

**Stage 2 Archaeological Assessment  
Highway 17 Planning Study  
From Trout Pond Road Easterly to  
1km East of Boundary Road  
Township of Bonfield, Municipality of Calvin  
and Township of Papineau-Cameron  
Nipissing District, Ontario**

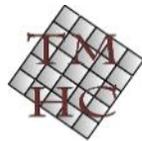
Submitted to

**AECOM**  
300 Water Street, Whitby, ON, L1N 9J2

and

**The Ontario Ministry of Tourism, Culture and Sport**

Prepared by



**Timmins Martelle  
Heritage Consultants Inc.**

---

@ the Museum of Ontario Archaeology  
1600 Attawandaron Rd., London, ON N6G 3M6  
Phone: (519) 641-7222 Fax: (519) 641-7220

Archaeological License Number: P357, Tara Jenkins, M.A.  
TMHC File Number: 2013-070  
PIF Number: P357-036-2013

March 2014

(Original Final Report submitted to the Ministry of Tourism, Culture and Sport,  
[to be submitted following receipt of MTO Comments])

---

## Executive Summary

In 2012, the Ontario Ministry of Transportation retained AECOM to undertake a Planning, Preliminary Design and Class Environmental Assessment (Class EA) Study (W.P. 5670-10-00) for a 23.5 km section of Highway 17 from 2.2 km east of Highway 531 easterly to approximately 1km east of Boundary Road at the juncture of the Municipality of Calvin (formally the Township of Calvin) and the Township of Papineau-Cameron (formally the Township of Papineau), in Nipissing District, Ontario. Timmins Martelle Heritage Consultants Inc. (TMHC) was contracted by AECOM to complete the required archaeological, built heritage and cultural landscape studies for the Highway 17 planning study based on the general study area. TMHC (2013) reported the results of a Stage 1 archaeological assessment of the study area, incorporating both a background review and preliminary field reconnaissance. In June 2013 the Ministry of Transportation progressed to the point of identifying a recommended highway planning alternative. The route is roughly 23.8 km and 110 metres wide from just west of Trout Pond Road, easterly, to 1km east of Boundary Road and crosses largely undeveloped lands in generally close proximity to the existing highway. The recommended plan includes widening and realigning segments of Highway 17 to accommodate improvements that will upgrade the facility from an undivided two lane highway to a four lane controlled access divided freeway and with access restricted to interchanges. .

Timmins Martelle Heritage Consultants Inc. was contracted by AECOM to undertake a Stage 2 field assessment for all areas within the footprint of the recommended plan and for which permission to access could be obtained. This report presents the results of all fieldwork undertaken in 2013, which represents a partial survey of the entire footprint but nonetheless a complete survey on all lands for which access could be obtained and that possessed conditions that were suitable for survey.

The information collected during the Stage 1 background study and roadside field reconnaissance was compiled and mapped on topographic and aerial mapping of the study area using ArcGIS. A generalized map of areas of archaeological potential was created for the entire study area, although it was anticipated that further refinements would be necessary as not all of the study area could be physically inspected due to its large size. Preliminary areas of archaeological potential were established based on distances to identified cultural, historical and landscape features and were recommended for further inspection in the field. Once the recommended highway planning alternative was selected in September of 2013, Timmins Martelle Heritage Consultants Inc. conducted a more detailed property inspection for all of the lands that fell within requisite distance buffers to features signalling archaeological potential. This allowed for the preparation of more accurate archaeological potential mapping based on existing conditions and more precise delimiting of Stage 2 assessment areas, since some lands within the defined buffers were found to have low archaeological potential upon field inspection; these included portions of the corridor that were identified as developed/disturbed (11.4 ha), low-lying and wet (15.7 ha), steeply sloped (7.5 ha) and containing exposed bedrock (0.9 ha).

The Stage 2 archaeological assessment consisted of a test pit survey in the parcels where permission-to-enter to conduct Stage 2 had been obtained. Agricultural lands requiring ploughing were not ready for survey and instructions were given to avoid a large area with potential soil contamination. A total of 39.8 hectares of grassed and treed lands were test pitted at a 10 m interval and 24.7 hectares were test pitted using a 5 m transect interval. In sum, the 2013 field



inspection and survey addressed 100 hectares of the corridor land that was defined in initial mapping as being in proximity to a feature of archaeological potential. The fieldwork resulted in the discovery of two artifact locations (designated Location 1 and Location 2), both of which were found in woodlots. Location 1 and Location 2 require further archaeological assessment. Roughly 112.54 hectares still require Stage 2 survey. The following recommendations are made:

**Recommendations for Surveyed Areas with No Archaeological Finds:**

- 1) The surveyed areas where no archaeological resources were encountered during the Stage 2 archaeological assessment, as indicated on Maps 9-33, should be considered free of archaeological concern and no further archaeological assessment work is recommended. This includes the surveyed areas within:
  - *Bonfield Township*: Lot 33, Concession 7; Lot 33, Concession 8; Lot 20, Concession 10
  - *Municipality of Calvin (Calvin Township)*: Lot 1, Concession 6; Lots 13, 14, 16, Concession 8; Lots 19, 21-29, 34-36, Concession 9
  - *Papineau-Cameron Township*: Lots 35, Concession 14
- 2) In keeping with provincial standards, all construction activities (including ground disturbance, machine travel and soil stockpiling) must be restricted to lands that have been subject to archaeological assessment and deemed free of archaeological concern.

**Recommendations for Surveyed Areas with Archaeological Finds:**

- 3) Two properties within the Municipality of Calvin contain single archaeological locations that may be impacted by the recommended plan for Highway 17 proposed corridor and require further archaeological assessment. Since there are concerns for impacts to archaeological sites in the project area, construction must not proceed within the below areas until Stage 3 assessment has been completed:
  - Municipality of Calvin (Calvin Township): Lot 15, Concession 8 and Lot 30, Concession 9 (Map 34 and 35 [Supplementary Documentation]).

**Recommendations for Archaeological Find Spots**

Two new artifact finds (Location 1 and Location 2) were made during the Stage 2 assessment:

- 4) *Location 1 in Lot 30, Con. 9, Calvin Township*

This site consists of positive test pits containing three quartzite flakes. This site has unestablished cultural heritage value or interest based on Provincial criteria but meets requirements for Stage 3 assessment (see Supplementary Documentation). The Stage 3 testing should follow the methodology defined for “intact sites found in undisturbed contexts” (MTC 2011:53), namely the excavation of one-metre units across the site on a five metre grid. In addition, site boundaries will only be considered to be defined once three adjacent test units along each grid line yield five or fewer artifacts.

- 5) *Location 2 in Lot 15, Con. 8, Calvin Township*



This site consists of positive test pits containing two 19<sup>th</sup> century artifacts and one pre-contact native quartzite core. This site has unestablished cultural heritage value or interest based on Provincial criteria but meets requirements for Stage 3 assessment (see Supplementary Documentation). The Stage 3 testing should follow the methodology defined for “intact sites found in undisturbed contexts” (MTC 2011:53), namely the excavation of one-metre units across the site on a five metre grid. In addition, site boundaries will only be considered to be defined once three adjacent test units along each grid line yield five or fewer artifacts.

Since this site falls on a property boundary and adjacent lands were not yet subject to survey, Stage 2 test pitting of the lands near the site should proceed prior to any Stage 3 testing being undertaken. This will allow for the collection of better information about the site to inform the Stage 3 fieldwork strategy.

### **Recommendations for Remaining Parcels Requiring Stage 2 Survey:**

- 6) Detailed field inspection and/or Stage 2 field survey is recommended for the remaining areas of the recommended plan for which permission-to-enter was not obtained and fall within requisite distances to features signalling archaeological potential. The areas still requiring inspection and/or Stage 2 survey are shaded in orange on Maps 9-33. These areas are lands within:
- *Bonfield Township*: Lot 32-33, Concession 7; Lots 28-33, 35, Concession 8; Lot 23, 24, 26-29, Concession 9; Lots 20, 21, 23, Concession 10
  - *Municipality of Calvin (Calvin Township)*: Lot 2, Concession 6; Lots 2, 6, 7, 9, 10, Concession 7; Lots 16-17, Concession 8; Lots 16-20, 27, 31-33, Concession 9; Lots 33, 35, Concession 10
  - *Papineau-Cameron Township*: Lots 33-35, Concession 14

All lands deemed to have low archaeological potential following the field inspection can be eliminated from Stage 2 survey, whereas lands confirmed to have archaeological potential should be subject to Stage 2 survey.

All lands that consist of formerly cleared agricultural field or pasture will require ploughing and pedestrian survey (5 or 10 m interval) when their width is 10 metres or greater. Survey must be undertaken after the ground has significantly weathered under rain and when surface visibility is 80% or greater. For unploughable treed and grassed areas, survey should consist of a standard test pit survey at a five or ten metre interval; survey distances should follow those defined in Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011), namely 150 metres or less from features of archaeological potential. Field and reporting methodologies must follow the 2011 *Standards and Guidelines for Consultant Archaeologists*.

- 7) If the limits of the study area change to incorporate new lands not addressed in this study, further background study will be required prior to the initiation of the Stage 2 survey.

**The above recommendations are subject to the conditions set out in Section 7.0 and Ministry of Tourism, Culture and Sport approval; it is an offence to alter any of the project area without Ministry of Tourism, Culture, and Sport acceptance of this report.**



---

## Table of Contents

Executive Summary .....	ii
Table of Contents .....	v
List of Images .....	vi
List of Maps .....	ix
List of Tables .....	x
THMC Personnel .....	xi
Acknowledgements .....	xii
<b>1.0 PROJECT CONTEXT .....</b>	<b>1</b>
1.1 Development Context .....	1
1.1.1 Introduction .....	1
1.1.2 Purpose and Legislative Context .....	2
1.1.3 Detailed Project Background .....	2
1.2 Project Context: Archaeological Context .....	4
1.2.1 Study Area: Overview and Physical Setting .....	4
1.2.3 Summary of Registered or Known Archaeological Sites .....	7
1.2.4 Summary of Past Archaeological Investigations Within 50 Metres .....	7
1.2.5 Dates of Archaeological Fieldwork .....	10
1.3 Project Context: Historical Context .....	10
1.3.1 Pre-19 <sup>th</sup> Century Native Settlement in Northern Ontario .....	10
1.3.2 European Arrival and the Fur Trade .....	16
1.3.3 Mattawa/North Bay Algonquin First Nation .....	18
1.3.4 Historic Euro-Canadian Settlement and Land Use .....	18
<b>2.0 STAGE 2 ARCHAEOLOGICAL ASSESSMENT .....</b>	<b>22</b>
2.1 Field Methods .....	22
2.1.1 Mapping of Archaeological Potential .....	23
2.1.2 Centreline Survey .....	24
2.1.3 Stage 2 Field Assessment .....	25
2.2 Record of Finds .....	32
2.3 Analysis and Conclusions .....	33
<b>3.0 RECOMMENDATIONS .....</b>	<b>34</b>
<b>4.0 SUMMARY .....</b>	<b>37</b>
<b>5.0 ADVICE ON COMPLIANCE WITH LEGISLATION .....</b>	<b>37</b>
<b>6.0 BIBLIOGRAPHY .....</b>	<b>38</b>
<b>7.0 IMAGES .....</b>	<b>43</b>
<b>8.0 MAPS .....</b>	<b>69</b>
<b>9.0 ABORIGINAL ENGAGEMENT .....</b>	<b>108</b>



## List of Images

Image 1: Papineau, Lot 35, Con.14- View of Creek (facing north) .....	44
Image 2: Papineau, Lot 35, Con.14- Test Pit Profile .....	44
Image 3: Papineau, Lot 35, Con.14- View of Survey Area (facing northeast).....	44
Image 4: Papineau, Lot 35, Con.14- Boundary Road (facing north).....	44
Image 5: Papineau, Lot 35, Con.14- Trans-Union Corridor (facing east).....	44
Image 6: Papineau, Lot 35, Con.14- Boundary Road (facing south) .....	44
Image 7: Calvin, Lot 1, Con.6- Surveyed Centreline (facing west) .....	45
Image 8: Calvin Lot 1, Con.6- Test Pit Survey (facing east) .....	45
Image 9: Calvin, Lot 1, Con.6- Test Pit Profile.....	45
Image 10: Papineau, Lot 35, Con.14- Test Pit Survey (facing north) .....	45
Image 11: Calvin, Lot 1, Con.6- Exposed Bedrock (facing west).....	45
Image 12: Calvin Lot 3, Con.7- Test Pit Survey (facing west) .....	45
Image 13: Calvin, Lot 3, Con.7- View of High Bedrock (facing northwest).....	46
Image 14: Calvin, Lot 3, Con.7- View of Wetland (facing west) .....	46
Image 15: Calvin, Lot 4, Con.7- Test Pit Profile.....	46
Image 16: Calvin, Lot 4, Con.7- Test Pit Survey (facing north) .....	46
Image 17: Calvin, Lot 4, Con.7- Surveyed Centreline (facing east) .....	46
Image 18: Calvin, Lot 4, Con.7- View of Survey Area (facing west).....	46
Image 19: Calvin, Lot 4, Con.7- Test Pit Survey (facing southwest).....	47
Image 20: Calvin, Lot 5, Con.7- View of Wetland (facing west) .....	47
Image 21: Calvin, Lot 5, Con.7- View of Wetland (facing north) .....	47
Image 22: Calvin, Lot 5, Con.7- Test Pit Profile.....	47
Image 23: Calvin, Lot 5, Con.7- Steep Slope of Hwy. 17 ROW (facing east).....	47
Image 24: Calvin, Lot 5, Con.7- Manicured Lawn in Survey Area (facing east).....	47
Image 25: Calvin, Lot 1, Con.6- Test Pit Profile.....	48
Image 26: Calvin, Lot 5, Con.7- Surveyed Centreline (facing west) .....	48
Image 27: Calvin, Lot 5, Con.7- View of Wetland (facing west) .....	48
Image 28: Calvin, Lot 5, Con.7- Edge of Wetland along Centreline of Survey Area (facing east) .....	48
Image 29: Calvin, Lot 5, Con.7- Surveyed Centreline (facing east) .....	48
Image 30: Calvin, Lot 5, Con.7- Disturbed Hwy. 17 ROW (facing east) .....	48
Image 31: Calvin, Lot 5, Con.7- Test Pit Survey (facing southeast).....	49
Image 32: Calvin, Lot 5, Con.7- Test Pit Profile.....	49
Image 33: Calvin, Lot 7, Con.7- Disturbed Lane (facing southeast).....	49
Image 34: Calvin, Lot 7, Con.7- Possible Ridge of Historic River Road.....	49
Image 35: Calvin, Lot 7, Con.7- Surveyed Centreline (facing west) .....	49
Image 36: Calvin, Lot 7, Con.7- Disturbed Lane (facing northwest).....	49
Image 37: Calvin, Lot 7, Con.7- Pautois Creek (facing west).....	50
Image 38: Calvin, Lot 7, Con.7- Test Pit Survey (facing north) .....	50
Image 39: Calvin, Lot 7, Con.7- Floodplain of Pautois Creek, View Towards Steep Slope (facing west) .....	50
Image 40: Calvin, Lot 7, Con.7- Steep Slope (facing northwest).....	50
Image 41: Calvin, Lot 7, Con.7- Test Pit Profile.....	50
Image 42: Calvin, Lot 7, Con.7- Surveyed Centreline (facing east) .....	50
Image 43: Calvin, Lot 10, Con. 7- Surveyed Centreline (facing east) .....	51
Image 44: Calvin, Lot 10, Con. 7- Test Pit Profile.....	51



---

Image 45: Calvin, Lot 10, Con. 7- Trans-Union Corridor (facing southeast) .....	51
Image 46: Calvin, Lot 10, Con. 7- View of Wetland (facing southwest).....	51
Image 47: Calvin, Lot 11, Con. 7- View of Railway (facing southeast) .....	51
Image 48: Calvin, Lot 11, Con. 7- View of Wetland (facing west) .....	51
Image 49: Calvin, Lot 12, Con. 7- Surveyed Centreline (facing west) .....	52
Image 50: Calvin, Lot 12, Con. 7- Possible Location of Historic Road (facing northeast).....	52
Image 51: Calvin, Lot 12, Con. 7- Test Pit Profile.....	52
Image 52: Calvin, Lot 12, Con. 7- Test Pit Survey (facing south).....	52
Image 53: Calvin, Lot 13, Con. 8- Test Pit Survey (facing south).....	52
Image 54: Calvin, Lot 13, Con. 8- Test Pit Profile.....	52
Image 55: Calvin, Lot 13, Con. 8- View of Bedrock Slope (facing northwest).....	53
Image 56: Calvin, Lot 14, Con. 8- Surveyed Centreline (facing west) .....	53
Image 57: Calvin, Lot 14, Con. 8- Test Pit Survey (facing southwest).....	53
Image 58: Calvin, Lot 14, Con. 8- Test Pit Profile.....	53
Image 59: Calvin, Lot 14, Con. 8- View of Pond and Wetland (facing southeast).....	53
Image 60: Calvin, Lot 15, Con. 8- View of Pond and Wetland (facing southeast).....	53
Image 61: Calvin, Lot 15, Con. 8- Gradual Slope to Wetland (facing southeast).....	54
Image 62: Calvin, Lot 15, Con. 8- Surveyed Centreline (facing west) .....	54
Image 63: Calvin, Lot 15, Con. 8- Amable du Fond- Old Logging Chute (facing west).....	54
Image 64: Survey, Lot 15, Con. 8- Manicured Lawn (facing east).....	54
Image 65: Survey, Lot 15, Con. 8- Test Pit Survey (facing northwest) .....	54
Image 66: Survey, Lot 15, Con. 8- Test Pit Survey (facing northwest) .....	54
Image 67: Calvin, Lot 15, Con. 8- Shoreline of Amable du Fond- Study Area .....	55
Image 68: Calvin, Lot 15, Con.8- Test Pit Profile.....	55
Image 69: Calvin, Lot 15, Con. 8- View of Location 2 (facing west).....	55
Image 70: Calvin, Lot 15, Con. 8- View of Location 2 (facing south) .....	55
Image 71: Calvin, Lot 15, Con. 8- Test Pit Profile.....	55
Image 72: Calvin, Lot 15, Con. 8- Surveyed Centreline (facing northwest).....	55
Image 73: Calvin, Lot 15, Con. 8- View of Pond- Amable du Fond (facing north).....	56
Image 74: Calvin, Lot 17, Con. 9- Disturbed Highway 17 (facing west).....	56
Image 75: Calvin, Lot 17, Con. 9- Disturbed Highway 630 (facing south) .....	56
Image 76: Calvin, Lot 19, Con. 9- Surveyed Centreline (facing east) .....	56
Image 77: Calvin, Lot 19, Con. 9- Test Pit Profile.....	56
Image 78: Calvin, Lot 19, Con. 9- View of House (facing north).....	56
Image 79: Calvin, Lot 19, Con. 9- Disturbed Laneway (facing north) .....	57
Image 80: Calvin, Lot 20, Con. 9- Disturbed Hwy. 17 ROW (facing east) .....	57
Image 81: Calvin, Lot 20, Con. 9- Disturbed Hwy. 17 ROW (facing east) .....	57
Image 82: Calvin, Lot 20, Con. 9- Disturbed Hwy. 17 ROW (facing west) .....	57
Image 83: Calvin, Lot 21, Con. 9- Surveyed Centreline (facing east) .....	57
Image 84: Calvin, Lot 21, Con. 9- Test Pit Survey (facing southwest).....	57
Image 85: Calvin, Lot 20, Con. 9- Test Pit Profile.....	58
Image 86: Calvin, Lot 23, Con. 9- Disturbed Hwy. 17 ROW (facing east) .....	58
Image 87: Calvin, Lot 23, Con. 9- Surveyed Centreline (facing west) .....	58
Image 88: Calvin, Lot 23, Con. 9- Test Pit Profile.....	58
Image 89: Calvin, Lot 23, Con. 9- Test Pit Survey (facing north) .....	58
Image 90: Calvin, Lot 23, Con. 9- Disturbed Hwy. 17 ROW (facing west) .....	58
Image 91: Calvin, Lot 24, Con. 9- Test Pit Survey (facing south).....	59
Image 92: Calvin, Lot 24, Con. 9- High Rock Ridge (facing north).....	59
Image 93: Calvin, Lot 25, Con. 9- View of Wetland (facing west) .....	59

---



---

Image 94: Calvin, Lot 25, Con. 9- Test Pit Survey (facing northeast) .....	59
Image 95: Calvin, Lot 25, Con. 9- Test Pit Profile.....	59
Image 96: Calvin, Lot 25, Con. 9- Test Pit Survey (facing north) .....	59
Image 97: Calvin, Lot 25, Con. 9- View of Wetland (facing west) .....	60
Image 98: Calvin, Lot 26, Con. 9- Test Pit Survey (facing north) .....	60
Image 99: Calvin, Lot 29, Con. 9- View of Pond (facing north).....	60
Image 100: Calvin, Lot 26, Con. 9- Test Pit Profile.....	60
Image 101: Calvin, Lot 26, Con. 9- Surveyed Centreline (facing northeast).....	60
Image 102: Calvin, Lot 29, Con. 9- Test Pit Survey (facing northeast) .....	60
Image 103: Calvin, Lot 29, Con. 9- Disturbed (facing north) .....	61
Image 104: Calvin, Lot 29, Con. 9- Test Pit Profile.....	61
Image 105: Calvin, Lot 29, Con. 9- Top of Steep Slope (facing northeast).....	61
Image 106: Calvin, Lot 29, Con. 9- Overlooking Pimsi Lake (facing northeast) .....	61
Image 107: Calvin, Lot 29, Con. 9- Stream off of Pimsi Lake (facing southwest).....	61
Image 108: Calvin, Lot 30, Con. 9- Test Pit Profile.....	61
Image 109: Calvin, Lot 30, Con. 9- Test Pit Survey (facing north) .....	62
Image 110: Calvin, Lot 30, Con.9- Test Pit Survey (facing northwest).....	62
Image 111: Calvin, Lot 30, Con. 9- View of Location 1 (facing northeast).....	62
Image 112: Calvin, Lot 30, Con. 9- View of Location 1 (facing northeast).....	62
Image 113: Calvin, Lot 30, Con. 9- View of Location 1 (facing northwest) .....	62
Image 114: Calvin, Lot 31, Con. 9- Disturbed Hwy. 17 ROW (facing east) .....	62
Image 115: Calvin, Lot 31, Con. 9- Disturbed Hwy. 17 ROW and Wetland.....	63
Image 116: Calvin, Lot 33, Con 9- Disturbed Hwy. 17 ROW (facing east) .....	63
Image 117: Calvin, Lot 33, Con. 9- Disturbed Hwy. 17 ROW (facing west) .....	63
Image 118: Calvin, Lot 33, Con. 9- Wetland and Watercourse Adjacent to Hwy. 17 ROW (facing southwest).....	63
Image 119: Calvin, Lot 34, Con. 9- Test Pit Survey (facing northeast) .....	63
Image 120: Calvin, Lot 34, Con. 9- Disturbed- Columbia Road (facing south) .....	63
Image 121: Calvin, Lot 33, Con. 9- Test Pit Profile.....	64
Image 122: Calvin, Lot 33, Con. 9- Developed and Manicured Lawn (facing southeast) .....	64
Image 123: Calvin, Lot 33, Con. 9- House and Manicured Lawn (facing southeast) .....	64
Image 124: Calvin, Lot 34, Con. 10- Disturbed Hwy. 17 ROW (facing east) .....	64
Image 125: Calvin, Lot 34, Con. 10- Disturbed Hwy. 17 ROW (facing west) .....	64
Image 126: Calvin, Lot 35, Con. 10- View of Open Area (facing southeast) .....	64
Image 127: Calvin, Lot 35, Con. 9- Edge of Steep Slope (facing west) .....	65
Image 128: Calvin, Lot 35, Con. 9- Test Pit Profile.....	65
Image 129: Calvin, Lot 36, Con. 10- Open Survey Area (facing southeast).....	65
Image 130: Calvin, Lot 36, Concession 10- Disturbed Hwy. 17 and View of Survey Area (facing south).....	65
Image 131: Calvin, Lot 36, Con. 10- Steep Slope/Ridge (facing north) .....	65
Image 132: Calvin, Lot 36, Con. 10- Stone Water Culvert under Rail Tracks.....	65
Image 133: Calvin, Lot 36, Con. 10- Small Stream to Wetland (facing southwest) .....	66
Image 134: Calvin, Lot 36, Con. 10- Test Pit Survey (facing south) .....	66
Image 135: Calvin, Lot 36, Con. 10- Test Pit Survey (facing southwest).....	66
Image 136: Calvin, Lot 33, Con. 7- Disturbed (Ditched) Rutherglen ROW (facing southeast) ....	66
Image 137: Calvin, Lot 33, Con. 7- Low and Wet – Small Stream (facing east).....	66
Image 138: Calvin, Lot 33, Con. 7- Test Pit Survey (facing southeast).....	66
Image 139: Bonfield, Lot 30, Con. 9- Test Pit Survey – McNutt Road (facing northwest).....	67
Image 140: Bonfield, Lot 30, Con. 9- Test Pit Profile .....	67

---



Image 141: Bonfield, Lot 20, Con. 9- View of Survey Area (facing southeast) .....	67
Image 142: Bonfield, Lot 20, Con. 9- Test Pit Survey (facing north) .....	67
Image 143: Bonfield, Lot 20, Con. 9- Test Pit Profile .....	67
Image 144: Calvin, Lot 10, Con.7- View of Pond (facing north-northeast).....	67
Image 145: Calvin, Lot 28, Con. 9- Surveyed Centreline (facing west) .....	68
Image 146: Calvin, Lot 13, Con. 8- Test Pit Survey (facing southwest).....	68
Image 147: Location 1 Artifacts: A) <i>possible quartzite flake, cat.1; B) possible quartzite flakes, cat.2.</i> .....	68
Image 148: Location 2 Artifacts: A) <i>olive wine bottle glass, cat.1; B) bipolar quartzite core fragment, cat.2;</i> .....	68

### List of Maps

Map 1: Location of the Stage 2 Proposed Highway 17 Corridor in the Nipissing District, ON ....	70
Map 2: Aerial Photograph Showing the Location of the Stage 2 Proposed Highway 17 Corridor in Nipissing District, ON .....	71
Map 3: Aerial Photograph Showing the Location of the Stage 2 Proposed Highway 17 Corridor in Nipissing District, ON .....	72
Map 4: Physiographic Features Within the Vicinity of the Stage 2 Proposed Highway 17 Corridor .....	73
Map 5: Drainage Within the Vicinity of the Stage 2 Proposed Highway 17 Corridor .....	74
Map 6: Western Portion of the Stage 2 Proposed Highway 17 Corridor Shown on the 1881 Survey Plan for Bonfield Township .....	75
Map 7: Central and Eastern Portions of the Stage 2 Proposed Highway 17 Corridor Shown on the 1881 Survey Plan for Calvin Township .....	76
Map 8: Central and Eastern Portions of the Stage 2 Proposed Highway 17 Corridor Shown on the 1878 Survey Plan for Papineau Township .....	77
Map 9: Stage 2 Field Conditions and Assessment Methods and Results .....	78
Map 10: Stage 2 Field Conditions and Assessment Methods and Results .....	79
Map 11: Stage 2 Field Conditions and Assessment Methods and Results .....	80
Map 12: Stage 2 Field Conditions and Assessment Methods and Results .....	81
Map 13: Stage 2 Field Conditions and Assessment Methods and Results .....	82
Map 14: Stage 2 Field Conditions and Assessment Methods and Results .....	83
Map 15: Stage 2 Field Conditions and Assessment Methods and Results .....	84
Map 16: Stage 2 Field Conditions and Assessment Methods and Results .....	85
Map 17: Stage 2 Field Conditions and Assessment Methods and Results .....	86
Map 18: Stage 2 Field Conditions and Assessment Methods and Results .....	87
Map 19: Stage 2 Field Conditions and Assessment Methods and Results .....	88
Map 20: Stage 2 Field Conditions and Assessment Methods and Results .....	89
Map 21: Stage 2 Field Conditions and Assessment Methods and Results .....	90
Map 22: Stage 2 Field Conditions and Assessment Methods and Results .....	91
Map 23: Stage 2 Field Conditions and Assessment Methods and Results .....	92
Map 24: Stage 2 Field Conditions and Assessment Methods and Results .....	93
Map 25: Stage 2 Field Conditions and Assessment Methods and Results .....	94
Map 26: Stage 2 Field Conditions and Assessment Methods and Results .....	95
Map 27: Stage 2 Field Conditions and Assessment Methods and Results .....	96
Map 28: Stage 2 Field Conditions and Assessment Methods and Results .....	97
Map 29: Stage 2 Field Conditions and Assessment Methods and Results .....	98
Map 30: Stage 2 Field Conditions and Assessment Methods and Results .....	99



---

Map 31: Stage 2 Field Conditions and Assessment Methods and Results .....	100
Map 32: Stage 2 Field Conditions and Assessment Methods and Results .....	101
Map 33: Stage 2 Field Conditions and Assessment Methods and Results .....	102
Map 34: Stage 2 Results- Location 1 .....	105
Map 35: Stage 2 Results- Location 2 .....	107

### List of Tables

Table 1: Registered Archaeological Sites within 1 km of the Study Area .....	7
Table 2: Historical Features Shown on the 1881 Map of Calvin Township .....	22
Table 3: Built Heritage Inventory (ARA 2012:33-34) .....	22
Table 4: Summary of Parcels Surveyed .....	27
Table 5: Location 1 Stage 2 Artifact Catalogue .....	32
Table 6: Location 2 Stage 2 Euro-Canadian Artifact Catalogue .....	32
Table 7: Location 2 Stage 2 First Nations Artifact Catalogue .....	33
Table 8: Documentary Record .....	33
Table 9: Stage 2 Site Location Information: Location 1 .....	104
Table 10: Stage 2 Site Location Information: Location 2 .....	106



---

## THMC Personnel

TMHC would like to thank the following staff members who contributed to this project:

<b>Project Coordinators:</b>	Holly Martelle, Ph.D. (P064) Tara Jenkins, M.A. (P357)
<b>Mapping Technician:</b>	Noel Grasso, B.A.A.
<b>GIS Technician:</b>	Noel Grasso, B.A.A.
<b>Field Director:</b>	Johnathan Freeman, B.A. (R274)
<b>Lab Technicians:</b>	Nicole Brandon, M.A. (P302) Rachelle Carter, B.A.
<b>Field Technicians:</b>	Katherine Bishop, M.A. (R407) Jordan Downey, M.A. (R308) Cody McNea, B.A. (R414) Joshua Keddy, M.A. Talena Stevenson, M.A. Tristan Forage, B.A. Alex Ailles Jeff Ferguson Adam Flint Dexxter Haland Jordan Ruediger James Syme David Sum
<b>First Nations Monitors:</b>	Cynthia Perreault , Mattawa/North Bay Algonquin First Nation – Ron Dupuis Janet Stavinga, Executive Director, Algonquins of Ontario Consultation Office, Assistant to Chief Cliff Bastien Jr. of the Algonquins of Mattawa/North Bay– Alex Butler



---

## Acknowledgements

TMHC would like to acknowledge the assistance of the following individuals:

***Mr. John Whalen***

*Museum President*  
Mattawa Museum, Mattawa, ON

***Norman Champagne***

*Museum Assistant*  
Mattawa Museum, Mattawa, ON

***Fred Leech***

*Senior Project Manager, Senior Environmental Planner*  
AECOM, Hamilton, ON

***Robert von Bitter***

*Archaeological Data Coordinator*  
Ministry of Tourism, Culture and Sport, Toronto, ON

***Emma Docherty***

*Planner, Transportation*  
AECOM, Whitby, ON



**Stage 2 Archaeological Assessment  
Highway 17 Planning Study  
Trout Pond Road Easterly to 1 km  
East of Boundary Road  
Township of Bonfield, Municipality of Calvin,  
and Township of Papineau-Cameron  
District of Nipissing, ON**

## **1.0 PROJECT CONTEXT**

### **1.1 Development Context**

#### ***1.1.1 Introduction***

In 2012, the Ontario Ministry of Transportation retained AECOM to undertake a Planning, Preliminary Design and Class Environmental Assessment (Class EA) Study (W.P. 5670-10-00) for a 23.5 km section of Highway 17 from 2.2 km east of Highway 531 easterly to approximately 1km east of Boundary Road at the juncture of the Municipality of Calvin (formally the Township of Calvin) and the Township of Papineau-Cameron (formally the Township of Papineau), in Nipissing District, Ontario. Timmins Martelle Heritage Consultants Inc. (TMHC) was contracted by AECOM to complete the required archaeological, built heritage and cultural landscape studies for the Highway 17 planning study based on the general study area. TMHC (2013) reported the results of a Stage 1 archaeological assessment of the study area, incorporating both a background review and preliminary field reconnaissance. In June 2013 the Ministry of Transportation progressed to the point of identifying a recommended highway planning alternative. The route is roughly 23.8 km and 110 metres wide from just west of Trout Pond Road easterly to 1km east of Boundary Road and crosses largely undeveloped lands in general proximity to the existing highway. The recommended plan includes widening and realigning segments of Highway 17 to accommodate improvements that will upgrade the facility from an undivided two lane highway to a four lane controlled access divided freeway and with access restricted to interchanges. Timmins Martelle Heritage Consultants Inc. was contracted by AECOM to undertake a Stage 2 field assessment for all areas within the footprint of the recommended plan and for which permission to access could be obtained. This report presents the results of all fieldwork undertaken in 2013, which represents a partial survey of the entire impact footprint but nonetheless a complete survey on all lands for which access could be arranged and that possessed conditions that were suitable for survey.

All archaeological consulting activities were performed under the Professional Archaeological License of Tara Jenkins, M.A. (P357). Permission to enter the properties and carry out all required archaeological work, including collecting artifacts when present, was provided by individual landowners and coordinated by AECOM. Permission

to commence the work was provided by Fred Leech of AECOM, the corporation coordinating the Class EA on behalf of the Ministry of Transportation.

### ***1.1.2 Purpose and Legislative Context***

The *Ontario Heritage Act* makes provisions for the protection and conservation of heritage resources in the Province of Ontario. Our archaeological assessment work is part of an environmental review which is intended to identify areas of environmental interest as specified in the *Provincial Policy Statement*. Heritage concerns are recognized as a matter of provincial interest in Section 2.6.2 of the *Provincial Policy Statement* which states:

development and site alteration shall only be permitted on lands containing archaeological resources or areas of *archaeological potential* if the *significant archaeological resources* have been conserved by removal and documentation, or by preservation on site. Where *significant archaeological resources* must be preserved on site, only *development* and *site alteration* which maintain the heritage integrity of the site may be permitted.  
(emphasis in the original)

Section 5(3)(c) of the *Environmental Assessment Act* recognizes the provincial interest in the cultural heritage “environment” and requires that all environmental resources that will be impacted by a proposed undertaking be identified, evaluated and mitigated. In keeping with provincial requirements, the Ministry of Transportation has prepared an internal review system based on its *Environmental Reference for Highway Design* (2009) that outlines the technical requirements for environmental impact study and environmental protection/mitigation for highway projects. Section 3.8 outlines the requirements for the study of impacts to cultural heritage – archaeology, including the identification of archaeological resources, their evaluation and mitigation. This study also follows these standards established by the Ministry of Transportation for archaeological studies.

### ***1.1.3 Detailed Project Background***

In 2012, the Ministry of Transportation (MTO) proposed to select a recommended plan for a four-lane Highway 17, including sections of widening and realignment of the existing highway, service roads in some areas and access restricted to interchange locations for a 23.5 km stretch from Bonfield (Trout Pond Road) easterly to Boundary Road at the juncture of the Municipality of Calvin and the Township of Papineau-Cameron. The study for this section of Highway 17 complies with the process for Group ‘A’ projects, which are undertakings that involve major realignments and bypasses under the ‘Class Environmental Assessment (EA) for Provincial Transportation Facilities’. The EA study process is based on a sequence of decision-making steps in which alternatives



are assessed at an increasing level of detail, starting with a broad perspective and narrowing to a more focused perspective as the study progresses.

Based on preliminary discussions, it was anticipated that the preferred route alternative will include both widening and improvements to sections of the existing highway. Key planning issues were identified (AECOM 2012:2-3) and included the need to minimize impacts to significant natural features, functions, systems and communities (e.g., water bodies, fish habitat features, significant vegetation and wetlands, wildlife travel corridors, etc.) as well as existing and planned population and employment areas. The planning would generate alternatives that are efficient and direct for addressing transportation problems, while meeting MTO standards for design.

As a part of the preliminary planning, Timmins Martelle Heritage Consultant Inc. (TMHC) was retained to conduct the Stage 1 archaeological assessment on the study limits. The Stage 1 study area extended from 2.2 km east of Highway 531 easterly to 6.0 km east of Highway 630 between the communities of Bonfield and Mattawa (shown on Maps 1 to 5). The study area measured roughly 23.5 km long (max. length) and 6.3 km wide (max. width) and fell within the Township of Bonfield and the Municipality of Calvin (former Calvin Township) in Nipissing District, Ontario. The northern boundary for the study area was roughly 0.5 to 1 km north of the highway and south of the Mattawa River, with the southernmost study area boundary situated at a maximum distance of roughly 5.25 km from the existing highway. The study area crossed or was in proximity to three Provincial parks: Mattawa River Provincial Park (waterway class), Samuel de Champlain Provincial Park and Amable Du Fond River Provincial Park (waterway class). It included the communities of Rutherglen (northwest portion of the study area), Eau Clair, and Eau Clair Station (both in the east portion of the study area). The Stage 1 results for the project study area were summarized and incorporated at an overview level in a *Summary of Existing Environmental Conditions and Constraints Report* (edited by AECOM) and used to generate highway route alternatives. Following this preliminary evaluation of route alternatives, the selection of a preferred route, environmental fieldwork and other investigations of existing environmental conditions were undertaken to provide more detailed information to support the generation and selection of preliminary design alternatives and the development of the Highway 17 recommended plan.

In June 25, 2013 Timmins Martelle Heritage Consultants Inc. received notice the recommended highway planning alternative was selected and that Stage 2 assessment could proceed. The selected alternative includes sections of highway realignment, sections of highway widening, service roads, three interchanges, and highway/municipal road grade separations. The route is roughly 23.8 km in length and 110 metres in width. It crosses land in Bonfield Township, the Municipality of Calvin (formally Calvin Township) and Papineau-Cameron Township<sup>1</sup> (formally Papineau Township) (Maps 7-9)

---

<sup>1</sup> The Stage 1 study area did not include lands in Papineau-Cameron, so this is a new addition to the project area.



and covers 295.5 ha of land, of which 212.5 ha (72%) is in proximity to features signalling archaeological potential (see Section 2.1.1).

## 1.2 Project Context: Archaeological Context

### 1.2.1 Study Area: Overview and Physical Setting

The focus of this study is a 23.8 km corridor that extends from just west of Trout Pond Road to one kilometre east of Boundary Road (Maps 1 to 2). The recommended plan lies between the existing Highway 17 to the north, which runs in an east to west direction, and a meandering railway to the south. A roughly 110 m wide corridor has been defined for the project (Map 1) and falls within the Township of Bonfield, the Municipality of Calvin (former Calvin Township), and Papineau-Cameron Township (former Papineau Township), in Nipissing District, Ontario. The corridor crosses two Provincial parks (Samuel de Champlain Provincial Park and Amable Du Fond River Provincial Park [waterway class]) (Map 1) but avoids most developed zones and settlement areas.

Maps 1 and 2 illustrate the proposed corridor on relevant topographic mapping and aerial photography. In general, the natural environment of the area is diverse. The more southerly lands are relatively flat with long gradual slopes containing land suitable for agricultural cultivation and pasture. The more northerly lands are hilly with sharp bedrock outcrops alongside high flat plateaus of bald Canadian Shield, interspersed with deep thick forests and open agricultural lands. The area is abundantly supplied by springs, small creeks, wetlands, and principal watercourses.

The Stage 2 assessment area falls within two major physiographic regions: the Algonquin Highlands and the Number 11 Strip, as defined by Chapman and Putnam (1984) (Map 3). The Algonquin Highlands cover some 15, 500 square miles (40,145 square kilometres) and are comprised of a roughly dome shaped base of Precambrian rock (Canadian Shield) overlain by sandy glacial till. The relief is uneven, consisting of rounded bedrock knobs and ridges. The soils are generally shallow but thickness may vary and they are typically not good for agriculture as they are stony, sandy and acidic (Chapman and Putnam 1984:211). The region contains valleys floored with outwash sand and gravel as well as frequently occurring swamps and bogs. In the forested areas of the Algonquin Highlands, the typical soil profiles include a dark surface layer under the leaf litter, up to 6 inches thick, underlain by a brownish horizon 20 to 25cm thick over the unweathered material. The vast majority of soil is forested, being non-agricultural mainly because of the rock outcrop and associated shallow soil, rough topography, stones and swamp (Chapman and Putnam 1984:212).

The Canadian Shield forms the core of the continent and occupies almost half of Canada's surface. The surface of the stable Precambrian rocks is undulating and marked by valleys. Over most of the Shield, average elevation is approximately 300 metres above sea level.



The Shield is comprised of seven geological provinces: Bear, Churchill, Grenville, Nain, Slave, Southern, and Superior ([www.nrcan.gc.ca](http://www.nrcan.gc.ca)). Each is distinguished by its unique internal structural trends and style of folding. Mattawa and surrounding area are located within the Grenville province (Clayton et al. 1995). The Grenville Province has deposits of magnetite, pegmatites containing mica, feldspar, apatite, uranium, titanium, as well as zinc and lead sulphides. A mica mine (Purdy's Mica Mine) is present near Lake Bouillon within Samuel de Champlain Provincial Park at the north end of the study area (Clayton et al. 1995:39).

The Number 11 strip is a region of better developed soils allowing for agricultural production. It follows Highway 11 (after which the region is named) from Gravenhurst to North Bay and consists of a linear deposit of sand, silt and clay that occupies hollows in the bedrock. The strip rests just below the former shoreline of glacial Lake Algonquin and was created through the deposition of sediments released by streams entering glacial Lake Algonquin from upland areas. A notable esker runs adjacent to the strip between Bonfield and Gravenhurst and has been heavily worn down by water action with similar deposition of sediments in glacial Lake Algonquin (Chapman and Putnam 1984:215).

The divide between the Algonquin Highlands and the Number 11 strip essentially runs from the northwest corner of the corridor to the southeast, with the two regions characterized by generally distinct surface features. While shallow tick and bedrock ridges are typical landscape in the study area, as is characteristic of the Canadian Shield, the majority of the western and southern portion also includes clay plains developed on bedrock and cut in the west by eskers and kame moraines. In the northeastern portion of the study area the bedrock is covered by lacustrine deposits associated with extensive spillways in the vicinity of existing lakes and rivers.

The soils within the corridor vary in depth, moisture content and origin (Map 4). In the west, there are notable deposits of imperfectly and well-draining soils, namely Dokise sandy loam, Noelville loam, Wausing sandy loam and Muskosung sandy loam, associated with the eskers and kame moraines. Beyond these are deposits of lacustrine and outwash/deltaic derived soils with predominantly good or imperfect drainage (e.g. Thistle very fine sandy loam, Stitson loam, Wendigo sandy loam) and small pockets of poorer draining soils (e.g., Playfair silt loam, Wolf loam). In the central portion of the corridor, associated with numerous small lakes and watercourses, there are organic soils. In the east, Monteagle sandy loam and Muskosung gravelly loam (outwash soils with good drainage), as well as Boulter silt loam (lacustrine derived soil with imperfect drainage) are predominant, with smaller deposits of poorly and imperfectly draining outwash and lacustrine soils in the southernmost portion. The 1881 land surveyor notes for Calvin Township state that its soils range from clay, clay loam and sandy loam, and are suitable for growing hay and oats. They also indicate that fire had consumed the richness of the soil, however, what remained of the woods was great for cattle raising (Tallon 1881a:2-3). In 1881, the north portion of Calvin Township was described as "almost sterile soils" in a rugged mountainous terrain (Tallon 1881a:2-3).



Rutherglen Moraine, which runs north-south through the corridor, is a sandy, gravelly moraine that marks the former advance of a lobe of glacial ice in the Mattawa Valley (Chapman and Putnam 1984:150) during the existence of glacial Lake Algonquin. The presence of clays within much of the area surrounding Bonfield and in the Amable du Fond River valley indicates that much land in the vicinity of the corridor was once submerged by the glacial lake, the maximum northern extent of which once reached some seven miles north of North Bay. Chapman and Putnam (1984:25) suggest that the initial ice front had an easterly alignment but eventually aligned north-south as the Mattawa ice lobe pushed westward and continued to block the Mattawa Valley. With a discharge outlet effectively blocked to the east, the Lake Algonquin levels remained high and continued to be until an outlet emerged in the French River area. With the release of glacial meltwater eastward, Lake Algonquin receded forming Lake Stanley. Eventually the Mattawa ice lobe moved away from the area, opening up the Mattawa Valley and allowing a massive discharge of Lake Algonquin waters down into the Ottawa Valley. Unfortunately, due to poorly developed soils and the presence of bedrock, former glacial shorelines are poorly documented in the region, except in selected locales, like around Lake Nipissing, where several early studies (Taylor 1896; Goldthwait 1910) recorded shoreline remnants before the area witnessed substantial development and aggregate extraction (Karrow 2004).

Within the upland areas of the Algonquin Highlands, the forests typically consist of sugar maple and yellow birch with lesser amounts of white pine, hemlock and balsam fir. *Pinus* species are more concentrated in the sandy and gravelly soils of the outwash deposits developed in the hollows and along the kame moraine and eskers. Black spruce and white cedar are found in swamplands and bogs and areas with sandy soils also support white spruce (Chapman and Putnam 1984:212). The 1881 *Calvin Township Field Notes* document that fire consumed most of the township. It reports that there were few portions of original timber. The secondary growth consisted of birch, poplar and cherry trees (Tallon 1881a:1-2).

The recommended plan intersects five major watercourses: Blueseal Creek (a tributary of Sparks Creek), Sparks (Sharpes) Creek, Pimisi Bay, Amable du Fond River, and Pautois Creek, all of which are tributaries of the Mattawa River that runs to the north of existing Highway 17 (Map 5). These watercourses have a number of tributaries, and the sub-watersheds of some of them include small lakes. The western portion of the corridor and vicinity is drained by a series of related watercourses that converge and empty into Sheedy Lake at Blanchard's Landing. Blueseal Creek drains the westernmost portion of the corridor and its vicinity, with Sharpes Creek (a.k.a. Sparks Creek) situated west of the Rutherglen Moraine. The east-central portion of the corridor is drained by the Amable du Fond River and its tributaries. The main branches of that river, as well as associated lakes like Upper Johnston, Crooked Chute, and Smith Lake, are associated with significant wetland complexes. The Amable du Fond River drains the high lands of Algonquin Park north in Smith Lake, Crooked Chute Lake, Pacaud Lake, Moore Lake and eventually drains into the Mattawa River at a point within Samuel de Champlain Provincial Park. The easternmost portion of the corridor is drained by Pautois Creek which also flows north and empties into Moore Lake with the Provincial Park. The creek



and its main tributaries, including Little Pautois Creek and Bronson Creek also have extensive wetlands within them. Two named lakes lie within the Stage 2 survey area, specifically in Calvin Township, as a part of the Amable du Fond watershed; these are Pimisi Bay and Crooked Chute Lake.

### 1.2.3 Summary of Registered or Known Archaeological Sites

According to the Ontario Archaeological Sites Database (OASD) maintained by the Ministry of Tourism, Culture and Sport, there are six registered archaeological sites within one kilometre of the recommended plan (Table 1). They were identified by David Slattery during archaeological activities within Samuel de Champlain Provincial Park; none of these have been assigned a precise cultural or temporal affiliation or are given various functional designations (camp, village, lithic, scatter, portage, pit, mining station). Of the registered sites in Samuel de Champlain Provincial Park, none fall within 300 metres of the Stage 2 survey area.

**Table 1: Registered Archaeological Sites within 1 km of the Corridor**

Borden	Name	Type	Cultural/Temporal Affiliation	Researcher
CbGs-16	Samuel de Champlain P.P. 3	camp/village	undetermined precontact First Peoples	Slattery (2003)
CbGs-20	Samuel de Champlain P.P. 7	camp/village	undetermined precontact First Peoples	Slattery (2003)
CbGs-22	Samuel de Champlain 9	scatter/camp/village	undetermined precontact First Peoples	Slattery (2003)
CbGs-24	Samuel de Champlain P.P. Main R	pit	undetermined precontact First Peoples	Slattery (2005)
CbGs-26	Gap # 4	camp	undetermined precontact First Peoples	Slattery (2005)
CbGs-27	Samuel de Champlain P.P. Staff H	mining station	undetermined precontact First Peoples	Slattery (2005)

### 1.2.4 Summary of Past Archaeological Investigations Within 50 Metres

There have been at least two archaeological investigations undertaken within 50 metres of the recommended plan. The first study was undertaken by Peter Engelbert (no PIF) and summarized in a report entitled the *Archaeological Survey of the Amable du Fond River, 1979*. Unfortunately, due to the age of the report, the Ministry of Tourism, Culture and Sport could not access a copy. The report was found in the files of the Archives of Ontario, although it is not immediately available to the public. Permission to view the report has been requested but not granted. If the report becomes available for review, it should be examined prior to the completion of the Stage 2 work for this project. The title of the report suggests that an archaeological survey along the Amable du Fond River was carried out. As no sites are recorded in the provincial database, it is assumed that no sites were registered as a result of this activity.



---

*Previous Stage 1 Assessment for the Current Project*

In 2012, TMHC conducted a Stage 1 archaeological assessment for a large study area developed for the Highway 17 Planning Study, as part of the planning and preliminary design phase for the project. The Stage 1 background study consisted of a review of soils, physiography, and drainage for the study area, registered and known archaeological sites within and adjacent to it, as well as previous archaeological assessments that have been undertaken for the study area or adjacent lands. A consideration of historic and current land use, as well as First Nations and Euro-Canadian settlement was also undertaken. The map-based review indicated that the Stage 1 study area contained or was in proximity to numerous features signalling archaeological potential, namely: 1) pre-1900 historic transportation routes (i.e., significant watercourses, portage routes, and early fur trade/logging roads such as Highway 630, railway); 2) pre-contact First Peoples trails and/or portage routes; 3) registered archaeological sites; and 4) potential and known early 1800s locations for fur trading and logging activity. Current aerial photography suggested that much of the land within the study area had not undergone development since the clearing of land for agricultural use in the mid- to late-1800s. A preliminary reconnaissance survey of existing conditions within the study area was also undertaken to assist in the collection of better information regarding existing conditions and features of archaeological potential.

The information collected during the background study and roadside field reconnaissance was compiled and mapped on topographic mapping of the study area using ArcGIS. A generalized map of zones of archaeological potential was created for the entire study area, although it was acknowledged that further refinements would be necessary as not all of the study area could be physically inspected due to its large size. Overall, the preliminary mapping indicated that roughly 40% of the study area had archaeological potential based on proximity (within 50 to 150 metres) of features identified to date. The remaining lands were not within 50 metres of a modern watercourse or 150 metres of other features signalling archaeological potential and therefore were not considered likely to contain intact archaeological deposits. The lands with zones of mapped archaeological potential included wooded areas, pockets of active farm land and livestock pasture, terraces surrounding waterways, and plateaus with some exposed bedrock. As a full field inspection was not undertaken, it was acknowledged that some lands then identified as having archaeological potential might be reclassified upon field inspection. Based on the results of the Stage 1 background study and preliminary property inspection, a Stage 2 field survey and/or inspection was recommended for all areas therein identified as having archaeological potential that fell within the footprint of the recommended plan.

The Stage 1 background study was present in a report entitled the *Stage 1 Archaeological Assessment, Highway 17 Route Planning Study, From Bonfield Easterly to Boundary Road Between the Townships of Calvin and Papineau-Cameron, Township*



---

*of Bonfield, and the Municipality of Calvin, Nipissing District, Ontario* (TMHC 2013; P349-016-2012; John Sweeney, P349, licensee).

It should be noted that the Ministry of Tourism, Culture and Sport currently does not maintain an accessible database of archaeological assessment areas in Ontario. Therefore, it is not known if ours is a complete listing of archaeological investigations within 50 metres. Further, much of the archaeological research undertaken within the larger area was completed over twenty years ago; hence, its related documentation is difficult to find or access.

#### *Other Relevant Archaeological Investigations*

In 1995, a number of researchers compiled information on rock features and habitation sites within the Mattawa Valley Corridor. A related report submitted to the Ministry of Culture, Tourism and Recreation detailed 27 archaeological sites located in the general Mattawa area, twenty-one of which were described as habitation sites, four as rock shelters and one was deemed to be a “pit” (Clayton et al. 1995:16). The report identifies habitation sites located along the portages and trails that date as far back as 2,000 B.C. (Clayton et al. 1995:17). The described rock sites included mounds, cairns, pits or patterns of rocks laid out either on ground or other rock surfaces. These features are interpreted by some to be part of a “Techno Tradition” of rock building that is evidenced across the Canadian Shield. Some of the standing rock features are interpreted as directional sign posts (Clayton et al. 1995:17). While precise locational data for each of the 27 sites are not provided in the report, the closest documented rock feature described is associated with Lake Talon, which may be within 1 km of the Stage 1 study area. Avocational archaeologists in the area, specifically William Allen, have also established a research interest in the documentation of rock features and spiritual places within the general area.

More recently, Dr. David Slattery has undertaken public excavations and cultural research management investigations of archaeological sites within Samuel de Champlain Provincial Park. This work has involved the identification of numerous archaeological find spots, including nine sites that warranted registration in the provincial database. A 2003 study focussed on CbGs-15 (Samuel de Champlain Provincial Park Site 2; a pre-contact lithic scatter on the portage route), CbGs-16 (Samuel de Champlain Provincial Park Site 3; a pre-contact camp or village), CbGs-20 (Samuel de Champlain Provincial Park Site 7; a pre-contact camp or village), CbGs-21 (Samuel de Champlain Provincial Park Site 8; a scatter), CbGs-22 (Samuel de Champlain Site 9; a pre-contact camp/lithic scatter/village), CbGs-23 (Long Lake Bluff; a pre-contact lithic scatter), CbGs-24 (Samuel de Champlain Provincial Park Main R; consisting of three large pre-contact pits), CbGs-25 (Gap #3; a pre-contact pit sectioned during excavation), CbGs-26 (Gap #4; a pre-contact hunting camp), and CbGs-27 (Samuel de Champlain Provincial Park Staff H; a pre-contact mining station). These sites are summarized in a 2003 report entitled *Stage 1 and 2 Archaeological and Heritage Impact Assessment, Samuel de*



---

*Champlain Provincial Park, Calvin Township, Ontario, and Stage 2 and 3 Archaeological and Heritage Impact Assessment, Samuel de Champlain Provincial Park, Calvin Township, Ontario*, both of which are on file with the Ministry of Tourism, Culture and Sport and at the offices in the Samuel de Champlain Provincial Park. While Dr. Slattery agreed to have his reports released to TMHC during this study and made an inquiry with park staff to do so, the reports were not released within the time frame required to complete the Stage 1 assessment report. It is recommended that further effort be made in the future to obtain these documents prior to the commencement of an additional archaeological investigation related to this project. Continued effort to obtain some of the early archaeological assessment reports for which access is difficult should also be made.

### ***1.2.5 Dates of Archaeological Fieldwork***

The Stage 2 archaeological assessment was carried out on September 24, 25, 26, 30, 2013 and October 1, 2, 3, 7, 8, 9, 10, 11, 15, 16, 17, 18, 22, 23, 2013.

## **1.3 Project Context: Historical Context**

### ***1.3.1 Pre-19<sup>th</sup> Century Native Settlement in Northern Ontario***

There has been limited archaeological research in this part of Ontario; however, through archaeological evidence it is known that both the Nipissing District in general and the Mattawa River environs specifically witnessed significant First Peoples land use and settlement for a long period beginning at least as early as 10, 000 to 12, 000 years ago. The general study area was travelled, settled and used by Algonquin populations and their ancestors up to modern times. This section describes what is known about First Peoples settlement prior to the arrival of Europeans to the area, based primarily on existing archaeological site information and comparison with regional trends. A similar summary is provided in the following section for the period following the arrival of European explorers and traders to the area. This summary is derived solely from textual, secondary sources.

The archaeological record of the general area typically reflects patterns that are characteristic for both Southern and Northern Ontario, as one might expect of an area that is somewhat intermediary between these two geographically and environmentally distinctive zones. Some of the earlier periods of First Peoples settlement in the immediate area are more poorly known, largely due to lack of archaeological study and development-driven archaeological assessments, but also due to the fact that some of the more typical landscape features on which sites of these periods are found (e.g., glacial shorelines) are absent, not yet well-documented or now destroyed by aggregate extraction and other ground altering activities. More recent periods, such as the fur trade era (see Section 2.3.2.), are slightly better known due to historical documentation and modern interest in and use of portage routes which were a major focus of settlement and land use at this time.



Regardless of these challenges, a general cultural chronology for native settlement within the Nipissing District is provided here, extrapolated from similar areas in Northern Ontario. Only a very brief and general summary is provided and it should be noted that new archaeological research continues to contribute to the revision and refinement of this traditional cultural framework. The summary provided herein draws on several previously published general syntheses for Ontario (Storck 2004; Wright 1972), Northern Ontario (ASI 2011; Clayton et al. 1995; Dawson 1983), Northeastern Ontario (Conway 1981), North Bay (Pollock 2012) and the Southern Canadian Shield (ASI 2012). The purpose of this summary is to identify the major themes and time periods in past First Peoples settlement and to identify landscape and land use characteristics that might signal potential for sites of each type within the study area.

### *The Paleoindian Period*

The first documented occupation of Northern Ontario followed the retreat of the glaciers. The first wave of human migration took place approximately 10,000 years ago, but was followed by a short period of glacial re-advance that effectively erased most obvious signatures of the earliest human occupation sites. Approximately 12,000 years ago glacial Lake Algonquin started to form and for the next 2,000 years the lake expanded steadily as the ice front retreated north, thus coinciding with the first documented human migration in Ontario. We know that the late phase of the melt waters of glacial Lake Algonquin flowed to North Bay. The latter area and its environs were covered by glacial lake waters until approximately 8,000 years ago although habitation would have been possible on the shorelines (Karrow 2004). From the outlets in North Bay, glacial Lake Algonquin drained east down the Mattawa River Valley and into several tributaries of the Ottawa River.

In general, when the glacial ice retreated, mobile hunting populations were moving northward into the region, presumably in pursuit of game. These people are identified archaeologically by large, bifacial fluted points and are referred to as “Paleoindians.” Local climate and environmental conditions gradually changed following the glacial retreat, opening up new niches for exploitation. These mobile groups began to exploit a greater variety of food sources. These highly mobile bands were dependent on caribou herds and followed their seasonal movements. Based on archaeological evidence, they adapted their tool kit accordingly. In Northern Ontario, Paleoindian tool forms include Plano points of various varieties. These were finely made, unfluted Lanceolate points with parallel ripple flaking, often made from silicified sandstone or taconite. Some of the best documented Paleoindian sites in Northern Ontario occur along the shore of Lake Superior just east of Thunder Bay, the best known of which are the George Lake, Cummins and Brohm Sites (on the Sibley Peninsula). At this time, the closest registered Paleoindian site is south of Sudbury in Killarney Provincial Park situated on Georgian Bay. It occupies the eastern end of the Precambrian mountains at Sheguiandah. The site encompasses quartz ridges which were mined for toolstone by the Lake Paleoindian people.



There have been no Paleoindian sites registered within the vicinity of Lake Nipissing-Mattawa area. This absence of sites may be due primarily to the fact that the vicinity of North Bay and within the study area proper has not been archaeologically investigated for signs of early settlement. On the other hand, in Northern Ontario, the reason for the lack of Paleoindian and the subsequent Early Archaic period may be due to climate conditions. During the Paleoindian period, a remnant ice mass from the last glacial advance lay across the eastern outlet of Lake Superior, at the present city of Sault Ste. Marie. This maintained artificially high lake levels, producing the now inland beach ridges. Unfortunately, the glacial shorelines in the North Bay and surrounding area are poorly documented or obliterated (Karrow 2004). Toward the end of the glaciation period, the ice mass wasted away allowing the lake level to drop over 100 metres. The lowest levels were reached between 6,300 and 6,000 years ago. Since early populations would have had most of their camps on lakeshores, sites dating between the end of the Paleoindian period and in the subsequent early Archaic period may be largely underwater today.

### *Archaic*

Beginning about 7,000 years ago, the archaeological record in Northern Ontario changed to incorporate new and diverse tool types representative of Shield Archaic cultures. Very few confirmed Early or Middle Archaic sites are recorded in the Canadian Shield and none thus far in the Mattawa area. However Archaic sites have been well documented around Lake Nipissing – Frank Bay Site (Ridley 1954), the Campbell Bay Site, and one on Garden Island (Dibb and Sweetman 1995). The Garden Island site contains an Early Archaic component and is one of the earliest sites documented in the general area.

It was during this period that the present day plant and animal communities were becoming established. Seasonal cycles and settlement patterns focussed on the migration patterns of the caribou, the primary source of food for these early hunters. The growth and exploitation of mature forests are indicated by the prevalence of woodworking tools (e.g., axes, adzes, chisels) in later Shield Archaic tool kits. Given the abundance of fresh water creeks, rivers and streams in the north, they no doubt provided important transportation routes for these mobile peoples, in addition to offering an ample supply of fish, waterfowl and other aquatic resources. Fishing became a more important subsistence base, and we could therefore assume many of the lakes and tributaries were travelled in the Mattawa area. Many of the archaeological sites of this period are adjacent to waterways.

In Northern Ontario, changes in climate and vegetation are evidenced around 6,000 years ago, followed by the expansion of a pine-dominated forest. There was a cooling period at about 4,000 BC afforded by the rising of the Nipissing Great Lakes. A warming trend began shortly after and there were likely local habitat changes such as the immigration of new tree species and the emergence of the hardwood forest. At about 3,000 BC Lake



---

Nipissing emerged and occupied the former beach of glacial Lake Algonquin. An isostatic rebound event at approximately 2,000 BC contributed to the development of water levels that are experienced today. These changes coincide with the emergence of copper woodworking tools, including adzes, axes, gouges and chisels. The tools were manufactured by hammering, grinding and polishing raw native copper into a useable tool form. Copper was a plentiful raw material in the Shield and was heavily utilized and traded by Shield populations. Copper fishing implements (hooks, harpoons, gorges) are also common.

In Southern Ontario, the archaeological evidence of the Archaic Period is quite different and traditional cultural chronologies document the emergence of the Laurentian Archaic by at least 6,000 years ago. Archaeological sites have documented the dietary reliance of southern Archaic populations on larger game, such as deer, elk, bear and beaver, in addition to fish, shellfish and wild plant foods, with targeted species exploitation fixed to a well-defined seasonal round. Archaic sites are identified through the occurrence of distinct flaked stone projectiles and ground stone tools. Presumed ceremonial items appear in the archaeological record for the first time as do spear thrower weights. It is postulated that the appearance of tiny projectile points during the latter part of this period corresponds to the invention of the bow and arrow and there is archaeological evidence of substantial semi-subterranean houses also by the end of the period. During the Archaic period in both Northern and Southern Ontario, there is also evidence of significant long distance trade, as indicated by the local occurrence of conch shells from the Gulf of Mexico, shell beads from the Atlantic coast and exotic raw materials from various places across North America. Single occurrences of Shield Archaic copper tools, as well as unprocessed native copper, are also reported across Northeastern North America.

Documented Archaic sites in this “transitional” zone between more northerly and southerly archaeological traditions have generated diagnostic projectile points relating to technological traditions with presumed origins in the south, east and west. The archaeological documentation of Archaic components on the Shield is made difficult by poor soil development which does not always allow for the vertical segregation of material remains that are deposited in various time intervals and over long spans of time.

Better archaeological evidence exists for land use in the later part of the Archaic period, due to a higher prevalence of sites. Two distinct archaeological cultures are well-documented in the Mattawa Valley Corridor, the Shield Archaic characteristic of the boreal forest (2000 BC – 200 BC) and the Lake Forest Archaic (3500 BC – 200 BC), where sites are common along shorelines and a marine focus is evident. The Late Archaic Period witnessed the retreat of the Nipissing waters and the introduction of new tree taxa which transformed the white pine-dominated forest into a mixed northern hardwood forest. People were adapting to the warmer environment which involved more diverse animal and plant resources. Exploitation of these resources required them being in specific places at specific times of the year, resulting in a set pattern of repetitive seasonal movements through a territory. The annual subsistence pattern involved interior fall and



winter microband hunting camps in areas where there was large game, and larger spring and summer macroband settlements located near river mouths and lakeshores in order to exploit rich aquatic resources.

### *Woodland Period*

The Woodland period is traditionally marked by the introduction of pottery about 3,000 to 2,500 years ago. The archaeological record of the period has been interpreted with the blending of old and new traditions, perhaps reflecting the entry of new populations into the area. In Ontario, the archaeological record of the Woodland period also documents some of the first substantial above-ground dwellings, elaborate burial ceremonialism and, by the end of the period, the first large semi-permanent villages on record. In Southern Ontario, the Woodland Period is divided into three time divisions: Early, Middle and Late. In Northern Ontario, specifically the Canadian Shield, the earlier segment of the Woodland period is poorly represented and until recently was assumed under the catch-all phrase “Initial Woodland,” which captures the time period typically assigned to the Early and Middle Woodland periods elsewhere in Ontario. Locally, there is evidence that the land use and material culture pattern established by Late Archaic cultures is essentially repeated, with the addition of pottery to the artifact inventory. Moose and beaver are documented in the archaeological record of this time as is wild rice. In some parts of Northern Ontario, large burial mounds were also constructed which were also common in the Ohio and Mississippi River valleys. Burial traditions show evidence of the use of red ochre and the collection of exotic raw materials and trade items.

Lake Nipissing and the Nipissing District fall at the juncture of the Canadian Shield and Southern Ontario and therefore, the archaeological record of earliest Woodland occupations in the area incorporates characteristic Early Woodland material culture (i.e., Meadowood) more commonly found south of the Shield and artifacts assigned to the Initial Woodland Period of the Shield and Boreal Forest. However, no sites dating to the earliest part of the Woodland period have been identified in the Mattawa area to date and the Initial Woodland period is largely represented by sites associated with the Laurel Culture (1,500 to 1,000 years before present), often deemed a Middle Woodland manifestation. Laurel sites have been documented across the Canadian Shield, in northern Minnesota and Quebec. These share common characteristics, although regional and local traditions exist. Past research within the Mattawa Valley Corridor has defined two such local traditions, one described as Eastern Laurel (200 BC – 400 AD) and the other as Trent River (300 BC – 400 AD). The archaeological record suggests that Laurel populations lived in riverine and lake environs, with large, seasonal aggregation sites found at prime fishing locations. Copper tools, net sinkers, bone harpoons, and side-notched projectile points are common in the archaeological record of this period, which also shows influence from Middle Woodland Hopewell populations from the Ohio River Valley (e.g., burial mounds, platform pipes). Large burial mounds are known in several places including Killarney, northeast of Georgian Bay. The ceramics were finely made, thin wares with numerous rows of stamped patterns. Other sites dating to the Initial or



---

Middle Woodland in the general area are known at the Frank Bay Site (Ridley 1954), Garden Island (Dibb and Sweetman 1995), on the Manitou Islands and at Camp Island on the Mattawa River.

The Late Woodland Period in Southern Ontario documents the establishment of larger settlements, some of which are semi-permanent villages, and the continuation if not expansion, of long distance trading networks. In southern Ontario, the best archaeologically documented Terminal or Late Woodland populations are the Wendat (Huron), Tionontaté (Petun or Tobacco Nation), and Attawandaron (Neutral), Iroquoian nations who were described in chronicles written by various European explorers and missionaries who arrived in the late-16<sup>th</sup> and early 17<sup>th</sup> centuries and documented a well-established lifestyle based on hunting and the cultivation of corn, beans and squash. Archaeological evidence of cultigens appears circa A.D. 500 - 900. These groups are depicted as living in large palisaded villages comprised of extended family dwellings called longhouses. However, these Iroquoian groups were not local to the Mattawa area, although they regularly travelled up and down the river on trading, hunting and other expeditions, as evidenced by the presence of small camps and portage sites bearing distinctive Iroquoian artifacts, like thin walled pottery with geometric designs. The study area rests to the northeast of the 17<sup>th</sup> century homeland of the Wendat confederacy of nations. The French River - Lake Nipissing – Mattawa River environs were known to have been travelled by Wendat traders, many of whom were venturing to visit and trade with various Anishnabek populations with whom they were allied and exchanged corn for furs and other local items. In the later post-contact period, furs provided a staple of the French trade at Quebec. Wendat (or otherwise Iroquoian inspired) pottery has been found along the Voyageur Route, in the Nipissing District, and along the shores of Lake Superior, Lake Nipissing and other small water bodies. By the time that Europeans first ventured into Ontario's heartland, an extensive system of exchange had already been developed between the Nipissing, Odawa (Ottawa), Ojibwa and Cree groups in northcentral and northeastern Ontario and the Wendat (Huron) and other Iroquoian groups to the south. The Nipissing were important allies and trading partners to several of the Wendat nations and are regularly described in the letters and diaries that were written by Samuel de Champlain and various Jesuit missionaries.

Late Woodland artifacts vary regionally across Northern Ontario and in the Nipissing District. Three general ceramic traditions (Blackduck, Selkirk, and Iroquoian) are known in Northern Ontario, although more variety is shown in northwestern Ontario where traditions were influenced by pre-Assiniboine Siouian populations further to the west and south. Blackduck is a prominently Middle to Late Woodland Boreal Forest manifestation (circa A.D. 600 to A.D. 1600) extending from Lake Superior to the western boundary of Manitoba (Hamilton 1981:22). Blackduck material culture is characterized by globular pottery vessels decorated with punctates and cord-wrapped dowel impressions. Selkirk pottery is characterized by vessels with differing textile impressions on the body and neck, with decorative punctates and cord-wrapped dowel impressions on the lip (Hamilton 1981:23); this archaeological manifestation extends as far west as the north shore of Lake Superior and overlaps the geographic range and time period of



Blackduck (~ 900 A.D. to the proto-contact period) (Hamilton 1981:23). Iroquoian ceramics are found throughout Southern Ontario, Quebec and in portions of Northern Ontario. Although there are temporal, regional, tribal and confederacy distinctions, Iroquoian vessels are usually smooth surfaced, globular vessels with simple to complex incised, trailed or stamped geometric motif on the shoulder and collar. An archaeological investigation in the Mattawa River Corridor indicates that approximately AD 800 the Mattawa River was used by Nipissing hunters and fishers. Sites registered as “villages” are also in proximity to the Stage 1 study area. It is also thought that there is an Iroquoian village/settlement along the shore of Pimisi Bay (Personal communication: John Whalen, November 6, 2012).

### ***1.3.2 European Arrival and the Fur Trade***

The Nipissing District was populated by the Nipissing at the time that the first Europeans arrived in the area and recorded details of First Peoples settlement in the early 1600s. Étienne Brûlé in 1610 and Samuel de Champlain in 1615 were the first Europeans (French) to travel into Nipissing District, through a long-established trade and travel route along the Mattawa River. This “Voyageur Route” crossed the very south end of Nipissing District, up the Ottawa River to the Mattawa River and Trout Lake. From Trout Lake, the explorers traveled down LaVase Creek to Lake Nipissing and the French River which flows from the Nipissing District and into Georgian Bay. The latter provided passage to Lake Huron. This “Voyageur Route” was the main route of travel from Quebec to the western portion of Upper Canada and was central to the fur trade.

Samuel de Champlain recorded in his journal that his voyage through the Mattawa River Corridor was very treacherous and dangerous (Clayton et al. 1995:7). He also stated:

*“...it is quite a wilderness being inhabited by Algonquin Indians who dwell in the surrounding area and live by the fish they catch in the ponds and lakes with which they country is well provided”* (Clayton et al. 1995:8).

Champlain describes the area between the Mattawa River (which he called the river of the “Algonkins”) and his journey to Lake Nipissing as pleasant to look at, and refers to it as the “land of which canoes are carried” (Champlain 1567-1635, Vol. VI: 244). He referred to the Ottawa-Mattawa route as a canoe route where the Algonquin and Huron are anxious to develop more direct contact with the French (Jaenen, ed. 1996:90). Champlain also remarks that the soil was cultivated very little (Champlain 1567-1635, Vol. IV:232). His journals imply that unlike the Iroquoians of Southern Ontario, the local populations in the Mattawa area were subsisting on hunting, fishing, and gathering and had not supplemented their diet through crop cultivation. Champlain’s exploration led to the first European mapping of the region in 1632. While local Algonquin speakers lived permanently here, the Mattawa area was a meeting place where the Huron (Wendat), Nipissing, and other groups all stopped to hunt, rest and repair canoes (Clayton et al. 1995:9). Canoe traffic along the river was regular as it was said that, during the early



years of the fur trade, it was not uncommon to see Wendat fur laden flotillas ranging from a few canoes to as many as 150.

The Jesuits reached Mattawa in 1640. In 1649 and 1650 the Iroquois attacked the Nipissing and the Huron-Wendat (Clayton 1995:12) causing a major exodus out of the area; the Huron fled north and west. In 1671 Nipissing populations returned to the area to hunt around the Mattawa River (Clayton et al. 1995:12). From this point forward, local Algonquin groups continued their use of the Mattawa River and Voyageur Route and lived off the land. The current study area falls within the traditional territory of the Algonquins of Ontario.

The development and continuation of the 17<sup>th</sup> century fur trade in Mattawa witnessed the arrival of small numbers of European settlers, many of whom also focussed their lives and duties on the river. Clusters of shanties were erected, adjacent to the river, some of which were referred to as “forts” which were built to facilitate the fur trading business of the Nipissing District area (Barnes 1982:12). In the 18<sup>th</sup> and 19<sup>th</sup> centuries, the Mattawa River formed a part of a 4,000 kilometre trade route that stretched from Montreal to Fort Chipewyan on Lake Athabasca; a complete trip along the fur trade route could easily take some four to five months (Harting 1996). The amount of fur traded each year was enormous. For example, in 1806 a fur warehouse in Fort Kaministiquia (Fort William in Thunder Bay) recorded 77,500 beaver furs in storage for that year alone, a number roughly equalling 50 tonnes (Harting 1996). The kinds of goods that flowed through the route during the May to October canoe season ranged from standard items such as pots, pails, kettles, knives, axes, guns, lead shot and musket balls, canisters of gunpowder, pieces of iron and other metals, traps, hats, blankets, jewellery, tobacco, hams, grease, sweets, brandy, rum, wine, flour to specialized items like cutlery, dishes, housing goods, and religious paraphernalia (Harting 1996:55, 66). By the 1840s, silk began to replace fur as the preferred fabric, leading to the decline in the fur trade, although trade in furs on a much smaller scale did continue for some time. Despite the regular use of watercourses, the nature of the fur trade meant that traders only established temporary camp sites, usually for only one night, so little labour was invested. It is most likely that these campsites were located along the banks of waterways, especially along the portages made to avoid the rapids.

In 1926, the Mattawa “Voyageur Route” was designated as a site of national historic significance for its role in opening up western exploration. In 1930, the Historic Sites and Monuments Board of Canada erected a bronze plaque commemorating the voyageurs’ route in the Town of Mattawa, Ontario. The text of the plaque reads: “*Le Portage Mattawa, Main route to the Great Lakes, Plains, Rockies and beyond, used by the Indians, Explorers, Traders and Missionaries, French and English. Upon its traffic was founded the early commercial prosperity of Montreal.*”



---

### **1.3.3 Mattawa/North Bay Algonquin First Nation**

(\*Summary from the Electronic Resource: *Mattawa/North Bay Algonquin First Nation, Mattawa, ON*)

The word Algonquin comes from the Malecite word meaning “they are our relatives.” Champlain realized that this group, which he referred to as “Anishinabeg,” were the key to his success if he were to make his way inland to the Mattawa area. It became important for every fur trader to learn the Algonquin language, since it formed the root of many other Aboriginal languages.

The Mattawa area is included in the Algonquin traditional territory. Ancestors of the Mattawa-North Bay Algonquin used Mattawa, which means the “meeting of the waters”, as a staging point to rest and repair their birch bark canoes prior to navigating the Mattawa River for hunting and delivering furs. Doug Mackey states that “two groups of Algonquin’s under Antoine Kiwiwisens and Amable du Fond settled in Mattawa more permanently in the 1800s. Their hunting territory was to the northwest and southwest of the Mattawa River respectively. However, a formal reserve was never established under land treaty or sale. The Algonquins of Ontario (AOO) asserts that its people have not surrendered their lands (First Nation website: <http://www.mattawanorthbay.algonquinfirstnation.com>)

### **1.3.4 Historic Euro-Canadian Settlement and Land Use**

*Townships of Bonfield, Calvin and Papineau, in Nipissing District*

By the mid-19<sup>th</sup> century concerted efforts were being made by the Crown to open up settlement in the North through the negotiation of land deals with northern First Nations. New industries emerged at this time. Following the wane of the fur trade in the mid-19<sup>th</sup> century the Euro-Canadian population in the Nipissing District and in Northern Ontario began to increase slowly as new industries were established. Settlement was still focussed on the river and major waterways, which provided ease of transport and water power as needed. Lumbering emerged as a major post-fur trade industry; its origins were modest and throughout the first half of the 19<sup>th</sup> century there were a number of logging operations established, although these were small and independent businesses, with many consisting of not more than small shanties that were used to house lumberjacks and equipment (Clayton et al. 1995:19). The early lumber industry made use of existing native trails and transportation routes.

Commencing in the mid-19<sup>th</sup> century, significant watercourses were used to drive and transport logs for sale. The 1881 land surveyor’s notes for Calvin Township report on the use of the continuous route formed between Pautois Creek, the Amable du Fond River and the Mattawa River. After trees were cut in winter, they would be sent downstream to Ottawa once the ice melted in May or June, through the chutes in the Amable and the Mattawa Rivers (Personal communication: John Whalen, November 6, 2012). One of the challenges of shipping lumber by watercourse was the presence of rapids. While in the winter the frozen route might be travelled by horse and sleigh, during



the warmer months the same portage routes used by fur traders were utilized by the loggers who would have had to establish resting points along the way. It is said that loggers could traverse about 26 km per day (the distance a horse could travel in that time frame) (Personal communication: John Whalen, November 6, 2012) and therefore one might expect small camps and stopping points, separated by this set distance, at regular intervals along the shipment route.

Despite it being the focus of some early industry in the early- to mid-19<sup>th</sup> century, the Nipissing District was not overseen by the provincial government until 1872 (Bullock et al. 1979). By the 1870s lumberman William W. Mackey had acquired 21 properties in the Township of Calvin, most of which were around Crooked Chute Lake and Smith Lake. Mackey flowed large quantities of timber to the Mattawa River and in order to do this he constructed numerous slides and dams on the Pautois and Amable. Agricultural land grants were made following formal surveys, as farmers cleared the more productive portions of the District where adequate soils were present and well-developed. Although established in the 1880s, the Townships of Bonfield, Calvin and Papineau were not formally incorporated until 1887 (ARA 2012:24), after which time the population grew and a more rural/agricultural lifestyle emerged as settlers arrived and cleared more available land for agricultural production (ARA 2012:24). Settlement was encouraged by the freeing up of 100 acre lots under the *Free Grants and Homesteads Act* (ARA 2012:24). Just as the Township of Calvin was well known for its logging, the Township of Bonfield heralded praise for its agricultural production. One of the early staple crops was wheat, while the 1881 land surveyors notes for Calvin Township reported there were a “few large farms...that continue[d] to give crops of hay, oats” (Tallona 1881:2).

By the late-19<sup>th</sup> century small farming communities began to emerge on the Bonfield Township landscape and corduroy roads were constructed to connect major logging and agricultural centres to portage routes (Personal communication: John Whalen, November 6, 2012). Passage through the District was further enhanced in 1881-1882, when the Canadian Pacific Railway began extending their rail line northward through the Nipissing District and along the eastern and northern edges of Lake Nipissing (Barnes 1982:20). Settlement was further assisted by the extension of the Canada Central Railway to Mackey in 1880 and Mattawa in 1881; the latter route was initiated in Brockville in 1859 and connected the latter settlement to Smiths Falls, Arnprior, Renfrew and Pembroke, with small feeder lines to Ottawa and Perth. The town of Rutherglen developed in conjunction with the opening of the Canadian Pacific Railway in 1881 and further growth in the area came with the construction of the Temiskaming and Northern Ontario Railway, between North Bay and James Bay, by 1902. The latter railway winds its way along the length of Highway 17 included in this study, on the south side and following the north edge of Johnston Lake and Smith Lake at Amable du Fond.

The earliest roadways in the area were constructed prior to municipal survey and their building was funded primarily by lumber tycoons, such as Mackey and Booth, who required access between their major logging centres. The latter named gentlemen were responsible for the building of the “Pembroke and Mattawan” colonization road built in



1856 and 1857 (ARA 2012:21), a section of which forms part of the current route of Highway 17 (although not the portion within the study area established for this project). Highway 17 itself, was constructed beginning in 1929, with full pavement between North Bay and Mattawa by 1949 (Clayton et al. 1995:30). Some of the early lumber roads are illustrated on Maps 10 to 13. Modern day Pautois Road, west of Boundary Road in Lot 6 of the Geographic Township of Calvin, follows the path of the historic “River Road” (Image 97) that ran between Moore Lake and Mattawa Road following the east bank of Pautois Creek. A portion of the current route Highway 630 follows was also a former logging trail along the Amable du Fond (Mackey 2007:11). The 1881 survey of the Township of Calvin (Map 7) shows the plan for regular concession roads to be cut through, although it is clear from modern maps that many of these roads were never constructed as major obstacles stood in their way.

### *Mattawa*

Meaning “Meeting of the Waters” in Ojibwa, Mattawa is a community just east of the study area at the confluence of the Mattawa and Ottawa Rivers. It was a prominent trading and resting point both prior to and during the fur trade. In 1784 the Northwest Company established *Mattawa House* at a low point between the two rivers, in order to facilitate trade between the *Coureur de Bois* and local native groups; however, there was no permanent post on the Mattawa River until the Northwest Company merged with the Hudson Bay Company in the 1830s (Morel, ed. 1980:31). Euro-Canadian settlement did not grow in Mattawa until the 1860s, when farmers began to clear the more productive areas where adequate soils were present. Settlement grew in Mattawa with the construction of the railway (CCR, CPR) in 1881. By 1883 Mattawa was incorporated as a village (Morel, ed. 1980:31) and by 1884 its population comprised 165 families (Bullock et al. 1979). In 1971 roads were built from Mattawa to facilitate access to interior lumber stands.

### *Eau Claire and Eau Claire Station*

The Mattawa and Ottawa Rivers were important transportation and trading routes for several Algonkian and Ojibwa speaking groups (Montagnais-Antoine and du Fond clans) (Steer 1953:8). In the early 1800s the Amable du Fond family, from near Montreal, moved to Mattawa in search of hunting and trapping grounds. Amable du Fond established an early residence in Mattawa but had hunting and trapping operations throughout the area and loggers established a trail along the east side of the Amable du Fond River (a portion of the historic “River Road”), which later would form part of the route of Highway 630.

Amable du Fond owned Manitou Farm in Eau Claire, presumably along Suzannes Road (formally Old Susanne Road) on Manitou Lake. Five years after its formal purchase in 1888, the area was designated a provincial park and the du Fond family was compensated for having to leave their farm. The du Fond family played an important role



in the development of the area and their descendants continue to do so (Mackey 2007:13). The river, the Amable du Fond, bears their name as a tribute to the family.

The Amable du Fond is the most significant watercourse that intersects the study area. The river's availability for moving logs from Algonquin Park and surrounding area was crucial to the development of the logging industry in the Mattawa area (Mackey 2007:13). Many dams and log chutes were constructed on the river to control water flow and to bypass the rapids. Today visitors can view the log chute as well as a squatter's log cabin from Gorge Park in Eau Claire.

A prominent lumberman, W. William Mackey worked the Amable du Fond out of Eau Claire (now Eau Claire Station) in the 1870s (ARA 2012:25), although he had established operations here by 1859 (Mackey 2007); Eau Claire Station was initially named Mackey's Mill (Mackey 2007:13). Mackey occupied a significant acreage of land along the Amable du Fond River before Calvin Township was surveyed and constructed a saw mill at the twin bridges. It is reported that some of the mill structures can still be seen (Mackey 2007:15). Mackey built a dam and dug a channel under the south bridge where he installed two turbines to drive the saws; he also constructed lumber roads on the east side of the Amable du Fond River. According to historical records, W. William Mackey also built a boarding house for employees, a home for himself, a post office and other buildings in Eau Claire [Station] (Mackey 2007:15). In 1881 it was proposed that the Canada Central Railway would build a spur line to Mackey's saw mill at the head of Crooked Chute Lake. It was completed in 1894 and the stop was named Eau Claire Station (ARA 2012:25). In 1902 Mackey disposed of much of his property; the store was sold to Andrew Ryan (Mackey's manager), the mill was purchased by J.R. Booth and the remaining land was auctioned off (ARA 2012; [http://www.pastforward.ca/perspectives/june\\_132003.htm](http://www.pastforward.ca/perspectives/june_132003.htm)). Booth was another prominent lumberman in the area; he owned a farm on Kiosk Road (now Booth Road) in Eau Claire. While Eau Claire Station was once extensively cleared land, it is now primarily used as a trailer park. The community still contains an early school house built in 1929 (ARA 2012). Despite the growth of Euro-Canadian industries and settlement, local native groups continued to use the Amable du Fond lands into the 20<sup>th</sup> century for hunting, trapping and settlement.

#### *Historical Features Illustrated within the Recommended Plan*

The recommended plan is located within the historical Township of Bonfield (Lots 34 & 35, Concession 7; 28-35, Concession 8; Lots 23-29, Concession 9; Lots 20-23, Concession 10), the historical Township of Calvin (Lots 1 & 2, Concession 6; Lots 2-13, Concession 7; Lots 12-17, Concession 8; Lots 16-36, Concession 9; Lots 34-36, Concession 10); and the historical Township of Papineau (Lots 33-35, Concession 14).

The 1881 *Plan of the Township of Bonfield* (Map 6) does not illustrate any structures or built features on individual lots, but does show the 19<sup>th</sup> century railway route, north of the Stage 2 survey area. The 1878 *Plan of the Township of Papineau* does



not show any illustrated features (Map 8). More details are provided on the 1881 *Plan of the Township of Calvin* (Map 7). Table 2 lists the historical features (by lot and concession) on the latter named plan within the Stage 2 survey area.

**Table 2: Historical Features Shown on the 1881 Map of Calvin Township**

Concession	Lot	Owner/Resident(s)	Illustrated Feature(s)
7	7	Unknown	<ul style="list-style-type: none"> <li>Along “River Road” the follows Moore’s Lake</li> </ul>
12	7	Unknown	<ul style="list-style-type: none"> <li>Logging Road – joins to a saw mill to Moore Lake</li> </ul>
9 & 10	35	Unknown	<ul style="list-style-type: none"> <li>Mattawa Road</li> </ul>

*Summary of Previously Identified Built Heritage Features in the Corridor*

A review of the heritage resources documented by Archaeological Research Associates Inc. (ARA 2012) identifies structural features associated with Euro-Canadian (largely post-fur trade) developments, although many of the cultural heritage landscapes have strong associations with First Nations communities (ARA 2012:12). There are no documented heritage resources within the Stage 2 lands. Table 3 identifies two heritage resources within 300 metres of these (see Maps 28 & 29).

**Table 3: Built Heritage Inventory (ARA 2012:33-34)**

Lot and Con.	Property No.	Address and Date of Construction	Name and Heritage Attribute(s)
<i>Bonfield:</i> Lot 32, Con. 8	26	No address found (±100m NW of 308 Talon Crescent); established ca. 1880-1920	No name; Vernacular structure may be associated with the construction of the railway.
<i>Bonfield:</i> Lot 30, Con.8	2	1350 Trunk Road; established 1930	Mount Pleasant United Church; church has a long standing association with the local community; local landmark.

## 2.0 STAGE 2 ARCHAEOLOGICAL ASSESSMENT

### 2.1 Field Methods

Prior to the Stage 2 assessment, archaeological potential mapping layers were developed to establish areas within the recommended highway planning alternative that required further field review and/or Stage 2 survey. These were created using parameters selected in consultation with Paige Campbell of the Ministry of Tourism, Culture and Sport.



---

### ***2.1.1 Mapping of Archaeological Potential***

The Province of Ontario has established criteria for establishing areas of archaeological potential in Northern Ontario and within the Canadian Shield. These criteria can be divided into four major categories: 1) known archaeological sites; 2) physiographic features; 3) cultural historic features; and 4) application or region specific information. These criteria were identified on mapping layers available to TMHC and provided by AECOM. Using ArcMap 10.1 Geographic Information System (GIS) software, distance buffers were drawn around identified features of archaeological potential within the preferred corridor, the shape and placement of which was established through the use of a georeferenced shape file provided by AECOM. All of the lands that fell within buffer zones surrounding features of archaeological potential were flagged for more detailed field inspection and/or Stage 2 survey as on-the-ground field conditions permitted.

The following features signalling archaeological potential, and applicable to this particular project area, were considered during this mapping exercise:

- 1) Historic Roadways and Transportation Routes;*
- 2) Built Heritage Features, Cemeteries, Churches and Registered Archaeological Sites*
- 3) Railways*
- 4) Watercourses or Sources of Potable Water*

In general, all lands within 0 to 50 metres of each of these features of archaeological potential were recommended for test pitting or pedestrian survey at a five metre interval. All lands within 50 to 150 metres from features signalling archaeological potential were recommended for survey at a 10 metre interval. In the case of historic roadways, all of the historic transportation routes identified in the Stage 1 assessment report and mapping were buffered. In the case of sources of potable water, for lakes, rivers, mapped wetlands and major watercourses, a 0 to 50 metre archaeological potential buffer was established for five metre interval survey and lands between 50 and 150 metres from these were recommended for 10 metre interval survey. For minor watercourses (i.e., streams), a 50 metre buffer was used to mark the area requiring survey at five metre intervals, with no survey recommended beyond that. For all unevaluated wetlands, the process was slightly different. In the case where an unevaluated wetland was not associated with any other archaeological potential feature (e.g., lake, historic portage), a 50 metre buffer was established beyond it to mark the area for which a five metre survey interval was required. No survey was recommended beyond 50 metres from the wetland. For unevaluated wetlands that occurred in association with other features of archaeological potential, a 50 metre buffer was established for survey at a five metre interval, with a 10 metre survey interval zone established for a distance of between 50 and 150 metres from the wetland.



Two special areas of concern were also identified in the mapping process as these set restrictions on property access. The first was a “Contamination Area” that was identified through AECOM as an area of a former train derailment where soils are potentially hazardous and require further technical study prior to being subject to archaeological survey. The second was a Trans Union Pipeline easement, for which permission was given for pedestrian access (i.e., for use as a route of access) but Stage 2 survey was not permitted.

Property assessment parcels, tax roll numbers, ownership tags and lot and concession assignments were also provided by AECOM for use in identifying individual properties for tracking purposes.

### ***2.1.2 Centreline Survey and Establishment of Stage 2 Survey Area Boundaries***

Using a georeferenced shape file and coordinates of the recommended plan provided by AECOM, TMHC undertook detailed field tagging of the corridor centerline in the field prior to initiating the Stage 2 field assessment. The location and coordinates of the centerline and boundaries were uploaded into a Topcon GRS-1RTK Network Rover (advertises 1 cm or less accuracy) and used to identify boundary points in the field. This work was restricted to only those lands for which permission-to-enter had been acquired by MTO and AECOM and was not undertaken for the contaminated lands or areas that still required ploughing. Centreline and boundary points were surveyed in and marked in the field on September 24 and 26, as well as October 7 and 8, 2013. The centreline was marked with flagging tape at regular intervals. Further investigation of existing conditions within the survey parcels was collected at this time to assist in more carefully mapping assessment areas as it was found that aerial and property fabrics for the project lands do not completely align for this part of North-Central Ontario, as acknowledged by AECOM and MTO. Given these mapping issues, this initial survey work was also used to:

- identify and record the presence or absence of any feature of archaeological potential not identified in previous mapping, as well as confirm the presence and nature of mapped features of potential (e.g., determining if watercourses and land formations are still extant, are natural features and have not been impacted by urban development);
- identify conditions that affect recommendations regarding assessment strategies (e.g., presence of tree growth and significant vegetation that prohibits ploughing);
- identify and examine potentially and obviously disturbed/developed areas (e.g., railways and easements, road beds, building footprints, graded lands, quarries, etc.) for the purposes of establishing limits of disturbance and photo-documentation; and



- precisely map the location and spatial limits of features/areas of low archaeological potential (e.g., low-lying and permanently wet areas, steeply sloped lands, disturbed zones, bedrock) and lands over 150 metres from features signaling potential.

In summary, the centreline survey allowed for the preparation of more accurate archaeological potential mapping based on existing conditions and more precise delimiting of Stage 2 assessment areas. All lands deemed to have low archaeological potential following the field inspection were eliminated from Stage 2 survey after photo-documentation and location/boundary mapping had taken place.

### ***2.1.3 Stage 2 Field Assessment***

All unploughable lands (i.e., woodlots and manicured lawns) were subject to test pit survey with a 5 or 10 metre transect interval used based on distance from features of archaeological potential (5 metres for 0-50 metres from feature of potential, 10 metres for 50-150 metres from feature of potential). Each test pit measured roughly 30 cm (shovel-width) in diameter and was excavated through the first five cm of subsoil. All soil was screened through 6 mm hardware cloth in an attempt to retain any artifacts that might be present. When screening was completed, the soil strata in each test pit were examined and the pit was backfilled as best as possible. A visual inspection of rock surfaces was also undertaken when soil was lacking.

When artifacts were encountered during test pitting, the survey interval was intensified to 2.5 metres and eight additional test pits were excavated around the initial positive test pit. All test pits were completely backfilled as best as possible and foot tamped with the assistance of a shovel. The location of each positive test pit was mapped with the Topcon GRS-1RTK GPS instrument or Garmin GPSMAP76 handheld unit, set to NAD 83 (see Supplementary Documentation: Tables 9 & 10).

In general, all archaeological field activities were undertaken in weather that varied from overcast and cool to partly sunny and cold (see Table 4). Lighting and weather conditions provided good visibility of land features in accordance with provincial standards (MTC 2011:29, Section 2.1, Standard 3). No conditions were experienced that deterred the detection of archaeological material.

Overall, 100 ha of the corridor were subject to Stage 2 assessment. A total of 39.8 ha were subject to a test pit survey at 10 m interval and 24.7 ha subject to test pit survey at a 5 metre interval. The remaining lands were deemed to be of low archaeological potential after the centreline survey and field inspection; these were photo-documented and then excluded from the Stage 2 survey. The latter excluded areas include 15.7 ha established as low-lying and wet, 7.5 ha of steeply sloped land, 0.9 ha of exposed bedrock, and 11.4 ha that were previously disturbed or developed (existing rights-of-way, extant residence).



---

Table 4 provides a summary of field methods and observations for each property within the Stage 2 survey area. The table summarizes the route, beginning at its eastern point where PTE was granted (at Boundary Road) and moving westward to the termination point at Trout Pond Road. The table does not include the outstanding parcels requiring assessment but these are illustrated on Maps 9-33. An estimated 112.54 ha within the recommended plan for the Highway 17 corridor still requires Stage 2 survey. The lands still requiring assessment include: 1) the parcels requiring pedestrian survey where PTE was obtained but lands were not ploughed; 2) lands within the “Contaminated Area” (PTE obtained); and 3) the lands for which PTE was not granted in 2013. Therefore, in 2013, 47% of the land originally mapped as falling within 0 to 150 metres of features of archaeological potential was surveyed.

It should also be acknowledged that survey and field inspection was also undertaken for some accessible lands between the chosen corridor impact area and the southern limit of the existing Highway 17 right-of-way, as it is anticipated that these lands may also be impacted during construction if a single, contiguous road allowance will result.



Table 4: Summary of Parcels Surveyed																	
Map Sheet # and Photo #	Assessment # (Reference to last 6 digits)	Township	Lot	Concession	Corridor Survey Date	Stage 2 Survey Date	Weather	Historic Feature	Water Source	Ground Conditions/Vegetation	Topography	Topsoil Colour and Texture	Topsoil Depth (cm)	Subsoil Colour and Texture	Survey Method	Results	Condition Comments
Map 10, Images 1-6, 10	134520 & part of 134600	Papineau	35	14	24-Sep-13	30-Sep-13	Overcast & Cool	Boundary Road	Small unnamed stream (Image 1)	Woodlot	Flat	Brown sandy loam	0-23	Grey sand	Test Pit	No archaeological resources encountered	
Map 10, Images 7-9, 11	122650	Calvin	1	6	24-Sep-13	01-Oct-13	Overcast & Cool	Boundary Road		Woodlot, Exposed Bedrock	Uneven	Brown sandy loam	0-25	Grey sand	Test Pit	No archaeological resources encountered	95% Test Pit Survey; 5% exposed bedrock (not surveyed)
Map 11, Images 12-14	146900-Crown, South of Highway 17	Calvin	3	7	07-Oct-13	18-Oct-13	Clear skies & Cool		Wetland	Woodlot, Exposed Bedrock	Uneven	Brown sandy loam	0-15	Orange course sand, with shield rocks	Test Pit	No archaeological resources encountered	88% Test Pit Survey; 2% exposed bedrock & 10% low lying and wet (not surveyed)
Map 11, Images 15-17	146900-Crown, South of Highway 17	Calvin	4	7	07-Oct-13	18-Oct-13	Clear skies & Cool		Wetland	Woodlot, Exposed Bedrock	Uneven	Brown sandy loam	0-15	Orange course sand, with shield rocks	Test Pit	No archaeological resources encountered	95% Test Pit Survey; 3% exposed bedrock & 2% low lying and wet (not surveyed)
Map 12, Images 18-19	146900-Crown, North of Highway 17	Calvin	4	7	26-Sep-13	03-Oct-13	Sunny & Cool		Unnamed Pond	Treed (secondary growth)	Rolling	Brown sandy loam	0-13	Orange-brown grey sand	Test Pit	No archaeological resources encountered	100% Test Pit Survey
Map 12, Images 20-24	146900-Crown, North of Highway 17	Calvin	5	7	26-Sep-13	03-Oct-13	Sunny & Cool		Unnamed Pond	Treed (secondary growth), meadow, maintained grass	Sloped from ROW, Flat	Brown sandy loam	0-13	Orange-brown grey sand	Test Pit	No archaeological resources encountered	95% Test Pit Survey; 3% low lying and wet & 2% steeply sloped (not surveyed)
Map 12, Images 26-31	146900-Crown, South of Highway 17	Calvin	5	7	08-Oct-13	09-Oct-13	Sunny & Cool		Large Wetland-Beaver dammed	Woodlot, beaver deadfall	Uneven	Brown sandy loam	0-20	Grey sand	Test Pit	No archaeological resources encountered	60% Test Pit Survey; 38% low lying and wet & 2% steeply sloped (not surveyed)



Table 4: Summary of Parcels Surveyed																	
Map Sheet # and Photo #	Assessment # (Reference to last 6 digits)	Township	Lot	Concession	Corridor Survey Date	Stage 2 Survey Date	Weather	Historic Feature	Water Source	Ground Conditions/Vegetation	Topography	Topsoil Colour and Texture	Topsoil Depth (cm)	Subsoil Colour and Texture	Survey Method	Results	Condition Comments
Map 13, Images 33-40	146900-Crown	Calvin	7	7	08-Oct-13	17-Oct-13	Overcast & Cool	Historic River Road	Pautois Creek	Woodlot	Naturally Rolling, Sloped to Pautois Creek	Brown sandy loam, including shield rocks	0-20	Orange course sand, with shield rocks	Test Pit	No archaeological resources encountered	40% Test Pit Survey; 55% steeply sloped & 5% low lying and wet (not surveyed), the sloped ridge (Image 34) may be the north-south orientation of the Historic River Road
Map 13, Images 41-42	146900-Crown	Calvin	8	7	08-Oct-13	17-Oct-13	Overcast & Cool		Pautois Creek	Woodlot	Naturally Rolling, high ground	Brown sandy loam, including shield rocks	0-20	Orange course sand, with shield rocks	Test Pit	No archaeological resources encountered	95% Test Pit Survey; 5% steeply sloped (not surveyed)
Map 14, Images 43-46, 144	127702	Calvin	10	7	25-Sep-13	01-Oct-13	Sunny & Warm	Grand Trunk Railway	Unnamed Pond	Woodlot, grassed Trans-Union Pipeline Corridor	Naturally Rolling	Brown sandy loam	0-19	Orange sand	Test Pit	No archaeological resources encountered	80% Test Pit Survey; 10% low lying and wet (not surveyed) & 10% unassessed Trans-Union Corridor
Map 14, Images 47-48	128100	Calvin	11	7		16-Oct-13	Partly Cloudy & Cool	Grand Trunk Railway	Wetland	Low Lying and Wet-Meadow Grasses	Flat	N/A	N/A	N/A	Visual Assessment	No archaeological resources encountered	100% low lying and wet (not surveyed)
Map 14/15, Images 49-52	128400	Calvin	12	7	25-Sep-13	02-Oct-13	Sunny & Warm	Historic Logging Road	Wetland	Woodlot	Flat	Brown sandy loam	0-20	Orange-grey sand	Test Pit	No archaeological resources encountered	90% Test Pit Survey; 10% low lying and wet (not surveyed)
Map 15, no images	128400	Calvin	12	8	25-Sep-13	02-Oct-13	Sunny & Warm		Wetland	Woodlot	Flat	Brown sandy loam	0-12	Orange sand	Test Pit	No archaeological resources encountered	100% Test Pit Survey
Map 17, no images	128400	Calvin	13	7	24-Sep-13	02-Oct-13	Sunny & Warm		Wetland	Woodlot	Flat	Brown sandy loam	0-15	Orange-grey sand	Test Pit	No archaeological resources encountered	20% Test Pit Survey, 80% low lying and wet (not surveyed)



**Table 4: Summary of Parcels Surveyed**

Map Sheet # and Photo #	Assessment # (Reference to last 6 digits)	Township	Lot	Concession	Corridor Survey Date	Stage 2 Survey Date	Weather	Historic Feature	Water Source	Ground Conditions/Vegetation	Topography	Topsoil Colour and Texture	Topsoil Depth (cm)	Subsoil Colour and Texture	Survey Method	Results	Condition Comments
Map 15, Images 53-55, 111	128400	Calvin	13	8	24-Oct-13	02-Oct-13	Sunny & Warm		Wetland and Unnamed Water body	Woodlot, Exposed Bedrock	Uneven	Brown sandy loam	0-13	Orange-brown sand	Test Pit	No archaeological resources encountered	90% Test Pit Survey; 10% exposed bedrock (not surveyed)
Map 15, Images 56-59	171000-Crown	Calvin	14	8	08-Oct-13	10-Oct-13	Sunny & Warm		Unnamed Water body, marshland	Woodlot	Naturally Rolling	Brown sandy loam	0-13	Orange-brown sand	Test Pit	No archaeological resources encountered	50% Test Pit Survey, 50% low lying and wet (not surveyed)
Map 16, Images 60-66	134300-Crown, East side of Amable du Fond River	Calvin	15	8	26-Sep-13	23-Oct-13	Sunny & Cold	Historic Log Chute	Amable Du Fond River/Crooked Chute Lake	Woodlot, manicured lawn	Gradual Slope	Brown sandy loam, including shield rocks	0-15	Orange sand	Test Pit	No archaeological resources encountered	95% Test Pit Survey, 5% low lying and wet (not surveyed)
Map 16, Images 66 & Supplementary Doc.	134300-Crown, West side of Amable du Fond	Calvin	15	8	26-Sep-13	10-Oct-13	Sunny & Cold	Historic Log Chute	Amable Du Fond River/Crooked Chute Lake	Edge of Woodlot, Crown waterfront access	Flat	Brown sandy loam	0-15	Orange-brown sand	Test Pit	Archaeological Resource Encountered- <b>Location 2</b>	100% Test Pit Survey, see Supplementary Documentation for site location information
Map 16, Images 71-73	134400	Calvin	16	8	26-Sep-13	09-Oct-13	Sunny & Cold		Amable Du Fond River/Crooked Chute Lake, wetland	Woodlot, grassed Trans-Union Pipeline Corridor	Flat, steep slope to wetland	Brown sandy loam	0-15	Orange-brown sand	Test Pit	No archaeological resources encountered	85% Test Pit Survey; 5% steeply sloped (not surveyed) & 10% unassessed Trans-Union Corridor
Map 17, Images 74-75	Hwy 630 ROW	Calvin	17	9		16-Oct-13	Partly Cloudy & Cool	Hwy 630 route	Unnamed watercourse	N/A	N/A	N/A	N/A	N/A	Visual Assessment	No archaeological resources encountered	100% developed/disturbed (not surveyed)
Map 18, Images 76-79	139500	Calvin	19	9	03-Oct-13	09-Oct-13	Sunny & Cool		Unnamed Water body	Woodlot	Naturally Rolling	Brown sandy loam	0-15	Orange sand	Test Pit	No archaeological resources encountered	98% Test Pit Survey; 2% developed/disturbed (not surveyed)
Map 18, Images 80-82	Hwy 17 ROW	Calvin	20	9		16-Oct-13	Partly Cloudy & Cool		Unnamed Water body	N/A	N/A	N/A	N/A	N/A	Visual Assessment	No archaeological resources	100% developed/disturbed (not surveyed)



**Table 4: Summary of Parcels Surveyed**

Map Sheet # and Photo #	Assessment # (Reference to last 6 digits)	Township	Lot	Concession	Corridor Survey Date	Stage 2 Survey Date	Weather	Historic Feature	Water Source	Ground Conditions/Vegetation	Topography	Topsoil Colour and Texture	Topsoil Depth (cm)	Subsoil Colour and Texture	Survey Method	Results	Condition Comments
																encountered	
Map 18/19, Images 83-85	139810	Calvin	21	9	26-Sep-13	03-Oct-13	Sunny & Warm		Unnamed Water body	Woodlot	Flat	Brown sandy loam	0-17	Orange sand	Test Pit	No archaeological resources encountered	100% Test Pit Survey
Map 11, no images	139810	Calvin	22	9	26-Sep-13	03-Oct-13	Sunny & Warm		Unnamed Water body	Woodlot	Flat	Brown sandy loam	0-17	Orange sand	Test Pit	No archaeological resources encountered	100% Test Pit Survey
Map 19, Images 86-90	Crown	Calvin	23	9	08-Oct-13	11-Oct-13	Overcast & Cool		Unnamed Water body	Woodlot	Flat	Brown sandy loam	0-10	Orange-brown sand	Test Pit	No archaeological resources encountered	100% Test Pit Survey
Map 19/20, Images 91-92	Crown	Calvin	24	9	08-Oct-13	11-Oct-13	Overcast & Cool		Unnamed Water body	Woodlot	Naturally Rolling	Brown sandy loam	0-10	Orange-brown sand	Test Pit	No archaeological resources encountered	95% Test Pit Survey; 5% steeply sloped (not surveyed)
Map 20, Images 93-97	Crown	Calvin	25	9	08-Oct-13	15-Oct-13	Partly Cloudy & Warm		Wetland, Pond	Woodlot	Naturally Rolling	Brown sandy loam	0-10	Orange course sand	Test Pit	No archaeological resources encountered	75% Test Pit Survey; 25% low lying and wet (not surveyed)
Map 21, Images 98-101	Crown	Calvin	26	9	08-Oct-13	17-Oct-13	Overcast & Cold		Wetland, Lake	Woodlot	Naturally Rolling	Brown sandy loam	0-12	Orange course sand	Test Pit	No archaeological resources encountered	75% Test Pit Survey; 20% low lying and wet & 5% steeply sloped (not surveyed)
Map 22, Image 145	140500	Calvin	28	9	08-Oct-13	23-Oct-13	Sunny & Warm		Tributary of Mattawa River- Pimisi Bay	Woodlot	Naturally Rolling	Brown sandy loam	0-13	Orange sand	Test Pit	No archaeological resources encountered	100% Test Pit Survey
Map 22/23, Images 102-107	Crown	Calvin	29	9	08-Oct-13	23-Oct-13	Sunny & Warm		Tributary of Mattawa River- Pimisi Bay	Woodlot, Exposed Bedrock on slope leading to lake	Naturally Rolling	Brown sandy loam	0-15	Orange sand	Test Pit	No archaeological resources encountered	70% Test Pit Survey; 25% steeply sloped & 5% low lying and wet (not surveyed)



Table 4: Summary of Parcels Surveyed																	
Map Sheet # and Photo #	Assessment # (Reference to last 6 digits)	Township	Lot	Concession	Corridor Survey Date	Stage 2 Survey Date	Weather	Historic Feature	Water Source	Ground Conditions/Vegetation	Topography	Topsoil Colour and Texture	Topsoil Depth (cm)	Subsoil Colour and Texture	Survey Method	Results	Condition Comments
Map 23, Images 108-110	Crown	Calvin	30	9	08-Oct-13	10-Oct-13	Sunny & Warm		Tributary of Mattawa River- Pimisi Bay	Woodlot, low lying shrubs, Exposed Bedrock on slope leading to lake	Naturally Rolling	Brown sandy loam	0-15	Orange sand, above shield bedrock	Test Pit	Archaeological Resource Encountered- <b>Location 1</b>	80% Test Pit Survey; 15% sloped & 5% wet (not surveyed), see Supplementary Documentation for site location information
Map 24, Images 119-123	141701	Calvin	34	9	26-Sep-13	03-Oct-13	Sunny & Warm		Unnamed Tributary of Mattawa River	Woodlot, manicured lawn	Flat, Gentle slope to watercourse	Brown sandy loam	0-18	Orange sand	Test Pit	No archaeological resources encountered	90% Test Pit Survey; 10% developed/disturbed (not surveyed)
Map 25, Image 127	144101	Calvin	35	9	26-Sep-13	08-Oct-13	Sunny & Cool	Historic Mattawa Road, Grand Trunk Railway		Woodlot	Flat, high ridges toward Highway 17	Brown sandy loam	0-20	Orange sand	Test Pit	No archaeological resources encountered	20% Test Pit Survey; 80% steeply sloped (not surveyed)
Map 25/26, Images 128-135	144220	Calvin	36	10	26-Sep-13	08-Oct-13	Sunny & Cool	Grand Trunk Railway	Marshland	Woodlot, manicured lawn	Naturally Rolling, high ridges	Brown sandy loam	0-20	Orange sand	Test Pit	No archaeological resources encountered	65% Test Pit Survey; 20% steeply sloped, 10% low lying and wet, 5% developed/disturbed (not surveyed)
Map 27, Images 136-138	202800	Bonfield	33	7	26-Sep-13	08-Oct-13	Sunny & Cool	Rutherglen Line	Branch of Sharpes Creek	Hay Field	Naturally Rolling	Brown sandy loam	0-10	Orange sand	Test Pit	No archaeological resources encountered	80% Test Pit Survey; 20% low lying and wet (not surveyed)
Map 29, Image 139-140	204150	Bonfield	30	8		08-Oct-13	Sunny & Cool	McNutt Road	Sharpes Creek	Woodlot	Flat	Brown sandy loam	0-15	Orange sand	Test Pit	No archaeological resources encountered	100% Test Pit Survey
Map 33, Images 141-143	126200-Partial Assessment	Bonfield	20	10	26-Sep-13	22-Oct-13	Partly Cloudy & Cool	Trout Pond Road		Woodlot	Naturally Rolling	Brown sandy loam	0-12	Orange sand	Test Pit	No archaeological resources encountered	100% Test Pit Survey- The hay fields still require ploughing and pedestrian survey



## 2.2 Record of Finds

Two archaeological finds (designated Location 1 and Location 2) were identified in wooded areas within lands falling in the Municipality of Calvin (former Calvin Township).

### *Location 1 (no Borden number yet assigned)*

Two small quartzite flakes were recovered in a single positive test pit (designated Test Pit 1) (Image 147). One additional quartzite flake was identified in a second test pit (designated Test Pit 2) during the intensified test pit survey at 2.5 m intervals (Image 147). The soils in the test pits consisted of brown sandy loam above orange sandy subsoil (0-10cm). No subsurface features were encountered.

**Table 5: Location 1 Stage 2 Artifact Catalogue**

Cat	n	Test Pit#	Layer	Raw Material	Debitage Category	Heat Alteration	Comments
1	2	1	Topsoil	Quartzite	Flake	No	may be natural
2	1	2	Topsoil	Quartzite	Flake	No	may be natural

### *Location 2 (no Borden number yet assigned)*

This location consists of three positive test pits within a 10 by 5 m area. Test Pit 1 and 3 contained historic material dating to the 19<sup>th</sup> century. When classed by function, one of the times was architectural (hand wrought nail) and one was a food & beverage-related item (wine bottle shard) (Table 6). The latter derived from Test Pit 1 and is a shard of olive green bottle glass (Image 148). The nail derived from Test Pit 3 (Image 148). Test Pit 2 contained a bipolar quartzite core (Image 148) (Table 7). A fourth test pit in the same general area generated a piece of Styrofoam which was not retained but indicates some modern use of the area. The soils consisted of brown sandy loam above orange sandy subsoil (0-15cm). There were no subsurface cultural features encountered.

**Table 6: Location 2 Stage 2 Historic Artifact Catalogue**

Cat. #	Test Pit #	Layer	No	Material	Class	Group	Object	Décor Colour	Datable Attribute	Comment
1	1	Topsoil	1	Glass	Food & Bev.	Glass Storage Container	Bottle	Olive Green	Olive-emerald green, common 19th century	possible wine bottle
3	3	Topsoil	1	Iron	Architectural	Nails	Hand Wrought Nail		Wrought, Prior to 1830	



**Table 7: Location 2 Stage 2 Native Artifact Catalogue**

Cat	n	Test Pit #	Layer	Raw Material	Artifact Category	Heat Alteration	Comments
2	1	2	Topsoil	Quartzite	Bipolar Core	No	Distal end missing

Table 8 provides an inventory of documentary records accumulated during this project.

**Table 8: Documentary Record**

- Field notes and field maps for September 24, 25, 26, 30, 2013 and October 1, 2, 3, 7, 8, 9, 10, 11, 15, 16, 17, 18, 22, 23, 2013
- Photo catalogue-images Sept. 26 (0421-0435), Sept 25 (0436-0487), Sept 26 (0488-562), Sept. 30 (P106298-P106306), Oct. 1 (P106307-O106313), Oct. 2 (P106314-P106328), Oct. 3 (P106323-P106361), Oct. 8 (P106365-P06395 and P1010054-P1010086), Oct. 9 (P106396-P106413 and P1010087-P1010117), Oct. 10 (P106414-P106425), Oct. 11 (P106426-P106432), Oct. 15 (P106433-P106436), Oct. 16 (P106437-P106483), Oct. 17 (P106485-P106497), Oct. 18 (P106498-P106505), Oct. 22 (P106506-P106509), Oct. 23 (P106510-P106518)
- Artifact bags contain individually bagged artifacts sorted by location with paper labels, all within a larger project bag with project label: Bag 1: Hwy 17 Route Planning Bonfield Easterly 2013-070, St. 2, Location 1, Calvin Lot 30 Con. 9, All Artifacts. Bag 2: Hwy 17 Route Planning Bonfield Easterly 2013-070, St. 2, Location2, Calvin Lot 15 Con. 8, All Artifacts
- Bags are located within a “Various Small Projects completed in 2013” banker’s box.
- Artifacts housed at the office of Timmins Martelle Heritage Consultants Inc., @ the Museum of Ontario Archaeology, 1600 Attawandaron Road, London, ON N6G 3M6

### 2.3 Analysis and Conclusions

A Stage 2 test pit survey was carried out for areas of archaeological potential within lands where permission-to-enter was acquired for the Highway 17 Planning Study. This identified more-or-less pristine and previously disturbed areas. All work was done in accordance with the Province of Ontario’s 2011 *Standards and Guidelines for Consultant Archaeologists*. Two archaeological locations were identified within the recommended highway planning alternative (Highway 17 Proposed Corridor), both of which occur within lands associated with the Calvin Township, Nipissing District, Ontario.

#### *Location 1 (no Borden number assigned)*

One pre-contact Aboriginal quartzite flake was recovered from a positive test pit within the Highway 17 proposed route. In addition, two possible quartzite artifacts were identified in another test pit during the intensified test pit survey at 2.5 m intervals.



Therefore, the pre-contact scatter is roughly 2.5 metres in size. Based on provincial standards the site qualifies for further investigation (see Supplementary Documentation). A more detailed assignment of cultural and temporal affiliation for this site cannot yet be made. Because insufficient information is available for this site, it cannot be registered in the provincial database at this time and a Borden number has not yet been assigned.

#### *Location 2 (no Borden number assigned)*

One native artifact (quartzite core) and two 19<sup>th</sup> century artifacts were discovered at Location 2, which is roughly 10m x 5m in size. Due to the limited information available for the site, its cultural heritage value or interest cannot yet be established. Nonetheless, the site qualifies for further investigation based on provincial standards. The site may extend into a property for which permission-to-enter (PTE) could not be obtained (see Supplementary Documentation). Once PTE is acquired for adjacent lands the Stage 2 test pit survey should be completed for lands adjacent to the site prior to any Stage 3 investigation being undertaken. This will allow for the collection of as much information on the site as possible prior to developing a Stage 3 fieldwork strategy. As limited information is currently available for the site, it cannot yet be registered in the provincial database and therefore a Borden number has not yet been assigned.

### **3.0 RECOMMENDATIONS**

All work was carried out in accordance with the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011). Stage 2 assessment has been completed for only a portion of recommended plan, as defined at the time of report submission. This report addresses land-based archaeological potential only. Should potential for marine features be identified (e.g., associated with mill sites or portage routes), a marine-based archaeological assessment should be undertaken.

In light of the results of the Stage 2 fieldwork the following recommendations are made:

#### **Recommendations for Surveyed Areas with No Archaeological Finds:**

- 1) The surveyed areas where no archaeological resources were encountered during the Stage 2 archaeological assessment, as indicated on Maps 9-33, should be considered free of archaeological concern and no further archaeological assessment work is recommended. This includes the surveyed areas within:
  - *Bonfield Township*: Lot 33, Concession 7; Lot 33, Concession 8; Lot 20, Concession 10
  - *Municipality of Calvin (Calvin Township)*: Lot 1, Concession 6; Lots 13, 14, 16, Concession 8; Lots 19, 21-29, 34-36, Concession 9
  - *Papineau-Cameron Township*: Lots 35, Concession 14



- 2) In keeping with provincial standards, all construction activities (including ground disturbance, machine travel and soil stockpiling) must be restricted to lands that have been subject to archaeological assessment and deemed free of archaeological concern.

### **Recommendations for Surveyed Areas with Archaeological Finds:**

- 3) Two properties within the Municipality of Calvin contain single archaeological locations that may be impacted by the recommended plan for Highway 17 and require further archaeological assessment. Since there are concerns for impacts to archaeological sites in the project area, construction must not proceed prior to further archaeological assessment within:
  - *Municipality of Calvin (Calvin Township):* Lot 15, Concession 8 and Lot 30, Concession 9 (Map 34 and 35 [Supplementary Documentation])

### **Recommendations for Archaeological Find Spots:**

Two new artifact finds (Location 1 and Location 2) were made during the Stage 2 assessment:

- 4) *Location 1 in Lot 30, Con. 9, Calvin Township*

This site consists of positive test pits containing three quartzite flakes. This site has unestablished cultural heritage value or interest based on Provincial criteria but meets requirements for Stage 3 assessment (see Supplementary Documentation). The Stage 3 testing should follow the methodology defined for “intact sites found in undisturbed contexts” (MTC 2011:53), namely the excavation of one-metre units across the site on a five metre grid. In addition, site boundaries will only be considered to be defined once three adjacent test units along each grid line yield five or fewer artifacts.

- 5) *Location 2 in Lot 15, Con. 8, Calvin Township*

This site consists of positive test pits containing two 19<sup>th</sup> century artifacts and one pre-contact native quartzite core. This site has unestablished cultural heritage value or interest based on Provincial criteria but meets requirements for Stage 3 assessment (see Supplementary Documentation). The Stage 3 testing should follow the methodology defined for “intact sites found in undisturbed contexts” (MTC 2011:53), namely the excavation of one-metre units across the site on a five metre grid. In addition, site boundaries will only be considered to be defined once three adjacent test units along each grid line yield five or fewer artifacts.

Since this site falls on a property boundary and adjacent lands were not yet subject to survey, Stage 2 test pitting of the lands near the site should proceed prior to any Stage



3 testing being undertaken. This will allow for the collection of better information about the site to inform the Stage 3 fieldwork strategy.

### **Recommendations for Remaining Parcels Requiring Stage 2 Survey:**

- 6) Detailed field inspection and/or Stage 2 field survey is recommended for the remaining areas of the recommended plan where permission-to-enter was not obtained and where these areas fall within requisite distances to features signalling archaeological potential. The areas still requiring inspection and/or Stage 2 survey are shaded in orange on Maps 9-33. These areas are lands within:
- *Bonfield Township*: Lot 32-33, Concession 7; Lots 28-33, 35, Concession 8; Lot 23, 24, 26-29, Concession 9; Lots 20, 21, 23, Concession 10
  - *Municipality of Calvin (Calvin Township)*: Lot 2, Concession 6; Lots 2, 6, 7, 9, 10, Concession 7; Lots 16-17, Concession 8; Lots 16-20, 27, 31-33, Concession 9; Lots 33, 35, Concession 10
  - *Papineau-Cameron Township*: Lots 33-35, Concession 14

All lands deemed to have low archaeological potential following the field inspection can be eliminated from Stage 2 survey, whereas lands confirmed to have archaeological potential should be subject to Stage 2 survey.

All lands that consist of formerly cleared agricultural field or pasture will require ploughing and pedestrian survey (5 or 10 m interval) when their width is 10 metres or greater. Survey must be undertaken after the ground has significantly weathered under rain and when surface visibility is 80% or greater. For unploughable treed and grassed areas, this should consist of a standard test pit survey at a five or ten metre interval; survey distances should follow those defined in Section 2.1.5 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011), namely 150 metres or less from features of archaeological potential. Field and reporting methodologies must follow the 2011 *Standards and Guidelines for Consultant Archaeologists*.

- 7) If the limits of the study area change to incorporate new lands not addressed in this study, further background study will be required prior to the initiation of the Stage 2 survey.

**The above recommendations are subject to the conditions set out in Section 7.0 and Ministry of Tourism, Culture and Sport approval; it is an offence to alter any of the project area without Ministry of Tourism, Culture, and Sport acceptance of this report.**



---

## 4.0 SUMMARY

A Stage 1 archaeological assessment was previously undertaken for a study area associated with a 23.5 km section of Highway 17 from 2.2 km east of Highway 531 easterly to the Boundary Road between the Townships of Calvin and Papineau-Cameron, falling within the Township of Bonfield and Municipality of Calvin in the District of Nipissing. The work involved a map-based review and background study as well as preliminary field inspection. A review of soils, physiography, and drainage, registered and known archaeological sites, previous archaeological assessments, past native and Euro-Canadian land use and existing conditions established that close to 40% of the study area had archaeological potential, based on provincial criteria for Northern Ontario and the Canadian Shield. As the preliminary roadside property inspection was limited in nature due to the extensive size of the study area, further field review was recommended once the preferred route was selected.

In July 2013 the recommended highway planning alternative was selected and a more detailed map-based evaluation of archaeological potential within the study area was undertaken, in consultation with the Ministry of Tourism, Culture and Sport. Prior to the commencement of the Stage 2 assessment, a more detailed field inspection and in-the-field mapping of assessment area boundaries and the proposed centreline was undertaken for those lands for which permission-to-enter (PTE) was provided. A total of 39.8 ha were subject to a test pit survey at 10 m interval and 24.7 ha subject to test pit survey at a 5 metre interval. These were treed and lawn areas that could not be ploughed; no agricultural parcels were ploughed to permit survey. The remaining accessible lands were deemed to be of low archaeological potential following a more detailed field review; these were photo-documented and then excluded from survey. The latter include 15.7 ha established as low-lying and wet, 7.5 ha found to be steeply sloped, 0.9 ha of exposed bedrock, and 11.4 ha that were previously disturbed or developed. Two artifact bearing locations were identified during test pit survey, both of which qualify for Stage 3 testing. Overall, 100 ha of the lands (47%) within the recommended plan with mapped potential were subject to Stage 2 assessment. With the exception of parcels containing archaeological finds, all of the surveyed lands are considered free of archaeological concern and no further work is recommended. An estimated 112.54 ha of corridor with mapped potential (53%) still require Stage 2 survey, including lands that were not yet ploughed, lands that were deemed contaminated, or areas for which permission-to-enter was not yet granted. Should construction plans change to incorporate new lands not subject to assessment in this or previous studies, further Stage 2 assessment will be required.

## 5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Ministry of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the



cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

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

Should previously undocumented (i.e., unknown or deeply buried) archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*.

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

## 6.0 BIBLIOGRAPHY

### AECOM

- 2012 *Ontario Ministry of Transportation, Highway 17 Route Planning Study From 2.2 km east of Highway 531 easterly to 8.0 km east, of Highway 630, GWP5670-10-00, Summary of Existing Environmental Conditions and Constraints Report: <http://www.hwy17corridorstudy.ca/downloads/Draft%20Ex%20Conditions%20Aug2012.pdf>. DRAFT.*
- 2012 *Highway 17 Environmental Assessment Natural Environment Constraints Map. Dated March 23, 2012.*

### Archaeological Research Associates Ltd. (ARA)

- 2012 *Built Heritage and Cultural Heritage Factors Highway 17 Bonfield Easterly Route Planning Study GWP 5670-10-00 Township of Bonfield, Municipality of Calvin and Township of Papineau-Cameron, Nipissing District, Ontario. DRAFT, May 29, 2012.*



---

Archaeological Services Inc. (ASI)

- 2011 *Master Plan of Archaeological Resources, City of Sault Ste. Marie:*  
<http://www.cityssm.on.ca/contentadmin/UserFiles/File/CityDepartments/Engineering/Planning/ArchaeologicalReport/09SP-81%20Sault%20Ste.%20Marie%20AMP%20summary.pdf>
- 2012 *An Overview of the Prehistory and Early History of the Southern Canadian Shield Region.* La Vase Archaeology Project: <http://www.city.north-bay.on.ca/living/history/lavase/asi-ch03.htm> (by Martin Cooper).

Barnes, Michael

- 1982 *Gateway City: The North Bay Story.* North Bay: North Bay and District Chamber of Commerce.

Bing Maps

- 2011 Aerial Photographs for the Province of Ontario.

Bullock, Peter with Anna Paas, Joanne Labelle

- 1979 *East Nipissing Heritage Inventory.* Submitted to the North Bay-Mattawa Conservation Authority. On File at the North Bay Library.

Byrne, Thomas, P.L.S.

- 1881 *Plan of the Township of Bonfield.* Dated October 15, 1881. Original survey map on file with the Ministry of Natural Resources, Peterborough.

Champlain, Samuel de

- 1597-1635 *The Works of Samuel de Champlain,* Vol. IV, VI. Toronto: Champlain Society 1922-1936.

Chapman, Charles, P.L.S.

- 1878 *Papineau, Nipissing District.* Dated December 11, 1878. Original survey map on file with the Ministry of Natural Resources, Peterborough.

Chapman L.J. and D.F. Putnam

- 1984 *The Physiography of Southern Ontario.* Third Edition. Ontario: Ministry of Natural Resources, Ontario.

Clayton, Tim with Gillian Eckler, Sarah Eckler, Tara Hanke, and Richard Leblanc

- 1995 *Discovery Routes Partnerships: Mattawa Valley Corridor.* Submitted to the Ministry of Culture, Tourism and Recreation. On File at the North Bay Library.

Conway, Thor

- 1981 *Archaeology in Northeastern Ontario: Searching for Our Past.* Ontario Ministry of Culture and Recreation, Historical Planning and Research Branch.



---

Dawson, K.C.A.

1983 *Prehistory of Northern Ontario*. Thunder Bay: Thunder Bay Historical Museum Society.

Dibb, Gordon C. and Paul Sweetman

1995 *A Stage 1-2 Archaeological Investigation of Garden Island (S-32), Springer Township, Nipissing District, Ontario (48T-93002)*. Report on file with the Ministry of Tourism, Culture and Sport, Toronto.

geographynetwork.ca

2011 1:10,000 Base Mapping for the Province of Ontario

Engelbert, Peter

1979 *Archaeological Survey of the Amable du Fond River, 1979*. On file at the Archives of Ontario

Goldthwait, J.W.

1910 *An Instrumental Survey of the Shorelines of the Extinct Lakes Algonquin and Nipissing in Southwestern Ontario*. Geological Survey of Canada, Ottawa, Memoir 10.

Hamilton, Scott

1981 *The Archaeology of the Wenasaga Rapids*. Archaeology Research Report 17. Ministry of Culture and Recreation Archaeology and Heritage Planning Branch, Ontario.

Harting, Toni

1996 *French River: Canoeing the River of the Stick-Wavers*. Erin: The Boston Mills Press.

Jaenen, Cornelius J.

1996 *The French Regime in the Upper Country of Canada During the Seventeenth Century*. Cornelius J. Jaenen, editor. Toronto: The Champlain Society.

Karrow, Paul F.

2004 Algonquin-Nipissing Shorelines, North Bay, Ontario. *Géographie physique et Quaternaire* 58(2-3):297-304.

Mackey, Doug

2007 *The Kiosk Story: The Saga of Life, Logging, and Lumbering In and Around Northwest Algonquin Park*. Toronto: Past Forward Heritage Limited.

Mattawa/North Bay Algonquin First Nation

<http://www.mattawanorthbay.algonquinfirstnation.com>



---

Ministry of Natural Resources (MNR)

2007 J.D. Barnes First Base Solutions. Topographic Map.

Ministry of Tourism and Culture (MTC; now Ministry of Tourism, Culture and Sport)

2011 *Standards and Guidelines for Consultant Archaeologists*. Toronto.

Ministry of Transportation (MTO)

2009 *Environmental Reference for Highway Design*.

Morel, Claude (editor)

1980 *Mattawa: "The Meeting of the Waters"*. Claude Morel, editor. Leo Morel and the Mattawa Historical Society, Mattawa, Ontario.

Natural Resources Canada (NRC)

2012 *Kiosk, Ontario*. 1:50,000 Scale Topographic Map, Tile 31 L/02. Electronic edition.

2012 *Powassan, Ontario*. 1:50,000 Scale Topographic Map, Tile 31 L/06. Electronic edition.

2012 *North Bay, Ontario*. 1:50,000 Scale Topographic Map, Tile 31 L/06. Electronic edition.

2012 *Mattawa, Ontario*. 1:50,000 Scale Topographic Map, Tile 31 L/07. Electronic edition.

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)

2006 GIS Layers for Soils and Physiography in the Province of Ontario.

Pollock, John

2012 *Introduction to the Prehistory of the North Bay Area*. La Vase Archaeology Project. <http://www.city.north-bay.on.ca/living/history/lavase/97-FRS1.HTM>

Ridley, Frank

1954 The Frank Bay Site, Lake Nipissing, Ontario. *American Antiquity* 20(1):40-50.

Slattery, David

2003 *Stage 1 and 2 Archaeological and Heritage Impact Assessment, Samuel de Champlain Provincial Park, Calvin Township, Ontario*. Report on file with the Ministry of Tourism, Culture and Sport, Toronto.

2005 *Stage Two and Three Archaeological and Heritage Impact Assessment, Samuel de Champlain Provincial Park, Calvin Township, Ontario*. Report on file with the Ministry of Tourism, Culture and Sport, Toronto.

Steer, Wilson

1953 *Along the Moccasin Line*. Canadian Cataloguing in Publication Data. Reprint Edition 1998.



---

Stewart, E., P.L.S.

1885 *Plan of the Township of Orlig, District of Nipissing*. Dated December 8, 1885.  
Original survey on file with the Ministry of Natural Resources, Peterborough.

Storck, Peter L.

2004 *Journey to the Ice Age: Discovering an Ancient World*. Toronto: UBC Press (in  
association with the Royal Ontario Museum).

Tallon, Laurence, P.L.S.

1881a *Report and Field Notes of Calvin, Nipissing District*. Written to the  
Commissioner of Crown Lands.

1881b *Plan of the Township of Calvin, Nipissing District*. Dated December 10<sup>th</sup>, 1885.  
Original survey on file with the Ministry of Natural Resources, Peterborough.

Taylor, F.B.

1896 Notes on the Quaternary Geology of the Mattawa and Ottawa Valleys. *The  
American Geologist* 18:108.

Timmins Martelle Heritage Consultants Inc. (TMHC)

2013 *Stage 1 Archaeological Assessment, Highway 17 Route Planning Study, From  
Bonfield Easterly to Boundary Road Between the Townships of Calvin and  
Papineau-Cameron, Township of Bonfield, and the Municipality of Calvin,  
Nipissing District, Ontario*. Report on file with the Ministry of Tourism, Culture  
and Sport, Toronto.



## 7.0 IMAGES



**Image 1:** Papineau, Lot 35, Con.14- View of Creek (facing north)



**Image 2:** Papineau, Lot 35, Con.14- Test Pit Profile



**Image 3:** Papineau, Lot 35, Con.14- View of Survey Area (facing northeast)



**Image 4:** Papineau, Lot 35, Con.14- Boundary Road (facing north)



**Image 5:** Papineau, Lot 35, Con.14- Trans-Union Corridor (facing east)



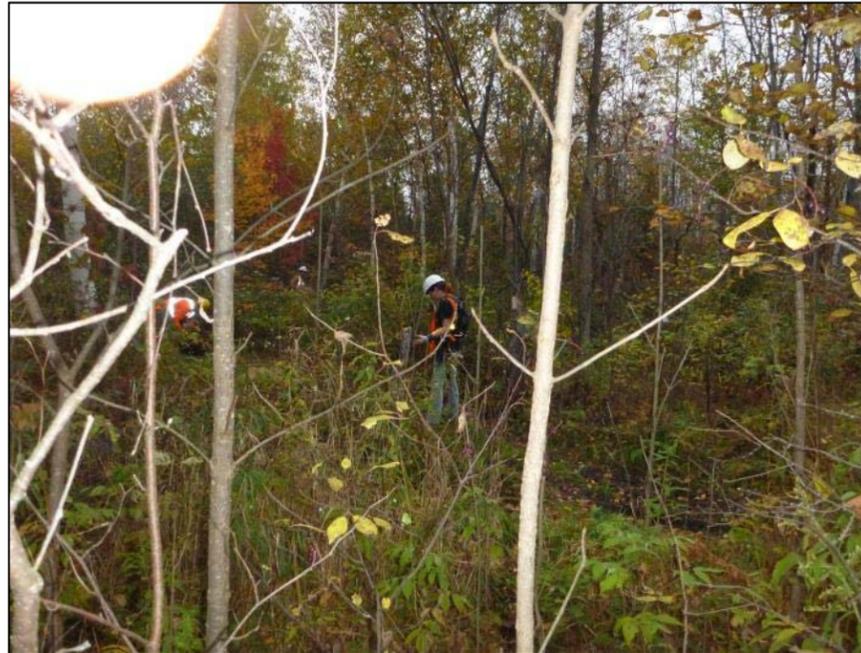
**Image 6:** Papineau, Lot 35, Con.14- Boundary Road (facing south)



**Image 7:** Calvin, Lot 1, Con.6- Surveyed Centreline (facing west)



**Image 8:** Calvin Lot 1, Con.6- Test Pit Survey (facing east)



**Image 9:** Calvin, Lot 1, Con.6- Test Pit Profile



**Image 10:** Papineau, Lot 35, Con.14- Test Pit Survey (facing north)



**Image 11:** Calvin, Lot 1, Con.6- Exposed Bedrock (facing northwest)



**Image 12:** Calvin Lot 3, Con.7- Test Pit Survey (facing west)



**Image 13:** Calvin, Lot 3, Con.7- View of High Bedrock (facing northwest)



**Image 14:** Calvin, Lot 3, Con.7- View of Wetland (facing west)



**Image 15:** Calvin, Lot 4, Con.7- Test Pit Profile



**Image 16:** Calvin, Lot 4, Con.7- Test Pit Survey (facing north)



**Image 17:** Calvin, Lot 4, Con.7- Surveyed Centreline (facing east)



**Image 18:** Calvin, Lot 4, Con.7- View of Survey Area (facing west)



**Image 19:** Calvin, Lot 4, Con.7- Test Pit Survey (facing west)



**Image 20:** Calvin, Lot 5, Con.7- View of Wetland (facing west)



**Image 21:** Calvin, Lot 5, Con.7- View of Wetland (facing north)



**Image 22:** Calvin, Lot 5, Con.7- Test Pit Profile



**Image 23:** Calvin, Lot 5, Con.7- Steep Slope of Hwy. 17 ROW (facing east)



**Image 24:** Calvin, Lot 5, Con.7- Manicured Lawn in Survey Area (facing east)



**Image 25:** Calvin, Lot 1, Con.6- Test Pit Profile



**Image 26:** Calvin, Lot 5, Con.7- Surveyed Centreline (facing west)



**Image 27:** Calvin, Lot 5, Con.7- View of Wetland (facing west)



**Image 28:** Calvin, Lot 5, Con.7- Edge of Wetland along Centreline of Survey Area (facing east)



**Image 29:** Calvin, Lot 5, Con.7- Surveyed Centreline (facing east)



**Image 30:** Calvin, Lot 5, Con.7- Disturbed Hwy. 17 ROW (facing east)



**Image 31:** Calvin, Lot 5, Con.7- Test Pit Survey (facing southeast)



**Image 32:** Calvin, Lot 5, Con.7- Test Pit Profile



**Image 33:** Calvin, Lot 7, Con.7- Disturbed Lane (facing southeast)



**Image 34:** Calvin, Lot 7, Con.7- Possible Ridge of Historic River Road  
(facing north)



**Image 35:** Calvin, Lot 7, Con.7- Surveyed Centreline (facing west)



**Image 36:** Calvin, Lot 7, Con.7- Disturbed Lane (facing northwest)



**Image 37:** Calvin, Lot 7, Con.7- Pautois Creek (facing west)



**Image 38:** Calvin, Lot 7, Con.7- Test Pit Survey (facing north)



**Image 39:** Calvin, Lot 7, Con.7- Floodplain of Pautois Creek, View Towards Steep Slope (facing west)



**Image 40:** Calvin, Lot 7, Con.7- Steep Slope (facing northwest)



**Image 41:** Calvin, Lot 7, Con.7- Test Pit Profile



**Image 42:** Calvin, Lot 7, Con.7- Surveyed Centreline (facing east)



**Image 43:** Calvin, Lot 10, Con. 7- Surveyed Centreline (facing east)



**Image 44:** Calvin, Lot 10, Con. 7- Test Pit Profile



**Image 45:** Calvin, Lot 10, Con. 7- Trans-Union Corridor (facing southeast)



**Image 46:** Calvin, Lot 10, Con. 7- View of Wetland (facing southwest)



**Image 47:** Calvin, Lot 11, Con. 7- View of Railway (facing southeast)



**Image 48:** Calvin, Lot 11, Con. 7- View of Wetland (facing west)



**Image 49:** Calvin, Lot 12, Con. 7- Surveyed Centreline (facing west)



**Image 50:** Calvin, Lot 12, Con. 7- Possible Location of Historic Road (facing northeast)



**Image 51:** Calvin, Lot 12, Con. 7- Test Pit Profile



**Image 52:** Calvin, Lot 12, Con. 7- Test Pit Survey (facing southwest)



**Image 53:** Calvin, Lot 13, Con. 8- Test Pit Survey (facing south)



**Image 54:** Calvin, Lot 13, Con. 8- Test Pit Profile



**Image 55:** Calvin, Lot 13, Con. 8- View of Bedrock Slope (facing northwest)



**Image 56:** Calvin, Lot 14, Con. 8- Surveyed Centreline (facing west)



**Image 57:** Calvin, Lot 14, Con. 8- Test Pit Survey (facing southwest)



**Image 58:** Calvin, Lot 14, Con. 8- Test Pit Profile



**Image 59:** Calvin, Lot 14, Con. 8- View of Pond and Wetland (facing south)



**Image 60:** Calvin, Lot 15, Con. 8- View of Pond and Wetland (facing southeast)



**Image 61:** Calvin, Lot 15, Con. 8- Gradual Slope to Wetland (facing south)



**Image 62:** Calvin, Lot 15, Con. 8- Surveyed Centreline (facing west)



**Image 63:** Calvin, Lot 15, Con. 8- Amable du Fond- Old Logging Chute (facing west)



**Image 64:** Survey, Lot 15, Con. 8- Manicured Lawn (facing east)



**Image 65:** Survey, Lot 15, Con. 8- Test Pit Survey (facing northwest)



**Image 66:** Survey, Lot 15, Con. 8- Test Pit Survey (facing northwest)



**Image 67:** Calvin, Lot 15, Con. 8- Shoreline of Amable du Fond- Study Area  
(facing southeast)



**Image 68:** Calvin, Lot 15, Con.8- Test Pit Profile  
Supplementary Documentation



**Image 69:** Calvin, Lot 15, Con. 8- View of Location 2 (facing west)  
Supplementary Documentation



**Image 70:** Calvin, Lot 15, Con. 8- View of Location 2 (facing south)  
Supplementary Documentation



**Image 71:** Calvin, Lot 15, Con. 8- Test Pit Profile



**Image 72:** Calvin, Lot 15, Con. 8- Surveyed Centreline (facing west)



**Image 73:** Calvin, Lot 15, Con. 8- View of Pond- Amable du Fond (facing north)



**Image 74:** Calvin, Lot 17, Con. 9- Disturbed Highway 17 (facing west)



**Image 75:** Calvin, Lot 17, Con. 9- Disturbed Highway 630 (facing south)



**Image 76:** Calvin, Lot 19, Con. 9- Surveyed Centreline (facing east)



**Image 77:** Calvin, Lot 19, Con. 9- Test Pit Profile



**Image 78:** Calvin, Lot 19, Con. 9- View of House (facing north)



**Image 79:** Calvin, Lot 19, Con. 9- Disturbed Laneway (facing north)



**Image 80:** Calvin, Lot 20, Con. 9- Disturbed Hwy. 17 ROW (facing east)



**Image 81:** Calvin, Lot 20, Con. 9- Disturbed Hwy. 17 ROW (facing east)



**Image 82:** Calvin, Lot 20, Con. 9- Disturbed Hwy. 17 ROW (facing west)



**Image 83:** Calvin, Lot 21, Con. 9- Surveyed Centreline (facing east)



**Image 84:** Calvin, Lot 21, Con. 9- Test Pit Survey (facing southwest)



**Image 85:** Calvin, Lot 20, Con. 9- Test Pit Profile



**Image 86:** Calvin, Lot 23, Con. 9- Disturbed Hwy. 17 ROW (facing east)



**Image 87:** Calvin, Lot 23, Con. 9- Surveyed Centreline (facing west)



**Image 88:** Calvin, Lot 23, Con. 9- Test Pit Profile



**Image 89:** Calvin, Lot 23, Con. 9- Test Pit Survey (facing north)



**Image 90:** Calvin, Lot 23, Con. 9- Disturbed Hwy. 17 ROW (facing west)



**Image 91:** Calvin, Lot 24, Con. 9- Test Pit Survey (facing south)



**Image 92:** Calvin, Lot 24, Con. 9- High Rock Ridge (facing north)



**Image 93:** Calvin, Lot 25, Con. 9- View of Wetland (facing west)



**Image 94:** Calvin, Lot 25, Con. 9- Test Pit Survey (facing northeast)



**Image 95:** Calvin, Lot 25, Con. 9- Test Pit Profile



**Image 96:** Calvin, Lot 25, Con. 9- Test Pit Survey (facing northwest)



**Image 97:** Calvin, Lot 25, Con. 9- View of Wetland (facing west)



**Image 98:** Calvin, Lot 26, Con. 9- Test Pit Survey (facing north)



**Image 99:** Calvin, Lot 29, Con. 9- View of Pond (facing north)



**Image 100:** Calvin, Lot 26, Con. 9- Test Pit Profile



**Image 101:** Calvin, Lot 26, Con. 9- Surveyed Centreline (facing northeast)



**Image 102:** Calvin, Lot 29, Con. 9- Test Pit Survey (facing northeast)



**Image 103:** Calvin, Lot 29, Con. 9- Disturbed (facing north)



**Image 104:** Calvin, Lot 29, Con. 9- Test Pit Profile



**Image 105:** Calvin, Lot 29, Con. 9- Top of Steep Slope (facing northeast)



**Image 106:** Calvin, Lot 29, Con. 9- Overlooking Pimisi Lake (facing northeast)



**Image 107:** Calvin, Lot 29, Con. 9- Stream off of Pimisi Lake (facing west)



**Image 108:** Calvin, Lot 30, Con. 9- Test Pit Profile



**Image 109:** Calvin, Lot 30, Con. 9- Test Pit Survey (facing north)



**Image 110:** Calvin, Lot 30, Con.9- Test Pit Survey (facing northwest)



**Image 111:** Calvin, Lot 30, Con. 9- View of Location 1 (facing northeast)  
Supplementary Documentation



**Image 112:** Calvin, Lot 30, Con. 9- View of Location 1 (facing northeast)  
Supplementary Documentation



**Image 113:** Calvin, Lot 30, Con. 9- View of Location 1 (facing northwest)  
Supplementary Documentation



**Image 114:** Calvin, Lot 31, Con. 9- Disturbed Hwy. 17 ROW (facing east)



**Image 115:** Calvin, Lot 31, Con. 9- Disturbed Hwy. 17 ROW and Wetland (facing west)



**Image 116:** Calvin, Lot 33, Con 9- Disturbed Hwy. 17 ROW (facing east)



**Image 117:** Calvin, Lot 33, Con. 9- Disturbed Hwy. 17 ROW (facing west)



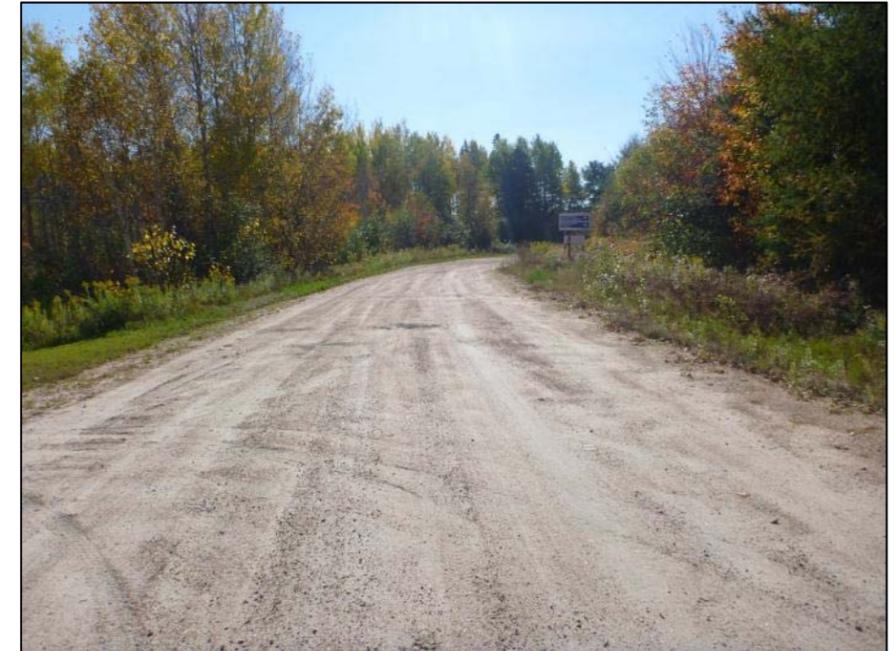
**Image 118:** Calvin, Lot 33, Con. 9- Wetland and Watercourse Adjacent to Hwy. 17 ROW (facing southwest)



**Image 119:** Calvin, Lot 34, Con. 9- Test Pit Survey (facing north)



**Image 120:** Calvin, Lot 34, Con. 9- Disturbed- Columbia Road (facing south)



**Image 121:** Calvin, Lot 33, Con. 9- Test Pit Profile



**Image 122:** Calvin, Lot 33, Con. 9- Developed and Manicured Lawn (facing southeast)



**Image 123:** Calvin, Lot 33, Con. 9- House and Manicured Lawn (facing southeast)



**Image 124:** Calvin, Lot 34, Con. 10- Disturbed Hwy. 17 ROW (facing east)



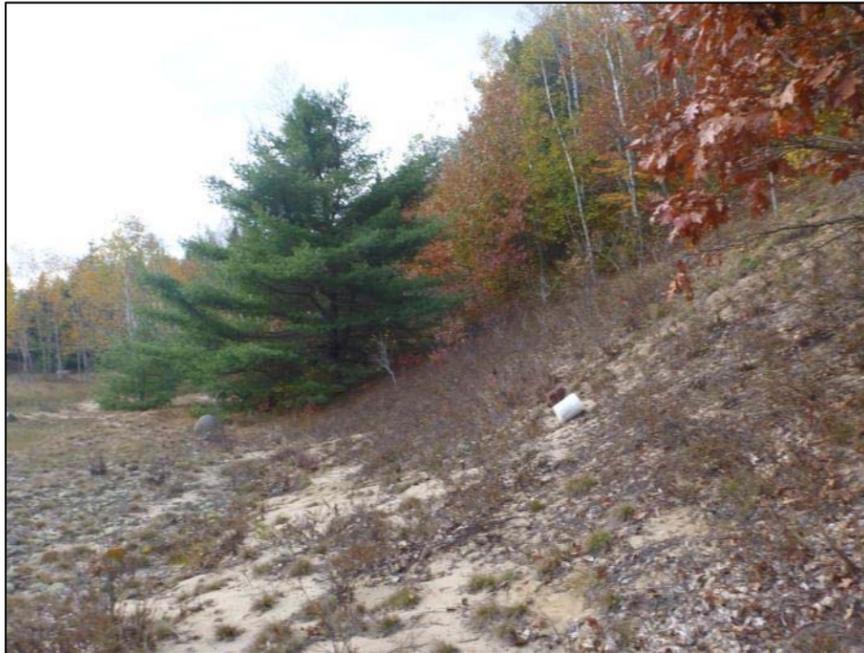
**Image 125:** Calvin, Lot 34, Con. 10- Disturbed Hwy. 17 ROW (facing west)



**Image 126:** Calvin, Lot 35, Con. 10- View of Open Area (facing southeast)



**Image 127:** Calvin, Lot 35, Con. 9- Edge of Steep Slope (facing west)



**Image 128:** Calvin, Lot 35, Con. 9- Test Pit Profile



**Image 129:** Calvin, Lot 36, Con. 10- Open Survey Area (facing southeast)



**Image 130:** Calvin, Lot 36, Concession 10- Disturbed Hwy. 17 and View of Survey Area (facing south)



**Image 131:** Calvin, Lot 36, Con. 10- Steep Slope/Ridge (facing north)



**Image 132:** Calvin, Lot 36, Con. 10- Stone Water Culvert under Rail Tracks (facing south)



**Image 133:** Calvin, Lot 36, Con. 10- Small Stream to Wetland (facing southwest)



**Image 134:** Calvin, Lot 36, Con. 10- Test Pit Survey (facing south)



**Image 135:** Calvin, Lot 36, Con. 10- Test Pit Survey (facing southwest)



**Image 136:** Calvin, Lot 33, Con. 7- Disturbed (Ditched) Rutherglen ROW  
(facing southeast)



**Image 137:** Calvin, Lot 33, Con. 7- Low and Wet – Small Stream (facing east)



**Image 138:** Calvin, Lot 33, Con. 7- Test Pit Survey (facing southeast)



**Image 139:** Bonfield, Lot 30, Con. 9- Test Pit Survey – McNutt Road  
(facing northwest)



**Image 140:** Bonfield, Lot 30, Con. 9- Test Pit Profile



**Image 141:** Bonfield, Lot 20, Con. 9- View of Survey Area (facing southeast)



**Image 142:** Bonfield, Lot 20, Con. 9- Test Pit Survey (facing northwest)



**Image 143:** Bonfield, Lot 20, Con. 9- Test Pit Profile



**Image 144:** Calvin, Lot 10, Con.7- View of Pond (facing north-northeast)



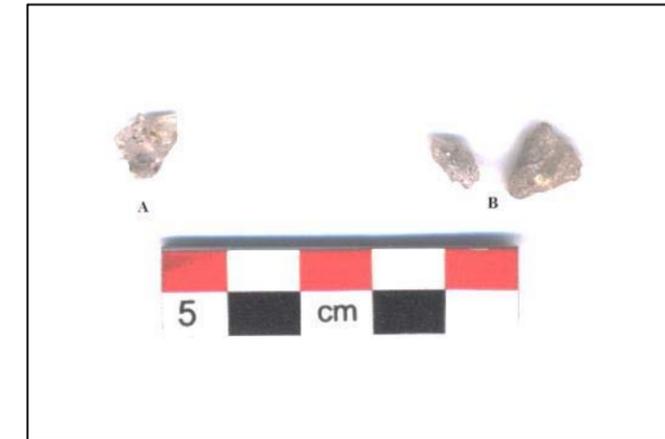
**Image 145:** Calvin, Lot 28, Con. 9- Surveyed Centreline (facing west)



**Image 146:** Calvin, Lot 13, Con. 8- Test Pit Survey (facing southwest)



**Image 147:** Location 1 Artifacts: A) possible quartzite flake, cat.1; B) possible quartzite flakes, cat.2.

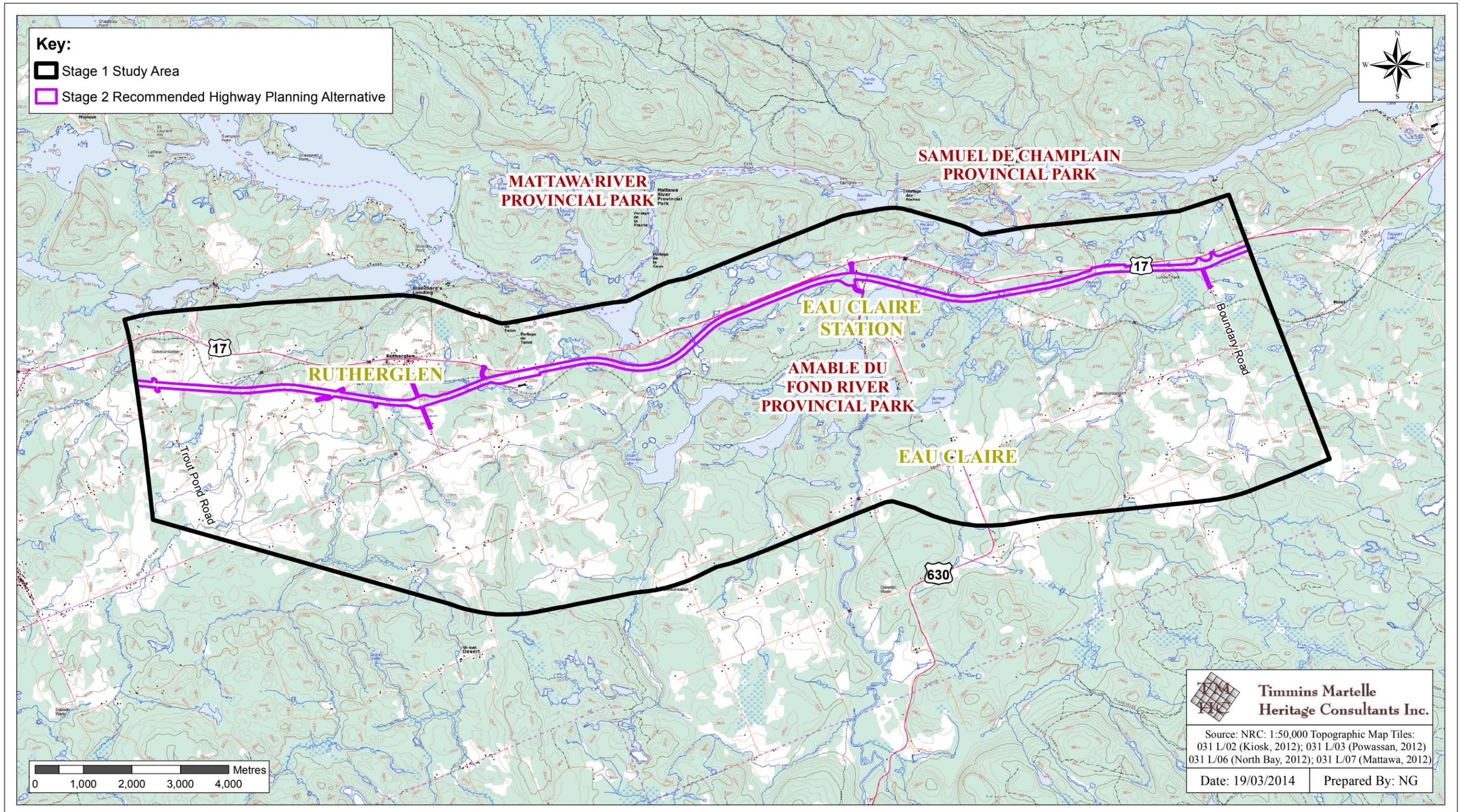


**Image 148:** Location 2 Artifacts: A) olive wine bottle glass, cat.1; B) bipolar quartzite core fragment, cat.2; C) cut nail with hand wrought head, cat.3.



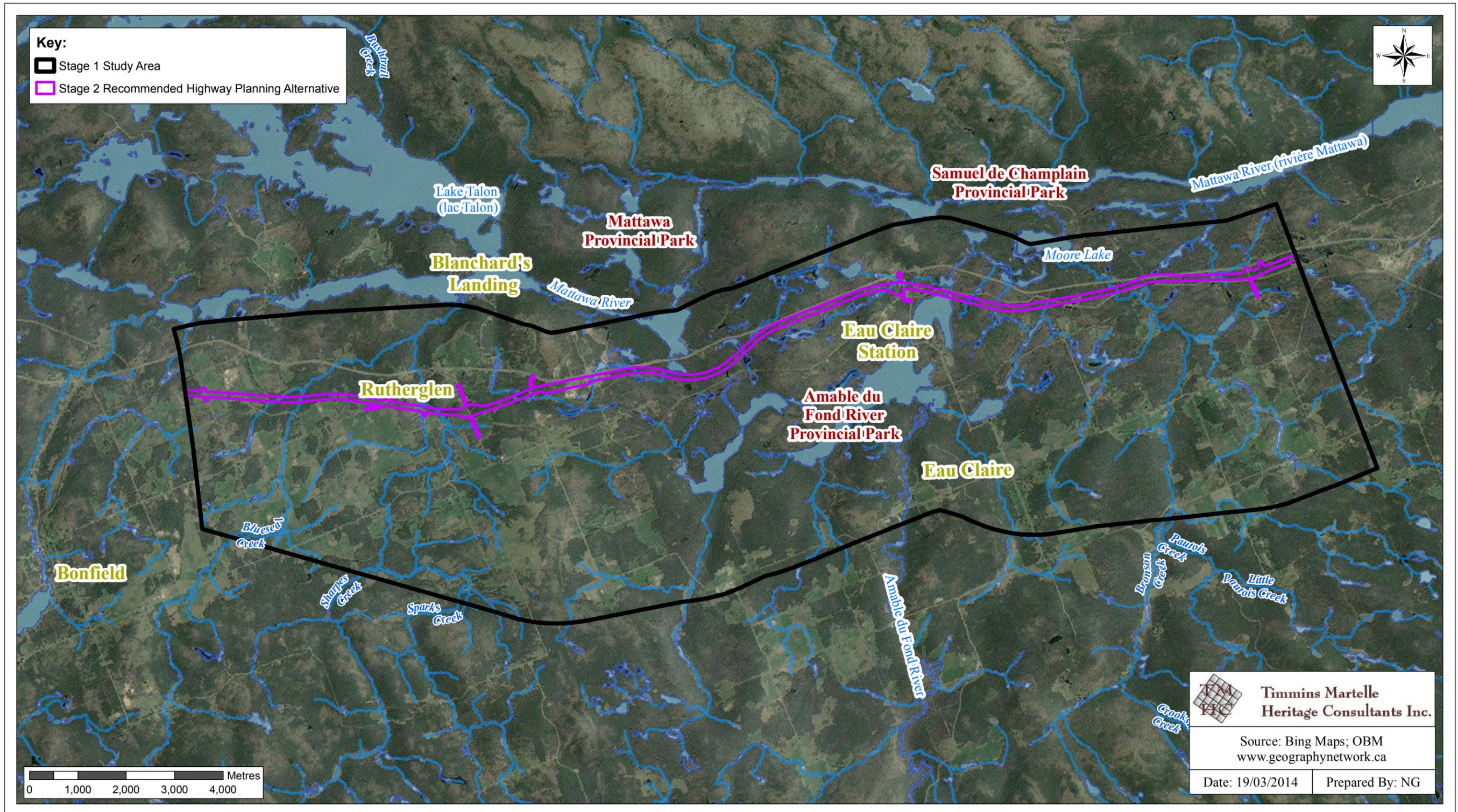
## 8.0 MAPS



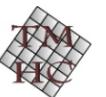


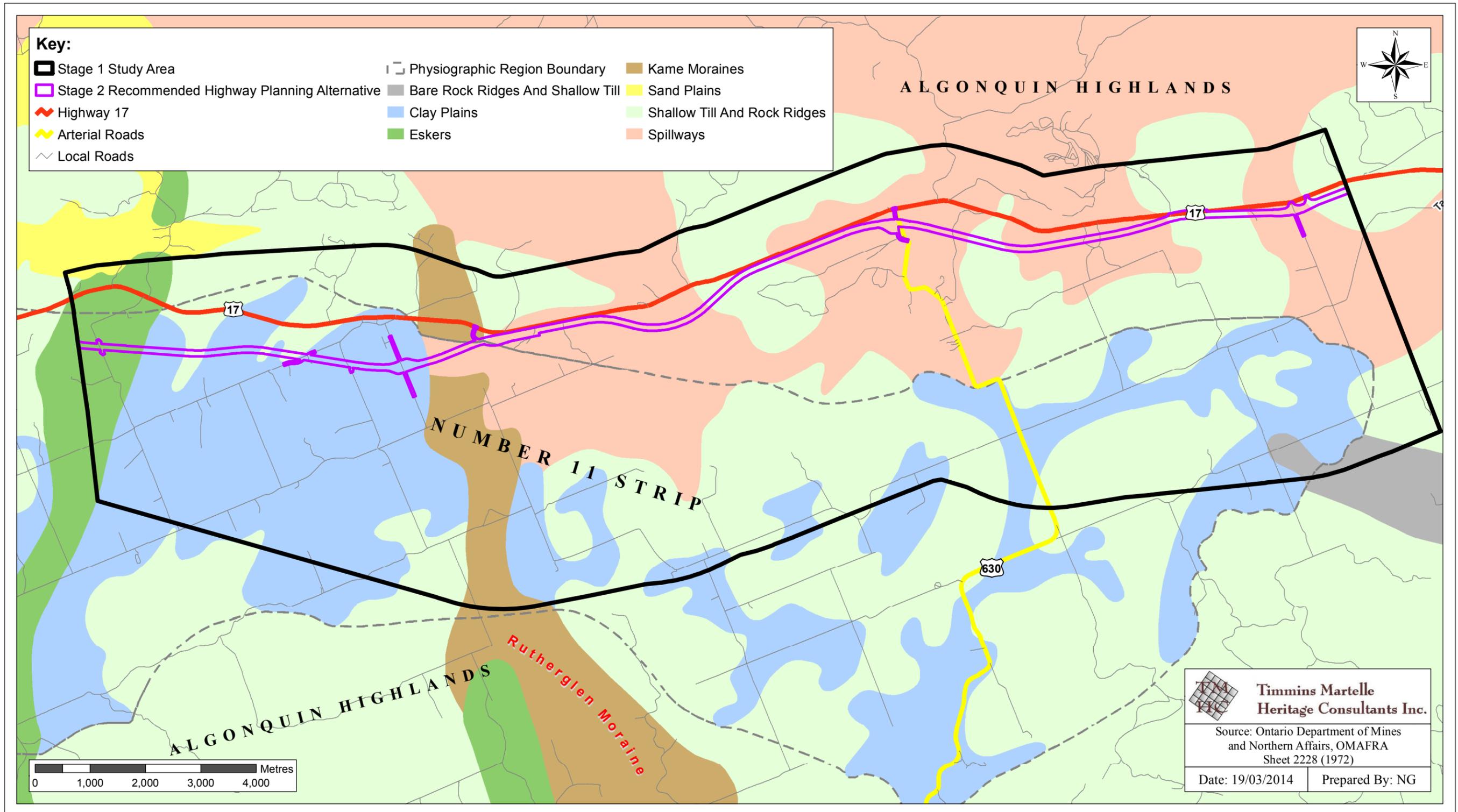
Map 1: Location of the Stage 2 Proposed Highway 17 Corridor in the Nipissing District, ON





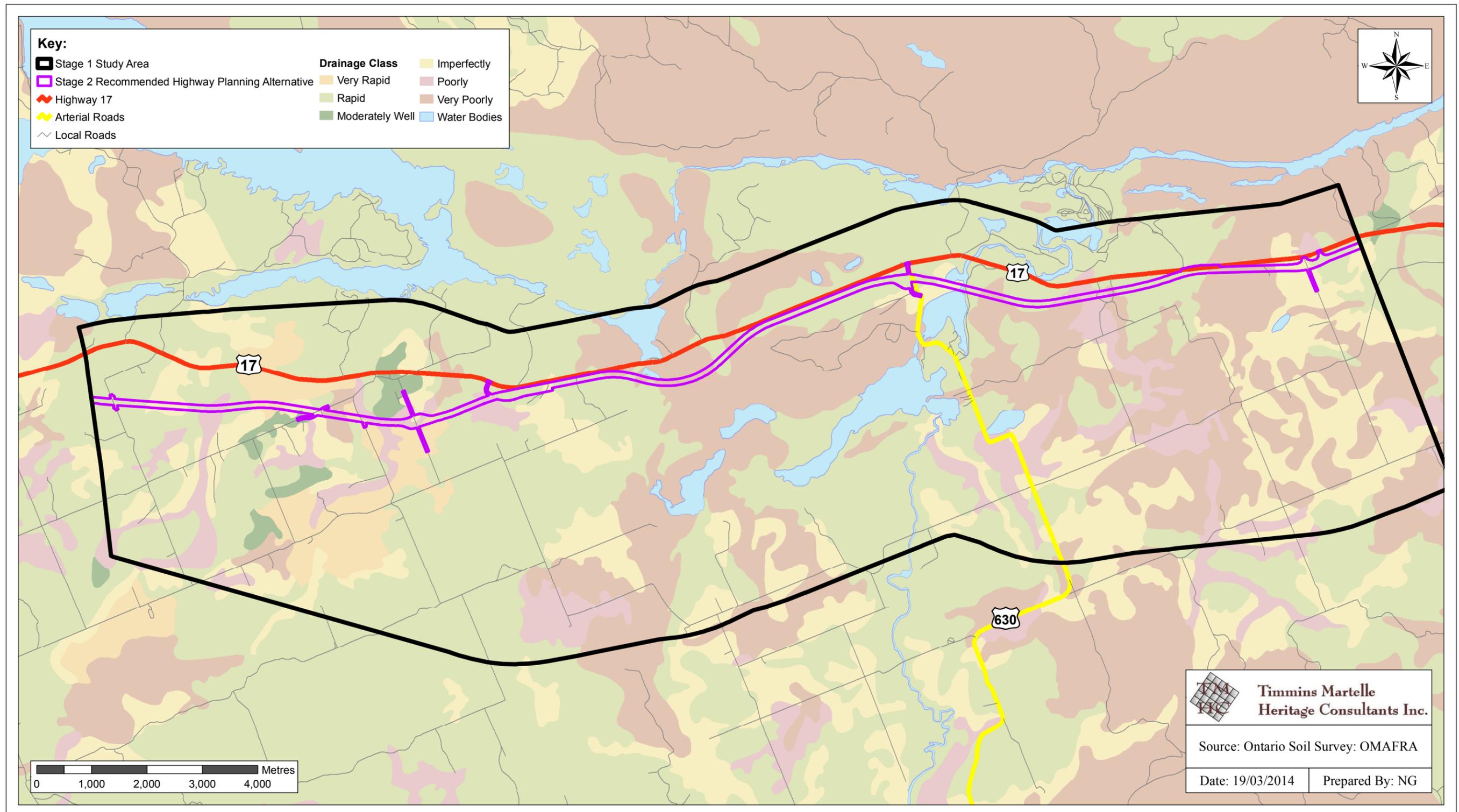
Map 2: Aerial Photograph Showing the Location of the Stage 2 Proposed Highway 17 Corridor in the Nipissing District, ON





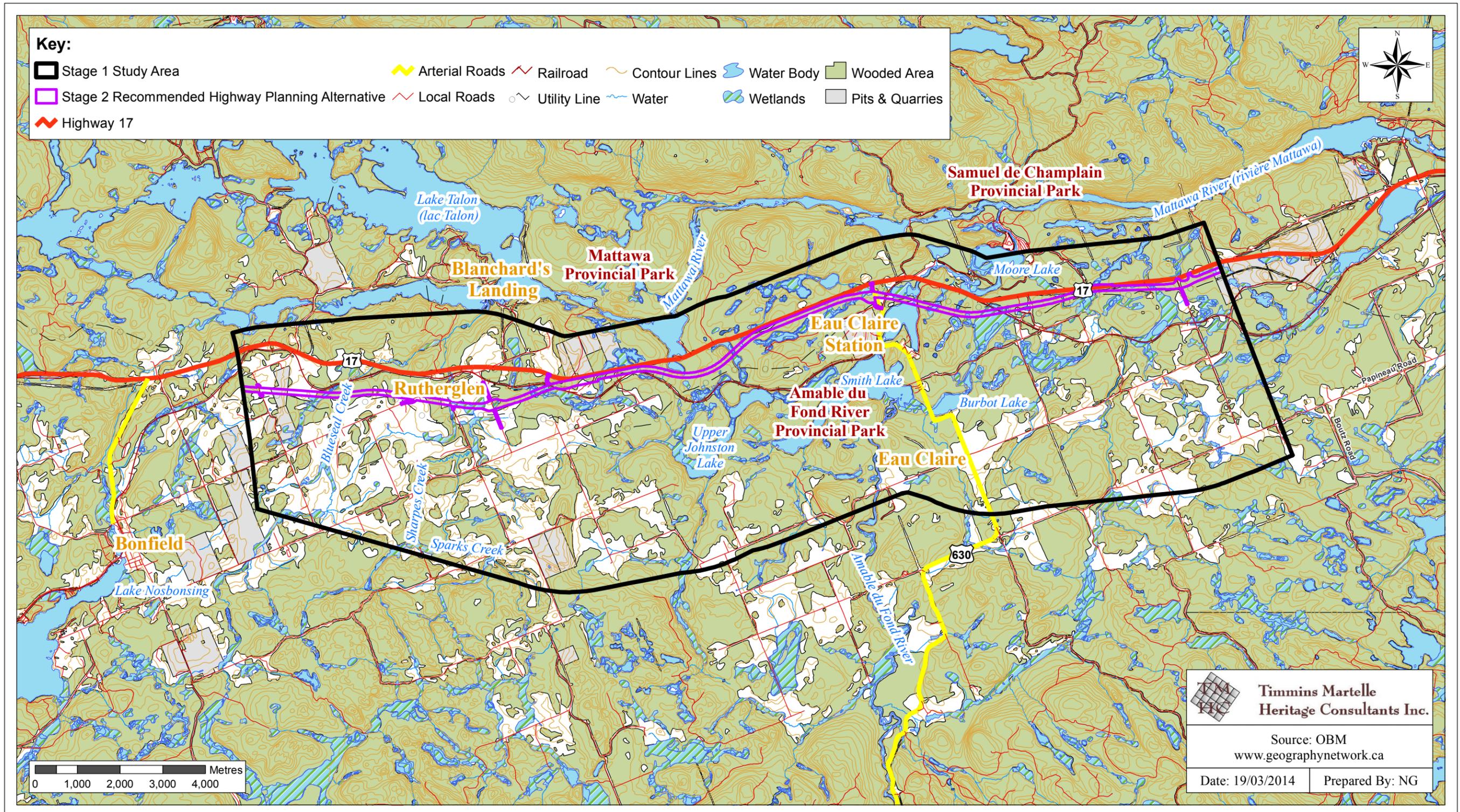
Map 3: Physiographic Features Within the Vicinity of the Stage 2 Proposed Highway 17 Corridor





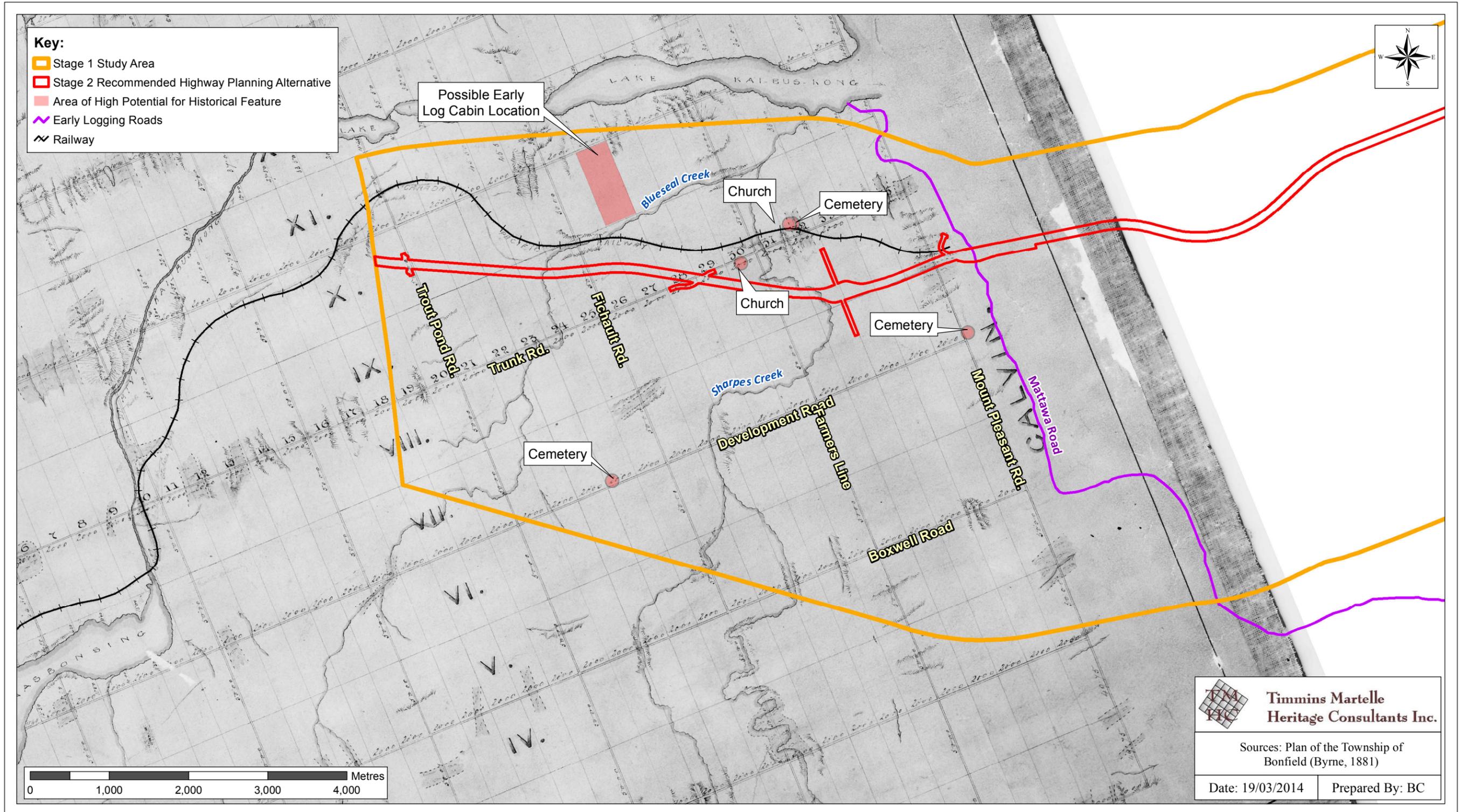
Map 4: Soils Within the Vicinity of the Stage 2 Proposed Highway 17 Corridor



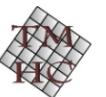


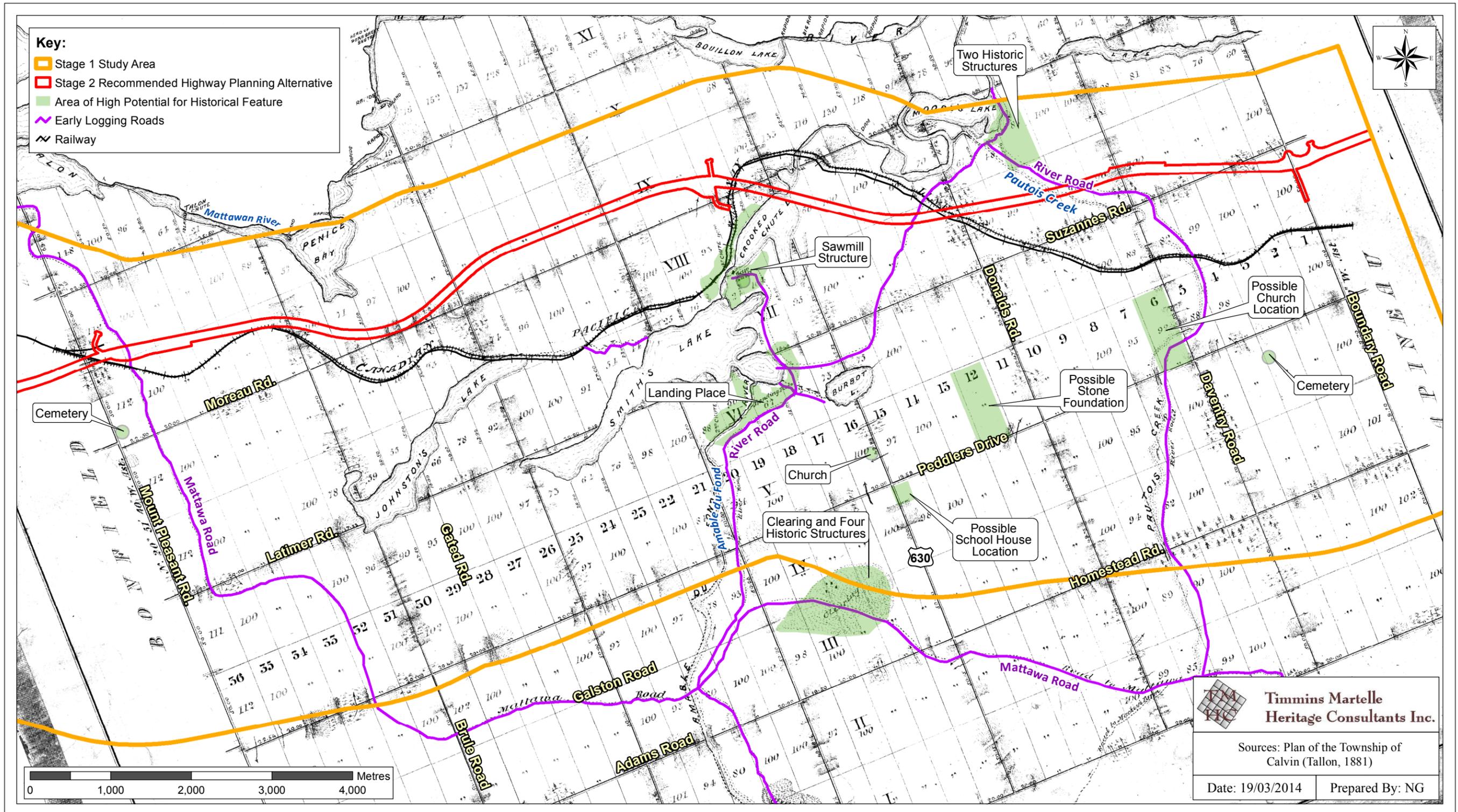
Map 5: Drainage Within the Vicinity of the Stage 2 Proposed Highway 17 Corridor





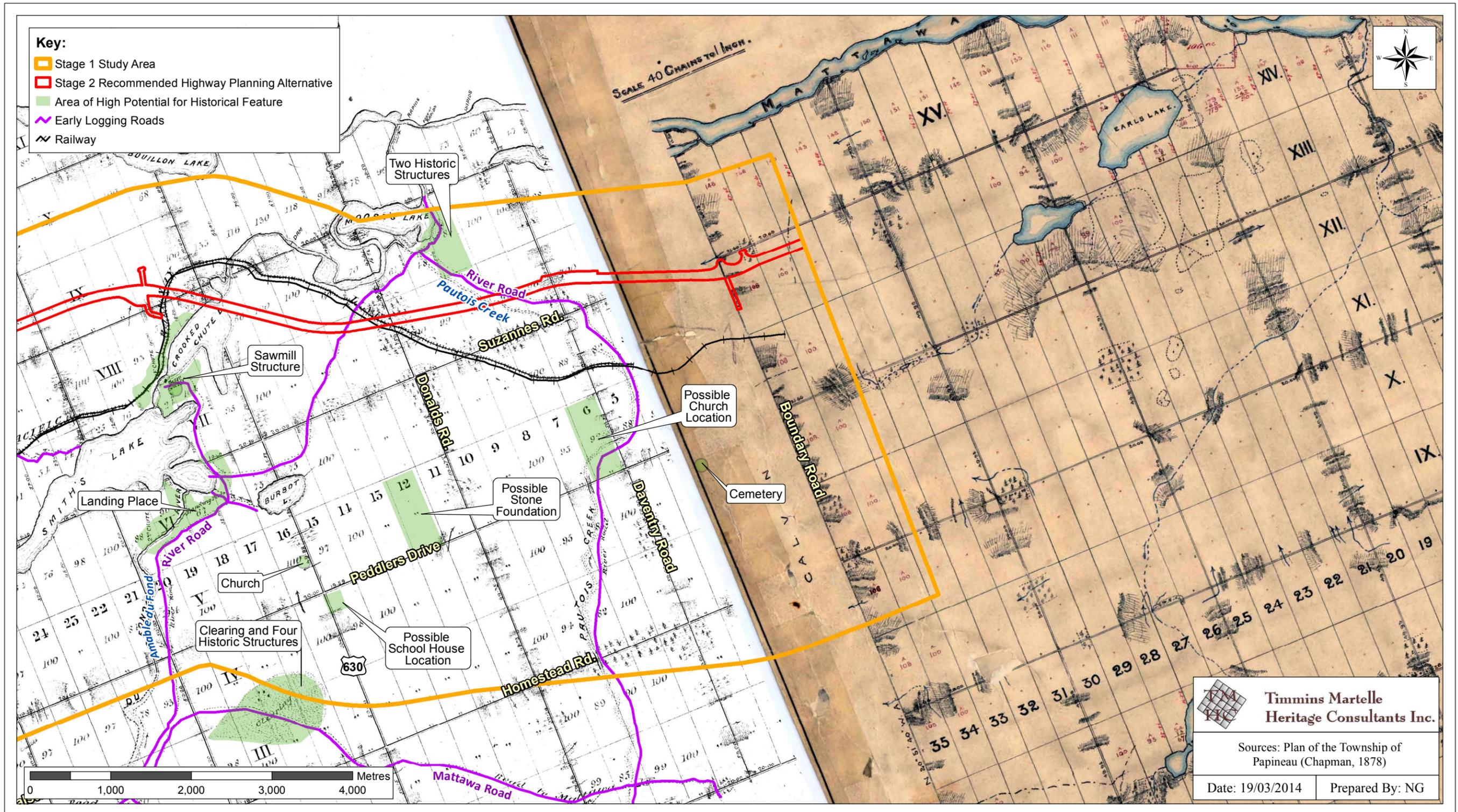
Map 6: Western Portion of the Stage 2 Proposed Highway 17 Corridor Shown on the 1881 Survey Plan for Bonfield Township





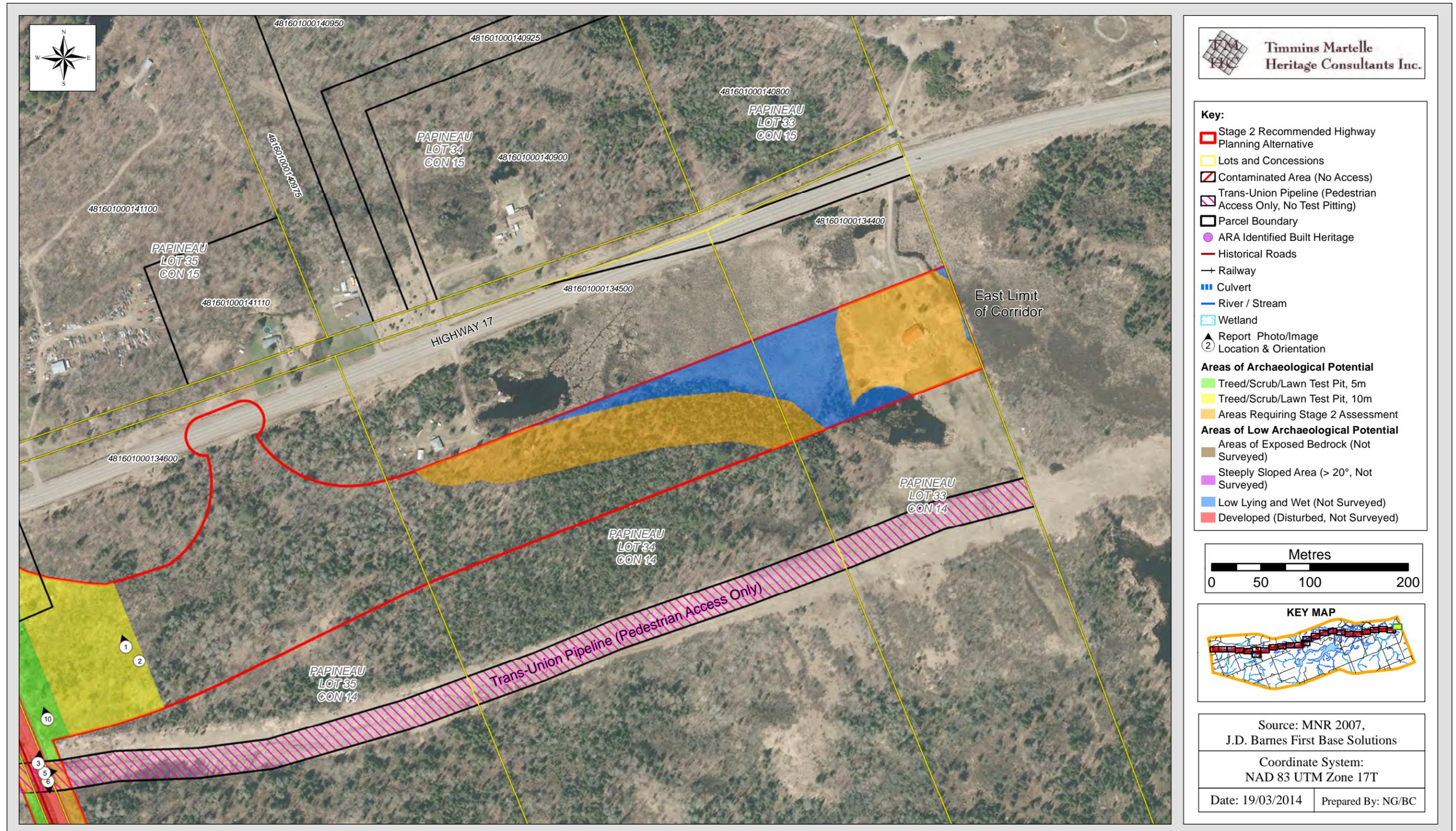
Map 7: Central and Eastern Portions of the Stage 2 Proposed Highway 17 Corridor Shown on the 1881 Survey Plan for Calvin Township



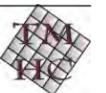


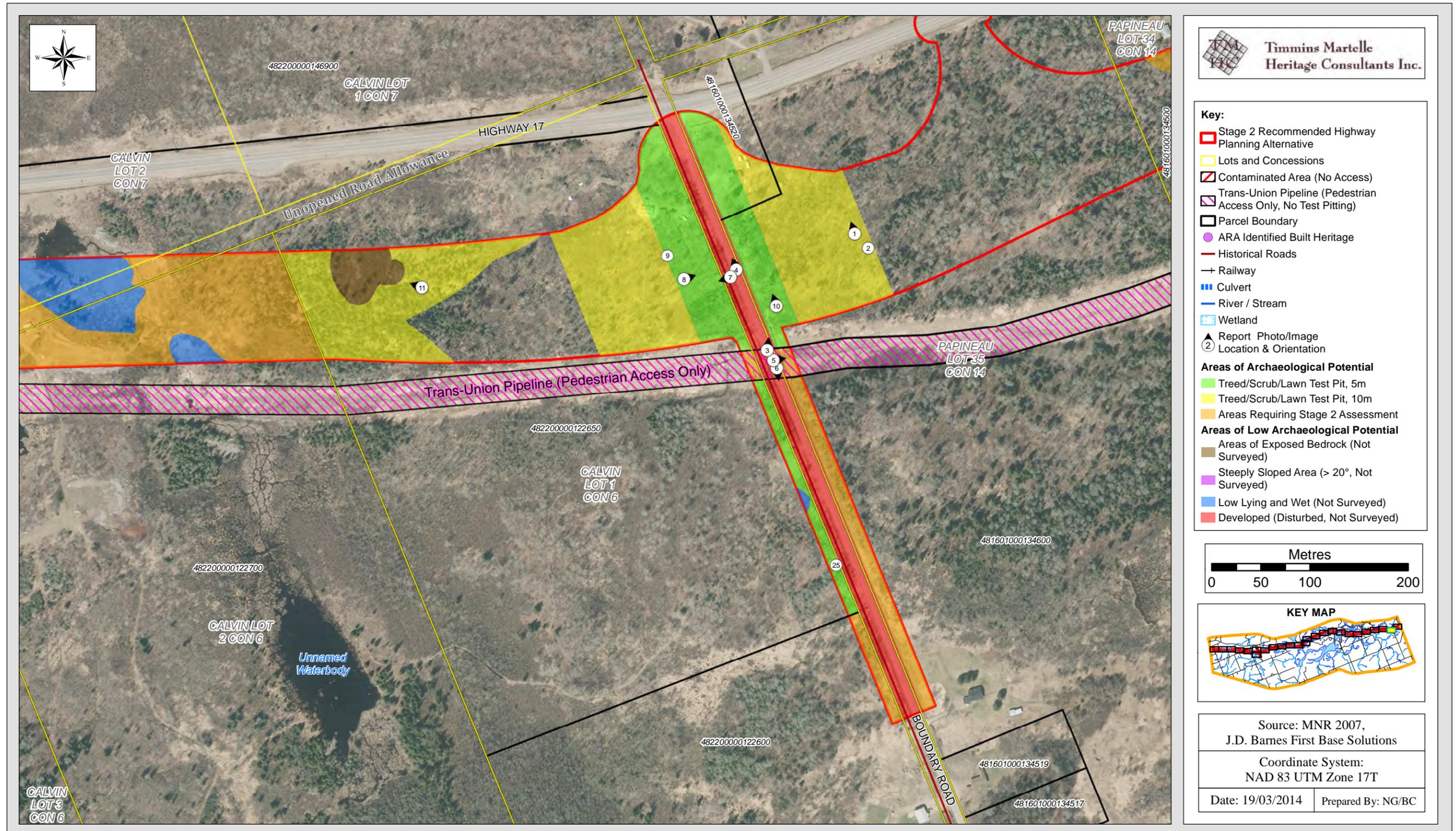
Map 8: Central and Eastern Portions of the Stage 2 Proposed Highway 17 Corridor Shown on the 1881 Survey Plan for Papineau Township



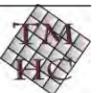


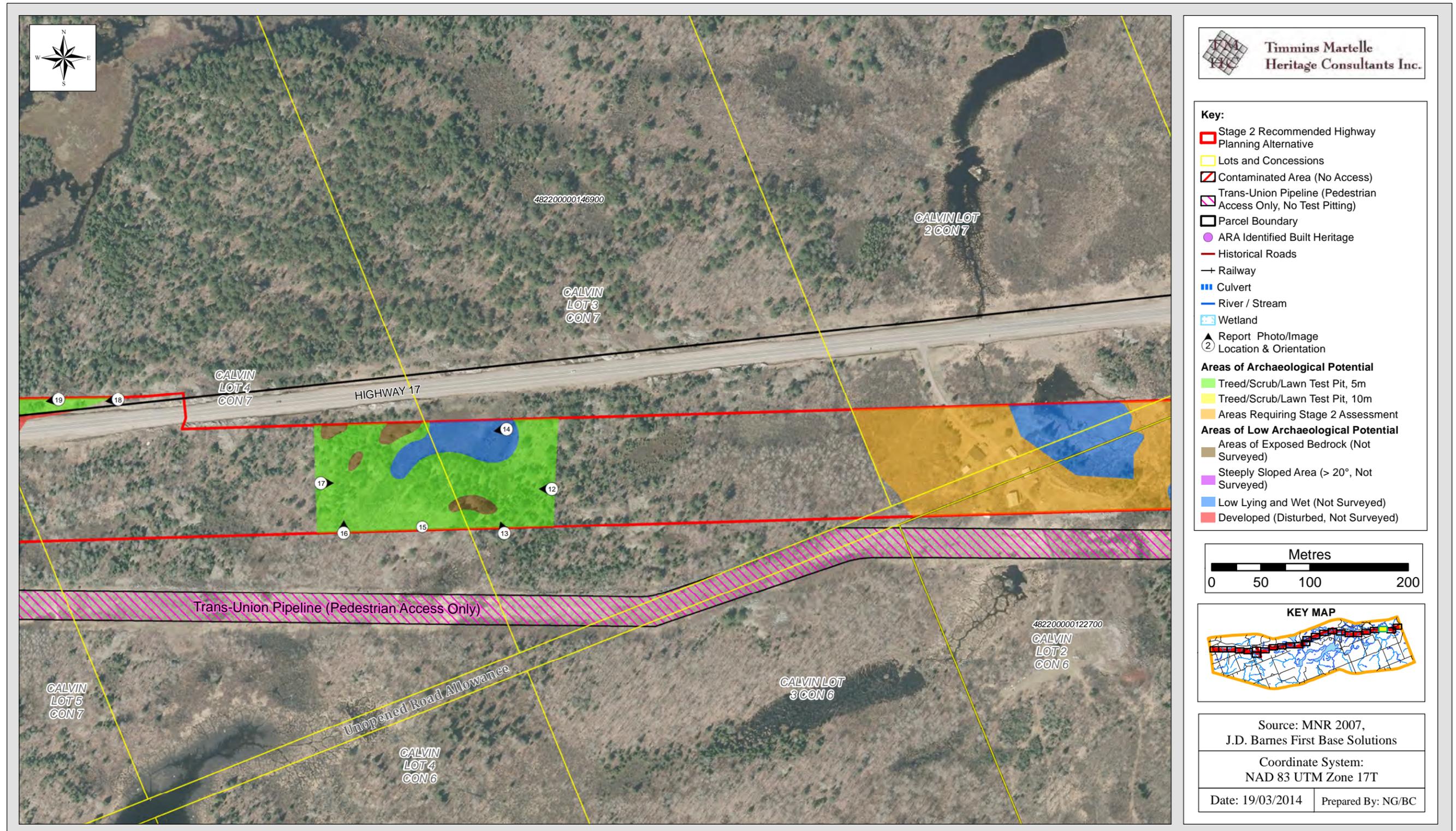
Map 9: Stage 2 Field Conditions and Assessment Methods and Results



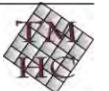


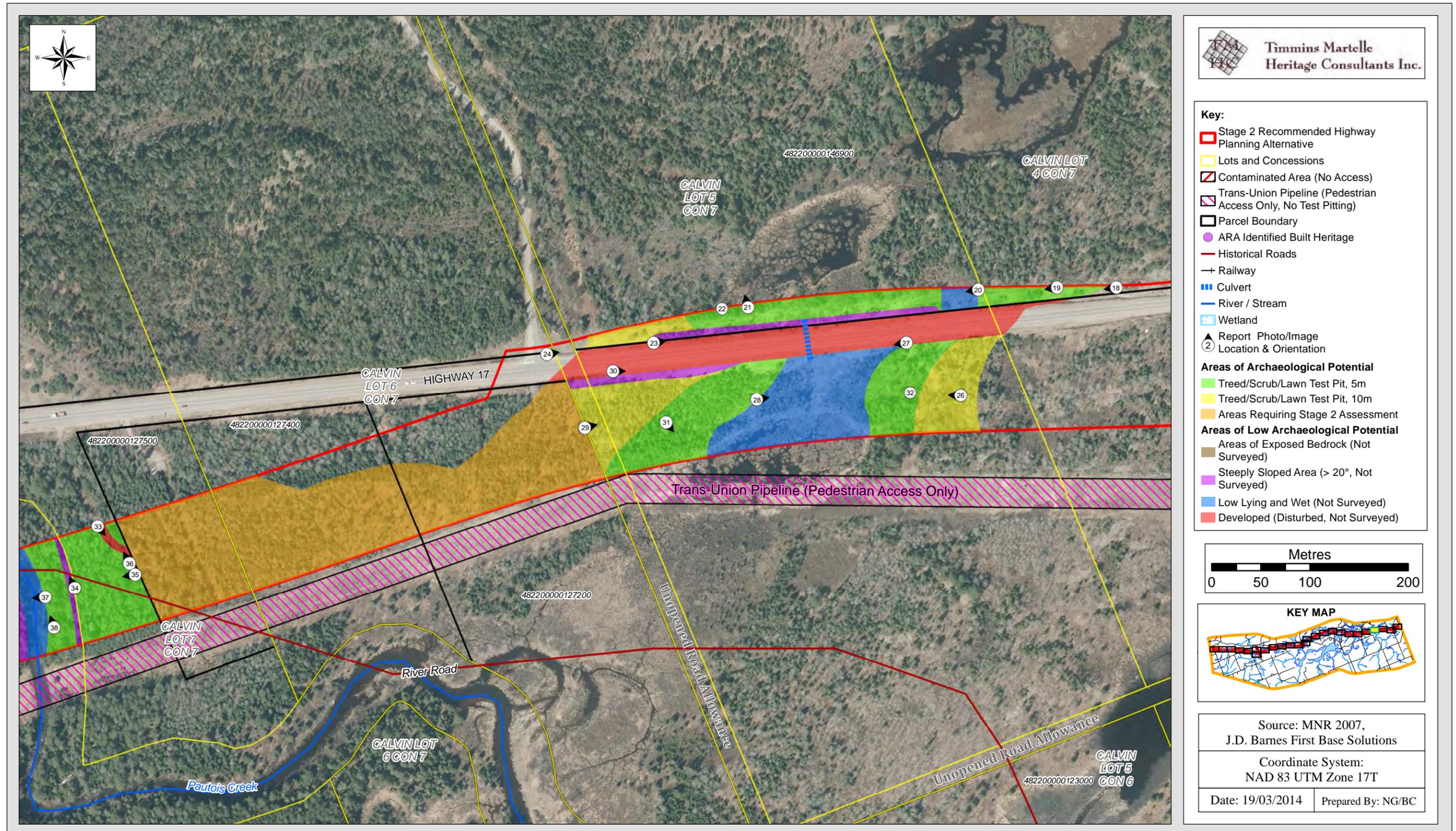
Map 10: Stage 2 Field Conditions and Assessment Methods and Results



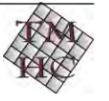


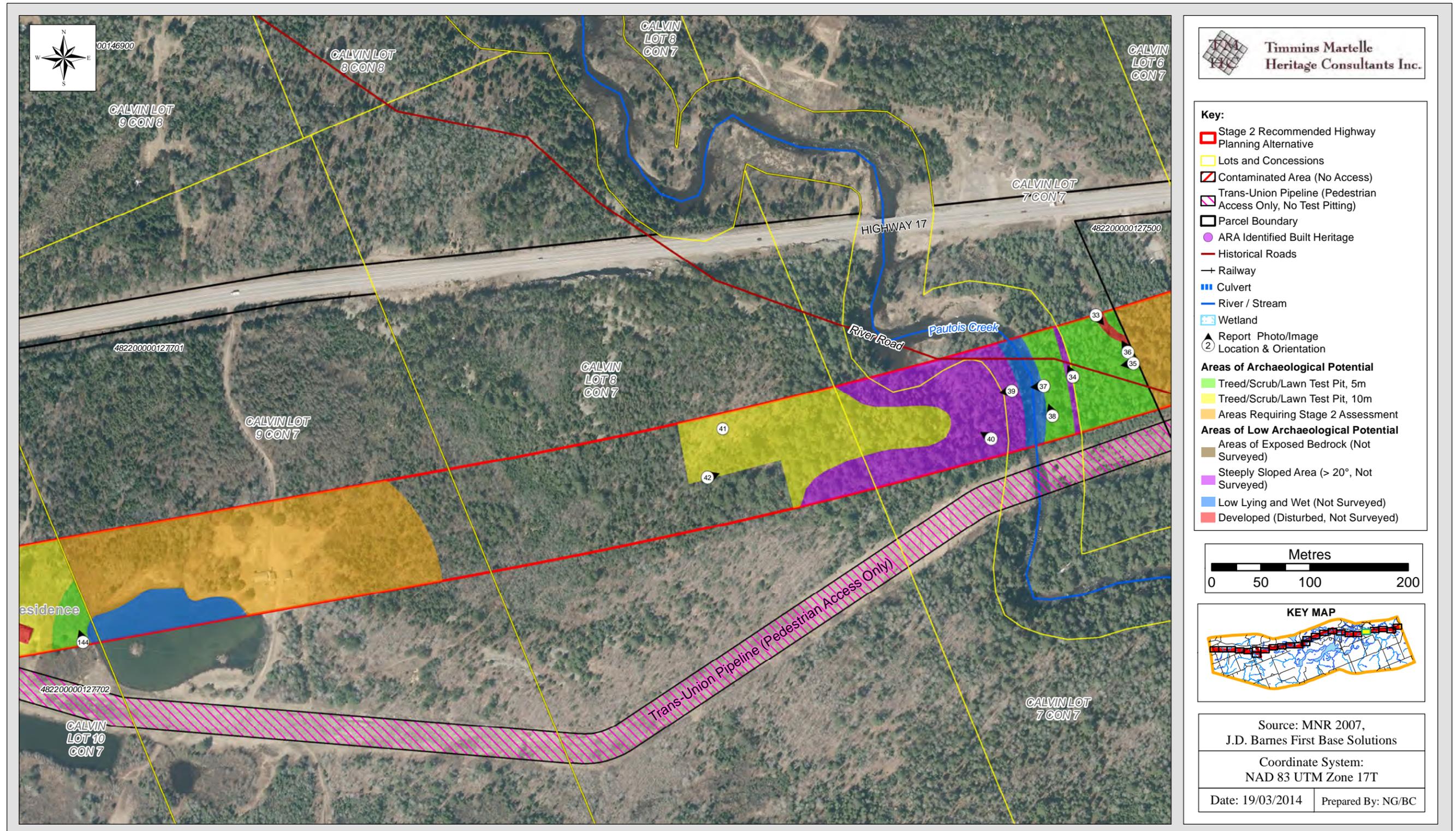
Map 11: Stage 2 Field Conditions and Assessment Methods and Results



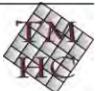


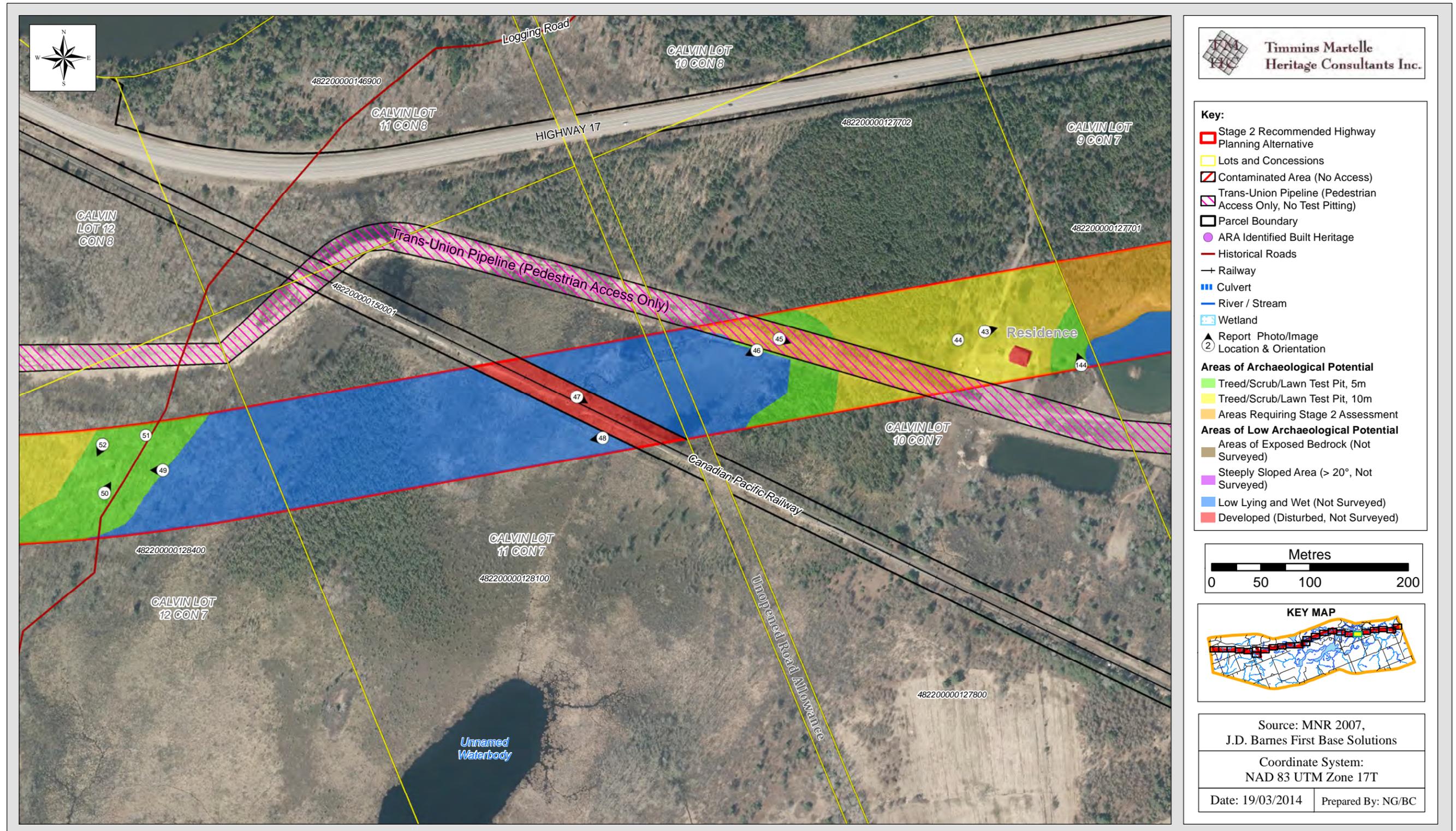
Map 12: Stage 2 Field Conditions and Assessment Methods and Results



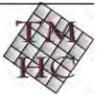


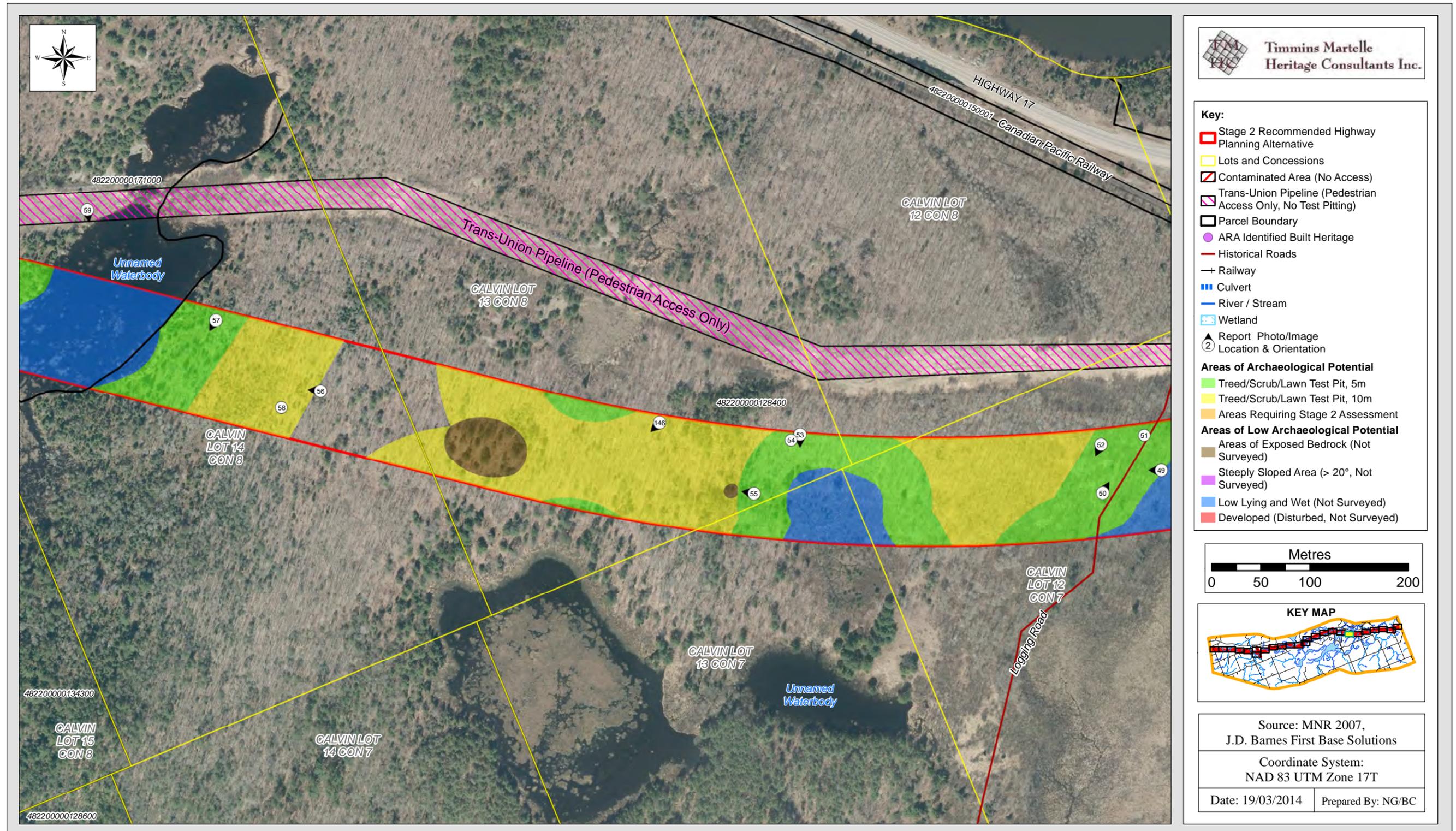
Map 13: Stage 2 Field Conditions and Assessment Methods and Results



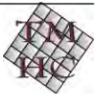


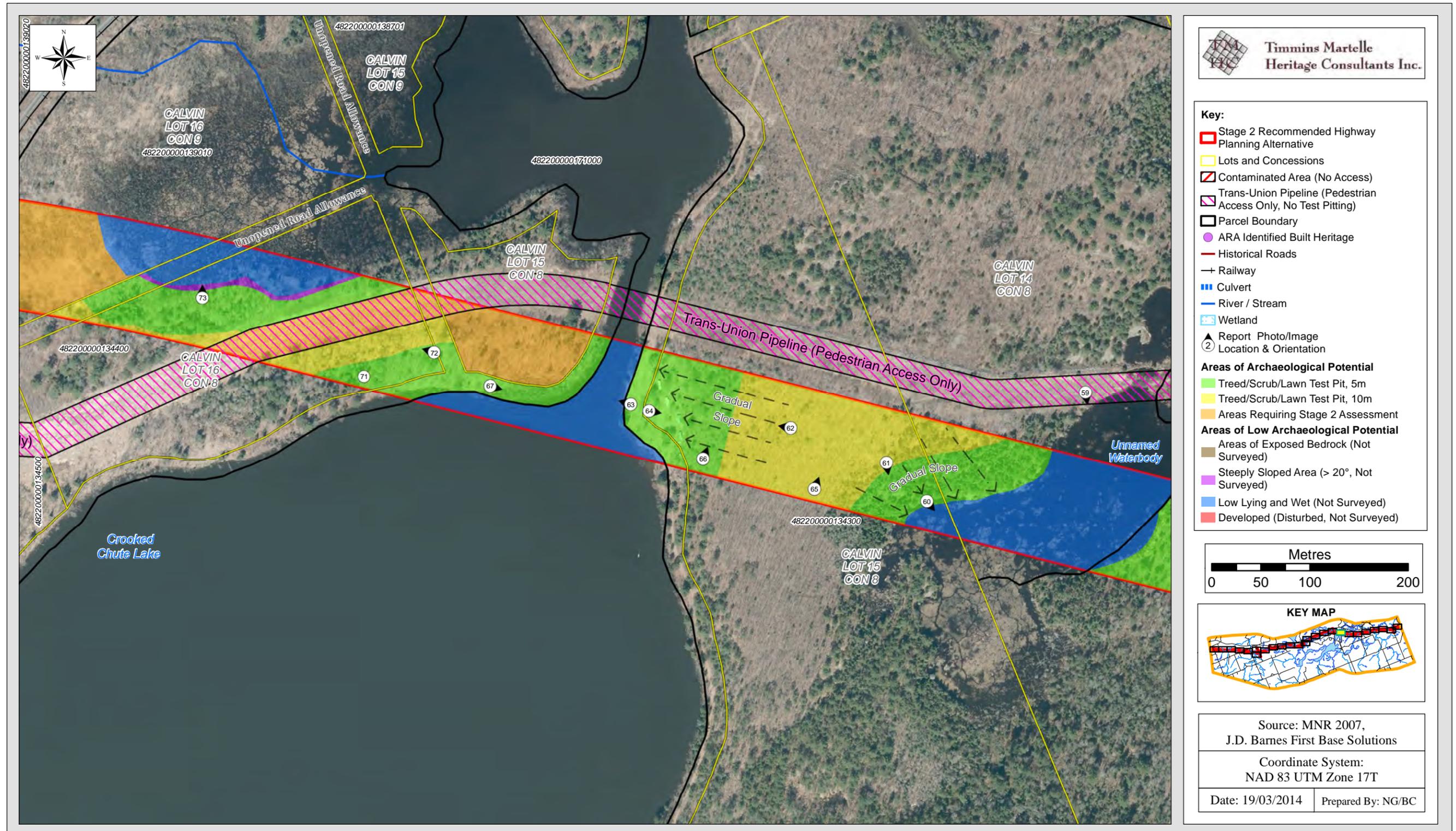
Map 14: Stage 2 Field Conditions and Assessment Methods and Results



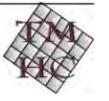


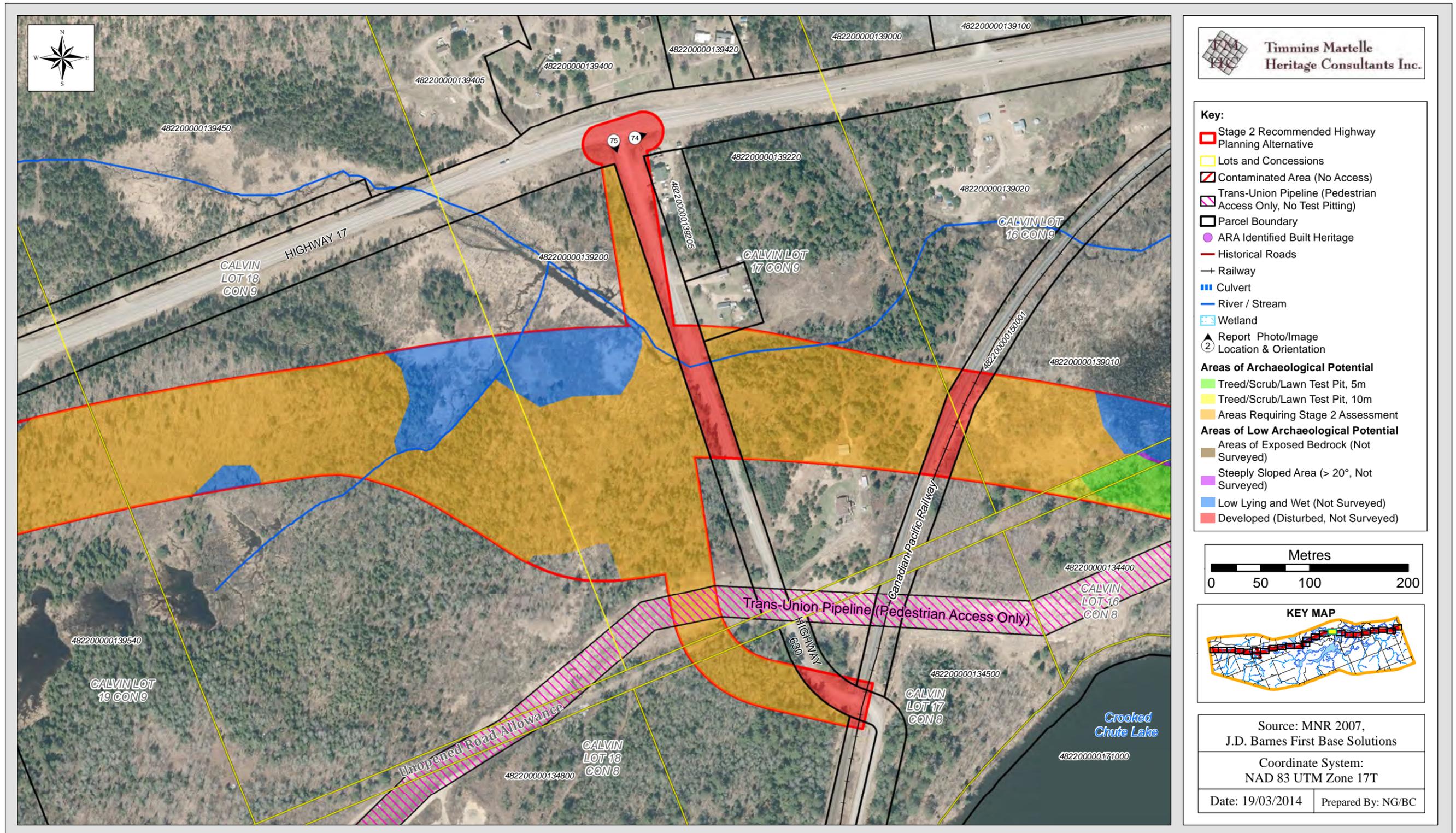
Map 15: Stage 2 Field Conditions and Assessment Methods and Results



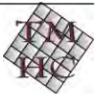


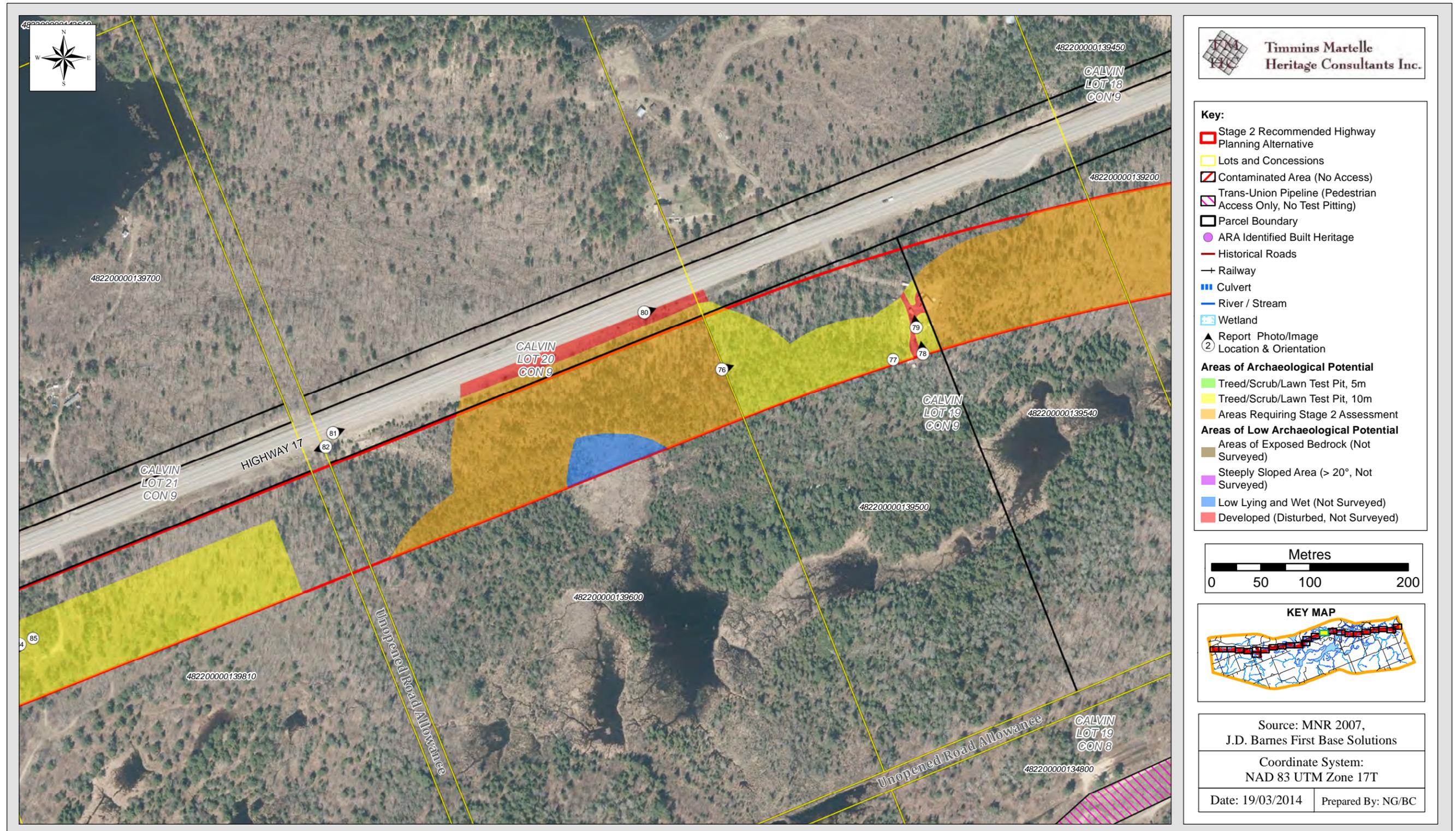
Map 16: Stage 2 Field Conditions and Assessment Methods and Results



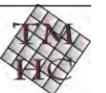


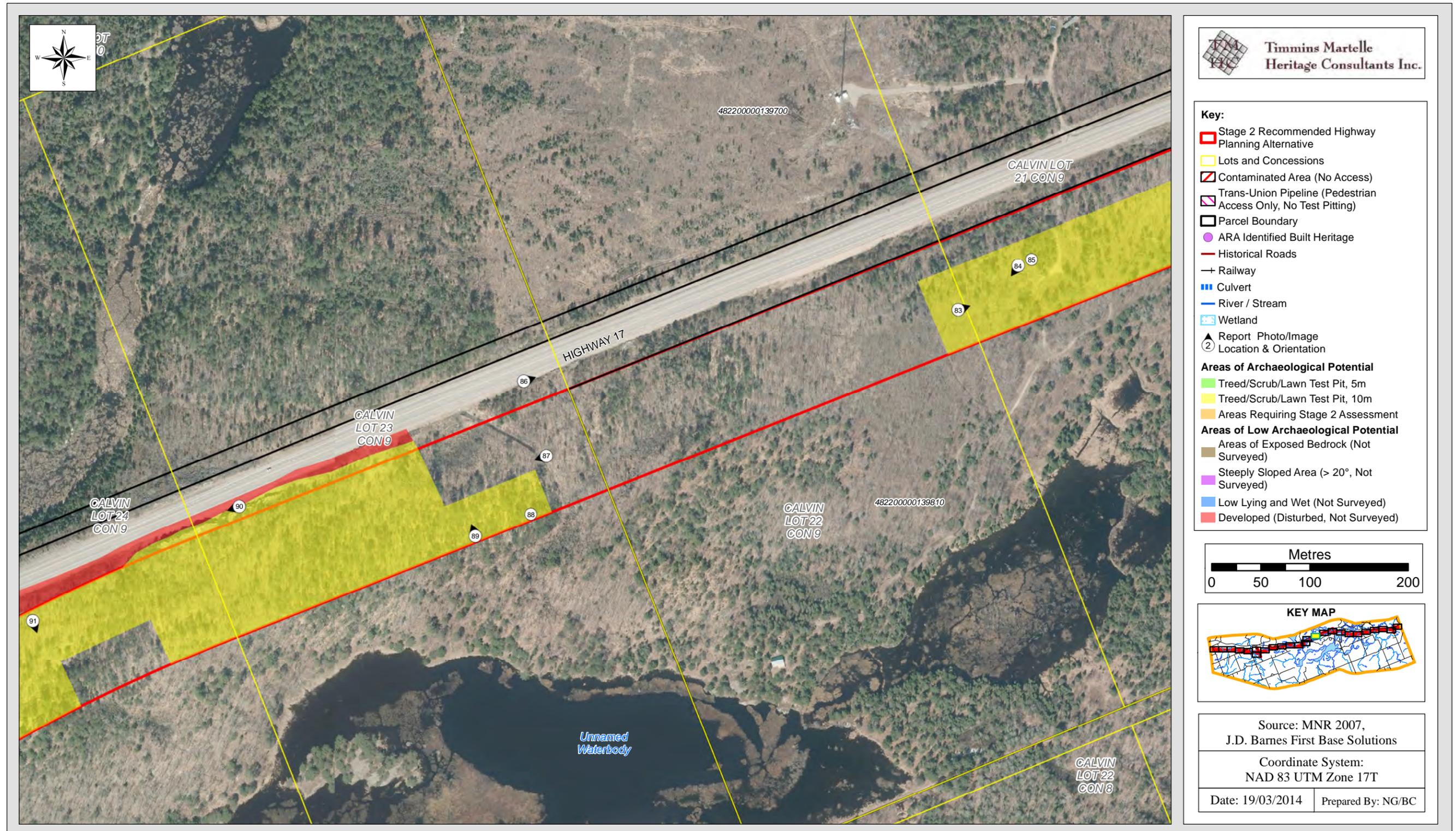
Map 17: Stage 2 Field Conditions and Assessment Methods and Results



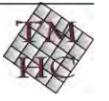


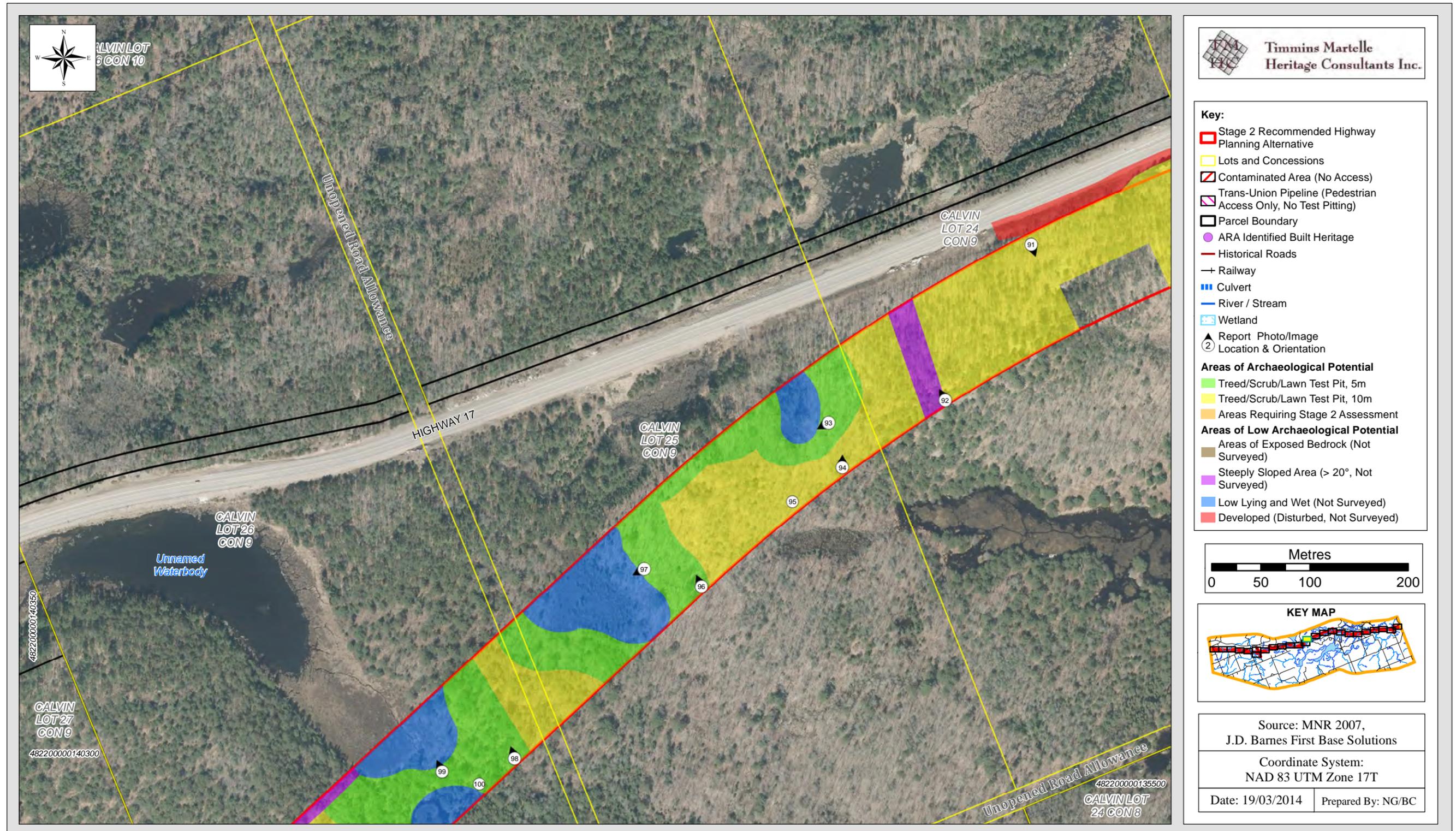
Map 18: Stage 2 Field Conditions and Assessment Methods and Results





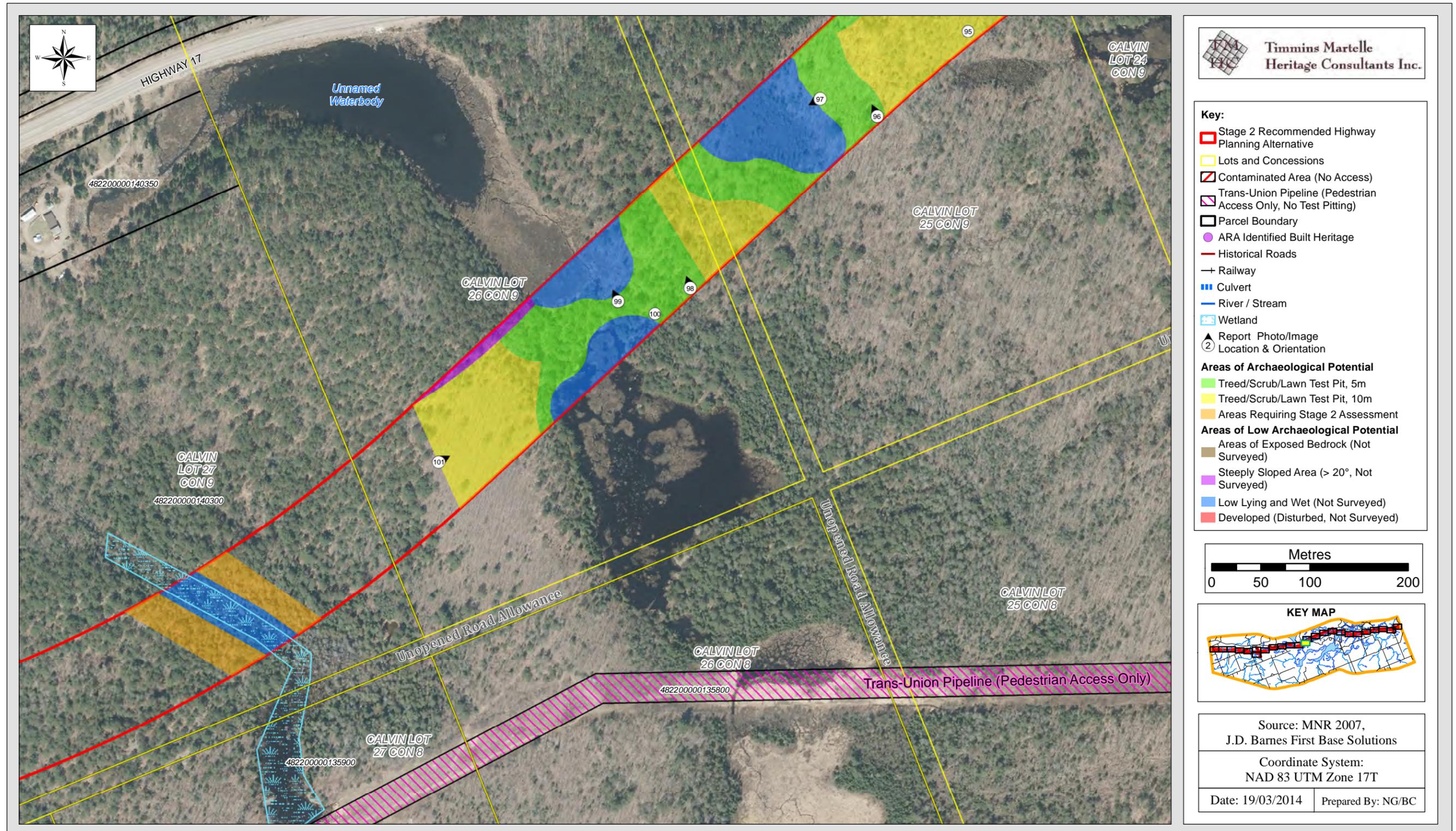
Map 19: Stage 2 Field Conditions and Assessment Methods and Results



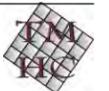


Map 20: Stage 2 Field Conditions and Assessment Methods and Results



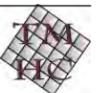


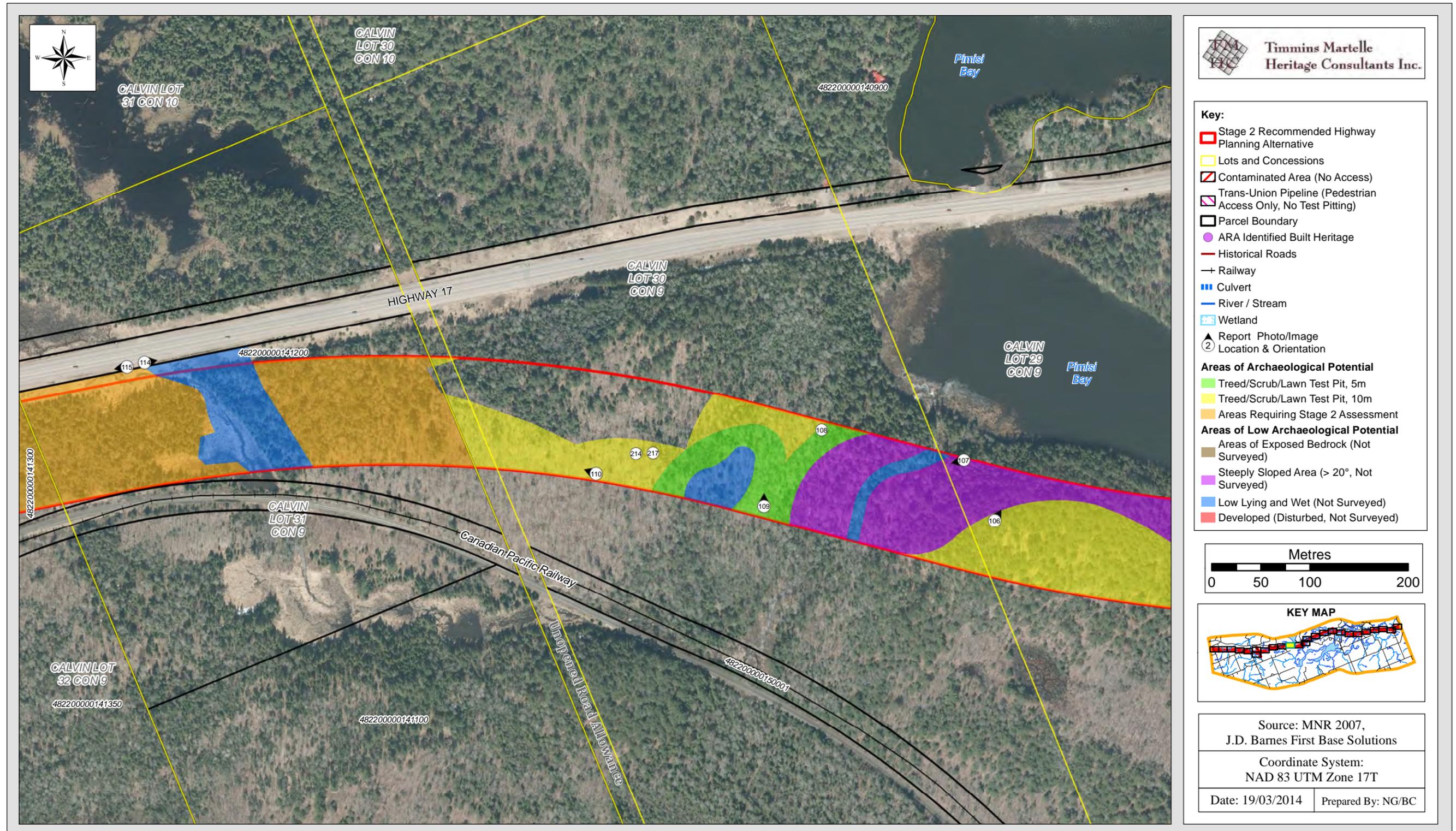
Map 21: Stage 2 Field Conditions and Assessment Methods and Results



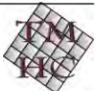


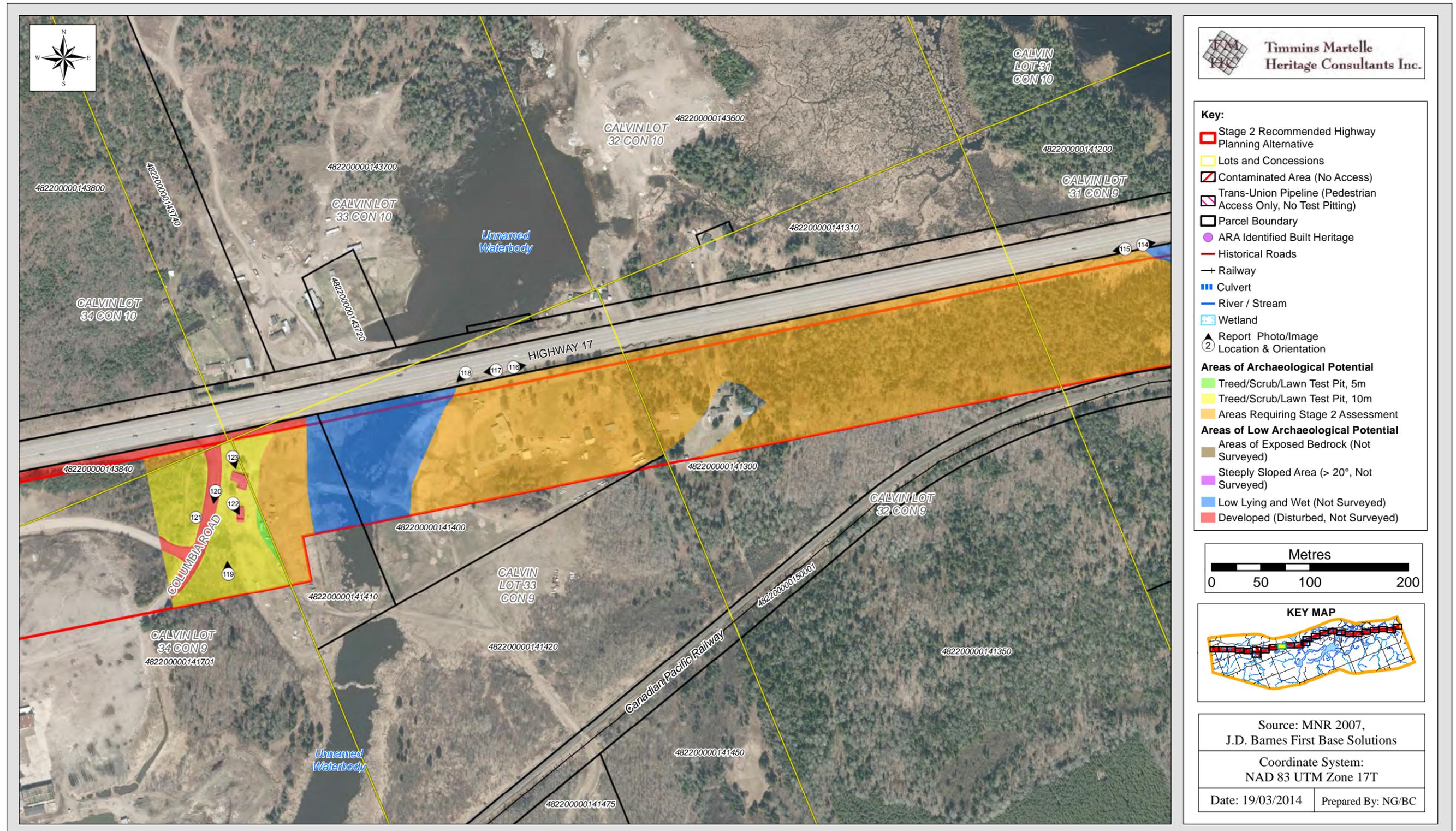
Map 22: Stage 2 Field Conditions and Assessment Methods and Results



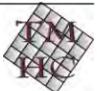


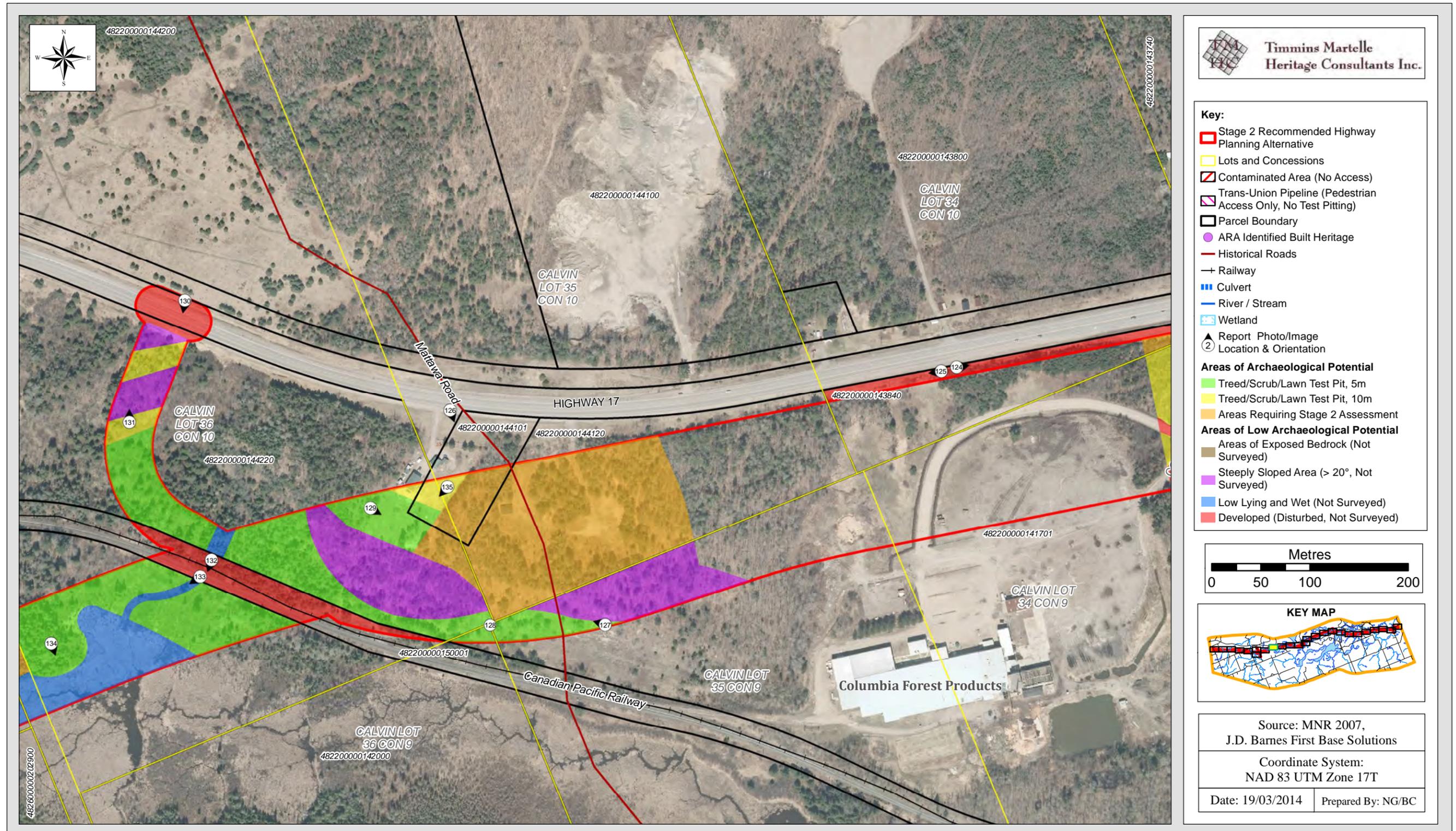
Map 23: Stage 2 Field Conditions and Assessment Methods and Results



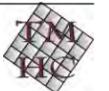


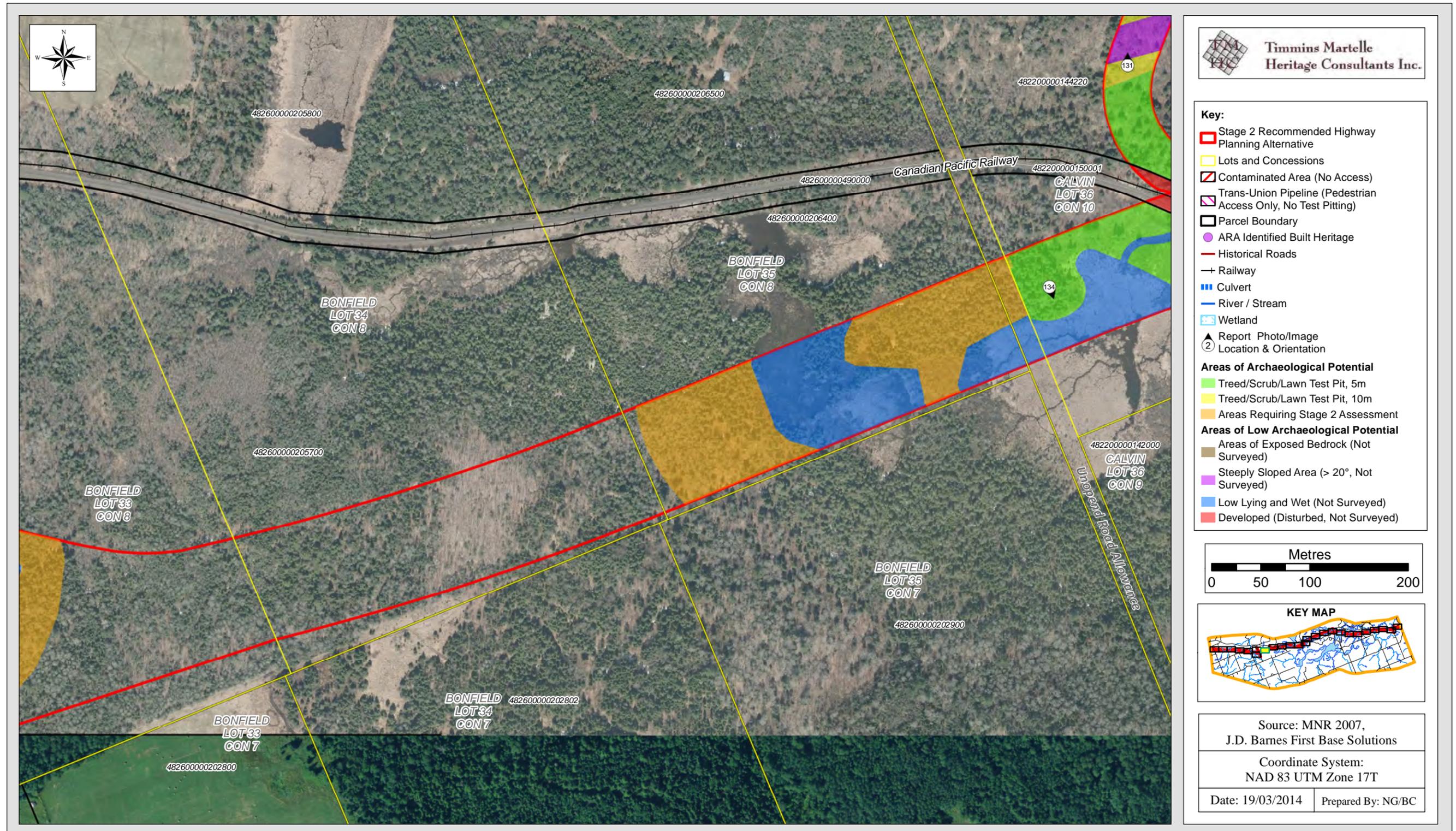
Map 24: Stage 2 Field Conditions and Assessment Methods and Results



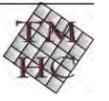


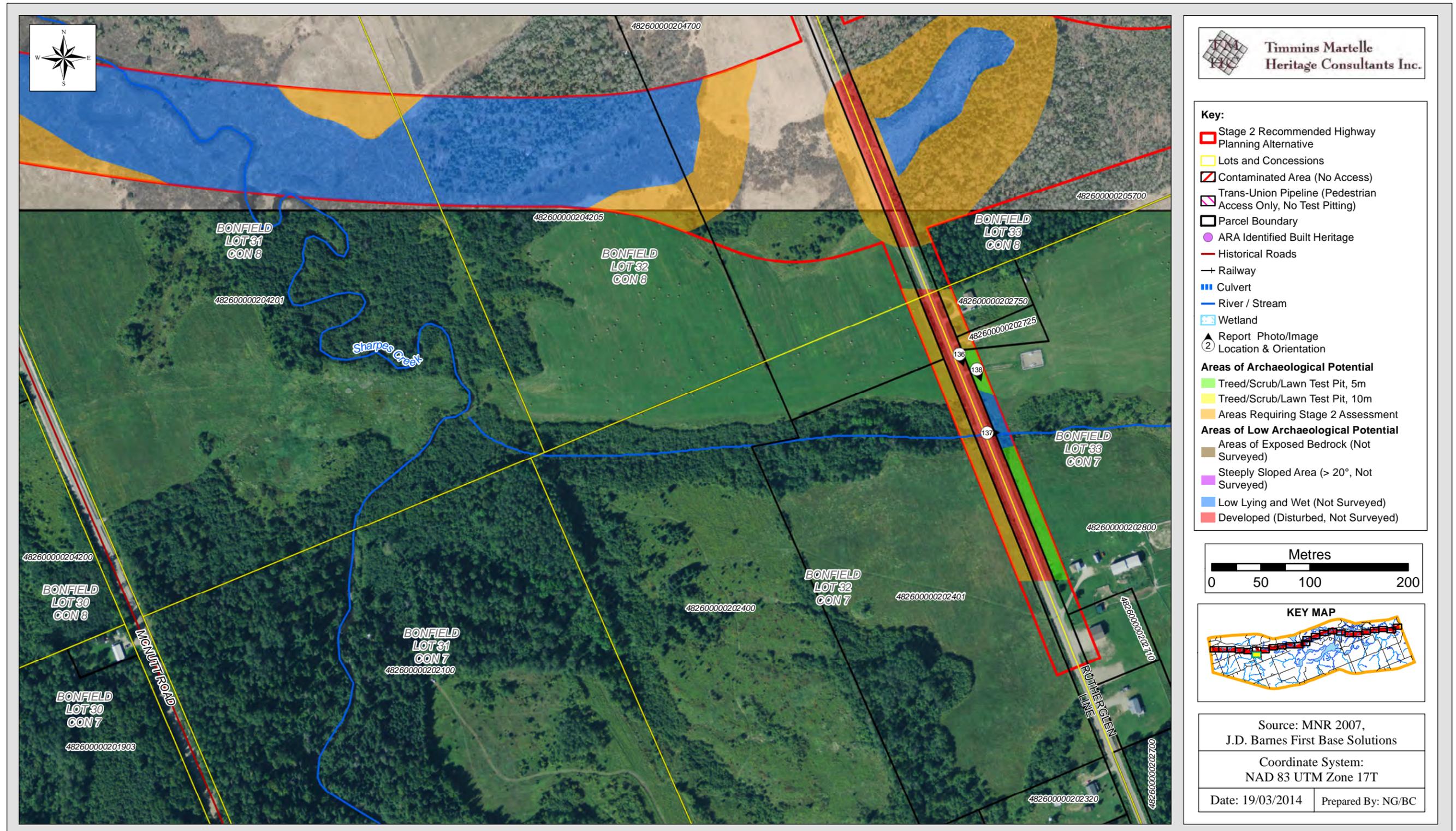
Map 25: Stage 2 Field Conditions and Assessment Methods and Results



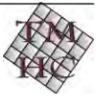


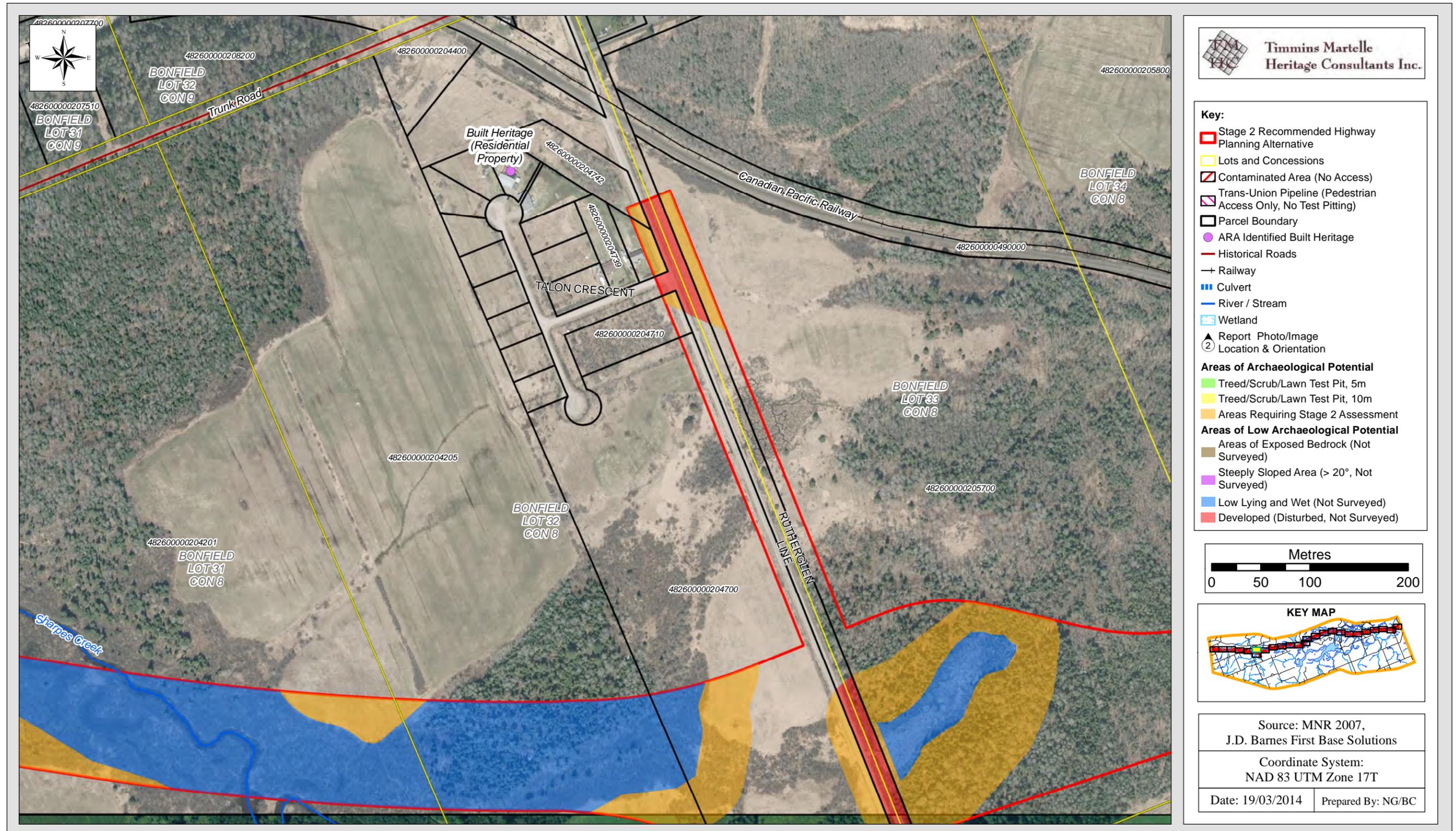
Map 26: Stage 2 Field Conditions and Assessment Methods and Results





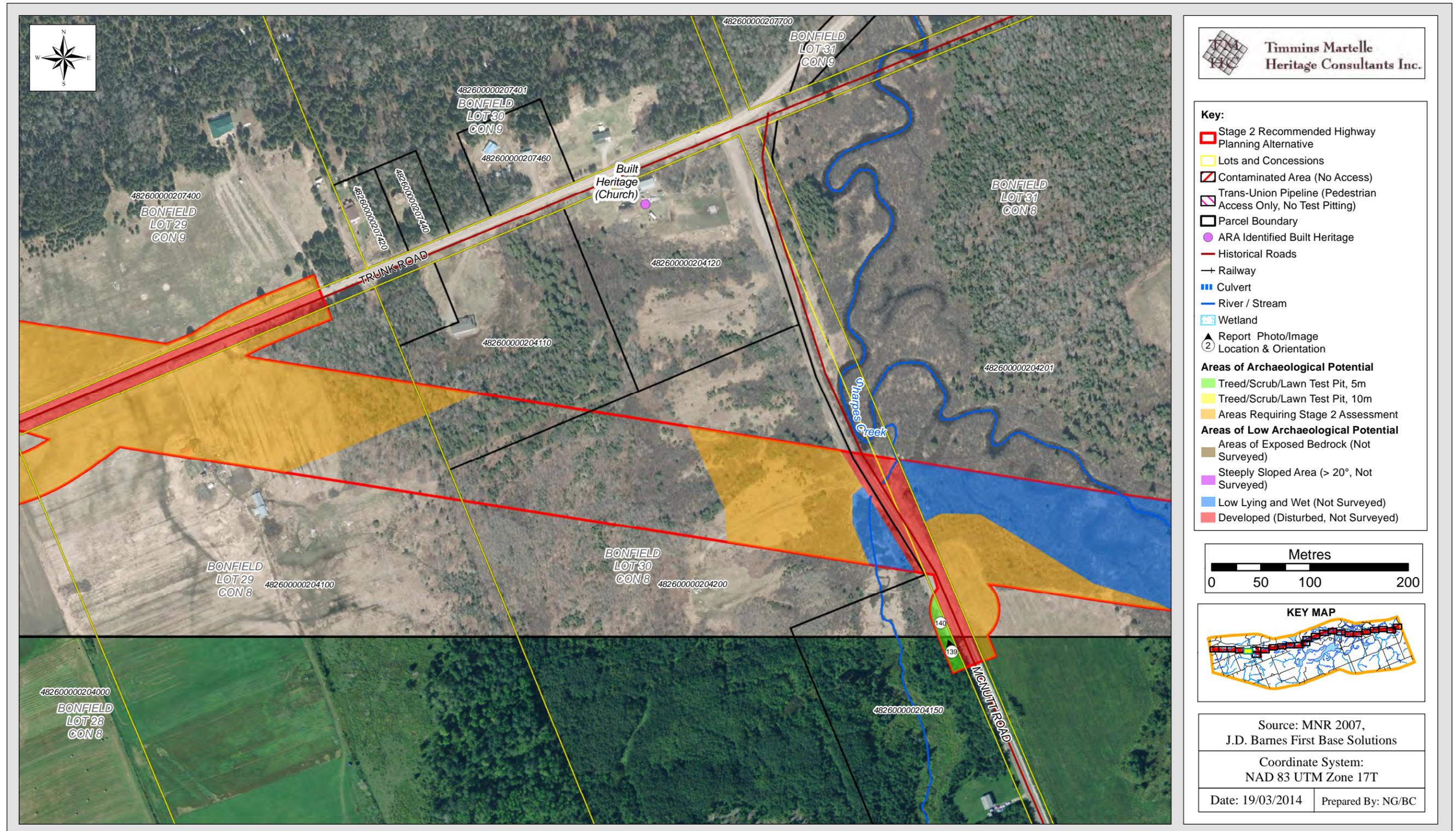
Map 27: Stage 2 Field Conditions and Assessment Methods and Results



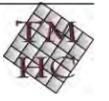


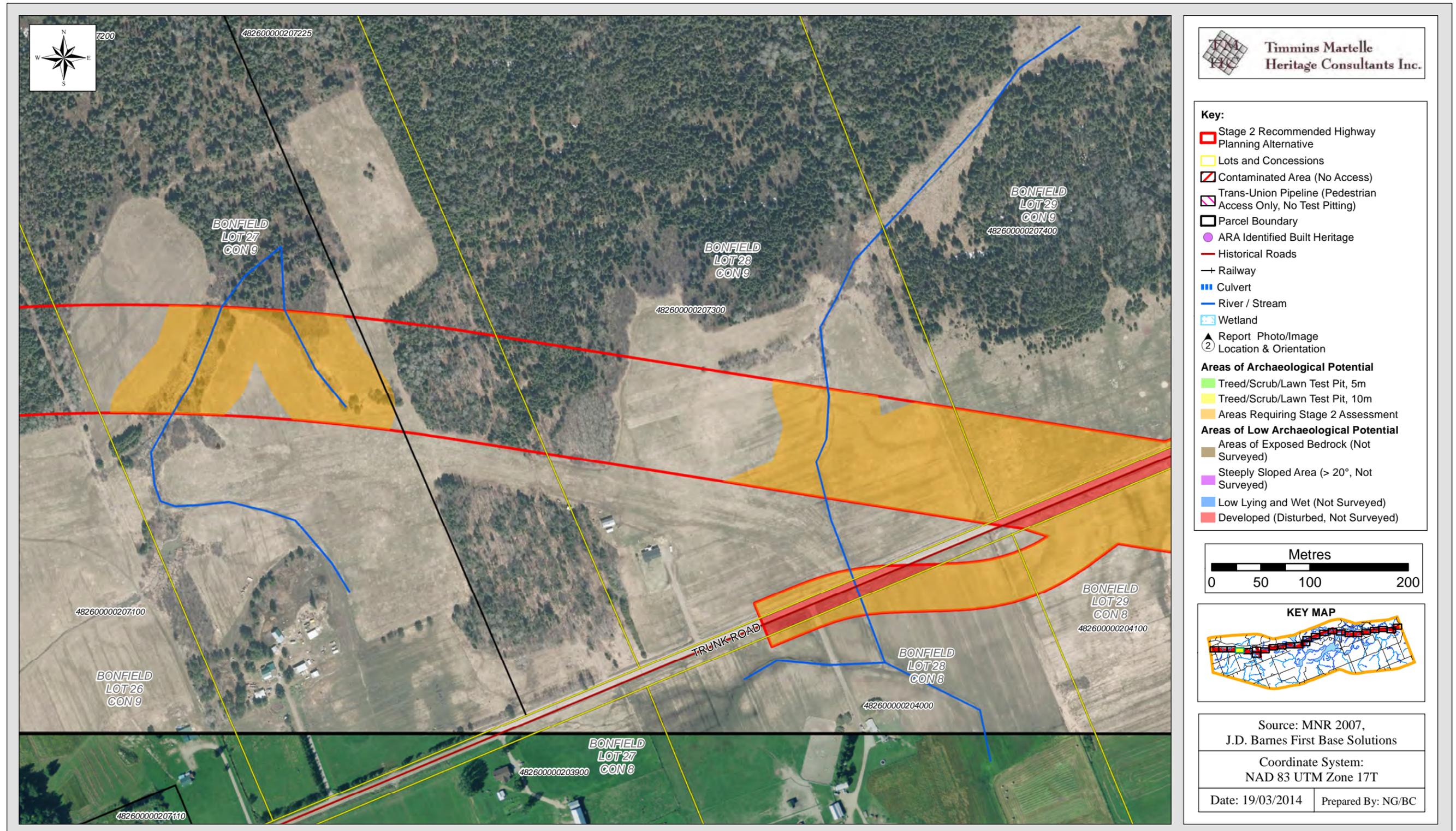
Map 28: Stage 2 Field Conditions and Assessment Methods and Results



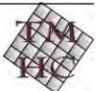


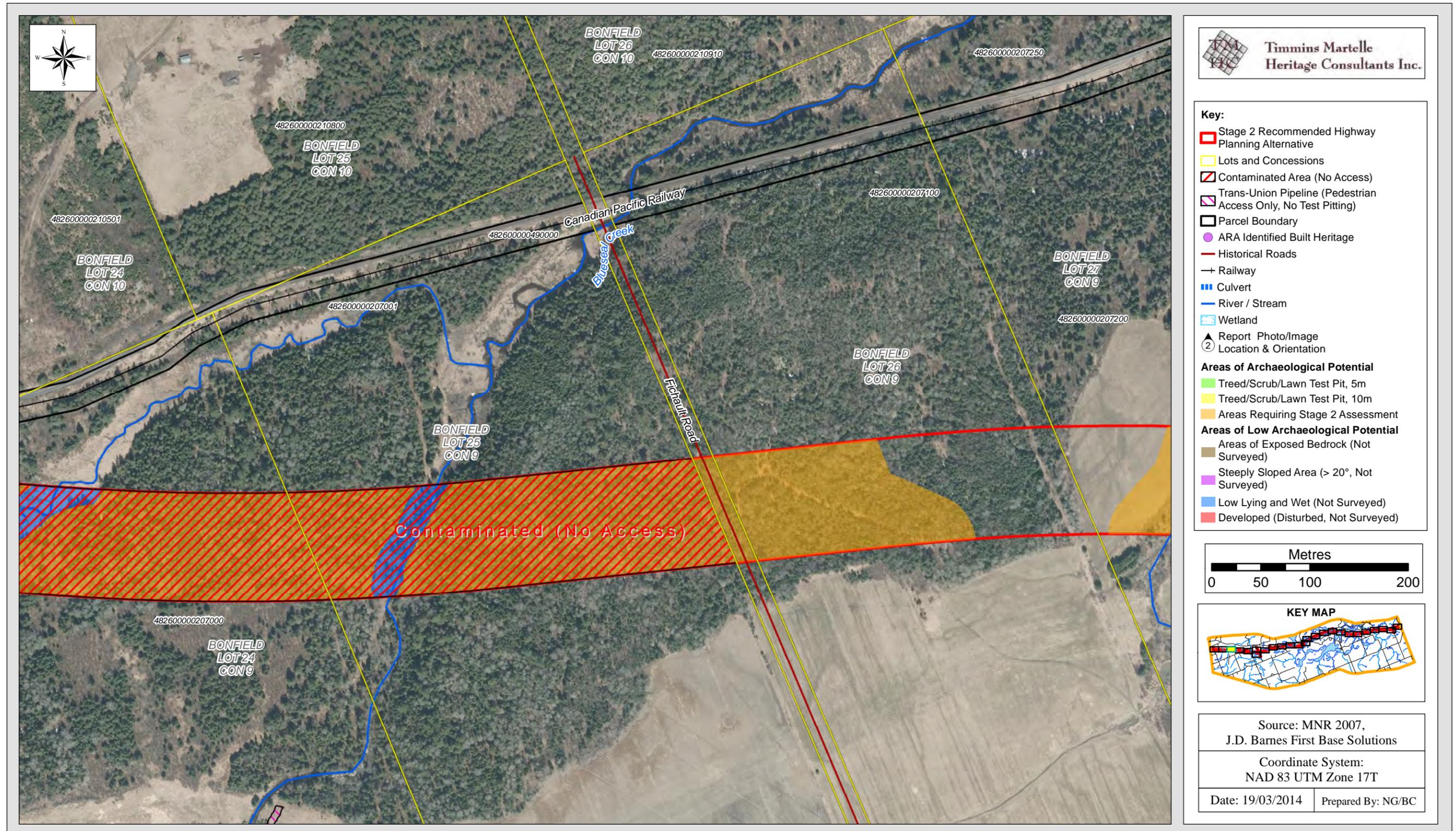
Map 29: Stage 2 Field Conditions and Assessment Methods and Results



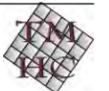


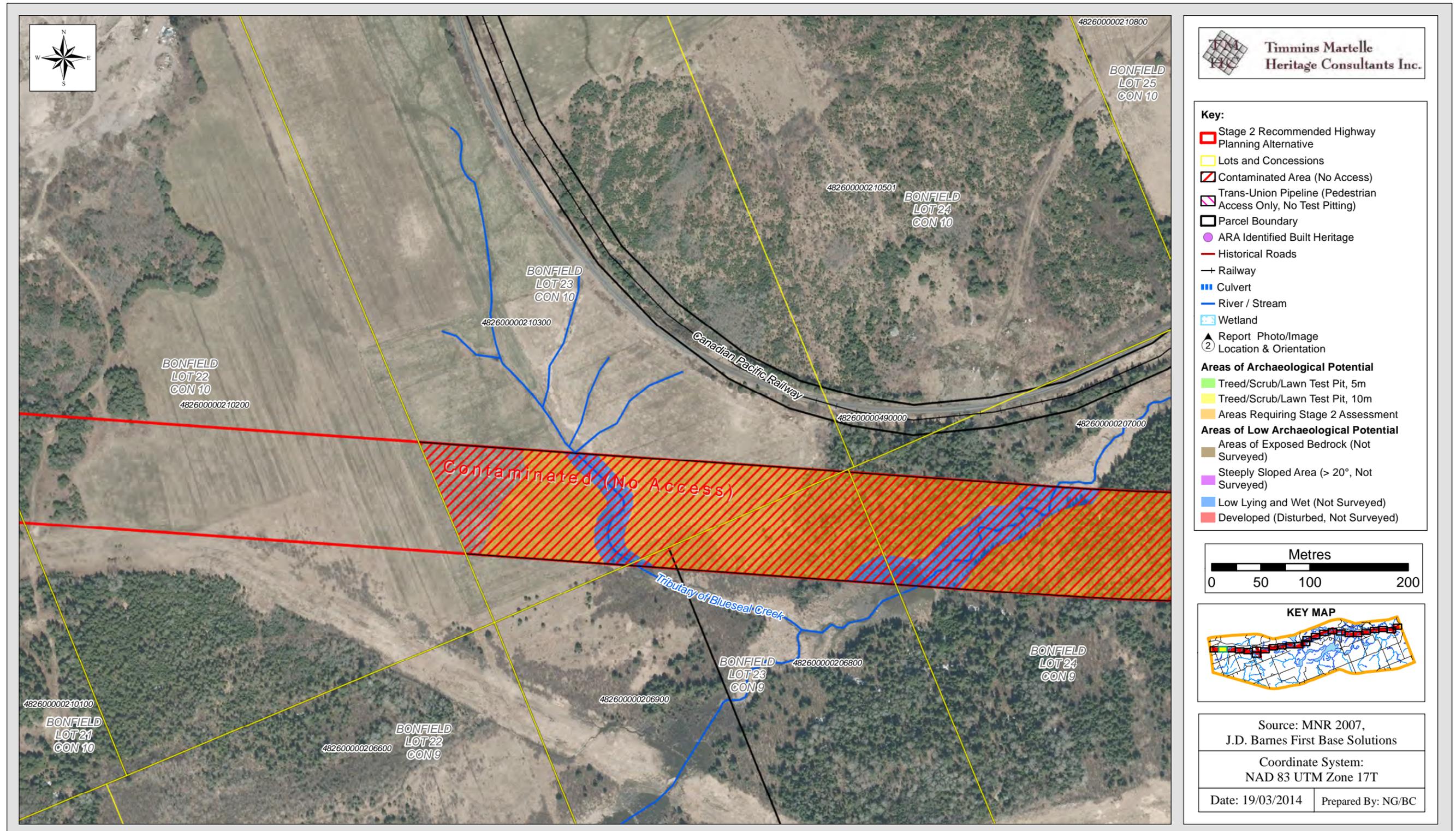
Map 30: Stage 2 Field Conditions and Assessment Methods and Results



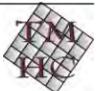


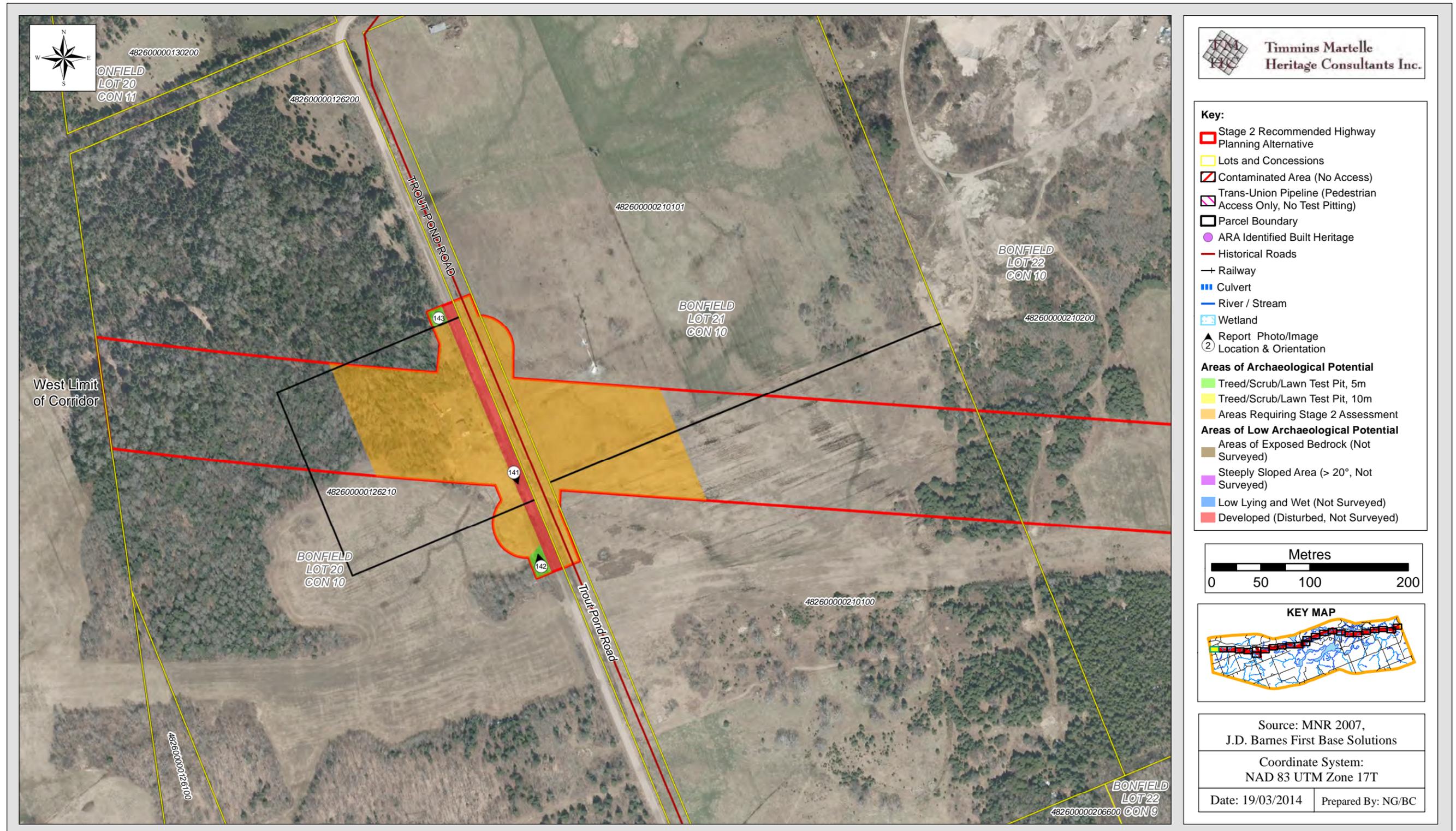
Map 31: Stage 2 Field Conditions and Assessment Methods and Results



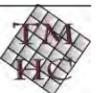


Map 32: Stage 2 Field Conditions and Assessment Methods and Results





Map 33: Stage 2 Field Conditions and Assessment Methods and Results



**Stage 2 Archaeological Assessment  
Highway 17 Planning Study  
From Trout Pond Road Easterly to  
1km East of Boundary Road  
Township of Bonfield, Municipality of Calvin,  
And Township of Papineau  
Nipissing District, Ontario**

**SUPPLEMENTARY DOCUMENTATION  
(exempt from public circulation and to be used for Borden form submission to the  
Ministry of Tourism, Culture and Sport)**



***P357-036-2013 Location 1 (no Borden Number yet assigned)***

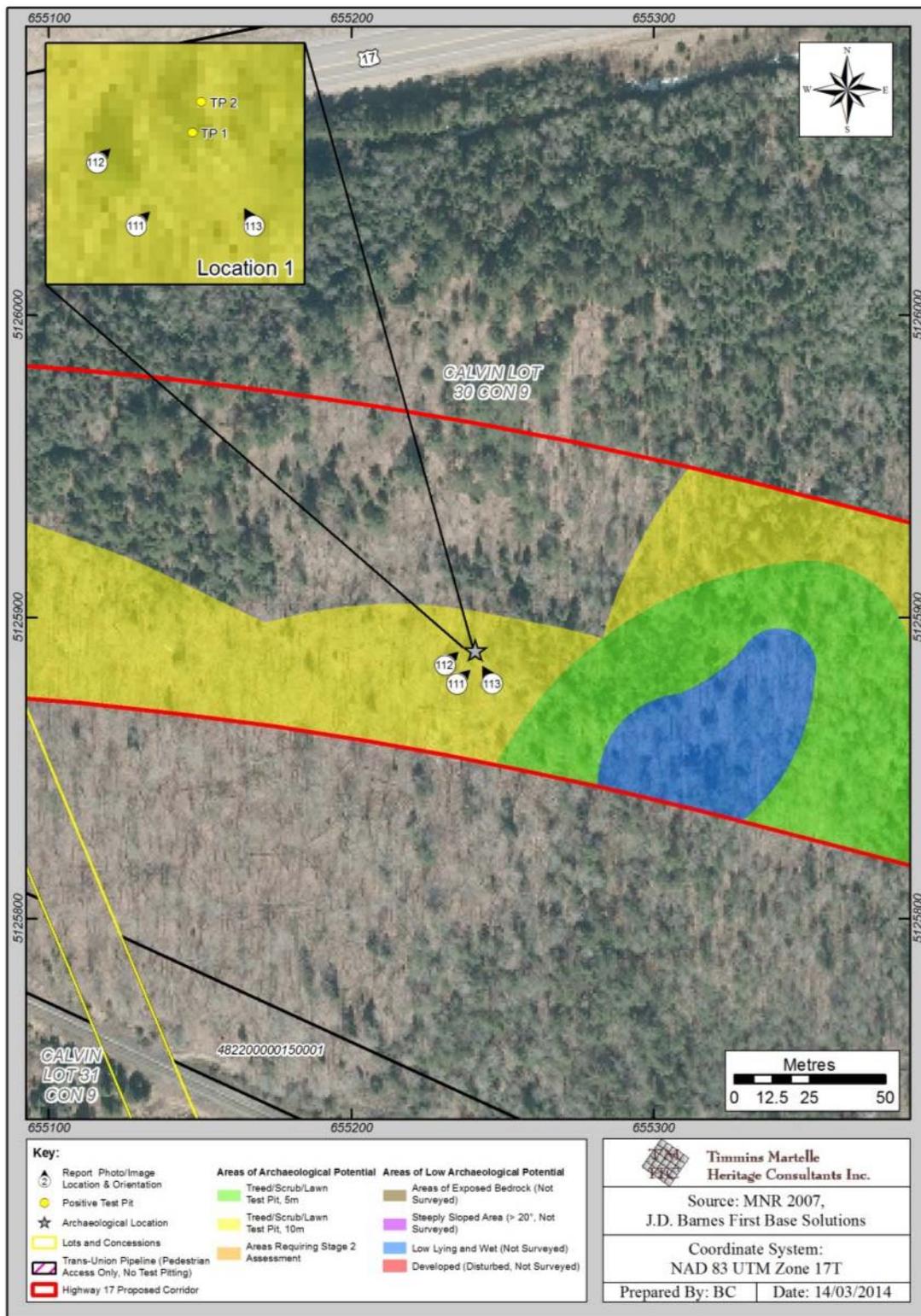
Location 1 was discovered during the Stage 2 test pit survey in Lot 30, Concession 9, the Municipality of Calvin (former Calvin Township). The artifact location is situated on high ground, in an undisturbed forest floor context, and overlooks a significant watercourse, the Pimisi Rapids. The river drains into Pimisi Bay (also referred to as Pimisi Lake). One pre-contact Aboriginal quartzite flake was recovered from a positive test pit within the Highway 17 recommended plan (Highway 17 proposed route). In addition, two possible quartzite artifacts were identified in another test pit during the intensified test pit survey at 2.5 m intervals. Therefore, the pre-contact site is roughly 2.5 metres in size. Based on provincial standards the site qualifies for further investigation. A more detailed assignment of cultural and temporal affiliation for this site cannot yet be made. It should be noted that the Stage 1 report authored by TMHC (2013, page 18) did establish that there may be an Iroquoian village/settlement along the shore of Pimisi Bay (Personal communication: John Whalen, November 6, 2012). A relationship between the latter and the material from Location 1 cannot be made, although the account of a site in this location lends support to the idea that the area was prime for earlier native settlement. Given the small number of artifacts noted to date, the site could instead represent a small pre-contact camp or activity area.

GPS readings were recorded for Location 1 using the Topcon GRS-1RTK Network Rover (advertised accuracy of 1 cm or less). Map 34, below, shows the location of the relocated scatter within the work area.

**Table 9: Stage 2 Site Location Information: Location 1**

<b>Location</b>	<b>Zone</b>	<b>UTM</b>
Test Pit 1	17T	5125886N 655240E
Test Pit 2	17T	5125889N 655241E





Map 34: Stage 2 Results- Location 1



***P357-036-2013 Location 2 (no Borden Number yet assigned)***

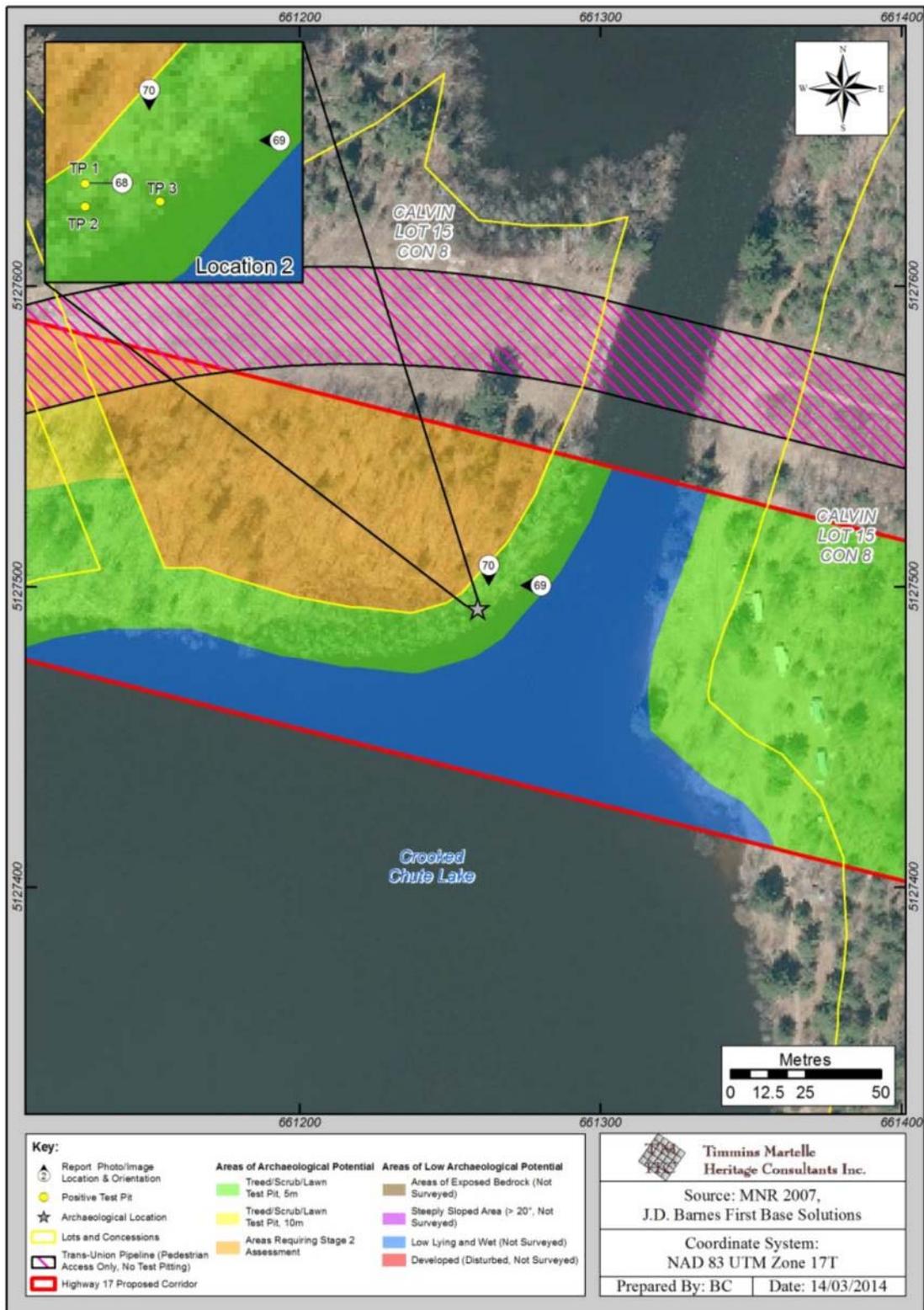
Location 2 was discovered during the test pit survey on Lot 15, Concession 8, Municipality of Calvin (former Calvin Township). The location is situated within Crown land adjacent to the Amble du Fond River. TMHC recovered an early historic hand wrought nail (nail type prior to 1830), historic glass and a possible pre-contact Aboriginal quartzite core, all from three positive test pits. At this time, TMHC considers Location 2 to be a small site (roughly 10m x 5m in size) of an undetermined function. The level of cultural heritage value or interest cannot yet be established. Nonetheless, the site qualifies for further investigation based on provincial standards.

This site may extend into a currently inaccessible portion of Lot 15, Con. 8 (PTE still pending). Although this location requires further field investigation, it is more pertinent to conduct the Stage 2 on the adjacent land first to gain further insight into the extent of the site. In addition, the Stage 1 report authored by TMHC (2013:10) documented that *Ontario Archives* retains an archaeological survey of the Amble du Fond River conducted in 1979. The related documents are not available to the public, although TMHC will strive to gain access in order to assess the level of past archaeological investigations prior to further field investigation.

GPS readings were recorded for Location 2 using the Topcon GRS-1RTK Network Rover (advertised accuracy of 1 cm or less). Map 35, below, shows the location of the relocated scatter within the work area.

<b>Table 10: Stage 2 Site Location Information: Location 2</b>		
<b>Location</b>	<b>Zone</b>	<b>UTM</b>
Test Pit 1	17T	5127594N 661254E
Test Pit 2	17T	5127491N 661254E
Test Pit 3	17T	5127492N 661264E





Map 35: Stage 2 Results- Location 2



---

## 9.0 ABORIGINAL ENGAGEMENT

As part of the Highway 17 Planning Study there has been continued First Nation consultation with communities throughout the design process. From 2012 to present the Ministry of Transportation and TMHC have continued consultation discussions with the Mattawa/North Bay Algonquin First Nation and the Algonquins of Ontario.

As Stage 2 archaeological assessments were required on parcels within the recommend plan. Prior to the assessment MTO sent an employment advertisement to each office (copied below). Based on the interest from Mattawa/North Bay Algonquin First Nation and the Algonquins of Ontario, a monitor from each was hired and present during the Stage 2 survey. Communication occurred by telephone and by email. Once the Stage 2 report is complete each will be provided with a copy.

---

### Archaeology Field Assistant/Technician Positions

Two vacancies are available for Temporary/Full-Time contract starting immediately. Timmins Martelle Heritage Consultants Inc. is seeking archaeological field assistants for a Stage 2 archaeological property survey near Highway 17 between Mattawa and Bonfield. The project involves excavating with shovel 30 cm x 30 cm test pits or 100 cm x 100 cm test units that could vary in depth from 40 cm to 140 cm on a 5 m or 10 m grid. Some field walking may also be involved. The goal of archaeological investigations is to identify and record any cultural remains from the recent past to approximately 10,000 years before present. Soil and environmental conditions vary and could consist of sand or clay and urban landscape to a forest and wetland setting. All excavated soils are manually processed through screen to locate artifacts. The work is strenuous and training in properly excavating test pits or units, identifying artifacts, and recording will be provided by experienced archaeology staff.

#### All candidates must meet the following qualifications:

- Physically able to excavate test pits and/or test units and screen soil in a timely manner to satisfy project scheduling for up to 8-10 hours per day and tolerate variable weather, including heat and humidity, and environment, which may include exposure to black flies, mosquitoes, and poison ivy
- Ability to lift and carry field equipment that may exceed 40 lbs. in weight over varying distances
- Ability to tolerate traversing across uneven terrain and through forests, wetland, and thick secondary growth brush
- Flexibility in working hours resulting from inclement weather, possibly including weekend work
- Have CSA certified (green triangle) work boots and/or rubber boots

Contract is expected to begin mid-September and will be for the project duration, which is anticipated to be between five and ten weeks. However, if successful, contracts may be extended into following field seasons and on a more full-time/seasonal basis.

Rate: \$15/hour. Rides to site may be available, but not guaranteed. Compensation for travel can also be negotiated. Having a valid driver's license and access to vehicle is beneficial.

Combined with the ability to work congenially and effectively with others, a willingness to work hard and learn new skills are personal characteristics we value most.

Please send resumes to:

**Tara Jenkins**  
Email: [tjenkins@tmhc.ca](mailto:tjenkins@tmhc.ca) fax: 519-641-7220  
Mail: Timmins Martelle Heritage Consultants  
@ the Museum of Ontario Archaeology  
1600 Attawandaron Road, London, ON N6

