Ministry of Tourism, Culture and Sport

Confirmation Letter

February 1, 2013

Ministry of Tourism, Culture and Sport

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Ontario

February 1, 2013

Dr. Dean Knight
Archaeological Research Associates Ltd.
154 Otonabee Drive
Kitchener, ON N2C 1L7

Dear Dr. Knight,

RE: Review and Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled *Stage 2 and 3 Archaeological Assessments Port Ryerse Wind Power Project (FIT F-001579-WIN-130-601) Part of Lots 3–5, Broken Front Geographic Township of Woodhouse Norfolk County, Ontario*, Revised Report Dated January 14, 2013, Filed by MTCS Toronto Office January 16, 2013, MTCS Project Information Form Number P089-014-2012 & P089-018-2012, MTCS File Number HD00097

This office has reviewed the above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18.[1] This review has been carried out in order to determine whether the licensed professional consultant archaeologist has met the terms and conditions of their licence, that the licensee assessed the property and documented archaeological resources using a process that accords with the 2011 *Standards and Guidelines for Consultant Archaeologists* set by the ministry, and that the archaeological fieldwork and report recommendations are consistent with the conservation, protection and preservation of the cultural heritage of Ontario.

The report documents the assessment of the study area as depicted in Maps 21 – 27 of the above titled report and recommends the following:

2.5.1 Findspot 1 (Ryerse 1; AeHb-68)

Findspot 1 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. AeHb-68 and designated as Ryerse 1.

When compared against the criteria in Section 2.2 of the *Standards and Guidelines for Archaeologists* (MTC 2011:39–40), this archaeological site was found to be of further CHVI. In order to avoid impacts to this site, however, the proponent modified the project location. ARA accordingly recommends that Findspot 1 be subjected to further archaeological assessment only if impacts become a concern. An appropriate Stage 3 assessment strategy would involve a Controlled Surface Pickup of the remaining artifacts and the excavation of an array of 1 x 1 m test units along a 5 m grid across the 54 x 22 m scatter.

Although part of Findspot 1's 20 m protective buffer traverses the project location, this buffer is affected by a permanently disturbed cultural form (Avalon Lane and its associated embankment/ditch). 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), a modified buffer zone is therefore warranted. Given that the project does not propose any modifications to Avalon Lane in this area, and that the full extent of the project location within the 20 m protective buffer is disturbed, Stage 3 assessment is not required within this part of the buffer. Findspot 1 and its 20 m protective buffer must be subjected to construction monitoring, however. A temporary barrier should be erected along the project location limits in this area to protect the site during construction. All construction activities within 70 m of Findspot 1 must be monitored by a licensed archaeologist to ensure that unintentional project impacts do not occur (see Supplementary Documentation Map 11).

2.5.2 Findspot 2 (Ryerse 2; AeHb-69)

Findspot 2 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. AeHb-69 and designated as Ryerse 2.

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 Findspot 2 be required.

2.5.3 Findspot 3 (Ryerse 3; AeHb-70)

Findspot 3 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. AeHb-70 and designated as Ryerse 3.

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 this site, however, the proponent modified the project location. ARA accordingly recommends that Findspot 3 be subjected to further archaeological assessment only if impacts become a concern. An appropriate Stage 3 assessment strategy would involve a Controlled Surface Pickup of the remaining artifacts and the excavation of an array of 1 x 1 m test units along a 5 m grid across the 40 x 30 m scatter.

Although part of Findspot 3's 20 m protective buffer traverses the project location, this buffer is affected by a permanently disturbed cultural form (Avalon Lane and its associated embankment/ditch). 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), a modified buffer zone is therefore warranted. Given that the project does not propose any modifications to Avalon Lane in this area, and that the full extent of the project location within the 20 m protective buffer is disturbed, Stage 3 assessment is not required within this part of the buffer. Findspot 3 and its 20 m protective buffer must be subjected to construction monitoring, however. A temporary barrier should be erected along

the project location limits in this area to protect the site during construction. All construction activities within 70 m of Findspot 3 must be monitored by a licensed archaeologist to ensure that unintentional project impacts do not occur (see Supplementary Documentation Map 12).

2.5.4 Findspot 4 (Ryerse 4; AeHb-71)

Findspot 4 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. AeHb-71 and designated as Ryerse 4.

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 this site or its 20 m protective buffer, however, the proponent modified the project location. ARA accordingly recommends that Findspot 4 be subjected to further archaeological assessment only if impacts become a concern. An appropriate Stage 3 assessment strategy would involve a Controlled Surface Pickup of the remaining artifacts and the excavation of an array of 1 x 1 m test units along a 5 m grid across the 25 x 22 m scatter.

Given that at least one part of Findspot 4 is located between 21 and 70 m away from the project location, unintentional project impacts to the site are a concern. Thus, in accordance with the direction set out in Section 7.8.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:140–141), ARA recommends that Findspot 4 be subjected to construction monitoring. A temporary barrier should be erected along the project location limits in this area to the site during construction. All construction activities within 70 m of Findspot 4 must be monitored by a licensed archaeologist to ensure that unintentional project impacts do not occur (see Supplementary Documentation Map 13).

2.5.5 Findspot 5 (Ryerse 5; AeHb-72)

Findspot 5 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. AeHb-72 and designated as Ryerse 5.

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 this site or its 20 m protective buffer, however, the proponent modified the project location. ARA accordingly recommends that Findspot 5 be subjected to further archaeological assessment only if impacts become a concern. An appropriate Stage 3 assessment strategy would involve a Controlled Surface Pickup of the remaining artifacts and the excavation of an array of 1 x 1 m test units along a 5 m grid across the 56 x 57 m scatter.

Given that at least one part of Findspot 5 is located between 21 and 70 m away from the project location, unintentional project impacts to the site are a concern. Thus, in accordance with the direction set out in Section 7.8.5 of the Standards and Guidelines for Consultant Archaeologists (MTC 2011:140–141), ARA recommends that Findspot 5 be subjected to construction monitoring. A temporary barrier should be erected along the project location

limits in this area to protect the site during construction. All construction activities within 70 m of Findspot 5 must be monitored by a licensed archaeologist to ensure that unintentional project impacts do not occur (see Supplementary Documentation Map 13).

2.5.6 Findspot 6 (Ryerse 6; AeHb-73)

Findspot 6 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. AeHb-73 and designated as Ryerse 6.

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 Findspot 6 be required.

2.5.7 Findspot 7 (Ryerse 7; AeHb-85)

Findspot 7 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. AeHb-85 and designated as Ryerse 7.

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 Findspot 7 be required.

2.5.8 Findspot 8 (Ryerse 8; AeHb-83)

Findspot 8 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. AeHb-83 and designated as Ryerse 8.

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 Findspot 8 be required.

2.5.9 Findspot 9 (Ryerse 9; AeHb-84)

Findspot 9 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. AeHb-84 and designated as Ryerse 9.

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 Findspot 9 be required.

2.5.10 Findspot 10 (Ryerse 10; AeHb-74)

Findspot 10 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. AeHb-74 and designated as Ryerse 10.*

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 Findspot 10 be required.

2.5.11 Findspot 11 (Ryerse 11; AeHb-75)

Findspot 11 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. AeHb-75 and designated as Ryerse 11.*

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 this site or its 20 m protective buffer, however, the proponent modified the project location. ARA accordingly recommends that Findspot 11 be subjected to further archaeological assessment only if impacts become a concern. An appropriate Stage 3 assessment strategy would involve a Controlled Surface Pickup of the remaining artifacts and the excavation of an array of 1 x 1 m test units along a 5 m grid across the 34 x 34 m scatter.

Given that at least one part of Findspot 11 is located between 21 and 70 m away from the project location, unintentional project impacts to the site are a concern. Thus, in accordance with the direction set out in Section 7.8.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:140–141), ARA recommends that Findspot 11 be subjected to construction monitoring. A temporary barrier should be erected along the project location limits in this area to protect the site during construction. All construction activities within 70 m of Findspot 11 must be monitored by a licensed archaeologist to ensure that unintentional project impacts do not occur (see Supplementary Documentation Map 14).

2.5.12 Findspot 12 (Ryerse 12; AeHb-86)

Findspot 12 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. AeHb-86 and designated as Ryerse 12.

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 Findspot 12 be required.

2.5.13 Findspot 13 (Ryerse 13; AeHb-76)

Findspot 13 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. AeHb-76 and designated as Ryerse 13.

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 Findspot 13 be required.

2.5.14 Findspot 14 (Ryerse 14; AeHb-77)

Findspot 14 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. AeHb-77 and designated as Ryerse 14.

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 this site or its 20 m protective buffer, however, the proponent modified the project location. ARA accordingly recommends that Findspot 14 be subjected to further archaeological assessment only if impacts become a concern. An appropriate Stage 3 assessment strategy would involve a Controlled Surface Pickup of the remaining artifacts and the excavation of an array of 1 x 1 m test units along a 5 m grid across the 21 x 11 m scatter.

In accordance with the direction set out in Section 7.8.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:140–141), a buffer of at least 71 m now exists between this site and any part of the project location (see Supplementary Documentation Map 10). Specifically, the minimum distance between Findspot 14 and the project location at the proposed substation is 81 m.

2.5.15 Findspot 15 (Ryerse 15; AeHb-78)

Findspot 15 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. AeHb-78 and designated as Ryerse 15.

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 this site or its 20 m protective buffer, however, the proponent modified the project location. ARA accordingly recommends that Findspot 15 be subjected to further archaeological assessment only if impacts become a concern. An appropriate Stage 3 assessment strategy would involve a Controlled Surface Pickup of the

remaining artifacts and the excavation of an array of 1 x 1 m test units along a 5 m grid across the 37 x 20 m scatter.

In accordance with the direction set out in Section 7.8.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:140–141), a buffer of at least 71 m now exists between this site and any part of the project location (see Supplementary Documentation Map 10). Specifically, the minimum distance between Findspot 15 and the project location at the MET tower is 72 m.

2.5.16 Findspot 16 (Ryerse 16; AeHb-79)

Findspot 16 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. AeHb-79 and designated as Ryerse 16.

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 Findspot 16 be required.

2.5.17 Findspot 17 (Ryerse 17; AeHb-80)

Findspot 17 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. AeHb-80 and designated as Ryerse 17.

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 Findspot 17 be required.

2.5.18 Findspot 18 (Ryerse 18; AeHb-81)

Findspot 18 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. AeHb-81 and designated as Ryerse 18.

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 Findspot 18 be required.

2.5.19 Findspot 19 (Ryerse 19; AeHb-82)

Findspot 19 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. AeHb-82 and designated as Ryerse 19.

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 this site or its 20 m protective buffer, however, the proponent modified the project location. ARA accordingly recommends that Findspot 19 be subjected to further archaeological assessment only if impacts become a concern. An appropriate Stage 3 assessment strategy would involve a Controlled Surface Pickup of the remaining artifacts and the excavation of an array of 1 x 1 m test units along a 5 m grid across the 28 x 21 m scatter.

Given that at least one part of Findspot 19 is located between 21 and 70 m away from the project location, unintentional project impacts to the site are a concern. Thus, in accordance with the direction set out in Section 7.8.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:140–141), ARA recommends that Findspot 19 be subjected to construction monitoring. A temporary barrier should be erected along the project location limits in this area to protect the unexcavated parts of the site during construction. All construction activities within 70 m of Findspot 19 must be monitored by a licensed archaeologist to ensure that unintentional project impacts do not occur (see Supplementary Documentation Map 15).

Prior to the issuance of this recommendation, Findspot 19 had the potential to be impacted by an earlier version of the project location (now removed from the current design). Accordingly, it was subjected to a partial Stage 3 site-specific assessment (see Section 3.0).

2.5.20 Findspot 20 (Ryerse 20; AeHb-87)

Findspot 20 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. AeHb-87 and designated as Ryerse 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 no further CHVI. ARA accordingly recommends that no further archaeological assessment of Findspot 20 be required.

2.5.21 Findspot 21 (Ryerse 21; AeHb-88)

Findspot 21 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. AeHb-88 and designated as Ryerse 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 Findspot 21 be required.

2.5.22 Findspot 22 (Ryerse 22; AeHb-89)

Findspot 22 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. AeHb-89 and designated as Ryerse 22.

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 Findspot 22 be required.

3.2.3 Recommendations

With the conclusion of the partial Stage 3 site-specific assessment at Ryerse 19, ARA is confident in stating that the site has further CHVI. Since the site was only partially excavated and now falls outside of the project location, additional Stage 3 work will be required if any future developments are planned here, or if the project location is revised at a later date to include this area. Given that Ryerse 19 dates to the Early Woodland period, a Stage 4 mitigation of development impacts would also be required, in accordance with Section 3.4 Standard 1e of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:57).

As mentioned in Section 2.5.19, the proponent has modified the project location in order to avoid impacts to Ryerse 19 or its 20 m protective buffer (a 10 m buffer is not appropriate in this case, as the Stage 3 assessment was only partially completed). Given that at least one part of Ryerse 19 is located between 21 and 70 m away from the project location, however, unintentional project impacts to the site are a concern.

Based on the information contained in the report, the ministry is satisfied that the fieldwork and reporting for the archaeological assessment are consistent with the ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* and the terms and conditions for archaeological licences. This report has been entered into the Ontario Public Register of Archaeological Reports. Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register.

Should you require any further information regarding this matter, please feel free to contact me.

Sincerely,

Paige Campbell
Archaeology Review Officer

cc. Mr. Adam Rosso, Boralex Inc.

Stage 2 and 3 Archaeological Assessments

Archaeological Research Associates Ltd.

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Stage 2 and 3 Archaeological Assessments
Port Ryerse Wind Power Project
(FIT F-001579-WIN-130-601)
Part of Lots 3–5, Broken Front
Geographic Township of Woodhouse
Norfolk County, Ontario

Prepared for
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Licenced under
D. Knight, Ph.D.
MTCS Licence #P089
Project #P089-014 and #P089-018
PIF #P089-014-2012 and #P089-018-2012

14/01/2013

Revised Report

EXECUTIVE SUMMARY

Under contracts awarded in December 2011 and April 2012, Archaeological Research Associates Ltd. carried out Stage 2 and 3 archaeological assessments of lands with the potential to be impacted by the proposed Port Ryerse Wind Power Project in Norfolk County, Ontario. This report documents the fieldwork and artifact analysis involved in the property assessment, the additional background research and results of the partial site-specific assessment of Findspot 19 (Ryerse 19; AeHb-82), and presents conclusions and recommendations pertaining to archaeological concerns within the study area.

Boralex Inc. (Boralex), in association with UDI Renewables Corporation (UDI), are proposing to develop the Port Ryerse Wind Power Project east of the hamlet of Port Ryerse. The project was awarded a Feed-In-Tariff contract (F-001579-WIN-130-601) with the Ontario Power Authority on February 25, 2011, and the proponent is preparing their Renewable Energy Approval application in accordance with the requirements set out in Ontario Regulation 359/09 made under Part V.0.1 of the *Environmental Protection Act*. The project location is sited on privately-owned agricultural lands, where landowners have entered into a lease agreement with Boralex/UDI. The proposed Class 4 Wind Facility would include four wind turbine generators and associated support structures, access roads and electrical lines. The Stage 2 and 3 assessments documented in this report were completed as a component of the Renewable Energy Approval application, in compliance with the requirements set out in Section 22 of Ontario Regulation 359/09.

The Stage 1 assessment of the participating properties associated with the project, encompassing the project location and additional lands that will not be subjected to impacts, as well as parts of the Port Ryerse Road and Gilbert Road ROWs, was conducted between December 2011 and October 2012 under licence #P007, PIF #P007-386-2011 (ARA 2012). The results of the Stage 1 assessment indicated that the study area comprised a mixture of areas of archaeological potential and areas of no archaeological potential. Based on these findings, Archaeological Research Associates Ltd. recommended that all areas of archaeological potential within the proposed project location for the Port Ryerse Wind Power Project be subject to a Stage 2 archaeological assessment in advance of construction (ARA 2012:23).

In accordance with this recommendation, the Stage 2 property assessment was conducted on all areas of archaeological potential within the project location and within additional lands that were previously considered for the project location but have since been removed from the current design. The Stage 2 assessment was carried out between March and October 2012 under licence #P089, PIF #P089-014-2012. Legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owners.

This assessment, completed under optimal conditions, resulted in the discovery of one Euro-Canadian artifact scatter with a small Pre-Contact lithic component (Findspot 5) and twenty-one Pre-Contact artifact scatters and isolated findspots (Findspots 1–4, 6–22). In total, 183 Euro-Canadian artifacts and 120 Pre-Contact artifacts were collected for laboratory analysis.

When compared against the criteria established by the Ministry of Tourism, Culture and Sport for determining whether an archaeological site warrants further assessment (MTC 2011:39–40), Findspots 1, 3, 4, 5, 11, 14, 15 and 19 were found to be of further cultural heritage value or interest. In order to avoid impacts to these eight sites, however, the proponent modified the project location. Archaeological sites of further cultural heritage value or interest can be avoided through project redesign provided a 20 m protective buffer zone and a 70 m monitoring zone are established around the site (MTC 2011:140–141). Impacts are not permitted within the 20 m protective buffer zone, and archaeological monitoring must be conducted by a licensed archaeologist for all construction activities within 70 m of the site.

As a result of the proponent's modifications to the project design, none of the sites recommended for further work fall within the current project location, and only two sites (Findspot 1 and Findspot 3) fall within 20 m of the current project location (i.e., a portion of each site's 20 m protective buffers falls within the project location). However, in both of these cases, the 20 m buffer is affected by a permanently disturbed cultural form (Avalon Lane and its associated embankment/ditch). 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), a modified buffer zone is therefore warranted. Findspots 4, 5, 11 and 19 are located between 21 and 70 m away from the project location, whereas Findspots 14 and 15 are located at least 71 m away from the project location.

Based on these findings, Archaeological Research Associates Ltd. recommends that Findspots 1, 3, 4, 5, 11 and 19 be subjected to construction monitoring. Temporary barriers should be erected along the project location limits in these areas to protect these sites during construction. All construction activities within 70 m of these sites must be monitored by a licensed archaeologist to ensure that unintentional project impacts do not occur. Archaeological Research Associates Ltd. also recommends that Findspots 14 and 15 be subjected to a Stage 3 site-specific assessment if any future developments are planned in their immediate vicinity, or if the project location is revised at a later date to include these areas.

Prior to the modification of the project location, Findspot 19 had the potential to be impacted by the project; accordingly, it was recommended for a Stage 3 site-specific assessment. The partial Stage 3 archaeological assessment of Findspot 19 (Ryerse 19; AeHb-82) was conducted in April 2012 under Ministry of Tourism, Culture and Sport licence #P089, PIF #P089-018-2012. Legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owner.

The Stage 3 assessment of Findspot 19 involved the excavation of 6 one-metre units, and a total of 65 non-diagnostic Pre-Contact artifacts were recovered. Excavations ceased when the project location was modified to avoid any further impacts to the site. The excavation results from the partial assessment are documented in this report in fulfilment of licensing requirements. As mentioned above, Archaeological Research Associates Ltd. recommends that Findspot 19 be subjected to construction monitoring to ensure that unintentional project impacts do not occur to the remainder of the site. A *Letter of Review and Acceptance into the Provincial Register of 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
CSP – Controlled Surface Pickup
EW – Earthenware
FIT – Feed-in Tariff
MTC – (Former) Ministry of Tourism and Culture
MTCS – Ministry of Tourism, Culture and Sport
O. Reg. – Ontario Regulation
PIF – Project Information Form
REA – Renewable Energy Approval
ROW – Right-of-Way

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1.0 PROJECT CONTEXT

1.1 Development Context

Under contracts awarded in December 2011 and April 2012, ARA carried out Stage 2 and 3 archaeological assessments of lands with the potential to be impacted by the proposed Port Ryerse Wind Power Project in Norfolk County, Ontario. This report documents the fieldwork and artifact analysis involved in the property assessment, the additional background research and results of the partial site-specific assessment of Findspot 19 (Ryerse 19; AeHb-82), and presents conclusions and recommendations pertaining to archaeological concerns within the study area.

Boralex Inc. (Boralex), in association with UDI Renewables Corporation (UDI), are proposing to develop the Port Ryerse Wind Power Project east of the hamlet of Port Ryerse. The project was awarded a FIT contract (F-001579-WIN-130-601) with the Ontario Power Authority on February 25, 2011, and the proponent is preparing their REA application in accordance with the requirements set out in O. Reg. 359/09 made under Part V.0.1 of the *Environmental Protection Act*. The project location is sited on privately-owned agricultural lands, where landowners have entered into a lease agreement with Boralex/UDI.

The proposed Class 4 Wind Facility will include four Siemens SWT 3.0 - 113 wind turbine generators. The 3.0 MW turbines will be customized to a nameplate capacity of 2.897 MW or less for this project. The total maximum installed nameplate capacity of all four turbines will not exceed 10 MW. Other basic components include step-up transformers located adjacent to the base of each turbine (step up voltage from approximately 0.69 kV to 27.6 kV), a 27.6 kV underground collector system, fibre optic data lines, a distribution substation, a permanent parking lot (if required), a meteorological tower and turbine access roads. Avalon Lane, which will be incorporated into the project as an access road, will be utilized in an unmodified manner in the northern part of the project location (i.e. in the vicinity of Findspot 1 and Findspot 3, see Section 2.0). The Stage 2 and 3 assessments documented in this report were completed as a component of the REA application, in compliance with the requirements set out in Section 22 of O. Reg. 359/09.

The Stage 1 assessment of the participating properties associated with the project, encompassing the project location and additional lands that will not be subjected to impacts, as well as parts of the Port Ryerse Road and Gilbert Road ROWs, was conducted between December 2011 and October 2012 under licence #P007, PIF #P007-386-2011 (ARA 2012). The results of the Stage 1 assessment indicated that the study area comprises a mixture of areas of archaeological potential and areas of no archaeological potential. Based on these findings, ARA recommended that all areas of archaeological potential within the proposed project location for the Port Ryerse Wind Power Project be subject to a Stage 2 archaeological assessment in advance of construction (ARA 2012:23).

The study area for the Stage 2 assessment consists of an irregularly-shaped 43.11 ha parcel of land generally bounded by Woolley Road and Gilbert Road in the north, Lake Erie and Avalon Lane in the south, Port Ryerse in the west, and Lake Erie in the east (see Map 1–Map 2). This study area comprises 1) all parts of the project location and 2) parts of several properties

that were previously considered for the project location but have since been removed from the current design (see Appendix A). In legal terms, the study area falls on parts of Lots 3–5, Broken Front in the Geographic Township of Woodhouse.

The Stage 2 assessment of the study area was conducted between March and October 2012 under MTCS licence #P089, PIF #P089-014-2012. 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), this Stage 2 archaeological 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.

Prior to the modification of the project location to avoid significant archaeological resources, one site (Findspot 19) had the potential to be impacted by the project and was recommended for a Stage 3 site-specific assessment (see Supplementary Documentation Map 1).

The partial Stage 3 archaeological assessment of Findspot 19 (Ryerse 19; AeHb-82) was conducted in April 2012 under MTCS licence #P089, PIF #P089-018-2012 (excavations ceased when the project location was modified to avoid any further impacts to the site). Legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owner. In compliance with the objectives set out in Section 3.0 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:45–63), the Stage 3 archaeological assessment was carried out in order to:

- Determine the extent of the archaeological site and the characteristics of the artifacts;
- Collect a representative sample of artifacts;
- Assess the CHVI of the archaeological site; and
- Determine the need for mitigation of development impacts and recommend appropriate strategies for mitigation and future conservation.

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 assessments 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 Provincial Register of Reports*.

1.2 Historical Context

After a century of archaeological work in southern Ontario, scholarly understanding of the historic usage of lands in Norfolk 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 (Jarrow 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. 8400–7800 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 (7800–6000 BC), Middle (6000–3000 BC) and Late Archaic periods (3000–900 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 appear 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 3). 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), major developments took place at the western end of Lake Ontario as maize (corn) horticulture was introduced and settled agriculturalists emerged (Fox 1990:171, Figure 6.1). This shift is linked to the development of the Princess Point complex, which is characterized by distinctively decorated ceramic vessels (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 1990:174–188).

The Grand Banks site near Cayuga is one of the best known Princess Point sites, and a calibrated radiocarbon date of AD 406–586 indicates that it was home to the first maize horticulturalists in northeastern North America (Warrick 2000:427). Generally, Princess Point sites consist of what are called ‘incipient’ longhouses, circular or square houses and even rudimentary palisades. Excavated evidence suggests that a typical village would have contained upwards of five contemporary houses at any one time, serving a population of roughly 75 people for perhaps 40–50 years. The evidence also indicates that many of these villages were reoccupied repeatedly over the centuries (Warrick 2000:429–434).

Intriguingly, approximately half of the documented Princess Point sites in Ontario have been discovered along the Grand River, but examples have also been found in the vicinity of the Credit and Humber Rivers (see Map 4). The distinctive artifacts and horticultural practices of Princess Point peoples have led to the suggestion that they were the ancestors of the later Iroquoian-speaking populations of southern Ontario (Warrick 2000:427).

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. These developments are believed to be linked to the spread of Iroquoian-speaking populations in the area; ancestors of the historically-documented Huron, Neutral and Haudenosaunee Nations. Other parts of southern Ontario, including the Georgian Bay littoral, the Bruce Peninsula and the vicinity of Lake St. Clair, were inhabited by Algonkian-speaking peoples, who were much less agriculturally-oriented. Late Woodland archaeological remains from the greater vicinity of the study 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 local 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).

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 and the Neutral Nations. The study area itself lies within the territorial boundaries of the Pre-Contact Neutral Nation, documented in lands as far west as Chatham and as far east as New York State.

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 (see Map 5). It has been suggested 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 as the 'Lower Grand River Cluster'. This cluster, located roughly 36.6 km northeast of the study area, appears to have flourished primarily in the 16th and the early 17th centuries (Lennox and Fitzgerald 1990:Table 13.1).

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 c*oureurs 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 6). 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 7). 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, and Sainte-Marie was abandoned and burned 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 8). 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 likewise shed valuable light on the contemporary cultural landscape. 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 9).

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 2012). 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 Long Point, the Grand River, the territory of the Ojibway, and the virtually untouched lands of southern Ontario (see Map 10).

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 2010a). 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 district of Hesse 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 fell within the boundaries of the expansive Norfolk County at this time, which also encompassed lands that would become part of the future Elgin, Middlesex, Oxford, Brant and Haldimand Counties. David William Smyth's *A Map of the Province of Upper Canada* from 1800 clearly shows the extent of this new territory, which spanned parts of both the Western and Home Districts (see Map 11).

1.2.3.2 Norfolk 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 became part of the London District at this time, and the territorial boundaries of Norfolk County were redefined (see Map 12). The eastern part of the county was transferred to Haldimand County, the northern part was transferred to Oxford County, and the western part was transferred to Middlesex County (Archives of Ontario 2009). The formation of the Gore District in 1816 did not affect this area in any significant way (see Map 13).

Norfolk was first settled in the 1790s by United Empire Loyalists and newly-arrived British immigrants fleeing America in the aftermath of the American Revolutionary War (Phelps 1972:54). Simcoe himself encouraged his most-favoured officers to settle along the mainland shore, as he recognized the strategic military importance of Long Point Bay and the adjacent bluffs (Mutrie 2004). At that time, the counties to the east and west of Norfolk remained largely unsettled, and the future cities of Hamilton and Brantford were still unfounded (Phelps 1972:54).

The soils of Norfolk County were exceedingly rich, and prospective settlers travelled great distances to acquire property. These settlers, which were primarily of British, Dutch and German descent, came from Nova Scotia, New Brunswick, the eastern seaboard of the United States, and the British Isles (Mutrie 2004). Simcoe's motives for settling many of these people on the bluffs overlooking Long Point proved well-founded, as this area guarded the hinterland of Norfolk County during the War of 1812 (Mutrie 2004). After the war, another surge of population growth occurred, and the front parts of the townships were settled by farmers while the back parts were settled by lumbermen (Phelps 1972:54).

The layout of Norfolk County remained consistent until 1826, at which time the Townships of Walpole and Rainham were removed from Norfolk County and added to Haldimand County in the Niagara District (see Map 14). In 1837 and 1838, the layout of what would become southwestern Ontario was significantly altered through the creation of the Huron, Brock, Wellington, Talbot and Simcoe Districts (Archives of Ontario 2009). As part of this change, Norfolk County became part of the newly-formed Talbot District, created in honour of noted road-builder Colonel Talbot (see Map 15). In February 1841, the Talbot District became part of Canada West in the new United Province of Canada.

The population of Norfolk County was 9,626 in 1841. By 1844, a total of 56,899 acres were under cultivation, and there were 10 grist mills and 50 saw mills in operation (Smith 1846:186). In 1845, the Townships of Walpole and Rainham were temporarily returned to Norfolk County (Archives of Ontario 2009).

Following the abolition of the district system in 1849, the counties of Canada West were reconfigured once again. Norfolk County emerged to stand on its own as an independent municipality at this time, although the Townships of Walpole and Rainham were once again transferred to Haldimand County (see Map 16). From this point onwards, the historic Norfolk County consisted of the Townships of Houghton, Middleton, Walsingham, Windham, Charlotteville, Townsend and Woodhouse (see Map 17).

1.2.3.3 Township of Woodhouse

The historic Township of Woodhouse was situated in the southeastern corner of Norfolk County and was bounded by the Township of Townsend on the north, the Township of Charlotteville on the west, and the Township of Walpole on the east. It was known as one of the wealthiest townships in Norfolk County, and contained two excellent natural harbours—Port Ryerse and Port Dover. The land was well-watered by the Lynn River, Black Creek, Hay Creek and Young's Creek, and numerous limestone quarries were opened over the course of the Euro-Canadian period (Phelps 1972:60).

The Township of Woodhouse was laid out with six concessions and a broken front bordering on Long Point Bay (Phelps 1972:60). The front parts of the township were the first to be settled, and, in general, the settlement of the remaining lands progressed slowly until good roads were established. One such road, the Hamilton and Port Dover Plank Road, was completed in 1843 and was said to have cost $150,000 (Phelps 1972:60; Pearce 1973:120). This road, now known as Highway 6, served as a major artery for travel throughout the eastern half of the township and greatly facilitated new settlement in the area.

The Port Dover and Lake Huron Railway provided connections to many other regions to the north and west (Phelps 1972:60). The arrival of the Hamilton & Lake Erie Railway in 1878 further added to transportation options within the township. This line ran approximately parallel to the Hamilton and Port Dover Plank Road southwesterly to Port Dover (Pearce 1973:51).

By the mid-19th century, a total of 28,226 acres had been taken up in the Township of Woodhouse, 10,232 acres of which were under cultivation. At that time there were three grist mills and eleven saw mills in the township, and the population was 1,694 (Smith 1846:223). By 1879, the population of Port Dover alone reached 1,100 (Phelps 1972:60).

Numerous communities developed in the Township of Woodhouse over the course of the Euro-Canadian period, including Port Dover and Port Ryerse (see Map 18). Port Dover was the largest village in the township, and it also served as the principal port for Norfolk County (Phelps 1972:60). This area was first settled by Peter Walker, and the settlement of Port Dover was later founded by Governor Simcoe to serve as a strategic military port. The first mills were established by Daniel McQueen in 1801, but these were destroyed along with the rest of the village in the War of 1812. These mills were rebuilt by Colonel Robert Nichol in 1824 (Phelps 1972:60).

Port Dover was subsequently rebuilt closer to the lake at the confluence of the Lynn River and Black Creek. The site was laid out in 1834 on the property of Israel Powell and Moses Nickerson. A market was established in 1840, a tannery was built in 1842, and a Presbyterian church was constructed in 1846. By 1877, Port Dover contained many shops and stores, one foundry, one newspaper (the *Port Dover Independent*), carriage and wagon shops, and a sizable schoolhouse (Phelps 1972:60). The village was also home to the Norfolk Woollen Mills, which was a five-storey timber-frame structure that produced all kinds of Canadian tweeds, flannels, blankets and shawls. This factory was located near the Port Dover & Lake Huron Railway station (Phelps 1972:60).

Port Ryerse, situated at the mouth of Young's Creek, was first settled by Samuel Ryerse in 1794. This settlement prospered on account of its excellent harbour, and was noted for its numerous successful businesses (see Map 19). The Simcoe and Port Ryerse Harbour Company, formed in 1862, made many improvements to the harbour, and great quantities of grain, lumber, staves, flour and other goods were loaded and unloaded over the ensuing years (Phelps 1972:60).

1.2.3.4 Lots 3–5, Broken Front

As discussed in Section 1.1, the study area for the Stage 2 assessment falls on parts of Lots 3–5, Broken Front in the historic Township of Woodhouse. The lots in this area were laid out during the initial survey of the township in the late 18th century, and the vicinity of the study area was well-settled for the remainder of the Euro-Canadian period.

In an attempt to reconstruct the historic land use of the study area, ARA examined a historical map that documented past residents, structures (e.g. homes, businesses and public buildings) and features during the late 19th century. This map, published in H.R. Page & Co.'s *Illustrated Historical Atlas of the County of Norfolk* (1877), was of the most detailed scale available (60 chains to 1 inch). A georeferenced version of this historical map, showing the study area, appears in Map 20 (McGill University 2001).

The map from the *Illustrated Historical Atlas* indicates that every lot and concession in the vicinity of the study area was settled by the late 1870s. The names of the historically-attested residents of the subject lots are summarized in Table 1, as are any additional relevant details associated with their specific biographical entries.

Table 1: Euro-Canadian Residents of the Township of Woodhouse, according to H.R. Page & Co.'s *Illustrated Historical Atlas of the County of Norfolk* (1877) (McGill University 2001)

Lot	Concession	Property Owner	Lot Size	Post Office	Biographic Details	Visible Features or Structures
3	Broken Front	E.P. Ryerse	200	Port Ryerse	Canadian-born retired excise officer; settled ca. 1800	Structure east of Port Ryerse Road
		Hiel Wood	75	N/A	None	Structure and orchard east of Port Ryerse Road
4	Broken Front	Ebenezer W. Gilbert	130	N/A	None	Structure and orchard east of Gilbert Road
		William L. Gilbert	75	Port Ryerse	None	Structures north and south of Gilbert Road
		Five part lots (4 unidentified owners and 'A. S.')	N/A	N/A	None	Structures north and south of Gilbert Road; structures south of Radical Road
		Edmund Gilbert	120	Port Ryerse	Canadian-born farmer; settled ca. 1820	No structures indicated
		Edwin Gilbert	50	Port Ryerse	Canadian-born farmer; settled ca. 1820	No structures indicated
5	Broken Front	F.A. Collver	50	Port Ryerse	None	No structures indicated
		Dennis Hall	50	Port Ryerse	None	Structure south of Radical Road
		Daniel Woolley	75	N/A	None	Structures and orchard south of Gilbert Road

Lot	Concession	Property Owner	Lot Size	Post Office	Biographic Details	Visible Features or Structures
		A. Sheal	20	N/A	None	No structures indicated
		James Stamp	100	Port Dover	None	No structures indicated
		W. Nevit	25	N/A	None	No structures indicated

As required by Section 3.1 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:46–47), ARA also consulted the land registry records associated with Lot 4, Broken Front as part of the Stage 3 assessment of Ryerse 19 (AeHb-82). The principal transactions associated with this lot appear in Table 2. A georeferenced version of H.R. Page & Co.'s *Illustrated Historical Atlas of the County of Norfolk* (1877), showing the location of Findspot 19, appears in Supplementary Documentation Map 2 (McGill University 2001).

Table 2: Land Transactions Summary for Lot 4, Broken Front

Date	Transaction	Grantor	Grantee	Acreage
February 7, 1818	Patent	The Crown	Isaac Gilbert	300
September 27, 1820	Will	Isaac Gilbert	Ebenezer, Isaac, Edwin, and Edmund Gilbert	300
May 28, 1872	Certification of Survey	Ebenezer, William L., Edwin and Edmund Gilbert	Ebenezer, William L., Edwin and Edmund Gilbert	300
March 30, 1874	B & S	Ebenezer Gilbert	Lorinda Pithey	1 ¾
May 9, 1875	B & S	Lorinda Pithey	William Rankin	1 ¾
June 22, 1881	B & S	Edmund Gilbert	James Berry	6 (E Pt of E ½)
October 4, 1883	B & S	William Gilbert	John Evans	75
March 31, 1891	B & S	William Rankin	Isaac Sheler	1 ¾
April 1, 1893	Deed	Isaac Sheler	Abraham Marshall	1 ¾
April 4, 1893	R of E of R	Abraham Marshall	John D. Stringer	1 ¾
April 13, 1886	Deed	Ebenezer Gilbert	J. Roberts	6
March 31, 1897	Deed	John Evans	Robert Evans	75
April 13, 1897	Deed	John D. Stringer	Eliza Kniffer	1 ¾
March 30, 1900	Will	Edmund Gilbert	Mary Gilbert, Sarah Evans, Margaret Gilbert	94
December 1, 1900	B & S	Ebenezer Gilbert	Robert Powell, William Powell and Mary Powell	1 ¾

Date	Transaction	Grantor	Grantee	Acreage
December 1, 1900	B & S	Robert Powell, William Powell and Mary Powell	Thomas Powell	1 ¾
July 31, 1902	B & S	Sarah Evans	Mary and Margaret Gilbert	94
April 2, 1903	B & S	James Berry	Frank Degrove (green and ?)	6
July 14, 1903	B & S	Kniffer	Peter W. Cline	1 ¾
September 9, 1903	B & S	Frank Degrove	James Berry (green and ?)	6
February 10, 1904	B & S	Thomas Powell	Harry Evans	1 ¾
May 12, 1904	B & S	James Berry	Charlton D. Woolley (green and ?)	6
January 5, 1910	B & S	Robert F. Evans	Arthur Williams	75
March 5, 1910	B & S	P. Wilson Cline	Enoch Roberts	1 ¾
April 22, 1912	B & S	E--- Gilbert	Charleton Woolley (green and yellow, bright red)	116
August 3, 1912	B & S	Enoch Roberts	Alexander Leitch	1 ¾
December 14, 1917	B & S	Alexander Leitch	John Roberts	1 ¾
June 5, 1918	B & S	John Roberts	Harry Evans	6
April 6, 1921	Grant	Charlton Woolley	William F. Smith	75
August 2, 1921	Grant	John Roberts	Henry Roberts	1 ¾
March 18, 1922	Grant	Arthur Williams	Charlton Woolley	75
March 18,1922	Grant	Charlton Woolley	Harry Williams	47
September 1, 1926	Grant	Charlton Woolley	Lloyd Woolley	75
May 28, 1929	Grant	Henry Roberts	John Roberts and Beatrice Maxwell	1 ¾
February 1, 1930	Grant	Margaret and Mary Gilbert	Harry L. Evans and Mary Evans	94
August 21, 1933	Grant	Lloyd Woolley	Jenny Woolley	75
January 1, 1930	Grant	Beatrice Maxwell	Clarence E. Soper and M. Soper	1 ¾
March 30, 1935	Grant	Jenny Woolley	Cecil L. Woolley	75
October 3, 1935	Grant	Harry Williams	Ada Steinhoff	47
------ 21, 1935	Grant	Harry Evans	Edmond Jamieson	6
October 31, 1935	Grant	Edmond Jamieson	Harry L. Williams and Eileen C. Williams	6

Date	Transaction	Grantor	Grantee	Acreage
June 15, 1936	Grant	William F. Smith	Ernest E. Smith	62
June 15, 1936	Grant	William F. Smith	George A. Smith	63
May 26, 1939	Grant	Ernest E. Smith	George A. Smith	12
October 31, 1942	Grant	Harry Evans and Mary Evans	Lloyd C. Woolley	94
January 20, 1944	Grant	Cecil Lynn Woolley	Cecil and Edna May Woolley	75
September 6, 1946	Grant	Lloyd C. Woolley	Andrew and Evelynn Dow	Pt
September 6, 1946	Grant	Lloyd C. Woolley	Jean Marjorie Powell	Pt
September 6, 1946	Grant	Lloyd C. Woolley	Patricia Charlotte Woolley	Pt
September 6, 1946	Grant	Lloyd C. Woolley	Charles and Dorothy Booth	Pt
September 6, 1946	Grant	Lloyd C. Woolley	Albert Edward and Alice May Smith	Pt
September 6, 1946	Grant	Lloyd C. Woolley	William and Ethel Woodburn	Pt
September 6, 1946	Grant	Lloyd C. Woolley	Harold and Signa Pepper	Pt
August 8, 1947	Grant	Harry Evans	Eleanor and George Steinhoff	1 ¾
June 10, 1949	Grant	Ada Steinhoff	Harold Bradshaw	47
July 29, 1948	Grant	Harold and Signa Pepper	Peter Wilson	Pt
September 9, 1949	Grant	Albert Edward and Alice May Smith	Roy Frederick and Iris Hilda Maud Lambert	Pt
December 7, 1949	Grant	Cecil Lynn and Edna May Woolley	Harold Bradshaw	Pt
October 18, 1950	Grant	Lloyd C. Woolley	Daniel George Woolley	Pt
November 3, 1951	Grant	Lloyd C. Woolley	Jean Marjorie Woolley	Pt
November 6, 1951	Grant	Lloyd C. Woolley	Harry and Helen Gamble	Pt
July 5, 1952	Grant	Lloyd C. Woolley	Warden A. Gardner	Pt
May 5, 1952	Grant	Lloyd C. Woolley	Betty Maclachlan	Pt
July 23, 1952	Grant	Lloyd C. Woolley	Gordon Critchley	Pt
October 16, 1952	Grant	Harold Bradshaw	Gertrude Coyne	Pt
August 15, 1952	Grant	Daniel George Woolley	Ernie and Ethel Miron	Pt
June 23, 1953	Grant	Lloyd C. Woolley	Harold Cyril Killings	Pt

Date	Transaction	Grantor	Grantee	Acreage
July 13, 1953	Grant	Charles and Dorothy Booth	Lloyd C. Woolley	Pt
October 20, 1953	Grant	Lloyd C. Woolley	The Corporation of the Township of Woodhouse	Pt
March 1, 1954	Grant	Charlton Woolley	Charles Monroe	Pt
March 1, 1954	Grant	Charlton Woolley	Peter Frank Funk	42
January 5, 1954	Grant	Ernie and Ethel Miron	John Beischlag	Pt
January 30, 1954	Grant	Lloyd C. Woolley	O. Clare Maclachlan	Pt
April 14, 1955	Grant	George Albert Smith	George Marshall Smith	Pt
June 10, 1955	Grant	Jean Marjorie Powell	Ivan Stelmach	Pt
November 8, 1955	Grant	George Albert Smith	George Marshall Smith	Pt
January 20, 1956	Grant	Lloyd C. Woolley	Jean Powell	Pt
September 19, 1956	Grant	Lloyd C. Woolley	Lysle Anderson	Pt
June 26, 1953	Grant	Harold Killings	Helen Pauline Johnson	Pt
September 6, 1956	Grant	Warden A. Gardner	Phyllis Gardner	Pt
August 3, 1957	Grant	Phyllis Gardner	Joseph Healey	Pt
September 25, 1957	Grant	George Marshall Smith	George Marshall and Frances Aileen Smith	Pt
June 2, 1958	Grant	Patricia Charlotte Woolley	Harold Bannister	Pt

Lot 4, Broken Front (300 acres) was first patented to Isaac Gilbert in 1818. In his will, Gilbert left the lot to his sons, Ebenezer, William, Edwin and Edmund Gilbert. The Gilberts eventually sold off parts of the lot, and the main transactions associated with the part lots are discussed below.

In 1874, Lorinda Pithey purchased 1¾ acres of land from the Gilberts. The following year she sold it to William Rankin. Rankin remained the owner until 1891, when it was sold to Isaac Sheler. This part of the property was purchased by Abraham Marshall in 1893, who immediately sold it to John Stringer. In 1897, Eliza Kniffer became the owner of this small part of Lot 4. Between 1903 and 1930, this property passed through several owners, including Peter Cline, Enoch Roberts, Alexander Leitch, John Roberts, Henry Roberts and Beatrice Maxwell. In 1930, Clarence and M. Soper became the owners of the property. In 1958, the Sopers were still the owners of the small part lot.

In 1883, 75 acres of Lot 4 were purchased by John Evans. Robert Evans became the owner in 1897, and then the property was sold to Arthur Williams in 1910. In 1922, Williams sold the

large part lot to Charlton Woolley. The property exchanged hands within the Woolley family until 1949, when Harold Bradshaw became the owner. In 1952, Gertrude Coyne purchased the part lot and remained the owner in 1958.

James Berry purchased 6 acres from the Gilberts in 1883, and later sold this part lot to Charlton Woolley in 1904. In 1912, Woolley purchased an additional 116 acres from the Gilberts. Woolley eventually sold off his property in three smaller parts. The first 75 acres were sold to William Smith in 1921, and George and Ernest Smith purchased the property in 1936. In 1955, George Smith sold a part of his part to George Albert Smith. A 47 acre part of Charlton Woolley's property was sold to Harry Williams in 1922. By late 1935, Ada Steinhoff had purchased the part lot. Harold Bradshaw eventually became the owner in 1949. In 1954 Charlton Woolley sold the remainder of his part lot to Charles Monroe, but it was immediately purchased by Peter Frank Funk. The property remained in the hands of the Funks in 1958.

In 1886, the Gilberts sold 6 acres to J. Roberts. This small part was purchased by Harry Evans in 1918. In 1935, the property was purchased by Edmond Jamieson, but it was sold the same year to Harry and Eileen Williams. The Williams were still the owners of this parcel in 1958.

In 1900, Edmund Gilbert willed a 94 acre parcel of Lot 4, Broken Front to Mary Gilbert, Margaret Gilbert and Sarah Evans. Sarah Evans sold her portion of the property to Mary and Margaret Gilbert in 1902. Harry and Mary Evans purchased the part lot in 1930, and later sold it to Lloyd Woolley in 1942. In 1946, Woolley began to sell off small parts of his property for summer cottages, and continued to do so into the mid-1950s. Some of the cottage owners that appear in the abstracts include Dow, Powell, Woolley, Booth, Smith, Woodburn, Pepper, Wilson, Lambert, Gamble, Gardner, Maclachlan, Critchey, Killings, Miron, Stelmach, Anderson, Johnson, Healey and Bannister.

The last portion of the Gilberts' lot was sold to Robert, William and Mary Powell in 1900. The same day, the property was transferred to Thomas Powell. Harry Evans purchased the part lot in 1904 and sold it to Eleanor and George Steinhoff in 1947. In 1958, the Steinhoffs were still the owners of this part lot.

1.2.3.5 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 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 late 18th 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, with the historic community of Port Ryerse bounding the area to the southwest. Presently, the study area consists of agricultural lands, hedgerows, and several woodlots.

1.2.3.6 Additional Background Information

In the course of the 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 of the related work appears below:

- Title: *Stage 1 Archaeological Assessment, Port Ryerse Wind Power Project (FIT F-001579-WIN-130-601), Part of Lots 3–5, Broken Front, Geographic Township of Woodhouse, Norfolk County, Ontario*. Author: Archaeological Research Associates Ltd. PIF #P007-386-2011 (ARA 2012).

The additional information included in this report was considered during the formulation of fieldwork strategies and recommendations pertaining to archaeological concerns within the study area (see Section 2.0–Section 3.0).

1.3 Archaeological Context

1.3.1 Summary of Registered Archaeological Sites

As part of the Stage 1 assessment, 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 study area (MTCS 2011b). Only one registered site was found within these limits (ARA 2012:16). The excavation results from this site are summarized in Table 3.

Table 3: Registered Archaeological Sites within 1 km of the Study Area

Borden No.	Site Name	Year Assessed	Cultural Affiliation	Site Type	Comments
AeHb-18	Dover View	1984	Archaic; Euro-Canadian	Artifact Scatter	A thin scatter of lithics, fire-cracked rock and some 19th century European debris

Dover View is located along the Lake Erie shoreline on Lot 6, Broken Front, and is therefore outside of the Stage 2 and Stage 3 study areas. This presence of this site does demonstrate the desirability of the area for Pre-Contact and Euro-Canadian settlement.

1.3.2 Previous Archaeological Work

The Stage 1 assessment of the participating properties associated with the project, encompassing the project location and additional lands that will not be subjected to impacts, as well as parts of the Port Ryerse Road and Gilbert Road ROWs, was conducted between December 2011 and October 2012 under licence #P007, PIF #P007-386-2011 (ARA 2012). The results of the Stage 1 assessment indicated that the study area comprises a mixture of areas of archaeological potential and areas of no archaeological potential. Indicators of archaeological potential include Hay Creek and five other unnamed creeks (all primary water sources), the hamlet of Port Ryerse (an area of early settlement), as well as Port Ryerse Road and Gilbert Road (both historically-surveyed roadways).

The results of property inspections, coupled with modern satellite imagery and topographic mapping, demonstrate that the archaeological potential of the study area has been negatively affected by past construction activities in certain locations. A total of five areas of no archaeological potential were identified during the property inspections, all of which have been disturbed by past infrastructural, residential and/or industrial developments. Specifically, deep land alterations have resulted in the removal of archaeological potential from 1) Avalon Lane in the central part of the study area, 2) a quarry and artificial pond in the south-central part of the study area, 3) an industrial area in the southwestern part of the study area, 4) a residential area on the outskirts of Port Ryerse, and 5) section of Port Ryerse Road and adjacent lands (ARA 2012:21–22).

Based on these findings, ARA recommended that all areas of archaeological potential within the proposed project location for the Port Ryerse Wind Power Project be subject to a Stage 2 archaeological assessment in advance of construction (ARA 2012:23). In a letter of *Review and Entry into the Ontario Public Register of Archaeological Reports* dated December 6, 2012, the MTCS expressed satisfaction with these recommendations. The areas of no archaeological potential along Avalon Lane and Port Ryerse Road that were identified during the Stage 1 assessment fall within the current Stage 2 study area. These areas of no archaeological potential are reproduced in the present study, as required by Section 7.8.1 Standard 3b of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:137).

In accordance with the requirements set out in Section 7.5.8 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:125), ARA also submitted an inquiry to the MTCS in order to determine whether any archaeological assessments had been previously conducted within the limits of, or immediately adjacent to the study area. In a response provided by the Archaeology Data Coordinator, ARA learned that there are no reports on record documenting past work within 50 m of the subject lands (MTCS 2011a).

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 Stage 2 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 deciduous forest, an ecological zone described as having the most diverse forest life in Ontario. The region is characterized by a wide range of tree and shrub species, including eastern white pine, red pine, eastern hemlock, white cedar, yellow birch, sugar and red maple, basswood, red oak, black walnut, butternut, tulip, magnolia, black gum, and many types of oaks and hickories. A number of rare species of mammals, birds, plants and insects reside in the deciduous forest, including sassafras and tulip trees, southern flying squirrels, and red-bellied woodpeckers. Today, over 90% of Ontario's population lives in this small region (MNR 2012).

Relatively little 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—only scattered woodlots remain in areas that are otherwise too poor for agriculture (MNR 2012). In Pre-Contact times, however, these dense forests 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 subject lands lie entirely within the Long Point Region watershed, which covers an area of approximately 2,900 sq. km and comprises a significant part of the Northern Lake Erie drainage basin. Specifically, the study area falls within the Dedrick-Young Creeks subwatershed group, which drains a combined area of 263 sq. km (LESPR 2012:Section 2.11.6). Young's Creek is located 350 m southwest of the study area, Hay Creek is located 415 m north of the study area, and Lake Erie is located 450 m southeast of the study area. Four unnamed creeks traverse the study area from northwest to southeast, all of which drain into Lake Erie.

The local climatic region is that of the Lake Erie Counties, which lies south of the South Slopes. The immediate vicinity of the study area experiences a mean annual temperature of 7.8 ºC, with mean daily maximum temperatures of 27.2 ºC in July and mean daily maximum temperatures of -9.0 ºC in January. The average frost-free period for the vicinity of the study area lasts 149 days, and the growing season is typically 210 days long. The average annual precipitation level is 748 mm, and the mean annual snowfall level is 141.5 cm (Presant and Acton 1984:18–21). On the whole, this agriculturally-favourable climate would have been well-suited for the common grain and forage crops grown during the Euro-Canadian period, and would even allow for the growth of less common species such as peanuts and ginseng (Present and Acton 1984:21).

Physiographically, the study area lies within the region known as the Norfolk Sand Plain, which is a wedge-shaped plain stretching from the Niagara Escarpment southwesterly to the north shore of Lake Erie. The sands and silts of this region were deposited as a delta in glacial Lakes Whittlesey and Warren, which was built from west to east as the glacier withdrew (Chapman and Putnam 1984:153–154). These physiographic elements have accumulated over grey shale and limestone bedrock belonging to the Middle Devonian Dundee formation (Davidson 1989:42).

The soils within the study area consist of a wide variety of types, which is unsurprising given the extent of the subject lands (Presant and Acton 1984:Maps 9–10). The study area is variably comprised of Berrien soils (sandy textures over lacustrine silty clay, imperfect drainage), Beverly soils (sandy textures over lacustrine silty clay, imperfect drainage), Beach-Scarp Complex soils (variable drainage), Brant soils (mainly lacustrine silt loam, well-drained), Brantford soils (mainly lacustrine silty clay, moderately well-drained), Bookton soils (sandy textures over lacustrine silty clay, well-drained), Fox soils (mainly lacustrine sand and loamy sand, rapid to well-drained), Silver Hill soils (sandy textures over lacustrine silt loam, poor drainage) and St. Williams soils (mainly loamy fine sand and fine sandy loam, poor drainage).

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 deciduous forest and the nearby waterways would have attracted a wide variety of game animals, and consequently, early hunters. The relatively 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 Lake Erie 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

1.3.4.1 Stage 2 Assessment

The Stage 2 assessment was carried out on March 22–23, March 26, March 28–29, April 26, May 15, October 11 and October 16, 2012 under MTCS licence #P089, PIF #P089-014-2012. This assessment encompassed all parts of the project location and parts of several properties that were previously considered for the project location but have since been removed from the current design, and involved the on-site documentation of areas of no archaeological potential identified within lands that were not accessible during the Stage 1 assessment (ARA 2012:19–23). Legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owners.

Key personnel involved during the Stage 2 assessment were D. Knight, Project Director; C.E. Gohm, Project Manager; A. Maracle and R. Tobicoe, Aboriginal Monitors; H. Brown, P. Hoskins and J. Landry, Field Directors; P. Epler and B. Thomas, Assistant Field Directors; H. Brown and J. Landry, Field Cartographers (GPS); and seven additional crewmembers.

As discussed in Section 1.2.3.5, the study area currently consists of agricultural lands, hedgerows, and several woodlots. Field conditions were ideal during the assessment, with dry soil for screening and well-weathered soils in the ploughed lands. The weather and lighting conditions for each day of assessment are summarized in Section 2.1 and Appendix B.

Two unusual physical features were encountered during the Stage 2 property assessment that affected fieldwork strategy decisions or the identification of artifacts or cultural features. Specifically, a maximum test pit interval of 5 m could not be maintained within two hedgerows located in the southwestern part of the study area, as the ground surface was obscured by felled trees and associated debris (see Image 1). The resulting modifications to the fieldwork strategy are further discussed in Section 2.1.

1.3.4.2 Stage 3 Assessment

The Stage 3 site-specific assessment of Findspot 19 (Ryerse 19; AeHb-82) was carried out from April 26–27, 2012 under MTCS licence #P089, PIF #P089-018-2012. As was the case during the Stage 2 assessment, legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owner.

Key personnel involved during the Stage 3 assessment were D. Knight, Project Director; C.E. Gohm, Project Manager; R. Tobicoe, Aboriginal Monitor; H. Brown and P. Epler, Field Directors; L. Akida, Assistant Field Director; H. Brown and P. Epler, Field Cartographers (GPS); and five additional crewmembers.

Findspot 19 is currently located entirely within an agricultural field. Site-specific field conditions were ideal during the assessment, with well-weathered soils for the CSP and dry soils for screening. The weather and lighting conditions for each day of assessment are summarized in Section 3.1 and Table 14.

Overall, the property conditions at the time of excavation were found to be consistent with those reported in the course of ARA's Stage 1 and 2 assessments of the project location (ARA 2012). All features of archaeological potential (e.g. watercourses, land formations, etc.) were present where they were previously identified, and no new artificial features were recognized that affected fieldwork strategy decisions or the identification of archaeological remains.

2.0 STAGE 2 PROPERTY ASSESSMENT

2.1 Field Methods

Given that the study area 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. 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 Appendix B. 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).

In the actively or recently cultivated parts of the study area, the archaeological 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 (see Image 2–Image 3).

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 (see Image 4–Image 8). 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 where permission to enter had been granted by the property owners. For sites with potential for further CHVI, all formal and diagnostic artifacts would then be collected for analysis, as well as a representative sample of non-diagnostic artifacts. All remaining artifacts would be left *in situ* until a proper Stage 3 Controlled Surface Pickup could be carried out. For small sites with 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 within 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. primary water sources and historically-surveyed roadways) a 5 m interval was adopted for the property assessment (see Image 9–Image 13).

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 (see Image 14–Image 16). The soil from each test pit was screened through 6 mm mesh and examined for archaeological materials (see Image 17). 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).

As discussed in Section 1.3.4.1, the presence of felled trees and associated debris within two hedgerows in the southwestern part of the study area necessitated a modification of the survey interval. Since it was not possible to maintain a maximum test pit interval of 5 m in these areas, ARA crewmembers test pitted the hedgerows where possible.

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 GPS handheld unit. Specifically, ARA employs a Topcon GRS-1 Dual Frequency RTK GNSS Receiver and Field Controller capable of network-corrected measurements to 1 cm accuracy (using the UTM17 NAD83 coordinate system).

The Stage 2 property assessment resulted in the identification of several areas of no archaeological potential that were not recognized during the Stage 1 assessment, as permission to enter had been granted for additional lands (ARA 2012:19–23). Section 2.1 of the *Standards and Guidelines for Consultant Archaeologists* states that only those areas that are permanently wet, consist of exposed bedrock, have steep slopes greater than 20°, or have been subjected to deep land alterations that have severely damaged the integrity of archaeological resources can be considered exempt from requiring archaeological assessment (MTC 2011:28). As part of its business practice, ARA makes every effort to survey these areas where possible.

Stage 2 on-site documentation resulted in the identification of several permanently wet areas associated with the unnamed waterways draining into Lake Erie (see Image 18–Image 20). Several areas of lands sloped greater than 20^{o} were also identified in the vicinity of these waterways (see Image 21–Image 22).

The results of the Stage 2 assessment are summarized in Map 21–Map 27 (the areas of no archaeological potential identified during the Stage 1 assessment are reproduced on these maps). 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 Stage 2 assessment are summarized in Table 4. This summary includes the areas of no archaeological potential identified during the Stage 1 assessment (ARA 2012) in accordance with Section 7.8.1 Standard 3b (MTC 2011:137).

Table 4: Summary of Utilized Field Methods

Category	Study Area
Property assessed by test pit survey at a maximum interval of 5 m	2.24% (0.97 ha)
Property assessed by pedestrian survey at a maximum interval of 5 m (including property assessed at an intensified interval of 1 m)	91.55% (39.47 ha)
Property not assessed because of disturbed areas	2.88% (1.24 ha)
Property not assessed because of permanently wet areas	0.61% (0.26 ha)
Property not assessed because of sloped areas	1.70% (0.73 ha)
Property assessed where standard survey intervals could not be maintained	1.02% (0.44 ha)
Total	**100% (43.11 ha)**

2.2 Summary of Results

The Stage 2 property assessment, completed under optimal conditions, resulted in the discovery of one Euro-Canadian artifact scatter with a small Pre-Contact lithic component (Findspot 5) and twenty-one Pre-Contact artifact scatters and isolated findspots (Findspots 1–4, 6–22). In total, 183 Euro-Canadian artifacts and 120 Pre-Contact artifacts were collected for laboratory analysis. Detailed location information for these sites appears in Supplementary Documentation Map 4–Map 10.

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 comprehensive documentation of these archaeological findspots is presented in Section 2.3–Section 2.5. 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.

2.3 Record of Finds

2.3.1 Findspot 1 (Ryerse 1; AeHb-68)

2.3.1.1 Overview

Site Type: A 54 x 22 m lithic scatter; 10 of 24 artifacts collected
Location: South of Gilbert Road and east of Avalon Lane
Property: Lot 4, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: 2 m east of project location at Avalon Lane access road
Diagnostic Artifacts: 0
Materials Identified: Onondaga chert

2.3.1.2 Description

Findspot 1 consists of a lithic scatter of 24 Onondaga chert artifacts concentrated in the northeast (see Map 28). One primary flake and nine secondary flakes were collected for laboratory analysis, and are fully documented in Appendix C – Records 1–3. None of the artifacts showed evidence of heat alteration. The remaining 14 flakes were left in the field to assist in site re-location (if necessary). Permission to enter a private property to the north and agricultural lands outside of the staked project area to the east was not granted; accordingly, the full 20 m area of intensified survey could not be achieved around Findspot 1 (see Supplementary Documentation Map 5).

2.3.2 Findspot 2 (Ryerse 2; AeHb-69)

2.3.2.1 Overview

Site Type: An 11 x 10 m lithic scatter; 4 of 6 artifacts collected
Location: South of Gilbert Road and east of Avalon Lane
Property: Lot 4, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: 0.5 m east of project location at Avalon Lane access road
Diagnostic Artifacts: 0
Materials Identified: Haldimand and Onondaga chert

2.3.2.2 Description

Findspot 2 consists of a lithic scatter of 6 Haldimand and Onondaga chert artifacts with no clear concentration (see Map 29). One biface, two primary flakes and one retouch flake were collected for laboratory analysis, and are fully documented in Appendix C – Records 4–7. None of the artifacts showed evidence of heat alteration. The remaining 2 flakes were left in the field to assist in site re-location (if necessary). Permission to enter agricultural lands outside of the staked project area to the east was not granted; accordingly, the full 20 m area of intensified survey could not be achieved around Findspot 2 (see Supplementary Documentation Map 5).

2.3.3 Findspot 3 (Ryerse 3; AeHb-70)

2.3.3.1 Overview

Site Type: A 40 x 30 m lithic scatter; 9 of 17 artifacts collected
Location: South of Gilbert Road and west of Avalon Lane
Property: Lot 4, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: 0.5 m west of project location at Avalon Lane access road
Diagnostic Artifacts: 0
Materials Identified: Onondaga and Selkirk chert

2.3.3.2 Description

Findspot 3 consists of a lithic scatter of 17 Onondaga and Selkirk chert artifacts concentrated in the south (see Map 30). One biface, three utilized flakes, one retouch flake and four secondary flakes were collected for laboratory analysis, and are fully documented in Appendix C – Records 65–70 (see Image 23.3). None of the artifacts showed evidence of heat alteration. The remaining 8 flakes were left in the field to assist in site re-location (if necessary). Permission to enter agricultural lands outside of the staked project area to the west was not granted; accordingly, the full 20 m area of intensified survey could not be achieved around Findspot 3 (see Supplementary Documentation Map 5).

2.3.4 Findspot 4 (Ryerse 4; AeHb-71)

2.3.4.1 Overview

Site Type: A 25 x 22 m lithic scatter; 20 of 66 artifacts collected
Location: South of Gilbert Road and east of Avalon Lane
Property: Lot 5, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: 21 m east of project location at turbine T3
Diagnostic Artifacts: 0
Materials Identified: Haldimand and Onondaga chert

2.3.4.2 Description

Findspot 4 consists of a lithic scatter of 66 Haldimand and Onondaga chert artifacts concentrated in the northeast (see Map 31). Three utilized flakes, two primary flakes and fifteen secondary flakes were collected for laboratory analysis, and are fully documented in Appendix C – Records 8–12 (see Image 23.2). None of the artifacts showed evidence of heat alteration. The remaining 44 flakes were left in the field to assist in site re-location (if necessary). Permission to enter agricultural lands outside of the staked project area to the east was not granted; accordingly, the full 20 m area of intensified survey could not be achieved around Findspot 4 (see Supplementary Documentation Map 6).

2.3.5 Findspot 5 (Ryerse 5; AeHb-72)

2.3.5.1 Overview

Site Type: A 56 m x 57 m Euro-Canadian artifact scatter with a small Pre-Contact lithic component; 184 of 335 artifacts collected
Location: South of Gilbert Road and east of Avalon Lane
Property: Lot 5, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: 21 m south of project location at access to turbine T4
Diagnostic Artifacts: 154
Materials Identified: Brick, ceramic, glass, metal and Onondaga chert

2.3.5.2 Description

Findspot 5 consists of a scatter containing over 183 Euro-Canadian artifacts and 1 Pre-Contact artifact located on top of a large, flat knoll (see Map 32). The intensified pedestrian survey determined that the majority of the artifacts were concentrated along the east-west midline of the site. Permission to enter agricultural lands outside of the staked project area to the south was not granted; accordingly, the full 20 m area of intensified survey could not be achieved around Findspot 5 (see Supplementary Documentation Map 6).

All formal artifact types and diagnostic categories were collected for laboratory analysis, in addition to a sufficient sample of refined ceramic sherds to form the basis for accurate dating. The full artifact analysis for Findspot 5 appears in Section 2.4.5, and glossaries of the significant types of artifacts found during the assessment appear in Appendix E–Appendix G. The artifacts are fully documented in Appendix C – Records 13–59 (see Image 24–Image 25), and a summary of the collected artifacts appears in Table 5. The remaining 151 artifacts were left in the field to assist in site re-location (if necessary).

Although only a representative sample was collected, this scatter was comprised primarily of ceramic tablewares. Other artifacts of note included nine fragments of white clay pipes and a copper-alloy thimble. Very few architectural items were identified and no structural remains or foundations were found, suggesting the site may have served as a midden.

Table 5: Summary of Artifacts – Findspot 5

Category	Group/Type	Freq.	% of Total Assemblage
Architectural	Construction Material	1	0.54%
	Nails	1	0.54%
	Window Glass	4	2.17%
	Architectural Total	**6**	**3.26%**
Ceramic	Agriculture and Horticulture	2	1.09%
	Cooking and Storage	6	3.26%
	Fasteners	1	0.54%
	Furnishings	1	0.54%
	Smoking	9	4.89%
	Tableware	147	79.89%
	Ceramic Total	**166**	**90.22%**
Glass	Glass Storage Container	6	3.26%

Category	Group/Type	Freq.	% of Total Assemblage
	Glass Tableware	2	1.09%
	Melted Glass	1	0.54%
	Glass Total	**9**	**4.89%**
Lithic	Retouch Flake	1	0.54%
	Lithic Total	**1**	**0.54%**
Metal	Domestic Activities	1	0.54%
	Unidentifiable	1	0.54%
	Other Total	**2**	**1.09%**
	Total Artifacts	**184**	**100.00%**

2.3.5.3 Evidence of Heat Alteration

Eleven artifacts collected from Findspot 5 showed evidence of heat alteration. These artifacts include five pieces of ceramic tableware, five fragments of unidentifiable ceramics and one fragment of melted turquoise glass (5.98% of the total assemblage).

2.3.6 Findspot 6 (Ryerse 6; AeHb-73)

2.3.6.1 Overview

Site Type: A 13 x 10 m lithic scatter; 3 of 5 artifacts collected
Location: Southeast of Gilbert Road and east of Avalon Lane
Property: Lot 5, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: Within the project location at turbine T4
Diagnostic Artifacts: 0
Materials Identified: Onondaga and Selkirk chert

2.3.6.2 Description

Findspot 6 consists of a lithic scatter of 5 Onondaga and Selkirk chert artifacts concentrated in the northwest (see Map 33). One primary flake and two secondary flakes were collected for laboratory analysis, and are fully documented in Appendix C – Records 60–62. None of the artifacts showed evidence of heat alteration. The remaining 2 flakes were left in the field to assist in site re-location (if necessary). Permission to enter agricultural lands outside of the staked project area to the north was not granted; accordingly, the full 20 m area of intensified survey could not be achieved around Findspot 6 (see Supplementary Documentation Map 7).

2.3.7 Findspot 7 (Ryerse 7; AeHb-85)

2.3.7.1 Overview

Site Type: A 19 x 8 m lithic scatter; 3 of 5 artifacts collected
Location: Southeast of Gilbert Road and east of Avalon Lane
Property: Lot 5, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: Within the project location at turbine T4
Diagnostic Artifacts: 0
Materials Identified: Onondaga chert

2.3.7.2 Description

Findspot 7 consists of a lithic scatter of 5 Onondaga chert artifacts with no clear concentration (see Map 34). One utilized flake and two secondary flakes were collected for laboratory analysis, and are fully documented in Appendix C – Records 63–64 (see Image 23.5). None of the artifacts showed evidence of heat alteration. The remaining 2 flakes were left in the field to assist in site re-location (if necessary). Permission to enter agricultural lands outside of the staked project area to the south was not granted; accordingly, the full 20 m area of intensified survey could not be achieved around Findspot 7 (see Supplementary Documentation Map 7).

2.3.8 Findspot 8 (Ryerse 8; AeHb-83)

2.3.8.1 Overview

Site Type: A 12 x 8 m lithic scatter; 2 of 5 artifacts collected
Location: South of Gilbert Road and west of Avalon Lane
Property: Lot 4, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: Partly within the project location at electrical line to turbine T1, extending 1.5 m east of project location
Diagnostic Artifacts: 0
Materials Identified: Onondaga chert

2.3.8.2 Description

Findspot 8 consists of a lithic scatter of 5 Onondaga chert artifacts with no clear concentration (see Map 35). Two secondary flakes were collected for laboratory analysis, and are fully documented in Appendix C – Record 99 (see Image 23.4). None of the artifacts showed evidence of heat alteration. The remaining 3 flakes were left in the field to assist in site re-location (if necessary). The full 20 m area of intensified survey was achieved around Findspot 8 (see Supplementary Documentation Map 8).

2.3.9 Findspot 9 (Ryerse 9; AeHb-84)

2.3.9.1 Overview

Site Type: A 6 x 8 m lithic scatter; 2 of 5 artifacts collected
Location: South of Gilbert Road and west of Avalon Lane
Property: Lot 4, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: 17 m west of project location at electrical line to turbine T1
Diagnostic Artifacts: 0
Materials Identified: Onondaga chert

2.3.9.2 Description

Findspot 9 consists of a lithic scatter of 5 Onondaga chert artifacts with no clear concentration (see Map 36). One utilized flake and one secondary flake were collected for laboratory analysis, and are fully documented in Appendix C – Records 100–101 (see Image 23.6). None of the artifacts showed evidence of heat alteration. The remaining 3 flakes were left in the field to assist in site re-location (if necessary). Permission to enter wooded lands outside of the staked project area to the west was not granted; accordingly, the full 20 m area of intensified survey could not be achieved around Findspot 9 (see Supplementary Documentation Map 8).

2.3.10 Findspot 10 (Ryerse 10; AeHb-74)

2.3.10.1 Overview

Site Type: A 20 x 7 m lithic scatter; 5 of 9 artifacts collected
Location: South of Gilbert Road and west of Avalon Lane
Property: Lot 4, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: Within project location at turbine T2
Diagnostic Artifacts: 0
Materials Identified: Onondaga chert

2.3.10.2 Description

Findspot 10 consists of a lithic scatter of 9 Onondaga chert artifacts concentrated in the north (see Map 37). Three primary flakes and two secondary flakes were collected for laboratory analysis, and are fully documented in Appendix C – Records 74–75. None of the artifacts showed evidence of heat alteration. The remaining 4 flakes were left in the field to assist in site re-location (if necessary). Permission to enter agricultural lands outside of the staked project area to the north was not granted; accordingly, the full 20 m area of intensified survey could not be achieved around Findspot 10 (see Supplementary Documentation Map 8).

2.3.11 Findspot 11 (Ryerse 11; AeHb-75)

2.3.11.1 Overview

Site Type: A 34 x 34 m lithic scatter; 10 of 16 artifacts collected
Location: South of Gilbert Road and west of Avalon Lane
Property: Lot 4, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: 21 m north of project location at turbine T2
Diagnostic Artifacts: 0
Materials Identified: Onondaga chert

2.3.11.2 Description

Findspot 11 consists of a lithic scatter of 16 Onondaga chert artifacts concentrated in the northeast (see Map 38). Two retouch flakes, seven secondary flakes and one side scraper were collected for laboratory analysis, and are fully documented in Appendix C – Records 71–73, 76–77. None of the artifacts showed evidence of heat alteration. The remaining 6 flakes were left in the field to assist in site re-location (if necessary). Permission to enter agricultural lands outside of the staked project area to the north and east was not granted; accordingly, the full 20 m area of intensified survey could not be achieved around Findspot 11 (see Supplementary Documentation Map 8).

2.3.12 Findspot 12 (Ryerse 12; AeHb-86)

2.3.12.1 Overview

Site Type: A 26 x 14 m lithic scatter; 3 of 6 artifacts collected
Location: South of Gilbert Road and west of Avalon Lane
Property: Lot 4, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: 3 m east of project location at turbine T2
Diagnostic Artifacts: 0
Materials Identified: Onondaga chert

2.3.12.2 Description

Findspot 12 consists of a lithic scatter of 6 Onondaga chert artifacts with no clear concentration (see Map 39). One biface, one primary flake and one secondary flake were collected for laboratory analysis, and are fully documented in Appendix C – Records 78–80 (see Image 23.7). None of the artifacts showed evidence of heat alteration. The remaining 3 flakes were left in the field to assist in site re-location (if necessary). Permission to enter agricultural and wooded lands outside of the staked project area to the north and east was not granted; accordingly, the full 20 m area of intensified survey could not be achieved around Findspot 12 (see Supplementary Documentation Map 8).

2.3.13 Findspot 13 (Ryerse 13; AeHb-76)

2.3.13.1 Overview

Site Type: A 23 x 33 m lithic scatter; 4 of 9 artifacts collected
Location: South of Gilbert Road and west of Avalon Lane
Property: Lot 4, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: Within project location at turbine T2
Diagnostic Artifacts: 0
Materials Identified: Onondaga chert

2.3.13.2 Description

Findspot 13 consists of a lithic scatter of 7 Onondaga chert artifacts with no clear concentration (see Map 40). Two retouch flakes and two secondary flakes were collected for laboratory analysis, and are fully documented in Appendix C – Records 81–82. None of the artifacts showed evidence of heat alteration. The remaining 5 flakes were left in the field to assist in site re-location (if necessary). The full 20 m area of intensified survey was achieved around Findspot 13 (see Supplementary Documentation Map 8).

2.3.14 Findspot 14 (Ryerse 14; AeHb-77)

2.3.14.1 Overview

Site Type: A 21 x 11 m lithic scatter; 5 of 13 artifacts collected
Location: Northeast of Hilltop Drive and east of Port Ryerse Road
Property: Lot 3, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: 81 m east of project location at Substation
Diagnostic Artifacts: 0
Materials Identified: Onondaga chert

2.3.14.2 Description

Findspot 14 consists of a lithic scatter of 13 Onondaga chert artifacts concentrated in the northern part of the site (see Map 41). Three utilized flakes, one retouch flake and one primary flake were collected for laboratory analysis, and are fully documented in Appendix C – Records 83–85 (see Image 23.8). None of the artifacts showed evidence of heat alteration. The remaining 8 flakes were left in the field to assist in site re-location (if necessary). The full 20 m area of intensified survey was achieved around Findspot 14 (see Supplementary Documentation Map 10).

2.3.15 Findspot 15 (Ryerse 15; AeHb-78)

2.3.15.1 Overview

Site Type: A 37 x 20 m lithic scatter; 3 of 10 artifacts collected
Location: Northeast of Hilltop Drive and east of Port Ryerse Road
Property: Lot 3, Broken Front in the Geographic Township of Woodhouse, Norfolk County
Permanent Datum GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: 72 m southwest of project location at MET tower
Diagnostic Artifacts: 1
Materials Identified: Onondaga chert

2.3.15.2 Description

Findspot 15 consists of a lithic scatter of 10 Onondaga chert artifacts with no clear concentration (see Map 42). One Jacks Reef projectile point and two secondary flakes were collected for laboratory analysis, and are fully documented in Appendix C – Records 86–87 (see Image 23.10). None of the artifacts showed evidence of heat alteration. The remaining 7 flakes were left in the field to assist in site re-location (if necessary). Permission to enter agricultural lands outside of the staked project area to the south was not granted; accordingly, the full 20 m area of intensified survey could not be achieved around Findspot 15 (see Supplementary Documentation Map 10).

2.3.16 Findspot 16 (Ryerse 16; AeHb-79)

2.3.16.1 Overview

Site Type: A 17 x 13 m lithic scatter; 2 of 6 artifacts collected
Location: Northeast of Hilltop Drive and east of Port Ryerse Road
Property: Lot 3, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: 45 m southwest of project location at MET tower
Diagnostic Artifacts: 0
Materials Identified: Onondaga chert

2.3.16.2 Description

Findspot 16 consists of a lithic scatter of 6 Onondaga chert artifacts concentrated in the south (see Map 42). One thumbnail scraper and one secondary flake were collected for laboratory analysis, and are fully documented in Appendix C– Records 88–89 (see Image 23.11). None of the artifacts showed evidence of heat alteration. The remaining 4 flakes were left in the field to assist in site re-location (if necessary). The full 20 m area of intensified survey was achieved around Findspot 16 (see Supplementary Documentation Map 10).

2.3.17 Findspot 17 (Ryerse 17; AeHb-80)

2.3.17.1 Overview

Site Type: A 9 x 5 m lithic scatter; 2 of 6 artifacts collected
Location: Northeast of Hilltop Drive and east of Port Ryerse Road
Property: Lot 3, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: Within project location at access to turbine T1
Diagnostic Artifacts: 0
Materials Identified: Onondaga chert

2.3.17.2 Description

Findspot 17 consists of a lithic scatter of 6 Onondaga chert artifacts with no clear concentration (see Map 43). One utilized flake and one secondary flake were collected for laboratory analysis, and are fully documented in Appendix C – Records 90–91. None of the artifacts showed evidence of heat alteration. The remaining 4 flakes were left in the field to assist in site re-location (if necessary). Permission to enter wooded lands outside of the staked project area to the north was not granted; accordingly, the full 20 m area of intensified survey could not be achieved around Findspot 17 (see Supplementary Documentation Map 9).

2.3.18 Findspot 18 (Ryerse 18; AeHb-81)

2.3.18.1 Overview

Site Type: A 9 x 1 m lithic scatter; 2 of 2 artifacts collected
Location: Northeast of Hilltop Drive and east of Port Ryerse Road
Property: Lot 3, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: Within project location at turbine T1
Diagnostic Artifacts: 1
Materials Identified: Onondaga chert

2.3.18.2 Description

Findspot 18 consists of a lithic scatter of 2 Onondaga chert artifacts with no clear concentration (see Map 44). One Adena projectile point and one secondary flake were collected for laboratory analysis, and are fully documented in Appendix C – Records 92–93 (see Image 23.1). None of the artifacts showed evidence of heat alteration. Permission to enter agricultural and wooded lands outside of the staked project area to the south and east was not granted; accordingly, the full 20 m area of intensified survey could not be achieved around Findspot 18 (see Supplementary Documentation Map 9).

2.3.19 Findspot 19 (Ryerse 19; AeHb-82)

2.3.19.1 Overview

Site Type: A 28 x 21 m lithic scatter; 18 of 48 artifacts collected
Location: South of Gilbert Road and west of Avalon Lane
Property: Lot 4, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: 28 m west of project location at electrical line to turbine T1
Diagnostic Artifacts: 1
Materials Identified: Onondaga and Selkirk chert

2.3.19.2 Description

Findspot 19 consists of a lithic scatter of 48 lithic artifacts concentrated in the northwest (see Map 45). One Kramer projectile point base, two utilized flakes, two primary flakes and thirteen secondary flakes were collected for laboratory analysis, and are fully documented in Appendix C – Records 94–98 (see Image 23.9). None of the artifacts showed evidence of heat alteration. The remaining 30 flakes were left in the field to assist in site re-location (if necessary). Permission to enter wooded lands outside of the staked project area to the west was not granted; accordingly, the full 20 m area of intensified survey could not be achieved around Findspot 19 (see Supplementary Documentation Map 9).

2.3.20 Findspot 20 (Ryerse 20; AeHb-87)

2.3.20.1 Overview

Site Type: An 11 x 20 m lithic scatter; 4 of 7 artifacts collected
Location: South of Gilbert Road and west of Avalon Lane
Property: Lot 4, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: 21 m southeast of project location at electrical line to turbine T1
Diagnostic Artifacts: 0
Materials Identified: Onondaga chert

2.3.20.2 Description

Findspot 20 consists of a lithic scatter of 7 Onondaga chert artifacts concentrated in the south-central part of the site (see Map 46). One preform, one retouch flake and two secondary flakes were collected for laboratory analysis, and are fully documented in Appendix C – Records 102–104. None of the artifacts showed evidence of heat alteration. The remaining 3 artifacts were left in the field to assist in site re-location (if necessary). The full 20 m area of intensified survey was achieved around Findspot 20 (see Supplementary Documentation Map 9).

2.3.21 Findspot 21 (Ryerse 21; AeHb-88)

2.3.21.1 Overview

Site Type: A 1 x 11 m lithic scatter; 3 of 3 artifacts collected
Location: South of Gilbert Road and west of Avalon Lane
Property: Lot 4, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: 33 m east of project location at electrical line to turbine T1
Diagnostic Artifacts: 0
Materials Identified: Onondaga chert

2.3.21.2 Description

Findspot 21 consists of a lithic scatter of 3 Onondaga chert artifacts with no concentration (see Map 47). One primary flake and two secondary flakes were collected for laboratory analysis, and are fully documented in Appendix C – Records 105–106. None of the artifacts showed evidence of heat alteration. The full 20 m area of intensified survey was achieved around Findspot 21 (see Supplementary Documentation Map 8).

2.3.22 Findspot 22 (Ryerse 22; AeHb-89)

2.3.22.1 Overview

Site Type: A 13 x 15 m lithic scatter; 5 of 9 artifacts collected
Location: South of Gilbert Road and west of Avalon Lane
Property: Lot 4, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: 73 m southeast of project location at electrical line to turbine T1
Diagnostic Artifacts: 0
Materials Identified: Onondaga chert

2.3.22.2 Description

Findspot 22 consists of a lithic scatter of 9 Onondaga chert artifacts concentrated in the central part of the site (see Map 46). One utilized flake, one primary flake, two secondary flakes and one flake fragment were collected for laboratory analysis, and are fully documented in Appendix C – Records 107–110. None of the artifacts showed evidence of heat alteration. The remaining 3 artifacts were left in the field to assist in site re-location (if necessary). Permission to enter agricultural lands outside of the staked project area to the east was not granted; accordingly, the full 20 m area of intensified survey could not be achieved around Findspot 22 (see Supplementary Documentation Map 9).

2.3.23 Inventory of the Documentary Record

The inventory of the documentary record for the Stage 2 assessment is summarized in Table 6. 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.

Table 6: Stage 2 Documentary Record – Findspots 1–22

Field Documents	Total	Nature	Location
Photographs	773	Digital	On server at 154 Otonabee Drive, Kitchener; Folders P089-014-2012
Field Notes	38	Digital and hard copy	Filed and on server at 154 Otonabee Drive, Kitchener; P089-014-2012
Field Maps	19	Digital and hard copy	Filed and on server at 154 Otonabee Drive, Kitchener; P089-014-2012

The artifact collection from the Stage 2 assessment is housed in polyethylene bags that are stored in Archive Box A219. 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.

2.4 Analysis and Conclusions

2.4.1 Findspot 1 (Ryerse 1; AeHb-68)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age and cultural affiliation of Findspot 1 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that 10 non-diagnostic artifacts were found concentrated within a 10 x 10 m area in the northeastern part of Findspot 1, this site meets the second criterion and is therefore of further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 1 warrants further archaeological investigation (i.e. a Stage 3 site-specific assessment) if any future developments are planned here, or if the project location is revised at a later date to include this area. Based on

the evidence from the Stage 2 assessment, this site does not exhibit sufficient CHVI to recommend proceeding directly to Stage 4 mitigation.

2.4.2 Findspot 2 (Ryerse 2; AeHb-69)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age, cultural affiliation or function of Findspot 2 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that only 6 non-diagnostic artifacts were found at Findspot 2, this site does not meet either of these criteria and is therefore of no further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 2 does not warrant further archaeological investigation (i.e. a Stage 3 site-specific assessment and/or Stage 4 mitigation of development impacts).

2.4.3 Findspot 3 (Ryerse 3; AeHb-70)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age and cultural affiliation of Findspot 3 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that 10 non-diagnostic artifacts were found concentrated within a 10 x 10 m area in the southwestern part of Findspot 3, this site meets the second criterion and is therefore of further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 3 warrants further archaeological investigation (i.e. a Stage 3 site-specific assessment) if any future developments are planned here, or if the project location is revised at a later date to include this area. Based on the evidence from the Stage 2 assessment, this site does not exhibit sufficient CHVI to recommend proceeding directly to Stage 4 mitigation.

2.4.4 Findspot 4 (Ryerse 4; AeHb-71)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age and cultural affiliation of Findspot 4 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that 10 non-diagnostic artifacts were found concentrated within a 10 x 10 m area in the northeastern part of Findspot 4, this site meets the second criterion and is therefore of further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 4 warrants further archaeological investigation (i.e. a Stage 3 site-specific assessment) if any future developments are planned here, or if the project location is revised at a later date to include this area. Based on the evidence from the Stage 2 assessment, this site does not exhibit sufficient CHVI to recommend proceeding directly to Stage 4 mitigation.

2.4.5 Findspot 5 (Ryerse 5; AeHb-72)

The artifacts from Findspot 5 which can be effectively classified into 'architectural', 'ceramic food related', 'ceramic non-food related', 'glass', 'lithic' and 'metal' groups. Of the 184 collected artifacts, a total of 154 (83.70% of the assemblage) can be confidently dated based on the presence of recognizable diagnostic characteristics. The traits and chronological significance of these diagnostic artifacts are fully discussed below. The remaining non-diagnostic artifacts, comprising non-specific fragments of window glass, glass storage vessels, brick, unidentifiable metal fragments, coarse red earthenware and an isolated Pre-Contact lithic, are also described in these contexts (see Section 2.4.5.1–Section 2.4.5.6). Section 2.4.5.7 presents an interpretation and evaluation of these finds as they pertain to the function and CHVI of Findspot 5.

2.4.5.1 Architectural Assemblage

Architectural artifacts comprised only a small portion (3.26%) of the total assemblage at Findspot 5, with only 6 collected artifacts (see Table 7). Only one cut nail was found to be diagnostic (see Table 8); such items were popular from the late 18th to the late 19th century (see Image 25).

Table 7: Summary of Architectural Artifacts – Findspot 5

Group	Type	Object	Freq.	% of Architectural Artifacts
Architectural	**Brick**	Unglazed Brick	1	16.67%
	Ferrous	Ferrous Nail	1	16.67%
	Glass	Pane Glass	4	66.66%
		Architectural Total	**6**	**100.00%**

Table 8: Summary of Diagnostic Architectural Artifacts – Findspot 5

Group	Object	Datable Attribute	Freq.	% of Diagnostic Assemblage	Date Range	Reference
Architectural	Nail	Cut	1		1790–1880	Nelson 1968
	Architectural Total		**1**			

Non-diagnostic artifacts included 1 fragment of unglazed brick and 4 fragments of pane (sheet) glass. Unfortunately, both were too fragmentary to allow for diagnostic dating.

2.4.5.2 Ceramic Food Related Assemblage

A total of 166 non-architectural ceramic artifacts were identified at Findspot 5 (90.21% of the total assemblage). Of these, 153 were found to be associated with food processing, storage or serving (see Table 9; Image 24).

Table 9: Summary of Ceramic Food Related Artifacts – Findspot 5

Group	Type	Object	Freq.	% of Ceramic Food Related Artifacts
Ceramic Food Related	**Tableware**	Ironstone	13	8.50%
		Pearlware	6	3.92%
		Porcelaneous Ware	14	9.15%
		Refined White Earthenware	111	72.55%
		Yelloware	1	0.65%
		Tableware Total	**145**	**94.77%**
	Cooking & Storage	Holloware	8	5.23%
		Cooking & Storage Total	8	**5.23%**
		Total Artifacts	**153**	**100.00%**

Within the ceramic food related assemblage, 142 artifacts (92.81%) were found to be diagnostic (see Table 10). Diagnostic pieces within this group included coarse stoneware, fine stoneware, Ironstone, pearlware, porcelaneous ware, refined white EW and yelloware. A discussion of each identified dateable attribute within the ceramic food related assemblage appears below.

All 13 collected fragments of Ironstone ceramic were found to be diagnostic. Unfortunately, because all Ironstone fragments were plain (undecorated), it was not possible to further refine

their date of production beyond that of the ceramic itself, which peaked in population in Ontario from 1870–1890 (Adams 1995:102).

All fragments of collected plain pearlware (6) and porcelaneous ware (14) were similarly found to be diagnostic. Of these wares, pearlware is the oldest—dating from 1779–1840 (Kenyon 1840; Miller 1991:8). Overlapping in date with the later pearlwares, plain porcelaneous wares were first introduced ca. 1820 and are still manufactured today; however, the addition of dye as a decorative features was not introduced until 1878 (Richardson 2011). Taken together, these items suggest a mid- to late 19th century deposition.

Only 101 of the 111 identified pieces of refined white EW were found to be diagnostic; the remaining artifacts too fragmentary for further analyses. Although high in frequency, the presence of this type of ceramic is not notable as refined white EW was the most commonly used ceramic in Ontario after 1830 (Adams 1995:102).

Nearly a third of the refined white EW fragments (27.45% of the ceramic food assemblage) were decorated with a flow transfer in blue with a floral motif. This decorative style experienced two distinctive eras of popularity within Ontario, from ca. 1840–1850 and then again from ca. 1890–1900 (Adams 1995:104; Samford 1997:24; Snyder 2012). Refined white EW painted in Late Palette colours (i.e. bright pink and green) dating from 1830 were also common, comprising 9.8% of the total ceramic food related assemblage. Undecorated, or plain, refined white EWs also made up a significant portion of the ceramic food assemblage (8.5%). Taken together, the predominance of these three styles of decoration suggests a mid- to late 19th century deposition.

Other decorative styles utilized within the refined white EW assemblage at Findspot 5 included annular (or banded) ware, Blue Willow, painted (blue), trail slip and transfer printed (in black, blue and green). Taken collectively, these date the site from ca. 1830–1900.

Five fragments of coarse stoneware (salt glazed) and three fragments of yelloware were also collected; typically, such materials are found in storage and cooking wares as opposed to more delicate tablewares. These items, dating from ca. 1840 and 1830, respectively, are consistent with a mid-19th century deposition.

Table 10: Summary of Diagnostic Ceramic Food Related Artifacts – Findspot 5

Group	Object	Datable Attribute	Freq.	% of Diagnostic Assemblage	Date Range (Manufacture)	Reference
Tableware	**Ironstone**	Plain	13	9.15%	1840–Present	Adams 1995: 102
		Ironstone Total	**13**	**9.15%**		
	Pearlware	Plain	6	4.23%	1779–1840	Adams 1995: 102
		Pearlware Total	**6**	**4.23%**		
	Porcelaneous Ware	Plain	11	7.75%	1820–Present	Aultman et al. 2006

Group	Object	Datable Attribute	Freq.	% of Diagnostic Assemblage	Date Range (Manufacture)	Reference
		Blue Dyed Body	3	2.11%	1878–Present	Richardson 2011
		Porcelaneous Total	**14**	**9.86%**		
	Refined White EW	Annular (Black)	1	0.70%	1830–1900s	FLMNH 2011
		Annular (Blue)	2	1.41%	1830–1900s	FLMNH 2011
		Blue Willow	8	5.63%	1830–Present	Kenyon 1985:50
		Flow Transfer (Blue)	42	29.58%	1845–1900	Adams 1995:101
		Painted (Late Palette)	15	10.56%	1830–Present	Adams 1995:102
		Painted (Blue)	4	2.82%	1830–Present	Adams 1995:102
		Plain	13	9.15%	1830–Present	Adams 1995:102
		Trail Slip	5	3.52%	1811–1900	Miller 2000: 13
		Transfer (Black)	3	2.11%	1830–Present	Adams 1995:103
		Transfer (Blue)	4	2.82%	1830–Present	Stelle 2001
		Transfer (Green)	4	2.82%	1830–Present	Adams 1995:103
		Refined White EW Total	**101**	**71.13%**		
	Tableware Total		**134**	**94.37%**		
Cooking & Storage	**Stoneware**	North American (Coarse)	4	2.82%	1840–1900	Richardson 2011
		Salt Glaze (Fine)	1	0.70%	1849–Present	Adams 1995: 101
		Coarse Stoneware Total	**5**	3.52%		
	Yelloware	Plain	1	0.70%	1830–1940	Miller 2000:12
		Rockingham	2	1.41%	1830–1940	Richardson 2011
		Yelloware Total	**3**	2.11%		
	Cooking & Storage Total		**8**	**5.63%**		
Total Diagnostic			**142**	**100.00%**		

The diagnostic ceramic food related assemblage suggests a mid- to late 19th century deposition for Findspot 5, with the majority being manufactured post-1830. The three fragments of porcelaneous ware showing a blue dyed body are of greater diagnostic value, as this decorative style was not introduced until 1878 (Richardson 2011).

2.4.5.3 Ceramic Non-Food Related Assemblage

Of the 166 non-architectural ceramic artifacts collected at Findspot 5, 13 (7.83%) were identified as being associated with non-food related activities (see Table 11; Image 25).

Table 11: Summary of Ceramic Non-Food Related Artifacts – Findspot 5

Group	Type	Object	Freq.	% of Ceramic Food Related Artifacts
Ceramic Non Food Related	**Agriculture & Horticulture**	Flower Pot (coarse red EW)	2	15.38%
		Horticulture Total	**2**	**15.38%**
	Decorative Furnishing	Figurine	1	7.69%
		Decorative Total	**1**	**7.69%**
	Fasteners	Prosser Button	1	7.69%
		Fasteners Total	**1**	**7.69%**
	Pipes	Spur	1	7.69%
		Marked Bowl	2	15.38%
		Plain Bowl	5	38.46%
		Plain Stem	1	7.69%
		Clay Pipes Total	**9**	**69.23%**
	Total Artifacts		**13**	**100.00%**

Of the 13 non-food related ceramics from Findspot 5, a single Prosser button and nine fragments of clay pipes were found to be diagnostic (76.92% of the ceramic non-food assemblage). As shown in Table 12. These broadly date to the mid-19th century or later (Adams 1995:95; Sprague 2002:111).

Table 12: Summary of Diagnostic Ceramic Non-Food Related Artifacts – Findspot 5

Group	Object	Datable Attribute	Freq.	% of Diagnostic Assemblage	Date Range (Manufacture)	Reference
Ceramic Non-Food Related	**Button**	Prosser Button	1	10.0%	Post-1840	Sprague 2002:111
		Apparel Total	**1**	**10.0%**		
	Pipes	Clay Pipe	9	90.0%	c.1850–1941	Wright 2000:14–16
		Smoking Total	**9**	**90.0%**		
	Total Diagnostic		**10**	**100.0%**		

2.4.5.4 Glass Group

A total of 9 non-architectural glass artifacts were collected at Findspot 5, representing 4.89% of the total assemblage (see Table 13). Only one of these artifacts was found to be diagnostic: a fragment of a solarized glass storage container (see Image 25). In Ontario, solarized glass was popular from ca. 1880–1920 (Adams 1995:100).

Table 13: Summary of Glass Artifacts – Findspot 5

Group	Type	Object	Freq.	% of Glass Artifacts
Glass	**Storage Containers**	Bottle	4	44.44%
		Unidentified	2	22.22%
		Storage Total	**6**	**66.67%**
	Tableware	Unidentified	2	22.22%
		Tableware Total	**2**	**22.22%**
	Miscellaneous	Melted Glass	1	11.11%
		Miscellaneous Total	**1**	**11.11%**
		Glass Total	**9**	**100.00%**

2.4.5.5 Lithic Group

Only one lithic artifact was collected from Findspot 5: a single retouch flake of Onondaga chert. Unfortunately, this artifact was not found to possess any significant diagnostic value.

Accordingly, a specific determination of the age and cultural affiliation for the lithic component of Findspot 5 is not possible, save for the generalized designation of 'Pre-Contact'.

2.4.5.6 Metal Group

Only two metal artifacts were collected from Findspot 5: a fragment of a copper-alloy thimble (see Image 25) and a concave fragment of an unidentifiable non-ferrous metal artifact. Unfortunately, neither artifact was found to be diagnostic.

2.4.5.7 Interpretation and Evaluation

Based on the presence of 154 diagnostic artifacts, the bulk of which comprised ceramic tablewares, Findspot 5 appears to be a mid-19th to early 20th century Euro-Canadian domestic midden. The inclusion of several earlier diagnostic ceramic types (i.e. plain pearlwares) likely represent family heirloom items, passed among family members for a number of years prior to deposition. The absence of any significant number of architectural or hardware items, as well as the absence of any documented historic homesteads or structures in the vicinity of Findspot 5 (see Map 20), suggests that the associated homestead was located at some distance from the midden.

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 over 20 pre-1900 Euro-Canadian artifacts were found at Findspot 5, this site meets the first criterion and is therefore of further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 5 warrants further archaeological investigation (i.e. a Stage 3 site-specific assessment) if any future developments are planned here, or if the project location is revised at a later date to include this area. Based on the evidence from the Stage 2 assessment, this site does not exhibit sufficient CHVI to recommend proceeding directly to Stage 4 mitigation.

2.4.6 Findspot 6 (Ryerse 6; AeHb-73)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age, cultural affiliation or function of Findspot 6 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that only 5 non-diagnostic artifacts were found at Findspot 6, this site does not meet either of these criteria and is therefore of no further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 6 does not warrant further archaeological investigation (i.e. a Stage 3 site-specific assessment and/or Stage 4 mitigation of development impacts).

2.4.7 Findspot 7 (Ryerse 7; AeHb-85)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age, cultural affiliation or function of Findspot 7 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that only 5 non-diagnostic artifacts were found at Findspot 7, this site does not meet either of these criteria and is therefore of no further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 7 does not warrant further archaeological investigation (i.e. a Stage 3 site-specific assessment and/or Stage 4 mitigation of development impacts).

2.4.8 Findspot 8 (Ryerse 8; AeHb-83)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age, cultural affiliation or function of Findspot 8 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that only 5 non-diagnostic artifacts were found at Findspot 8, this site does not meet either of these criteria and is therefore of no further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 8 does not warrant further archaeological investigation (i.e. a Stage 3 site-specific assessment and/or Stage 4 mitigation of development impacts).

2.4.9 Findspot 9 (Ryerse 9; AeHb-84)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age, cultural affiliation or function of Findspot 9 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m

pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that only 5 non-diagnostic artifacts were found at Findspot 9, this site does not meet either of these criteria and is therefore of no further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 9 does not warrant further archaeological investigation (i.e. a Stage 3 site-specific assessment and/or Stage 4 mitigation of development impacts).

2.4.10 Findspot 10 (Ryerse 10; AeHb-74)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age and cultural affiliation of Findspot 10 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that only 9 non-diagnostic artifacts were found at Findspot 10, this site does not meet either of these criteria and is therefore of no further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 10 does not warrant further archaeological investigation (i.e. a Stage 3 site-specific assessment and/or Stage 4 mitigation of development impacts).

2.4.11 Findspot 11 (Ryerse 11; AeHb-75)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age, cultural affiliation or function of Findspot 11 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that 10 non-diagnostic artifacts were found concentrated within a 10 x 10 m area in the northeastern part of Findspot 11, this site meets the second criterion and is therefore of further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 11 warrants further archaeological investigation (i.e. a Stage 3 site-specific assessment) if any future developments are planned here, or if the project location is revised at a later date to include this area. Based on the evidence from the Stage 2 assessment, this site does not exhibit sufficient CHVI to recommend proceeding directly to Stage 4 mitigation.

2.4.12 Findspot 12 (Ryerse 12; AeHb-86)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age and cultural affiliation of Findspot 12 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that only 6 non-diagnostic artifacts were found at Findspot 12, this site does not meet either of these criteria and is therefore of no further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 12 does not warrant further archaeological investigation (i.e. a Stage 3 site-specific assessment and/or Stage 4 mitigation of development impacts).

2.4.13 Findspot 13 (Ryerse 13; AeHb-76)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age, cultural affiliation or function of Findspot 13 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that only 9 non-diagnostic artifacts were found at Findspot 13, this site does not meet either of these criteria and is therefore of no further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 13 does not warrant further archaeological investigation (i.e. a Stage 3 site-specific assessment and/or Stage 4 mitigation of development impacts).

2.4.14 Findspot 14 (Ryerse 14; AeHb-77)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age, cultural affiliation or function of Findspot 14 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that 10 non-diagnostic artifacts were found concentrated within a 10 x 10 m area in the northern part of Findspot 14, this site meets the second criterion and is therefore of further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 14 warrants further archaeological investigation (i.e. a Stage 3 site-specific assessment) if any future developments are planned here, or if the project location is revised at a later date to include this area. Based on the evidence from the Stage 2 assessment, this site does not exhibit sufficient CHVI to recommend proceeding directly to Stage 4 mitigation.

2.4.15 Findspot 15 (Ryerse 15; AeHb-78)

Based on the discovery of a Jacks Reef projectile point, Findspot 15 appears to date to the Middle Woodland period, specifically from 400 BC–AD 600 (OHS 1997).

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that 1 diagnostic artifact and 2 non-diagnostic artifacts were identified within a 10 x 10 m area in the western part of Findspot 15, this site meets the first criterion and is therefore of further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 15 warrants further archaeological investigation (i.e. a Stage 3 site-specific assessment) if any future developments are planned here, or if the project location is revised at a later date to include this area. Based on the evidence from the Stage 2 assessment, this site does not show a high enough level of CHVI to require Stage 4 mitigation.

2.4.16 Findspot 16 (Ryerse 16; AeHb-79)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age, cultural affiliation or function of Findspot 16 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that only 6 non-diagnostic artifacts were found at Findspot 16, this site does not meet either of these criteria and is therefore of no further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 16 does not warrant further archaeological investigation (i.e. a Stage 3 site-specific assessment and/or Stage 4 mitigation of development impacts).

2.4.17 Findspot 17 (Ryerse 17; AeHb-80)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age, cultural affiliation or function of Findspot 17 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that only 6 non-diagnostic artifacts were found at Findspot 17, this site does not meet either of these criteria and is therefore of no further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 17 does not warrant further archaeological investigation (i.e. a Stage 3 site-specific assessment and/or Stage 4 mitigation of development impacts).

2.4.18 Findspot 18 (Ryerse 18; AeHb-81)

Based on the discovery of an Adena projectile point, Findspot 18 appears to date to the Early Woodland period, specifically from 800 BC–AD 800 (OHS 1997). These artifacts are associated with the Adena culture.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that only 1 diagnostic artifact and 1 non-diagnostic artifact were found at Findspot 18, this site does not meet either of these criteria and is therefore of no further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 18 does not warrant further archaeological investigation (i.e. a Stage 3 site-specific assessment and/or Stage 4 mitigation of development impacts).

2.4.19 Findspot 19 (Ryerse 19; AeHb-82)

Based on the discovery of a Kramer stemmed projectile point base, Findspot 19 appears to date to the Early Woodland period, specifically from 1000–400 BC (OAS London Chapter 2011).

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that 10 non-diagnostic artifacts were found concentrated within a 10 x 10 m area in the northwestern part of Findspot 19, and that 1 diagnostic and 2 non-diagnostic artifacts were found within a similarly sized area in the southeastern part of Findspot 19, this site meets both criteria and is therefore of further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 19 warrants further archaeological investigation (i.e. a Stage 3 site-specific assessment) if any future developments are planned here, or if the project location is revised at a later date to include this area. Based on

the evidence from the Stage 2 assessment, this site does not exhibit sufficient CHVI to recommend proceeding directly to Stage 4 mitigation.

2.4.20 Findspot 20 (Ryerse 20; AeHb-87)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age and cultural affiliation of Findspot 20 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that only 7 non-diagnostic artifacts were found at Findspot 20, this site does not meet either of these criteria and is therefore of no further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 20 does not warrant further archaeological investigation (i.e. a Stage 3 site-specific assessment and/or Stage 4 mitigation of development impacts).

2.4.21 Findspot 21 (Ryerse 21; AeHb-88)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age, cultural affiliation or function of Findspot 21 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized area (MTC 2011:39–40). Given that only 3 non-diagnostic artifacts were found at Findspot 21, this site does not meet either of these criteria and is therefore of no further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 21 does not warrant further archaeological investigation (i.e. a Stage 3 site-specific assessment and/or Stage 4 mitigation of development impacts).

2.4.22 Findspot 22 (Ryerse 22; AeHb-89)

Unfortunately, none of the artifacts possessed any significant diagnostic value. Accordingly, a specific determination of the age and cultural affiliation of Findspot 22 is not possible, save for the generalized designation of 'Pre-Contact'.

According to the criteria set out in Section 2.2 of the *Standards and Guidelines for Consultant Archaeologists*, a Pre-Contact site requires further assessment when at least one diagnostic artifact/fire cracked rock and at least two non-diagnostic artifacts are found within a 10 x 10 m pedestrian survey area, or at least 10 non-diagnostic artifacts are found within a similarly-sized

area (MTC 2011:39–40). Given that only 9 non-diagnostic artifacts were found at Findspot 22, this site does not meet either of these criteria and is therefore of no further CHVI.

Based on these findings, it is the considered opinion of ARA that Findspot 22 does not warrant further archaeological investigation (i.e. a Stage 3 site-specific assessment and/or Stage 4 mitigation of development impacts).

2.5 Recommendations

2.5.1 Findspot 1 (Ryerse 1; AeHb-68)

Findspot 1 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. AeHb-68 and designated as Ryerse 1.

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 this site, however, the proponent modified the project location. ARA accordingly recommends that Findspot 1 be subjected to further archaeological assessment only if impacts become a concern. An appropriate Stage 3 assessment strategy would involve a Controlled Surface Pickup of the remaining artifacts and the excavation of an array of 1 x 1 m test units along a 5 m grid across the 54 x 22 m scatter.

Although part of Findspot 1's 20 m protective buffer traverses the project location, this buffer is affected by a permanently disturbed cultural form (Avalon Lane and its associated embankment/ditch). 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), a modified buffer zone is therefore warranted. Given that the project does not propose any modifications to Avalon Lane in this area, and that the full extent of the project location within the 20 m protective buffer is disturbed, Stage 3 assessment is not required within this part of the buffer. Findspot 1 and its 20 m protective buffer must be subjected to construction monitoring, however. A temporary barrier should be erected along the project location limits in this area to protect the site during construction. All construction activities within 70 m of Findspot 1 must be monitored by a licensed archaeologist to ensure that unintentional project impacts do not occur (see Supplementary Documentation Map 11).

2.5.2 Findspot 2 (Ryerse 2; AeHb-69)

Findspot 2 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. AeHb-69 and designated as Ryerse 2.

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 Findspot 2 be required.

2.5.3 Findspot 3 (Ryerse 3; AeHb-70)

Findspot 3 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. AeHb-70 and designated as Ryerse 3.

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 this site, however, the proponent modified the project location. ARA accordingly recommends that Findspot 3 be subjected to further archaeological assessment only if impacts become a concern. An appropriate Stage 3 assessment strategy would involve a Controlled Surface Pickup of the remaining artifacts and the excavation of an array of 1 x 1 m test units along a 5 m grid across the 40 x 30 m scatter.

Although part of Findspot 3's 20 m protective buffer traverses the project location, this buffer is affected by a permanently disturbed cultural form (Avalon Lane and its associated embankment/ditch). 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), a modified buffer zone is therefore warranted. Given that the project does not propose any modifications to Avalon Lane in this area, and that the full extent of the project location within the 20 m protective buffer is disturbed, Stage 3 assessment is not required within this part of the buffer. Findspot 3 and its 20 m protective buffer must be subjected to construction monitoring, however. A temporary barrier should be erected along the project location limits in this area to protect the site during construction. All construction activities within 70 m of Findspot 3 must be monitored by a licensed archaeologist to ensure that unintentional project impacts do not occur (see Supplementary Documentation Map 12).

2.5.4 Findspot 4 (Ryerse 4; AeHb-71)

Findspot 4 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. AeHb-71 and designated as Ryerse 4.

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 this site or its 20 m protective buffer, however, the proponent modified the project location. ARA accordingly recommends that Findspot 4 be subjected to further archaeological assessment only if impacts become a concern. An appropriate Stage 3 assessment strategy would involve a Controlled Surface Pickup of the remaining artifacts and the excavation of an array of 1 x 1 m test units along a 5 m grid across the 25 x 22 m scatter.

Given that at least one part of Findspot 4 is located between 21 and 70 m away from the project location, unintentional project impacts to the site are a concern. Thus, in accordance with the direction set out in Section 7.8.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:140–141), ARA recommends that Findspot 4 be subjected to construction monitoring. A temporary barrier should be erected along the project location limits in this area to protect the site during construction. All construction activities within 70 m of Findspot 4 must be monitored by a licensed archaeologist to ensure that unintentional project impacts do not occur (see Supplementary Documentation Map 13).

2.5.5 Findspot 5 (Ryerse 5; AeHb-72)

Findspot 5 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. AeHb-72 and designated as Ryerse 5.

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 this site or its 20 m protective buffer, however, the proponent modified the project location. ARA accordingly recommends that Findspot 5 be subjected to further archaeological assessment only if impacts become a concern. An appropriate Stage 3 assessment strategy would involve a Controlled Surface Pickup of the remaining artifacts and the excavation of an array of 1 x 1 m test units along a 5 m grid across the 56 x 57 m scatter.

Given that at least one part of Findspot 5 is located between 21 and 70 m away from the project location, unintentional project impacts to the site are a concern. Thus, in accordance with the direction set out in Section 7.8.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:140–141), ARA recommends that Findspot 5 be subjected to construction monitoring. A temporary barrier should be erected along the project location limits in this area to protect the site during construction. All construction activities within 70 m of Findspot 5 must be monitored by a licensed archaeologist to ensure that unintentional project impacts do not occur (see Supplementary Documentation Map 13).

2.5.6 Findspot 6 (Ryerse 6; AeHb-73)

Findspot 6 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. AeHb-73 and designated as Ryerse 6.

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 Findspot 6 be required.

2.5.7 Findspot 7 (Ryerse 7; AeHb-85)

Findspot 7 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. AeHb-85 and designated as Ryerse 7.

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 Findspot 7 be required.

2.5.8 Findspot 8 (Ryerse 8; AeHb-83)

Findspot 8 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. AeHb-83 and designated as Ryerse 8.

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 Findspot 8 be required.

2.5.9 Findspot 9 (Ryerse 9; AeHb-84)

Findspot 9 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. AeHb-84 and designated as Ryerse 9.

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 Findspot 9 be required.

2.5.10 Findspot 10 (Ryerse 10; AeHb-74)

Findspot 10 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. AeHb-74 and designated as Ryerse 10.

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 Findspot 10 be required.

2.5.11 Findspot 11 (Ryerse 11; AeHb-75)

Findspot 11 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. AeHb-75 and designated as Ryerse 11.

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 this site or its 20 m protective buffer, however, the proponent modified the project location. ARA accordingly recommends that Findspot 11 be subjected to further archaeological assessment only if impacts become a concern. An appropriate Stage 3 assessment strategy would involve a Controlled Surface Pickup of the remaining artifacts and the excavation of an array of 1 x 1 m test units along a 5 m grid across the 34 x 34 m scatter.

Given that at least one part of Findspot 11 is located between 21 and 70 m away from the project location, unintentional project impacts to the site are a concern. Thus, in accordance with the direction set out in Section 7.8.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:140–141), ARA recommends that Findspot 11 be subjected to construction monitoring. A temporary barrier should be erected along the project location limits in this area to protect the site during construction. All construction activities within 70 m of Findspot 11 must be monitored by a licensed archaeologist to ensure that unintentional project impacts do not occur (see Supplementary Documentation Map 14).

2.5.12 Findspot 12 (Ryerse 12; AeHb-86)

Findspot 12 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. AeHb-86 and designated as Ryerse 12.

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 Findspot 12 be required.

2.5.13 Findspot 13 (Ryerse 13; AeHb-76)

Findspot 13 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. AeHb-76 and designated as Ryerse 13.

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 Findspot 13 be required.

2.5.14 Findspot 14 (Ryerse 14; AeHb-77)

Findspot 14 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. AeHb-77 and designated as Ryerse 14.

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 this site or its 20 m protective buffer, however, the proponent modified the project location. ARA accordingly recommends that Findspot 14 be subjected to further archaeological assessment only if impacts become a concern. An appropriate Stage 3 assessment strategy would involve a Controlled Surface Pickup of the remaining artifacts and the excavation of an array of 1 x 1 m test units along a 5 m grid across the 21 x 11 m scatter.

In accordance with the direction set out in Section 7.8.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:140–141), a buffer of at least 71 m now exists between this site and any part of the project location (see Supplementary Documentation Map 10). Specifically, the minimum distance between Findspot 14 and the project location at the proposed substation is 81 m.

2.5.15 Findspot 15 (Ryerse 15; AeHb-78)

Findspot 15 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. AeHb-78 and designated as Ryerse 15.

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 this site or its 20 m protective buffer, however, the proponent modified the project location. ARA accordingly recommends that Findspot 15 be subjected to further archaeological assessment only if impacts become a concern. An appropriate Stage 3 assessment strategy would involve a Controlled Surface Pickup of the remaining artifacts and the excavation of an array of 1 x 1 m test units along a 5 m grid across the 37 x 20 m scatter.

In accordance with the direction set out in Section 7.8.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:140–141), a buffer of at least 71 m now exists between this site and any part of the project location (see Supplementary Documentation Map 10). Specifically, the minimum distance between Findspot 15 and the project location at the MET tower is 72 m.

2.5.16 Findspot 16 (Ryerse 16; AeHb-79)

Findspot 16 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. AeHb-79 and designated as Ryerse 16.

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 Findspot 16 be required.

2.5.17 Findspot 17 (Ryerse 17; AeHb-80)

Findspot 17 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. AeHb-80 and designated as Ryerse 17.

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 Findspot 17 be required.

2.5.18 Findspot 18 (Ryerse 18; AeHb-81)

Findspot 18 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. AeHb-81 and designated as Ryerse 18.

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 Findspot 18 be required.

2.5.19 Findspot 19 (Ryerse 19; AeHb-82)

Findspot 19 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. AeHb-82 and designated as Ryerse 19.

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 this site or its 20 m protective buffer, however, the proponent modified the project location. ARA accordingly recommends that Findspot 19 be subjected to further archaeological assessment only if impacts become a concern. An appropriate Stage 3 assessment strategy would involve a Controlled Surface Pickup of the remaining artifacts and the excavation of an array of 1 x 1 m test units along a 5 m grid across the 28 x 21 m scatter.

Given that at least one part of Findspot 19 is located between 21 and 70 m away from the project location, unintentional project impacts to the site are a concern. Thus, in accordance with the direction set out in Section 7.8.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:140–141), ARA recommends that Findspot 19 be subjected to construction monitoring. A temporary barrier should be erected along the project location limits in this area to protect the unexcavated parts of the site during construction. All construction activities within 70 m of Findspot 19 must be monitored by a licensed archaeologist to ensure that unintentional project impacts do not occur (see Supplementary Documentation Map 15).

Prior to the issuance of this recommendation, Findspot 19 had the potential to be impacted by an earlier version of the project location (now removed from the current design). Accordingly, it was subjected to a partial Stage 3 site-specific assessment (see Section 3.0).

2.5.20 Findspot 20 (Ryerse 20; AeHb-87)

Findspot 20 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. AeHb-87 and designated as Ryerse 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 no further CHVI. ARA accordingly recommends that no further archaeological assessment of Findspot 20 be required.

2.5.21 Findspot 21 (Ryerse 21; AeHb-88)

Findspot 21 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. AeHb-88 and designated as Ryerse 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 Findspot 21 be required.

2.5.22 Findspot 22 (Ryerse 22; AeHb-89)

Findspot 22 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. AeHb-89 and designated as Ryerse 22.

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 Findspot 22 be required.

3.0 STAGE 3 SITE-SPECIFIC ASSESSMENT

3.1 Field Methods

A Stage 3 site-specific assessment occurs when potentially significant archaeological resources are located during a Stage 2 property survey. Such assessments typically result in one of the following three outcomes:

- A recommendation that an avoidance and protection strategy be implemented (if the site has further CHVI and can be avoided by means of project redesign, buffering, etc.);
- A recommendation that controlled excavations be conducted (if the site has further CHVI and cannot be avoided); or
- A recommendation of no further assessment (if the site has no further CHVI).

In order to objectively determine whether an archaeological site has CHVI, a systematic approach is required. In keeping with requirements set out in Section 3.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:47), a Stage 3 assessment must begin with 1) the establishment of a permanent datum that can be tied to a development map, 2) the documentation of all field conditions, and 3) a Controlled Surface Pick-up (where appropriate).

In accordance with the requirements mentioned above, the Stage 3 assessment of Ryerse 19 (AeHb-82) began with the relocation of the site, the recording of a central fixed point, and the establishment of a permanent datum point. This datum is tied to a fixed reference landmark (a permanent iron bar) and the grid was established at a +/- 1.0 cm accuracy. The location of the datum point is shown in Map 48 and in Supplementary Documentation Map 3. The associated GPS co-ordinates are presented in the Supplementary Documentation report; these data reveal detailed site location information and therefore cannot be included in the main report.

Weather and lighting conditions were ideal during the Stage 3 assessment, and a day-by-day breakdown of these conditions appears in Table 14. Test unit excavation was only carried out when weather and lighting conditions permitted the identification of subsurface cultural features, the safe recovery of artifacts, and the opportunity to document all excavated parts of the archaeological site. ARA therefore confirms that fieldwork was carried out under weather and lighting conditions that met the requirements set out in Section 3.2 Standard 2 and Section 7.9.1 Standard 1 of the *Standards and Guidelines for Consultant Archeologists* (MTC 2011:47, 143).

Table 14: Summary of Weather of Lighting Conditions during the Stage 3 Assessment

Date	Weather Conditions	Temperature (Max °C)	Lighting Conditions
April 26, 2012	Partly Cloudy	13	Very Good
April 27, 2012	Sunny	8	Excellent

A Controlled Surface Pick-up (CSP) consists of the detailed survey of the ground surface at a given archaeological site in order to locate, map and collect additional artifacts. This method is only used in open fields where archaeological sites were documented through pedestrian survey (MTC 2011:48). Given that Ryerse 19 was discovered in the course of pedestrian survey and is situated in an agricultural field, a CSP was conducted in advance of test unit excavation (see Image 26–Image 27). Ground conditions were ideal during the CSP, with well-weathered soils and high surface visibility. Artifact locations were plotted using a GPS unit, and all artifacts were collected for laboratory analysis (site relocation could be achieved using GPS data, detailed mapping and the permanent site datum, if necessary).

ARA crewmembers then proceeded to excavate an array of 1 x 1 m units at Ryerse 19 in order to test for the presence of buried artifacts, structures, features or other cultural remains. Given that the site appeared to be a small Pre-Contact lithic scatter, the basic test unit excavation strategy set out in Section 3.2.3 of the *Standards and Guidelines from Consultant Archaeologists* was utilized (MTC 2011:Table 3.1). Following this strategy, the test units at Ryerse 19 were established on a 5 m grid oriented northwest-southeast within the northwest portion of the site (see Image 28–Image 29). In order to clarify the site's extent, additional test units amounting to 20% of the initial grid unit total were selected for excavation.

Each test unit was excavated by hand into the first 5 cm of subsoil, and the resultant profiles were examined for stratigraphy, cultural features and/or evidence of fill. The soils from these units were screened through 6 mm mesh and examined for archaeological materials (see Image 30). If such materials were encountered during the excavations, each find would be documented and all artifacts would be collected according to their associated test unit and stratigraphic layer. If cultural features were encountered, the exposed plan of each feature would be recorded, geotextile fabric would be placed over the unit floor, and the unit would be backfilled.

Test unit locations and excavation results were recorded on topographic maps, in field notes and on a GPS handheld unit. Specifically, ARA employs a Topcon GRS-1 Dual Frequency RTK GNSS Receiver and Field Controller capable of network-corrected measurements to 1 cm accuracy (using the UTM17 NAD83 coordinate system). All test units were backfilled upon completion, as per the property owner's instruction.

Excavations ceased at Ryerse 19 when the project location was modified to avoid any further impacts to the site. Accordingly, the site was not fully assessed. The excavation results from the partial assessment are documented in this report in fulfilment of licensing requirements.

In keeping with the requirements set out in Sections 7.9.2–7.9.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:144–147), the comprehensive documentation of the results of the partial Stage 3 assessment is presented in Section 3.2.1–Section 3.2.4. These sections comprise an overview of the excavation results, a comprehensive record of finds, a discussion of the artifactual analysis and conclusions, and the presentation of ARA's recommendation for Ryerse 19.

3.2 Ryerse 19 (AeHb-82)

3.2.1 Record of Finds

3.2.1.1 Overview

Stage 2 Description: A 28 x 21 m lithic scatter; 18 of 48 artifacts collected
Stage 3 Description: The northwestern 15 x 5 m of Ryerse 19; 65 artifacts recovered
Location: South of Gilbert Road and west of Avalon Lane
Property: Lot 4, Broken Front in the Geographic Township of Woodhouse, Norfolk County
GPS Co-ordinates: See Supplementary Documentation
Associated Design Element: 28 m west of project location at electrical line to turbine T1
Total Number of Test Units: 6
Total Number of Artifacts: 65
Diagnostic Artifacts: 0
Lowest Artifact Count/Unit: 1
Highest Artifact Count/Unit: 7
Materials Identified: Onondaga and Selkirk chert

3.2.1.2 Soil Composition and Stratigraphy

A total of 6 one-metre units were hand excavated 5 cm into subsoil at Ryerse 19 prior to the modification of the project location (see Map 49). These units were established along a 5 m grid within the northwestern part of the Stage 2 scatter. Stratigraphy was found to be generally uniform across the site, with Lot 1 (plough zone) consisting of a brown clay showing medium compaction and Lot 2 (subsoil) presenting as a reddish/orange, highly compacted clay across all units (see Image 31). The stratigraphy of the site is summarized in Table 15.

Table 15: Stratigraphic Analysis and Lot Designations – Ryerse 19

Lot No.	Description	Depth Range	Comments
1	Brown clay, medium packed	15–34 cm	Identified in all units; plough zone
2	Reddish/orange clay, hard packed	--	Identified in all units; subsoil

3.2.1.3 Cultural Features

No cultural features were identified at Ryerse 19.

3.2.1.4 Artifact Assemblage

A total of 65 Pre-Contact lithic artifacts were recovered at Ryerse 19, 27 of which came from the six excavated units (Lot 1) and 38 of which came from the CSP. The artifacts from Ryerse 19 are fully documented in Appendix D – Records 1–47 (see Image 32). The highest artifact count (7) was identified in Unit 95N:95E.

Lithic artifacts at Ryerse 19 were predominantly comprised primary of Onondaga chert (95.38% of the total assemblage), with Selkirk chert forming only a small portion of the total assemblage (4.62%). Secondary flakes were the most common artifact type within the assemblage (comprising 53.85% of the total assemblage), followed by retouch flakes (32.31%). The assemblage also included 2 flake fragments and 2 primary flakes; formal tools included 1 combination scraper, 1 side scraper and 3 utilized flakes.

Table 16: Quantitative Summary of Artifacts – Ryerse 19

Material	Class	Object	Frequency	% of Total Assemblage
Onondaga Chert	**Lithic Debitage**	Flake Fragment	2	3.08%
		Primary Flake	1	1.54%
		Retouch Flake	20	30.77%
		Secondary Flake	34	52.31%
	Lithic Tool	Combination Scraper	1	1.54%
		Side Scraper	1	1.54%
		Utilized Flake	3	4.62%
	Total Onondaga Chert		**62**	**95.38%**
Selkirk Chert	**Lithic Debitage**	Primary Flake	1	1.54%
		Retouch Flake	1	1.54%
		Secondary Flake	1	1.54%
	Total Selkirk Chert		**3**	**4.62%**
Total Pre-Contact Artifacts			**65**	**100.00%**

No activity areas or artifact patterning was recognized and no unusual or unexpected findings were encountered. None of the artifacts exhibited evidence of burning or fire alteration.

3.2.1.5 Inventory of the Documentary Record

The inventory of the documentary record for the Stage 3 assessment of Ryerse 19 is summarized in Table 17. 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.

Table 17: Stage 3 Documentary Record – Ryerse 19

Field Documents	Total	Nature	Location
Photographs	29	Digital	On server at 154 Otonabee Drive, Kitchener; Folder P089-018-2012
Field Notes	18	Digital and hard copy	Filed and on server at 154 Otonabee Drive, Kitchener; P089-018-2012
Field Maps	1	Digital and hard copy	Filed and on server at 154 Otonabee Drive, Kitchener; P089-018-2012

The artifact collection from the Stage 3 assessment is housed in polyethylene bags that are stored in Archive Box A219. 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.

3.2.2 Analysis and Conclusions

Unfortunately, none of the Pre-Contact artifacts from the Stage 3 assessment of Ryerse 19 possessed any significant diagnostic value. The Kramer stemmed projectile point base from the Stage 2 assessment (see Section 2.4.19) is therefore the only indicator of the site's date, from 1000–400 BC in the Early Woodland period (OAS London Chapter 2011).

The archaeological findings are difficult to correlate with the available historical documentation. Minimally, this site may have been utilized as a campsite or chipping station during the Early Woodland period. These remains accord well with the current body of archaeological knowledge pertaining to such sites (Ellis and Ferris 1990).

According to Section 3.4 Standard 1e of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:58), Woodland period archaeological sites always require Stage 4 mitigation. Given that one Early Woodland artifact was found during the Stage 2 assessment at Ryerse 19, this site can be considered to have further CHVI.

3.2.3 Recommendations

With the conclusion of the partial Stage 3 site-specific assessment at Ryerse 19, ARA is confident in stating that the site has further CHVI. Since the site was only partially excavated and now falls outside of the project location, additional Stage 3 work will be required if any future developments are planned here, or if the project location is revised at a later date to include this area. Given that Ryerse 19 dates to the Early Woodland period, a Stage 4 mitigation of development impacts would also be required, in accordance with Section 3.4 Standard 1e of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:57).

As mentioned in Section 2.5.19, the proponent has modified the project location in order to avoid impacts to Ryerse 19 or its 20 m protective buffer (a 10 m buffer is not appropriate in this case, as the Stage 3 assessment was only partially completed). Given that at least one part of Ryerse 19 is located between 21 and 70 m away from the project location, however, unintentional project impacts to the site are a concern. Thus, in accordance with the directions set out in Section 7.8.5 and Section 7.9.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:140–141, 147), ARA recommends that Ryerse 19 be subjected to construction monitoring. A temporary barrier should be erected along the project location limits in this area to protect the unexcavated parts of the site during construction. All construction activities within 70 m of Ryerse 19 must be monitored by a licensed archaeologist to ensure that unintentional project impacts do not occur (see Supplementary Documentation Map 15).

4.0 SYNTHESIS OF CONCLUSIONS AND RECOMMENDATIONS

The Stage 2 archaeological assessment of the project location (and additional lands that were previously considered for the project location but have since been removed from the current design) was completed in October 2012. This assessment, completed under optimal conditions, resulted in the discovery of one Euro-Canadian artifact scatter with a small Pre-Contact lithic component (Findspot 5) and twenty-one Pre-Contact artifact scatters and isolated findspots (Findspots 1–4, 6–22). In total, 183 Euro-Canadian artifacts and 120 Pre-Contact artifacts were collected for laboratory analysis.

When compared against the criteria established by the MTCS for determining whether an archaeological site warrants further assessment (MTC 2011:39–40), Findspots 1, 3, 4, 5, 11, 14, 15 and 19 were found to be of further CHVI. In order to avoid impacts to these eight sites, however, the proponent modified the project location. Archaeological sites of further CHVI can be avoided through project redesign provided a 20 m protective buffer zone and a 70 m monitoring zone are established around the site (MTC 2011:140–141). Impacts are not permitted within the 20 m protective buffer zone, and archaeological monitoring must be conducted by a licensed archaeologist for all construction activities within 70 m of the site.

As a result of the proponent's modifications to the project design, none of the sites recommended for further work fall within the current project location, and only two sites (Findspot 1 and Findspot 3) fall within 20 m of the current project location (i.e., a portion of each site's 20 m protective buffers falls within the project location). However, in both of these cases, the 20 m buffer is affected by a permanently disturbed cultural form (Avalon Lane and its associated embankment/ditch). 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), a modified buffer zone is therefore warranted. Findspots 4, 5, 11 and 19 are located between 21 and 70 m away from the project location, whereas Findspots 14 and 15 are located at least 71 m away from the project location.

Based on these findings, ARA recommends that Findspots 1, 3, 4, 5, 11 and 19 be subjected to construction monitoring. Temporary barriers should be erected along the project location limits in these areas to protect the sites during construction (see Supplementary Documentation Map 11–Map 15). All construction activities within 70 m of these sites must be monitored by a licensed archaeologist to ensure that unintentional project impacts do not occur. ARA also recommends that Findspots 14 and 15 be subjected to a Stage 3 site-specific assessment if any future developments are planned in their immediate vicinity, or if the project location is revised at a later date to include these areas.

Prior to the modification of the project location, Findspot 19 had the potential to be impacted by the project; accordingly, it was recommended for a Stage 3 site-specific assessment. The partial Stage 3 archaeological assessment of Findspot 19 (Ryerse 19; AeHb-82) was conducted in April 2012. Legal permission to enter and conduct all necessary fieldwork activities on project lands was granted by the property owner.

The Stage 3 assessment of Findspot 19 involved the excavation of 6 one-metre units, and a total of 65 non-diagnostic Pre-Contact artifacts were recovered. Excavations ceased when the project location was modified to avoid any further impacts to the site. The excavation results from the partial assessment were documented in this report in fulfilment of licensing requirements. As mentioned above, ARA recommends that Findspot 19 be subjected to construction monitoring to ensure that unintentional project impacts do not occur to the remainder of the site. A *Letter of Review and Acceptance into the Provincial Register of Reports* is requested, as provided for in Section 65.1 of the *Ontario Heritage Act*.

5.0 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.

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7.0 IMAGES

Image 1: Area where Standard Survey Interval Could Not Be Maintained
(Photo Taken on March 29, 2012; Facing North)

Image 2: View of Field Conditions at the Time of the Pedestrian Survey
(Photo Taken on March 22, 2012; Facing Northwest)

Image 3: View of Field Conditions at the Time of the Pedestrian Survey
(Photo Taken on March 28, 2012; Facing Southeast)

Image 4: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m
(Photo Taken on March 22, 2012; Facing Northwest)

Image 5: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m
(Photo Taken on March 26, 2012; Facing East)

Image 6: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m
(Photo Taken on March 28, 2012; Facing Northwest)

Image 7: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m
(Photo Taken on March 28, 2012; Facing Southeast)

Image 8: View of Crewmembers Pedestrian Surveying at a Maximum Interval of 5 m
(Photo Taken on April 26, 2012; Facing East)

Image 9: View of Crewmembers Test Pitting at a Maximum Interval of 5 m
(Photo Taken on March 29, 2012; Facing East)

Image 10: View of Crewmembers Test Pitting at a Maximum Interval of 5 m
(Photo Taken on March 29, 2012; Facing West)

Image 11: View of Crewmember Test Pitting at a Maximum Interval of 5 m
(Photo Taken on October 16, 2012; Facing West)

Image 12: View of Crewmembers Test Pitting at a Maximum Interval of 5 m
(Photo Taken on March 29, 2012; Facing East)

Image 13: View of Crewmembers Test Pitting at a Maximum Interval of 5 m
(Photo Taken on March 29, 2012; Facing East)

Image 14: View of Typical Test Pit Excavated into Subsoil
(Photo Taken on March 29, 2012)

Image 15: View of Typical Test Pit Excavated into Subsoil
(Photo Taken on October 11, 2012)

Image 16: View of Typical Test Pit Excavated into Subsoil
(Photo Taken on March 29, 2012)

Image 17: View of Crewmember Screening Soil through 6 mm Mesh
(Photo Taken on March 29, 2012; Facing West)

Image 18: Area of No Archaeological Potential – Permanently Wet Area
(Photo Taken on March 29, 2012; Facing Northwest)

Image 19: Area of No Archaeological Potential – Permanently Wet Area
(Photo Taken on March 29, 2012; Facing Southeast)

Image 20: Area of No Archaeological Potential – Permanently Wet Area
(Photo Taken on April 26, 2012; Facing Southeast)

Image 21: Area of No Archaeological Potential – Lands Sloped Greater than 20°
(Photo Taken March 29, 2012; Facing West)

Image 22: Area of No Archaeological Potential – Lands Sloped Greater than 20°
(Photo Taken March 29, 2012; Facing Northwest)

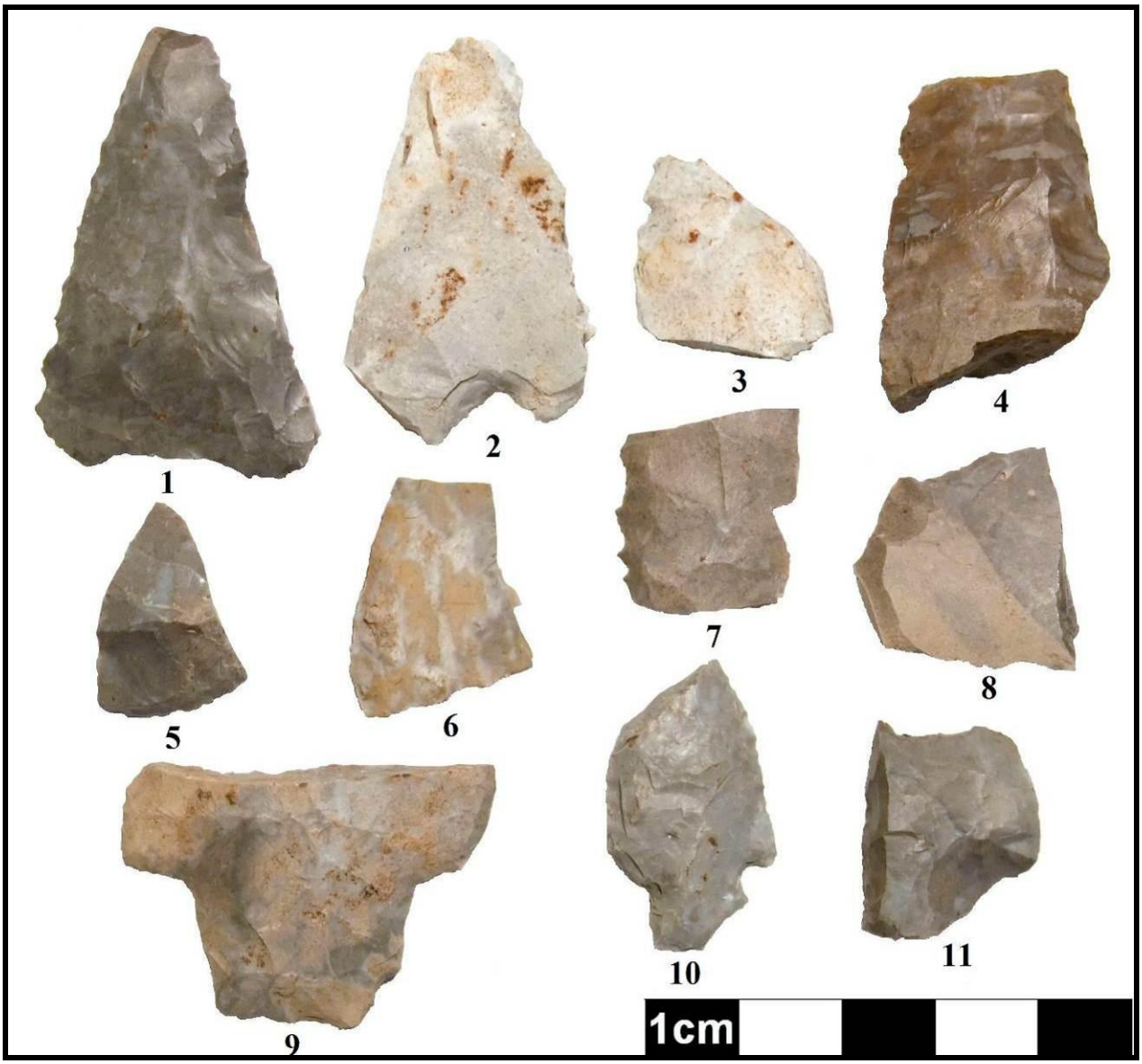


Image 23: Sample of Pre-Contact Artifacts from the Stage 2 Assessment
(1: Adena Projectile Point, Findspot 19; 2: Primary Utilized Flake, Findspot 4; 3: Biface Midsection, Findspot 3; 4: Biface Midsection, Findspot 8; 5: Primary Utilized Flake, Findspot 7; 6: Side Scraper, Findspot 9; 7: Biface Midsection, Findspot 12; 8: Secondary Utilized Flake, Findspot 14; 9: Kramer Projectile Point Base, Findspot 18; 10: Jacks Reef Projectile Point, Findspot 15; 11: Thumbnail Scraper, Findspot 16)

Image 24: Ceramic Food Related Artifacts from Findspot 5
(1: Pearlware; 2: Blue Flow Refined White Earthenware; 3: Blue Willow Refined White Earthenware; 4: Blue Annular Slip Banded Refined White Earthenware; 5: Dyed Body Refined White Earthenware; 6: Rockingham Ware Yelloware; 7: Late Palette Polychrome Painted Refined White Earthenware; 8: Cable Slip Painted Refined White Earthenware; 9: Porcelaneous Ware; 10: Blue Transfer Refined White Earthenware; 11: Green Transfer Refined White Earthenware; 12: Black Transfer Refined White Earthenware; 13: Banded Polychrome Glazed Refined White Earthenware; 14: Grey Glazed Refined White Earthenware; 15: Refined White Earthenware Figurine Fragment; 16: Underglaze Blue Painted Refined White Earthenware; 17: Black Annular Slip Banded Refined White Earthenware; 18: Yelloware)

Image 25: Non-Food Ceramics, Glass and Metal Artifacts from Findspot 5
(1: Refined White Earthenware Figurine Fragment; 2: Ribbed Clay Pipe Bowl Fragment; 3: Ribbed Clay Pipe Bowl Fragment; 4: Plain Clay Pipe Bowl Fragment; 5: Thimble; 6: Ferrous Cut Nail; 7: Solarized Glass; 8: Prosser Button)

Image 26: View of Field Conditions at Ryerse 19 during CSP
(Photo Taken on April 26, 2012; Facing Southwest)

Image 27: View of Field Conditions at Ryerse 19 during CSP
(Photo Taken on April 26, 2012; Facing North)

Image 28: View of Crewmembers Excavating Test Units at Ryerse 19
(Photo Taken on April 26, 2012; Facing Northwest)

Image 29: View of Crewmembers Excavating Test Units at Ryerse 19
(Photo Taken on April 27, 2012; Facing Northwest)

Image 30: View of Crewmember Screening Soil through 6 mm Mesh at Ryerse 19
(Photo Taken on April 27, 2012; Facing South)

Image 31: View of Lot 2 in Unit 95N:95E, Ryerse 19
(Photo Taken on April 27, 2012)

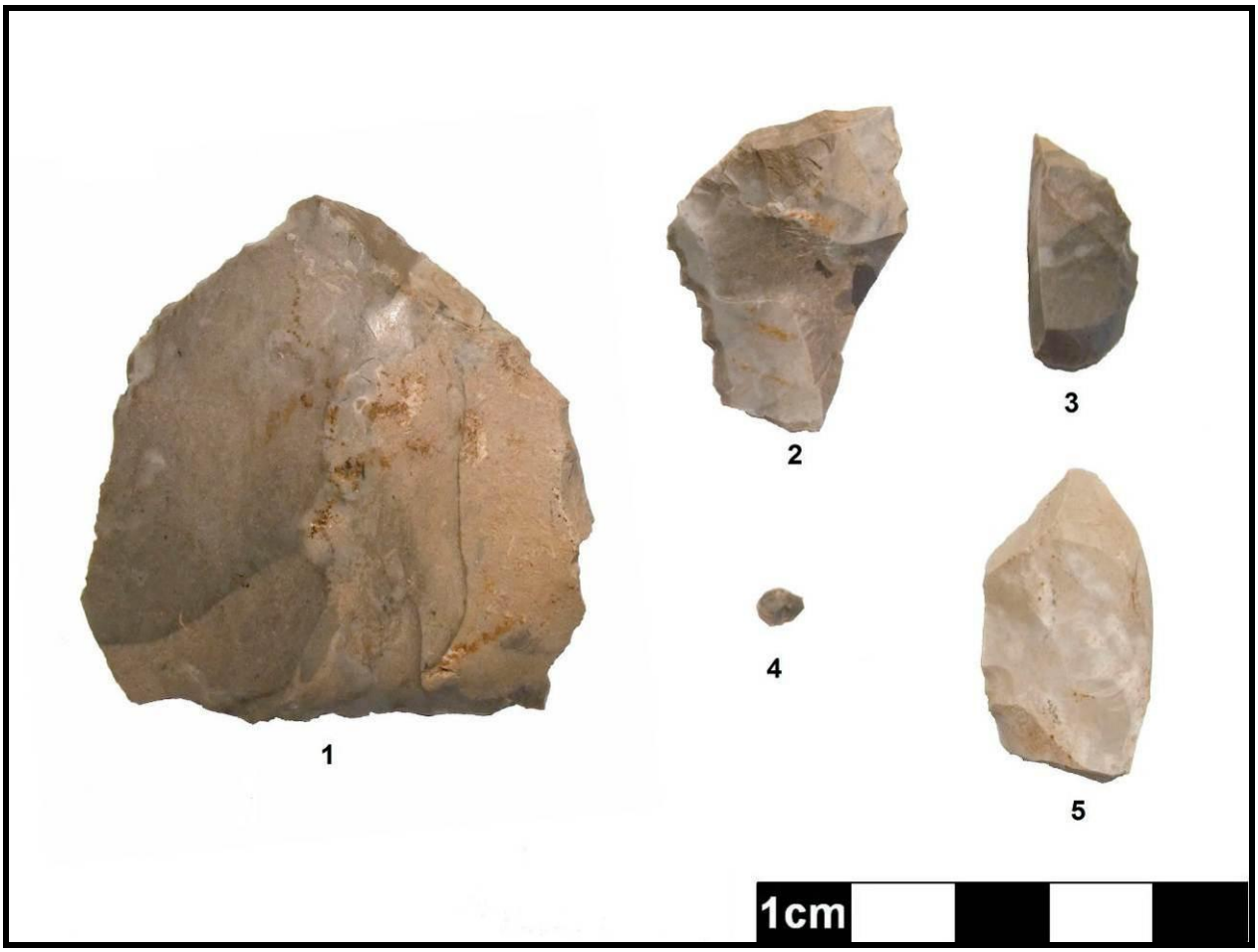
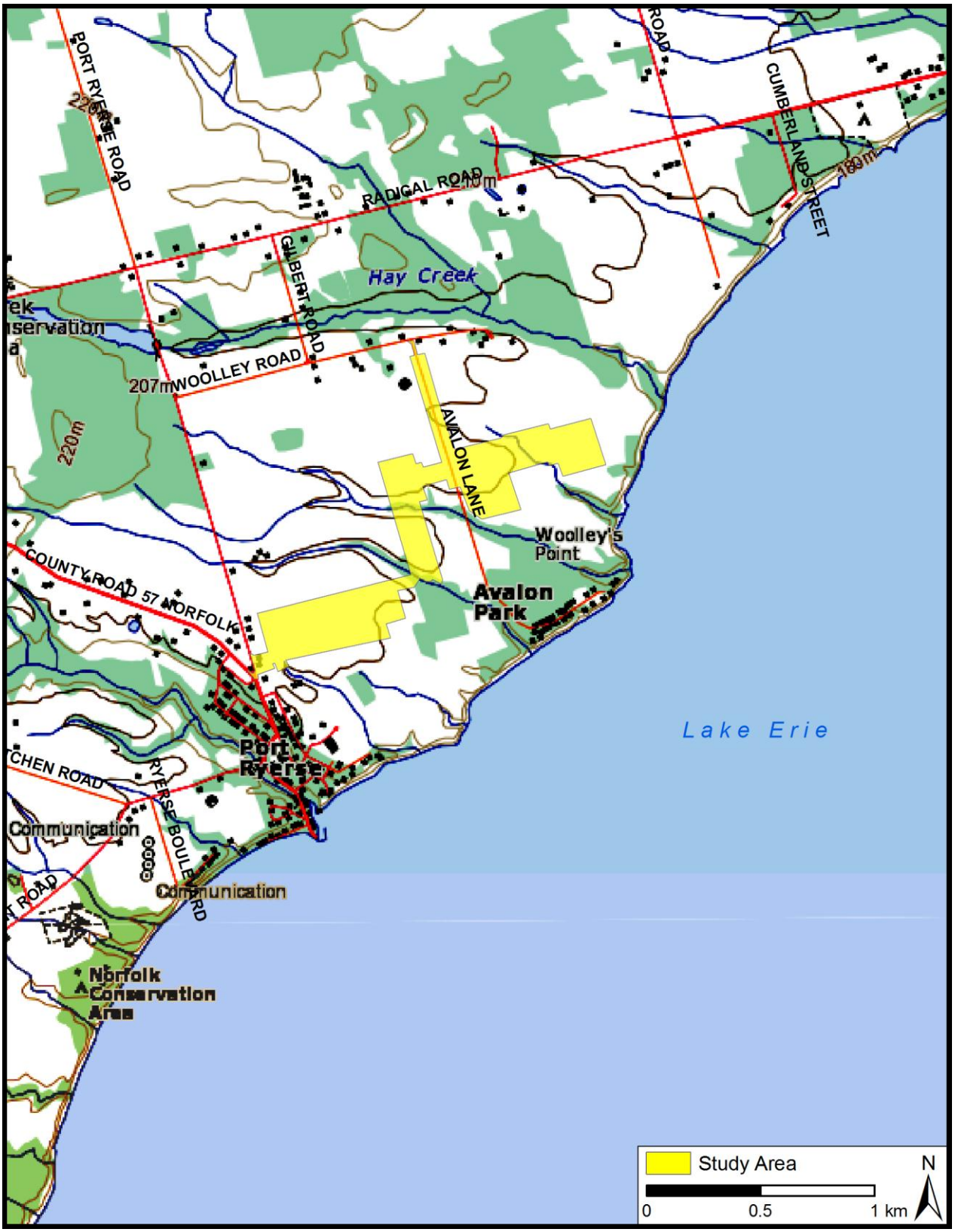


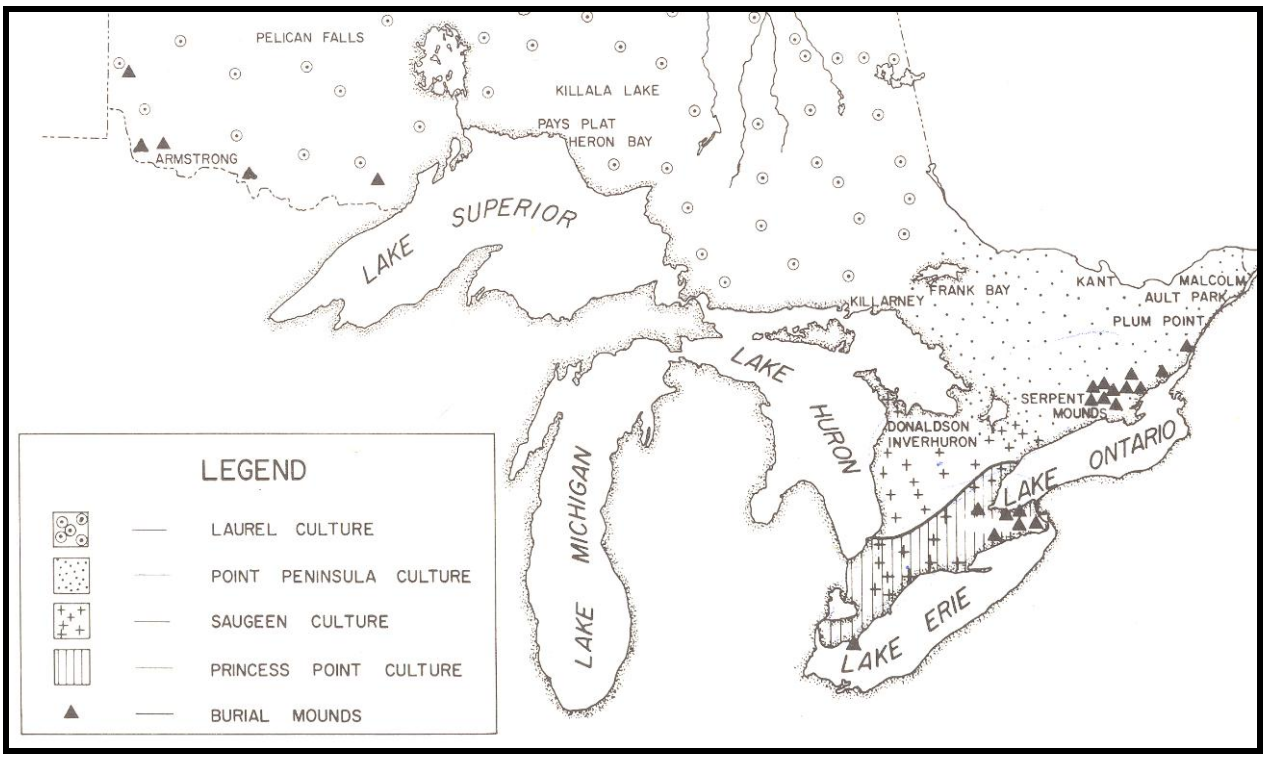
Image 32: Sample of Lithic Artifacts from Ryerse 19
(1: Combination Scraper; 2: Side Scraper; 3: Secondary Utilized Flake; 4: Retouch Flake; 5: Secondary Flake)

8.0 MAPS

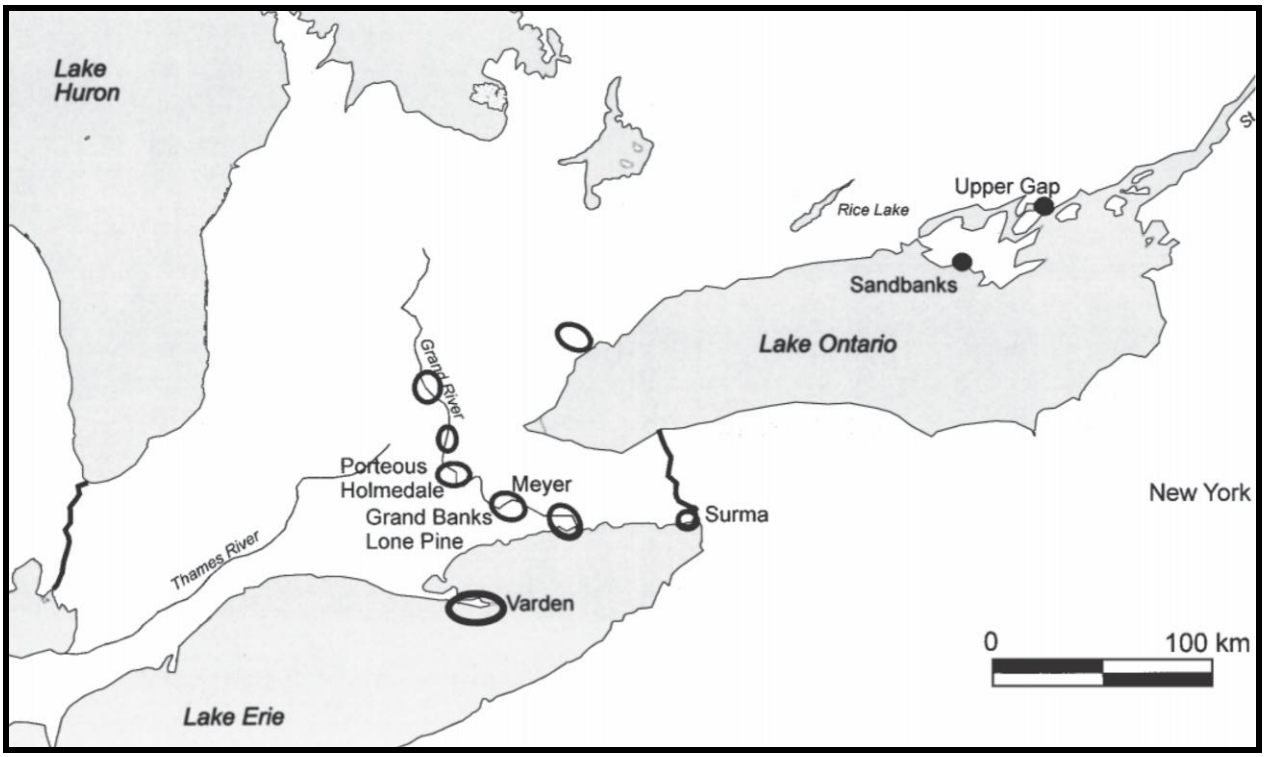
Map 1: Location of the Study Area in the Province of Ontario
(NRC 2004)



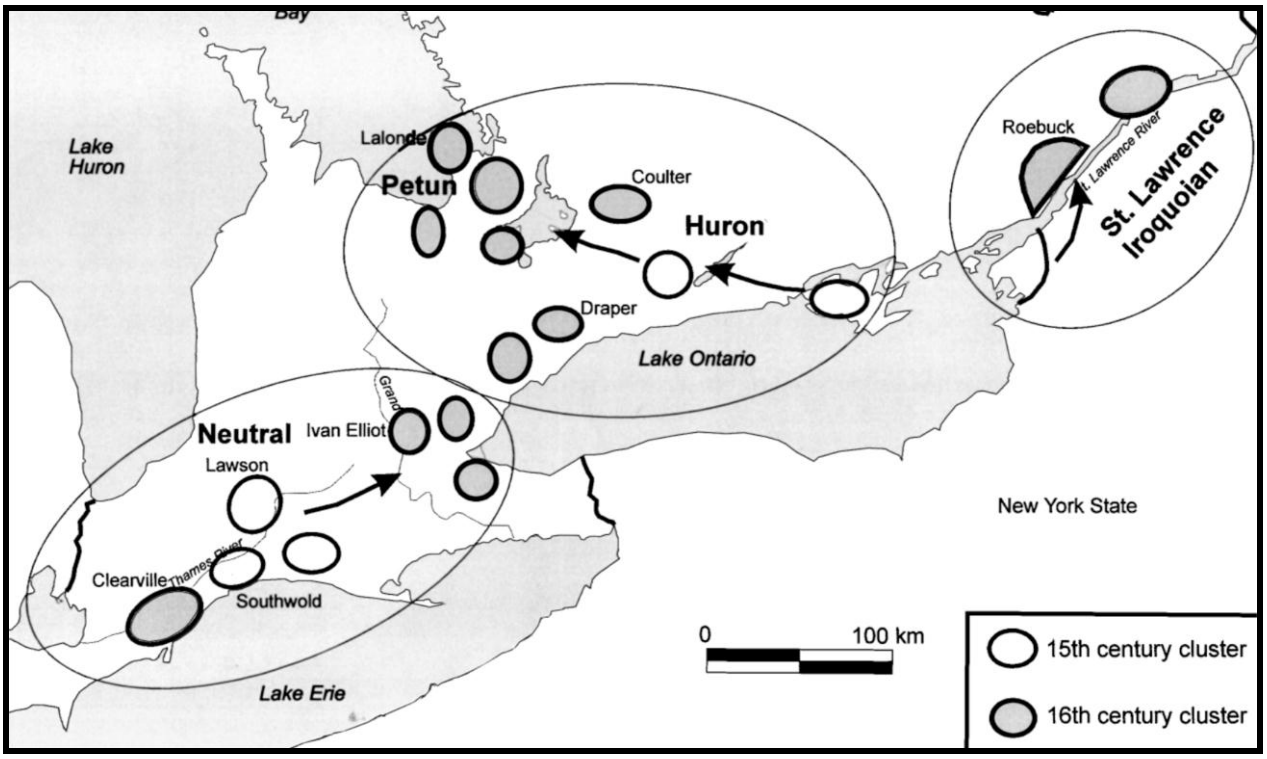
Map 2: Location of the Stage 2 Study Area in Norfolk County
(NRC 2010b)



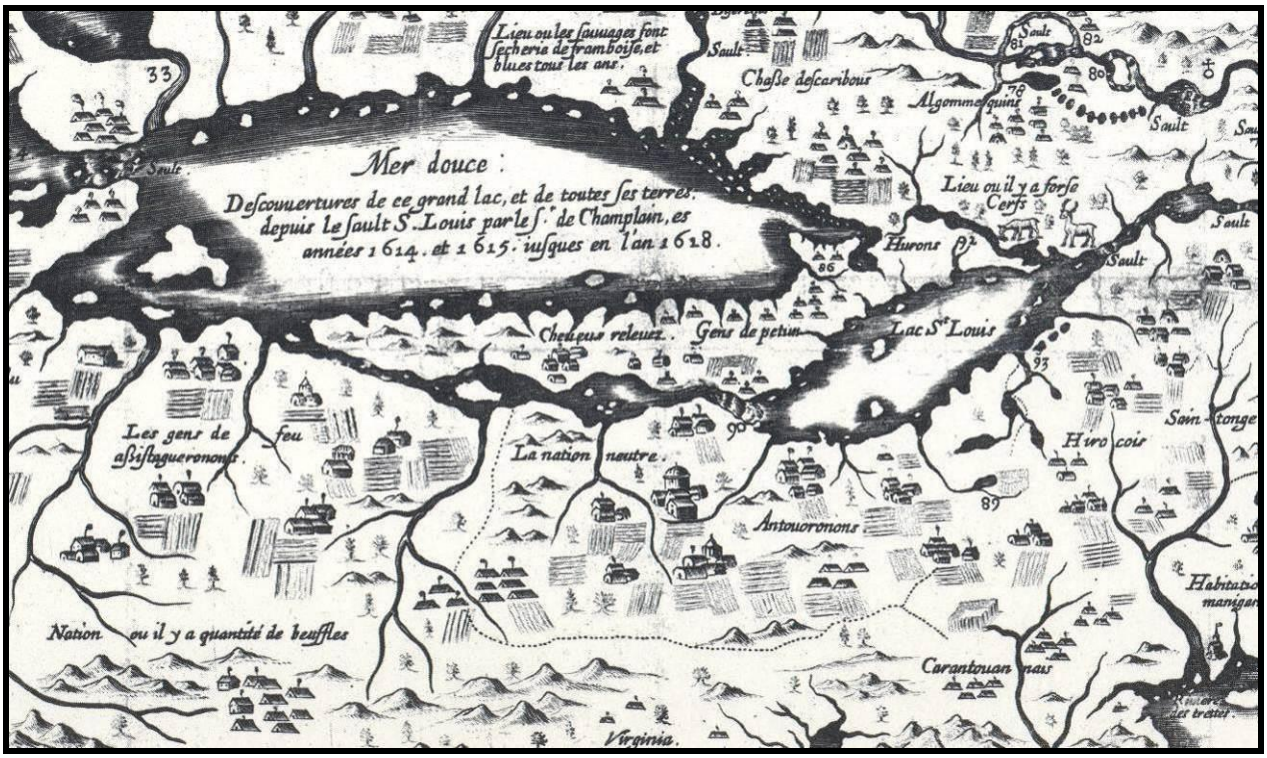
Map 3: Middle Woodland Period Complexes
(Wright 1972:Map 4)



Map 4: Princess Point Site Clusters in Southern Ontario
(Warrick 2000:Fig. 3)

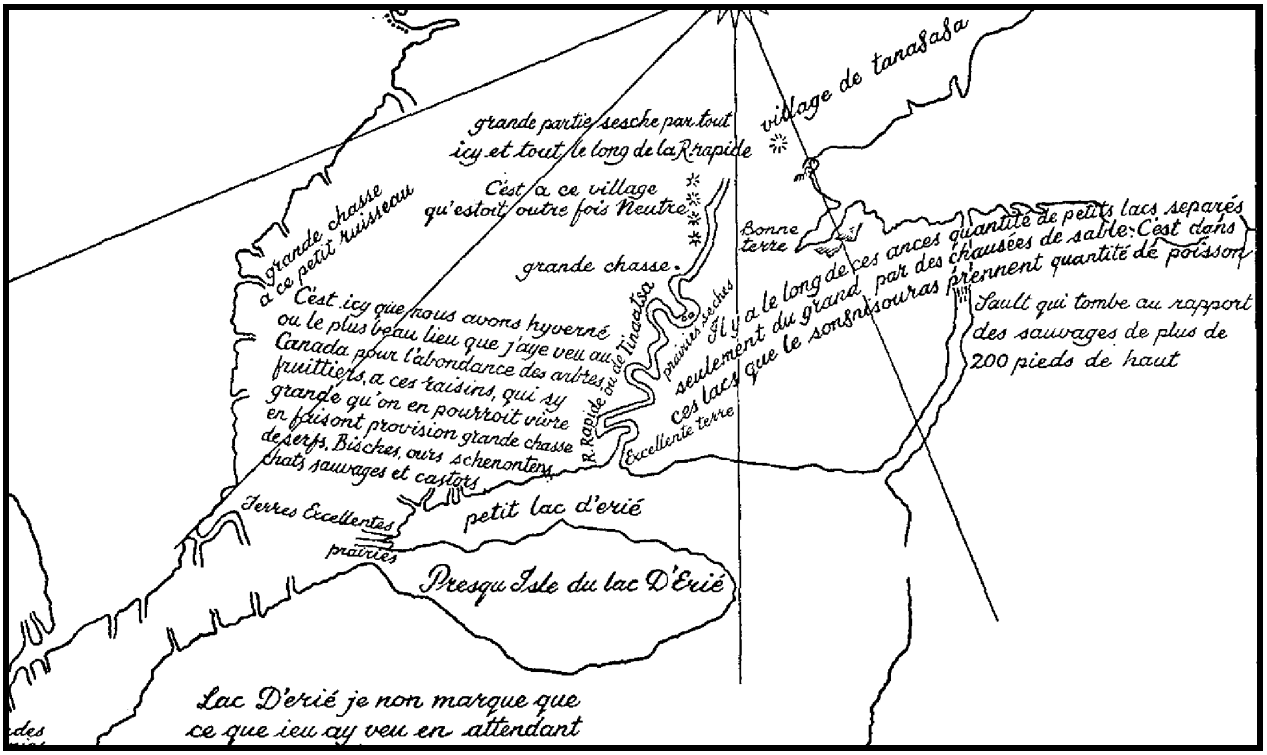


Map 5: Pre-Contact Iroquoian Site Clusters
(Warrick 2000:Figure 10)



Map 6: Detail from S. de Champlain's *Carte de la Nouvelle France* (1632)
(Gentilcore and Head 1984:Map 1.2)

Map 7: Detail from N. Sanson's *Le Canada, ou Nouvelle France* (1656)
(Gentilcore and Head 1984:Map 1.10)

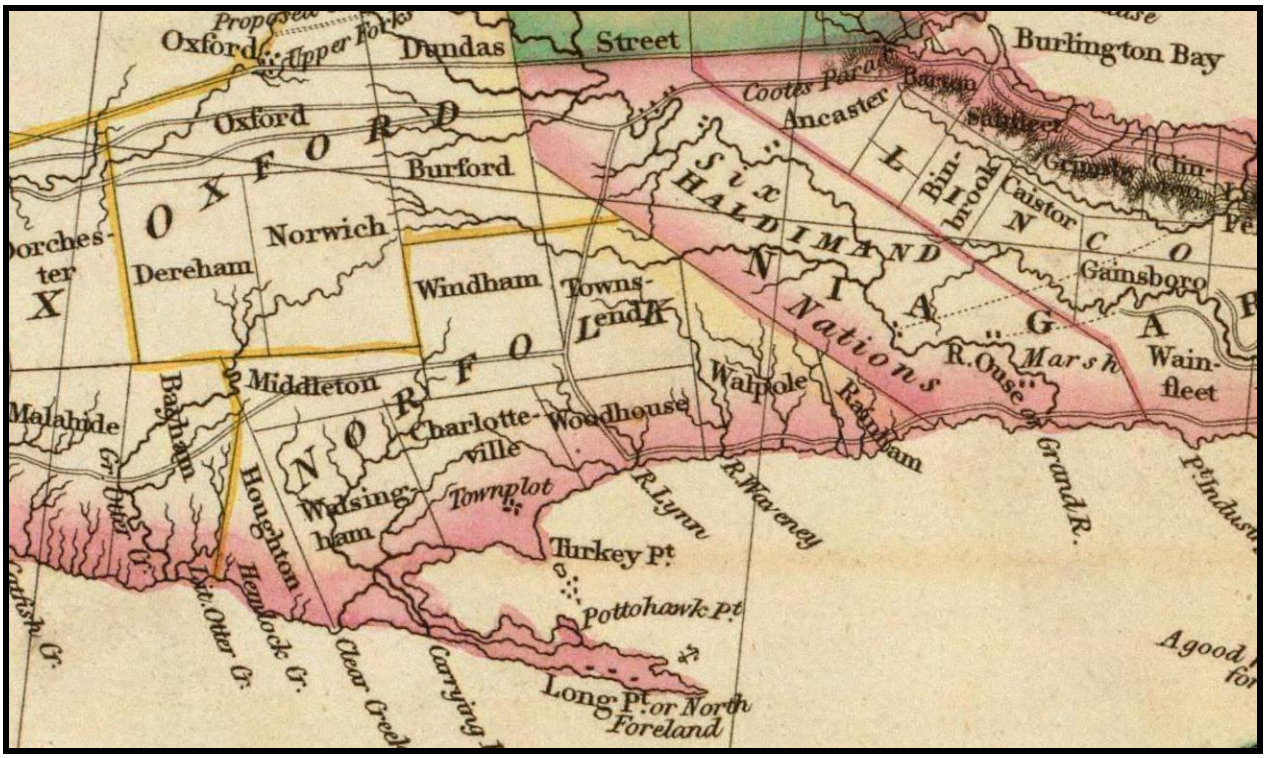


Map 8: Detail from the Map of Galinée's Voyage (1670)
(Lajeunesse 1960:Map 2)

Map 9: Detail from H. Popple's *A Map of the British Empire in America* (1733)
(Cartography Associates 2009)

Map 10: Detail from R. Sayer and J. Bennett's *General Map of the Middle British Colonies in America* (1776)
(Cartography Associates 2009)

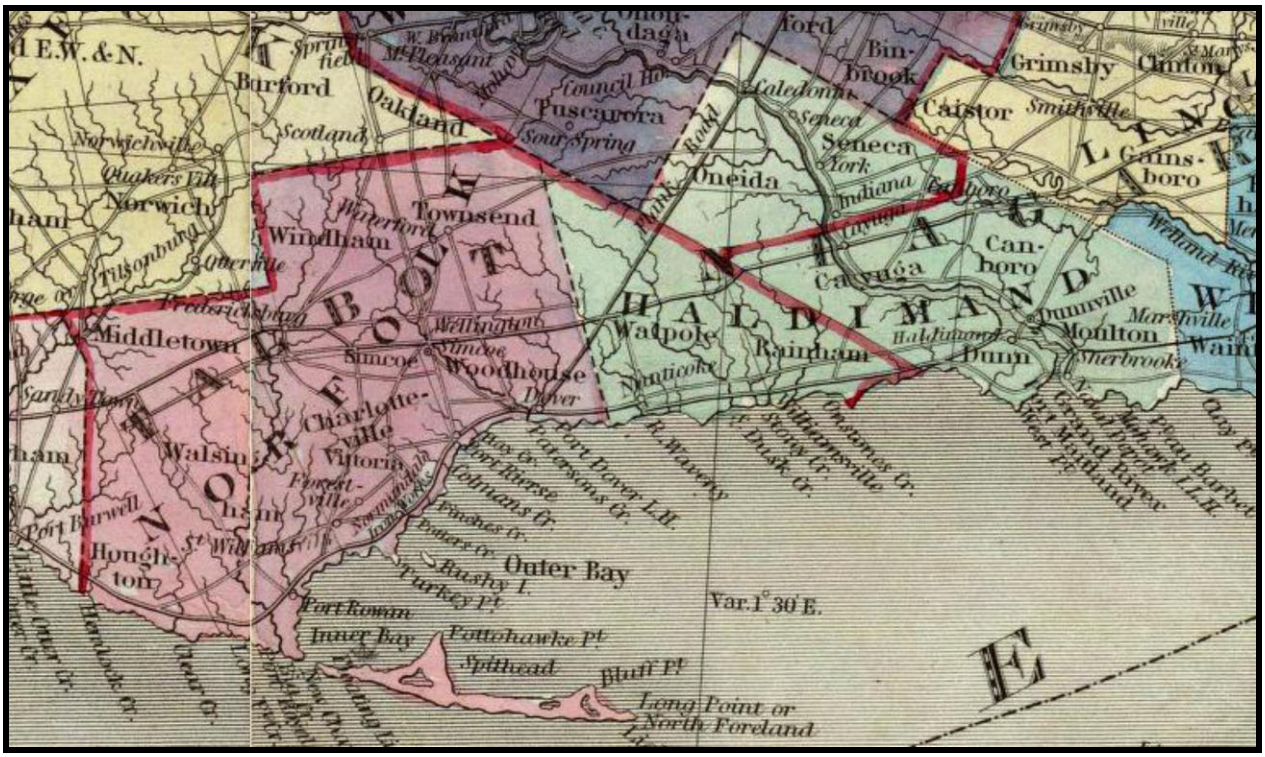
Map 11: Detail from D.W. Smyth's *A Map of the Province of Upper Canada* (1800)
(Cartography Associates 2009)



Map 12: Detail from J. Purdy's *A Map of Cabotia* (1814)
(Cartography Associates 2009)

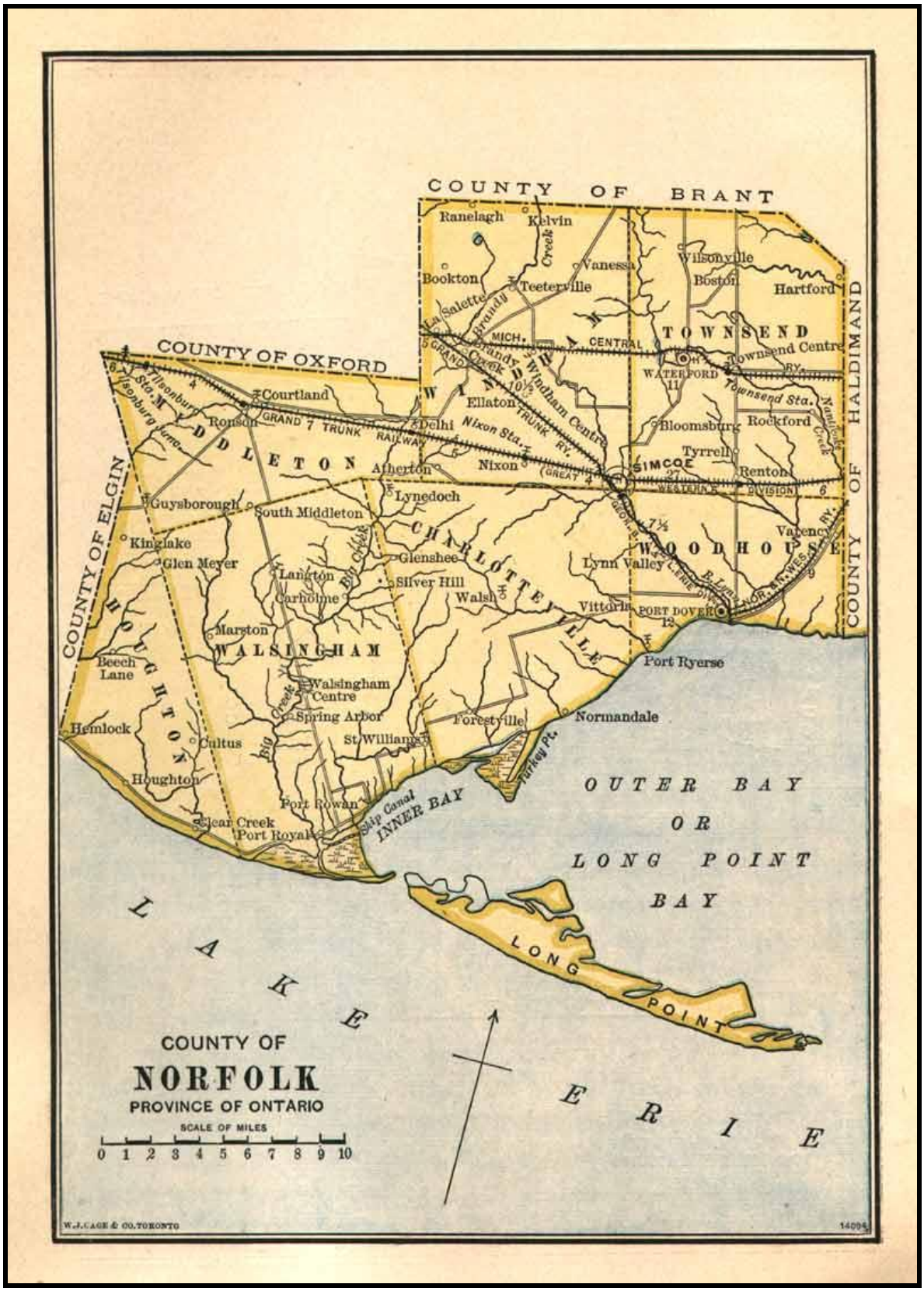
Map 13: Detail from D.W. Smyth's *A Map of the Province of Upper Canada, 2nd Edition* (1818)
(Cartography Associates 2009)

Map 14: Detail from J. Arrowsmith's *Upper Canada* (1837)
(Cartography Associates 2009)

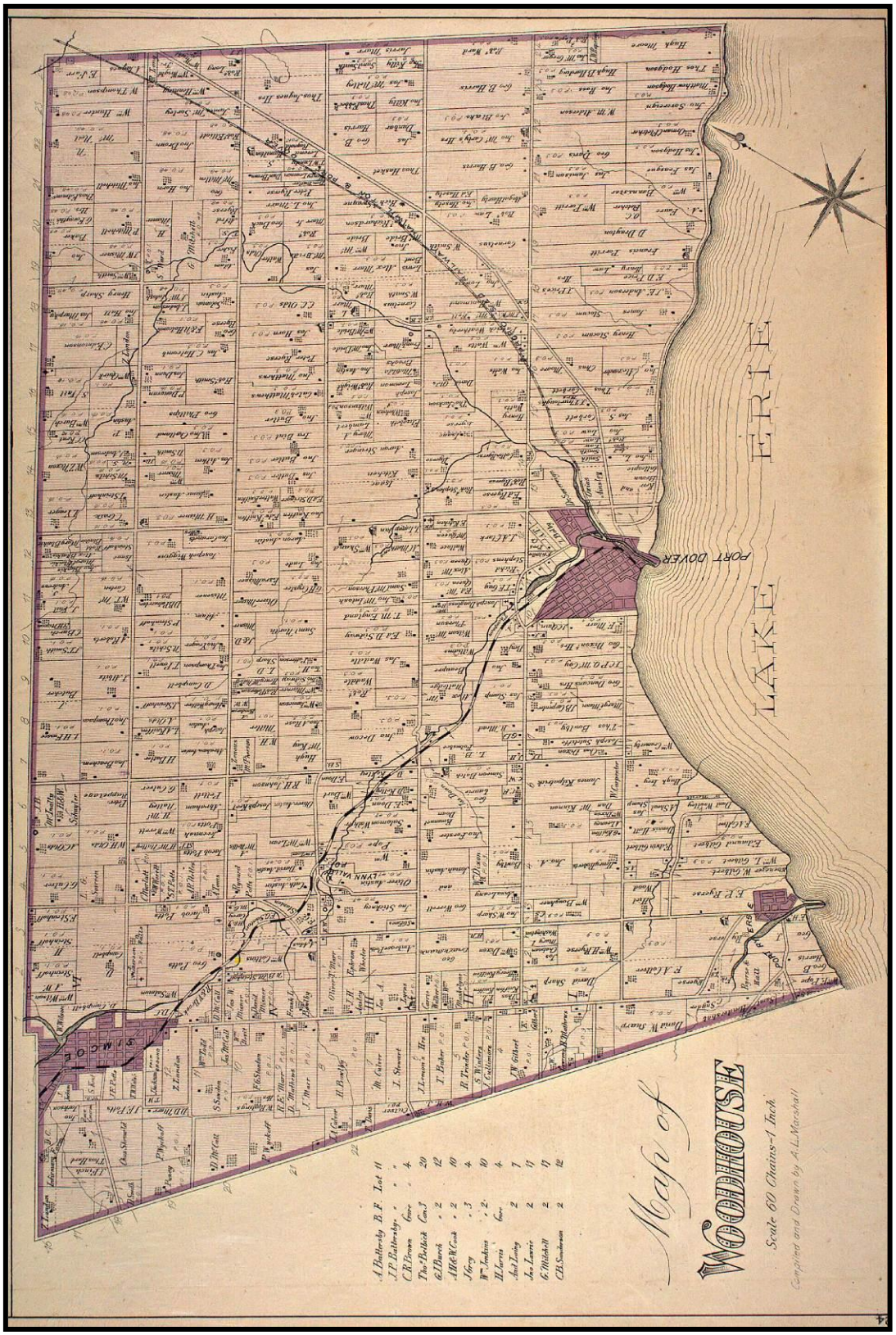


Map 15: Detail from J. Bouchette's *Map of the Provinces of Canada* (1846)
(Cartography Associates 2009)

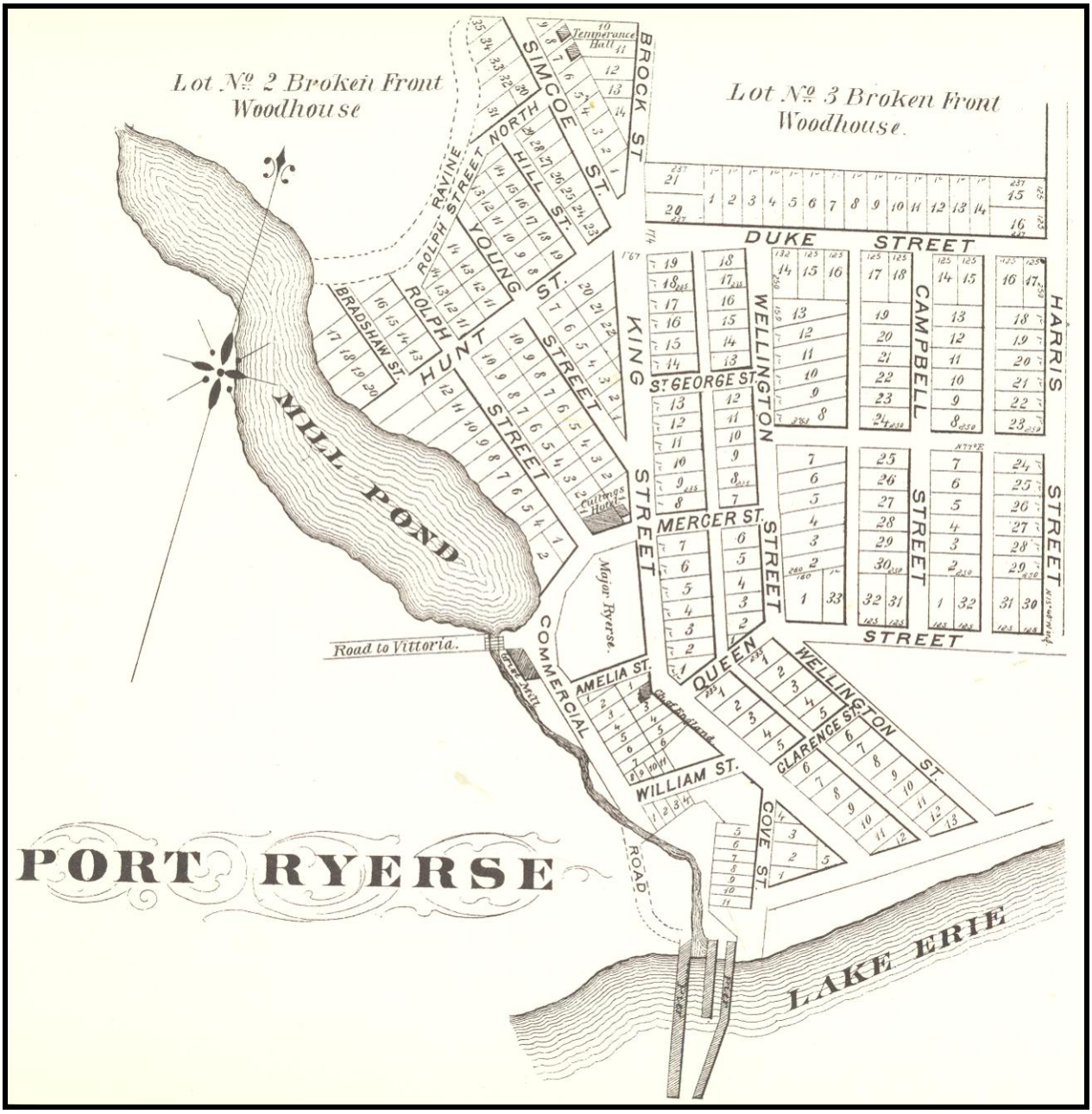
Map 16: Detail from G.W. Colton's *Canada West* (1856)
(Cartography Associates 2009)



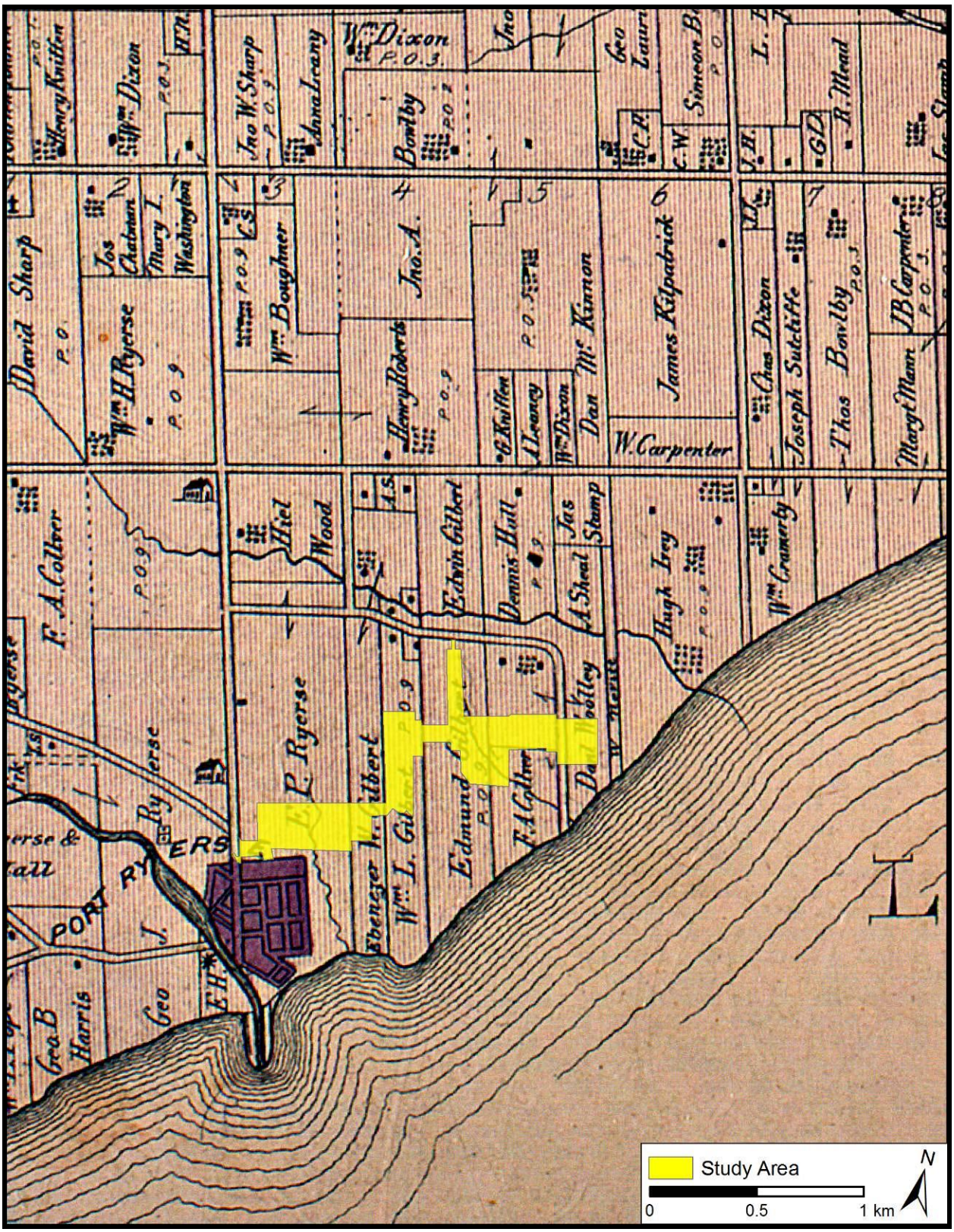
Map 17: Norfolk County from W.J. Gage and Co.'s Gage's County Atlas (1886)
(W.J. Gage and Co. 1886)



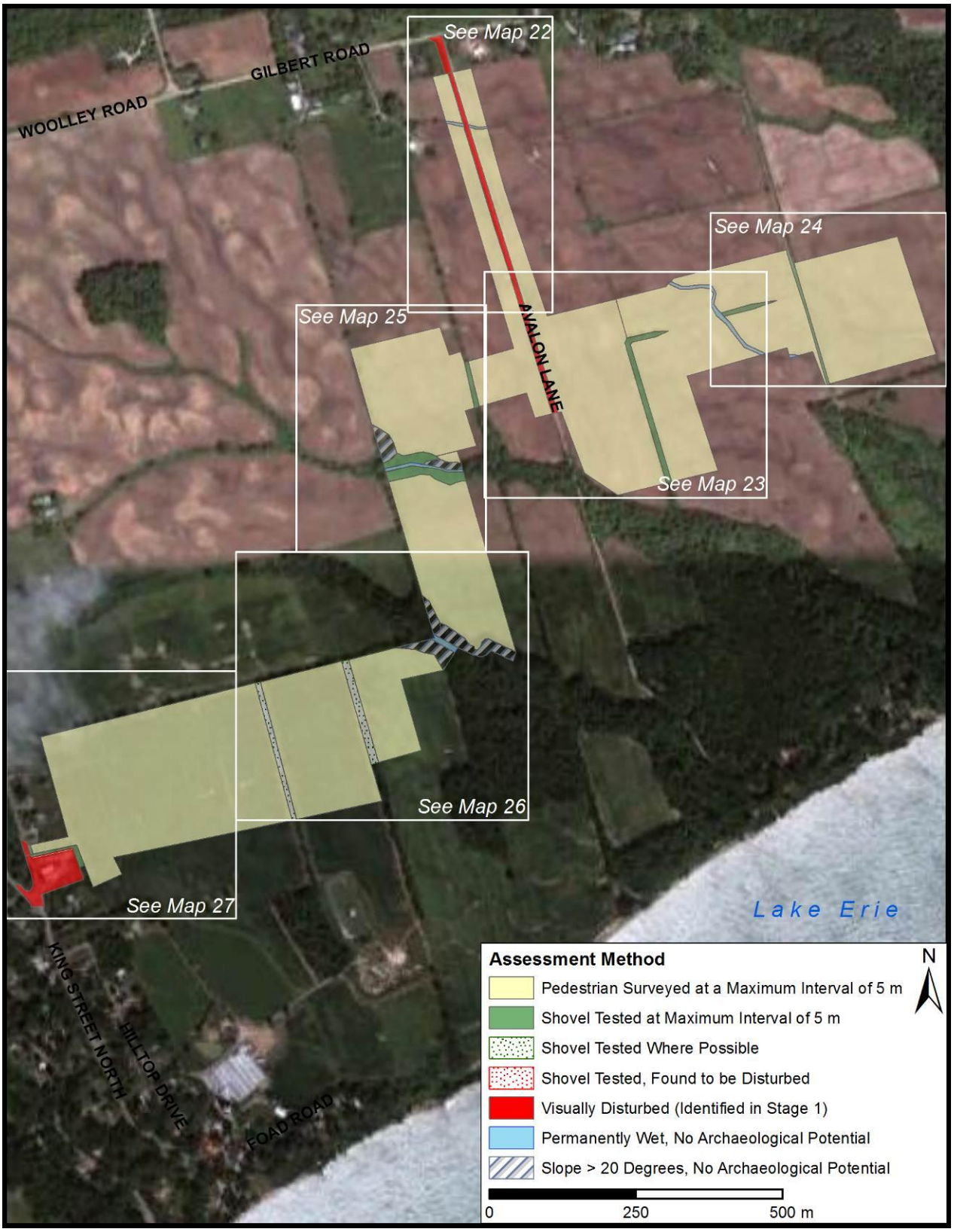
Map 18: The Township of Woodhouse from H.R. Page & Co.'s *Illustrated Historical Atlas of the County of Norfolk* (1877)
(McGill University 2001)



Map 19: The Hamlet of Port Ryerse from H.R. Page & Co.'s *Illustrated Historical Atlas of the County of Norfolk* (1877)
(Phelps 1972:85)

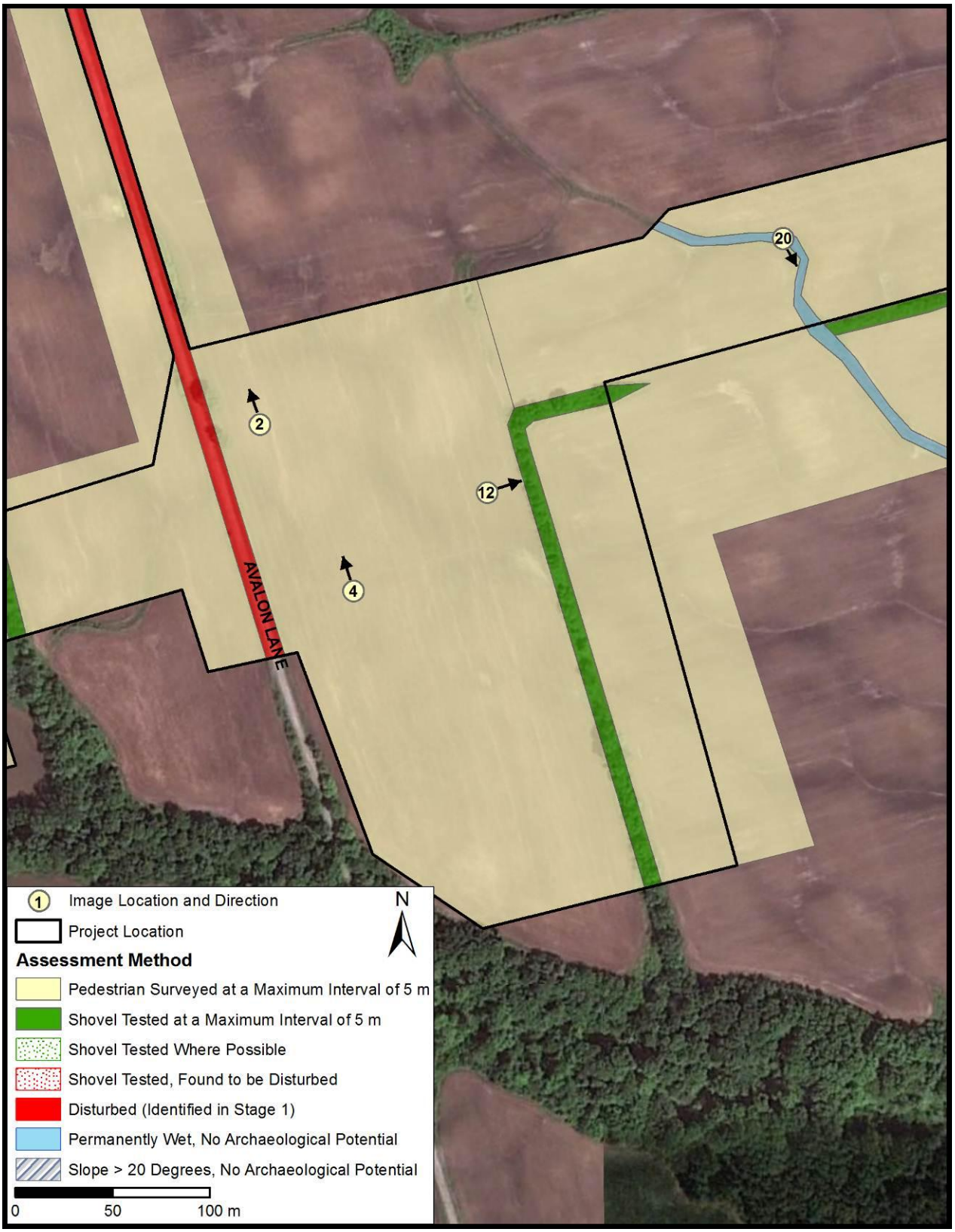


Map 20: The Township of Woodhouse from H.R. Page & Co.'s *Illustrated Historical Atlas of the County of Norfolk* (1877), Showing the Stage 2 Study Area
(McGill University 2001)



Map 21: Stage 2 Assessment Results – Overview
(Google Earth 2012)

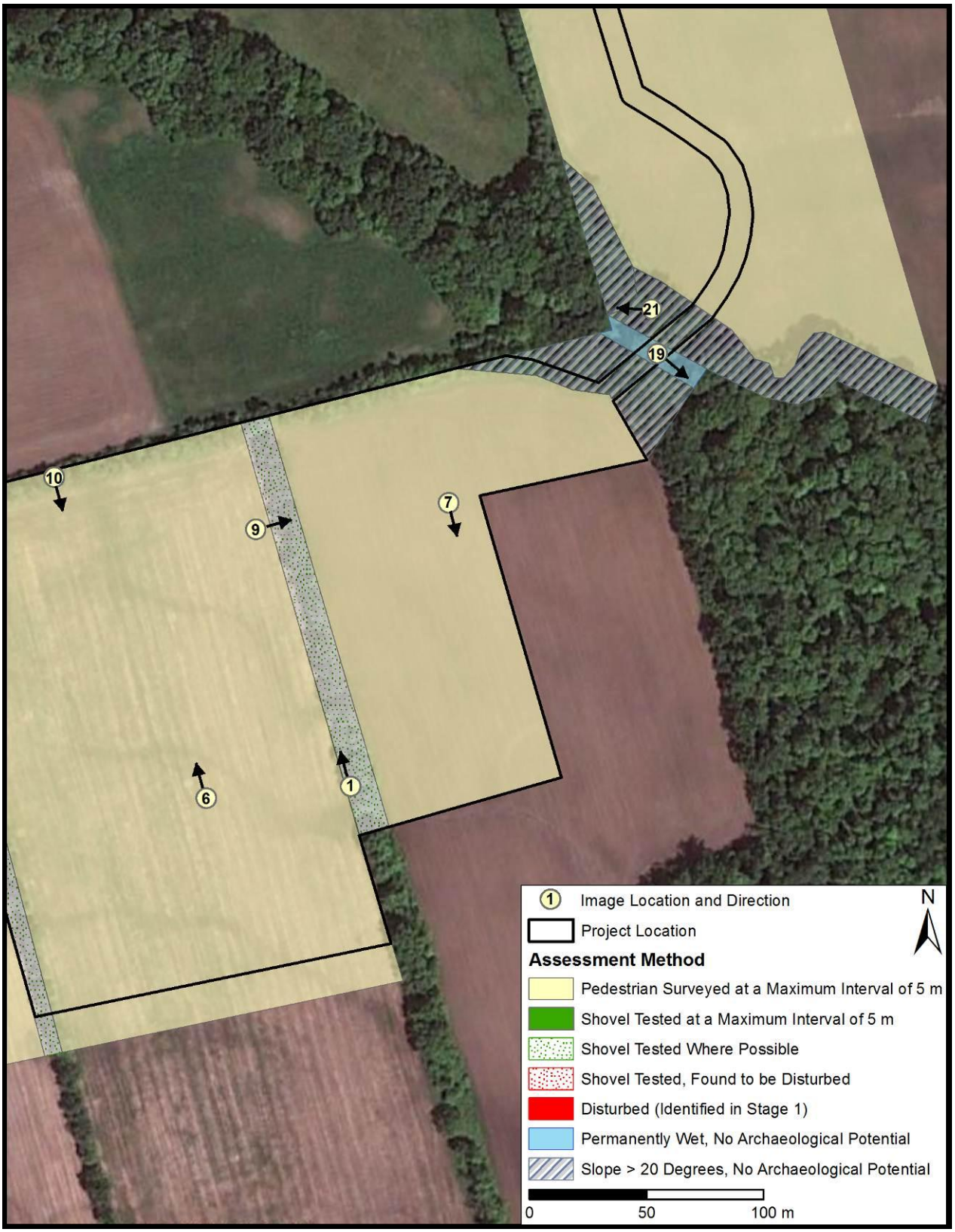
Map 22: Stage 2 Assessment Results – Field Methods and Image Locations
(Google Earth 2012)



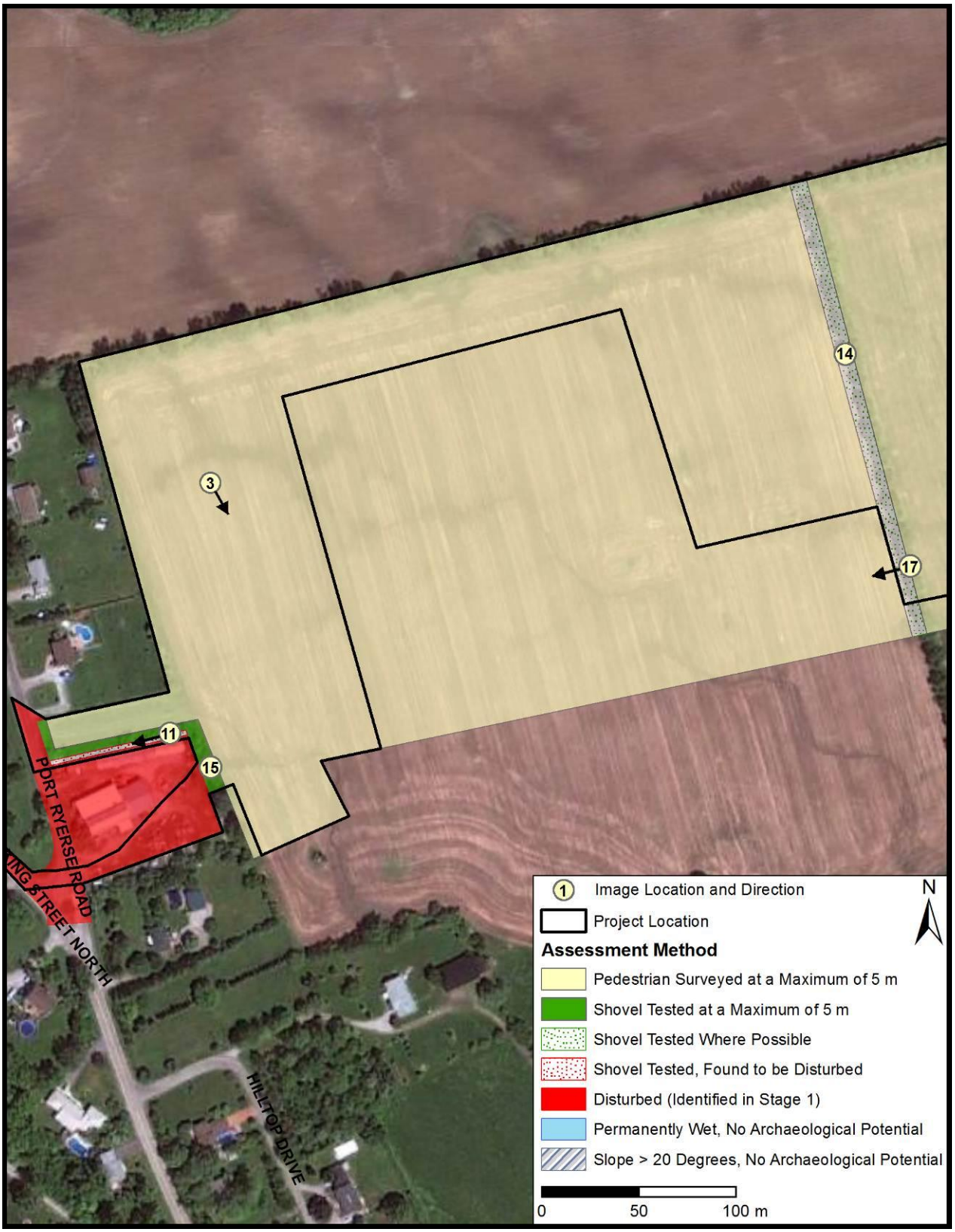
Map 23: Stage 2 Assessment Results – Field Methods and Image Locations
(Google Earth 2012)

Map 24: Stage 2 Assessment Results – Field Methods and Image Locations
(Google Earth 2012)

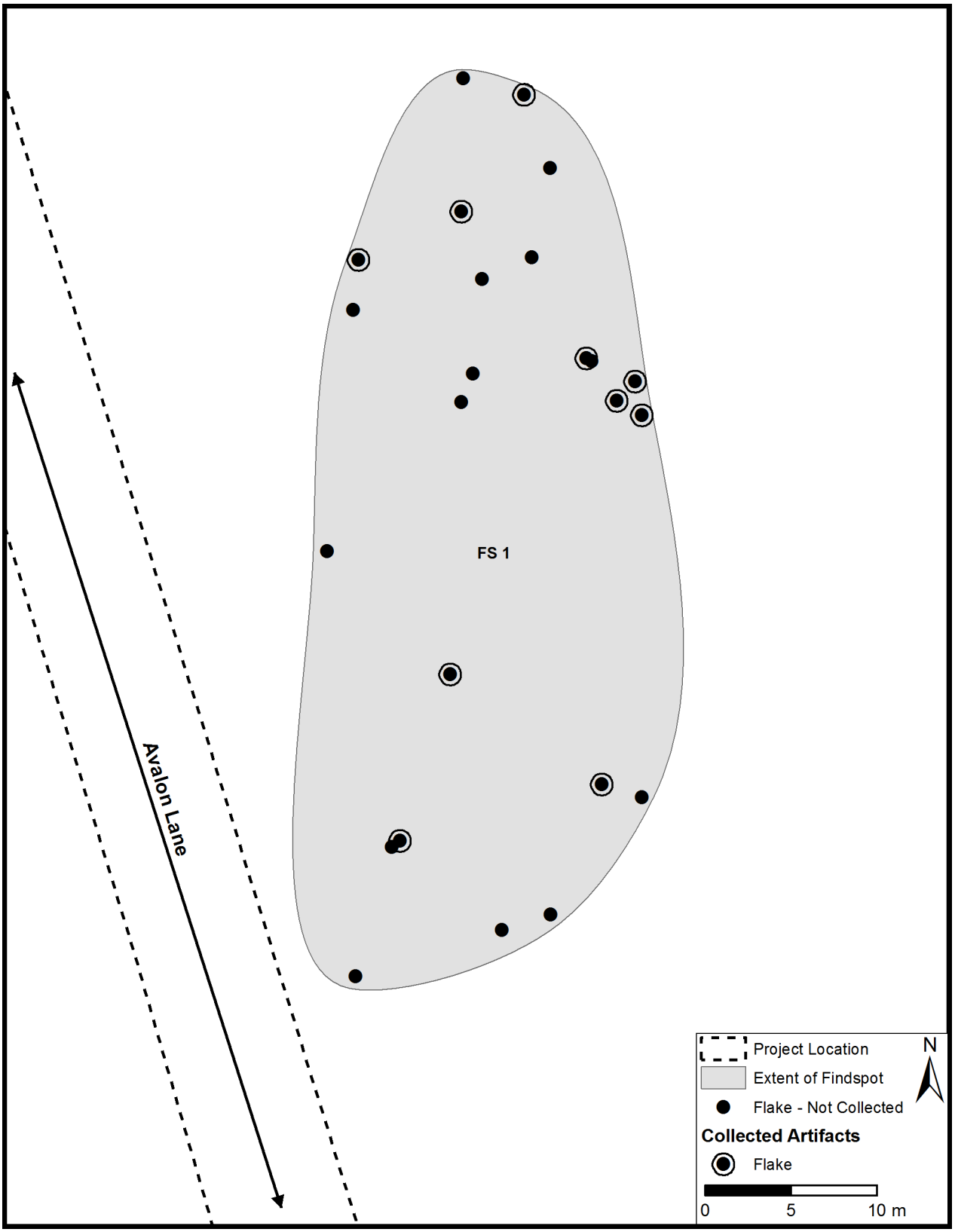
Map 25: Stage 2 Assessment Results – Field Methods and Image Locations
(Google Earth 2012)



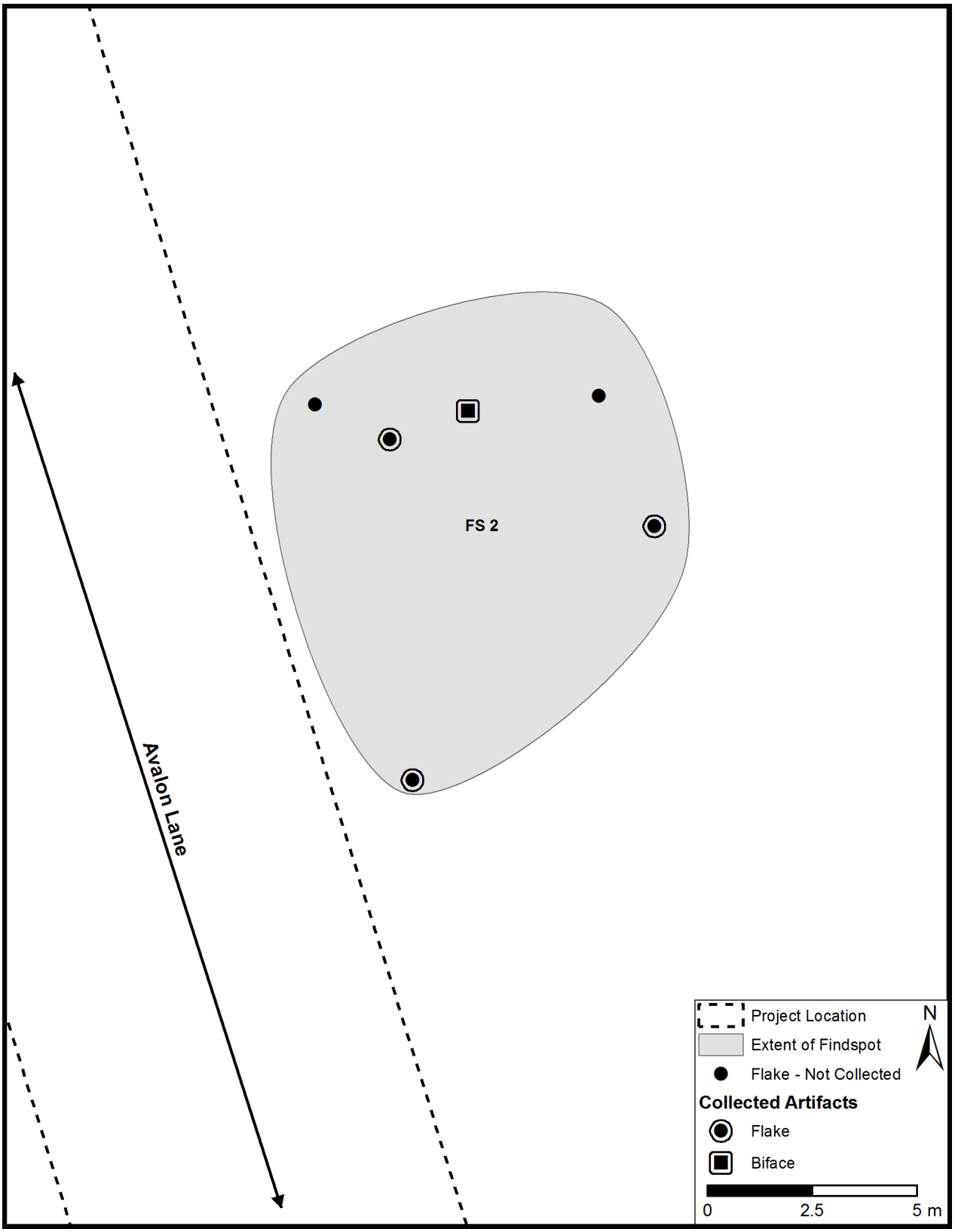
Map 26: Stage 2 Assessment Results – Field Methods and Image Locations
(Google Earth 2012)



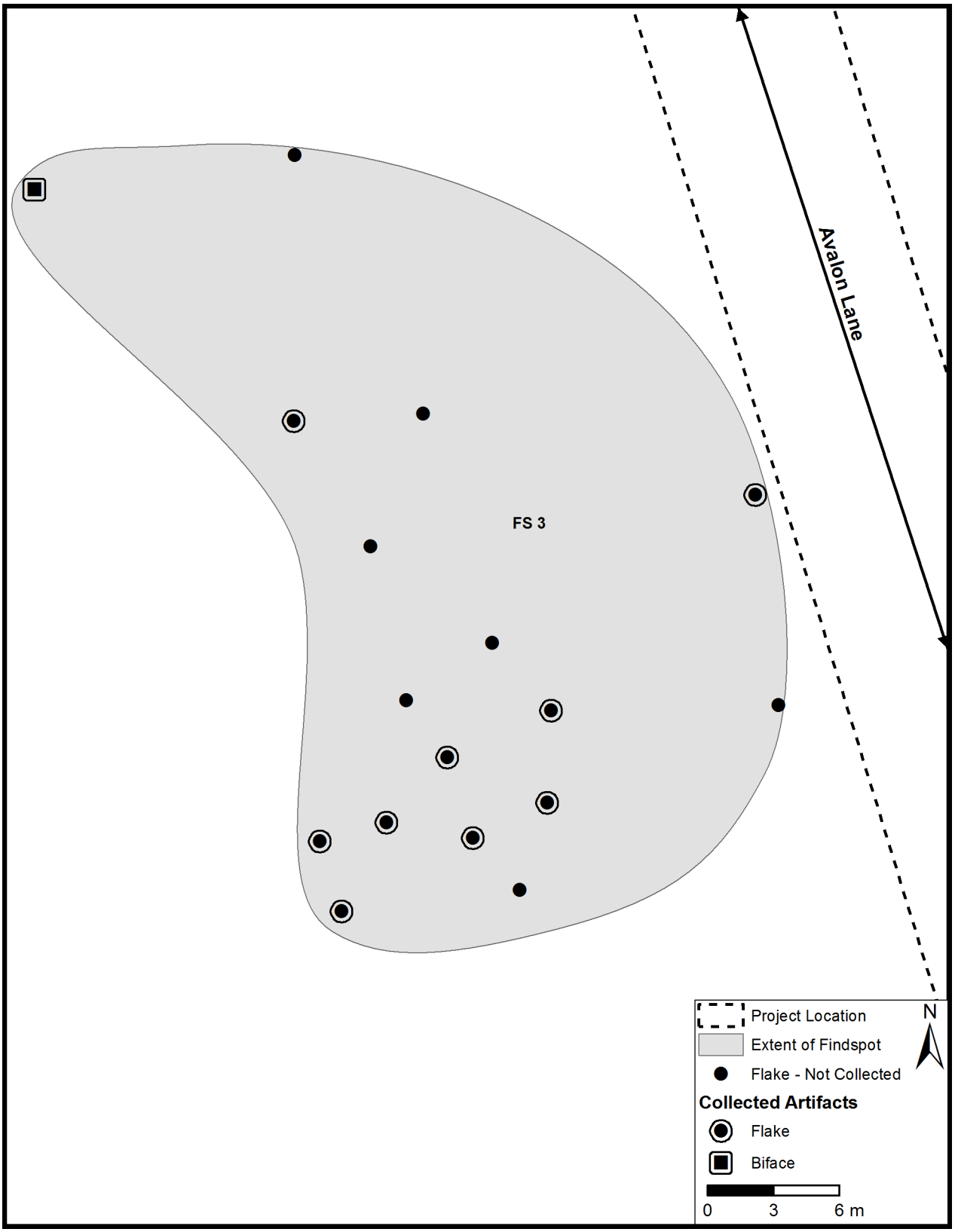
Map 27: Stage 2 Assessment Results – Field Methods and Image Locations
(Google Earth 2012)



Map 28: Stage 2 Assessment Results – Composition and Extent of Findspot 1
(Detailed Site Location Information in Supplementary Documentation)

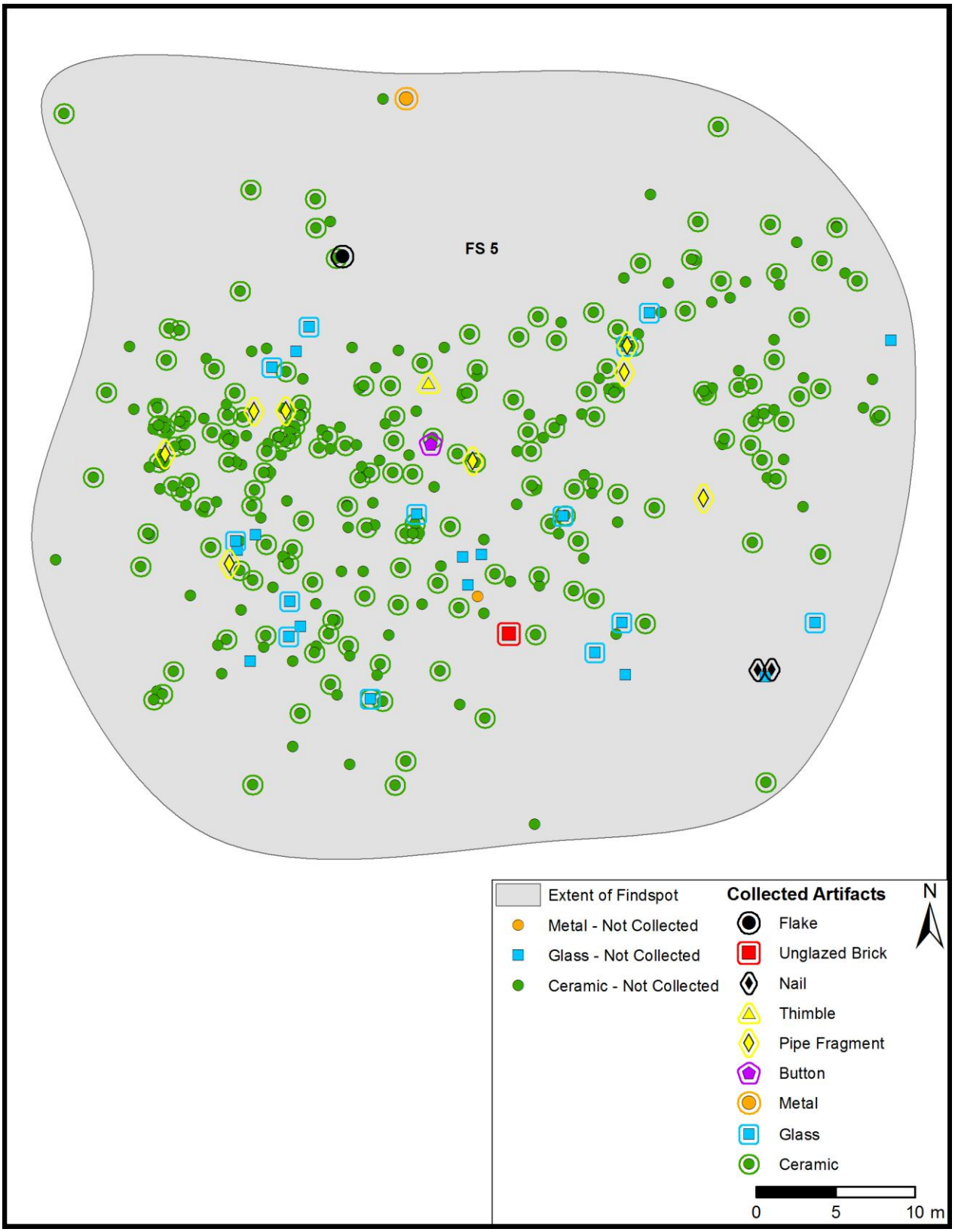


Map 29: Stage 2 Assessment Results – Composition and Extent of Findspot 2
(Detailed Site Location Information in Supplementary Documentation)

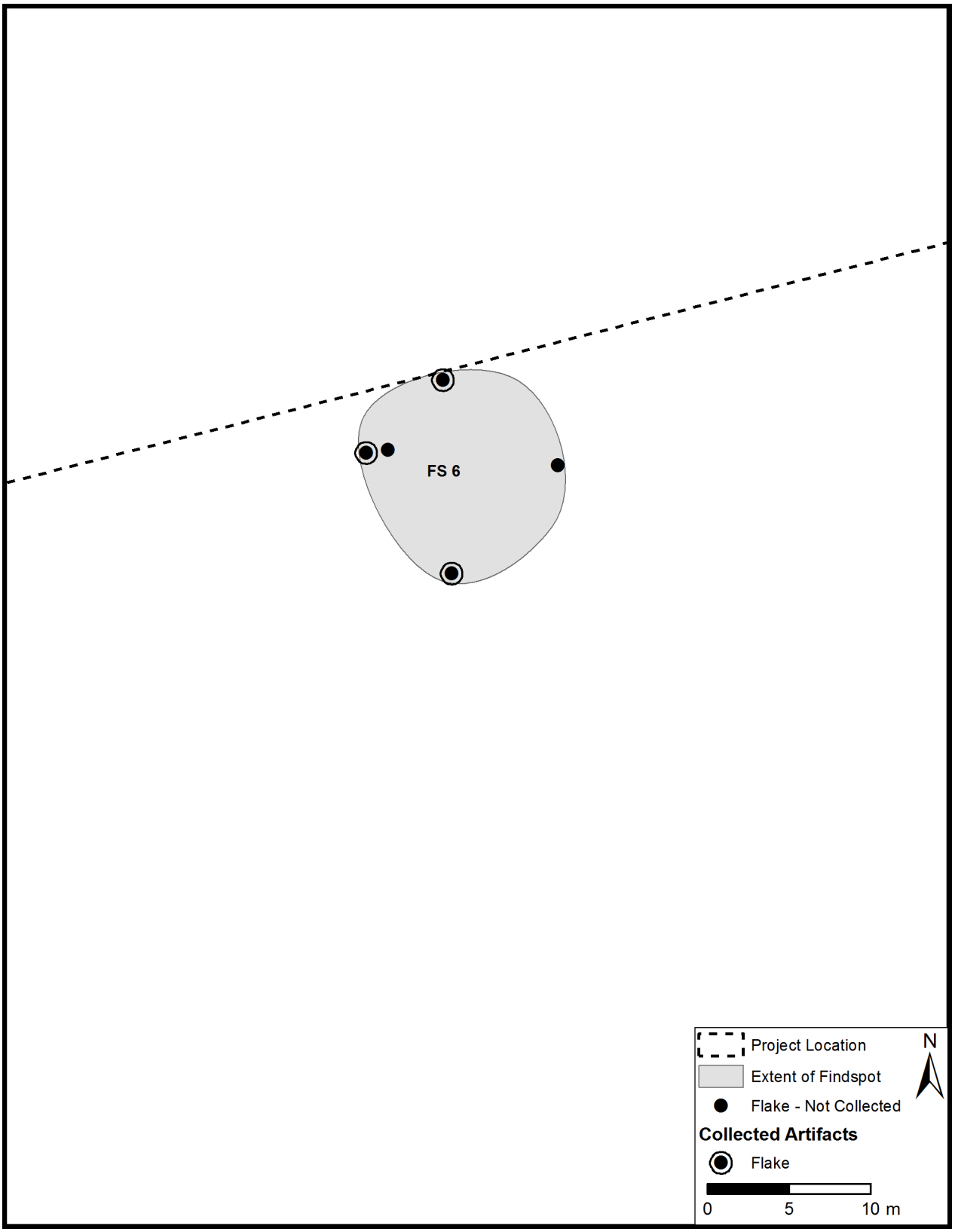


Map 30: Stage 2 Assessment Results – Composition and Extent of Findspot 3
(Detailed Site Location Information in Supplementary Documentation)

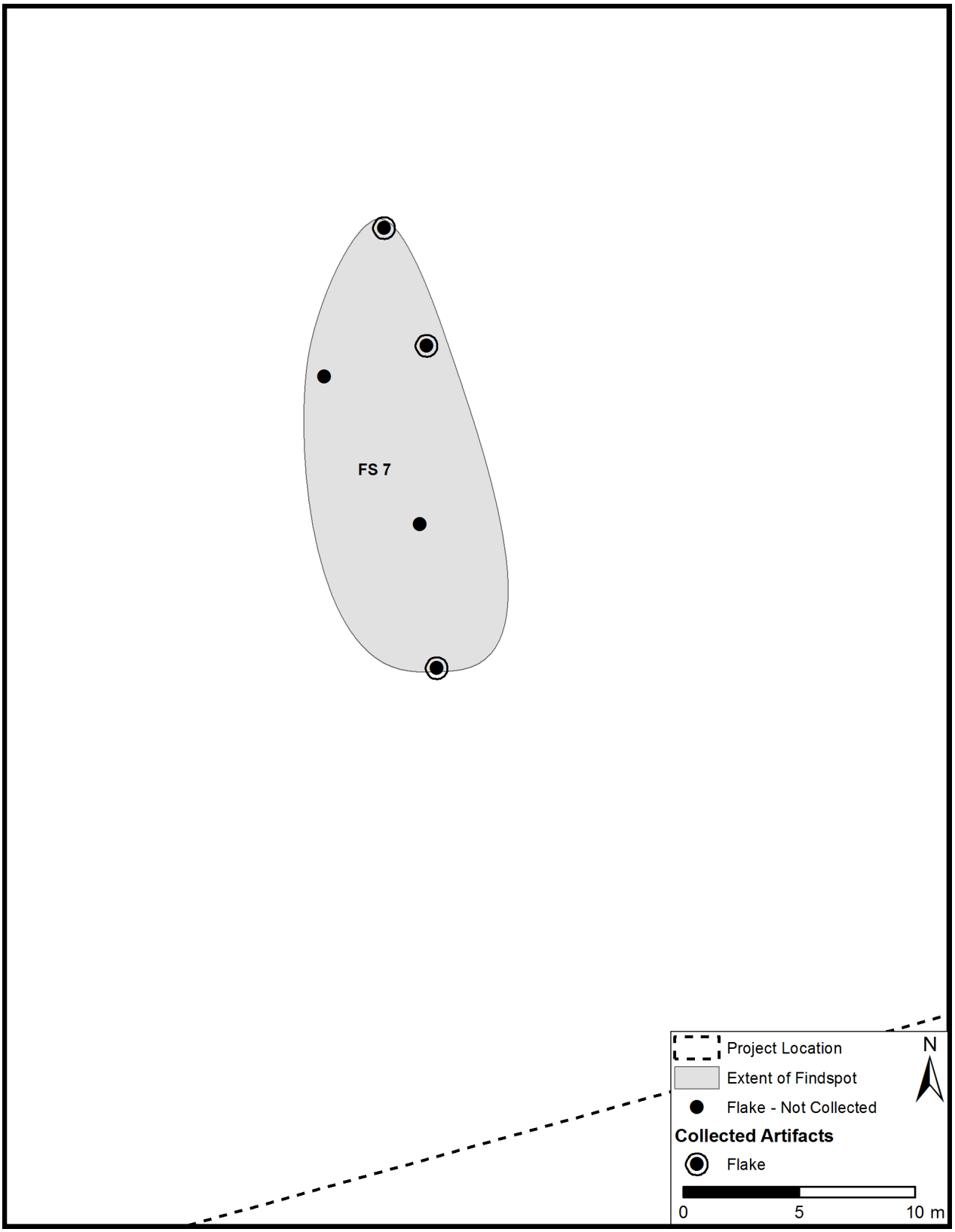
Map 31: Stage 2 Assessment Results – Composition and Extent of Findspot 4
(Detailed Site Location Information in Supplementary Documentation)



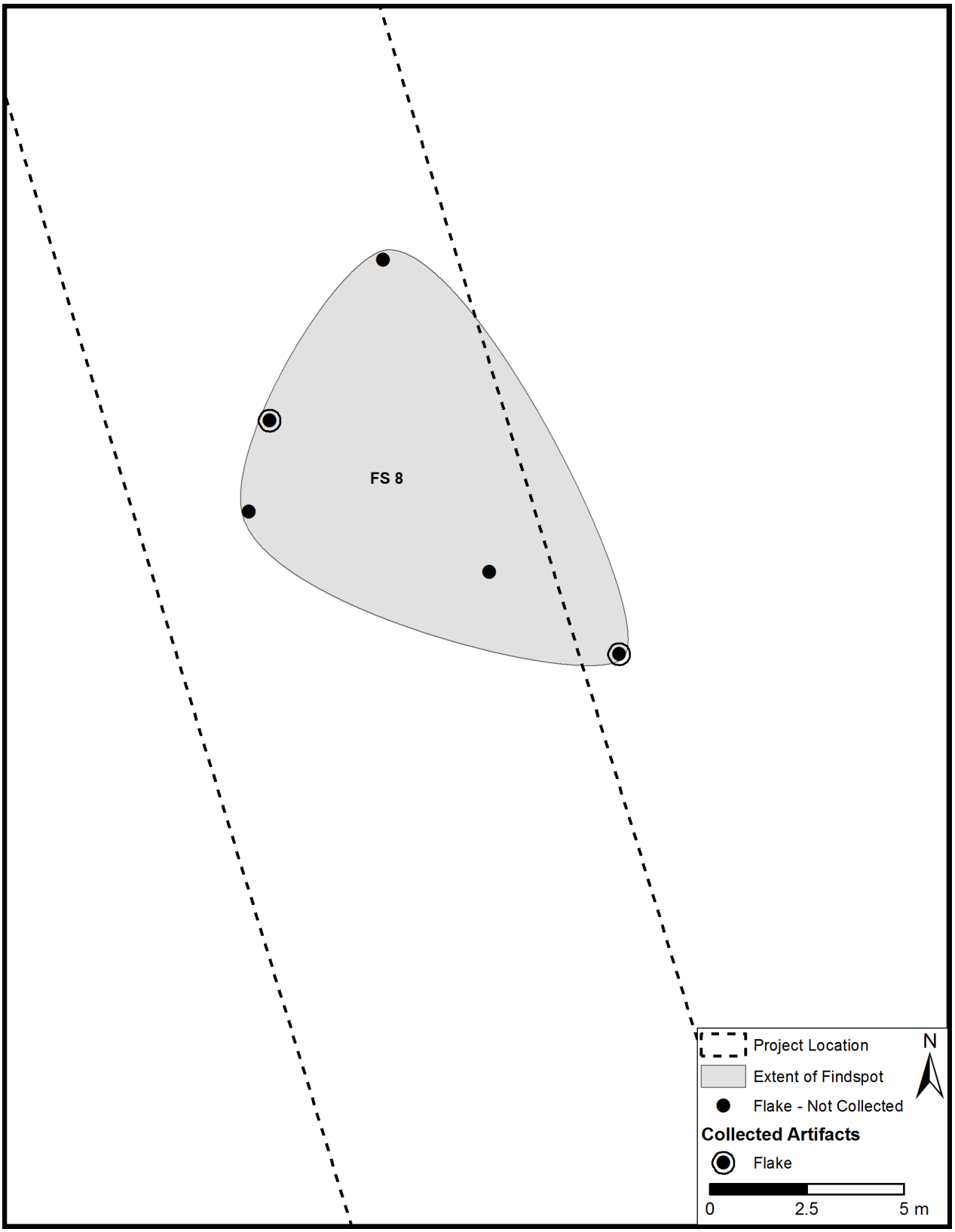
Map 32: Stage 2 Assessment Results – Composition and Extent of Findspot 5
(Detailed Site Location Information in Supplementary Documentation)



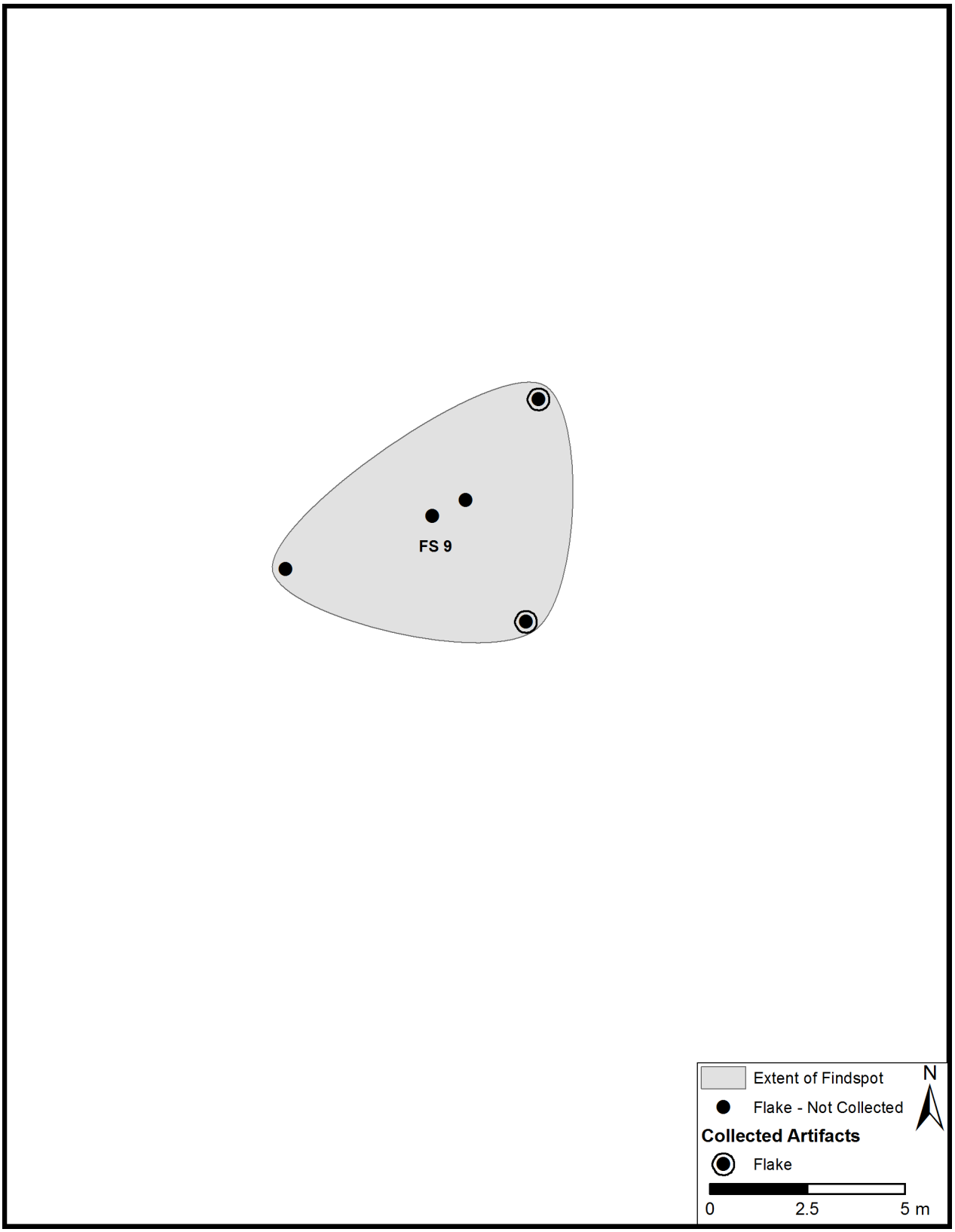
Map 33: Stage 2 Assessment Results – Composition and Extent of Findspot 6
(Detailed Site Location Information in Supplementary Documentation)



Map 34: Stage 2 Assessment Results – Composition and Extent of Findspot 7
(Detailed Site Location Information in Supplementary Documentation)

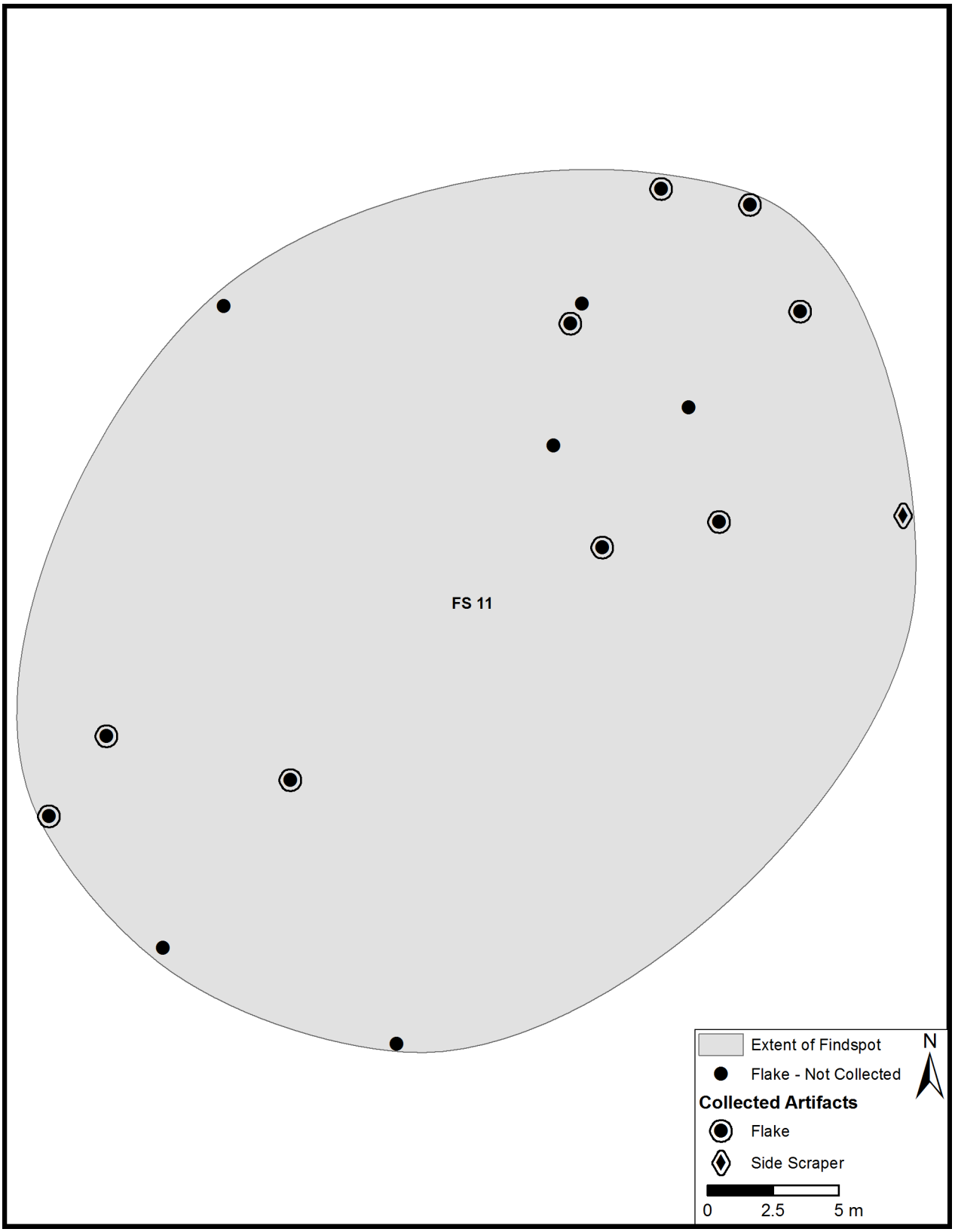


Map 35: Stage 2 Assessment Results – Composition and Extent of Findspot 8
(Detailed Site Location Information in Supplementary Documentation)

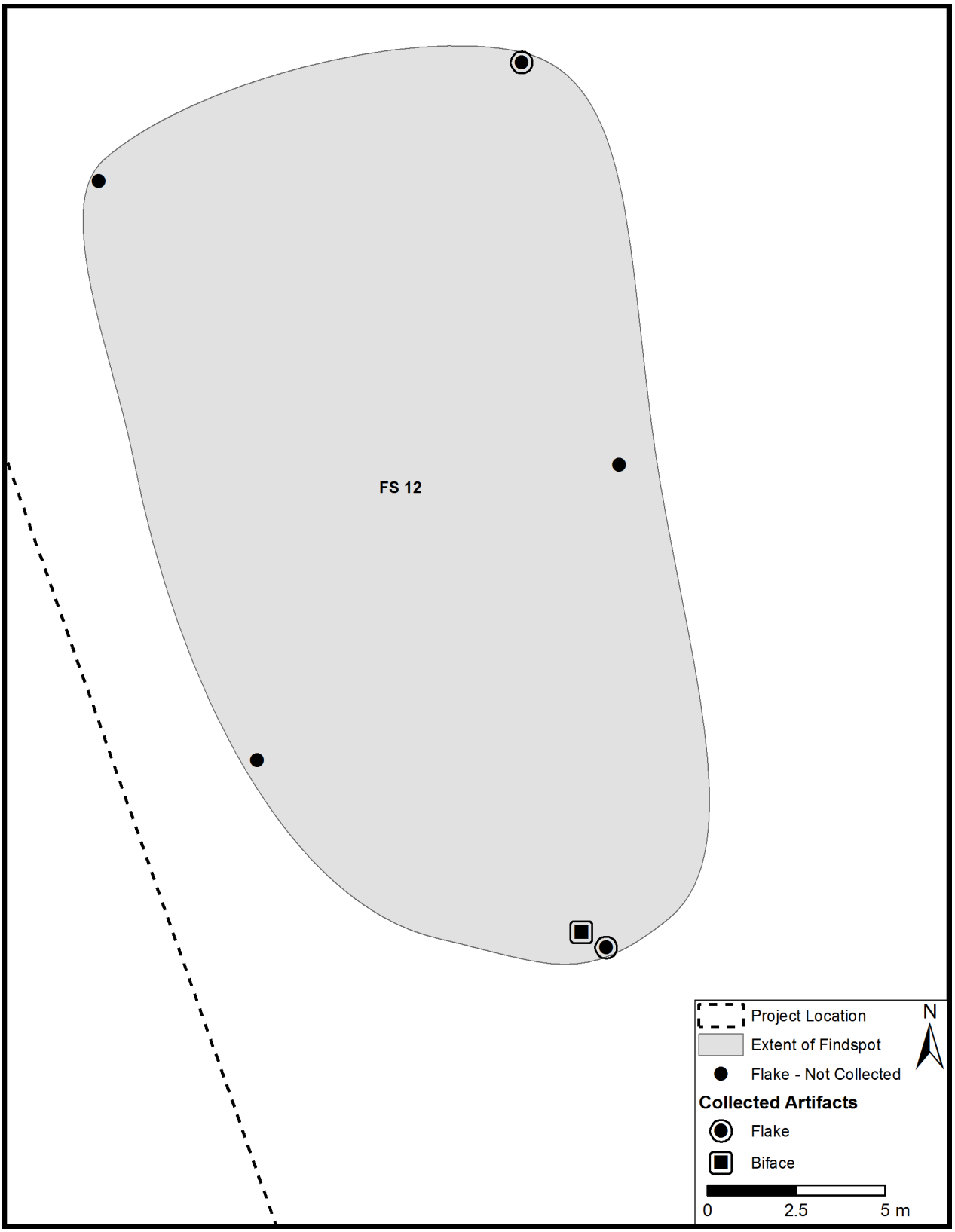


Map 36: Stage 2 Assessment Results – Composition and Extent of Findspot 9
(Detailed Site Location Information in Supplementary Documentation)

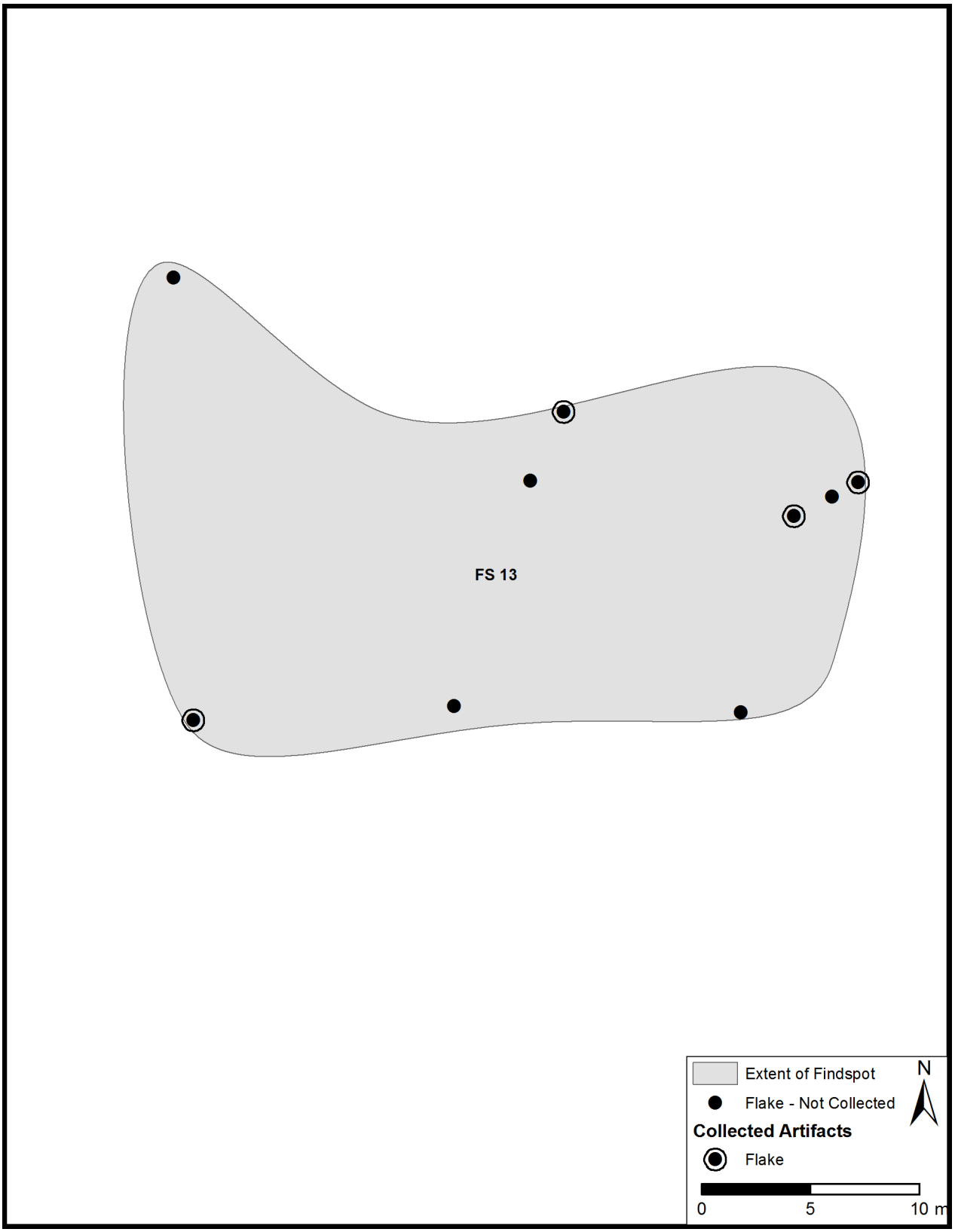
Map 37: Stage 2 Assessment Results – Composition and Extent of Findspot 10
(Detailed Site Location Information in Supplementary Documentation)



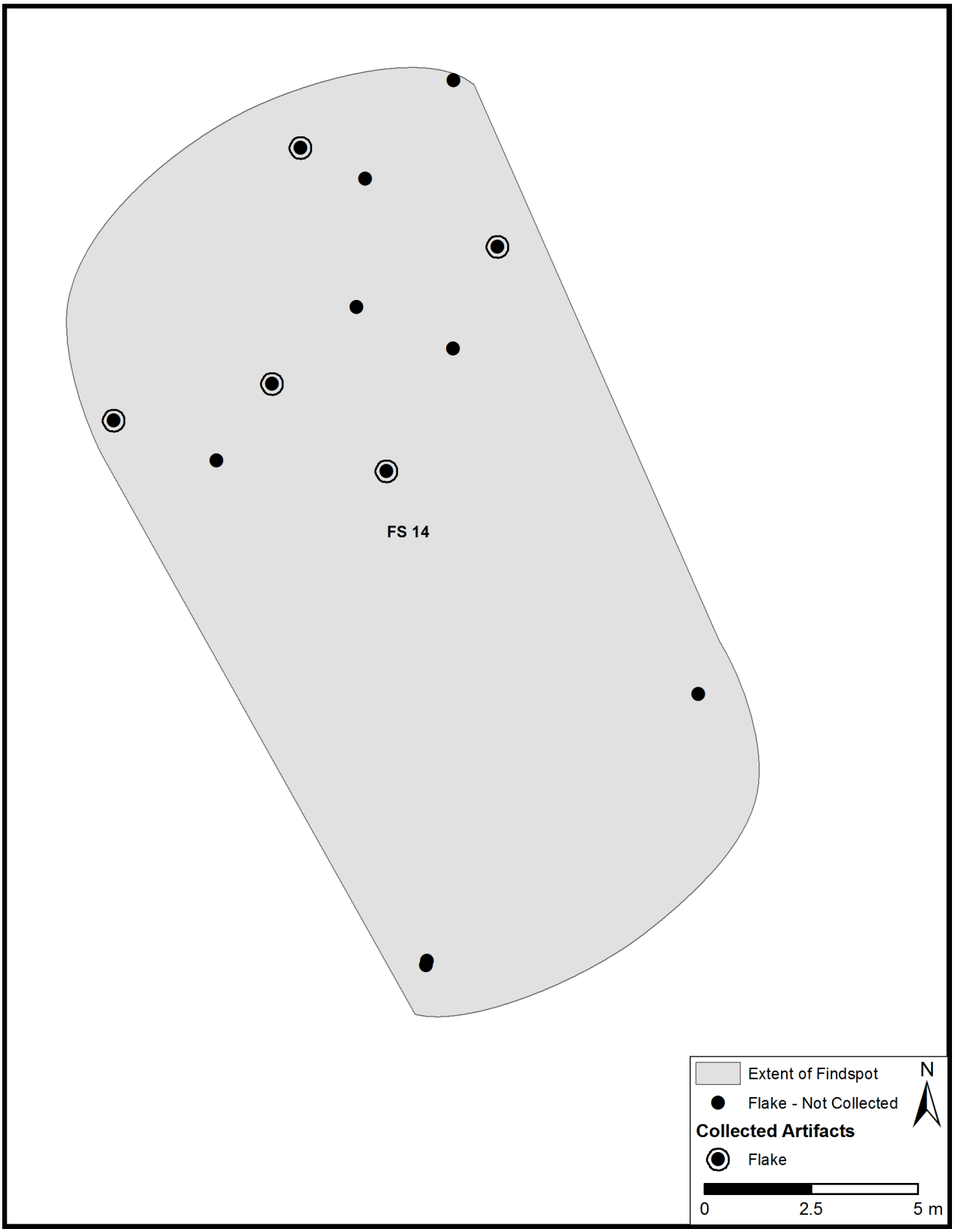
Map 38: Stage 2 Assessment Results – Composition and Extent of Findspot 11
(Detailed Site Location Information in Supplementary Documentation)



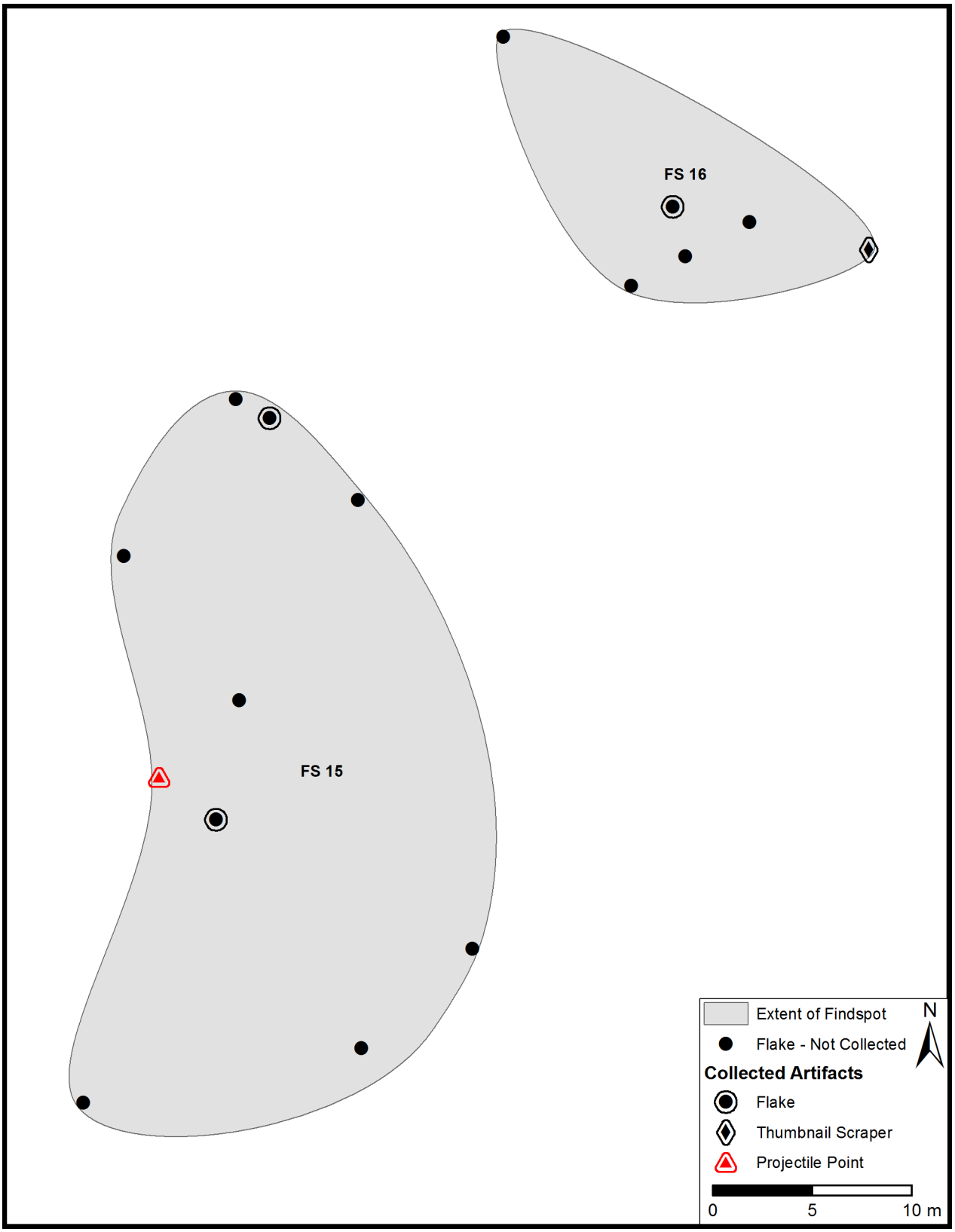
Map 39: Stage 2 Assessment Results – Composition and Extent of Findspot 12
(Detailed Site Location Information in Supplementary Documentation)



Map 40: Stage 2 Assessment Results – Composition and Extent of Findspot 13
(Detailed Site Location Information in Supplementary Documentation)

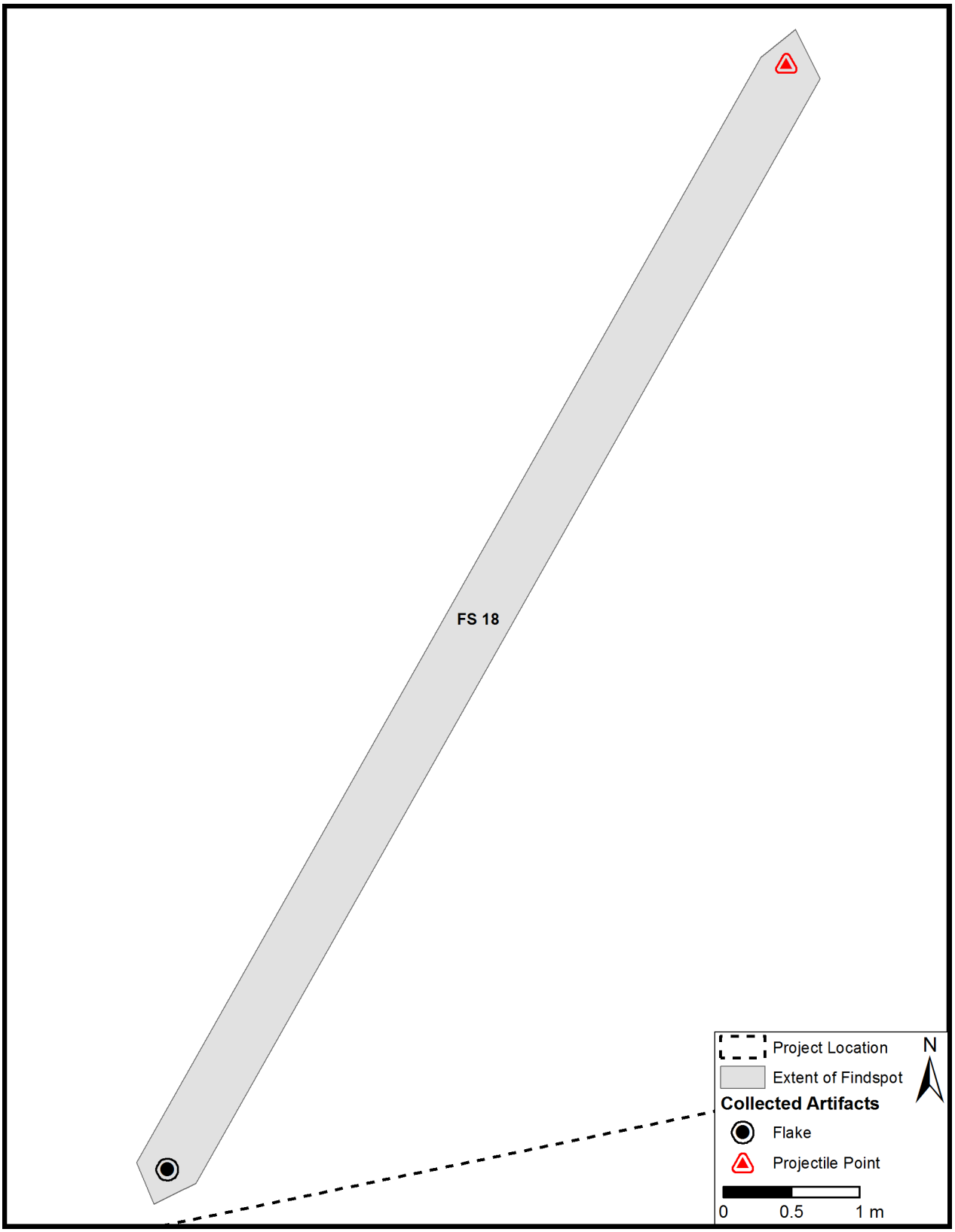


Map 41: Stage 2 Assessment Results – Composition and Extent of Findspot 14
(Detailed Site Location Information in Supplementary Documentation)

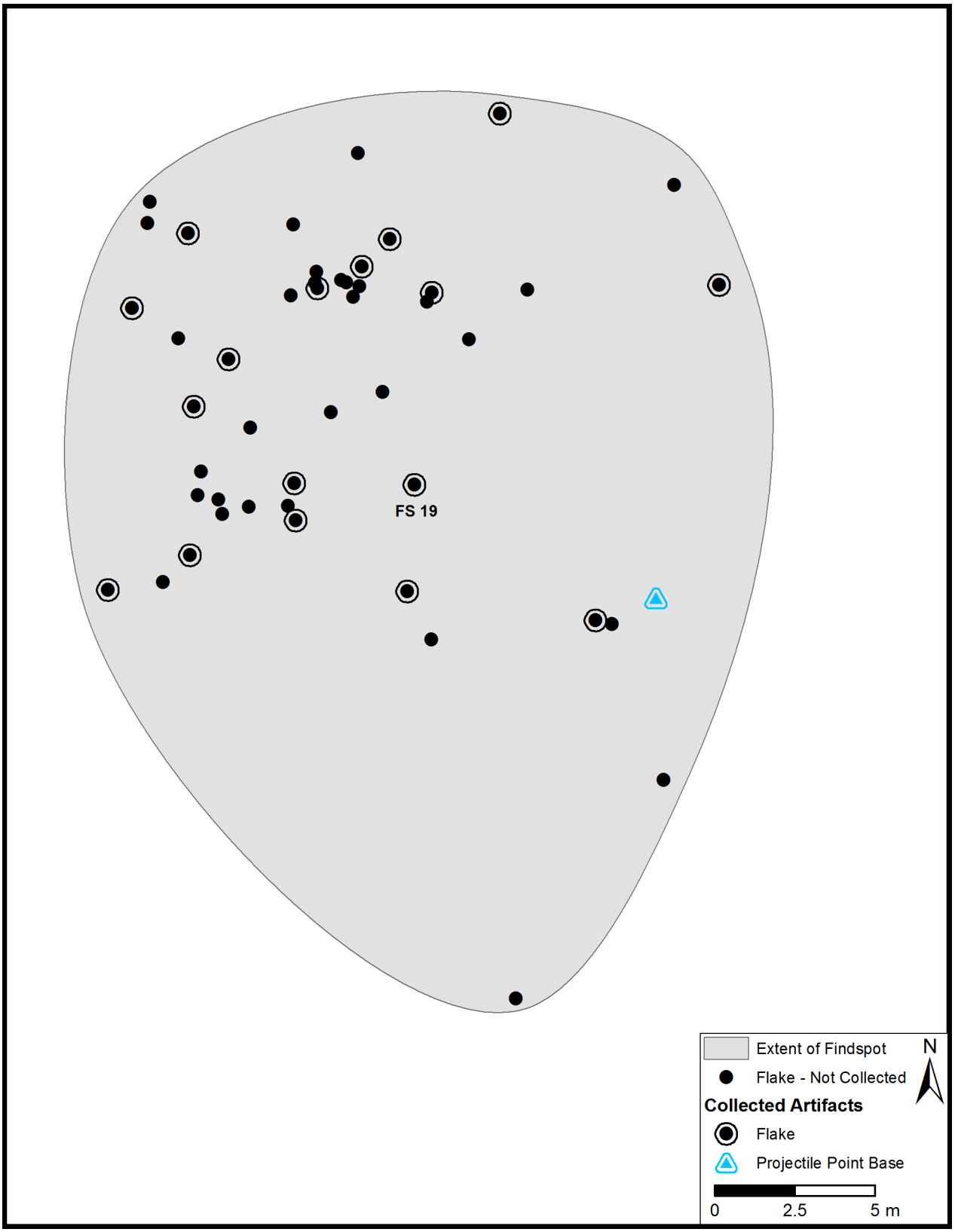


Map 42: Stage 2 Assessment Results – Composition and Extent of Findspots 15 and 16
(Detailed Site Location Information in Supplementary Documentation)

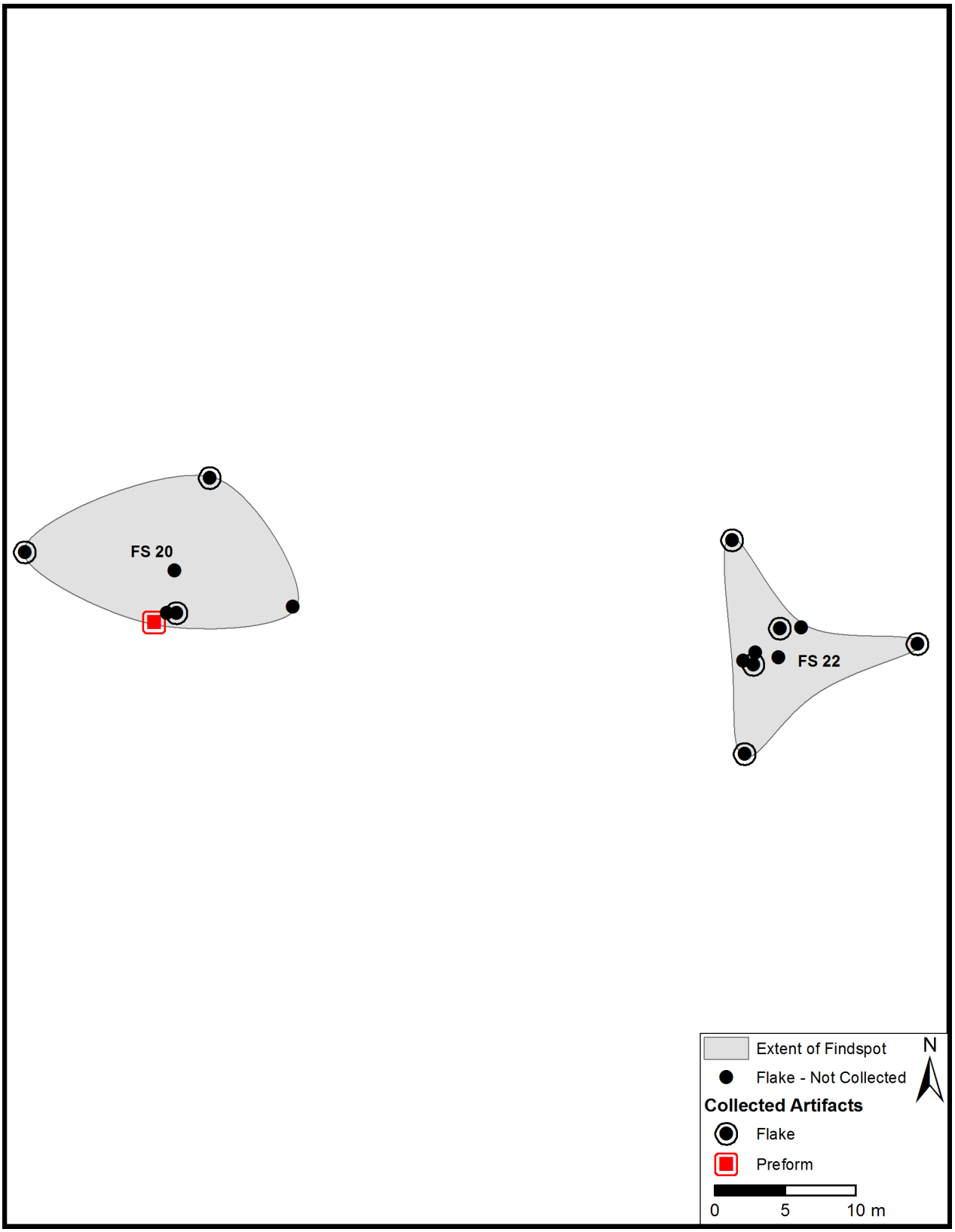
Map 43: Stage 2 Assessment Results – Composition and Extent of Findspot 17
(Detailed Site Location Information in Supplementary Documentation)



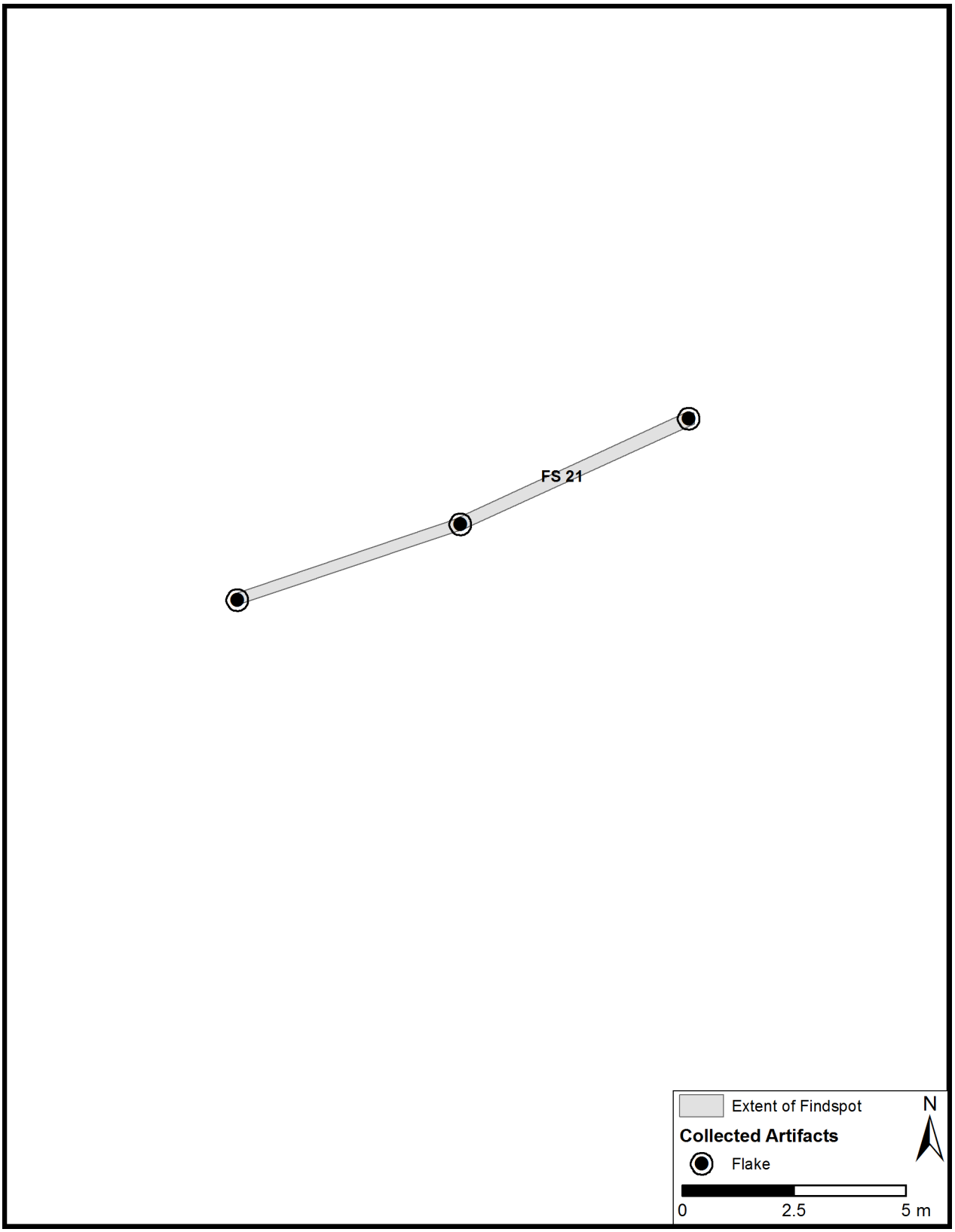
Map 44: Stage 2 Assessment Results – Composition and Extent of Findspot 18
(Detailed Site Location Information in Supplementary Documentation)



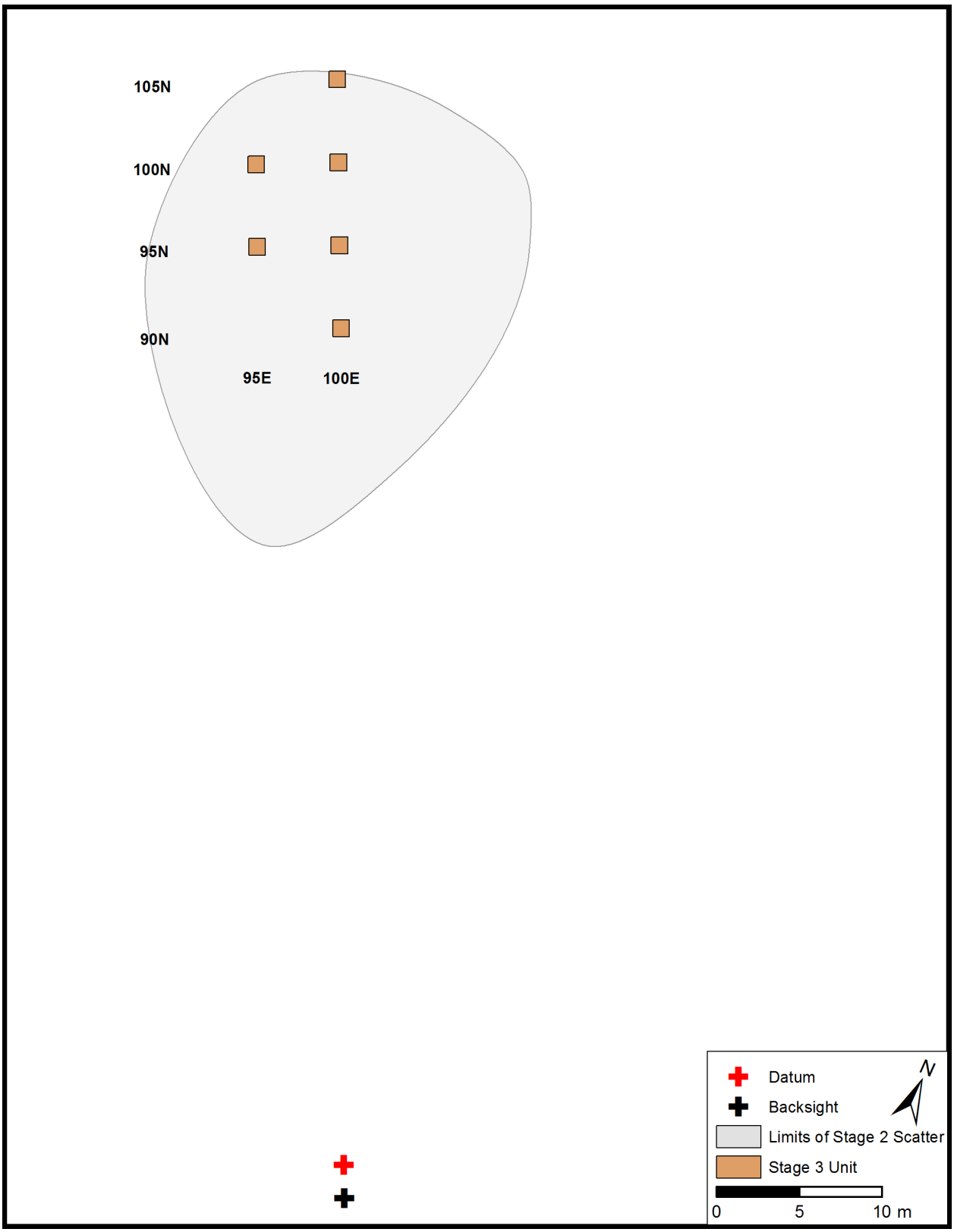
Map 45: Stage 2 Assessment Results – Composition and Extent of Findspot 19
(Detailed Site Location Information in Supplementary Documentation)



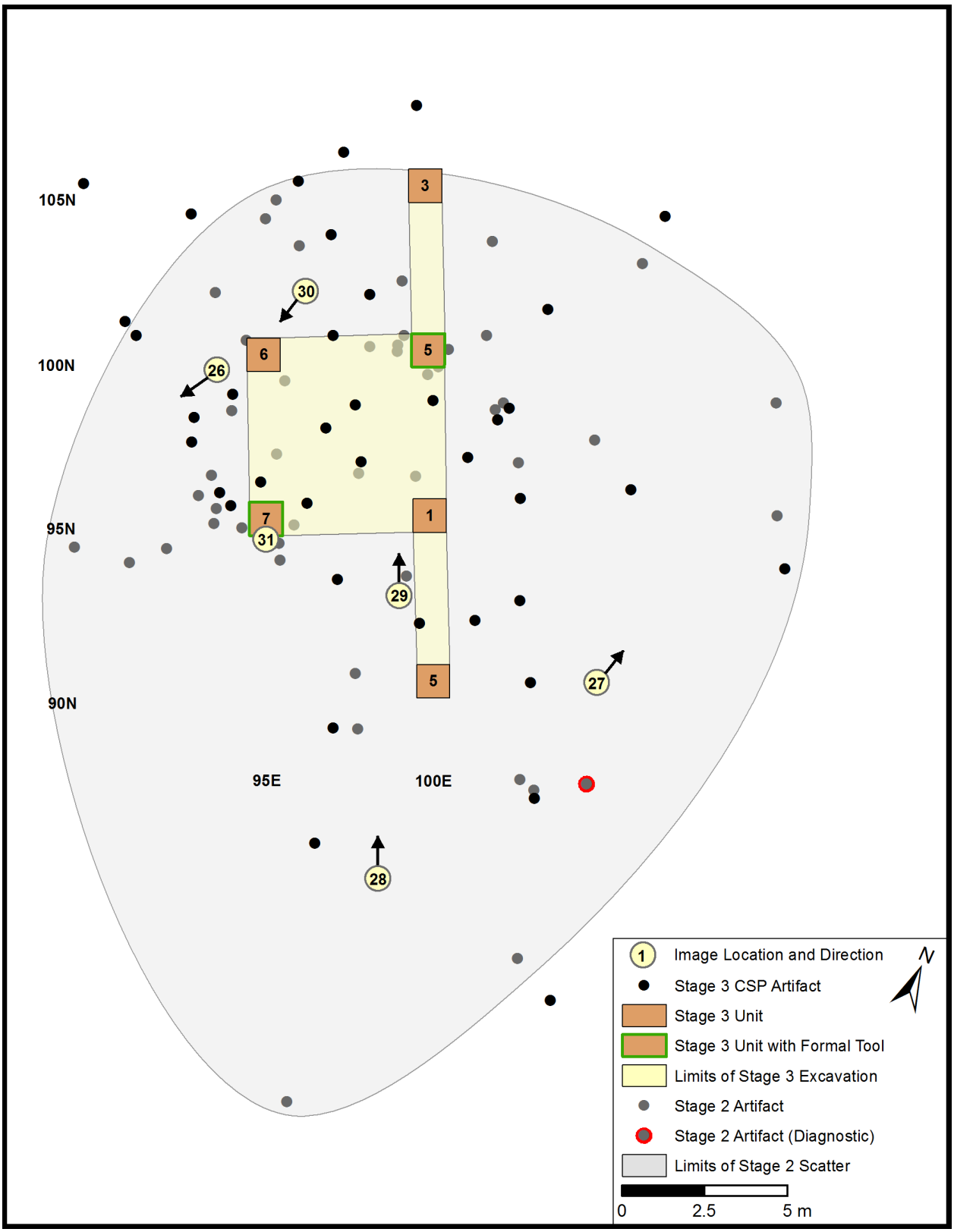
Map 46: Stage 2 Assessment Results – Composition and Extent of Findspots 20 and 22
(Detailed Site Location Information in Supplementary Documentation)



Map 47: Stage 2 Assessment Results – Composition and Extent of Findspot 21
(Detailed Site Location Information in Supplementary Documentation)



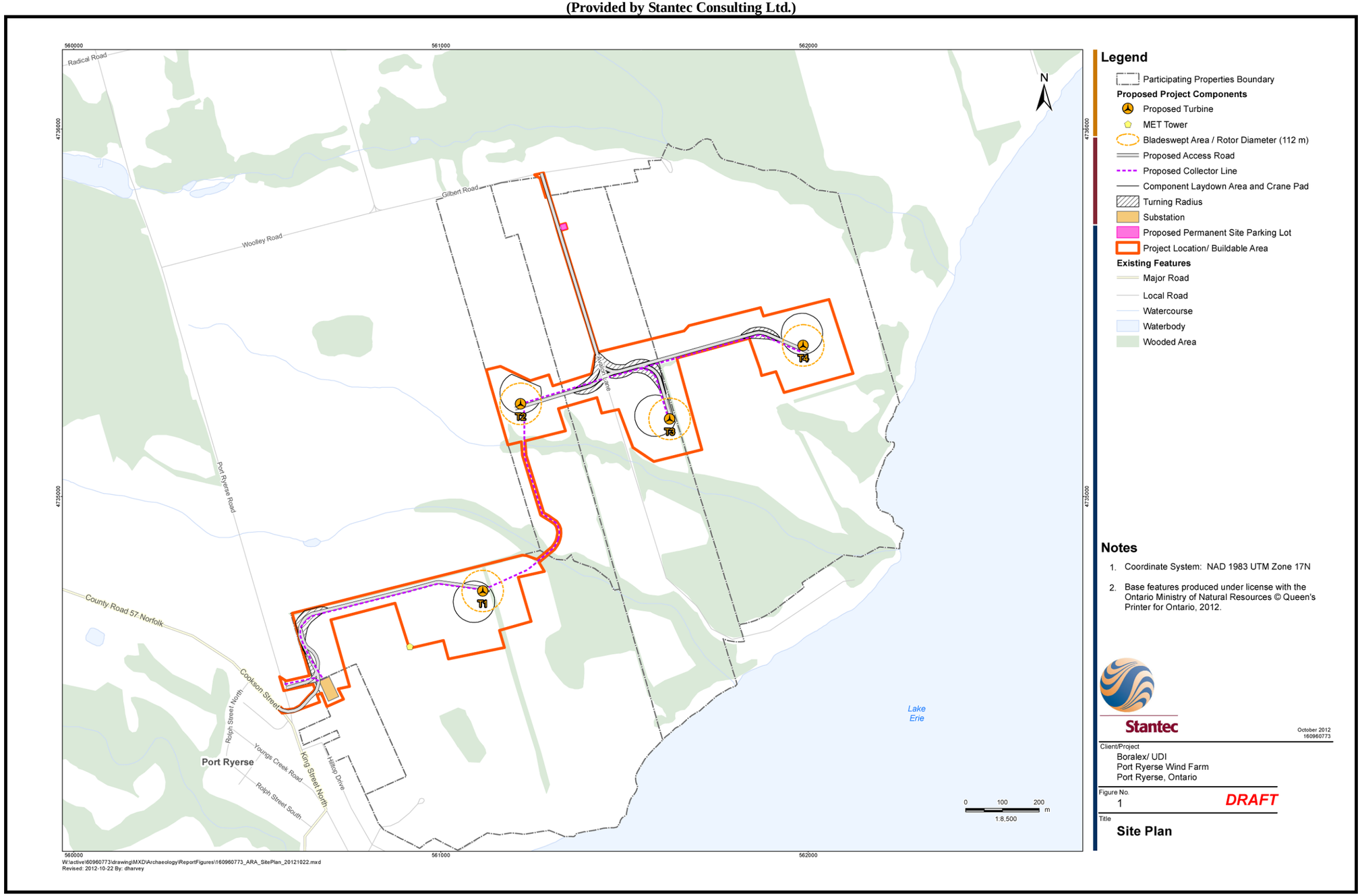
Map 48: Stage 3 Assessment Results – Findspot 19, Showing Unit, Datum and Backsight Locations
(Detailed Site Location Information in Supplementary Documentation)



Map 49: Stage 3 Assessment Results – Findspot 19, Showing Stage 2 Scatter, Stage 3 CSP and Stage 3 Unit Counts
(Detailed Site Location Information in Supplementary Documentation)

APPENDICES

Appendix A: Project Mapping for the Port Ryerse Wind Power Project
(Provided by Stantec Consulting Ltd.)



Appendix B: Summary of Weather of Lighting Conditions during the Stage 2 Assessment

Date	Weather Conditions	Temperature (Max °C)	Lighting Conditions
March 22, 2012	Sunny	19	Excellent
March 23, 2012	Sunny	16	Excellent
March 26, 2012	Sunny	5	Excellent
March 28, 2012	Sunny	13	Excellent
March 29, 2012	Cloudy	5	Very Good
April 26, 2012	Partly Cloudy	13	Very Good
May 15, 2012	Sunny	18	Excellent
October 11, 2012	Partly Cloudy	12	Very Good
October 16, 2012	Cloudy	12	Good

Appendix C: Stage 2 Artifact Registry – Findspots 1–22

Record	FS	Date	Freq.	Group	Material	Object Type	Object Name	Datable Attribute	Secondary Datable Attribute	Artifact Date	Comments/ LxWxH (cm)	Burnt?	Box No.
1	1	22-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Primary Flake					n	A219
2	1	22-Mar-12	5	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
3	1	23-Mar-12	4	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
4	2	22-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Primary Flake					n	A219
5	2	22-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
6	2	22-Mar-12	1	Aboriginal	Haldimand Chert	Lithic Tool	Biface				Possible Projectile Point Midsection	n	A219
7	2	23-Mar-12	1	Aboriginal	Haldimand Chert	Lithic Debitage	Primary Flake					n	A219
8	4	23-Mar-12	2	Aboriginal	Haldimand Chert	Lithic Tool	Utilized Flake				Primary Flake	n	A219
9	4	23-Mar-12	1	Aboriginal	Haldimand Chert	Lithic Tool	Utilized Flake				Secondary Flake	n	A219
10	4	23-Mar-12	2	Aboriginal	Haldimand Chert	Lithic Debitage	Primary Flake					n	A219
11	4	23-Mar-12	14	Aboriginal	Haldimand Chert	Lithic Debitage	Secondary Flake					n	A219
12	4	23-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
13	5	23-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
14	5	23-Mar-12	1	Unassigned Material	Metal	Miscellaneous Items	Unidentifiable	Unidentifiable	Unidentifiable		Unidentifiable non ferrous, concave fragment	n	A219
15	5	23-Mar-12	1	Food Preparation or Consumption	Glass	Glass Storage Container	Unidentifiable	Unidentifiable	Unidentifiable		Dark olive green glass fragment	n	A219
16	5	23-Mar-12	1	Unassigned Material	Glass	Miscellaneous Items	Unidentifiable	Unidentifiable	Unidentifiable		Melted turquoise glass fragment	Y	A219
17	5	23-Mar-12	3	Food Preparation or Consumption	Glass	Glass Storage Container	Bottle	Unidentifiable	Unidentifiable		Turquoise glass fragments (corrected)	n	A219
18	5	23-Mar-12	1	Food Preparation or Consumption	Glass	Glass Storage Container	Unidentifiable	Solarized	Solarized	1820s - 1930s	Small solarized glass fragment	n	A219
19	5	23-Mar-12	1	Food Preparation or Consumption	Glass	Glass Storage Container	Bottle	Coloured Glass	Unidentifiable		Dark olive green glass fragment	n	A219
20	5	23-Mar-12	2	Food Preparation or Consumption	Glass	Tableware	Unidentifiable	Unidentifiable	Unidentifiable		Clear thin glass fragments	n	A219
21	5	23-Mar-12	4	Architectural	Glass	Window Glass	Pane Glass	Sheet Glass	Unidentifiable		Clear glass fragments	n	A219
22	5	23-Mar-12	1	Architectural	Ferrous	Nails	Nail(s)	Cut	Cut	1790-1880	Corroded nail	n	A219

Record	FS	Date	Freq.	Group	Material	Object Type	Object Name	Datable Attribute	Secondary Datable Attribute	Artifact Date	Comments/ LxWxH (cm)	Burnt?	Box No.
23	5	23-Mar-12	1	Domestic Activities	Copper - Alloy	Sewing	Thimble	Unidentifiable	Unidentifiable		Thimble fragment/approx. 40% (changed from approx.)	n	A219
24	5	23-Mar-12	5	Smoking	Clay	Pipes	White Clay - Plain Bowl	Unidentifiable	Unidentifiable	c.1850-1941	Plain clay pipe bowl fragment	n	A219
25	5	23-Mar-12	1	Smoking	Clay	Pipes	White Clay - Marked Bowl	Ribbed Design	Ribbed Design	c.1850-1941	Thick two tier ribbing	n	A219
26	5	23-Mar-12	1	Smoking	Clay	Pipes	White Clay - Marked Bowl	Ribbed Design	Ribbed Design	c.1850-1941	Dotted ribbed design	n	A219
27	5	23-Mar-12	1	Smoking	Clay	Pipes	White Clay - Plain Stem	Unidentifiable	Unidentifiable	c.1850-1941	Small stem fragment with yellow coating	n	A219
28	5	23-Mar-12	1	Smoking	Clay	Pipes	Spur	Unidentifiable	Unidentifiable	c.1850-1941	Small spur fragment	n	A219
29	5	23-Mar-12	4	Food Preparation or Consumption	Ceramic	Ceramic Cooking or Storage	Holloware	Coarse Stoneware	North American Stoneware	1840-1900	Blue-ish-Grey salt glazed exterior with dark brown slip interior	n	A219
30	5	23-Mar-12	1	Food Preparation or Consumption	Ceramic	Ceramic Cooking or Storage	Holloware	Fine Stoneware	Dark Brown Slip		Handle fragment	n	A219
31	5	23-Mar-12	1	Food Preparation or Consumption	Ceramic	Ceramic Cooking or Storage	Holloware	Fine Stoneware	Salt Glaze	Post-1849	Blue-ish-Grey salt glazed rim fragment	n	A219
32	5	23-Mar-12	1	Activities	Ceramic	Agriculture and Horticulture	Flower Pot	Coarse Red Earthenware	Unglazed		Small plain fragments	n	A219
33	5	23-Mar-12	1	Activities	Ceramic	Agriculture and Horticulture	Flower Pot	Coarse Red Earthenware	Glazed (Brown)		Exterior glazed in brown	n	A219
34	5	23-Mar-12	1	Architectural	Brick	Construction Material	Unglazed Brick	Unidentifiable	Unidentifiable		Brick fragment/black residue	n	A219
35	5	23-Mar-12	13	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Plain	1810-Present	Various plain fragments	n	A219
36	5	23-Mar-12	13	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Ironstone	Plain	Post-1840	Various plain fragments	n	A219
37	5	23-Mar-12	6	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Pearlware	Plain	1779-1830	Various plain fragments	n	A219
38	5	23-Mar-12	11	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Porcellaneous Ware	Plain	1820-Present	Plain fragments	n	A219
39	5	23-Mar-12	12	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Painted (Late Palette)	1830-Present	Various fragments pink, green and black	n	A219
40	5	23-Mar-12	3	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Painted (Late Palette)	1830-Present	Various fragments pink, green and black	Y	A219
41	5	23-Mar-12	5	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Cable Slip	1811 - Present	Various blue, brown, black and green-gray	n	A219

Record	FS	Date	Freq.	Group	Material	Object Type	Object Name	Datable Attribute	Secondary Datable Attribute	Artifact Date	Comments/ LxWxH (cm)	Burnt?	Box No.
42	5	23-Mar-12	1	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Yelloware		1840-Present	Plain Yelloware fragment	n	A219
43	5	23-Mar-12	3	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Porcellaneous Ware	Dyed Body	1878-Present	Blue dyed body	n	A219
44	5	23-Mar-12	2	Food Preparation or Consumption	Ceramic	Ceramic Cooking or Storage	Holloware	Yelloware	Rockingham ware	1830-1930	Small fragment	n	A219
45	5	23-Mar-12	4	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Annular (Black & Green)		Blue and green glazed banded rim fragments	n	A219
46	5	23-Mar-12	1	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Annular (Black)	1790-1820	Rim fragments	n	A219
47	5	23-Mar-12	2	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Annular (Black)	1790-1820	Rim fragments	n	A219
48	5	23-Mar-12	4	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Painted (Blue)	Post-1830	Underglaze blue painted fragments/ unidentifiable design	n	A219
49	5	23-Mar-12	3	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Transfer (Black)	Post-1830	Line and stipple technique	n	A219
50	5	23-Mar-12	4	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Transfer (Green)	Post-1830	Line and stipple technique	n	A219
51	5	23-Mar-12	40	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Flow Transfer (Blue)	1845-1890	Floral design	n	A219
52	5	23-Mar-12	2	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Flow Transfer (Blue)	1845-1890	Floral rim design with scenic centre	n	A219
53	5	23-Mar-12	6	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Blue Willow	Post-1830	Various fragments	n	A219
54	5	23-Mar-12	2	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Blue Willow	Post-1830	Heated blue willow fragments	Y	A219
55	5	23-Mar-12	4	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Transfer (Blue)	Post-1830	Line and stipple technique/ floral rim pattern	n	A219
56	5	23-Mar-12	5	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Unidentifiable		To heated to identify more accurately	Y	A219
57	5	23-Mar-12	1	Food Preparation or Consumption	Ceramic	Ceramic Tableware	Tableware	Refined White Earthenware	Glazed (Grey)		Exterior glazed in grey	n	A219
58	5	23-Mar-12	1	Furnishings	Ceramic	Decorative Furnishings	Figurine	Refined White Earthenware	Moulded & Painted (Black)		Unidentifiable design	n	A219
59	5	23-Mar-12	1	Clothing	Ceramic	Fasteners	Button	Porcelain	Prosser	Post-1840	Four hole presser button	n	A219

Record	FS	Date	Freq.	Group	Material	Object Type	Object Name	Datable Attribute	Secondary Datable Attribute	Artifact Date	Comments/ LxWxH (cm)	Burnt?	Box No.
60	6	26-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Primary Flake					n	A219
61	6	26-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
62	6	26-Mar-12	1	Aboriginal	Selkirk Chert	Lithic Debitage	Secondary Flake					n	A219
63	7	26-Mar-12	2	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
64	7	26-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Tool	Utilized Flake				Primary Flake	n	A219
65	3	26-Mar-12	2	Aboriginal	Onondaga Chert	Lithic Tool	Utilized Flake				Primary Flake	n	A219
66	3	26-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Tool	Biface				Possible drill midsection/ 3.2 x 2..3 x 0.9	n	A219
67	3	26-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Tool	Utilized Flake				Secondary Flake	n	A219
68	3	26-Mar-12	2	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
69	3	26-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
70	3	26-Mar-12	2	Aboriginal	Selkirk Chert	Lithic Debitage	Secondary Flake					n	A219
71	11	26-Mar-12	4	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
72	11	26-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
73	11	26-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Tool	Side Scraper				Missing tip/ 2.3 x 1.7 x 0.6	n	A219
74	10	26-Mar-12	3	Aboriginal	Onondaga Chert	Lithic Debitage	Primary Flake					n	A219
75	10	26-Mar-12	2	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
76	11	26-Mar-12	3	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
77	11	26-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
78	12	26-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Tool	Biface				Missing tip and base/Incomplete	n	A219
79	12	26-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Primary Flake					n	A219
80	12	26-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
81	13	26-Mar-12	2	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
82	13	26-Mar-12	2	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
83	14	28-Mar-12	3	Aboriginal	Onondaga Chert	Lithic Tool	Utilized Flake				Secondary Flake	n	A219
84	14	28-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
85	14	28-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Primary Flake					n	A219

Record	FS	Date	Freq.	Group	Material	Object Type	Object Name	Datable Attribute	Secondary Datable Attribute	Artifact Date	Comments/ LxWxH (cm)	Burnt?	Box No.
86	15	28-Mar-12	2	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
87	15	28-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Tool	Jacks Reef Projectile Point	Middle Woodland		400 B.C. - A.D. 600	2.9 x 1.7 x 0.6/ missing tip and one tang	n	A219
88	16	28-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
89	16	28-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Tool	Thumbnail Scraper				2.1 x 1.7 x 0.5	n	A219
90	17	28-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Tool	Utilized Flake				Secondary Flake	n	A219
91	17	28-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
92	18	28-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Tool	Adena Projectile Point	Early Woodland		1000 B.C - 400 B.C	Missing Base / 4.3 x 2.9 x 0.5	n	A219
93	18	28-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
94	19	28-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Tool	Kramer Projectile Point	Early to Middle Woodland		500 B.C-A.D. 1	Base only / 2.6 x 3.5 x 0.9	n	A219
95	19	28-Mar-12	2	Aboriginal	Onondaga Chert	Lithic Tool	Utilized Flake				Secondary Flake	n	A219
96	19	28-Mar-12	2	Aboriginal	Onondaga Chert	Lithic Debitage	Primary Flake					n	A219
97	19	28-Mar-12	12	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
98	19	28-Mar-12	1	Aboriginal	Selkirk Chert	Lithic Debitage	Secondary Flake					n	A219
99	8	28-Mar-12	2	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
100	9	28-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Tool	Utilized Flake				Secondary Flake	n	A219
101	9	28-Mar-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
102	20	15-May-12	2	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
103	20	15-May-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
104	20	15-May-12	1	Aboriginal	Onondaga Chert	Lithic Tool	Preform				Possible non stemmed foliate biface preform	n	A219
105	21	15-May-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Primary Flake					n	A219
106	21	15-May-12	2	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
107	22	15-May-12	1	Aboriginal	Onondaga Chert	Lithic Tool	Utilized Flake				Primary Flake	n	A219
108	22	15-May-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Primary Flake					n	A219
109	22	15-May-12	2	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
110	22	15-May-12	1	Aboriginal	Onondaga Chert	Lithic Debitage	Flake Fragment					n	A219

Appendix D: Stage 3 Artifact Registry – Findspot 19

Record	Lot	Date	Unit	Freq.	Group	Material	Object Type	Object Name	Datable Attribute	Secondary Datable Attribute	Artifact Date	Comments/ LxWxH (cm)	Burnt?	Box No.
1	CSP	27-Apr-12	75N-80N:95E-100E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
2	CSP	26-Apr-12	80N-85N:90E-95E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
3	CSP	26-Apr-12	80N-85N:100E-105E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
4	CSP	26-Apr-12	85N-90N:95E-100E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
5	CSP	27-Apr-12	85N-90N:100E-105E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
6	CSP	26-Apr-12	90N-95N:95E-100E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
7	CSP	27-Apr-12	90N-95N:100E-105E	1	Aboriginal	Onondaga Chert	Lithic Tool	Utilized Flake				Secondary Flake	n	A219
8	CSP	27-Apr-12	90N-95N:100E-105E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
9	CSP	26-Apr-12	95N-100N:90E-95E	1	Aboriginal	Selkirk Chert	Lithic Debitage	Primary Flake					n	A219
10	CSP	26-Apr-12	95N-100N:90E-95E	3	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
11	CSP	26-Apr-12	95N-100N:90E-95E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
12	CSP	26-Apr-12	95N-100N:95E-100E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
13	CSP	26-Apr-12	95N-100N:95E-100E	1	Aboriginal	Selkirk Chert	Lithic Debitage	Secondary Flake					n	A219
14	CSP	26-Apr-12	95N-100N:95E-100E	4	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
15	CSP	26-Apr-12	95N-100N:95E-100E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
16	CSP	26-Apr-12	100N-105N:90E-95E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
17	CSP	26-Apr-12	100N-105N:90E-95E	1	Aboriginal	Selkirk Chert	Lithic Debitage	Retouch Flake					n	A219

Record	Lot	Date	Unit	Freq.	Group	Material	Object Type	Object Name	Datable Attribute	Secondary Datable Attribute	Artifact Date	Comments/ LxWxH (cm)	Burnt?	Box No.
18	CSP	26-Apr-12	100N-105N:95E-100E	6	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
19	CSP	26-Apr-12	100N-105N:95E-100E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
20	CSP	26-Apr-12	100N-105N:95E-100E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Primary Flake					n	A219
21	CSP	26-Apr-12	100N-105N:95E-100E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Flake Fragment					n	A219
22	CSP	26-Apr-12	100N-105N:100E-105E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
23	CSP	27-Apr-12	100N-105N:105E-110E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
24	CSP	27-Apr-12	100N-105N:105E-110E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Flake Fragment					n	A219
25	CSP	26-Apr-12	105N-110N:90E-95E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
26	CSP	26-Apr-12	105N-110N:95E-100E	1	Aboriginal	Onondaga Chert	Lithic Tool	Utilized Flake				Secondary Flake	n	A219
27	CSP	26-Apr-12	105N-110N:95E-100E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
28	CSP	27-Apr-12	105N-110N:100E-105E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
29	1	26-Apr-12	90N:100E	2	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
30	1	26-Apr-12	90N:100E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
31	1	27-Apr-12	90N:100E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
32	1	27-Apr-12	90N:100E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
33	1	26-Apr-12	95N:95E	1	Aboriginal	Onondaga Chert	Lithic Tool	Combination Scraper				5.0 x 4.7 x 1.6	n	A219
34	1	26-Apr-12	95N:95E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
35	1	26-Apr-12	95N:95E	3	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
36	1	27-Apr-12	95N:95E	2	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
37	1	27-Apr-12	95N:100E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
38	1	26-Apr-12	100N:95E	2	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219

Record	Lot	Date	Unit	Freq.	Group	Material	Object Type	Object Name	Datable Attribute	Secondary Datable Attribute	Artifact Date	Comments/ LxWxH (cm)	Burnt?	Box No.
39	1	26-Apr-12	100N:95E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
40	1	27-Apr-12	100N:95E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
41	1	27-Apr-12	100N:95E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
42	1	27-Apr-12	100N:95E	1	Aboriginal	Onondaga Chert	Lithic Tool	Utilized Flake				Secondary Flake	n	A219
43	1	26-Apr-12	100N:100E	2	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219
44	1	27-Apr-12	100N:100E	2	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
45	1	27-Apr-12	100N:100E	1	Aboriginal	Onondaga Chert	Lithic Tool	Side Scraper				3.0 x 2.4 x 0.8	n	A219
46	1	26-Apr-12	105N:100E	2	Aboriginal	Onondaga Chert	Lithic Debitage	Secondary Flake					n	A219
47	1	27-Apr-12	105N:100E	1	Aboriginal	Onondaga Chert	Lithic Debitage	Retouch Flake					n	A219

Appendix E: Artifact Glossary – Architectural Materials

Cut Nails: Manufactured by slicing thin sheets of irons, cut nails are characterized by a rectangular cross-section (Nelson 1968). Cut nails first became popular in the early 19th century, and by ca. 1830 had basically replaced earlier wrought nails. Used throughout the remainder of the 19th century, the popularity of cut nails began to decline in the early 20th century.

Appendix F: Artifact Glossary – Non-Architectural Ceramic Materials

Clay Pipes (General): Unglazed white clay pipe stem fragments are among the most common of smoking-related artifact recovered from archaeological sites in Ontario. Within southern Ontario, the bulk of white clay pipes trace their manufacture to either Scotland or Quebec, although American, Dutch, English and French examples are also occasionally found (Adams 1995:95). Such items were produced throughout the entirety of the 19th century, although their popularity began to decline ca. 1880 with the introduction of briar pipes and cigarette (Adams 1995:95).

Pearlware: Josiah Wedgewood is typically credited for the earliest marketing of pearlware in 1779; however, as he did not patent it, pearlwares were soon being made by a number of manufacturers in England and beyond (Miller 1991:12; Sussman 1977:105). Originally known as "Pearl White," Wedgwood's pearlware was defined by the use of white China clay and the application of a slightly rippling cobalt glaze, giving the ware a characteristic blue tint (Adams 1995:102; Lockett 1996). This colouration was intentionally done in order to mimic the Chinese porcelain popular at the time (Lockett 1996). Typical decorations of pearlwares (generally painted or transferred) also tended to replicate those seen on East Asian ceramics (Lockett 1996). The popularity of pearlware began to diminish ca. 1830, with production ceasing soon there afterwards (Miller 1991:12).

Porcelaneous ware: Often used in fine tablewares and tea sets, porcelaneous ware is characterized by its dense and entirely vitrified body, similar to that of English porcelain (Texas A&M University 2011). Porcelaneous wares were first produced ca. 1820 and are still manufactured today (Texas A&M University 2011).

> ***Dyed*:** Created by the application of metallic oxides, dyed wares are most commonly utilized as tablewares and/or pitchers (Richardson 2011). Dyed ceramics first went into production in 1878, with early colourations occurring in blue, green, pink, grey and yellow (Richardson 2011). Dye is still used as a decorative feature today.

Prosser Buttons: Small China button manufactured by the Prosser process (or 'Prosser Buttons') are white in colour and often have a pitted or "orange peel-like" surface. First patented in 1940, Prosser buttons are produced by pressing a mixture of fine clay with quartz or finely ground ceramic wasters into a cast-iron mould (Sprague 2002:111). The buttons are then fired, glazed, and then fire a second time. Glazing can be done in nearly any colour, including metallic lustres, and can also be decorated using transfer printing or stencilling (Sprague 2002:112).

Refined White Earthenware (General): Refined white EW (plain) is recognizable by its very smooth, white glaze devoid of tinting or pooling. First produced in England ca. 1810, refined

white EW 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 collected from archaeological sites in the province.

Plain refined white EW is typically seen in utilitarian, kitchen and tablewares, and alone is not dateable. Similarly, refined white EW displaying a solid colour glaze or moulding is not alone dateable. Rather, refined white EW is typically dated based upon the specific decorative technique or motif employed.

***Annular (Banded)*:** Banded annular wares are decorated with horizontal bands of varying width comprised coloured slip (wet clay of a different colour than the body of the vessel). Banding is typically done in muted colours, including black, olive green, tan, rust, brown, ochre, grey and pale blue (FLMNH 2011). Such decoration is most typically found on large bowls, pitchers, jugs and mugs. Multi-coloured banding pre-dates the earliest production of refined white EWs (ca. 1830); however, by 1840 the utilized palette was reduced to just blue. Blue annular banded wares then continued to be produced from 1840 into the early 20th century (FLMNH 2011).

Cable Slip: Also known as 'cable slipware' and 'finger-trailed' decoration, cable slip is created using a three-chambered slip trailer, which allows for the application of multiple coloured slips simultaneously to a vessel to create a pattern (Carpentier and Rickard 2001). Cable slip decoration is often seen in conjunction with annular banding, and is dateable to the initial patent of the three-chambered slip trailer in 1811 (Miller 2000:13).

***Flow Blue**:* Flow blue is a form of decorative transfer wherein the transferred colour is allowed to bleed, forming a distinctive smudged or runny appearance (Adams 1995:103). While this style was first introduced in the 1830s, it was most popular from ca. 1840–1850 (Samford 1997:24), with a second resurgence in popularity seen in the 1890s (Adams 1995:104).

Painted: The use of paint as an inexpensive decorative feature pre-dates the production of refined white EW, and thus appears on even the earliest refined white EWs. Within this ware, two distinctive colour palettes are evident. Early palette colours were typically limited to the blue shades, although muted browns, yellows and greens were used occasionally, and date from ca. 1795 (Miller 1991:8). By ca. 1830, the introduction of the late palette saw colouration expand to include red, black, and brighter greens and blue (Adams 1995:103; Carter ND; Kenyon 1985; Miller 1991:8).

Transfer Printed: The invention of refined white earthenwares 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 in 1792. Known for their 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 2011). On refined white EW, the willow pattern is typically done by transfer print, appearing on this pattern dating from ca. 1830 through to present day (Richardson 2011).

Stoneware (General): 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, stone was used for primarily utilitarian purposes (i.e. storage, crockery, ink wells). Stone was being produced in eastern North America by the early 18th century, however, was not produced within Ontario until ca. 1849 (Adams 1995:101; Stelle 2011).

North American*:* This ceramic can be identified by its gray fabric and salt glazed exterior (Richardson 2011). Some vessels interiors are coated with an Albany slip, whereas the exterior decoration generally consists of simple painted or stenciled designs in a cobalt or manganese colour. This ware form tends to come in the form of large hollowware vessels and dates from 1840–1900 in Canada (Richardson 2011).

Vitrified White Earthenware (General): Also known as Ironstone, vitrified white earthenware is fired at significantly higher temperatures than earlier earthenwares, and as a result is characterized by a harder and thicker body (Richardson 2011). This ware also displays a distinctive bluish glaze. Plain vitrified white earthenware first appears in Ontario ca. 1840 and peaked in popularity from 1870–1890 (Adams 1995:102). It is still produced today.

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 that uncommon (Adams 1995:102). Unfortunately, moulding alone does not aid in assigning a date of manufacture.

Yellow Ware (American): Named for its typically yellow fabric, yellow wares were used in both food preparation and storage as well as tablewares (FLMNH 2011). Although first manufactured in England ca. 1875, yellow ware was not produced in North America until ca. 1830, and remained in production until ca. 1940 (Miller 2000:12).

Rockingham*:* Rockingham is a form of yellow ware decorated with a brown manganese glaze; as a result, this ware is easily recognizable by its mottle brown appearance. Rockingham was most commonly used in the production of utilitarian hollowware, although it does occasionally appear on moulded ceramic bottles and figurines (Adams 1995:101). The first examples of Rockingham glazed yelloware appear in North America ca. 1830, reaching its peak in popularity ca. 1850–1870. Rockingham glaze then continued to be produced, albeit in a diminished capacity, until the 1930 (Ketchum 1983:11-12).

Appendix G: Artifact Glossary – Non-Architectural Glass Materials

Solarized (Manganese) Glass: 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 2012). Although employed much earlier in Europe, in Ontario this type of glass was not popular until 1880 and fell out of popularity ca. 1920 (Adams 1995:100).