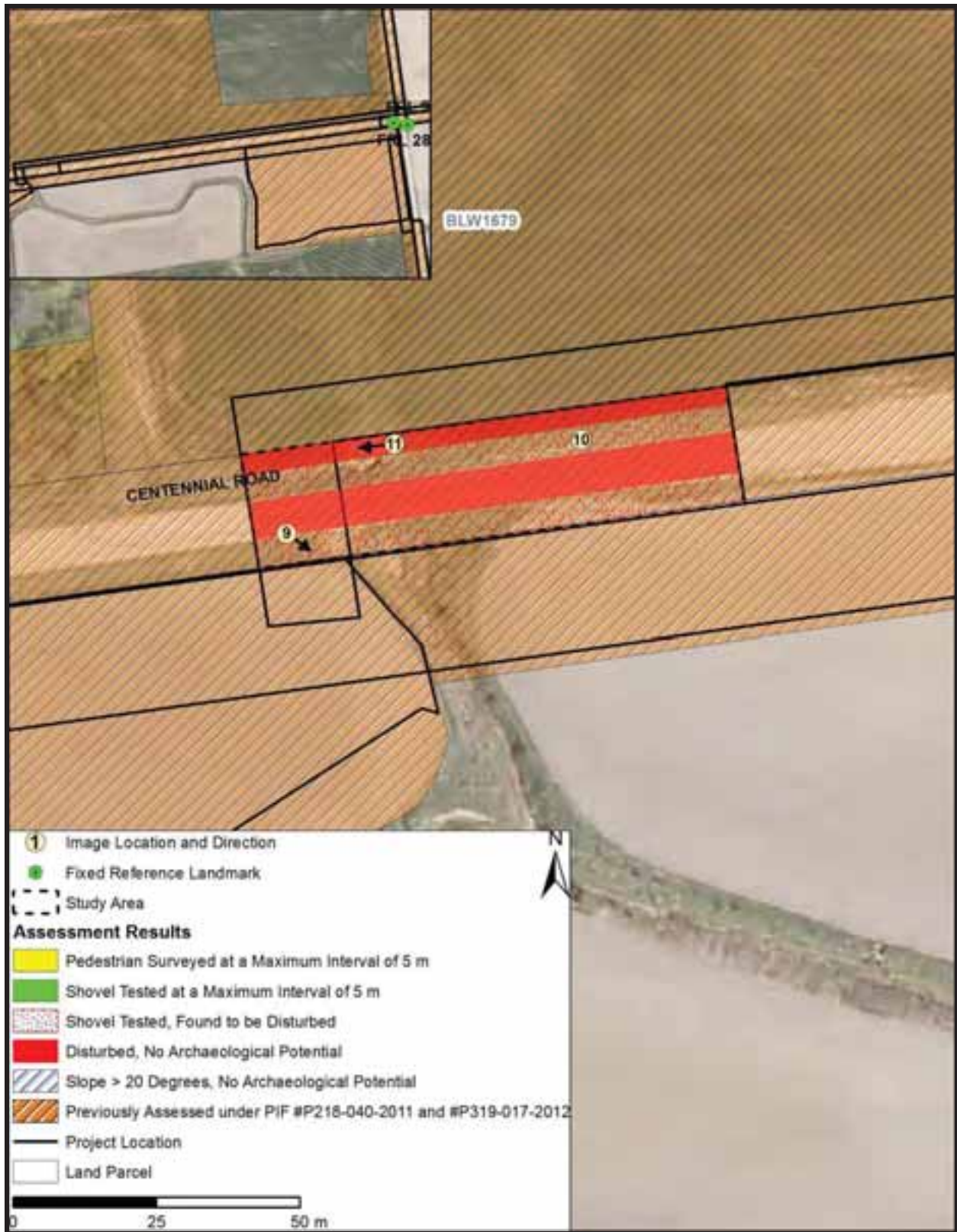


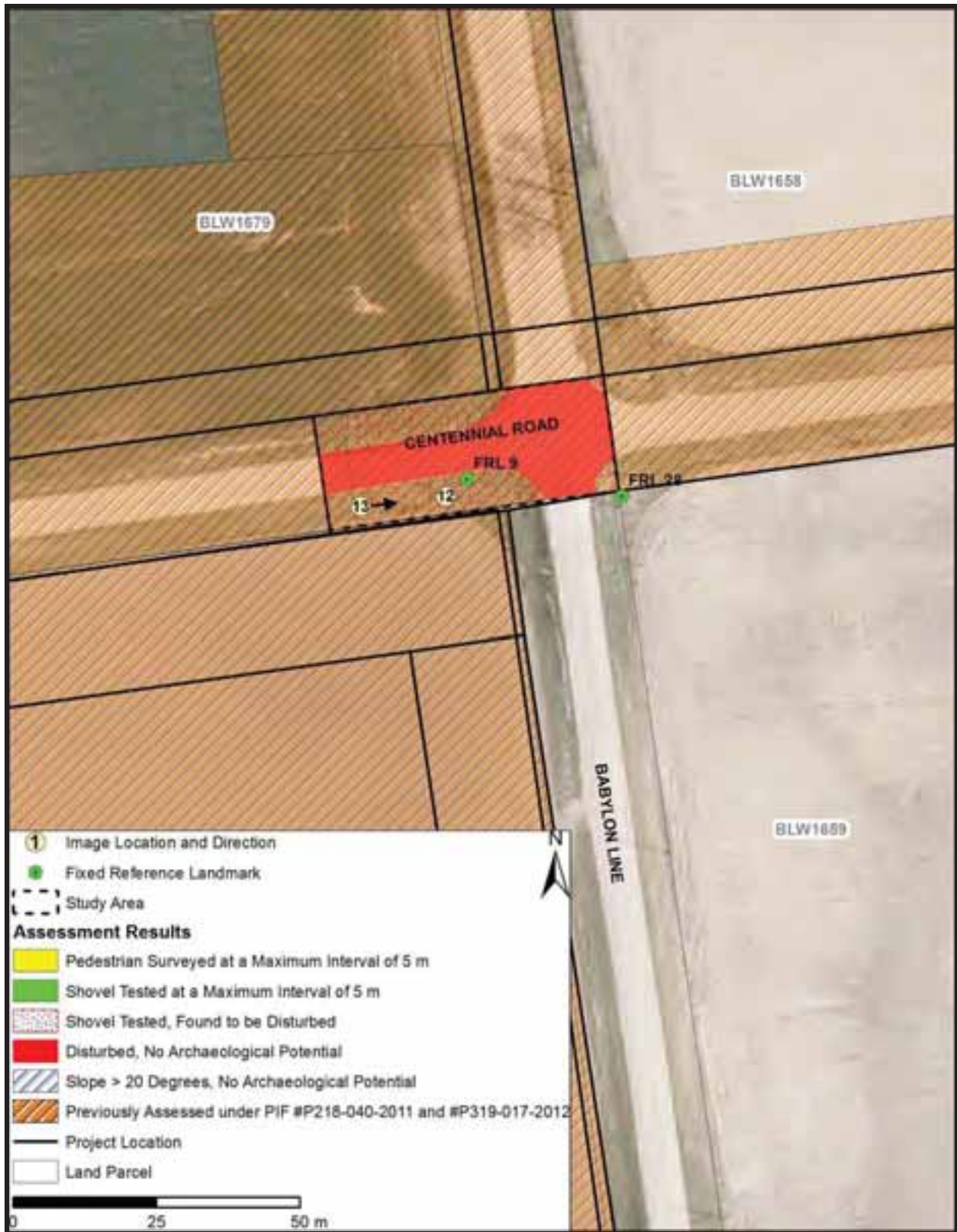
Map 27: Stage 2 Assessment Results – Field Methods and Images for BLW1011
(Base Imagery Provided by NextEra)



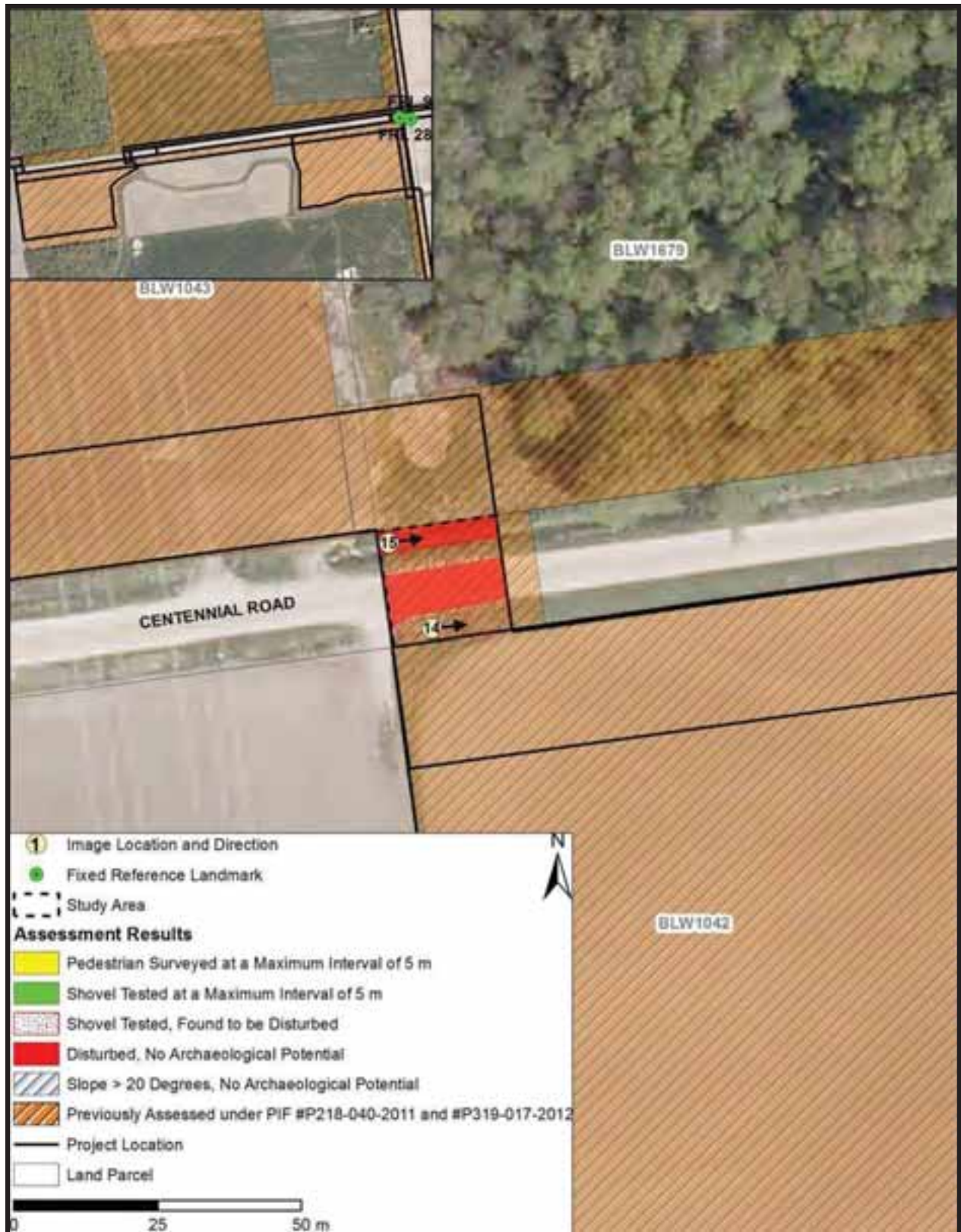
Map 28: Stage 2 Assessment Results – Field Methods and Images for BLW1018
(Base Imagery Provided by NextEra)



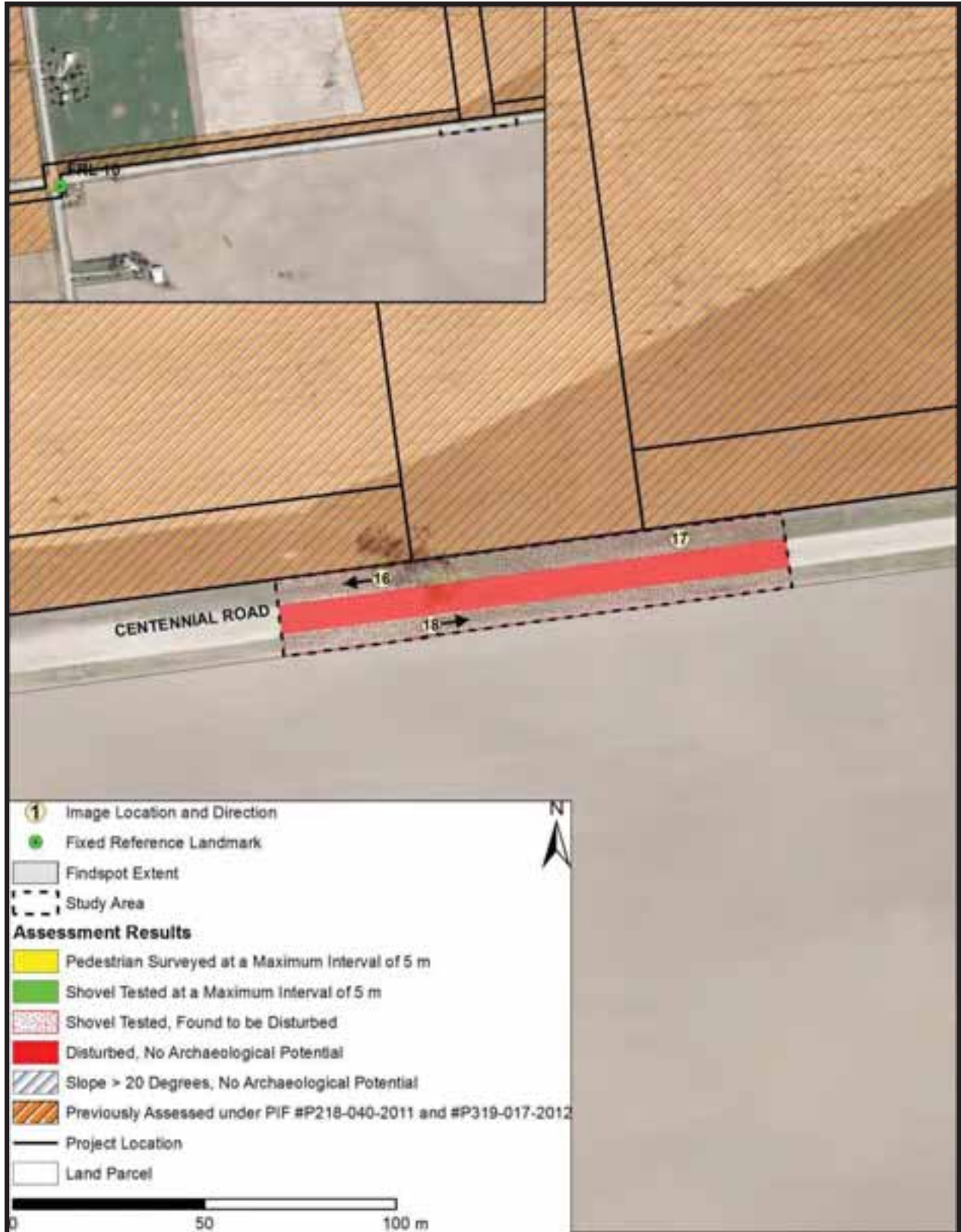


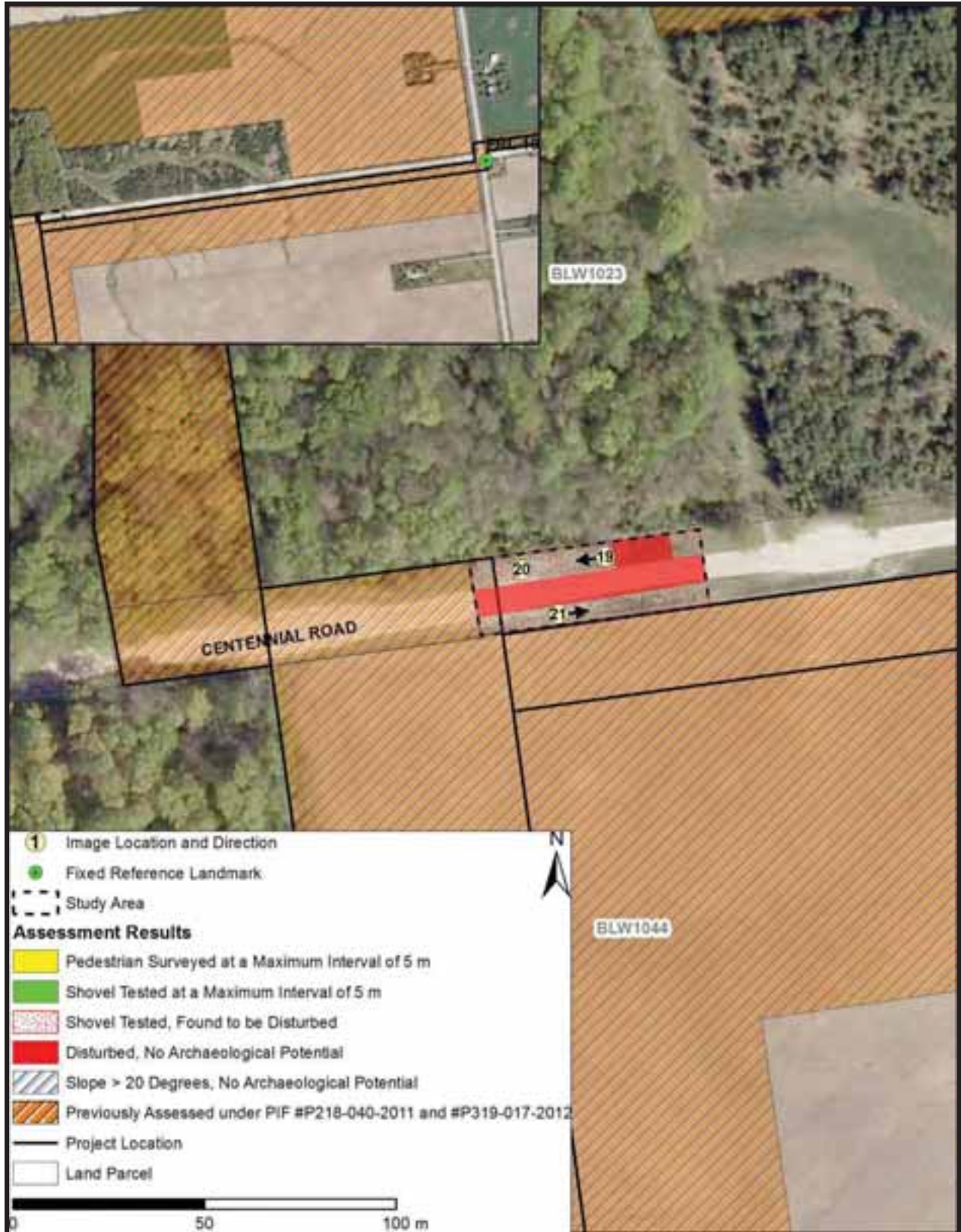


Map 31: Stage 2 Assessment Results – Field Methods and Images for BLW1042 (East Part)
 (Base Imagery Provided by NextEra)

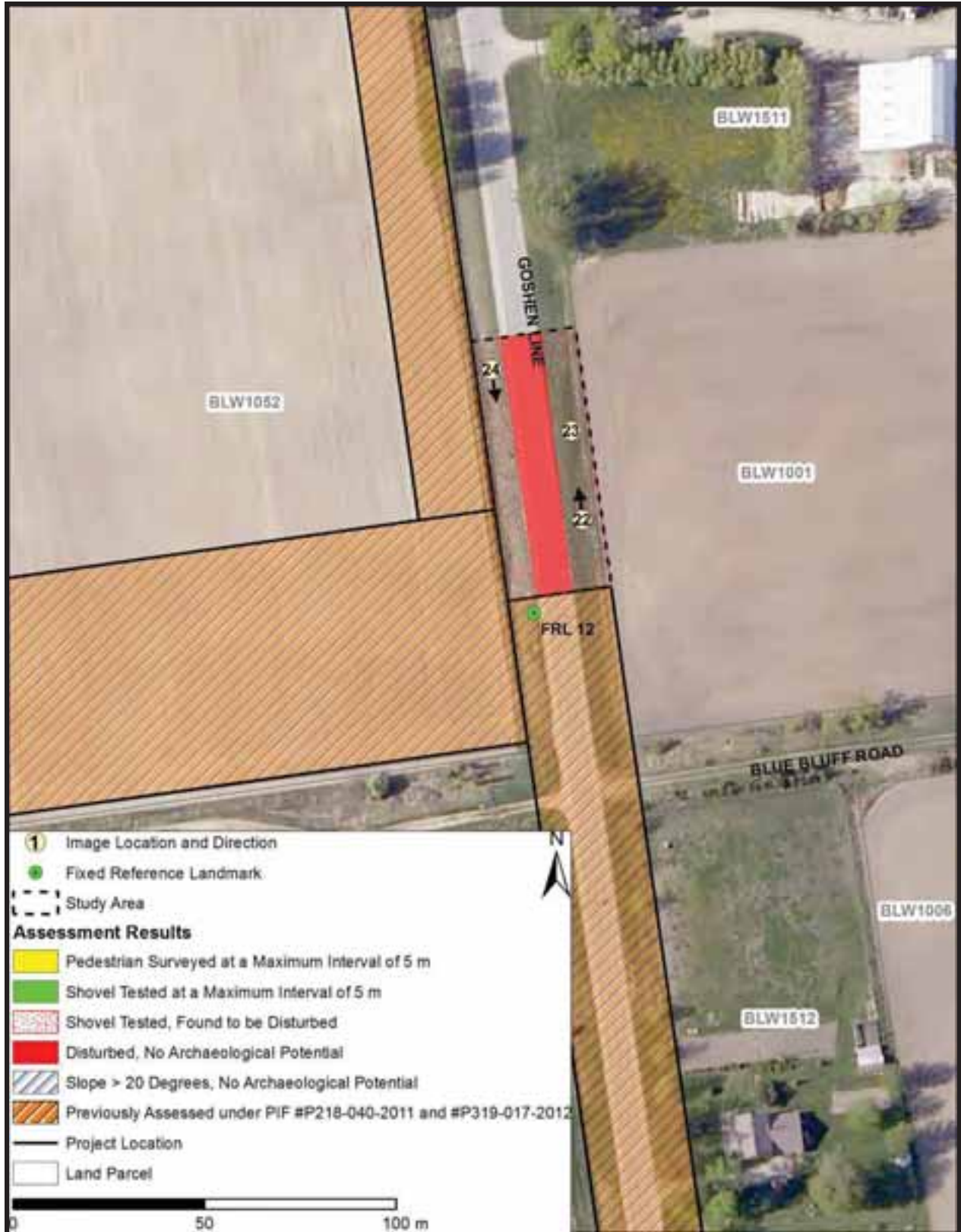


Map 32: Stage 2 Assessment Results – Field Methods and Images for BLW1042 (West Part)
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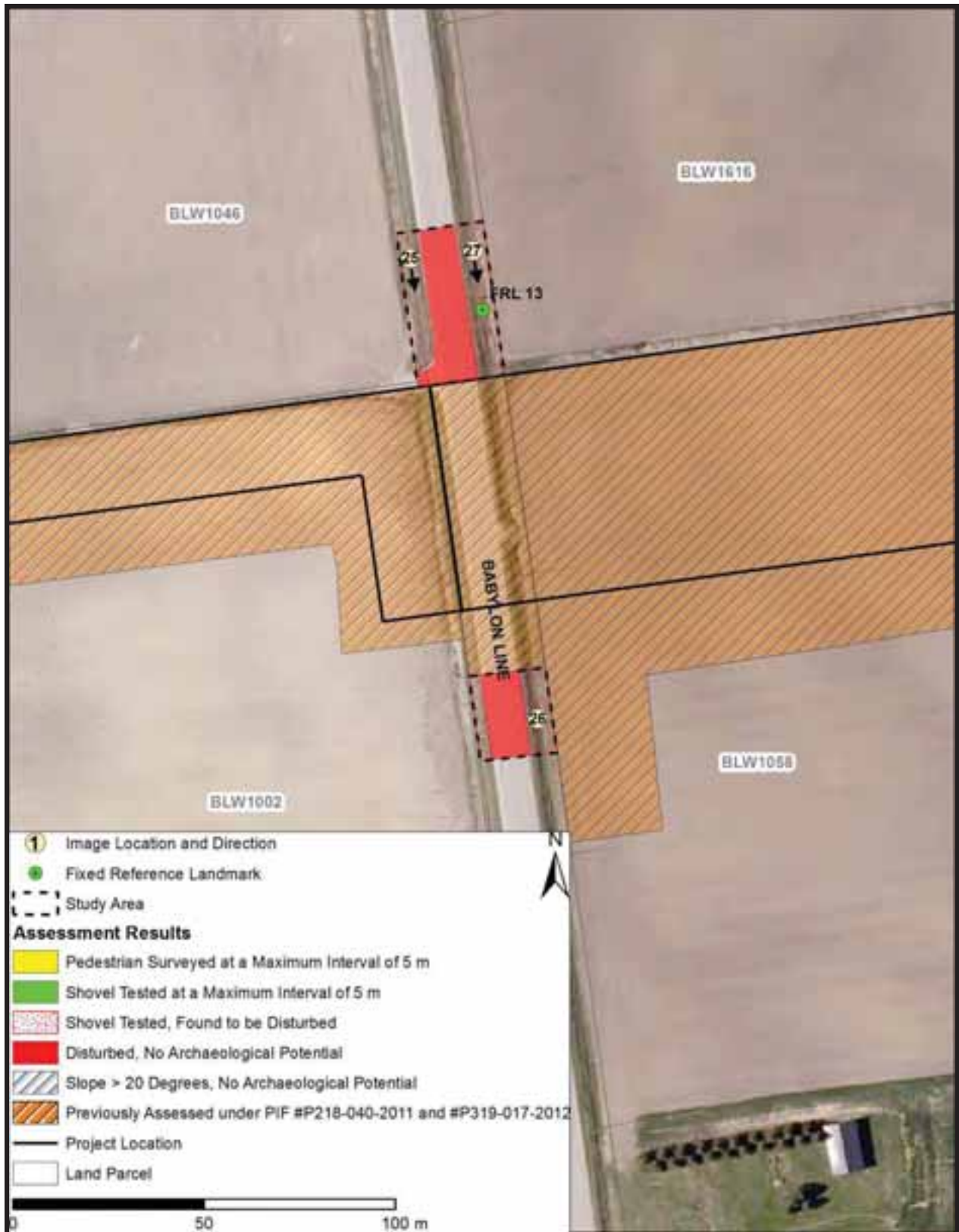




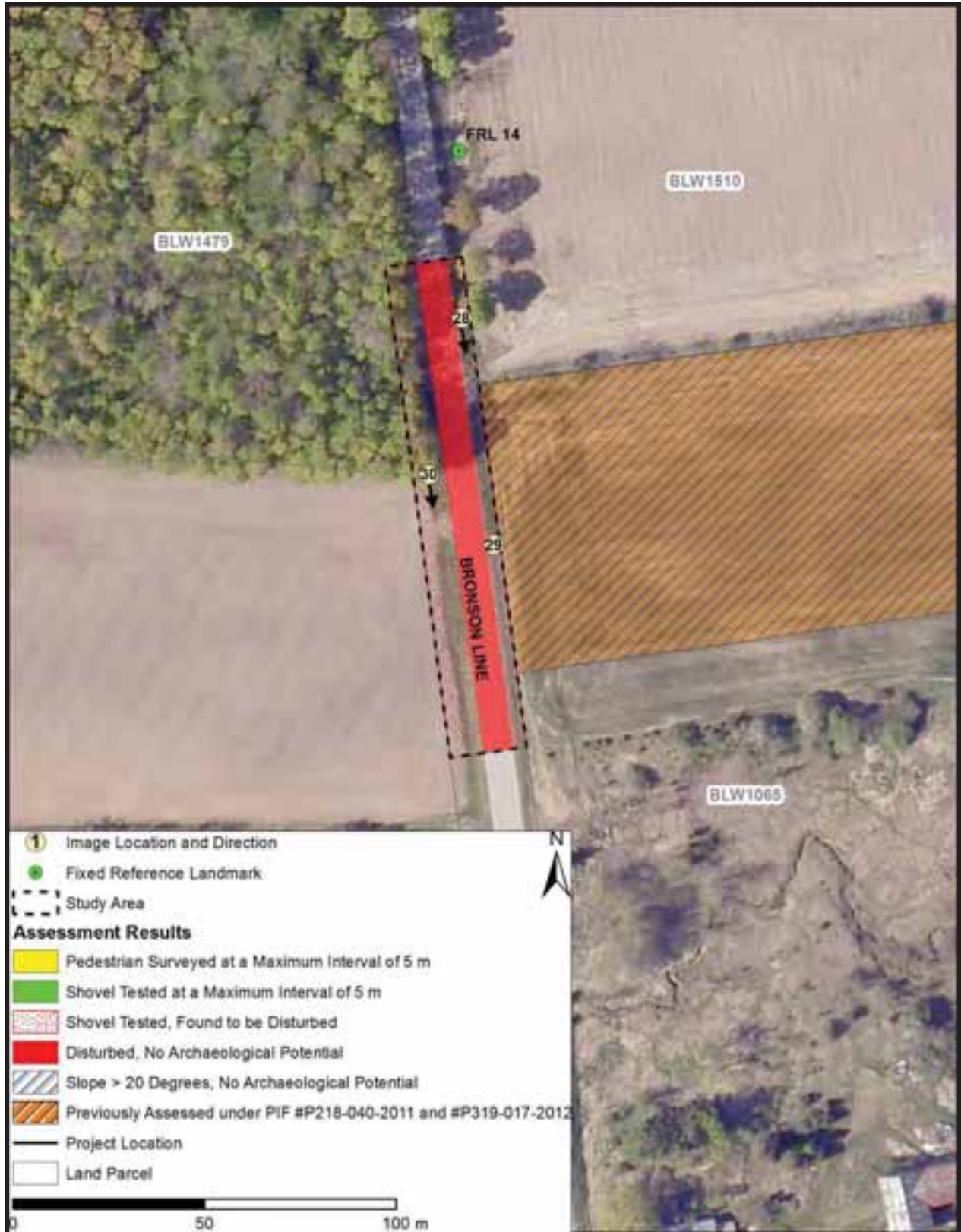
Map 34: Stage 2 Assessment Results – Field Methods and Images for BLW1044
 (Base Imagery Provided by Capital Power Corporation)



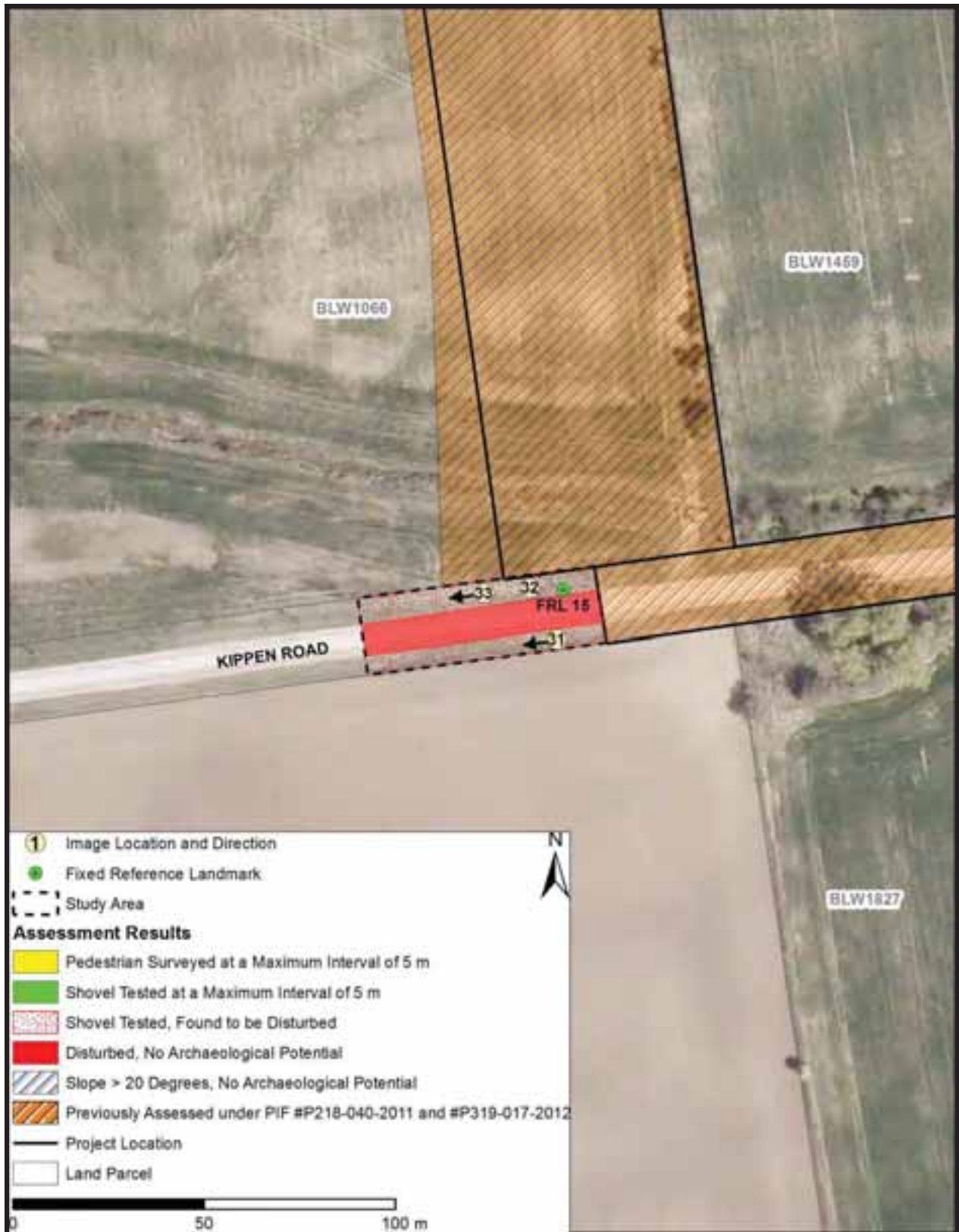
Map 35: Stage 2 Assessment Results – Field Methods and Images for BLW1052
(Base Imagery Provided by NextEra)



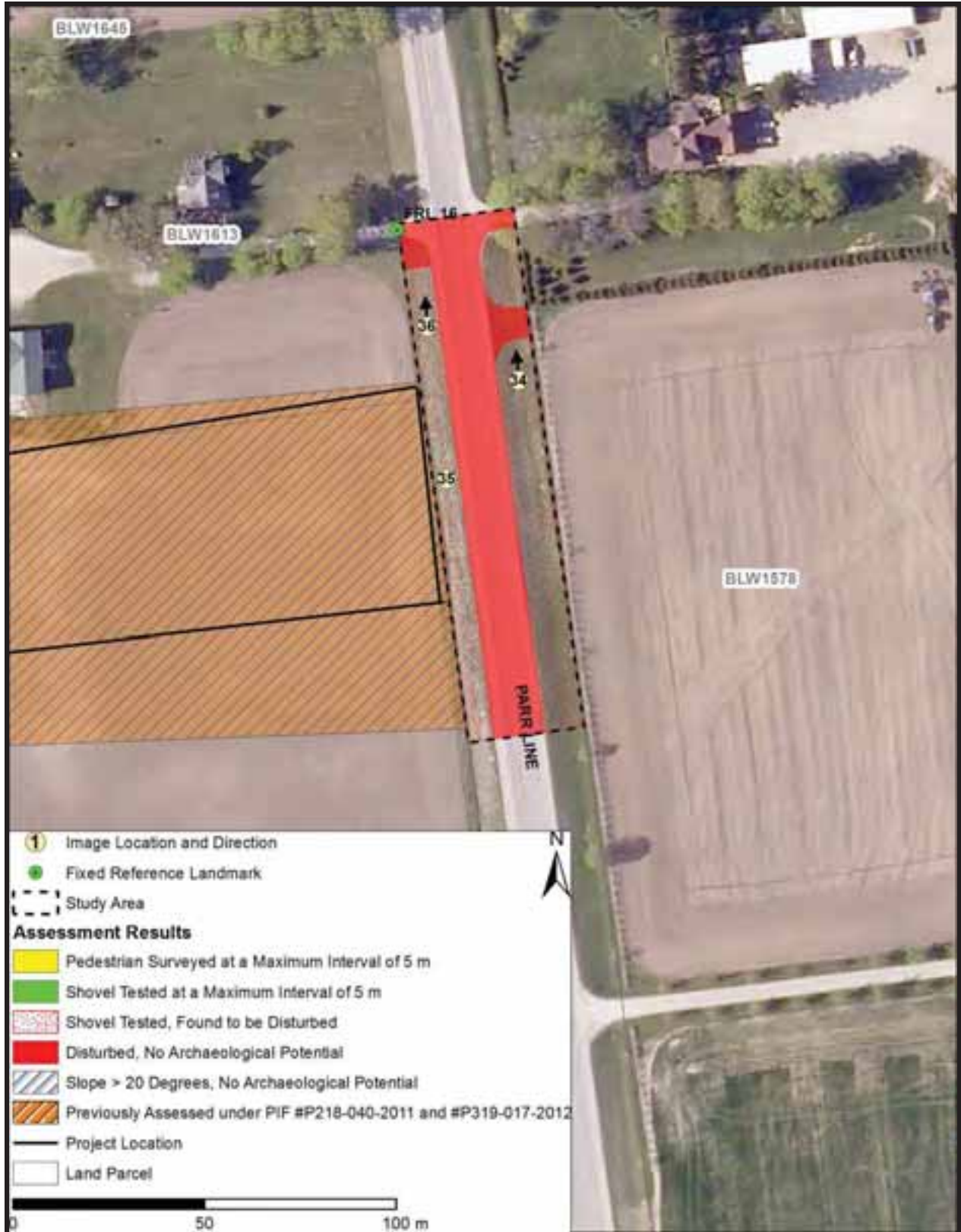
Map 36: Stage 2 Assessment Results – Field Methods and Images for BLW1058
 (Base Imagery Provided by NextEra)



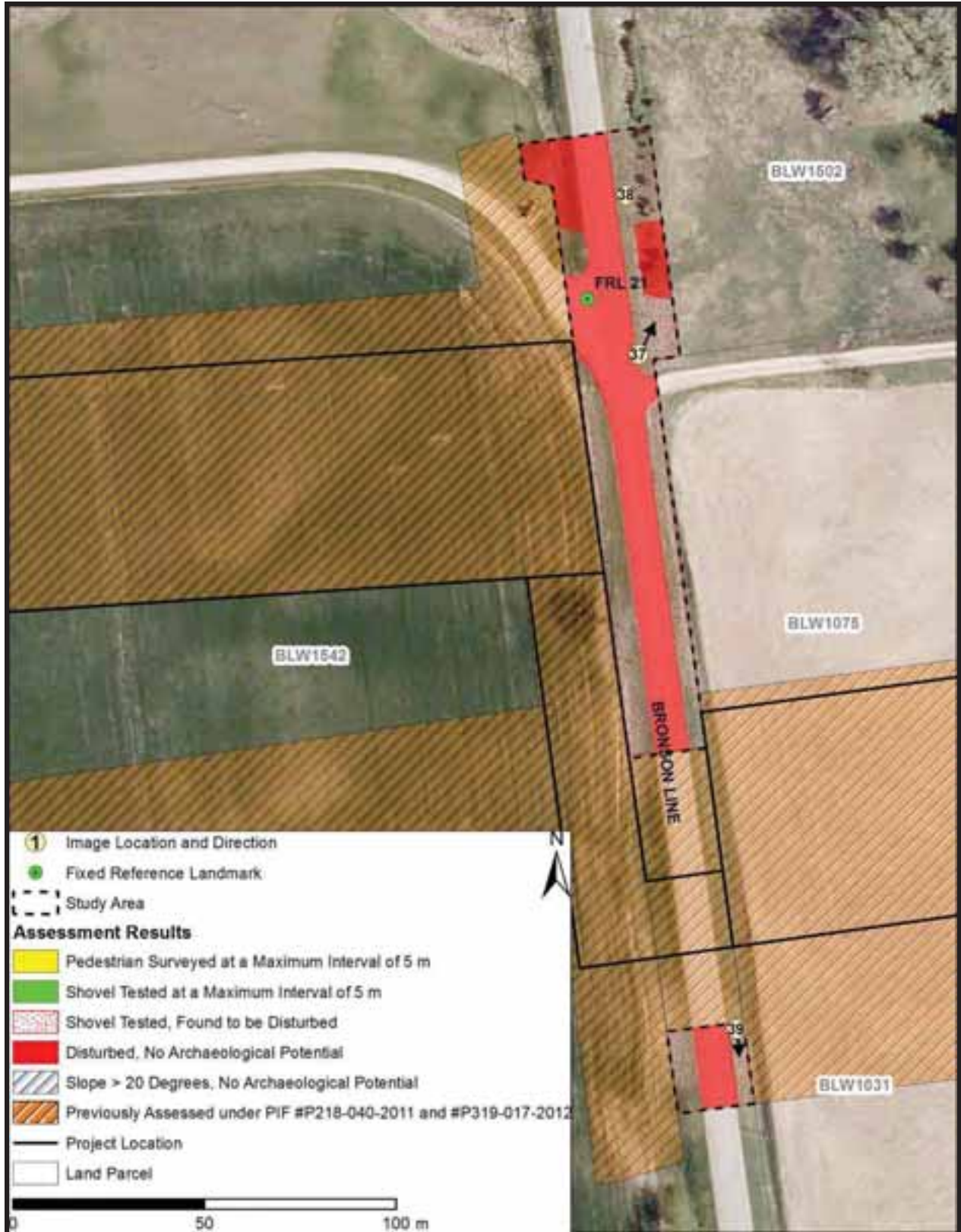
Map 37: Stage 2 Assessment Results – Field Methods and Images for BLW1065
(Base Imagery Provided by NextEra)



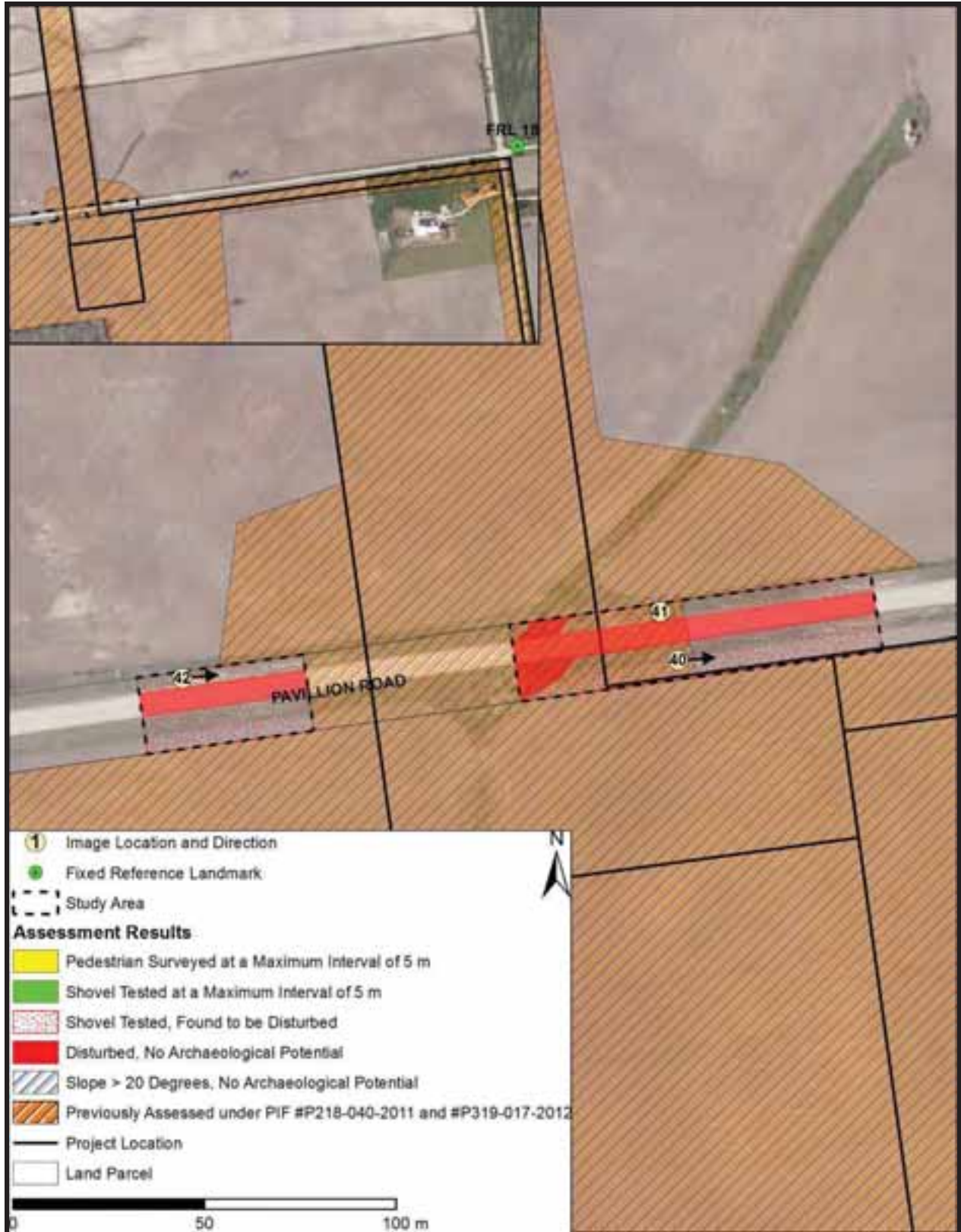
**Map 38: Stage 2 Assessment Results – Field Methods and Images for BLW1066
(Base Imagery Provided by NextEra)**

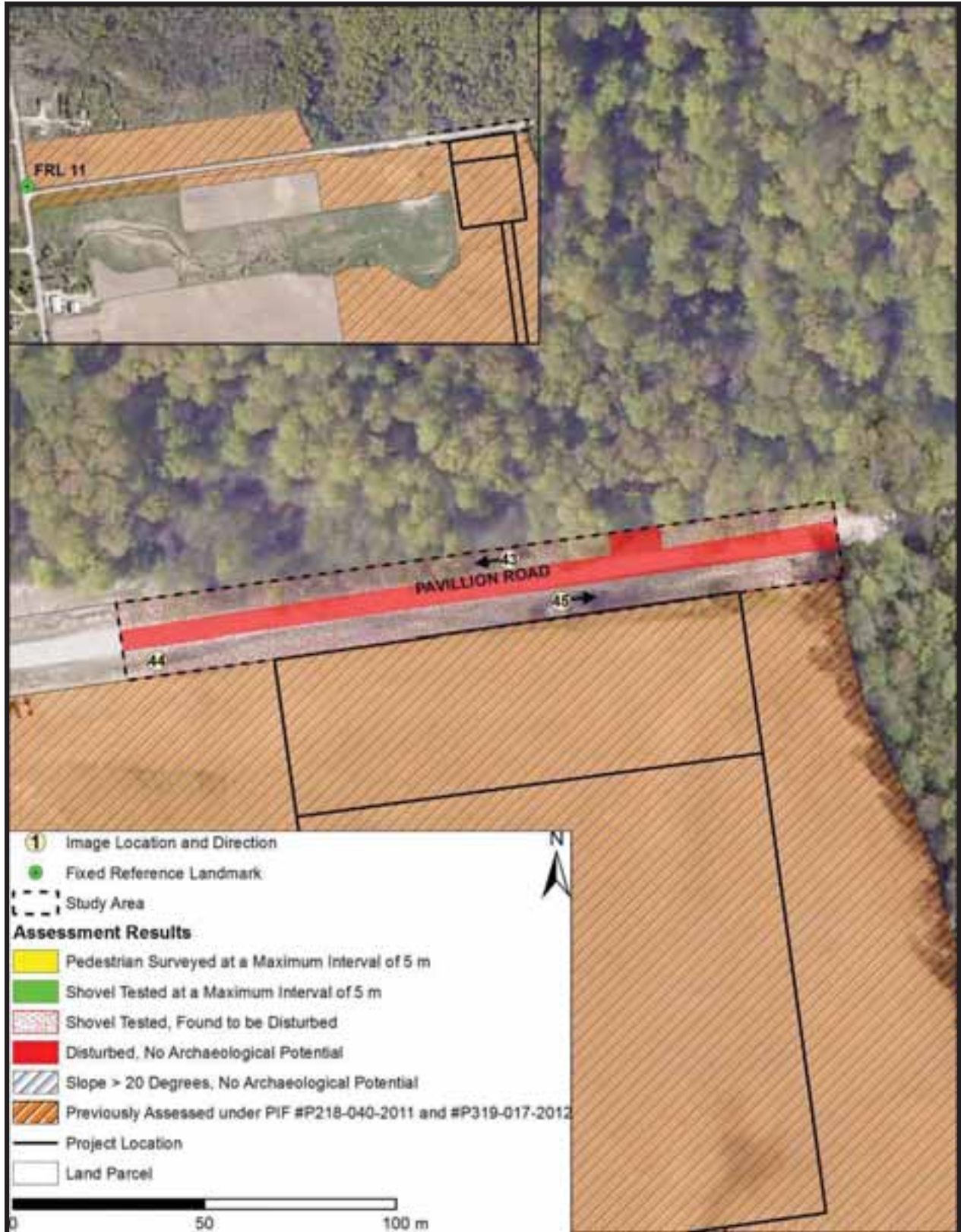


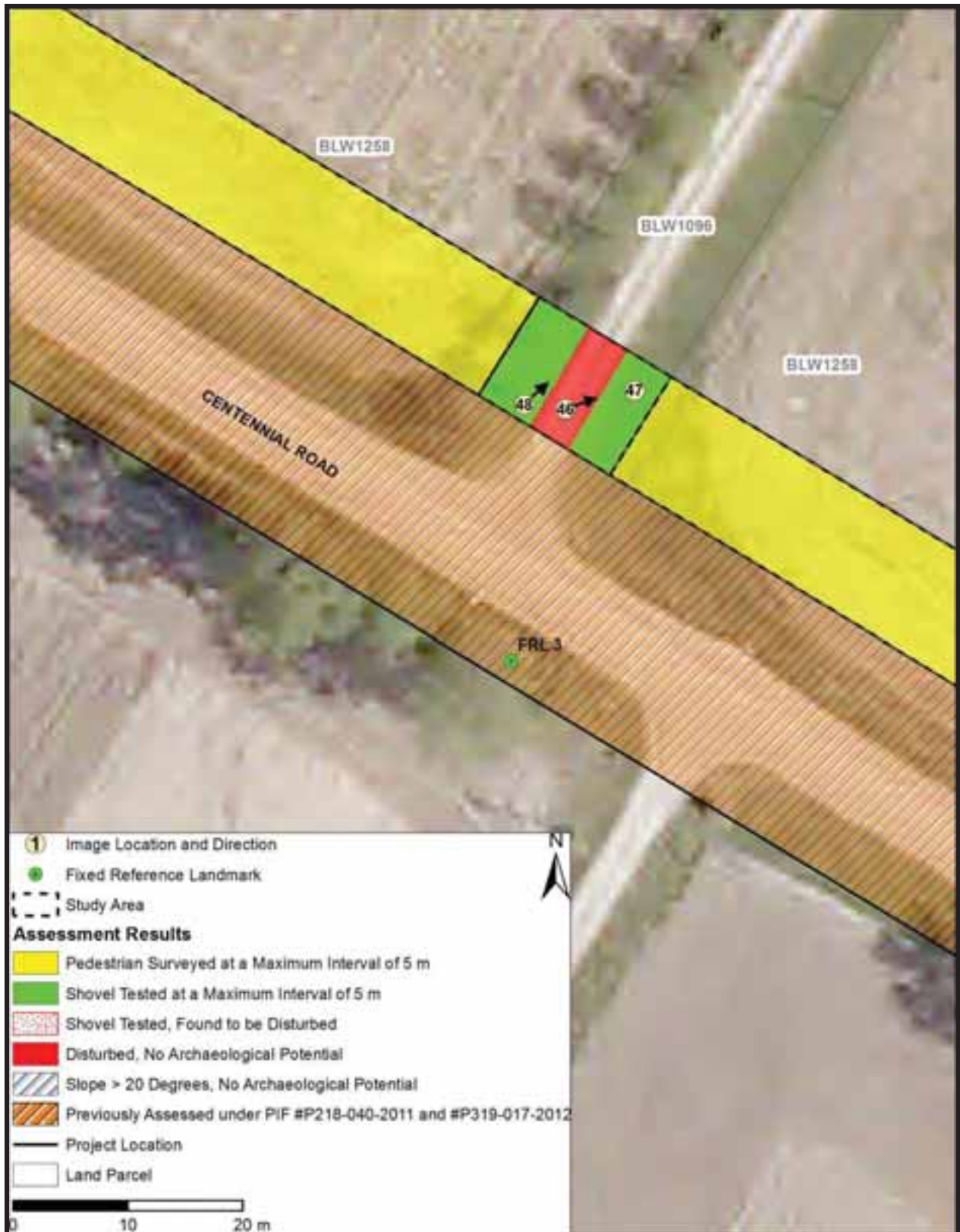
Map 39: Stage 2 Assessment Results – Field Methods and Images for BLW1069
(Base Imagery Provided by NextEra)



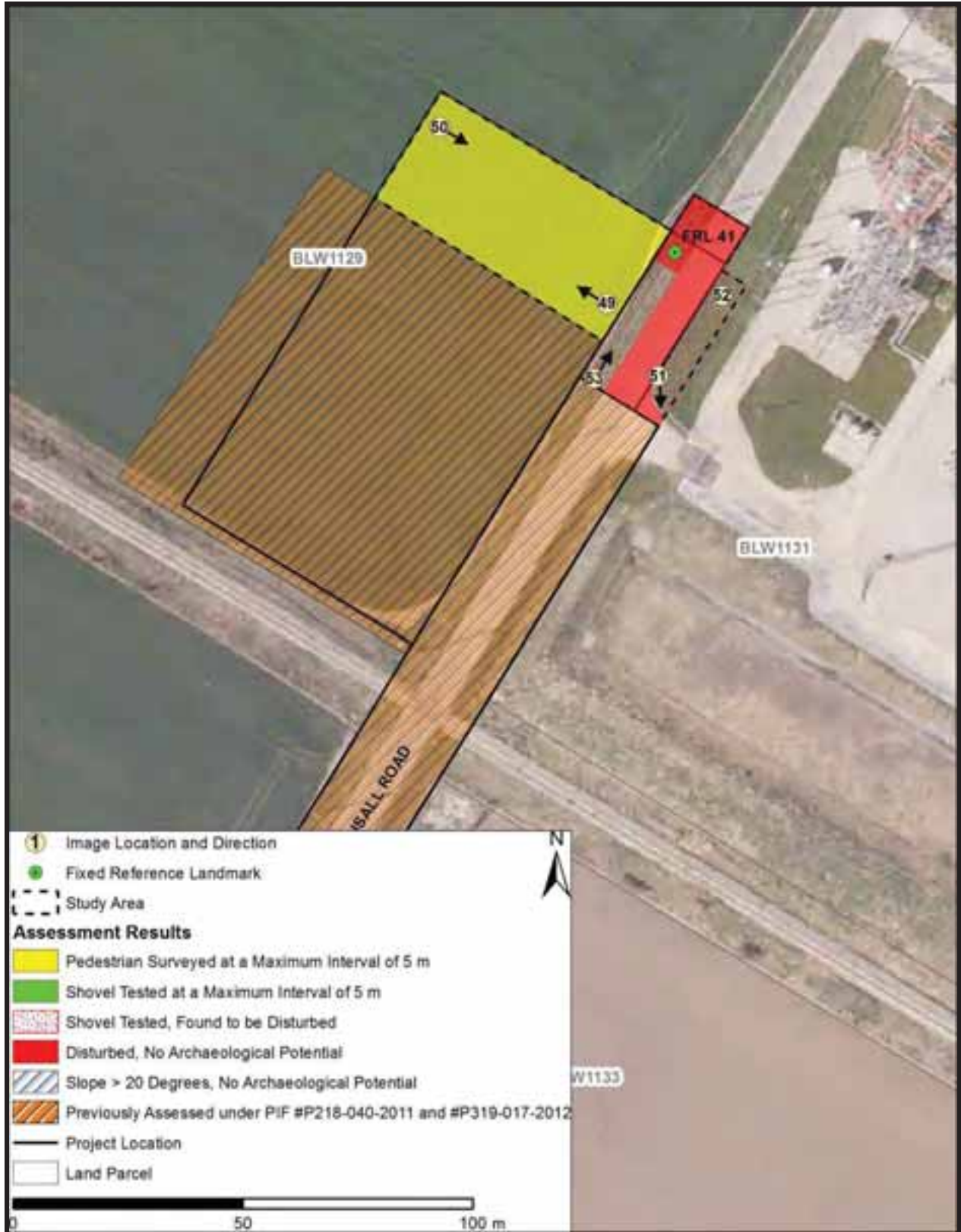
**Map 40: Stage 2 Assessment Results – Field Methods and Images for BLW1075/1542
(Base Imagery Provided by NextEra)**



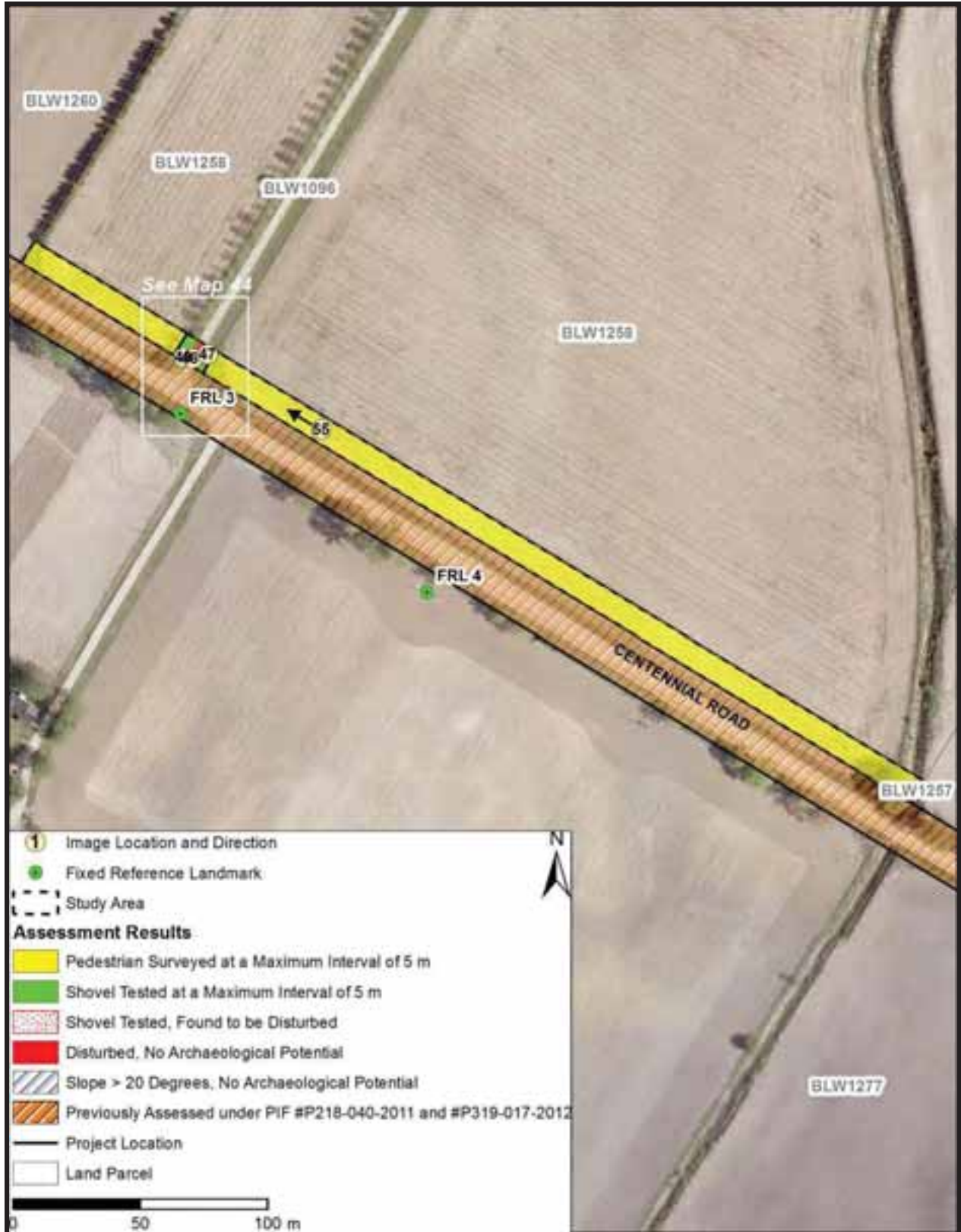




Map 43: Stage 2 Assessment Results – Field Methods and Images for BLW1096
(Base Imagery Provided by NextEra)

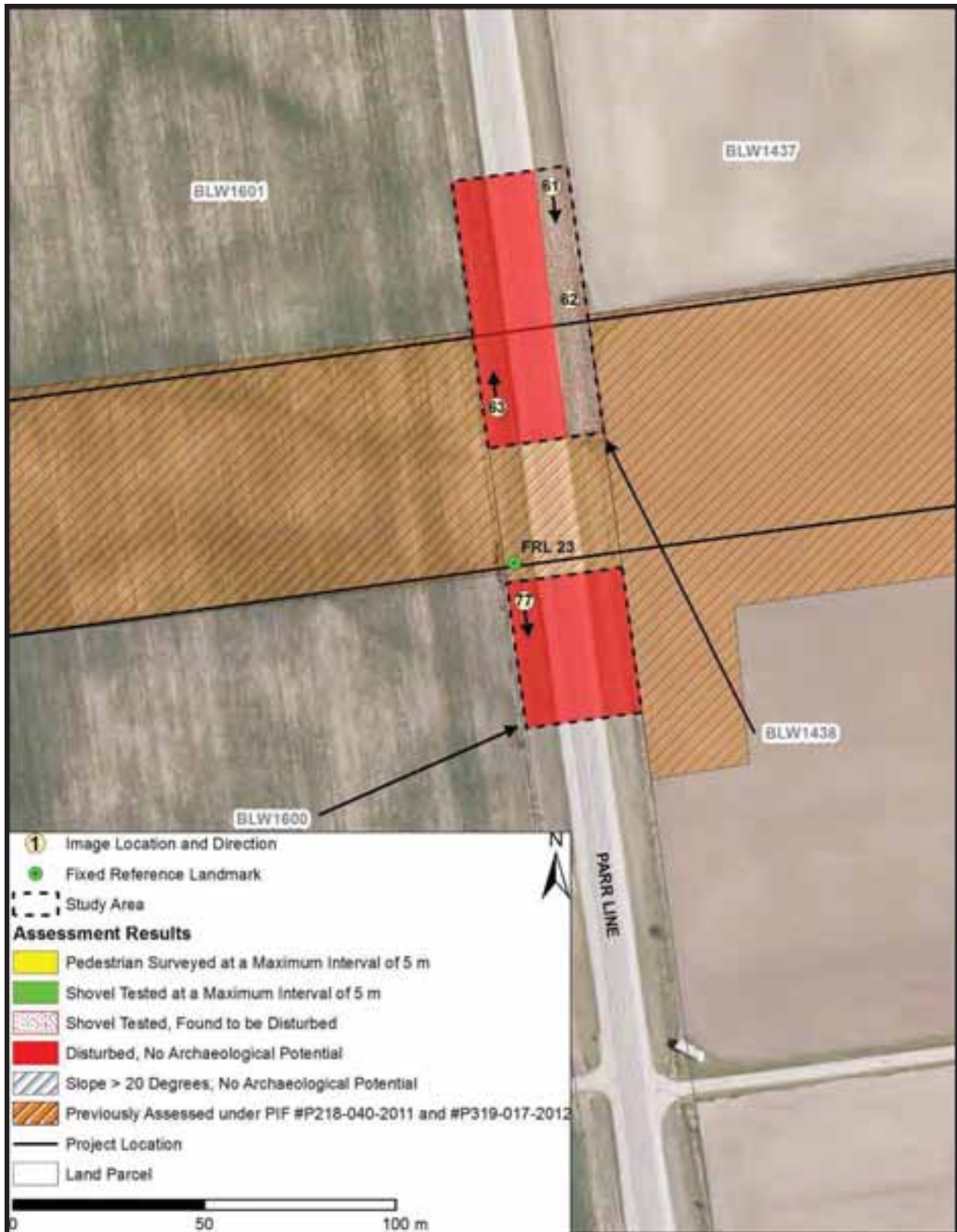


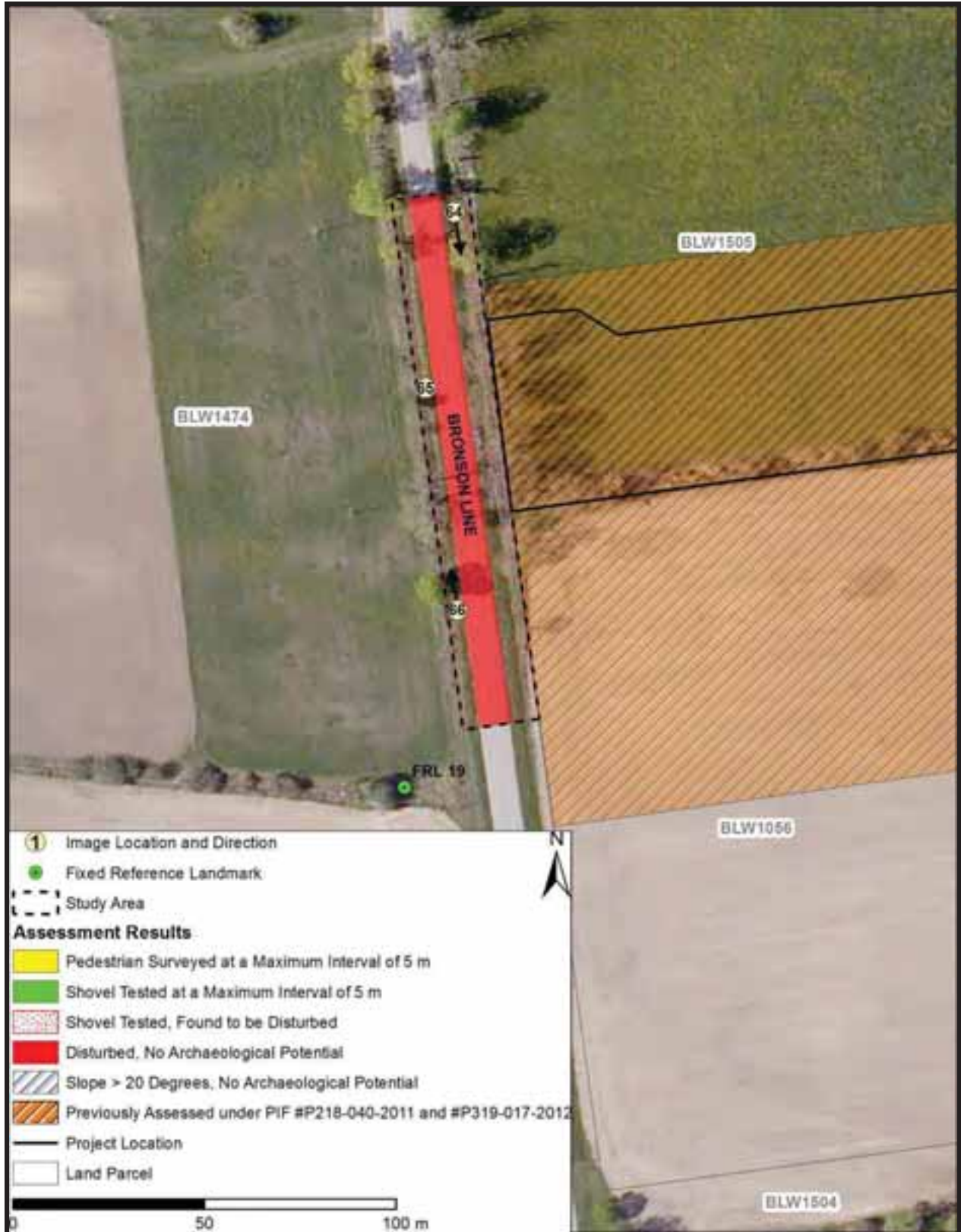
Map 44: Stage 2 Assessment Results – Field Methods and Images for BLW1129
(Base Imagery Provided by NextEra)



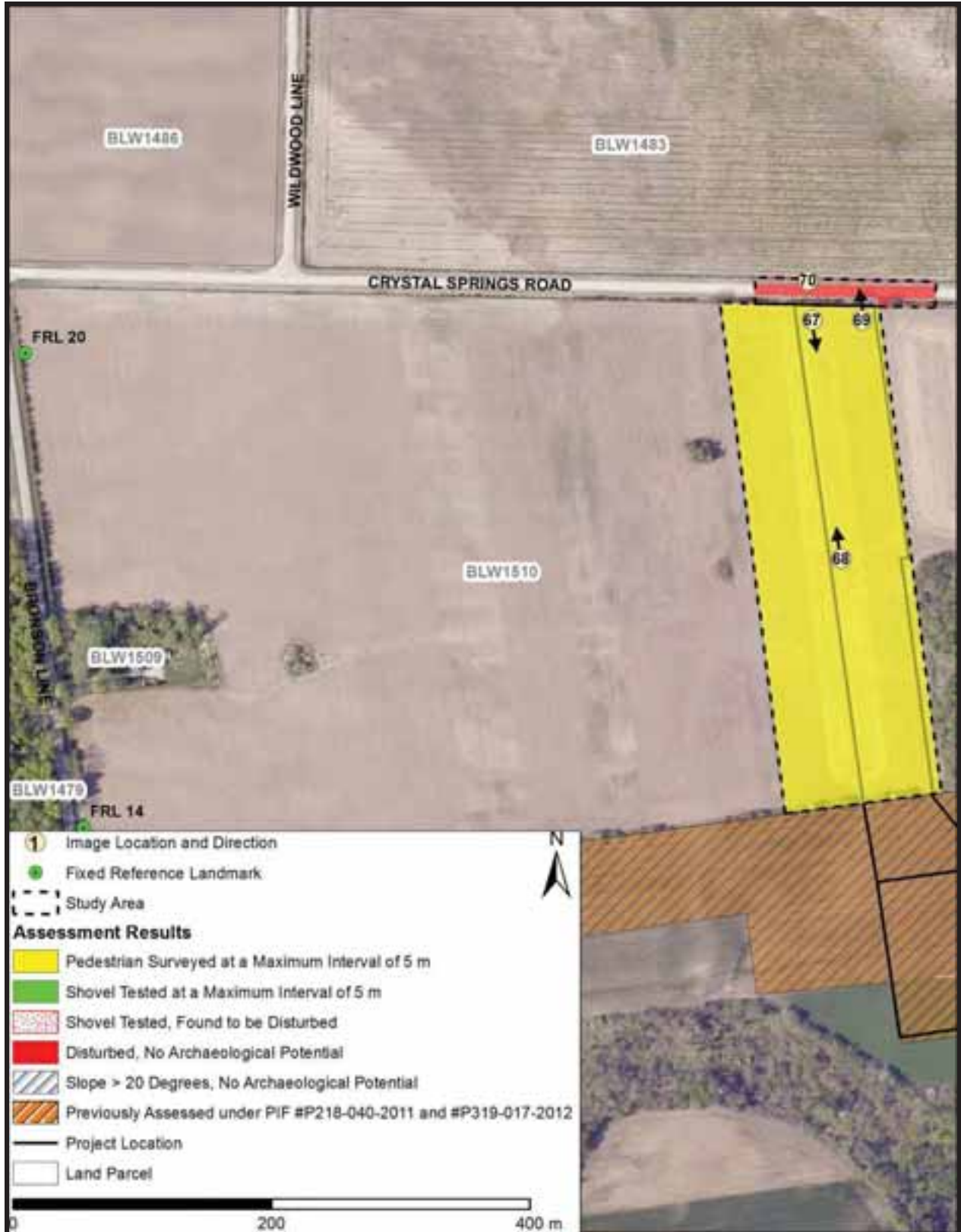


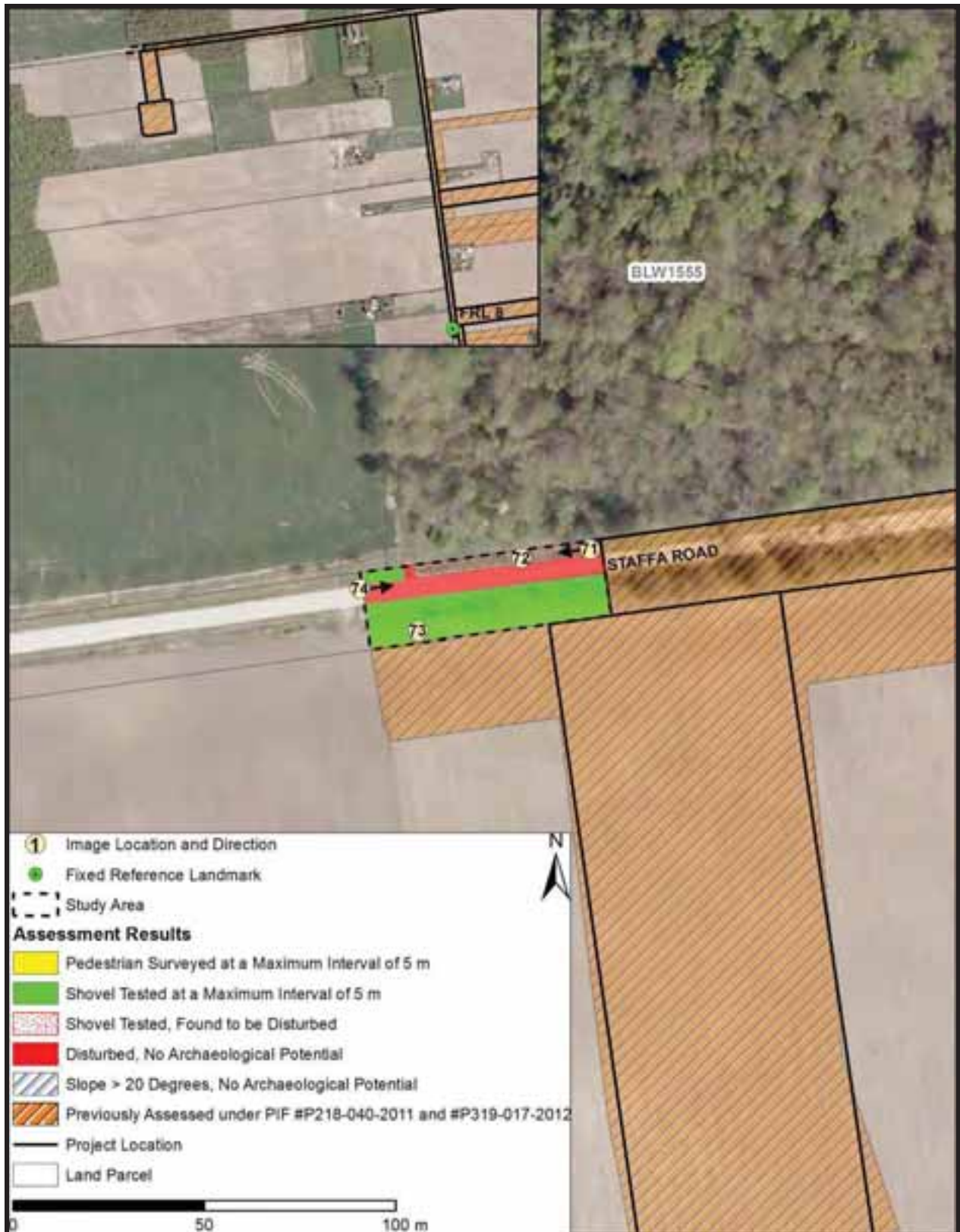
Map 46: Stage 2 Assessment Results – Field Methods and Images for BLW1261
(Base Imagery Provided by NextEra)



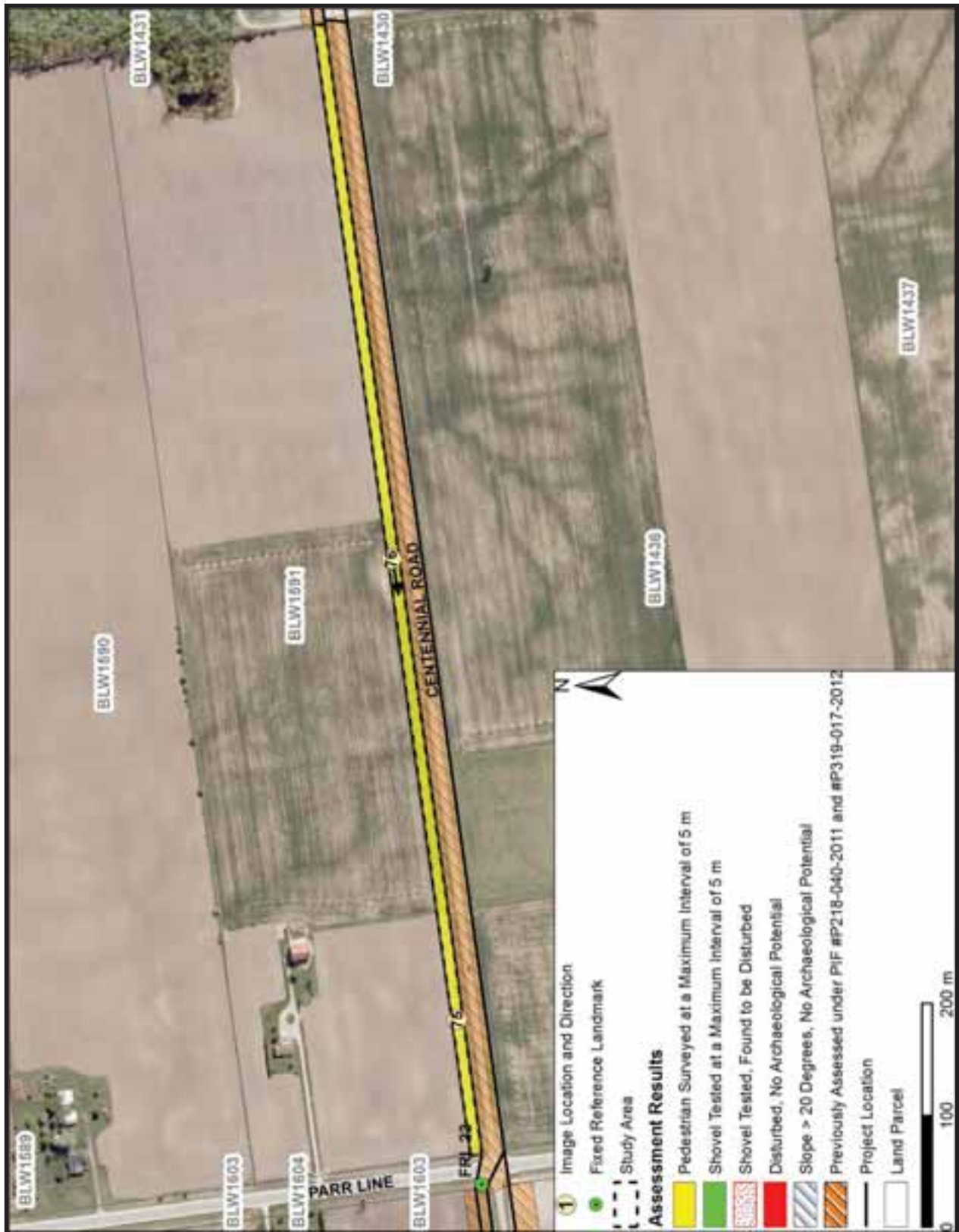


Map 48: Stage 2 Assessment Results – Field Methods and Images for BLW1505
(Base Imagery Provided by NextEra)

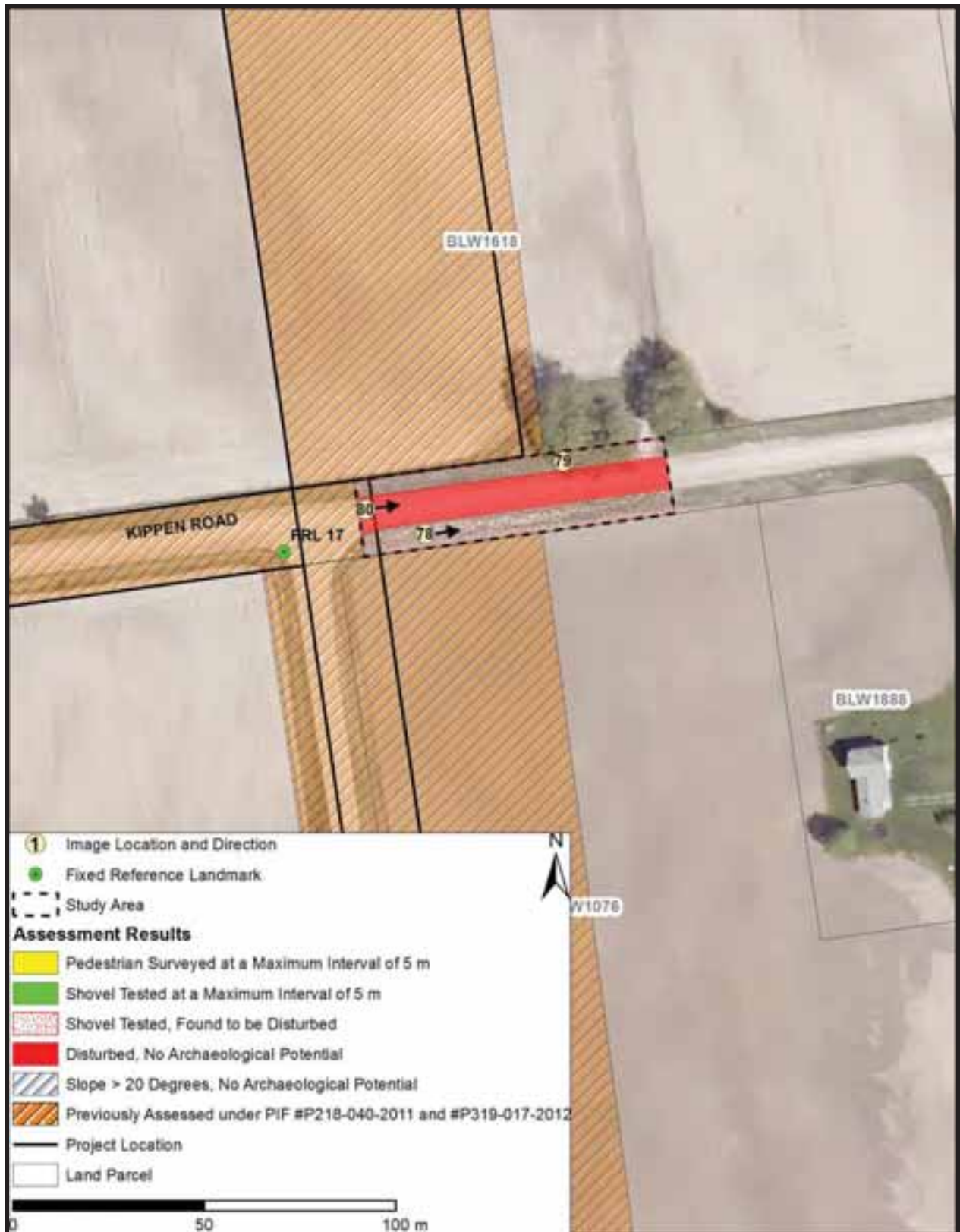




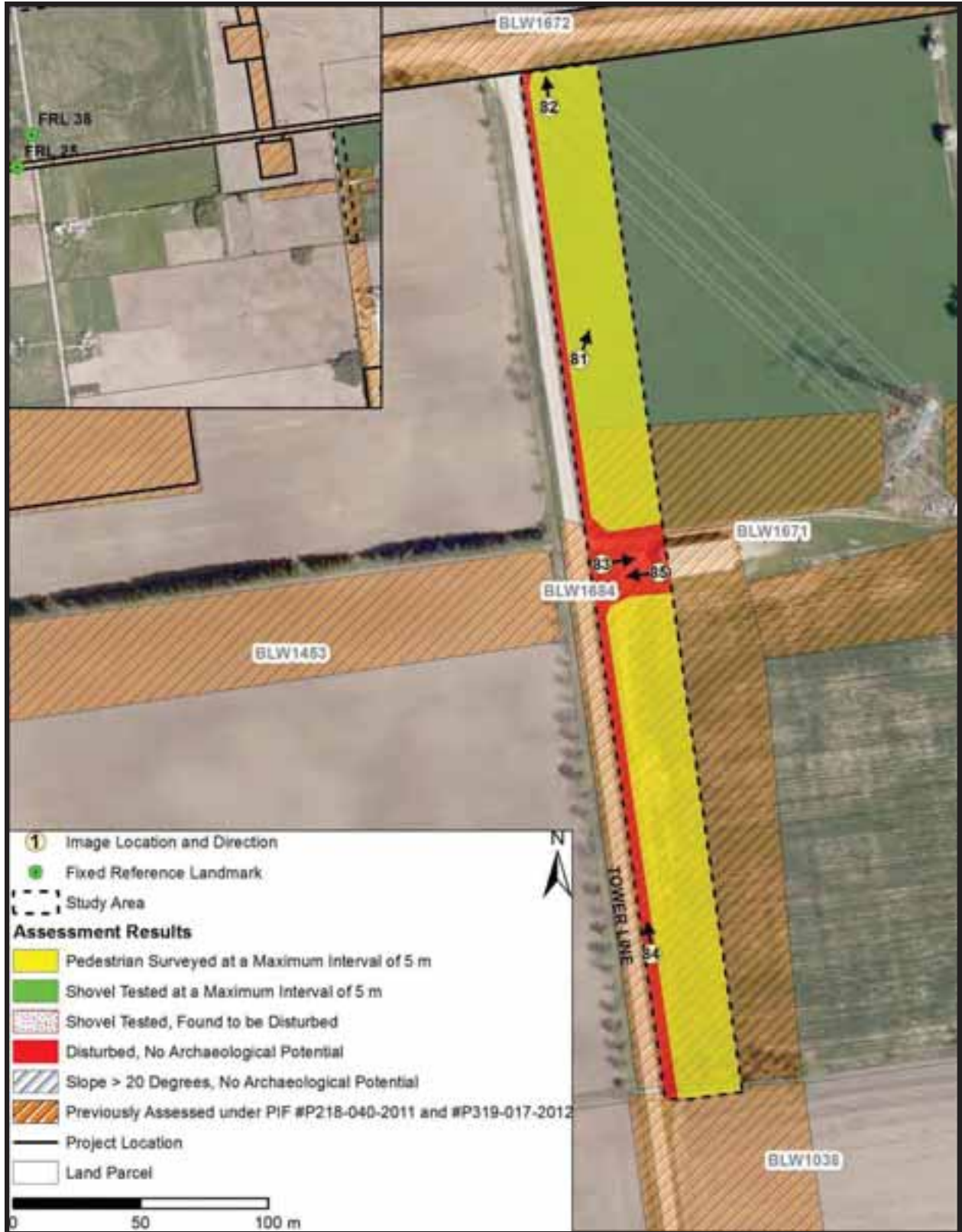
Map 50: Stage 2 Assessment Results – Field Methods and Images for BLW1557
(Base Imagery Provided by NextEra)



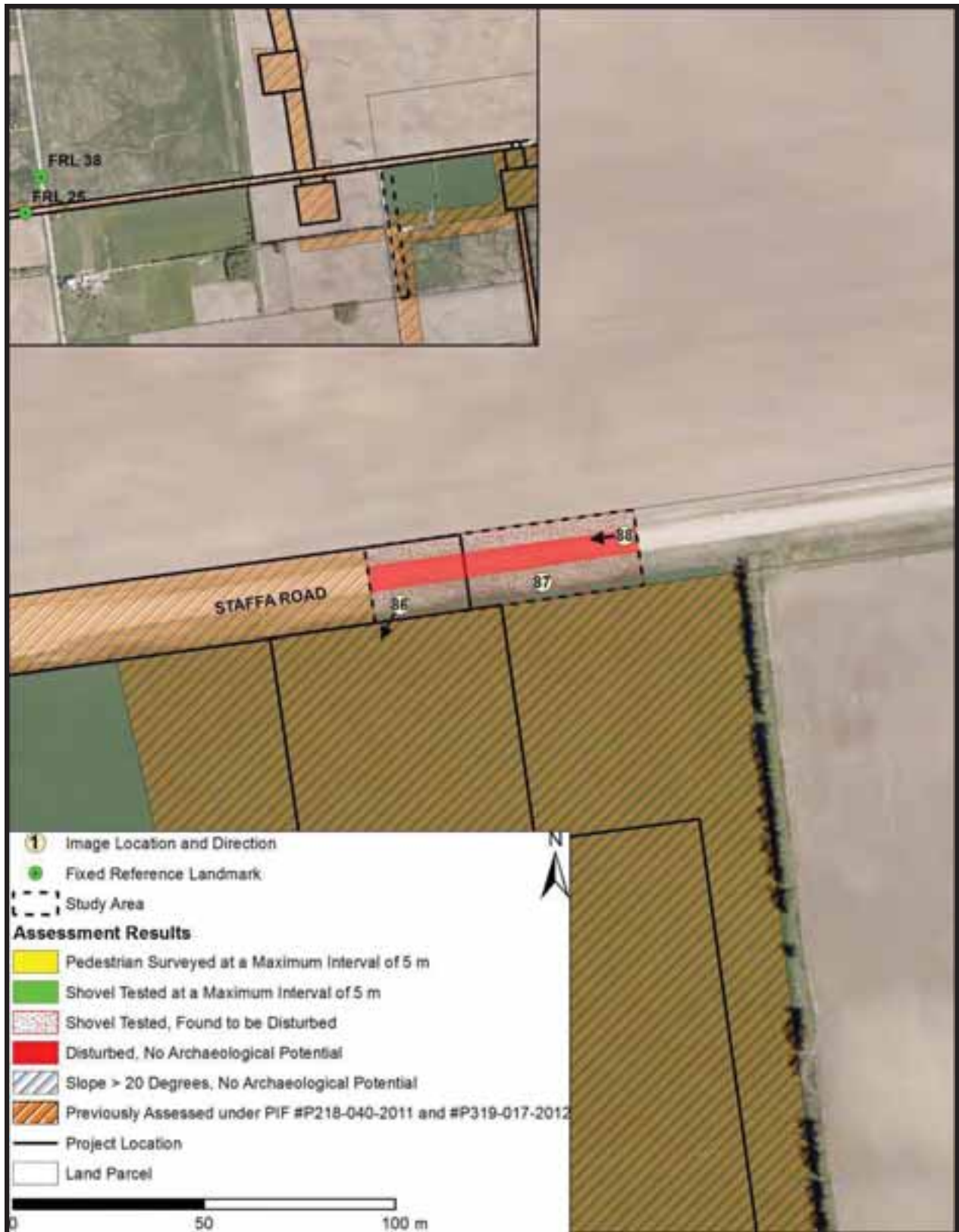
Map 51: Stage 2 Assessment Results – Field Methods and Images for BLW1591
 (Base Imagery Provided by NextEra)



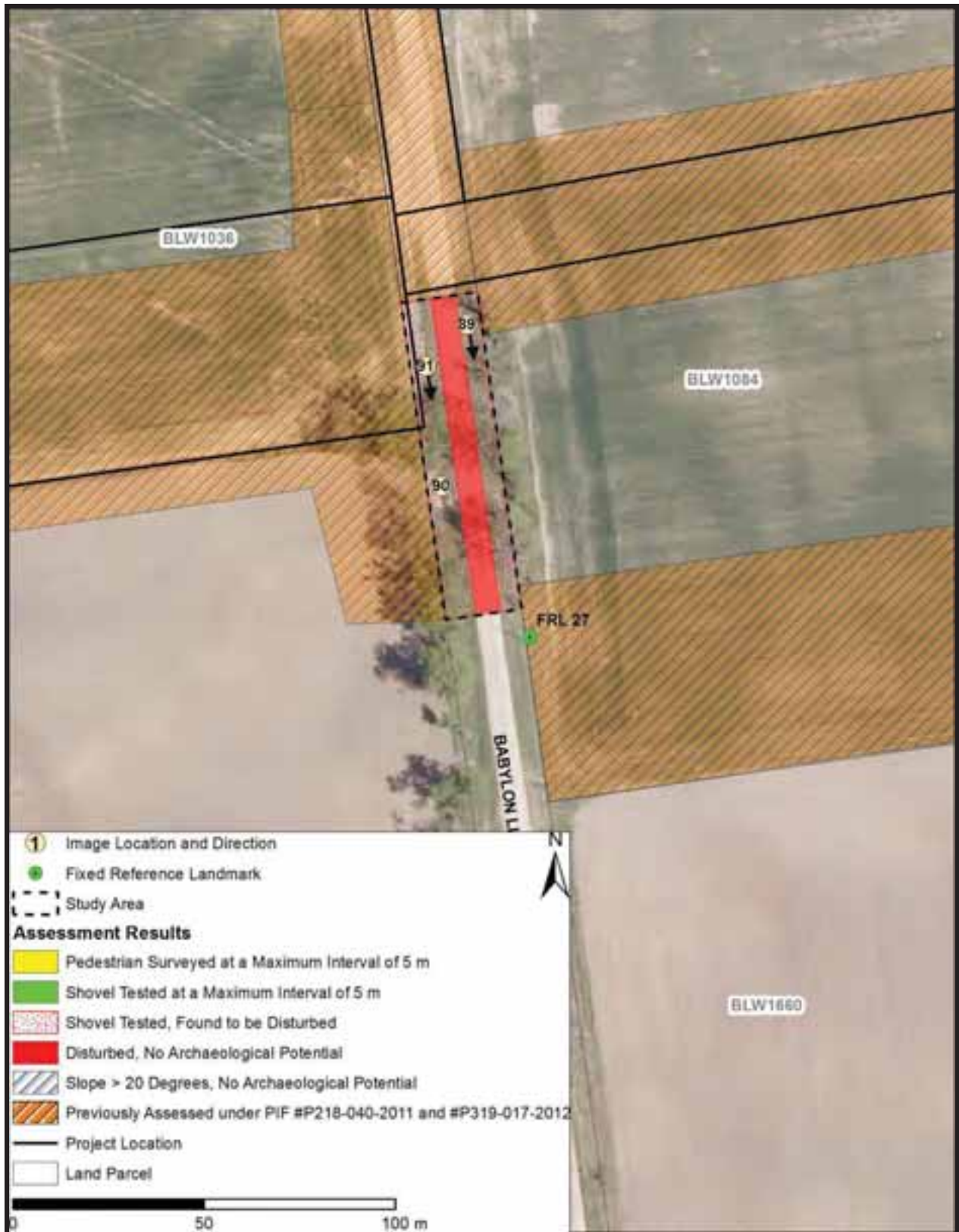
Map 52: Stage 2 Assessment Results – Field Methods and Images for BLW1618
 (Base Imagery Provided by NextEra)



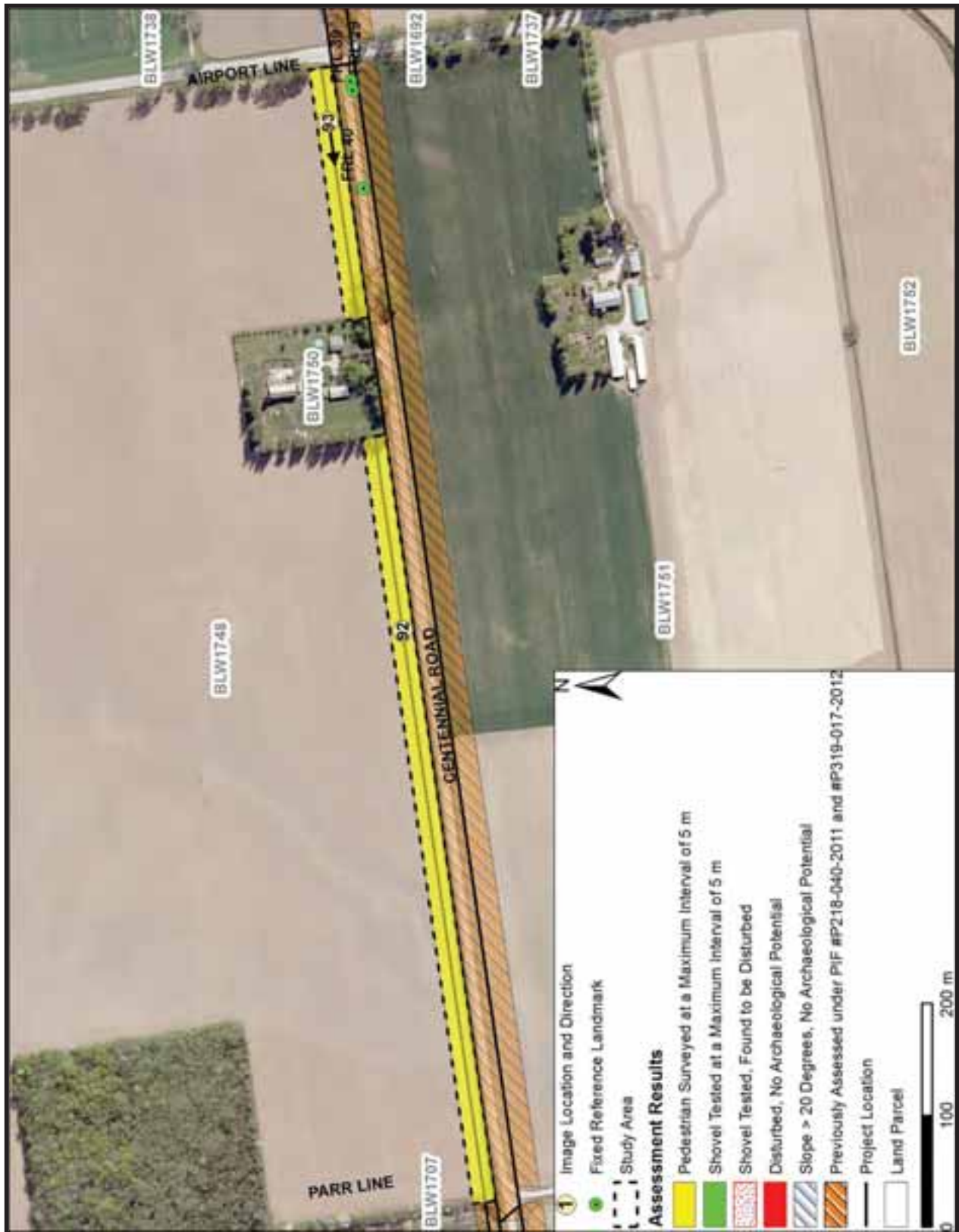
Map 53: Stage 2 Assessment Results – Field Methods and Images for BLW1671 (Additional Lands)
 (Base Imagery Provided by NextEra)



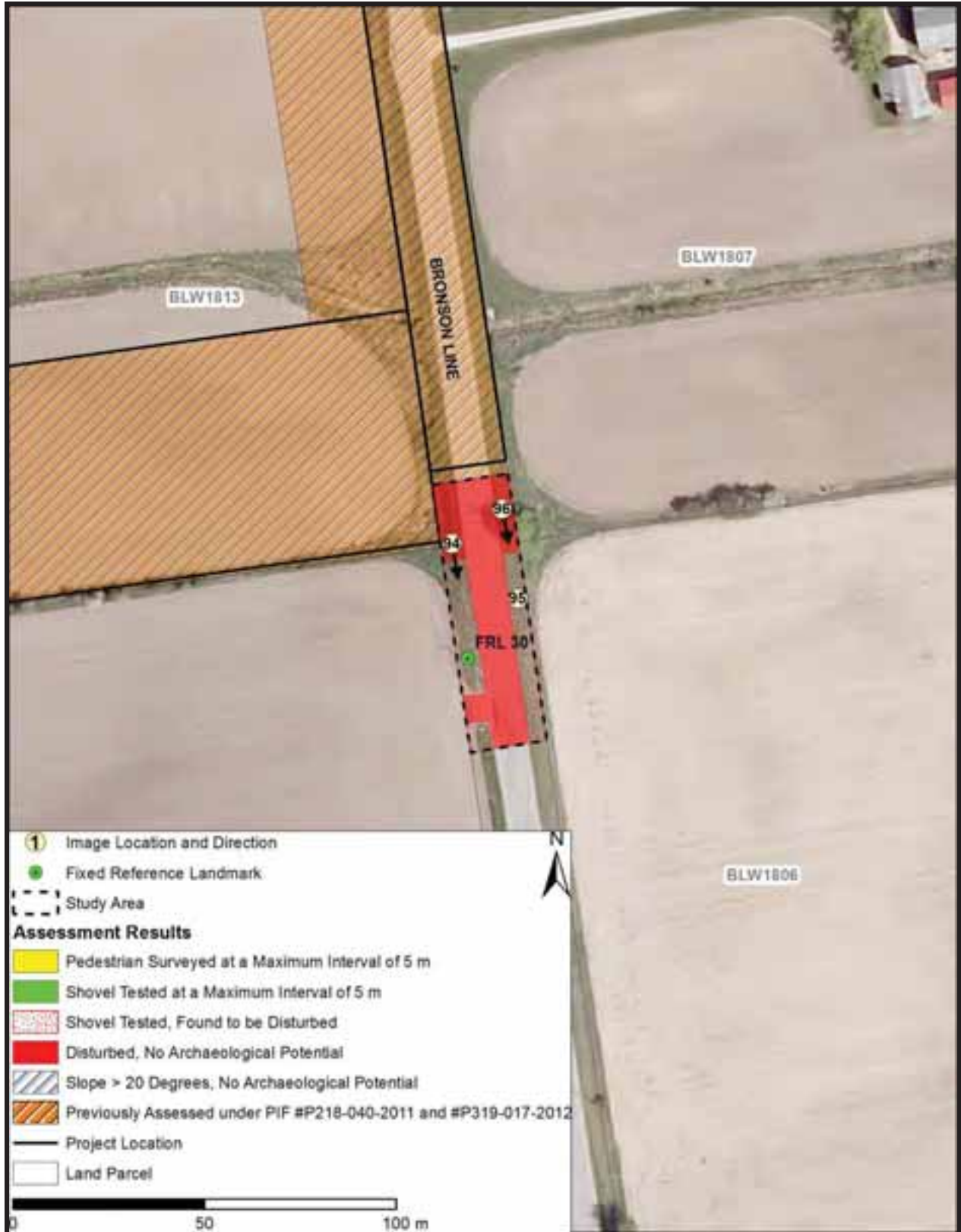
Map 54: Stage 2 Assessment Results – Field Methods and Images for BLW1671 (ROW)
(Base Imagery Provided by NextEra)



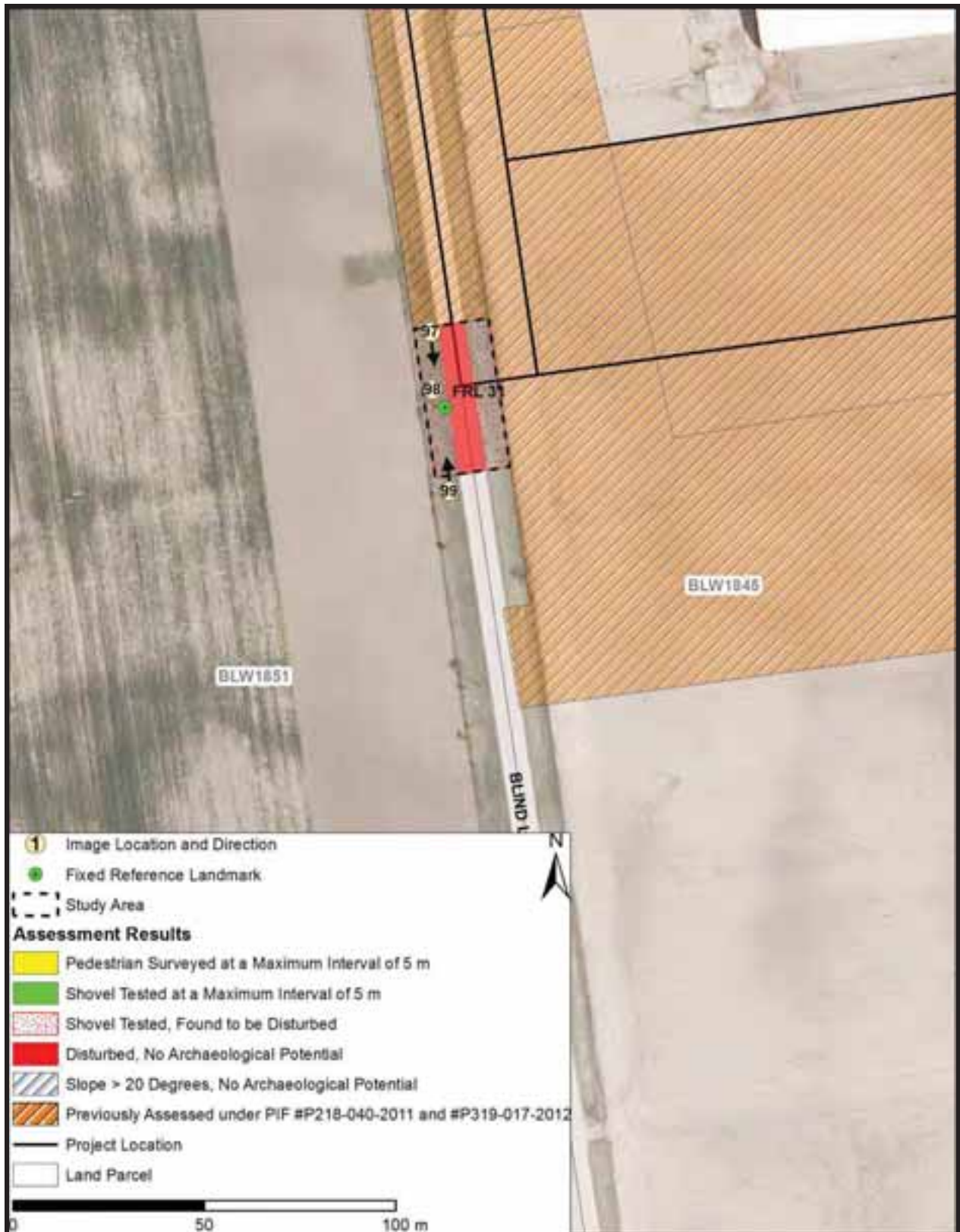
**Map 55: Stage 2 Assessment Results – Field Methods and Images for BLW1676
(Base Imagery Provided by NextEra)**

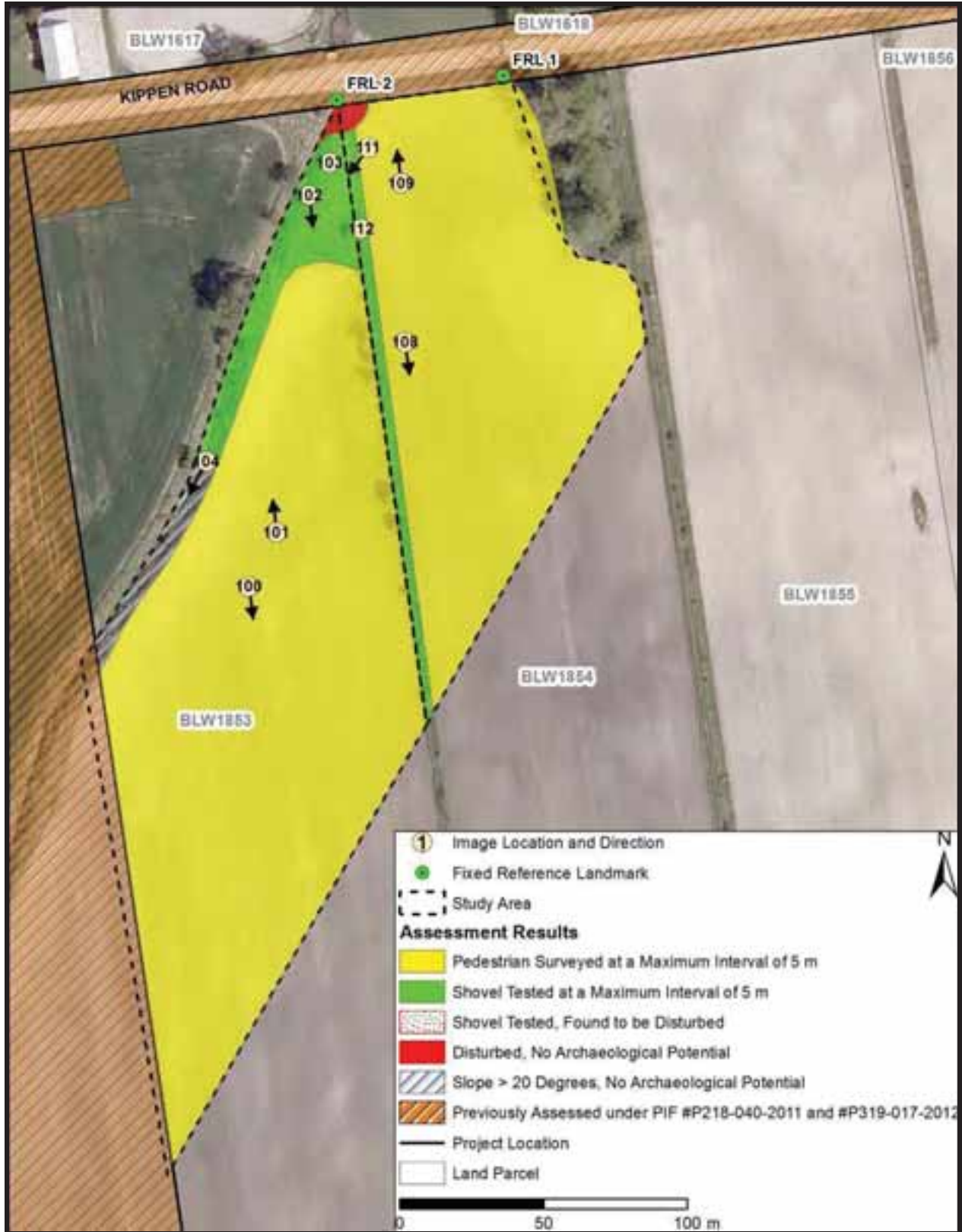


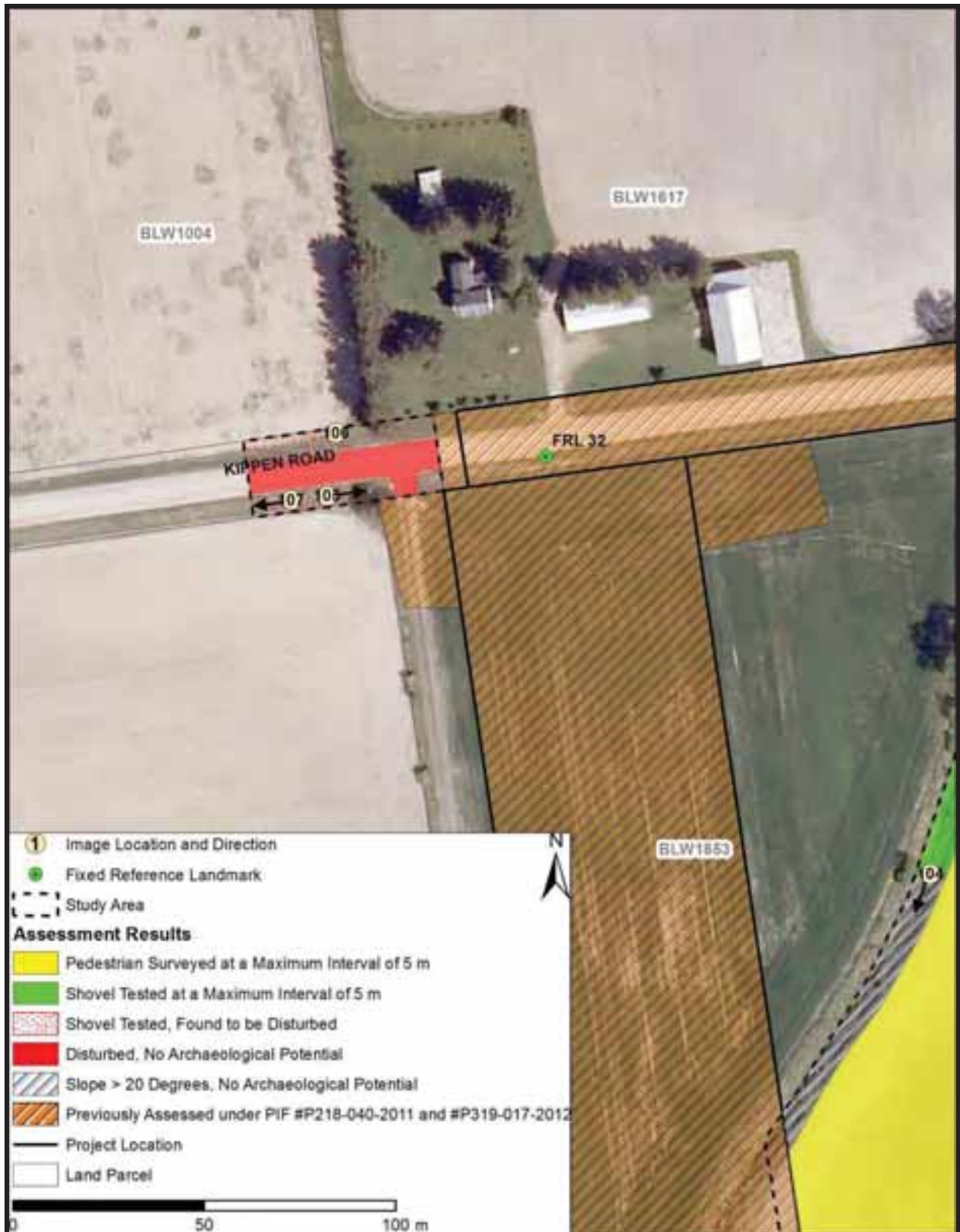
Map 56: Stage 2 Assessment Results – Field Methods and Images for BLW1748
 (Base Imagery Provided by NextEra)



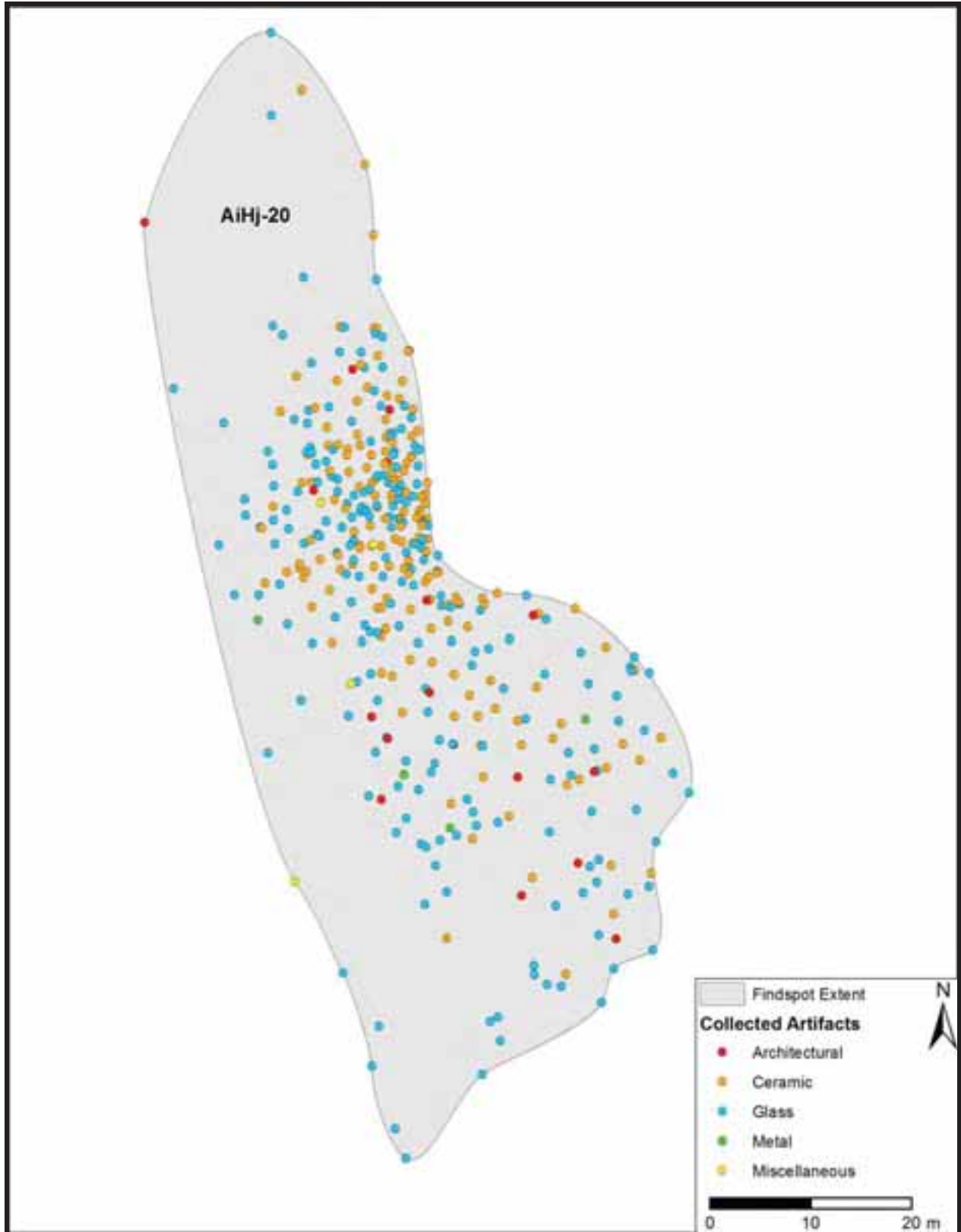
Map 57: Stage 2 Assessment Results – Field Methods and Images for BLW1813
(Base Imagery Provided by NextEra)



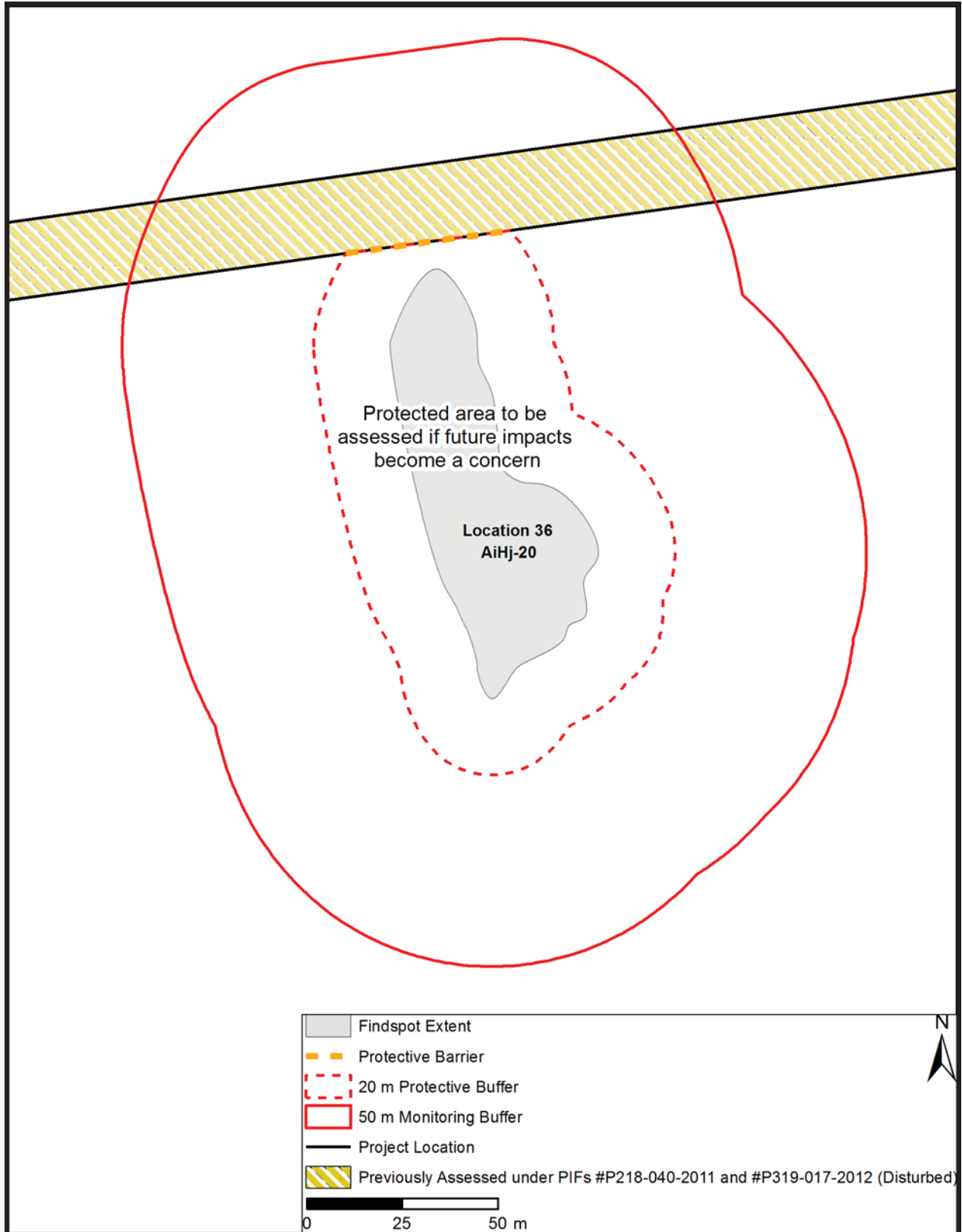




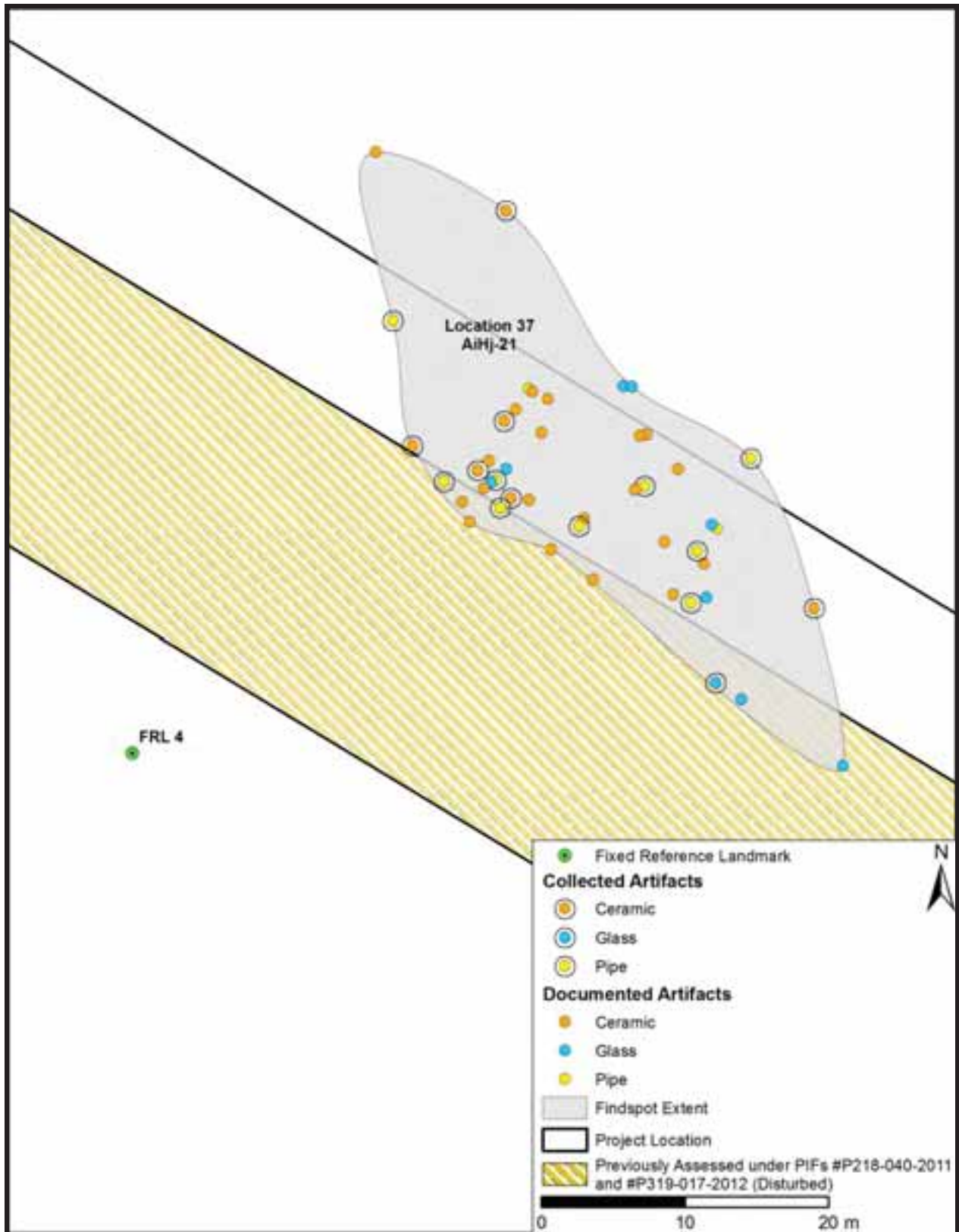
Map 60: Stage 2 Assessment Results – Field Methods and Images for BLW1853 (ROW)
(Base Imagery Provided by NextEra)



Map 61: Stage 2 Assessment Results – Location 36
(Detailed Site Location Information in Supplementary Documentation)



Map 62: Recommendation for Avoidance and Protection – Location 36
(Detailed Site Location Information in Supplementary Documentation)



Map 63: Stage 2 Assessment Results – Location 37
(Detailed Site Location Information in Supplementary Documentation)

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2013e **Stage 3 Site-Specific Assessment, Location 24 (AiHj-9), Bluewater Wind Energy Centre, FIT-FJI7S7X, Municipality of Bluewater, Part of Lot 24, North Boundary, Geographic Township of Hay, Huron County, Ontario**. PIF #P089-027-2013. Archaeological Research Associates Ltd.

2013f **Stage 3 Site-Specific Assessment, Location 25 (AjHj-14), Bluewater Wind Energy Centre, FIT-FJI7S7X, Municipality of Bluewater, Part of Lot 17, Concession 9, Geographic Township of Stanley, Huron County, Ontario**. PIF #P089-028-2013. Archaeological Research Associates Ltd.

2013g **Stage 3 Site-Specific Assessment, Location 29 (AjHj-16), Bluewater Wind Energy Centre, FIT-FJI7S7X, Municipality of Bluewater, Part of Lot 15, Concession 9, Geographic Township of Stanley, Huron County, Ontario**. PIF #P089-031-2013. Archaeological Research Associates Ltd.

2013h **Stage 3 Site-Specific Assessment, Location 30 (AjHi-12), Bluewater Wind Energy Centre, FIT-FJI7S7X, Municipality of Huron East, Part of Lot 23, Concession 4 ELR, Geographic Township of Tuckersmith, Huron County, Ontario**. PIF #P007-544-2013. Archaeological Research Associates Ltd.

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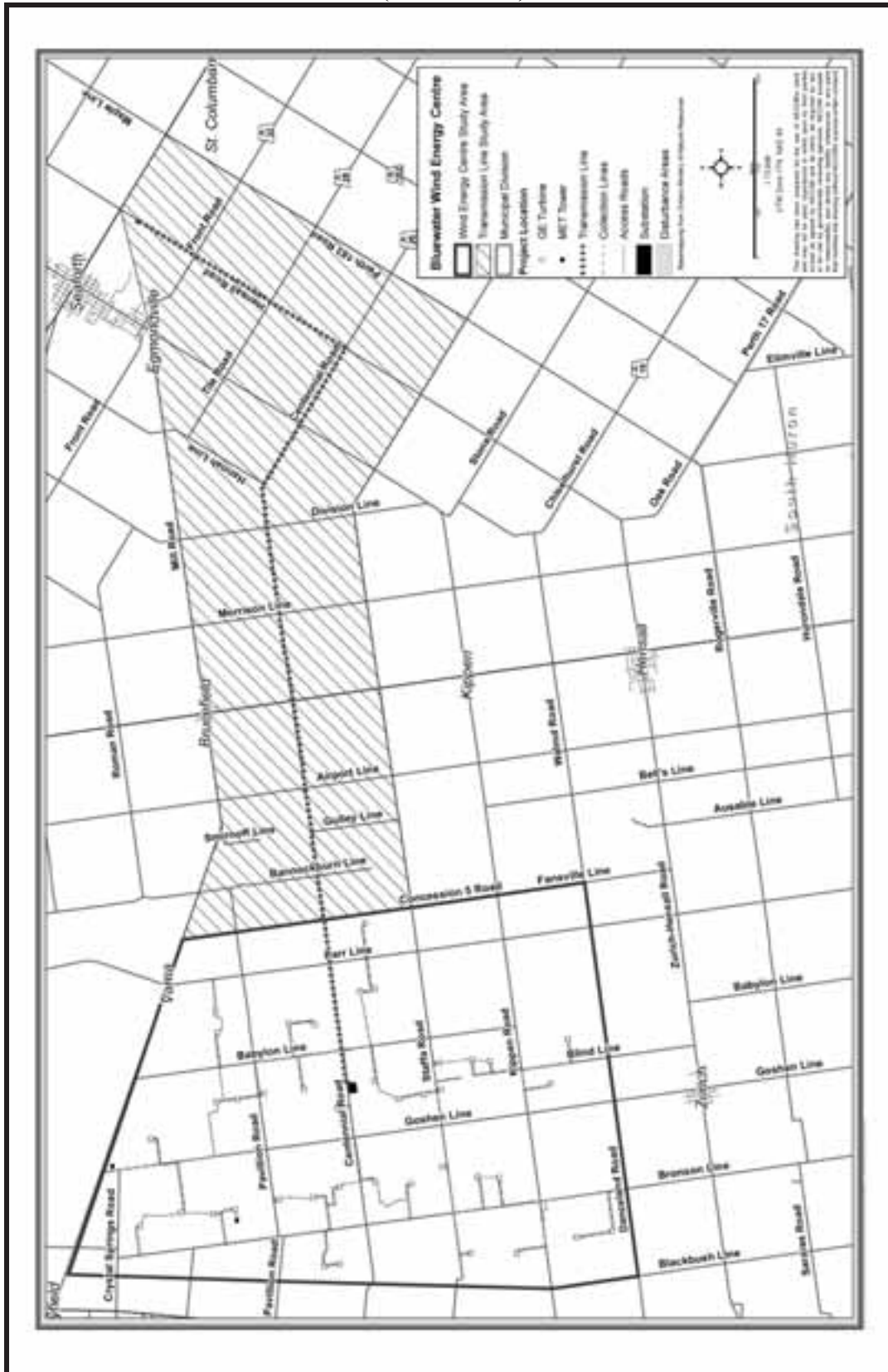
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APPENDICES

**Appendix A: Project Mapping for the Bluewater Wind Energy Centre
(NextEra 2013)**



Appendix B: Artifact Glossary – Architectural Group

Cut Nail: Manufactured by slicing thin sheets of iron, cut nails are characterized by a rectangular cross-section (Nelson 1968). Cut nails began to replace their predecessor wrought nails ca.1830. Used throughout the remainder of the 19th century, the popularity of cut nails began to decline in the ca. 1890 (Adams 1995:105).

Drain Pipe and Tile (Clay): Drain tile was introduced into North America ca. 1835 and was later modernized through the invention of the tile extruder in England ca. 1840. It was after this that the manufacturing of the clay drain pipe via the tile extruder found its prominence in North America ca. 1862. The use of clay drain pipes began to decline after the introduction of the polyethylene (PE) pipe in the 1960s (Stuyt et al 2005:1).

Wire Nail: The production of wire nails began ca. 1890 (Adams 1995:105). Due to their relative cheapness, wire nails had completely replaced the use cut nails by the early 20th century (Nelson 1968).

Appendix C: Artifact Glossary – Ceramic Food Related Group

Bone China (General/Plain): Bone China is considered a soft paste porcelain composed of bone ash, feldspathic material and kaolin. It is pure white in colour and appears translucent under light (Carter N.D.; Miller 1991:11). Bone china appeared in Canada ca. 1777 and has remained in production since its invention (Collard 1967:168).

- **Decal Transfer (Over-Glaze):** Over-glaze decal transfer involves the application of a decorative feature or item (e.g., paper) to the glazed surface of a ceramic prior to firing the vessel (Miller 2000:13; Stelle 2001). The decal may be single colour or polychromatic. Over-glaze decal transfer was first introduced and applied to Bone China in 1890, and is still used today (Miller 2000:13; Stelle 2001).
- **“Liquid Gold” Gilded:** Building upon earlier gilding techniques, gold is dissolved into an acid and then mixed with other chemicals to ensure the bright lustre of the decoration directly as it left the kiln (Miller 1991:10). Liquid gold gilding was first produced and applied to bone china in England in 1870 and is still used today (Miller 2000:13).

Ironstone (General/Plain): Also known as vitrified white earthenware and stone china, Ironstone is fired at significantly higher temperatures than earlier earthenwares, and as a result is characterized by a harder and thicker body (Richardson 2013). Plain Ironstone was first introduced in England ca. 1800, but was not established in the Canadian market until ca. 1820s when it became a frequent item at auction houses. It is still produced today (Collard 1984:126).

Decoration upon this type of ware occurs predominantly in the form of moulding, although the use of coloured glaze and/or transfer printing is not uncommon (Adams 1995:102). Unfortunately, moulding alone does not aid in assigning a date of manufacture.

- **Alfred Meakin:** Alfred Meakin Ltd. potter works was established in 1875 and operated in Tunstall, England. Alfred Meakin died in 1904 and was succeeded by his sons who sold the company to their uncle Robert Johnson who continued the company until 1976 when it became Myott-Meakin (Birks 2013).
- **Mellor, Taylor & Co. (Fuschsia with Band):** The ceramic manufacturer Mellor, Taylor & Co. had many ceramic collection lines exhibiting various designs. The depiction of a fuschia flowers with a band was a part of the Skinner collection from 1880–1904 (Dieringer and Dieringer 2001:139).
- **Wheat Pattern:** This moulded pattern was popular on ironstone vessels dating ca. 1865–present (Kenyon 1987:25; Richardson 2013). Wheat pattern is a moulded grain motif that depicts the heads of grain and grass-like leaves.

Porcelain (General/Plain): Porcelain is comprised of a white, fine-grained material that has been vitrified, often causing it to appear translucent. By the 1740s attempts to create soft paste porcelain were made to replicate Chinese Porcelain. The first true hard paste porcelain was not created until 1768. English porcelain did not make its way into North America until post-1768 with its height of popularity dating into the second half of the 19th century (Miller 1991:11; Collard 1984:167).

Stoneware (General/Plain): Next to porcelain, stoneware comprises one of the least porous ceramics found on archaeological sites in Ontario. The fabric of this ceramic is extremely hard and durable, and generally presents as grey, buff or yellow-red in colour (Adams 1995:101). Because of its relative density, stoneware was used for primarily utilitarian purposes (i.e., storage, crockery, ink wells). A more poorly made stoneware was being produced in England ca.1630 and shipped over to North America, but shortly before 1840 "Improved Stoneware" (stoneware with perfected glazes) became common place on the Canadian Market (Miller 2000:10; Collard 1984:139).

Whiteware (General/Plain): Whiteware (plain) is recognizable by its very smooth, white glaze devoid of tinting or pooling. First produced in England ca. 1810, whiteware had become the most popular ceramic form in Ontario ca. 1830 (Adams 1995:102); as a result, this ware is also the most commonly occurring ceramic artifact recovered from archaeological sites in the province.

- **Transfer Printed/Polychrome Transfer:** Ceramics decorated via transfer printing are very commonly found on archaeological sites throughout Ontario. In this technique, a print design is engraved into a copper plate, which is subsequently filled with ink. A tissue is pressed against the plate to absorb the design, and is then pressed against a ceramic to transfer the image. The vessel is then glazed and fired (Adams 1995:103; Samford 1997:2). The invention of whiteware ca. 1830 was virtually concurrent with innovations in transfer print technology, resulting in an expansion of the available colour palette (including purple, red and green) for use in decoration (Miller 2000:13). By 1850, however, blue, black and brown transfer prints had become the norm, and remained the most common colour motifs until ca. 1890 (Adams 1995:103).

- **Willow Pattern:** Thomas Minton first developed the British "willow" pattern print in 1792. Known for its stylistic story-telling, willow pattern decoration typically includes some combination of a bridge, a cottage or mini-pagoda, three figures, a boat and two birds; these elements are then generally given a geometrical border design (Richardson 2013). On whiteware, the willow pattern is typically done by transfer print, dating from ca. 1830 and continued in popularity into the 20th century (Kenyon 1991:10).

Yellowware

- **Albany Slip:** Albany slip is comprised of a mixture of natural clays and is generally dark chocolate brown in colour (Stelle 2001). Water is then added to the clay mixture prior to stoneware application, and can be applied by dipping or swirling (Stelle 2001). This decoration on Yellowware generally dates from ca. 1842–1920 (Kenyon 1987:25; Miller 2000:10).

Appendix D: Artifact Glossary – Ceramic Non-Food Related Group

Bone China (General/Plain): Bone China is considered a soft paste porcelain composed of bone ash, feldspathic material and kaolin. It is pure white in colour and appears translucent under light (Carter N.D.; Miller 1991:11). Bone china appeared in Canada ca. 1777 and has remained in production since its invention (Collard 1967:168).

- **Decal Transfer (Over-Glaze):** Over-glaze decal transfer involves the application of a decorative feature or item (ex. paper) to the glazed surface of a ceramic prior to firing the vessel (Miller 2000:13; Stelle 2001). The decal may be single colour or polychromatic. Over-glaze decal transfer was first introduced and applied to Bone China in 1890, and is still used today (Miller 2000:13; Stelle 2001).
- **Stoneware (General/Plain):** Next to porcelain, stoneware comprises one of the least porous ceramics found on archaeological sites in Ontario. The fabric of this ceramic is extremely hard and durable, and generally presents as grey, buff or yellow-red in colour (Adams 1995:101). Because of its relative density, stoneware was used for primarily utilitarian purposes (i.e., storage, crockery, ink wells). A more poorly made stoneware was being produced in England ca.1630 and shipped over to North America, but shortly before 1840 "Improved Stoneware" (stoneware with perfected glazes) became common place on the Canadian Market (Miller 2000:10; Collard 1984:139).

White Clay

- **R. Bannerman:** Based out of Montreal, the Bannerman Brothers produced clay pipes bearing a maker's mark from 1858 through to 1902. More specifically, pipes manufactured by the Bannerman Brothers from 1858–1870 bear the mark "R. Bannerman/Montreal," and those produced from 1870–1902 bear the mark "Bannerman/Montreal" (Adams 1995:Table 1; Smith 2008).

Appendix E: Artifact Glossary – Glass Food Related Group

Applied Finish: Also referred to as a “true” finish or “lip” finish, applied finishes are added to the neck of a bottle after it has been severed from a blow pipe. Unlike a tooled finish, applied finishes involve the physical addition of a strip or string of hot glass at or immediately below the blowpipe removal point. Often, the bottle will be re-heated to ensure the finish remains soft and workable as the finish is applied and tooled to the desired shape and dimension. Applied finishes occur primarily on glasswares manufactured from ca. 1830–1885 (Lindsey 2013).

Brandy and Wine Finish: This type of finish was common on many types of bottles, in particular liqueur bottles, flasks, and many types of medicinal bottles. The *brandy and wine finish* was manufactured between the 1860s–1920s (Lindsey 2013).

Cup-bottom mould: Cup-bottom moulding involves the use of three (or more) moulding parts, where the centre of the base is comprised of a separate base plate with a shallow, cupped depression. The two (or more) additional parts are then used to construct the rest of the vessel, with seams generally evident around the heel of the vessel where the walls join the cup bottom (Lindsey 2013). Such vessels are identifiable if the base or heel is recovered. Cup-bottom moulds appear on both mould blown and early machine-made vessels, with the specific mode of production determinable based upon seam size and finish (Lindsey 2013). The earliest examples of cup-bottom moulding appear in Ontario as early as 1850, but peaked in usage from ca. 1880 until the technique was replaced by mechanization ca. 1920 (Jones and Sullivan 1985:43).

Dominion Glass (Maker’s Mark): Glasswares manufactured by the Dominion Glass Company typically display a distinctive maker’s mark: the letter “D” embossed within a diamond outline (King 1987:248). Although the Dominion Glass Company was first formed in 1913 through the union of a number of smaller subsidiary manufacturers, the company did not adopt this unified maker’s mark until 1928.

Double Ring Finish: The *double ring finish* was a popular finish on a wide array of patent and proprietary medicine bottles, as well as liquor flasks, food bottles, pictorial flasks, and the occasional ink bottle. This style of finish, between ca. 1840–1920s was one of the most popular and functional finishes used (Lindsey 2013).

Machine-Made: The late 19th century saw a shift towards automating the bottle making process worldwide. In this process, machine-blown air is used to blow glass into moulds (Jones and Sullivan 1985:35). Miller suggests that the first semi-automated wide-mouth storage glass production occurred in 1893, and that narrow mouth bottles followed closely after in 1899 (2000:8).

- **Owens Machine:** One of the most popular machines used in the earlier days of mechanized glass production was the “Owens Automatic Bottle Machine.” Owens-made bottles are identifiable by a combination of glass imperfections (i.e., bubbles, whittle marks and stretch marks) and a distinct suction scar mark left on the base of the bottle as a result of the production process. Owens Machine made bottles first went into production in 1905 and remained popular through to 1920 (Lindsey 2013).

Mould Blown: Mould blown bottles were manufactured by a skilled trader who blew molten glass into a desired form using the aid of a mould, as opposed to free-blowing the glass. This technique of glass vessel-making was widely practiced throughout the 19th century, although production did continue in a reduced capacity until 1920 (Lindsey 2013).

Press-and-Blow: Press-and-blow glass-making is an automated process wherein the raw molten glass (or parison) is pressed into a mould via a piston or plunger. Air is then blown into the mould by a machine to produce the vessel's final shape (Lindsey 2013). Press-and-blow techniques were often used in the manufacture of glassware and wide mouth bottles from ca. 1900–1940 (Lindsey 2013).

Pressed Glass: Pressed glass is produced when raw molten glass (or parison) is pressed into a mould via a piston or plunger. Typically used in the production of tablewares, pressed glass vessels were often made to imitate the latest designs in cut glass; however, it was also employed in the manufacture of milk bottles and wide-mouthed storage jars. First patented in 1825, the use of pressed non-lead glass became popular in Canada after 1860 (Jones and Sullivan 1985:35). Mass production of pressed glass began ca. 1875, with the material being marketed as a cheaper alternative to crystal, but declined in the 1930s with the closure of many glass tableware companies (King 1987:179–183; Miller 2000:7).

Solarized: Solarized, or manganese, glass possesses a distinctive pink or amethyst hue as a result of the application of decolourizing agents (i.e. manganese dioxide, selenium dioxide and/or arsenic oxide) reacting with ultraviolet light (Lindsey 2013). Although employed much earlier in Europe and the United States, in Ontario this type of glass was not popular until 1880 and fell out of popularity ca. 1920 (Adams 1995:100).

Turn-Paste Moulded: Glass bottles manufactured using turn-paste moulds are cylindrical in horizontal-cross section and symmetrical in vertical cross-section. The inside surface of the turn-paste mould is treated with a paste; once glass has been poured and blown to fill the mould, this paste reduced friction, allowing the mould to spin independent of the glass vessel. As a result, vessels manufactured using a turn-paste mould do not have mould seams. Instead, the turn-paste mould often leaves a series of transverse striations (caused by the grinding effect of the paste on the glass' surface) around the outside of the vessel. Apart from these striations, bottles produced using a turn-paste mould have a very high shine and do not have any moulded lettering. Turn-paste moulds were most heavily used from ca. 1870–1920 (Jones and Sullivan 1985:30–31).

Appendix F: Artifact Glossary – Glass Non-Food Related Group

Crimped Lamp Chimney: Chimney lamp glass, or crimped lamp glass, was originally made using a hand held tool to incise lines, creating rough edges. Machine-made crimped glass went into production in 1879 (Miller 2000:15).

Cut Glass: Cut glass has been traced as far back as 1,500 BC, but did not gain ground in America until 1771 when the American Flint Glass Manufactory was established in Manheim, Pennsylvania (Roesel 1983). Within Canada, the Burlington Glass Works in Hamilton, Ontario

(1875–1909) was among the few companies capable of producing the heavy lead crystal glass used for cutting (Swan 1986). From the late 1800s–1940s, several other Canadian companies attempted to enter the cut glass market; however, the lack of heavy lead crystal glass and associated expense of importing duties discouraged production. As a result, much of the cut glass found in Ontario was actually manufactured in the United States where the cut glass industry was more prosperous (Swan 1986). Today leaded cut glass is produced in various countries around the world (Roesel 1983).

Milk Glass: White opaque glass, or “milk glass”, is created by adding a combination of either tin and zinc oxide, fluoride and phosphate, or calcium and phosphate-rich animal horns and bones to a raw glass medium (Lindsey 2013). Milk glass was used primarily in cosmetic and toiletry bottle production from ca. 1870–1920, but it also occasionally appears in tablewares, ink bottles and storage containers manufactured until the mid-20th century (Lindsey 2013).

Pressed Glass: Pressed glass is produced when raw molten glass (or parison) is pressed into a mould via a piston or plunger. Typically used in the production of tablewares, pressed glass vessels were often made to imitate the latest designs in cut glass; however, it was also employed in the manufacture of milk bottles and wide-mouthed storage jars. First patented in 1825, the use of pressed non-lead glass became popular in Canada after 1860 (Jones and Sullivan 1985:35). Mass production of pressed glass began ca. 1875, with the material being marketed as a cheaper alternative to crystal, but declined in the 1930s with the closure of many glass tableware companies (King 1987:179–183; Miller 2000:7).

Solarized: Solarized, or manganese, glass possesses a distinctive pink or amethyst hue as a result of the application of decolourizing agents (i.e. manganese dioxide, selenium dioxide and/or arsenic oxide) reacting with ultraviolet light (Lindsey 2013). Although employed much earlier in Europe and the United States, in Ontario this type of glass was not popular until 1880 and fell out of popularity ca. 1920 (Adams 1995:100).

Appendix G: Artifact Registry

Record	Location	Unit	Date	Freq.	Group	Material	Object Type	Object Name	Datable Attribute	Date Range	Comments	Heat Altered	Box
1	36	Surface	24/05/2013	2	Glass Non-Food Related	Glass	Decoration	Decorative Dish	Pressed	1860s–1930s	Blue Edge with White Centre / Unidentifiable Design	No	A249
2	36	Surface	24/05/2013	1	Glass Non-Food Related	Glass	Miscellaneous	Melted	Milk Glass	1870–1920		Yes	A249
3	36	Surface	24/05/2013	7	Glass Non-Food Related	Glass	Miscellaneous	Miscellaneous (Unidentifiable)			Green Coloured / Some Type of Household Bottle	No	
4	36	Surface	24/05/2013	5	Glass Food Related	Glass	Storage Container	Liquor Bottle	Mould Blown	18th century–Late 19th century	Olive Coloured	No	A249
5	36	Surface	24/05/2013	5	Glass Food Related	Glass	Storage Container	Beer Bottle	Brandy and Wine Finish	1860s–1920s	Amber Coloured	No	A249
6	36	Surface	24/05/2013	26	Glass Food Related	Glass	Storage Container	Bottle (Unidentifiable)	Solarized (Manganese)	ca. 1880–1920		No	A249
7	36	Surface	24/05/2013	2	Glass Non-Food Related	Glass	Miscellaneous	Melted	Solarized (Manganese)	ca. 1880–1920		No	A249
8	36	Surface	24/05/2013	1	Glass Food Related	Glass	Storage Container	Bottle (Unidentifiable)	Solarized (Manganese)	ca. 1880–1920	"...H.R.....A YTON..." Script Letters	No	A249
9	36	Surface	24/05/2013	3	Glass Non-Food Related	Glass	Decoration	Decorative Dish	Solarized (Manganese)	ca. 1880–1920	Too Fragmented for Accurate Design Identification	No	A249
10	36	Surface	24/05/2013	2	Glass Food Related	Glass	Storage Container	Bottle (Unidentifiable)	Machine Made (Owens)	1905–1915		No	A249
11	36	Surface	24/05/2013	2	Glass Food Related	Glass	Storage Container	Bottle (Unidentifiable)	Solarized (Manganese)	ca. 1880–1920	Possible Triangle, Square, or Rectangular Shaped Body	No	A249
12	36	Surface	24/05/2013	7	Glass Non-Food Related	Glass	Miscellaneous	Melted				No	A249
13	36	Surface	24/05/2013	9	Glass Food Related	Glass	Storage Container	Bottle (Unidentifiable)				No	A249
14	36	Surface	24/05/2013	1	Glass Non-Food Related	Glass	Decoration	Decorative Dish			Base Fragment	No	A249
15	36	Surface	24/05/2013	69	Architectural	Glass	Window Glass	Sheet				No	A249
16	36	Surface	24/05/2013	45	Glass Food Related	Glass	Storage Container	Bottle (Unidentifiable)				No	A249

Record	Location	Unit	Date	Freq.	Group	Material	Object Type	Object Name	Datable Attribute	Date Range	Comments	Heat Altered	Box
17	36	Surface	24/05/2013	1	Glass Food Related	Glass	Storage Container	Bottle (Unidentifiable)	Domion Glass (Diamond Mark)	1928–Present		No	A249
18	36	Surface	24/05/2013	1	Glass Food Related	Glass	Storage Container	Bottle (Unidentifiable)	Press-and-Blow	1900–1940	Aqua Coloured	No	A249
19	36	Surface	24/05/2013	2	Glass Food Related	Glass	Storage Container	Jar	Lug Top Closure (Machine-Made)	1906–Present		No	A249
20	36	Surface	24/05/2013	1	Glass Food Related	Glass	Storage Container	Bottle (Unidentifiable)	Cup-Bottom Mould	ca.1850–1920	Aqua Coloured	No	A249
21	36	Surface	24/05/2013	5	Glass Food Related	Glass	Storage Container	Bottle (Unidentifiable)	Mould Blown	18th century–Late 19th century		No	A249
22	36	Surface	24/05/2013	2	Glass Non-Food Related	Glass	Lighting	Oil Lamp			Chimney Fragments	No	A249
23	36	Surface	24/05/2013	1	Glass Non-Food Related	Glass	Lighting	Oil Lamp	Crimped Lamp Chimney (Machine-Made)	1879–Present		No	A249
24	36	Surface	24/05/2013	1	Glass Food Related	Glass	Storage Container	Bottle (Unidentifiable)	Applied Finish	1856–1920s	Extract Finish	No	A249
25	36	Surface	24/05/2013	2	Glass Food Related	Glass	Storage Container	Jar	Mould Blown	18th century–Late 19th century	Ground Rim	No	A249
26	36	Surface	24/05/2013	1	Glass Non-Food Related	Glass	Decoration	Decorative Dish	Cut Glass	1771–Present	Diamond Design Rim and Flower on Side	No	A249
27	36	Surface	24/05/2013	1	Glass Food Related	Glass	Storage Container	Bottle (Unidentifiable)				No	A249
28	36	Surface	24/05/2013	1	Glass Food Related	Glass	Storage Container	Bottle (Unidentifiable)	Press-and-Blow	1900–1940	Raised Circular Fan Markings	No	A249
29	36	Surface	24/05/2013	1	Glass Food Related	Glass	Storage Container	Bottle (Unidentifiable)	Pressed	1860s–1930s	Circular Marks with Diamond Design Inside	No	A249
30	36	Surface	24/05/2013	1	Glass Food Related	Glass	Storage Container	Bottle (Unidentifiable)	Double Ring Finish	1840–1920s	Also Known as "Stacked Ring" Finish	No	A249
31	36	Surface	24/05/2013	17	Glass Non-Food Related	Glass	Personal Care	Mirror				No	A249
32	36	Surface	24/05/2013	1	Architectural	Ferrous	Hardware	Nail			Too Corroded for Identification	No	A249

Record	Location	Unit	Date	Freq.	Group	Material	Object Type	Object Name	Datable Attribute	Date Range	Comments	Heat Altered	Box
33	36	Surface	24/05/2013	7	Architectural	Ferrous	Hardware	Nail	Cut	ca. 1830–1890		No	A249
34	36	Surface	24/05/2013	8	Architectural	Ferrous	Hardware	Nail	Wire	1890–Present		No	A249
35	36	Surface	24/05/2013	1	Non-Architectural Metal	Ferrous	Hardware	Fastener			Buckle for Strapping Hardware	No	A249
36	36	Surface	24/05/2013	1	Non-Architectural Metal	Ferrous	Miscellaneous	O-Ring				No	A249
37	36	Surface	24/05/2013	1	Non-Architectural Metal	Ferrous	Miscellaneous	Sheet Metal				No	A249
38	36	Surface	24/05/2013	1	Non-Architectural Metal	Brass	Furnishing	Bell				No	A249
39	36	Surface	24/05/2013	1	Non-Architectural Metal	Ferrous	Miscellaneous	Strapping			Bolt Attached to End	No	A249
40	36	Surface	24/05/2013	1	Architectural	Brick	Construction Material	Brick (Unglazed)			Common Red	No	A249
41	36	Surface	24/05/2013	2	Architectural	Clay	Construction Material	Drain Pipe	Clay	ca. 1862–1960s	Coarse Red Earthenware	No	A249
42	36	Surface	24/05/2013	1	Non-Architectural Metal	Brass	Personal Care	Compact			Triple Hinge	No	A249
43	36	Surface	24/05/2013	1	Non-Architectural Metal	Copper-Alloy	Storage Container	Gasket			"MADE IN USA" / Separator Between Mirror and Foundation	No	A249
44	36	Surface	24/05/2013	50	Ceramic Food Related	Ironstone	Tableware	Tableware (Unidentifiable)	Plain	ca. 1820s–Present		No	A249
45	36	Surface	24/05/2013	14	Ceramic Food Related	Whiteware	Tableware	Tableware (Unidentifiable)	Plain	ca. 1830–Present		No	A249
46	36	Surface	24/05/2013	3	Ceramic Food Related	Porcelain	Tableware	Plate	Plain	ca. 1768–Present	Scalloped Edge with Moulded Design / Too Fragmented for Accurate Design Identification	No	A249
47	36	Surface	24/05/2013	1	Ceramic Food Related	Ironstone	Tableware	Plate	Wheat Pattern	ca. 1865–Present		No	A249
48	36	Surface	24/05/2013	1	Ceramic Food Related	Ironstone	Tableware	Mug	Plain	ca. 1820s–Present		No	A249

Record	Location	Unit	Date	Freq.	Group	Material	Object Type	Object Name	Datable Attribute	Date Range	Comments	Heat Altered	Box
49	36	Surface	24/05/2013	10	Ceramic Food Related	Porcelain	Tableware	Plate	Plain	ca. 1768–Present		No	A249
50	36	Surface	24/05/2013	15	Ceramic Food Related	Bone China	Tableware	Tableware (Unidentifiable)	Plain	ca. 1777–Present		No	A249
51	36	Surface	24/05/2013	1	Ceramic Non-Food Related	Bone China	Leisure	Miniature Tea Set	Plain	ca. 1777–Present	Small Plate	No	A249
52	36	Surface	24/05/2013	1	Ceramic Food Related	Porcelain	Serving Tableware	Egg Holder	Plain	ca. 1768–Present		No	A249
53	36	Surface	24/05/2013	1	Ceramic Non-Food Related	Porcelain	Decoration	Figurine	Plain	ca. 1768–Present	Man's Head/Wearing a Top Hat	No	A249
54	36	Surface	24/05/2013	2	Ceramic Food Related	Bone China	Tableware	Tableware (Unidentifiable)	Decal Transfer (Over-Glaze)	1890–Present	Too Fragmented for Accurate Design Identification	No	A249
55	36	Surface	24/05/2013	2	Ceramic Food Related	Ironstone	Tableware	Plate	Mellor, Taylor & Co., Burslem	1880–1904	Fuchsia with Band / Skimmer Collection	No	A249
56	36	Surface	24/05/2013	1	Ceramic Food Related	Ironstone	Tableware	Tableware (Unidentifiable)	Plain	ca. 1820s–Present	Moulded Design Too Fragmented for Design Identification	No	A249
57	36	Surface	24/05/2013	1	Ceramic Food Related	Whiteware	Tableware	Plate	Transfer	1830–Present	Green Transfer with Filigree Border	No	A249
58	36	Surface	24/05/2013	1	Ceramic Food Related	Whiteware	Tableware	Plate	Transfer (Blue)	1830–Present	Floral Border Negative Print	No	A249
59	36	Surface	24/05/2013	3	Ceramic Food Related	Ceramic (Unidentifiable)	Tableware	Tableware (Unidentifiable)			Too Burnt for Identification	Yes	A249
60	36	Surface	24/05/2013	2	Ceramic Non-Food Related	White Clay	Smoking	Pipe			Bowl Fragments	Yes	A249
61	36	Surface	24/05/2013	1	Ceramic Food Related	Bone China	Tableware	Tableware (Unidentifiable)	Decal Transfer (Over-Glaze)	1890–Present	Filigree Border	No	A249
62	36	Surface	24/05/2013	3	Ceramic Non-Food Related	Bone China	Leisure	Miniature Tea Set	Decal Transfer (Over-Glaze)	1890–Present	Floral Design	No	A249
63	36	Surface	24/05/2013	1	Ceramic Non-Food Related	Bone China	Leisure	Miniature Tea Set	Decal Transfer (Over-Glaze)	1890–Present	Boat on Water with Floral Surrounding	No	A249
64	36	Surface	24/05/2013	1	Ceramic Food Related	Bone China	Tableware	Tableware (Unidentifiable)	Decal Transfer (Over-Glaze)	1890–Present	Too Fragmented for Accurate Design Identification	No	A249
65	36	Surface	24/05/2013	4	Ceramic Food Related	Yellowware	Storage Container	Storage (Unidentifiable)	Albany Slip	1805–1920		No	A249

Record	Location	Unit	Date	Freq.	Group	Material	Object Type	Object Name	Datable Attribute	Date Range	Comments	Heat Altered	Box
66	36	Surface	24/05/2013	2	Ceramic Food Related	Stoneware (Coarse)	Storage Container	Storage (Unidentifiable)	North American	1840-1900		No	A249
67	36	Surface	24/05/2013	2	Ceramic Food Related	Ironstone	Tableware	Tableware (Unidentifiable)	Alfred Meakin	1875-1976		No	A249
68	36	Surface	24/05/2013	1	Ceramic Food Related	Ironstone	Tableware	Tableware (Unidentifiable)	Plain	ca. 1820s-Present	Black Printed Makers Mark / Too Fragmented for Identification	No	A249
69	36	Surface	24/05/2013	2	Ceramic Food Related	Whiteware	Tableware	Plate	Transfer	1830-Present	Floral Green Transfer	No	A249
70	36	Surface	24/05/2013	1	Ceramic Food Related	Whiteware	Tableware	Tableware (Unidentifiable)	Transfer (Willow Pattern)	ca. 1830-20th century		No	A249
71	36	Surface	24/05/2013	2	Ceramic Food Related	Whiteware	Tableware	Tableware (Unidentifiable)	Transfer (Blue)	1830-Present	Too Fragmented for Accurate Design Identification	No	A249
72	36	Surface	24/05/2013	3	Ceramic Food Related	Whiteware	Tableware	Tableware (Unidentifiable)	Transfer (Blue)	1830-Present	Too Fragmented for Accurate Design Identification	No	A249
73	36	Surface	24/05/2013	2	Ceramic Food Related	Whiteware	Tableware	Tableware (Unidentifiable)	Transfer (Blue)	1830-Present	Too Fragmented for Accurate Design Identification	No	A249
74	36	Surface	24/05/2013	5	Ceramic Non-Food Related	Coarse Red Earthenware	Storage Container	Storage (Unidentifiable)			Cream Glazed	No	A249
75	36	Surface	24/05/2013	5	Ceramic Non-Food Related	Stoneware (Coarse)	Storage Container	Storage (Unidentifiable)	Plain	ca. 1630-Present	Yellow Glazed	No	A249
76	36	Surface	24/05/2013	2	Ceramic Non-Food Related	Stoneware (Coarse)	Storage Container	Storage (Unidentifiable)	Plain	ca. 1630-Present	Floral Moulded / Tan Coloured Glaze	No	A249
77	36	Surface	24/05/2013	1	Ceramic Non-Food Related	Coarse Red Earthenware	Storage Container	Storage (Unidentifiable)			Brown Glazed	No	A249
78	36	Surface	24/05/2013	2	Ceramic Non-Food Related	Stoneware (Fine)	Storage Container	Storage (Unidentifiable)	Plain	ca. 1630-Present	Grey Coloured Fabric / Clear Glazed	No	A249
79	36	Surface	24/05/2013	1	Ceramic Non-Food Related	Stoneware (Fine)	Storage Container	Storage (Unidentifiable)	Plain	ca. 1630-Present	Clear Glazed Exterior / Brown Glazed Interior	No	A249
80	36	Surface	24/05/2013	1	Ceramic Food Related	Bone China	Tableware	Tea Cup	Gilded (Liquid Gold)	1870-Present		No	A249
81	37	Surface	07/06/2013	1	Ceramic Non-Food Related	White Clay	Smoking	Pipe	Bannerman, Montreal	1870-1902	Stem Fragment	No	A249

Record	Location	Unit	Date	Freq.	Group	Material	Object Type	Object Name	Datable Attribute	Date Range	Comments	Heat Altered	Box
82	37	Surface	07/06/2013	1	Ceramic Non-Food Related	White Clay	Smoking	Pipe	Bannerman, Montreal	1870-1902	Stem Fragment	No	A249
83	37	Surface	07/06/2013	1	Ceramic Non-Food Related	White Clay	Smoking	Pipe	Bannerman, Montreal	1870-1902	Stem Fragment	No	A249
84	37	Surface	07/06/2013	1	Ceramic Non-Food Related	White Clay	Smoking	Pipe	Bannerman, Montreal	1870-1902	Stem Fragment	No	A249
85	37	Surface	07/06/2013	1	Ceramic Non-Food Related	White Clay	Smoking	Pipe			Stem Fragment	No	A249
86	37	Surface	07/06/2013	1	Ceramic Non-Food Related	White Clay	Smoking	Pipe			Stem Fragment	No	A249
87	37	Surface	07/06/2013	1	Ceramic Non-Food Related	White Clay	Smoking	Pipe			Bowl Fragments	No	A249
88	37	Surface	07/06/2013	1	Ceramic Non-Food Related	White Clay	Smoking	Pipe			Bowl Fragments	No	A249
89	37	Surface	07/06/2013	1	Ceramic Non-Food Related	White Clay	Smoking	Pipe			Bowl Fragments	No	A249
90	37	Surface	07/06/2013	1	Ceramic Food Related	Whiteware	Tableware	Plate	Transfer (Blue)	1830-Present	Floral Design / Line and Stipple Technique	No	A249
91	37	Surface	07/06/2013	1	Glass Food Related	Glass	Storage Container	Liquor Bottle	Turn Paste Mould	1870-1920s	Olive Coloured / Too Fragmented / Likely Mould Blown	No	A249
92	37	Surface	07/06/2013	1	Ceramic Non-Food Related	Coarse Red Earthenware	Storage Container	Storage (Unidentifiable)			Salt Glazed Exterior / Too Burnt for Further Identification	Yes	A249
93	37	Surface	07/06/2013	1	Ceramic Food Related	Whiteware	Tableware	Tableware (Unidentifiable)	Plain	ca. 1830-Present		No	A249
94	37	Surface	07/06/2013	1	Ceramic Food Related	Ironstone	Tableware	Tableware (Unidentifiable)	Plain	ca. 1820s-Present	Moulded Design Too Fragmented for Design Identification	No	A249
95	37	Surface	07/06/2013	1	Ceramic Food Related	Ceramic (Unidentifiable)	Tableware	Tableware (Unidentifiable)			Too Burnt for Material Identification	Yes	A249
96	37	Surface	07/06/2013	1	Ceramic Food Related	Ceramic (Unidentifiable)	Tableware	Tableware (Unidentifiable)			Too Burnt for Material Identification	Yes	A249

Appendix H: Inventory of the Documentary Record

Field Documents	Total	Nature	Location
Photographs	483	Digital	On server at 154 Otonabee Drive, Kitchener; Folder P007-522-2013
Field Notes	20	Digital and hard copy	Filed and on server at 154 Otonabee Drive, Kitchener; P007-522-2013
Field Maps	50	Digital and hard copy	Filed and on server at 154 Otonabee Drive, Kitchener; P007-522-2013