APPENDIX

C

Stage 1 Archaeological Assessment Report

If technical reports are required in an alternative format for accessibility needs, please contact:

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Ontario

Feb 23, 2022

Jason Seguin (P354)
Wood Environment &Infrastructure Solutions
302 - 325 James Hamilton ON L8P 3B7

RE: Review and Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "Revised Report: Stage 1 Archaeological Assessment In Support of a Schedule C Municipal Class Environmental Assessment and Detailed Transportation Assessment for Portions of Regional Road 37 (Merritt Road) and Regional Road 54 (Rice Road) Lots 169 to 171, 174 and 175, 216 to 221, 223 to 228, and 234 and 235, in the Town of Pelham, the City of Thorold and the City of Welland, County of Welland, Regional Municipality of Niagara, Ontario ", Dated Feb 4, 2022, Filed with MHSTCI Toronto Office on Feb 6, 2022, MHSTCI Project Information Form Number P354-0062-2021, MHSTCI File Number 0013564

Dear Mr. Seguin:

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 Figures 7A and 7B "Stage 1 Results with Photograph Locations and Directions" of the above titled report and recommends the following:

In light of the findings of the Stage 1 archaeological assessment of the study area, the following recommendations are made, subject to the conditions outlined below and in Section 5.0:

1. Approximately 11.5 ha (26%) of the study area has been previously disturbed (Figure 7A-Figure 7B) and does not require further archaeological assessment. Additionally, 3.7 ha (8.4%) has undergone previous archaeological assessment and does not require further testing (Figure 7A-Figure 7B).

2. Approximately 5.5 ha (10%) of the study area is located within actively cultivated agricultural fields. These portions of the study area require Stage 2 property survey by means of pedestrian survey, as per

Section 2.1.1 Standard 1 of the Standards and Guidelines for Consultant Archaeologists (2011). This technique involves walking across the entire field in parallel rows at 5 m intervals and surveying the ground surface for artifacts. The agricultural land should be prepared for the pedestrian survey by ploughing to the depth of previous ploughing. The fields must be allowed to weather through one heavy rainfall to improve surface visibility. At least 80% of the ploughed ground surface must be visible after ploughing.

3. Approximately 23.5 ha (55.6%) of the study area is manicured lawns, forested or tree-lined areas where ploughing is not viable as per Section 2.1.2 Standards 1.a, 1.d and 1.e of the MHSTCI';s 2011 Standards and Guidelines for Consultant Archaeologists (MHSTCI 2011). These portions of the study area should be subject to Stage 2 property survey by means of hand shovel test pitting at 5 m grid intervals. All test pits should be a minimum of 30 centimetres ("cm") in diameter and dug to a minimum of 5 cm into the subsoil. Soil fills should be screened through 6 millimetre ("mm") mesh screens in order to facilitate artifact recovery. Test pit profiles should be examined for cultural deposits prior to being backfilled. Test pitting should be conducted to within 1 m of all built structures. All test pits should be backfilled to level grade, and any sod caps replaced and tamped down by foot.

The above recommendation is subject to Ministry of Heritage, Sport, Tourism and Culture Industries' approval, and it is an offence to alter any portion of the study area without Ministry of Heritage, Sport, Tourism and Culture Industries' concurrence.

No development or site alteration (including, but not limited to, grading, excavation or the placement of fill that would change the landform characteristics) is permitted on lands containing areas of archaeological potential unless significant archaeological resources have been conserved (Government of Ontario 2020:31).

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,

Teresa Tremblay
Archaeology Review Officer

cc. Archaeology Licensing Officer
Maged Elmadhoon,Manager, Transportation Planning Region of Niagara
Maged Elmadhoon,Transportation Planning Niagara Region

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

Revised Report:
Stage 1 Archaeological Assessment

In Support of a Schedule C Municipal Class Environmental Assessment and Detailed Transportation Assessment for Portions of Regional Road 37 (Merritt Road) and Regional Road 54 (Rice Road)
Lots 169 to 171, 174 and 175, 216 to 221, 223 to 228, and 234 and 235, in the Town of Pelham, the City of Thorold and the City of Welland, County of Welland, Regional Municipality of Niagara, Ontario
Project # IM20103036

Archaeological Consulting License #P354 (Seguin)
PIF # P354-0062-2021 (Stage 1)

February 4, 2022

Prepared for:
Niagara Region
1815 Sir Isaac Brock Way, Thorold, ON L2V 4Y6, Canada

wood.

Original Report:
Stage 1 Archaeological Assessment

In Support of a Schedule C Municipal Class Environmental Assessment and Detailed Transportation Assessment for Portions of Regional Road 37 (Merritt Road) and Regional Road 54 (Rice Road)
Lots 169 to 171, 174 and 175, 216 to 221, 223 to 228, and 234 and 235, in the Town of Pelham, the City of Thorold and the City of Welland, County of Welland, Regional Municipality of Niagara, Ontario
Project # IM20103036

Prepared For:
Regional Municipality of Niagara
1815 Sir Isaac Brock Way
Thorold, Ontario L2V 4Y6

Prepared By:
Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited
3450 Harvester Road, Suite 100
Burlington, Ontario, L7N 3W5
Canada
February 4, 2022

wood.

Executive Summary

Wood Environment & Infrastructure ("Wood") was retained by the Regional Municipality of Niagara ("Niagara Region" or the "Client") to conduct a Stage 1 archaeological assessment prior to the proposed improvements of the following segments of Regional Road 37 (Merritt Road) and Regional Road 54 (Rice Road) in the Town of Pelham and cities of Thorold and Welland, Ontario (the "study area"):

- Segment 1 – Merritt Road between Rice Road and Cataract Road
- Segment 2 – Merritt Road between Cataract Road and Merrittville Highway / Niagara Street
- Segment 3 – Merritt Road between Merrittville Highway / Niagara Street and Highway 406
- Segment 4 – Rice Road between Merritt Road and Quaker Road

This archaeological assessment was completed in support of the Schedule 'C' Municipal Class Environmental Assessment and Detailed Transportation Assessment for improvements to Regional Road 37 (Merritt Road) and Regional Road 54 (Rice Road). The study area was historically located in Lots 169 to 171, 174 and 175, 216 to 221, 223 to 228, and 234 and 235, in the Town of Pelham, the cities of Thorold and Welland, County of Welland, Regional Municipality of Niagara, Ontario (Appendix A: Figure 1-Figure 3). The study area includes lands within the current right-of-way ("ROW") up to approximately 50 m on either side of the centre line of both Merritt and Rice Roads. The study area is approximately 44.2 hectares ("ha") in size (Appendix A: Figure 1-Figure 3).

The Stage 1 archaeological assessment was carried out in accordance with the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries ("MHSTCI") 2011 *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011), under an Ontario Professional Licence to Conduct Archaeological Fieldwork (P354) held by Jason Seguin, Senior Archaeologist at Wood. The project information was acknowledged by the MHSTCI on 25 January 2021 with the issuance of PIF number P354-0061-2021 (Stage 1). Permission to enter the study area for the purposes of the Stage 1 archaeological assessment was granted to Wood by the Client on 02 March 2021. This permission extended to all required archaeological fieldwork activities.

In keeping with Niagara Region's ongoing Indigenous engagement process, Wood provided information sharing letters (via email on 01 February 2021) to three First Nations communities the Mississaugas of the Credit First Nation ("MCFN"), the Six Nations of the Grand River First Elected Council ("SNCREC"), and the Haudenosaunee Development Institute ("HDI"). Information sharing letters included project details along with an invitation to participate. The Indigenous Engagement process is included in Section One, Supplementary Documentation.

The Stage 1 property assessment was undertaken by Cara Howell (R180) of Wood on

10 March 2021. The weather during the assessment was sunny and warm with a temperature of 17°C. The weather did not impede the property assessment in any way.

The Stage 1 background study indicated that the study area has general archaeological potential and requires Stage 2 property assessment for the following reasons: 1) several unnamed tributaries intersect with portions of the study area [Appendix A:Figure 3] ; 2) the presence of three registered archaeological sites located within 300 m of the study area providing direct evidence that this general area had been utilized by Indigenous and Euro-Canadian peoples; 3) the location of the study area within historical transportation routes [Appendix A: Figure 5 and Figure 6]; and, 4) the close proximity of the study area to illustrated historical features [Appendix A: Figure 6].

The Stage 1 archaeological assessment determined that 11.5 ha (26%) of the study area was disturbed through recent land developments, roadways, driveways, roadside ditches, constructed slopes, and infrastructure and does not require Stage 2 archaeological assessment. Additionally, 3.7 ha (8.4%) has undergone previous archaeological assessment and does not require further testing.

The remaining 29 ha (65.6%) of the study area has general archaeological potential and warrants Stage 2 archaeological assessment (Appendix A:Figure 7A-Figure 7B).

Areas that have general archaeological potential include 5.5 ha (10%) of ploughed agricultural field and 23.5 ha (55.6%) of woodlot or manicured lawns where ploughing is not viable.

In light of the findings of the Stage 1 archaeological assessment of the study area, the following recommendations are made, subject to the conditions outlined below and in Section 5.0:

1. Approximately 11.5 ha (26%) of the study area has been previously disturbed (Figure 7A-Figure 7B) and does not require further archaeological assessment. Additionally, 3.7 ha (8.4%) has undergone previous archaeological assessment and does not require further testing (Figure 7A-Figure 7B).
2. Approximately 5.5 ha (10%) of the study area is located within actively cultivated agricultural fields. These portions of the study area require Stage 2 property survey by means of pedestrian survey, as per Section 2.1.1 Standard 1 of the *Standards and Guidelines for Consultant Archaeologists* (2011). This technique involves walking across the entire field in parallel rows at 5 m intervals and surveying the ground surface for artifacts. The agricultural land should be prepared for the pedestrian survey by ploughing to the depth of previous ploughing. The fields must be allowed to weather through one heavy rainfall to improve surface visibility. At least 80% of the ploughed ground surface must be visible after ploughing.
3. Approximately 23.5 ha (55.6%) of the study area is manicured lawns, forested or tree-lined areas where ploughing is not viable as per Section 2.1.2 Standards 1.a, 1.d and 1.e of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011). These portions of the study area should be subject

to Stage 2 property survey by means of hand shovel test pitting at 5 m grid intervals. All test pits should be a minimum of 30 centimetres (“cm”) in diameter and dug to a minimum of 5 cm into the subsoil. Soil fills should be screened through 6 millimetre (“mm”) mesh screens in order to facilitate artifact recovery. Test pit profiles should be examined for cultural deposits prior to being backfilled. Test pitting should be conducted to within 1 m of all built structures. All test pits should be backfilled to level grade, and any sod caps replaced and tamped down by foot.

The above recommendation is subject to Ministry of Heritage, Sport, Tourism and Culture Industries’ approval, and it is an offence to alter any portion of the study area without Ministry of Heritage, Sport, Tourism and Culture Industries’ concurrence.

No development or site alteration (including, but not limited to, grading, excavation or the placement of fill that would change the landform characteristics) is permitted on lands containing areas of archaeological potential unless significant archaeological resources have been conserved (Government of Ontario 2020:31).

Table of Contents

Section **Page**

List of Tables

List of Appendices

Supplementary Documentation

Project Personnel

Project Director:	Jason Seguin, M.A. (P354)
Project Manager:	Cara Howell, B.A. (R180)
Field Director:	Cara Howell, B.A.
Report Preparation:	Jason Seguin, M.A.
Graphics:	Stephen LaBute, CAD
Report Reviewers:	Barbara Slim, M.A. (P348) Peter Popkin, Ph.D., CAHP, MClfA (P362) Henry Cary, Ph.D., CAHP, RPA (P327)

1.0 Section 1 – Project Context

1.1 Project Context

Wood Environment & Infrastructure ("Wood") was retained by the Regional Municipality of Niagara ("Niagara Region" or the "Client") to conduct a Stage 1 archaeological assessment prior to the proposed improvements of the following segments of Regional Road 37 (Merritt Road) and Regional Road 54 (Rice Road) in the Town of Pelham and cities of Thorold and Welland, Ontario (the "study area"):

- Segment 1 – Merritt Road between Rice Road and Cataract Road
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- Segment 4 – Rice Road between Merritt Road and Quaker Road

This archaeological assessment was completed in support of the Schedule 'C' Municipal Class Environmental Assessment and Detailed Transportation Assessment for improvements to Regional Road 37 (Merritt Road) and Regional Road 54 (Rice Road). The study area was historically located in Lots 169 to 171, 174 and 175, 216 to 221, 223 to 228, and 234 and 235, in the Town of Pelham, the cities of Thorold and Welland, County of Welland, Regional Municipality of Niagara, Ontario (Appendix A: Figure 1-Figure 3). The study area includes lands within the current right-of-way ("ROW") up to approximately 50 m on either side of the centre line of both Merritt and Rice Roads. The study area is approximately 44.2 hectares ("ha") in size (Appendix A: Figure 1-Figure 3).

The Stage 1 archaeological assessment was carried out in accordance with the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries ("MHSTCI") 2011 Standards and Guidelines for Consultant Archaeologists (MHSTCI 2011), under an Ontario Professional Licence to Conduct Archaeological Fieldwork (P354) held by Jason Seguin, Senior Archaeologist at Wood. The project information was acknowledged by the MHSTCI on 25 January 2021 with the issuance of PIF number P354-0061-2021 (Stage 1). Permission to enter the study area for the purposes of the Stage 1 archaeological assessment was granted to Wood by the Client on 02 March 2021. This permission extended to all required archaeological fieldwork activities.

In keeping with Niagara Region's ongoing Indigenous engagement process, Wood provided information sharing letters (via email on 01 February 2021) to three First Nations communities the Mississaugas of the Credit First Nation ("MCFN"), the Six Nations of the Grand River First Elected Council ("SNCREC"), and the Haudenosaunee Development Institute ("HDI"). Information sharing letters included project details along with an invitation to participate. The Indigenous Engagement process is included in Section One, Supplementary Documentation.

This report presents the results of the Stage 1 background study and makes pertinent recommendations.

1.2 Scope of Work

This Stage 1 archaeological assessment was carried out in accordance with the Terms of Reference provided in Wood's work agreement dated 02 October 2020.

A Stage 1 archaeological assessment consists of an archaeological background study and property inspection. It is a systematic qualitative process executed in order to assess the archaeological potential of a study area based on its historical use and its potential for early Euro-Canadian (early settler) and pre-contact Indigenous occupation. The objectives of a Stage 1 background study are: 1) to provide information about the study area's geography, history, previous archaeological fieldwork and current land condition; 2) to evaluate in detail the study area's archaeological potential which will support recommendations for Stage 2 property assessment for all or parts of the study area if warranted; and 3) to recommend appropriate strategies for Stage 2 property assessment if warranted.

The scope of work for the Stage 1 background study consisted of the following tasks:

- Contacting the MHSTCI to determine if recorded archaeological sites exist in the vicinity (1 kilometre ["km'"] radius) of the study area, through a search of the *Ontario Archaeological Sites Database* maintained by that Ministry.
- Contacting the MHSTCI to determine if there are any known reports of previous archaeological field work within the study area or within a radius of 50 metres ("m") around the study area, through a search of the *Ontario Public Register of Archaeological Reports* maintained by that Ministry.
- A desktop review of the study area's physical setting to determine its potential for both pre-contact and post-contact period human occupation, including its topography, hydrology, soils, and proximity to important resources and historical transportation routes and settlements.
- A review of the potential for post-contact period human occupation as documented in historical atlases and other archival sources.
- A visual inspection of the study area to gather first-hand and current evidence of its physical setting, and to aid in delineating areas where archaeological potential may have been impacted or removed by recent land-use practices.
- Formulate appropriate field testing strategies for areas of general archaeological potential.
- Preparing a Stage 1 report of findings with recommendations regarding the need for further archaeological work if deemed necessary.

2.0 Stage 1 Background Study

As part of the Stage 1 archaeological assessment, Wood queried the *Ontario Archaeological Sites Database*, maintained by the MHSTCI to determine if archaeological sites have been registered within 1 km of the study area (Section 2.1.1) (MHSTCI 2021a). The *Ontario Public Register of Archaeological Reports* was also queried to determine whether previous archaeological assessments have been carried out within the study area, or within a 50 m radius of the study area (Section 2.1.2) (MHSTCI 2021b). Second, the principal determinants of archaeological potential, namely proximity to water, topography, drainage, soils, and proximity to important resources and historical transportation routes and settlements, were examined to evaluate the study area's general archaeological potential (Sections 2.1, 2.1.3, 2.2, and 2.2.1). Third, the specific potential for post-contact period archaeological resources was assessed through an examination of available historical maps and other archival sources (Section 2.2). And fourth, a property inspection was conducted to confirm the desktop evaluation of archaeological potential and identify areas where recent land use has impacted or removed that potential.

2.1 Archaeological Context

2.1.1 Registered Archaeological Sites

In Ontario, information concerning archaeology sites is stored in the *Ontario Archaeological Sites Database* maintained by the MHSTCI. This database contains archaeological sites registered within the Borden system (Borden 1952). Under the Borden system, Canada has been divided into grid blocks based on longitude and latitude. A Borden block is approximately 13 km east to west, and approximately 18.5 km north to south. Each Borden block is referred to by a four-letter designation and sites located within the block are numbered sequentially as they are found. The study area is located within the *AgGt* Borden block. On the basis of a search of the *Ontario Archaeological Sites Database* through inquiries made to Mr. Rob von Bitter, Database Co-ordinator of MHSTCI on 26 January 2021, there are 29 registered sites located within a 1 km radius of the study area. Three of these sites are located within 300 m of the study area (Table 1).

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

Borden Number	Site Name	Cultural Affiliation	Site Type	Distance from Study Area	Development Review Status
AgGt-83	Round	Post-Contact Euro-Canadian	Homestead	912 m	-

Borden Number	Site Name	Cultural Affiliation	Site Type	Distance from Study Area	Development Review Status
AgGt-162	-	Post-Contact Euro-Canadian	House	850 m	-
AgGt-163	-	Post-Contact	House / Scatter	620 m	-
AgGt-164	-	Pre-Contact	Scatter	790 m	-
AgGt-165	-	Pre-Contact	Scatter	795 m	-
AgGt-166	-	Pre-Contact	Scatter	665 m	-
AgGt-168	-	Euro-Canadian	House	890 m	Further Cultural Heritage Value or Interest (CHVI)
AgGt-169	-	Pre-Contact	Scatter	920 m	No Further CHVI
AgGt-170	-	Late Archaic (Adder Orchard)	Unknown	880 m	No Further CHVI
AgGt-171	-	Pre-Contact	Scatter	690 m	Further CHVI
AgGt-200	-	Pre-Contact	-	845 m	-
AgGt-201	-	Pre-Contact Post-Contact	TBD, Campsite TBD, Campsite	720 m	-
AgGt-203	P8	Paleo-Indian (Hi-Lo)	Findspot	470 m	No Further CHVI
AgGt-214	-	Post-Contact Euro-Canadian	Agricultural	870 m	No Further CHVI
AgGt-216	-	Late Archaic (Crawford Knoll)	Campsite	485 m	No Further CHVI
AgGt-217	-	Middle Archaic (Brewerton)	Campsite	435 m	No Further CHVI
AgGt-219	P1	Pre-Contact	Scatter	500 m	No Further CHVI
AgGt-227	Location 1	Pre-Contact	Campsite	145 m	No Further CHVI

Borden Number	Site Name	Cultural Affiliation	Site Type	Distance from Study Area	Development Review Status
AgGt-228	Location 2	Post-Contact Euro-Canadian	Homestead	620 m	No Further CHVI
AgGt-229	Location 3	Pre-Contact	Scatter	415 m	No Further CHVI
AgGt-230	Location 4	Post-Contact Euro-Canadian	Homestead	620 m	Further CHVI
AgGt-231	Location 1	Early Paleo-Indian (Gainey)	Findspot	1 km	No Further CHVI
AgGt-249	-	Post-Contact Euro-Canadian	Homestead	1 km	No Further CHVI
AgGt-256	-	Middle Archaic (Brewerton) Late Archaic (Crawford Knoll)	Campsite	475 m	No Further CHVI
AgGt-257	-	Pre-Contact	Campsite	510 m	No Further CHVI
AgGt-258	-	Lake Archaic (Broad Point)	Unknown	380 m	No Further CHVI
AgGt-262	Rice 1	Pre-Contact	Unknown	160 m	Further CHVI
AgGt-263	Rice 2	Pre-Contact	Unknown	125 m	No Further CHVI
AgGt-269	-	Post-Contact Euro-Canadian	Residential	1 km	No Further CHVI

- Archaeological Site AgGt-263, (Rice 2) is located approximately 125 m west of the study area. The site was encountered by Detritus Consulting Limited (Detritus Consulting) in 2018 while conducting a Stage 2 test-pit survey. It was a small pre-contact site approximately 25m by 10m in size and consisted of 9 pieces of chipping detritus (Detritus Consulting 2021:15), meeting the criteria for a Stage 3 assessment. The Stage 3 assessment was also completed by Detritus Consulting Ltd. (P389-0371-2018 Stage 3). Although the Stage 3 report is not yet available, a search of the *Ontario Archaeological Sites Database* on 01 February 2022 indicated that a minimal number of artifacts were recovered during the Stage 3 assessment and it is considered fully excavated and retains no further cultural heritage value or interest (MHSTCI 2022c).

- Archaeological Site AgGt-227 (Location 1) is approximately 145 m northeast of the study area. It is a Pre-Contact campsite measuring 40 m by 35 m (MHSTCI 2021c). A total of 7,567 artifacts were recovered during the Stage 4 Mitigation of the site. The site had an inferred date of 9000 BC – AD 1650. Upon completion of the Stage 4 mitigation Site AgGt-227 had been completely excavated and contained no further CHVI (Stantec 2017b: Section 5.0).
- Archaeological Site AgGt-262 (Rice 1) is located approximately 160 m west of the study area. It is a small pre-contact site approximately 11 m by 5 m in size and consisted of 12 pieces of chipping detritus (Detritus Consulting 2021:15). The site was encountered by Detritus Consulting in 2018 while conducting a Stage 2 test-pit survey. Site AgGt-262 was "interpreted as a small activity area of unknown function, occupied by unspecified Aboriginal people during the pre-contact period" (Detritus Consulting 2021:iii). Site AgGt-262 met the criteria for a Stage 3 archaeological assessment, however the Proponent elected to short-term avoid and protect the site during construction activities and a recommendation of partial clearance was issued until the Stage 3 assessment could be completed. This included a 20m protective buffer with temporary fencing placed on the Stage 2 limits of the site. In addition, a construction monitoring zone ranging from 20m to 70m surround the site was to be observed (Detritus Consulting 2021:15). The Stage 3 assessment of Site AgGt-262 has not yet been completed (MHSTCI 2022), however the current study area alignment does not impact Site AgGt-262 nor encroach on the protective buffers of the site.

2.1.2 History of Archaeological Investigations

Wood completed a search for archaeological reports within 50 m of the study area within the *Ontario Register of Archaeological Reports* administered by the MHSTCI on 26 January 2021. Based on this search (by address, lot and concession, and above-mentioned archaeological sites), four archaeological assessments have been conducted within the study area and one archaeological assessment has been conducted within 50 m of the study area (Appendix A: Figure 4A and Figure 4B).

2.1.2.1 Reports Documenting Archaeological Assessments Within the Study Area

Table 2 lists the reports made available from MHSTCI documenting archaeological assessments conducted within the study area.

Table 2: Related Archaeological Assessment Reports Within the Study Area

Year	Title	Author	PIF
2007	Report on the 2007 Stage 1-2 Archaeological Assessment Phase 2 of the Proposed Draft Plan of Subdivision, Part of Lot 224, City of Thorold, Former Township of Thorold, Regional Municipality of Niagara.	AMICK	P058-149-2006

Year	Title	Author	PIF
2014	Revised Report Archaeological Assessment (Stages 1, 2) Proposed Rosewood Estates Part of Lot 175, Geographic and Historical Township of Thorold, Town of Pelham, Historical County of Welland, Regional Municipality of Niagara	Detritus Consulting	P230-0013-2014
2016	Stage 1 – 2 Archaeological Assessment Hansler Road, Part of Lot 223 (Geographic Township of Thorold, County of Welland), Now is the City of Welland and City of Thorold, Regional Municipality of Niagara. Ontario	AMICK	P038-0849-2016
2021	Revised Report Stage 1 – 2 Archaeological Assessment, 1304 Rice Road, Part of Lot 171, Geographic Township of Thorold, Town of Pelham, Historical County of Welland, Regional Municipality of Niagara, Ontario	Detritus Consulting	P389-0331-2018

- *2007 Report on the Stage 1 – 2 Archaeological Assessment Phase 2 of the Proposed Draft Plan of Subdivision, Part of Lot 224, City of Thorold, Former Township of Thorold, Regional Municipality of Niagara.* Prepared by AMICK Consultants Ltd., July 2007, Ref. No. 26816-P, (PIF P058-149-2006).

In 2007, AMICK conducted a Stage 1 & 2 archaeological assessment on lands that transect with the study area on the southeast side of Merritt Road within part of Lot 224 (Figure 4B). AMICK's Stage 1 background research indicated that potential for pre-contact Indigenous sites was present within their study area (AMICK 2007:3). AMICK's Stage 2 assessment identified seven isolated pre-contact Ingenious findspots over a wide area of distribution. No other archaeological resources were present and the find spots were deemed "not indicative of long-term occupation or intensive activities on the property that would suggest there are other associated significant cultural deposits" (AMICK 2007:8). It was recommended that "the proposed development be considered clear of any further requirement for archaeological field work" (AMICK 2007:8) (Appendix A: Figure 4B).

- *2014 Revised Report Archaeological Assessment (Stage 1, 2) Proposed Rosewood Estates Part of Lot 175, Geographic and Historical Township of Thorold, Town of Pelham, Historical County of Welland, Regional Municipality of Niagara.* Prepared by Detritus Consulting Ltd., July 2014, Ref. No. 2014-022, (PIF P230-0013-2014).

In 2014, Detritus Consulting conducted a Stage 1 & 2 archaeological assessment of the proposed Rosewood Estates lands along Rice Road with Part of Lot 175 (Appendix A:

Figure 4A). Detritus Consulting's Stage 1 background research indicated that potential for both early Euro-Canadian and pre-contact Indigenous sites was present within their study area (Detritus Consulting 2014:9-10). During the Sage 2 pedestrian survey, seven isolated findspots were identified. Findspots 1 to 6 consisted of Euro-Canadian artifacts "consistent with casual refuse deposits in agricultural fields associated with a 19th century farmstead but well removed from any concentrated midden areas that might exist at the farmstead" and were not considered culturally significant (Detritus Consulting 2014:12). Findspot 7 was a non-diagnostic pre-contact Indigenous scraper not associated with a lithic scatter. The findspot was not considered culturally significant. Subsequently, no further archaeological assessment of the property was recommended (Detritus Consulting 2014:12) (Appendix A: Figure 4A).

- *2016 Stage 1 – 2 Archaeological Assessment Hansler Road, Part of Lot 223, (Geographic Township of Thorold, County of Welland), now in the City of Welland and City of Thorold, Regional Municipality of Niagara*. Prepared by AMICK Consultants Ltd., September 2016, Ref. No. 10637, (PIF P038-0849-2016).

In 2016, AMICK conducted a Stage 1 & 2 archaeological assessment on lands that transect with the study area on the southeast side of Merritt Road between Merritt Road and Grisdale Road within part of Lot 223 (Figure 4B). AMICK's Stage 1 background research indicated that potential for both early Euro-Canadian and pre-contact Indigenous sites was present within their study area (AMICK 2016:7). AMICK's Stage 2 assessment did not identify anything of cultural heritage value or interest and AMICK's Stage 2 assessment recommend that "No further archaeological assessment of the study area is warranted…" AMICK 2016:27) (Appendix A: Figure 4B).

- *2021 Revised Report Stage 1 – 2 Archaeological Assessment, 1304 Rice Road, Part of Lot 171, Geographic Township of Thorold, Town of Pelham, Historical County of Welland, Regional Municipality of Niagara*. Prepared by Consultants Ltd., September 2021, Reference No. 2018-013 (PIF P389-0331-2018).

In 2018, Detritus Consulting completed a Stage 1 and 2 archaeological assessment within a portion of the current study area along Road Rice (Detritus 2021). The assessment was conducted in advance of applications for a Zoning By-law amendment and Draft Plan of Subdivision. The report indicated that the study area exhibited moderate to high potential for the recovery of archaeological resources. During the Stage 2 test pit survey two pre-contact Indigenous archaeological sites were encountered: Site AgGt-262 (Rice 1) and AgGt-263 (Rice 2). Both sites were recommended for Stage 3 assessment and have been discussed above in Section 2.1.1. The portion of Wood's current study area that overlaps with Detrtius Consulting's 2018 study area (Appendix A: Figure 4A) requires no further archaeological assessment.

2.1.2.2 Reports Documenting Archaeological Assessments Within 50 m of the

Study Area

Table 3 lists the report made available from MHSTCI documenting archaeological assessments conducted within 50 m of the study area.

Table 3: Related Archaeological Assessment Reports Within 50 m of the Study Area

Year	Title	Author	PIF
2016	Stage 1 – 2 Archaeological Assessment, Port Robinson Estates Development, Part of Lots 216 and 217, Geographic Township of Thorold, now City of Thorold, Regional Municipality of Niagara, Ontario	Stantec	P001-0871-2015

- *Stage 1 – 2 Archaeological Assessment, Port Robinson Estates Development, Part of Lot 216 and 217, Geographic Township of Thorold, now City of Thorold, Regional Municipality of Niagara, Ontario*. Prepared for Maple Hill Developments Inc. c/o Upper Canada Planning and Engineering Ltd., Prepared by Stantec, August 2016, Ref. No. 160940349, (PIF P001-0871-2015).

In 2016, Stantec conducted a Stage 1 & 2 archaeological assessment on lands directly northeast of the study area at the intersection of Merritt Road and Highway 406. Approximately 25 ha of land on part of Lots 216 and 217 were assessed for the proposed Port Robinson Estates Development. The Stage 1 assessment resulted in the determination that portions of their study area exhibit a moderate to high potential for the identification and recovery of archaeological resources. The Stage 2 assessment consisted of a combination of test pit survey and a pedestrian survey at five-metre intervals. Six archaeological sites were identified during their assessment (registered under four Borden numbers: AgGt-227, AgGt-228, AgGt-229 and AgGt-230). Three of the sites (AgGt-227, AgGt-228 and AgGt-230) were recommended for further Stage 3 assessment, two of which have since been excavated (AgGt-227 and AgGt-228 located approximately 145 m and 620 m northeast of the study area respectively; Stantec 2017a and 2017b), while Site AgGt-230 (Location 4), which is a Post-Contact Euro-Canadian homestead, continues to retain CHVI. Site AgGt-230 is located approximately 620 m east of the study area.

2.1.3 Environmental Context

The study area (Appendix A: Figure 1 to Figure 3) is situated in the Haldimand Clay Plain physiographic region of Ontario (Chapman and Putnam 1984:113, 156-159). Lying between the Niagara Escarpment and Lake Erie, occupying all the Niagara Peninsula except for the fruit belt below the escarpment, the Haldimand Clay Plain has an area of approximately 1,350 square miles. This area is made up of a series of parallel belts that were once submerged in Lake Warren. The highest ground adjoins the Niagara

Escarpment. The main part of Welland County is characterized by level topography and poor drainage and several square miles are covered in peat bogs.

The study area is on the northern part of the Haldimand Clay Plain, on higher ground adjoining the Niagara Escarpment, where several recessional moraines extend north to south. The study area sits of the sand and gravel hill of the Fonthill vicinity, a large kame feature which is associated with the Niagara Falls Moraine. The light soils of the area are strong in contrast to the heavy boulder clay of the moraine proper and the imperfectly drained clay loams to the south and form a fertile horticulture island with the clay plain (Chapman and Putnam 1984:52, 157-159).

It is crucial to consider the proximity of water sources in any evaluation of archaeological potential because the availability of water is arguably the single most important determinant of human land use, past and present. The *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011) lists proximity to water as one of the prime indicators of potential for the presence of archaeological sites. Distance from potable water has been one of the most commonly used variables for predictive modelling of archaeological site location. Water, both potable and non-potable, also facilitated the transportation of people and goods and served to focus animal and plant resources. According to the *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011), lands within 300 m of an extant or formerly mapped river or creek have potential for the presence of early Indigenous and Euro-Canadian archaeological sites. Several unnamed tributaries originating from the Singer's Drain within the Lower Welland River watershed intersect with portions of the study area (Appendix A: Figure 3), in addition, the Welland River is approximately 900 m southeast of the study area at the intersection of Merritt Road (Regional Road 37) and Highway 6 (Appendix A: Figure 3).

2.2 Historical Context

2.2.1 A Cultural History for Southern and Eastern Ontario

The majority of interpretations of pre-contact Indigenous adaptations in Ontario derive from the analysis and interpretation of stone tools. Stone tools are made from specific types of rocks that fracture in ways that can be controlled, so that they are easily shaped into useful forms. These rocks include chert, chalcedony, quartzite, petrified wood, and volcanic glass, known as obsidian. Most stone tools found in southern Ontario are formed from types of chert that outcrop in local limestone formations, such as: Onondaga and Haldimand cherts, found near the north shore of Lake Erie; Kettle Point chert, which outcrops near Lake Huron; and Collingwood chert, which outcrops along the Niagara Escarpment near Georgian Bay.

Stone tools used as spear tips and arrowheads are the most commonly studied tool type. These are referred to as projectile points. As projectile point technology changed over time, styles and shapes of points changed also. Studying these changing point types has resulted in the development of a chronological framework for pre-contact

times prior to 3,000 years ago, when Indigenous Nations began to make clay pottery. Later periods are defined both by point types and pottery characteristics. Radiocarbon dating of archaeological sites can only be done when organic materials are collected from those sites, so the dating of most sites is done by comparing the artifacts from dated sites to those from undated sites.

The following is an overview of the cultural history of southern and eastern Ontario as understood by archaeologists. It is based upon published syntheses of Indigenous cultural occupations (Wright 1968, Ellis and Ferris 1990, Adams 1994). For additional reference, Ellis and Ferris (1990) provide greater detail of the distinctive characteristics of each time period and cultural group.

The cultural history of southern Ontario began approximately 11,000 years ago when the glaciers had melted, and the land was re-exposed. The land was quickly settled by bands of hunters and gatherers who are thought to have been large game hunters. These people used large spear points that are distinctively shaped with long central grooves, called “flutes”. Archaeologists have defined a number of point types that date to this time, including Gainey, Barnes, Crowfield, and Hi-Lo types. This period is referred to as the Paleo-Indian Period and it is thought to have lasted until approximately 9,000 years ago.

After 9,500 years ago, there was a long period when the climate was variable and the bare lands left by the glaciers were becoming re-forested, resulting in patchier, more diverse ecozones. During this time, which lasted until 3,000 years ago, people were adapting to diverse environmental settings. There appears to have been more reliance on local stone for making tools and more variable tool manufacturing technologies. The adoption of a spear-throwing board, known as an atlatl, was an important innovation, resulting in the ability to throw smaller darts with more force. Projectile points from this period, called the Archaic Period, are commonly side or corner-notched and are smaller than those of the preceding period. The Archaic adaptation is generally thought to have centered on localized resources, often forest resources, and groups of people are thought to have been less mobile, an adaptation that continued to develop until the arrival of Europeans.

In southern Ontario, the Archaic Period is divided into the Early, Middle and Late Archaic. Early point types include serrated Nettling and Bifurcate Base points. Middle types include Brewerton Corner Notched and Otter Creek, and Late types include Lamoka, Genesee, Crawford Knoll, and Innes. Most of these point types are named after archaeological sites where they were first identified.

The Archaic Period is followed by the Woodland Period. The major technological change in the Early Woodland Period is the introduction of pottery. During this time, people are thought to have developed more community organization and the manufacture of clay pottery is thought to indicate less residential mobility. Burial sites dating to this time often display evidence of ceremonial activities. Projectile points made at this time include much smaller types, probably used as arrow tips. Point types include

Meadowood and Kramer and early ceramics were crudely-made vessels with conoidal (pointed) bases. The Early Woodland Period transitioned into the Middle Woodland Period approximately 2,400 years ago.

During the Middle Woodland Period in southern Ontario community and kin identity became more deeply entrenched, and more sedentary communities developed. Point types made at this time include Saugeen, Vanport, and Snyders. Ceramic vessels were conoidal in shape but were decorated with stamped designs in the soft clay. The Middle Woodland Period transitioned into the Late Woodland Period A.D. 500–900 with the earliest direct evidence for agriculture.

The Late Woodland Period saw the development of recognizable Iroquoian and Algonquian cultures in southern Ontario, characterized by the intensification of agriculture and the increased utilization of corn. Greater sedentism led to increasing settlement populations and greater complexity of settlement organization. Sites dating to this time are often found on terraces overlooking the floodplains of large rivers. Iroquoian villages tended to be small, palisaded compounds with longhouses occupied by families. As the Late Woodland Period progressed, more intercommunity communication and integration became necessary to maintain the sedentary agricultural way of life. Later Iroquoian villages were larger and more heavily palisaded, and longhouses were larger also. Algonquian settlements tended to be less populous and temporary.

When European explorers and missionaries arrived in southern Ontario in the early seventeenth century, they described the local Iroquoian social organization as being under the direction of elected chiefs. Tribal confederacies and allegiances resulted in intertribal warfare, which was only made worse by the European presence. Three Ontario Iroquoian confederacies, the Huron, Petun, and Neutral, were driven from their traditional territories before the middle of the seventeenth century.

Archaeologists tend to describe a period of transition from Late Woodland to post-contact contact times as “proto-historic”. The dating of this period is variable and may be different from site to site within a region as it describes a time when local Indigenous peoples were acquiring European trade goods indirectly through other Indigenous middlemen rather than directly from European traders. This period was generally very short and is often difficult to differentiate archaeologically from later post-contact times, when trade goods were widely available, but it usually is identified by evidence of an intact traditional cultural adaptation with occasional European items used in traditional ways.

Table 4: Simplified Cultural Chronology of Southern and Eastern Ontario

Period	Complexes/Cultures, Some Diagnostic Artifacts
Early Paleo-Indian (9000–8500 B.C.)	Small nomadic hunter-gatherer bands. Early Paleo-Indian (EPI) rarely found in eastern Ontario. Gainey, Barnes, Crowfield fluted points.

Period	Complexes/Cultures, Some Diagnostic Artifacts
Late Paleo-Indian (8500–7500 B.C.)	Small nomadic hunter-gatherer bands. Hi-Lo, Holcombe points, Lanceolate Bifaces.
Early Archaic (7500–6000/4500 B.C.)	Small nomadic hunter-gatherer bands. Nettling, Stanley/Neville points.
Middle Archaic (6000/4500–2500 B.C.)	Transition to territorial settlements. Seasonal round of subsistence introduced. Thebes (6000–5000 B.C.), Otter Creek points (4500–3000 B.C.). **Brewerton Complex (3000–2500 B.C.).** Brewerton points. **Laurentian Complex (6000–2500 B.C.)** (Eastern Ontario)
Late Archaic (2500–1000 B.C.)	More numerous territorial hunter- gatherer bands, increasing use of exotic materials and artistic items for grave offerings, regional trade networks. **Narrowpoint Complex (2500–1850 B.C.).** Lamoka points. **Broadpoint Complex (1850–1650 B.C.).** Adder Orchard, Genesee points. **Smallpoint Complex (1650–1000 B.C.).** Crawford Knoll, Innes points. **Terminal Archaic (1100–1000 B.C.)** Glacial Kame Complex. Hind points.
Early Woodland (1000–400 B.C.)	Pottery introduced. Meadowood Notched points, Meadowood Cache Blades, Kramer, Adena points. **Meadowood Complex (1000–400 B.C.).** **Middlesex Complex (650–400 B.C.).** Introduction of true cemeteries.
Middle Woodland (400 B.C.–A.D. 500/900)	Saugeen, Snyders, Vanport, Port Maitland points. **Point Peninsula Complex** (Southcentral and eastern Ontario) **Saugeen Complex** (Southeast of Lake Huron and the Bruce Peninsula, London area, and possibly as far east as the Grand River) **Couture Complex** (Lake St. Clair and the western end of Lake Erie). Burial ceremonialism.
Transitional Woodland (A.D. 500–900)	Agriculture introduced. Levanna, Jacks Reef points. **Princess Point Complex** (Eastern end of Lake Erie and the western end of Lake Ontario). **Rivière au Vase Phase of the Younge / Western Basin Tradition** (Lake St. Clair and western end of Lake Erie) **Sandbanks Complex** (Kingston area).

Period	Complexes/Cultures, Some Diagnostic Artifacts
Late Woodland (A.D. 900–1650)	Tribal differentiation. Transition to settled village life. Dewaele, Glen Meyer Tanged, Triangular Nanticoke, Notched Nanticoke, Triangular Daniels/Madison points. **Ontario Iroquoian and St. Lawrence Iroquoian Traditions** (Southcentral and eastern Ontario, respectively). **Algonkian Western Basin Tradition** (Lake St. Clair and the western end of Lake Erie).
Early Post-Contact (A.D. 1650–1763)	Iroquoian, Algonkian migrations and resettlement. French exploration and colonization
Late Post-Contact (A.D. 1763–1867)	Iroquoian, Algonkian migrations and resettlement. British and other European immigration increases.

In southern Ontario, significant post-contact archaeological sites are those that have an affiliation with an important historic event, figure, or family, but can also be anything dating to the original European settlement of a region. Often, these archaeological sites date to before A.D. 1830, but archaeologically significant Euro-Canadian sites can date into the twentieth century.

2.2.2 Review of Historical Records

During pre-contact and early contact times, the vicinity of the study area would have contained a mixture of deciduous trees, coniferous trees, and open areas. In the early nineteenth century, Euro-Canadian settlers arrived and began to clear the forests for agricultural purposes. In the nineteenth and early twentieth centuries, the study area and surrounding land were primarily used for agricultural purposes.

Township of Pelham

The Township of Pelham is in the Centre of Lincoln County. It is bounded on the south by the Welland River which separates it from Wainfleet Township, the east by the Township of Thorold, the West by Gainsborough and Clinton Townships and the north by Louth Township. The township was first surveyed in 1784 (Jackson 1976:67), immediately in advance of the arrival of United Empire Loyalists. These initial settlers consisted primarily of veterans of Loyalist regiments, such as David Secord, who was a major in Butler's Rangers during the Revolution and was one of the first Justices of the Peace in the Township of Pelham. He reportedly built and operated one of the first grist mills in the Niagara Peninsula circa 1789 (Cruikshank 1887; BRAY Heritage 2012). The Township of Pelham was settled mainly by Quakers and Mennonites as early as 1790. By 1817, the population was 776 inhabitants. The township had one Quaker church and

five saw mills.

The topography varies, with the northern part quite hilly, with gently rolling hills making up the interior. The southern portion near the Welland River is predominately flat and irrigated by several small streams; tributaries of the Welland River, while the hilly northern part of the township is irrigated by tributaries of Twelve Mile Creek. The Township of Pelham was incorporated 01 January 1850 under the terms of the Baldwin Act (Archeion [Archives of Ontario] accessed 17 July 2020). Pelham Township had three main settlements: Fonthill, Ridgeville and Fenwick. Each containing approximately 300 inhabitants in 1885. There were 1,200 horse, 1,750 sheep, and 2,200 horned cattle in the township at that time (Exploring Niagara 2020). Fonthill is the closest historic township to the study area and is located approximately 2 km northwest of study area on Rice Road.

Thorold Township

The Township of Thorold was formed in 1788, the area was laid out in 100 acre lots by surveyor August Jones, to provide land for Loyalist refugees and disbanded soldiers following the America Revolutionary War. Originally called Township Number 9, in 1793 the township was renamed Thorold after Sir John Thorold, an English baronet and Member of Parliament in the newly formed government of Upper Canada (Thompson 1898).

The first communities that developed were located approximately 4.5 km northwest of the study area and included St. Johns, Beaverdams, and DeCew Falls. In 1829, after opening of the First Welland Canal, the original settlements began to fall into decline as the new canal villages of Thorold, Allanburg, and Port Robinson became the preference (Jackson 1997). The illustrated Historical Atlas of the Counties of Lincoln and Welland, Ontario's Map of Thorold Township (Appendix A: Figure 6) illustrates that in 1876 the community of Port Robinson was one of the larger settlements in the area (Page and Co. 1876). The community of Thorold soon became dominant in the area and was incorporated as a village in 1850 and as a Town in 1870. When the Regional Municipality of Niagara was formed in 1970, the Town expanded to include the Township, and in 1975 the Town became the City of Thorold.

Historical records and mapping were examined for evidence of early Euro-Canadian use of the study area. The study area was located on Lots 169 to 171, 174 and 175, 216 to 221, 223 to 228, and 234 and 235, Town of Pelham, City of Welland, County of Welland, Regional Municipality of Niagara.

The 1862 *Tremaine's Map of the Counties of Lincoln and Welland, Canada West* (G.R. & G.M. Tremaine) was examined in an effort to determine the potential for post-contact period archaeological evidence within the study area (Appendix A: Figure 5). In addition, the *1876 Illustrated Historical Atlas of the Counties of Lincoln and Welland, Ontario* (H.R. Page & Co 1876; Appendix A: Figure 6) was examined.

Table 5, lists the features illustrated in the historical maps examined in an effort to

determine the potential for archaeological evidence within the study area. Changes between two maps, if any, are noted under the Historical Features column of the 1876 map.

Table 5: Review of Historical Records

1862 Tremaine's Map of the Counties of Lincoln and Welland, Canada West (G.R. & G.M. Tremaine) Figure 5			1876 Illustrated Historical Atlas Map of the Counties of Lincoln and Welland, Ontario (H.R. Page & Co.) Figure 6	
Lot No.	**Owner(s)**	**Historical Features**	**Owner(s)**	**Historical Features**
169	Jacob Damude	• The south portion of the study area is situated on an early settlement road (Merritt Road).	Jacob Damude	• No changes are illustrated.
170	Wife of J.C. Hill	• The study area is situated on two early settlement roads (the south side is on Merritt Road; the north side is on Rice Road).	-W ½ G.A. Hill -E ½ J.C. Hill	• Lot 170 is divided into two sections now.
171	E. Hill	• The study area is situated on two early settlement roads (the east side is on Rice Road; the south side is on Merritt Road).	G.A. Hill	• No changes are illustrated.
174	Levi Page	• The study area is situated on three early settlement roads (the north side is on Merritt Road; the west side is on Rice Road; and the south side is on Quaker road).	-W ½ A.N. Page -E ½ R.R. Garner	• Lot 174 is divided into two sections now. • There is now one orchard and on structure illustrated on the west ½ of the lot. The structure is approximately 60 m east of the study area. A portion of the orchard is illustrated within the study area.
175	J. H. Smith	• The study area is situated on three	S. Daugherty	• There is now one structure and two orchards

1862 Tremaine's Map of the Counties of Lincoln and Welland, Canada West (G.R. & G.M. Tremaine) Figure 5			1876 Illustrated Historical Atlas Map of the Counties of Lincoln and Welland, Ontario (H.R. Page & Co.) Figure 6	
Lot No.	**Owner(s)**	**Historical Features**	**Owner(s)**	**Historical Features**
		early settlement roads (the north side is on Merritt Road; the east side is on Rice Road; and the south side is on Quaker Road).		approximately 100 m west of the study area.
216	J. Hill	• The study area is located 150 m south of a settlement road (Merritt Road).	W. Mulholland	• No changes are illustrated.
217	W ½ H. Vanalstine E ½ Wm. Hill	• The south portion of the study area is situated on an early settlement road (Merritt Road).	-W ½ J.C. Bessey -E ½ Wm. Hill	• No changes are illustrated.
218	J. Terryberry	• The south portion of the study area is situated on an early settlement road (Merritt Road).	-W ½ M. Terryberry -E ½ S. Terryberry	• Lot 218 is divided into two sections now. • One structure and one orchard are now illustrated the east ½ of the lot approximately 80 m north of the study area and is situated within the orchard. • One structure is now illustrated on the west ½ of the lot adjacent to the study area.
219	W ½ John Smith E ½ F. Smith	• The south portion of the study area is situated on an early settlement road (Merritt Road).	-W ½ P Howell -E ½ J. Smith	• There are three structures now illustrated within the west ½ of the lot, the closest structure is approximately 80 m north of the study area.
220	W ½ D. Smith	• The south portion of the study area is situated on an early	-W ½ D. Smith	• No changes are illustrated.

1862 Tremaine's Map of the Counties of Lincoln and Welland, Canada West (G.R. & G.M. Tremaine) Figure 5			1876 Illustrated Historical Atlas Map of the Counties of Lincoln and Welland, Ontario (H.R. Page & Co.) Figure 6	
Lot No.	**Owner(s)**	**Historical Features**	**Owner(s)**	**Historical Features**
	E ½ F. Smith	settlement road (Merritt Road).	-E ½ M. M. O.	
221	W ½ Ben Ball E ½ J.A. Moyer	• The south portion of the study area is situated on an early settlement road (Merritt Road).	-W ½ AB IR B. Ball -E ½ Jas Warner	• No changes are illustrated.
223	Johathan Hagar	• The study area is situated on two early settlement roads (the north side is on Merritt Road; the west side is on Grisdale Road).	O.H. Round	• No changes are illustrated.
224	F.M. Hagar	• The study area is situated on two early settlement roads (the north side is on Merritt Road; the east side is on Grisdale Road).	O.H. Round	• No changes are illustrated.
225	W ½ Jacob Gainer E ½ John Gainer	• The study area is situated on two early settlement roads (the north side is on Merritt Road; the west side is on Garth Street).	John Gainer	• No changes are illustrated.
226	W ½ Jacob Gainer Jun E ½ Jacob Gainer	• The study area is situated on two early settlement roads (the north side is on Merritt Road; the east side is on Garth Street).	John Gainer Jr.	• No changes are illustrated.

1862 Tremaine's Map of the Counties of Lincoln and Welland, Canada West (G.R. & G.M. Tremaine) Figure 5			1876 Illustrated Historical Atlas Map of the Counties of Lincoln and Welland, Ontario (H.R. Page & Co.) Figure 6	
Lot No.	**Owner(s)**	**Historical Features**	**Owner(s)**	**Historical Features**
227	Joseph Goodwilham	• The study area is situated on two early settlement roads (the north side is on Merritt Road; the west side is on Cataract Road).	E. Early	• No changes are illustrated.
228	Orin Bemiss	• The study area is situated on two early settlement roads (the north side is on Merritt Road; the east side is on Cataract Road).	Orin Bemis	• No changes are illustrated.
234	Wm Spencer	• The study area is situated on two early settlement roads (the north side is on Quaker Road; the west side is on Rice Road).	D. Moore	• No changes are illustrated.
235	A. Killman	• The study area is situated on two early settlement roads (the north side is on Quaker Road; the east side is on Rice Road).	E. Sisler	• No changes are illustrated.

2.2.3 Historical Plaques

The MHSTCI's *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011:18) stipulates that areas of early Euro-Canadian settlement, including places of early military pioneer settlement (pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries, are considered to have archaeological potential. There may be commemorative markers of

their history, such as local, provincial, or federal monuments or heritage parks. Early historical transportation routes (trails, passes, roads, railways, portage routes), properties listed on a municipal register or designated under the *Ontario Heritage Act* or a federal, provincial, or municipal historic landmark or site, and properties that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations are also considered to have archaeological potential.

There are no historical plaques located within a 1-km radius of the study area (Ontario Heritage Trust 2021).

2.3 Archaeological Master Plans

The Town of Pelham has a Heritage Master Plan to support the identification and protection of archaeological and cultural heritage resources (BRAY Heritage 2012, Appendix 7 – References). Both Pre-Contact and Historic Archaeological Potential has been identified within the boundaries of the Town Pelham along the portions of Rice Road north of Quaker Road, and Merritt Road as it intersects with Rice Road.

2.4 Potential for Archaeological Resources

Archaeological potential is defined as the likelihood of finding archaeological sites within a study area. For planning purposes, determining archaeological potential provides a preliminary indication that archaeological sites might be found within the study area, and consequently, that it may be necessary to allocate time and resources for archaeological survey and mitigation.

The framework for determining the presence of archaeological potential within a study area is drawn from provincial standards found in the *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011, Sections 1.3.1 and 1.3.2). The following are features or characteristics that can indicate archaeological potential:

- previously identified archaeological sites;
- water sources (it is important to distinguish types of water and shoreline, and to distinguish natural from artificial water sources, as these features affect site locations and types to varying degrees):
  - primary water sources (e.g. lakes, rivers, streams, creeks);
  - secondary water sources (e.g. intermittent streams and creeks, springs, marshes, swamps);
  - features indicating past water sources (e.g. glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches); and,
  - accessible or inaccessible shoreline (e.g. high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh).
- elevated topography (e.g. eskers, drumlins, large knolls, plateaus);

- pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground;
- distinctive land formation that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings;
- resource areas, including:
  - food or medicinal plants (e.g. migratory routes, spawning areas, prairie);
  - scarce raw materials (e.g. quartz, copper, ochre or outcrops of chert); and,
  - early Euro-Canadian industry (e.g. fur trade, logging, prospecting, mining).
- areas of early Euro-Canadian settlement. These include places of early military or pioneer settlement (e.g. pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and cemeteries. There may be commemorative markers of their history, such as local provincial, or federal monuments or heritage parks;
- early transportation routes (e.g. trails, passes, roads, railways, portages); and,
- property listed on a municipal register or designated under the *Ontario Heritage Act* or that is a federal, provincial or municipal historic landmark or property that local histories or informants have identified with possible archaeological sites, historical events, activities or occupations.

Archaeological potential can be determined to not be present for either the entire study area or parts of it when the area under consideration has been subjected to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources. This is commonly referred to as “disturbed” or “disturbance” and may include:

- quarrying;
- major landscaping involving grading below topsoil;
- building footprints;
- sewage and infrastructure development; and,
- activities such as agricultural cultivation, gardening, minor grading, and landscaping do not necessarily affect archaeological potential.

The study area includes lands within the current right-of-way (“ROW”) up to approximately 50 m on either side of the centre line of both Merritt Road (Regional Road 37) and Rice Road (Regional Road 54). This includes paved roadways and driveways, areas fronting both public and private lands containing a mixture of woodlots, tree-lines, agriculture fields and manicured lands. Recent development was also identified along sections of the study area.

Several factors can be used to assess the potential for recovery of Indigenous

archaeological resources within a study area. Natural water sources are located within 300 m of the study area, including serval unnamed tributaries intersect with portions of both Rice Road and Merritt Road (Appendix A: **Figure 3**). Moreover, there is direct evidence that this general area has been intensively utilized by Indigenous people. Although no Indigenous sites have been registered within the study area, 20 Indigenous sites have been registered within a 1 km radius of the study area. Three of these sites are located within 300 m of the study area.

As per the MHSTCI's *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011), any areas within 100 m of early transportation routes and 300 m of early Euro-Canadian settlement have archaeological potential. The study area is located within sections of historical roadways (Rice Road, Merritt Road, Quaker Road, Niagara Street and Cataract Road) as illustrated in both the 1867 (Figure 5) and 1876 (Figure 6) historical maps. The presence of a historical feature is depicted in the 1876 historical map adjacent to the study area (Appendix A: Figure 6). Although no Euro-Canadian sites have been registered within the study area, nine Euro-Canadian sites have been registered within a 1 km radius of the study area.

Given the above, background archival research supports the conclusion that the study area exhibits general archaeological potential for the presence of both Indigenous and Euro-Canadian archaeological resources therefore, a Stage 2 archaeological assessment is required.

Areas that have been disturbed by modern activities, both extensive and intensive, have low potential for the recovery of archaeological resources. These areas include recent land development, roadways, driveways, roadside ditches / constructed slopes, and existing infrastructure.

3.0 Stage 1 Property Assessment

3.1 Methods

A Stage 1 property inspection was conducted by Cara Howell (R180) on 10 March 2021 with advance permission-to-enter obtained from the Client. The weather was sunny and warm with a maximum temperature of 17°C and did not impede the inspection in any way. Wood observed small pockets of snow coverage present in areas that tended to include denser tree coverage. However, the ground surface visibility throughout the study was generally good and no land features or features of archaeological potential were obstructed by the small amount of snow in the study area. As such, it is confirmed that the assessment met Section 1.2 Standard 2 of the *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011) regarding weather and lighting.

The Stage 1 property inspection confirmed archaeological site potential and determined the degree to which development and landscape alteration have affected that potential. The Stage 1 property inspection was conducted from the public right-of-way and no private properties were entered. The property inspection was thoroughly photo-documented. Field observations were recorded on aerial maps and field forms. All land conditions were recorded as shown in Figure 7A and Figure 7B and Appendix B: Photographs 1 to 35.

3.2 Results

Based on the Stage 1 property inspection and background research Wood determined that archaeological potential has been removed within 11.5 ha (26%) of the study area. These areas, identified as disturbed, have had the integrity of the topsoil compromised by earth moving activities to the point where archaeological potential has been removed. These areas include recent land development, roadways, driveways, roadside ditches / constructed slopes, and existing infrastructure (Appendix B: Photographs 3, 5 and 6, 8, 22, 24 to 28, 30, 33 and 34).

Approximately 3.7 ha (8.4%) of the study area has undergone previous archaeological assessment (Appendix A: Figure 7B) and requires no additional work.

The remainder of the study area, 29 ha (65.6%) consisting of manicured lawns, forested and or tree-lined areas and actively cultivated agricultural land has general archaeological potential and requires Stage 2 archaeological assessment (Appendix A:

Figure 7A and Figure 7B).

Approximately 5.5 ha (10%) of the study area is located within actively cultivated agricultural fields. These portions of the study area require Stage 2 property survey by means of pedestrian survey, as per Section 2.1.1 of the *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011). This technique involves walking across the entire field in parallel rows at 5 m intervals and surveying the ground surface for artifacts. The agricultural land should be prepared in advance of the pedestrian survey by disk harrowing / mouldboard ploughing to the depth of previous ploughing. The fields

should be allowed to weather through one heavy rainfall or several light rains to improve surface visibility. At least 80% of the ploughed ground surface needs to be visible after ploughing has been completed.

Approximately 23.5 ha (55.6%) of the study area is manicured lawns, forested or tree-lined areas where ploughing is not viable as per Section 2.1.2 Standards 1.a, 1.d and 1.e of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011). This land should be assessed by means of hand shovel test pitting at 5 m grid intervals. All test pits should be a minimum of 30 centimetres ("cm") in diameter and dug to a minimum of 5 cm into the subsoil. Soil fills should be screened through 6 millimetre ("mm") mesh screens in order to facilitate artifact recovery. Test pit profiles should be examined for cultural deposits prior to being backfilled. Test pitting should be conducted to within 1 m of all built structures. All test pits should be backfilled to level grade, and any sod caps replaced and tamped down by foot.

3.2.1 Documentary Record

The inventory of documentary records accumulated as part of this assessment is provided in Table 6.

Table 6: Inventory of Documentary Record

Study Area	Map and Photo(s)	Field Notes
Part of Lots 169 to 171, 174 and 175, 216 to 221, 223 to 228, and 234 and 235, in the Town of Pelham, the City of Thorold and the City of Welland, County of Welland, Regional Municipality of Niagara, Ontario	Copies of 2 historical maps, 35 Stage 1 photographs and 1 aerial photograph	Stage 1 photo logs and field notes

Documentation related to the archaeological assessment of this project will be curated by Wood until such time that arrangements for their ultimate transfer to Her Majesty the Queen in right of Ontario, or other public institution, can be made to the satisfaction of the project owner, the MHSTCI and any other legitimate interest groups.

3.3 Stage 1 Analysis and Conclusions

The Stage 1 background study indicated that the study area has general archaeological potential and warrants Stage 2 property assessment for the following reasons: 1) several unnamed tributaries intersect with portions of the study area [Appendix A: Figure 3] ; 2) the presence of three registered archaeological sites located within 300 m of the study area providing direct evidence that this general area had been utilized by Indigenous and Euro-Canadian peoples; 3) the location of the study area within

historical transportation routes [Appendix A: Figure 5 and Figure 6]; and, 4) the close proximity of the study area to illustrated historical features [Appendix A: Figure 6].

The Stage 1 archaeological assessment determined that 11.5 ha (26%) of the study area is disturbed (recent land development, roadways, driveways, roadside ditches / constructed slopes, and existing infrastructure) and does not require Stage 2 archaeological assessment. Additional, 3.7 ha (8.4%) has undergone previous archaeological assessment and does not require further testing. The remaining 29 ha (65.6%) of the study retains archaeological potential and warrants Stage 2 archaeological assessment by both pedestrian survey and test pit survey (Appendix A: Figure 7A and Figure 7B).

4.0 Recommendations

In light of the findings of the Stage 1 archaeological assessment of the study area, the following recommendations are made, subject to the conditions outlined below and in Section 5.0:

1. Approximately 11.5 ha (26%) of the study area has been previously disturbed (Figure 7A-Figure 7B) and do not require further archaeological assessment. Additional, 3.7 ha (8.4%) has undergone previous archaeological assessment and does not require further testing (Figure 7A-Figure 7B).
2. Approximately 5.5 ha (10%) of the study area is located within actively cultivated agricultural fields. These portions of the study area require Stage 2 property survey by means of pedestrian survey, as per Section 2.1.1 Standard 1 of the *Standards and Guidelines for Consultant Archaeologists* (2011). This technique involves walking across the entire field in parallel rows at 5 m intervals and surveying the ground surface for artifacts. The agricultural land should be prepared for the pedestrian survey by ploughing to the depth of previous ploughing. The fields must be allowed to weather through one heavy rainfall to improve surface visibility. At least 80% of the ploughed ground surface must be visible after ploughing.
3. Approximately 23.5 ha (55.6%) of the study area is manicured lawns, forested or tree-lined areas where ploughing is not viable as per Section 2.1.2 Standards 1.a, 1.d and 1.e of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (MHSTCI 2011). These portions of the study area should be subject to Stage 2 property survey by means of hand shovel test pitting at 5 m grid intervals. All test pits should be a minimum of 30 cm in diameter and dug to a minimum of 5 cm into the subsoil. Soil fills should be screened through 6 mm mesh screens in order to facilitate artifact recovery. Test pit profiles should be examined for cultural deposits prior to being backfilled. Test pitting should be conducted to within 1 m of all built structures. All test pits should be backfilled to level grade, and any sod caps replaced and tamped down by foot.

The above recommendations are subject to Ministry of Heritage, Sport, Tourism and Culture Industries' approval, and it is an offence to alter any of portion of the study area without Ministry of Heritage, Sport, Tourism and Culture Industries' concurrence.

No development or site alteration (including, but not limited to, grading, excavation or the placement of fill that would change the landform characteristics) is permitted on lands containing areas of archaeological potential unless significant archaeological resources have been conserved (Government of Ontario 2020:31).

5.0 Advice on Compliance with Legislation

a. This report is submitted to the Minister of Heritage, Sport, Tourism and Culture Industries as a condition of licensing in accordance with Part IV of the *Ontario Heritage Act, R.S.O. 1990, c O.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 Heritage, Sport, Tourism and Culture Industries, 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.

b. 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 a time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

c. 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*.

d. The *Funeral, Burial and Cremation Services Act,* 2002, S.O. 2002, c.33 requires that any person discovering human remains must notify the local police or coroner and the Registrar of Cemeteries at the Ministry of Government and Consumer Services.

e. 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 license.

6.0 Assessor Qualifications

This report was prepared and reviewed by the undersigned, employees of Wood. Wood is one of North America's leading engineering firms, with more than 50 years of experience in the earth and environmental consulting industry. The qualifications of the assessors involved in the preparation of this report are provided in Appendix C.

7.0 Closure

This report was prepared for the exclusive use of Regional Municipality of Niagara and is intended to provide a Stage 1 archaeological assessment of the study area. The study area included portions of Regional Road 37 and Regional Road 54, the Town of Pelham, Ontario. The property is legally described as Lots 169 to 171, 174 and 175, 216 to 221, 223 to 228, and 234 and 235, in the Town of Pelham, the Cities of Thorold and Welland, County of Welland, Regional Municipality of Niagara, Ontario.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of the third party. Should additional parties require reliance on this report, written authorization from Wood will be required. With respect to third parties, Wood has no liability or responsibility for losses of any kind whatsoever, including direct or consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

The report is based on data and information collected during the Stage 1 background study conducted by Wood. It is based solely a review of historical information, a property reconnaissance conducted on 10 March 2021 and data obtained by Wood as described in this report. Except as otherwise maybe specified, Wood disclaims any obligation to update this report for events taking place, or with respect to information that becomes available to Wood after the time during which Wood conducted the archaeological assessment. In evaluating the property, Wood has relied in good faith on information provided by other individuals noted in this report. Wood has assumed that the information provided is factual and accurate. In addition, the findings in this report are based, to a large degree, upon information provided by the current owner/occupant. Wood accepts no responsibility for any deficiency, misstatement or inaccuracy contained in this report as a result of omissions, misinterpretations or fraudulent acts of persons interviewed or contacted.

Wood makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and change. Such interpretations and regulatory changes should be reviewed with legal counsel.

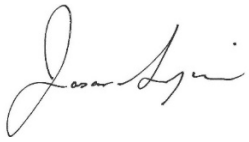
This report is also subject to the further Standard Limitations contained in Appendix D.

We trust that the information presented in this report meets your current requirements. Should you have any questions, or concerns, please do not hesitate to contact the undersigned.

Respectfully Submitted,

Wood Environment & Infrastructure,
a Division of Wood Canada Limited

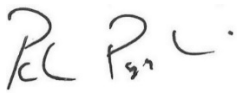
Prepared by,



Jason Seguin, M.A. (P354)
Senior Archaeologist

Reviewed by,

Barbara Slim, M.A. (P348)
Associate Archaeologist



Peter Popkin, Ph.D. CAHP, MClfA (P362)
Associate Archaeologist

Henry Cary, Ph.D. CAHP, RPA (P327)
Senior Staff Archeologist

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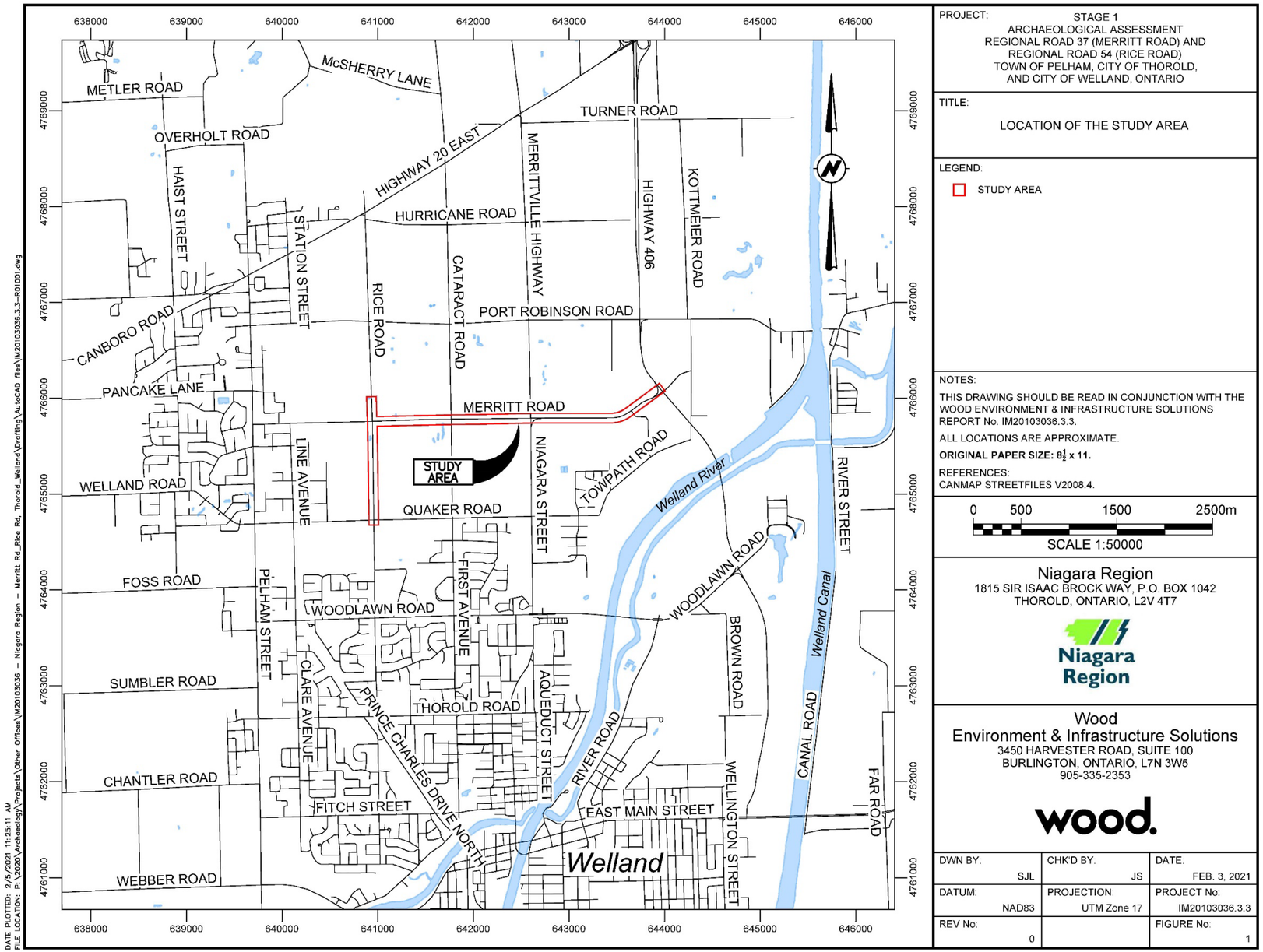
Appendix A: Figures



PROJECT:
STAGE 1
ARCHAEOLOGICAL ASSESSMENT
REGIONAL ROAD 37 (MERRITT ROAD) AND
REGIONAL ROAD 54 (RICE ROAD)
TOWN OF PELHAM, CITY OF THOROLD,
AND CITY OF WELLAND, ONTARIO

TITLE:
LOCATION OF THE STUDY AREA

LEGEND:
STUDY AREA

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Figure 1: Location of the Study Area

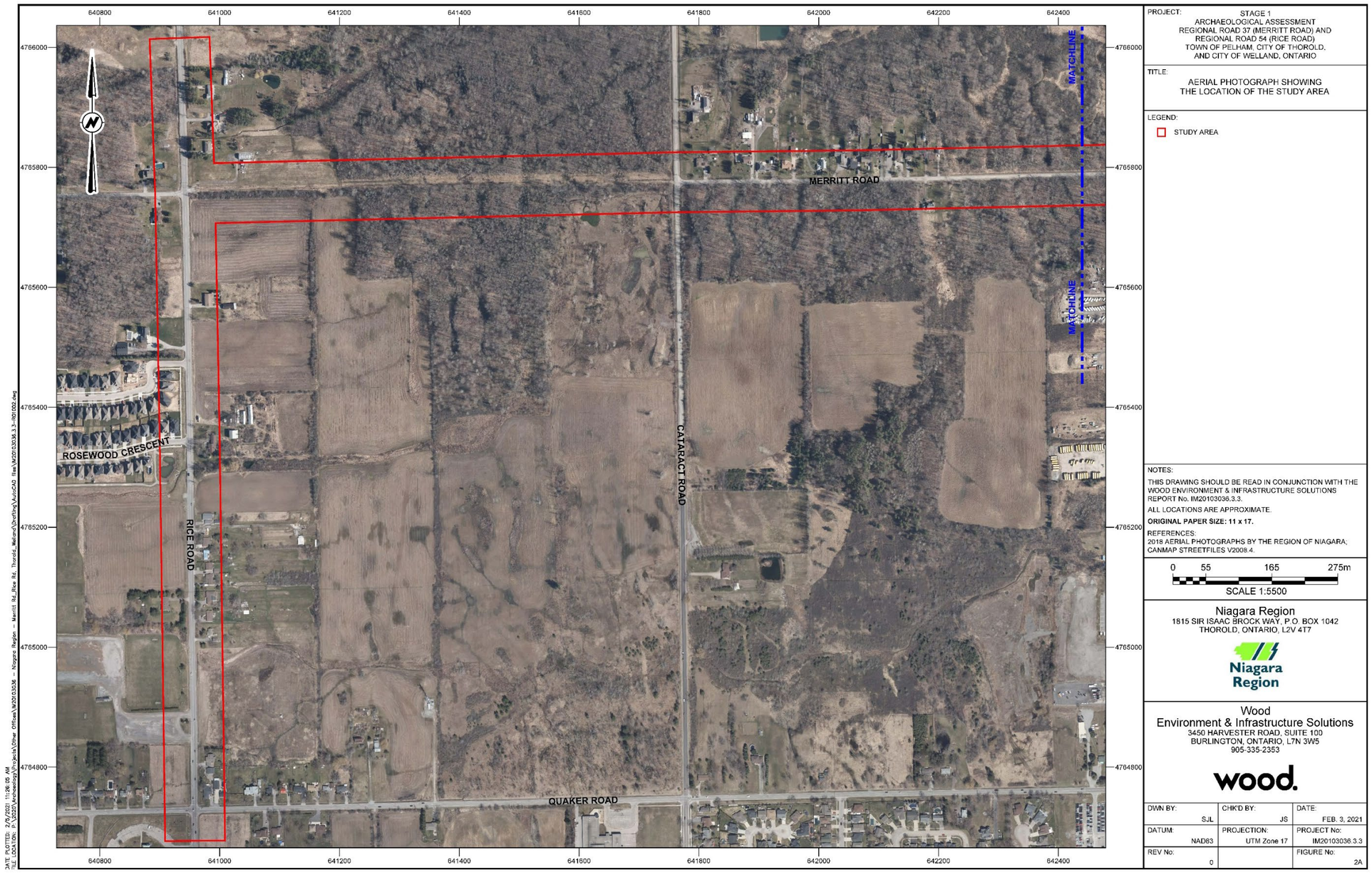
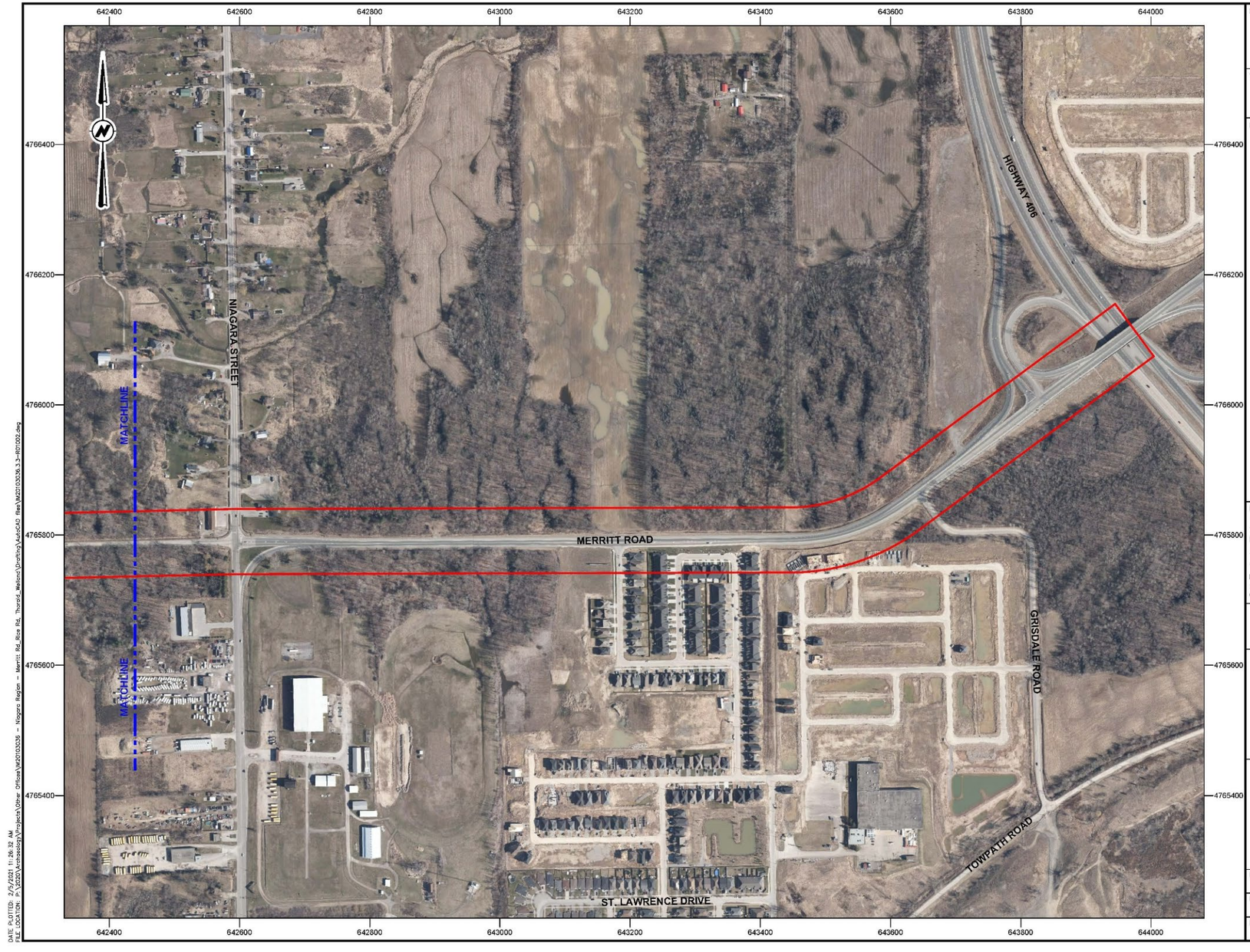


Figure 2A: Aerial Photograph Showing the Location of the Study Area



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STAGE 1
ARCHAEOLOGICAL ASSESSMENT
REGIONAL ROAD 37 (MERRITT ROAD) AND
REGIONAL ROAD 54 (RICE ROAD)
TOWN OF PELHAM, CITY OF THOROLD,
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TITLE:
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Figure 2B: Aerial Photograph Showing the Location of the Study Area

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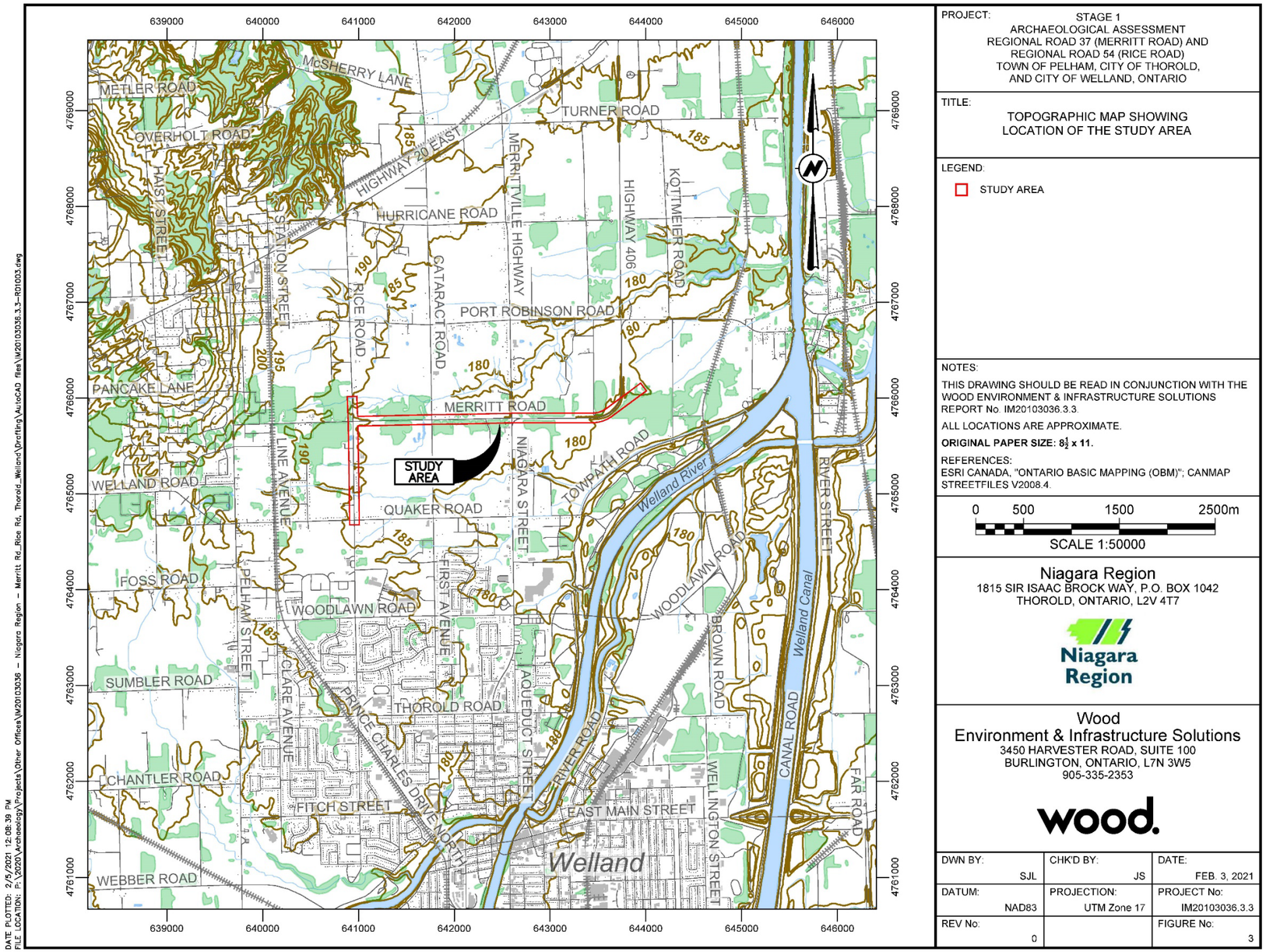

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STAGE 1
ARCHAEOLOGICAL ASSESSMENT
REGIONAL ROAD 37 (MERRITT ROAD) AND
REGIONAL ROAD 54 (RICE ROAD)
TOWN OF PELHAM, CITY OF THOROLD,
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TITLE:
TOPOGRAPHIC MAP SHOWING
LOCATION OF THE STUDY AREA

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STUDY AREA

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Figure 3: Topographic Map Showing Location of the Study Area

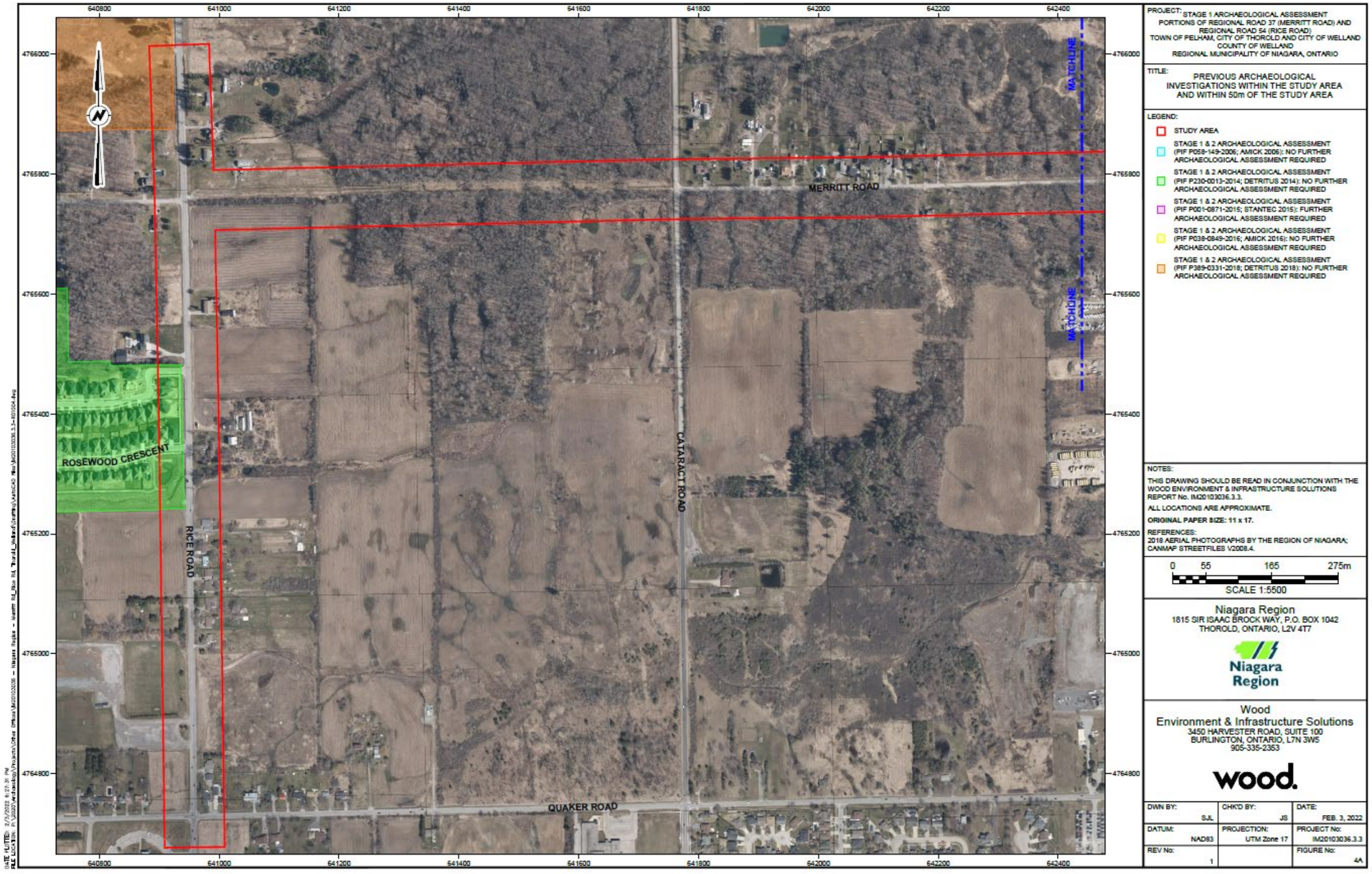

Figure 4A: Previous Archaeological Investigations within the Study Area and Within 50m of the Study Area

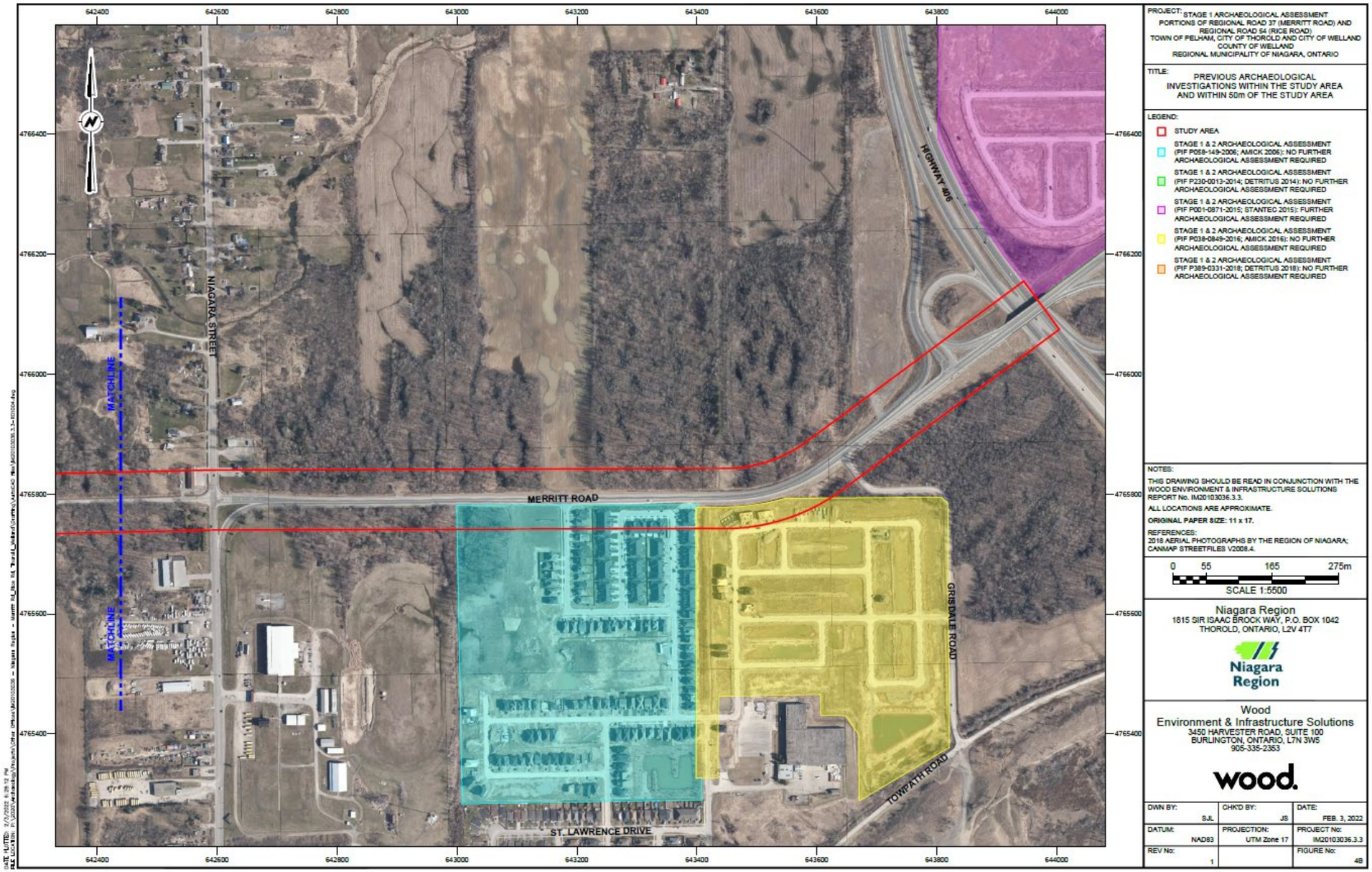

Figure 4B: Previous Archaeological Investigations within the Study Area and Within 50m of the Study Area

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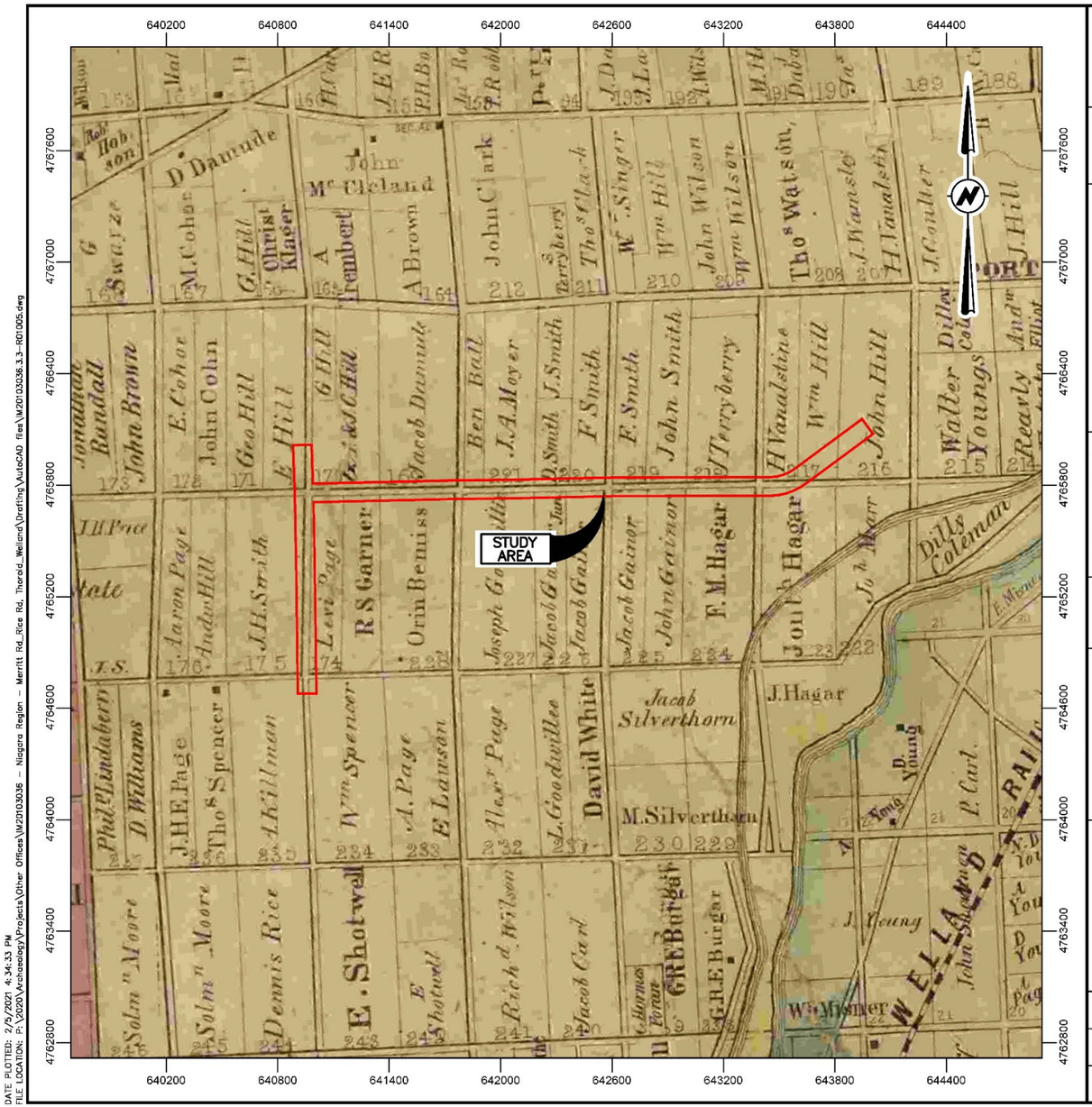

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STAGE 1
ARCHAEOLOGICAL ASSESSMENT
REGIONAL ROAD 37 (MERRITT ROAD) AND
REGIONAL ROAD 54 (RICE ROAD)
TOWN OF PELHAM, CITY OF THOROLD,
AND CITY OF WELLAND, ONTARIO

TITLE:
1862 TREMAINE'S MAP OF THE COUNTIES
OF LINCOLN AND WELLAND, CANADA WEST
SHOWING THE LOCATION OF THE STUDY AREA

LEGEND:

STUDY AREA

NOTES:

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REFERENCES:
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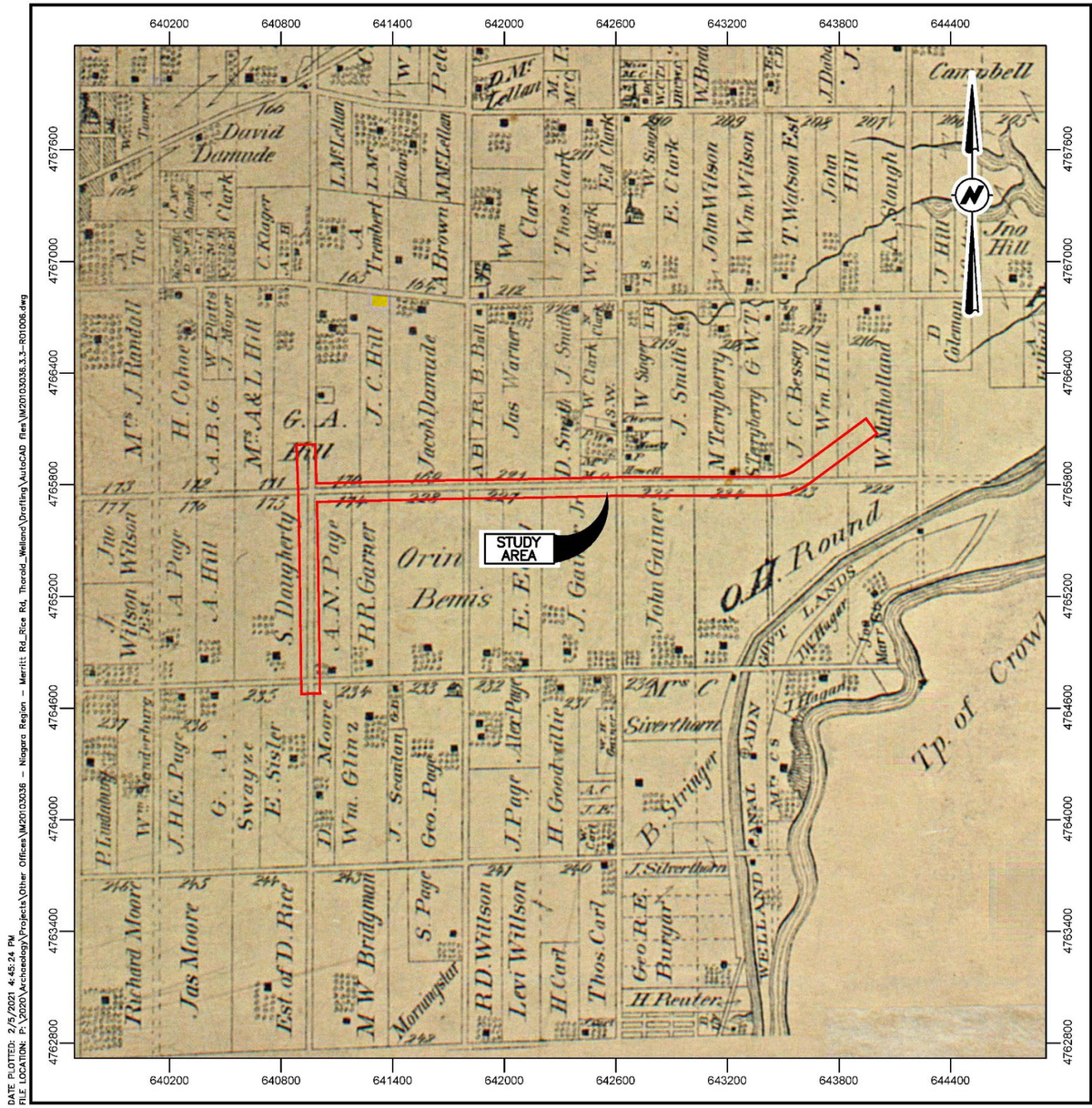
Figure 5: 1862 Tremaine's Map of the Counites of Lincoln and Welland, Canada West Showing the Location of the Study Area



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PROJECT: STAGE 1 ARCHAEOLOGICAL ASSESSMENT REGIONAL ROAD 37 (MERRITT ROAD) AND REGIONAL ROAD 54 (RICE ROAD) TOWN OF PELHAM, CITY OF THOROLD, AND CITY OF WELLAND, ONTARIO

TITLE: 1876 ILLUSTRATED HISTORICAL ATLAS OF THE COUNTIES OF LINCOLN AND WELLAND, ONTARIO SHOWING THE LOCATION OF THE STUDY AREA

LEGEND:
- STUDY AREA

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Figure 6: 1876 Illustrated Historical Atlas of the Counties of Lincoln and Welland, Ontario Showing the Location of the Study Area

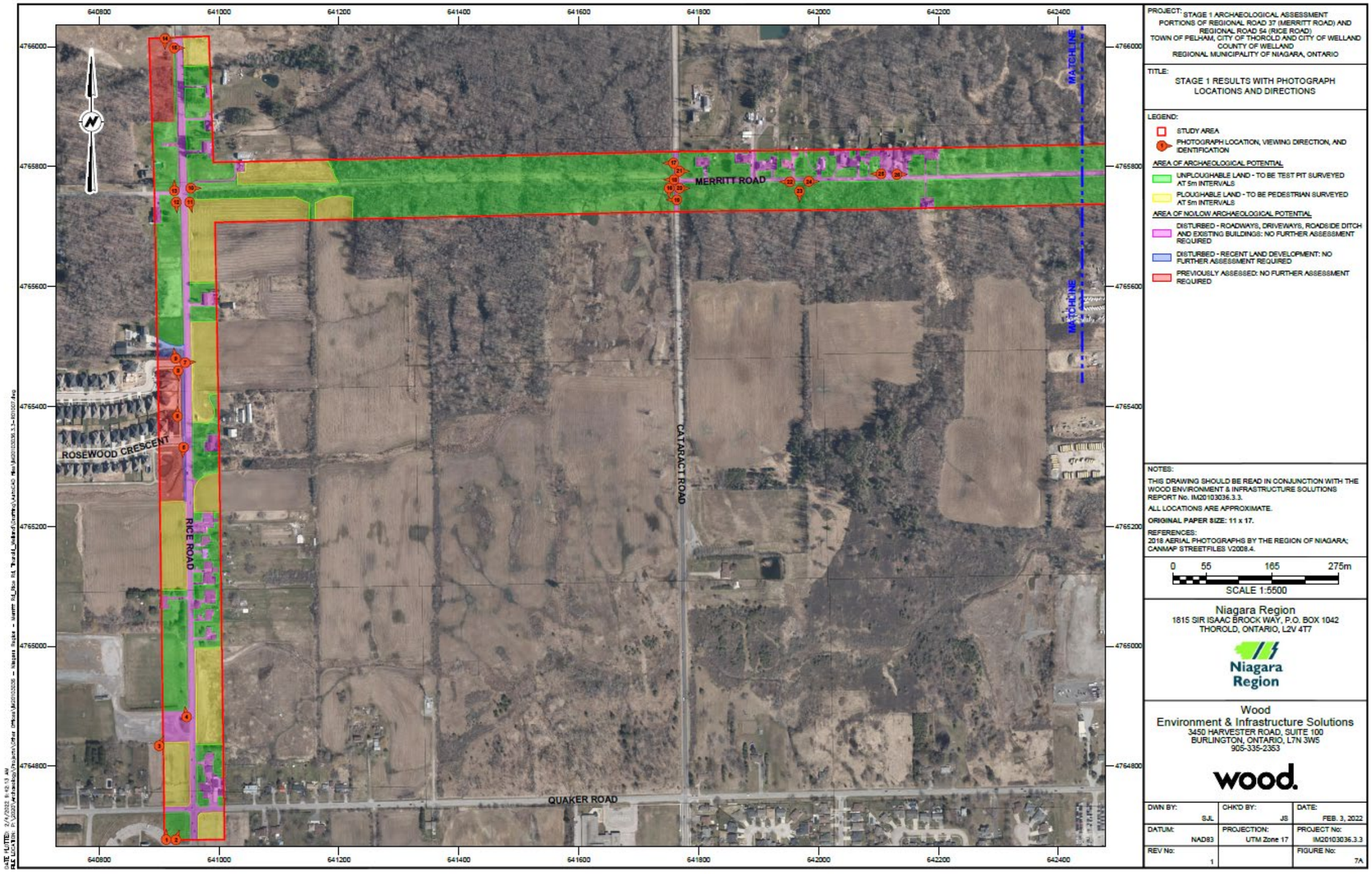

Figure 7A: Stage 1 Results with Photograph Locations and Directions

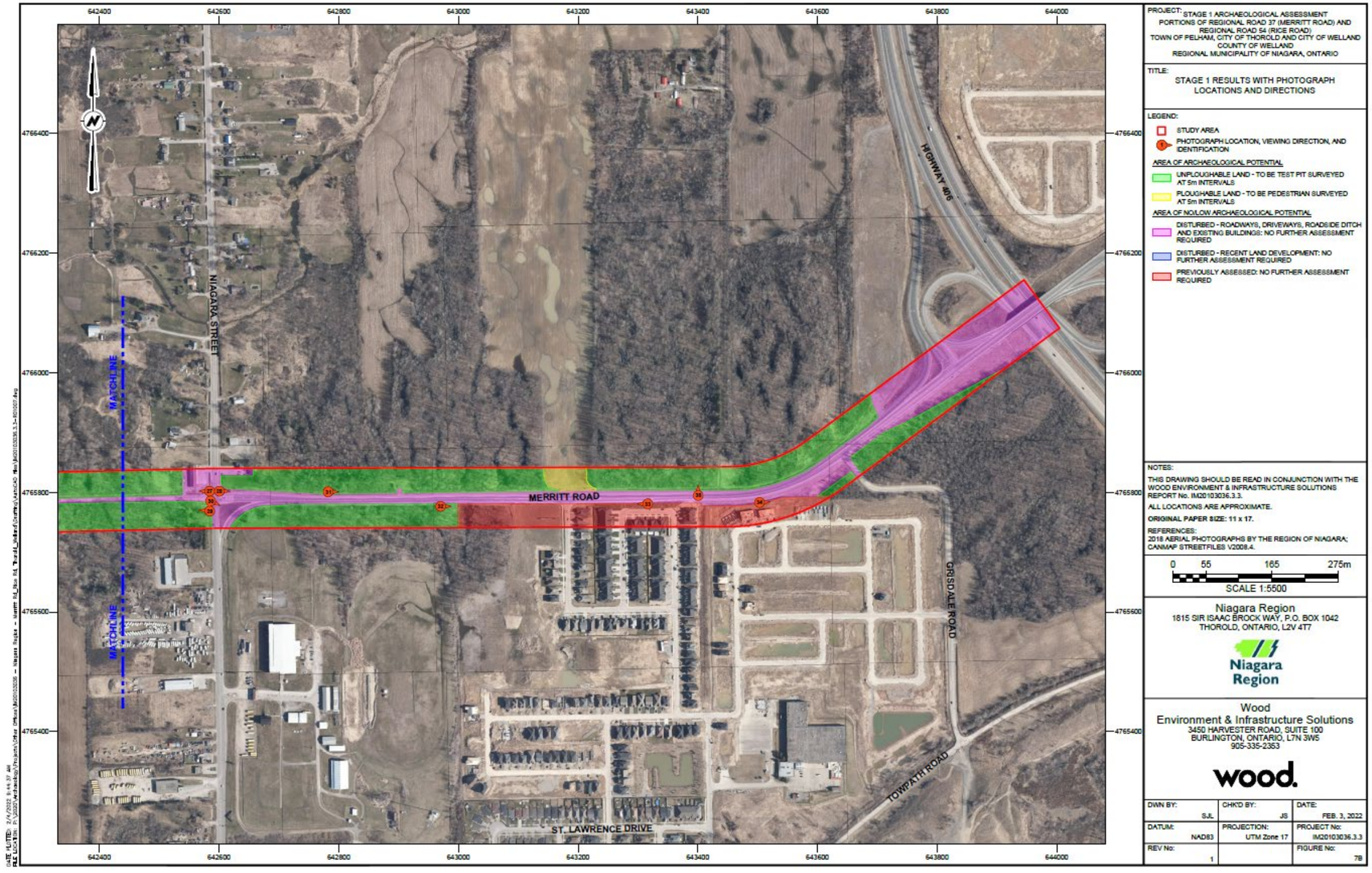

Figure 7B: Stage 1 Results with Photograph Locations and Directions

Appendix B: Photographs

	PHOTOGRAPH 1 Currently manicured and landscaped lands within a former agricultural field at the intersection of Rice Road and Quaker Road. Stage 2 survey is recommended through pedestrian survey.
	PHOTOGRAPH 2 Currently manicured and landscaped lands within a former agricultural field at the intersection of Rice Road and Quaker Road. Stage 2 survey is recommended through pedestrian survey.

	PHOTOGRAPH 3 Asphalted driveway and compacted granular parking lot.
	PHOTOGRAPH 4 Manicured and landscaped lands on the west side of Rice Road, currently a soccer field. Stage 2 survey is recommended through test pitting.

	PHOTOGRAPH 5 Previously assessed area on west side of Rice Road (PIF # P230-0013-2014 Stage 1& 2 [Detritus]. No further assessment is required.
	PHOTOGRAPH 6 Previously assessed area on west side of Rice Road (PIF # P230-0013-2014 Stage 1& 2 [Detritus]. No further assessment is required.

	PHOTOGRAPH 7 Agricultural lands to the east of Rice Road.
	PHOTOGRAPH 8 Previously assessed area on west side of Rice Road (PIF # P230-0013-2014 Stage 1& 2 [Detritus]. No further assessment is required.

	PHOTOGRAPH 9 West side of Rice Road. Manicured lands. Stage 2 survey is recommended through test pitting.
	PHOTOGRAPH 10 East side of Rice Road facing towards the Hydro corridor.

PHOTOGRAPH 11

East side of Rice Road. The agricultural field to the east is recommended for Stage 2 survey. No further assessment is recommended for the roadway and associated ditches.

PHOTOGRAPH 12

West side of Rice Road. No further assessment is recommended for the roadway and associated ditches. Manicured lands west of the drainage ditch are recommended for Stage 2 survey through test pitting.

PHOTOGRAPH 13

West side of Rice Road. No further assessment is recommended for the roadway and associated ditches. Manicured lands are recommended for Stage 2 survey through test pitting.

PHOTOGRAPH 14

Previously assessed area on west side of Rice Road (PIF # P389-0331-2018 Stage 1& 2 [Detritus 2021]. No further assessment is required.

	PHOTOGRAPH 15 The agricultural field on the east side of Rice Road is recommended for Stage 2 survey.
	PHOTOGRAPH 16 Facing south towards the intersection of Merritt Road and Cataract Road. Stage 2 survey is recommended through test pitting.

	PHOTOGRAPH 17 Facing west within the hydro corridor at the intersection of Merritt Road and Cataract Road. Stage 2 survey is recommended through test pitting.
	PHOTOGRAPH 18 Facing west within the hydro corridor at the intersection of Merritt Road and Cataract Road. Stage 2 survey is recommended through test pitting.

PHOTOGRAPH 19

Facing west towards the hydro corridor crossing at Merritt Road and Cataract Road. Stage 2 survey is recommended through test pitting.

PHOTOGRAPH 20

Facing east at the Intersection of Cataract Road and Merritt Road. Stage 2 survey by test pitting is recommended within the woodlot. No further assessment is recommended for the roadway and associated drainage ditches.

PHOTOGRAPH 21

Facing east at the intersection of Merritt Road and Cataract Road. No further assessment is recommended for the roadway and associated ditches. Manicured and landscaped areas are recommended for Stage 2 survey by test pitting.

PHOTOGRAPH 22

South side of Merritt Road. No further assessment is recommended for the roadway and associated ditches. The woodlot is recommended for Stage 2 survey by test pitting.

PHOTOGRAPH 23

Woodlot on the south side of Merritt Road. Stage 2 survey is recommended by test pitting.

PHOTOGRAPH 24

South side of Merritt Road. Stage 2 survey is recommended by test pitting within the woodlot. No further assessment is recommended for the roadway and associated drainage ditches.

	PHOTOGRAPH 25 North side of Merritt Road. No further assessment is recommended for the roadway and associated ditches, driveways, and the footprint of residential homes. Manicured lands are recommended for Stage 2 survey through test pitting.
	PHOTOGRAPH 26 North side of Merritt Road. No further assessment is recommended for the roadway and associated ditches, driveways, and the footprint of residential homes. Manicured lands are recommended for Stage 2 assessment through test pitting.

PHOTOGRAPH 27

Intersection of Merritt Road and Niagara Street. No further assessment is recommended for the roadway and associated ditches, driveway, and the footprint of the equipment facility.

PHOTOGRAPH 28

Intersection of Merritt Road and Niagara Street. No further assessment is recommended for the roadway and associated ditches, driveway, and the footprint of buildings. Manicured lands and the woodlot are recommended for Stage 2 survey by test pitting.

PHOTOGRAPH 29

Intersection of Merritt Road and Niagara Street. Stage 2 survey by test pitting is recommended within the woodlot.

PHOTOGRAPH 30

Intersection of Merritt Road and Niagara Street. Stage 2 survey recommended for the manicured lands and woodlot to the east of the intersecting boulevard. No further assessment is recommended for the roadway and intersecting boulevard.

PHOTOGRAPH 31

North side of Merritt Road. No further assessment is recommended for the roadway and associated ditches. The woodlot is recommended for Stage 2 survey by test pitting.

PHOTOGRAPH 32

South side of Merritt Road. No further assessment is recommended for the roadway and associated ditches. The woodlot is recommended for Stage 2 survey by test pitting.

	PHOTOGRAPH 33 South side of Merritt Road. Previously assessed area (PIF # P058-149-2006 [AMICK]) and recent land developments including residential complexes, roadway, driveways and graded and landscaped shoulder. No further assessment recommended.
	PHOTOGRAPH 34 South side of Merritt Road with disturbed roadside ditches and a previously assessed area (PIF # P038-0849-2016 [AMICK 2016]). No further assessment recommended.

PHOTOGRAPH 35

Facing woodlot on north side of Merritt Road. Stage 2 survey by test pitting recommended within the woodlot.

Appendix C: Assessor Qualifications

Project No. IM20103036

wood.

Assessor Qualifications

Peter Popkin, Ph.D., CAHP, MCIfA, Associate Archaeologist (P362) – Dr. Popkin is an Associate Archaeologist at Wood. Peter has over 20 years of professional experience in both consulting and academic archaeology within Canada and internationally. In Ontario he has successfully undertaken consultant archaeology projects triggered by: the Planning Act (subdivisions, site plans, re-zoning, official plan amendments, consent), the Environmental Assessment Act (individual and Class EAs, provincial and federal EAs), the Environmental Protection Act (Renewable Energy Approvals O.Reg 359/09), as well as the Aggregates Resources Act (aggregate pit extensions), and has managed projects under the National Energy Board Act (now the Canadian Energy Regulator Act). Dr. Popkin has lectured in archaeology at York University, the University of Toronto and Wilfrid Laurier University in Ontario, as well as University College London, King's College London, and Birkbeck College, in the UK. Dr. Popkin holds a Professional Archaeology Licence (P362) from the Ontario MHSTCI, is a Professional Member of the Canadian Association of Heritage Professionals (CAHP) and is a full Member of the Chartered Institute for Archaeologists (MCIfA). Dr. Popkin received his Ph.D. from the Institute of Archaeology, University College London, London, UK (2009).

Barbara Slim, M.A., Associate Archaeologist, Ontario Archaeology Discipline Lead (P348) – Ms. Slim is a professionally licensed archaeologist with over 16 years of experience in the archaeology and environmental consulting industry. Ms. Slim has conducted all aspects of Stage 1 to 4 archaeological assessments for provincial agencies, municipalities, and land developers in support of infrastructure developments, financial real estate transactions, environmental remediation and private developments. As a founding member of the Wood Ontario archaeology team, Ms. Slim has performed every aspect of project execution, from client relations, project design to MHSTCI clearance. Through her project experience, Ms. Slim has gained an in-depth understanding of the Heritage Act and legislations & standards associated with cultural heritage management. Ms. Slim holds a Master's Degree in Anthropology from Trent University and an Honours Bachelor's Degree in Environmental Studies and Anthropology from Trent University. Ms. Slim currently holds a Professional Archaeology Licence (P348) issued by the Ontario MHSTCI, is RAQs Certified in Archaeology/Heritage and is a member of the Ontario Association of Professional Archaeologists.

Henry Cary, Ph.D., CAHP, RPA, Senior Staff Archaeologist (P327) – Dr. Henry Cary has over 20 years of public and private-sector experience directing archaeological and cultural heritage projects in urban, rural, Arctic and Sub-Arctic environments in Canada as well as the Republic of South Africa, Italy, and France. His career has included positions as project archaeologist and cultural resource management specialist for Parks Canada's Fort Henry National Historic Site Conservation Program and Western Arctic Field Unit, Heritage Manager for the Town of Lunenburg UNESCO World Heritage Site, and senior-level archaeologist and cultural heritage specialist for CH2M and Golder Associates. He holds a Professional Archaeology Licence (P327) issued by

the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries, is Ministry of Transportation Ontario RAQs-approved in Archaeology/Heritage and is a member of the Canadian Association of Heritage Professionals (CAHP) and Register of Professional Archaeologists (RPA). His education includes a B.A. (with distinction) in Prehistoric Archaeology and Anthropology from Wilfrid Laurier University, an MA in Historical Archaeology from Memorial University, and a Ph.D. in War Studies from the Royal Military College of Canada. Currently, Henry also holds academic positions as Adjunct Professor in the Anthropology Department at Saint Mary's University and as lecturer of archaeology in the Classics and Visual & Material Culture departments at Mount Allison University.

Cara Howell B.A., Senior Archaeologist (R180) - Ms. Howell holds a B.A. Degree in Anthropology and Classical Archaeology from McMaster University and has been working in the field of archaeological consulting since 1999. She holds an Applied Research Licence (R180) in archaeology from the Ontario MHSTCI and possesses a full range of archaeological skills. As a result of her specialized interest in the early post-contact period, she has become an authority on early Euro-Canadian artifacts and background research. As the archaeology Laboratory Director for Wood's Cultural Heritage Resources Group, she developed and implements a computerized cataloguing system for artifacts and other resources. Ms. Howell also serves as lead liaison with Indigenous communities.

Jason Seguin, M.A., Senior Archaeologist (P354) - Mr. Seguin has worked as an archaeologist since 2004 and has conducted numerous Stage 1 to 4 archaeological assessments including background searches, field surveys, archaeological excavations, analysis of archaeological resources, laboratory work and reporting. Mr. Seguin is involved in project management and supervision as well as being an archaeological laboratory director. Mr. Seguin has developed research and communication skills through producing and editing field reports, teaching university level students in both lecture and seminar environments, as well as preparing and presenting presentations at academic conferences. Mr. Seguin's education and work experience have provided him with an extensive knowledge base, consisting of theoretical and practical experience in cultural resource management in Canada and Central America, as well as curatorial, archival and museum management experience. Mr. Seguin holds a Master's Degree in Anthropology from Trent University, and a Post-Graduate Certificate in Museum Management and Curatorship from Sir Sandford Fleming College. Mr. Seguin currently holds a Professional Archaeology License (P354) issued by the Ontario MHSTCI and is a member of the Association of Professional Archaeologists.

Appendix D: Limitations

Limitations

1. The work performed in the preparation of this report and the conclusions presented are subject to the following:
    a. The Standard Terms and Conditions which form a part of our Professional Services Contract;
    b. The Scope of Services;
    c. Time and Budgetary limitations as described in our Contract; and,
    d. The Limitations stated herein.
4. No other warranties or representations, either expressed or implied, are made as to the professional services provided under the terms of our Contract, or the conclusions presented.
5. The conclusions presented in this report were based, in part, on visual observations of the Study Area. Our conclusions cannot and are not extended to include those portions of the Study Area which were not reasonably available, in Wood Environment & Infrastructure's opinion, for direct observation.
6. The potential for archaeological resources, and any actual archaeological resources encountered, at the Study Area were assessed, within the limitations set out above, having due regard for applicable heritage regulations as of the date of the inspection.
7. Services including a background study and fieldwork were performed. Wood Environment & Infrastructure's work, including archival studies and fieldwork, were completed in a professional manner and in accordance with the Ministry of Heritage, Sport, Tourism and Culture Industries' guidelines. It is possible that unforeseen and undiscovered archaeological resources may be present at the Study Area.
8. The utilization of Wood Environment & Infrastructure's services during the implementation of any further archaeological work recommended will allow Wood Environment & Infrastructure to observe compliance with the conclusions and recommendations contained in the report. Wood Environment & Infrastructure's involvement will also allow for changes to be made as necessary to suit field conditions as they are encountered.
9. This report is for the sole use of the parties to whom it is addressed unless expressly stated otherwise in the report or contract. Any use which any third party makes of the report, in whole or in part, or any reliance thereon, or decisions made based on any information of conclusions in the report, is the sole responsibility of such third party. Wood Environment & Infrastructure accepts no responsibility whatsoever for damages or loss of any nature or kind suffered by any such third party as a result of actions taken or not taken or decisions made in reliance on the report or anything set out therein.
10. This report is not to be given over to any third-party other than a governmental entity, for any purpose whatsoever without the written permission of Wood Environment & Infrastructure, which shall not be unreasonably withheld.