

**Stage 1 Archaeological Assessment
Highway 404 North Collector Roads
Municipal Class Environmental Assessment
City of Markham
Regional Municipality of York
Part of Lots 28–31, Concession 3
Geographic Township of Markham
York County, Ontario**

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Original Report

EXECUTIVE SUMMARY

Under a contract awarded in July 2017, Archaeological Research Associates Ltd. carried out a Stage 1 assessment of lands with the potential to be impacted by the proposed construction of additional collector roads that will link with Highway 404 North in the City of Markham, Regional Municipality of York, Ontario. The subject lands fall within the Highway 404 North Planning District area, which extends from approximately 400 m north of 19th Avenue and south to approximately 600 m north of Elgin Mills Road, and from Highway 404 to Woodbine Avenue. The assessment was carried out as part of a 'Schedule C' Municipal Class Environmental Assessment in accordance with the *Environmental Assessment Act* and is being completed to confirm the final alignment of Highway 404 North collector roads. This report documents the background research and potential modelling involved in the assessment, and presents conclusions and recommendations pertaining to archaeological concerns within the assessed lands.

The assessed area forms a portion of an ongoing project conducted by the City of Markham, which identified the need for a review of the collector road network within the Precinct. This development process would entail the grading, paving, extending, repaving and widening of new and extant roadways to facilitate road resurfacing, the addition of active transportation facilities (e.g., sidewalks and bike lanes), the alteration of intersections, the addition of street lighting, as well as the installation, replacement and updating of curbs, gutters, underground sanitary sewers and watermains.

The Stage 1 assessment was conducted in May 2019 under Project Information Form #P007-0985-2019. The investigation encompassed sections of the existing Rights-of-Way extending along Woodbine Avenue, 19th Avenue, Honda Boulevard, Woodbine Avenue Bypass as well as unnamed access roads and adjacent lands accommodating all current design alternatives. All field observations were made from accessible public areas; accordingly, no permissions were required for property access. At the time of assessment, the study area consisted of extant roadways, sidewalks, grassed areas along extant Rights-of-Way and parts of several agricultural fields, industrial establishments, unused lands as well as one residential property.

The Stage 1 assessment determined that the study area comprised a mixture of areas of archaeological potential, areas of no archaeological potential and previously assessed lands of no further concern. Archaeological Research Associates Ltd. recommends that all identified areas of archaeological potential that could be impacted by the project be subject to a Stage 2 property assessment in accordance with Section 2.1 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011:28–39).

The identified areas of no archaeological potential and the previously assessed areas of no further concern do not require any additional assessment. Given that there are still outstanding archaeological concerns within the subject lands, no ground alterations or development of any kind may occur within the assessed area until the Stage 2 assessment is complete, a recommendation that the lands require no further archaeological assessment is made, and the associated report is entered into the Ontario Public Register of Archaeological Reports.

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GLOSSARY OF ABBREVIATIONS

ARA – Archaeological Research Associates Ltd.
EA – Environmental Assessment
MTCS – Ministry of Tourism, Culture and Sport
PIF – Project Information Form
PTP – Positive Test Pit
ROW – Right-of-Way
S&Gs – Standards and Guidelines for Consultant Archaeologists

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1.0 PROJECT CONTEXT

1.1 Development Context

Under a contract awarded in July 2017, ARA carried out a Stage 1 assessment of lands with the potential to be impacted by the proposed construction of additional collector roads that will link with Highway 404 North in the City of Markham, Regional Municipality of York, Ontario. The subject lands fall within the Highway 404 North Planning District area, which extends from approximately 400 m north of 19th Avenue and south to approximately 600 m north of Elgin Mills Road, and from Highway 404 to Woodbine Avenue. The assessment was carried out as part of a 'Schedule C' Municipal Class EA in accordance with the *Environmental Assessment Act* and is being completed to confirm the final alignment of Highway 404 North collector roads. This report documents the background research and potential modelling involved in the assessment, and presents conclusions and recommendations pertaining to archaeological concerns within the assessed lands.

The assessed area forms a portion of an ongoing project conducted by the City of Markham, which identified the need for a review of the collector road network within the Precinct. This development process would entail the grading, paving, extending, repaving and widening of new and extant roadways to facilitate road resurfacing, the addition of active transportation facilities (e.g., sidewalks and bike lanes), the alteration of intersections, the addition of street lighting, as well as the installation, replacement and updating of curbs, gutters, underground sanitary sewers and watermains.

The subject study area consists of four irregularly shaped parcels of land (Road A, C1, D and E1) with a total area of 6.48 ha (Map 1). These parcels are generally bounded by Woodbine Avenue in the east and Woodbine Avenue Bypass in the south, and traverse agricultural, unused and commercial/industrial lands as well as minor access routes. In legal terms, the study area falls on part of Lots 28–31, Concession 3 in the Geographic Township of Markham, York County.

The Stage 1 assessment was conducted in May 2019 under PIF #P007-0985-2019. The investigation encompassed sections of the existing ROWs extending along Woodbine Avenue, 19th Avenue, Honda Boulevard, Woodbine Avenue Bypass as well as unnamed access roads and adjacent lands accommodating all current design alternatives. All field observations were made from accessible public areas; accordingly, no permissions were required for property access. In compliance with the objectives set out in Section 1.0 of the *S&Gs* (MTC 2011:13–23), this investigation was carried out in order to:

- Provide information concerning the geography, history and current land condition of the study area;
- Determine the presence of known archaeological sites in the study area;
- Present strategies to mitigate project impacts to such sites, if they are located;
- Evaluate in detail the archaeological potential of the study area; and
- Recommend appropriate strategies for Stage 2 archaeological assessment, if some or all of the study area has archaeological potential.

The MTCS is asked to review the results and recommendations presented herein and enter the report into the Ontario Public Register of Archaeological Reports.

1.2 Historical Context

After a century of archaeological work in southern Ontario, scholarly understanding of the historic usage of the area has become very well-developed. With occupation beginning in the Palaeo-Indian period approximately 11,000 years ago, the greater vicinity of the study area comprises a complex chronology of Indigenous and Euro-Canadian histories. Section 1.2.1 summarizes the region's settlement history, whereas Section 1.2.2 documents the study area's past and present land uses. Multiple previous archaeological reports containing relevant background information were obtained during the research component of the study. These reports are summarized in Section 1.3.3, and the references (including title, author and PIF number) appear in Section 7.0.

1.2.1 Settlement History

1.2.1.1 Pre-Contact

The Pre-Contact history of the region is lengthy and rich, and a variety of Indigenous groups inhabited the landscape. Archaeologists generally divide this vibrant history into three main periods: Palaeo-Indian, Archaic and Woodland. Each of these periods comprise a range of discrete sub-periods characterized by identifiable trends in material culture and settlement patterns, which are used to interpret past lifeways. The principal characteristics of these sub-periods are summarized in Table 1.

Table 1: Pre-Contact Settlement History
(Wright 1972; Ellis and Ferris 1990; Warrick 2000; Munson and Jamieson 2013)

Sub-Period	Timeframe	Characteristics
Early Palaeo-Indian	9000–8400 BC	Gainey, Barnes and Crowfield traditions; Small bands; Mobile hunters and gatherers; Utilization of seasonal resources and large territories; Fluted projectiles
Late Palaeo-Indian	8400–7500 BC	Holcombe, Hi-Lo and Lanceolate biface traditions; Continuing mobility; Campsite/Way-Station sites; Smaller territories are utilized; Non-fluted projectiles
Early Archaic	7500–6000 BC	Side-notched, Corner-notched (Nettling, Thebes) and Bifurcate traditions; Growing diversity of stone tool types; Heavy woodworking tools appear (e.g., ground stone axes and chisels)
Middle Archaic	6000–2500 BC	Stemmed (Kirk, Stanly/Neville), Brewerton side- and corner-notched traditions; Reliance on local resources; Populations increasing; More ritual activities; Fully ground and polished tools; Net-sinkers common; Earliest copper tools
Late Archaic	2500–900 BC	Narrow Point (Lamoka), Broad Point (Genesee) and Small Point (Crawford Knoll) traditions; Less mobility; Use of fish-weirs; True cemeteries appear; Stone pipes emerge; Long-distance trade (marine shells and galena)
Early Woodland	900–400 BC	Meadowood tradition; Crude cord-roughened ceramics emerge; Meadowood cache blades and side-notched points; Bands of up to 35 people
Middle Woodland	400 BC–AD 600	Point Peninsula tradition; Vinette 2 ceramics appear; Small camp sites and seasonal village sites; Influences from northern Ontario and Hopewell area to the south; Hopewellian influence can be seen in continued use of burial mounds
Middle/Late Woodland Transition	AD 600–900	Princess Point tradition; Cord roughening, impressed lines and punctate designs on pottery; Adoption of maize horticulture at the western end of Lake Ontario; Oval houses and 'incipient' longhouses; First palisades; Villages with 75 people

Sub-Period	Timeframe	Characteristics
Late Woodland (Early Iroquoian)	AD 900–1300	Glen Meyer tradition; Settled village-life based on agriculture; Small villages (0.4 ha) with 75–200 people and 4–5 longhouses; Semi-permanent settlements
Late Woodland (Middle Iroquoian)	AD 1300–1400	Uren and Middleport traditions; Classic longhouses emerge; Larger villages (1.2 ha) with up to 600 people; More permanent settlements (30 years)
Late Woodland (Late Iroquoian)	AD 1400–1600	Huron-Petun tradition; Globular-shaped ceramic vessels, ceramic pipes, bone/antler awls and beads, ground stone celts and adzes, chipped stone tools, and even rare copper objects; Large villages (often with palisades), temporary hunting and fishing camps, cabin sites and small hamlets; Territorial contraction in early 16 th century; Fur trade begins ca. 1580; European trade goods appear

Although Iroquoian-speaking populations tended to leave a much more distinctive mark on the archaeological record and are therefore emphasized in the Late Woodland entries above, it must be understood that Algonquian-speaking populations were also present in southern Ontario. Archaeological evidence directly associated with the Anishinaabeg remains elusive, particularly when compared to sites associated with the more sedentary agriculturalists. Many artifact scatters in southern Ontario were likely camps, chipping stations or processing areas associated with the more mobile Anishinaabeg, utilized during their travels along the local drainage basins while making use of seasonal resources.

1.2.1.2 Post-Contact

The arrival of European explorers and traders at the beginning of the 17th century triggered widespread shifts in Indigenous lifeways and set the stage for the ensuing Euro-Canadian settlement process. Documentation for this period is abundant, ranging from the first sketches of Upper Canada and the written accounts of early explorers to detailed township maps and lengthy histories. The Post-Contact period can be effectively discussed in terms of major historical events, and the principal characteristics associated with these events are summarized in Table 2.

Table 2: Post-Contact Settlement History
(Smith 1846; Mulvany et al. 1885; Coyne 1895; Lajeunesse 1960; Mika 1972; Ellis and Ferris 1990; Surtees 1994; AO 2015)

Historical Event	Timeframe	Characteristics
Early Exploration	Early 17 th century	Brûlé explores southern Ontario in 1610; Champlain travels through in 1613 and 1615/1616, encountering a variety of Indigenous groups (including both Iroquoian-speakers and Algonquian-speakers); European goods begin to replace traditional tools
Increased Contact and Conflict	Mid- to late 17 th century	Conflicts between various First Nations during the Beaver Wars result in numerous population shifts; European explorers continue to document the area, and many Indigenous groups trade directly with the French and English; ‘The Great Peace of Montreal’ treaty established between roughly 39 different First Nations and New France in 1701
Fur Trade Development	Early to mid-18 th century	Growth and spread of the fur trade; Peace between the French and English with the Treaty of Utrecht in 1713; Ethnogenesis of the Métis; Hostilities between French and British lead to the Seven Years’ War in 1754; French surrender in 1760
British Control	Mid-18 th century	<i>Royal Proclamation</i> of 1763 recognizes the title of the First Nations to the land; Numerous treaties arranged by the Crown; First acquisition is the Seneca surrender of the west side of the Niagara River in August 1764

Historical Event	Timeframe	Characteristics
Loyalist Influx	Late 18 th century	United Empire Loyalist influx after the American Revolutionary War (1775–1783); British develop interior communication routes and acquire additional lands; Eastern portion of the future York County nominally acquired as part of the Johnson-Butler Purchase in 1787/1788 ('Toronto Purchase and 'Gunshot Treaty'); <i>Constitutional Act</i> of 1791 creates Upper and Lower Canada
County Development	Late 18 th to early 19 th century	Became part of York County's 'East Riding' in 1792; Augustus Jones began to survey Yonge Street in 1794; Johnson-Butler document declared invalid in 1794; Extent of 'Toronto Purchase' confirmed and western portion of York County acquired as part of the 'First Purchase of the Mississauga Tract' in 1805; Additional townships added to York County in 1821 and 1838; York County independent after the abolition of the district system in 1849
Township Formation	Late 18 th to early 19 th century	First settlers included German families lead by W.M. Berczy in 1794, who settled mainly along the Rouge River; Berczy built the first saw and grist mills in York County at German Mills; The clearing of Yonge Street and the associated system of free land grants subsequently attracted many settlers; Markham was partially surveyed in 1794, and the survey was completed in 1801; French Revolutionary soldiers, United Empire Loyalists, Pennsylvania Germans and Europeans from Britain settled from 1794–1830
Township Development	Mid-19 th to early 20 th century	Population of Markham reached 5,698 by 1842; 11 grist mills and 24 saw mills in operation by 1846; 26,814 ha taken up at that time, with 11,738 ha under cultivation; Population reached 6,868 by 1850; Traversed by the Toronto & Nipissing Railway (1871) and James Bay Railway/Canadian Northern Ontario Railway (1906); Population reached 8,152 by 1871; Prominent communities existed at Richmond Hill, Thornhill, Unionville and Markham

1.2.2 Past and Present Land Use

During Pre-Contact and Early Contact times, the vicinity of the study area would have comprised a mixture of coniferous trees, deciduous trees and open areas. Indigenous communities would have managed the landscape to some degree. During the early 19th century, Euro-Canadian settlers arrived in the area and began to clear the forests for agricultural and settlement purposes. The study area is located north of the historic settlement of Victoria Square.

In order to gain a general understanding of the study area's past land uses, one patent plan, two historic settlement maps, one topographic map and seven aerial images were examined during the research component of the study. Specifically, the following resources were consulted:

- The Patent Plan for Markham Township (No Date) (AO 2015);
- G.R. Tremaine's *Tremaine's Map of the County of York, Canada West* (1860) (University of Toronto 2019);
- Miles & Co.'s *Illustrated Historical Atlas of the County of York and the Township of West Gwillimbury & Town of Bradford in the County of Simcoe, Ontario* (1878) (McGill University 2001);
- A topographic map from 1914 (OCUL 2019); and
- Aerial images from 1954, 1970, 1978, 1988, 1999, 2007 and 2013 (University of Toronto 2019; York Region 2019).

The limits of the study area are shown on georeferenced versions of the consulted historical resources in Map 2–Map 12. The early 19th century patent plan of Markham Township indicates that the subject lands in Lot 28 were allocated as part of a King's College land endowment, whereas

Lots 29, 30 and 31 (eastern half) were patented to John Baker, Albright Spring and Thomas Read, respectively (Map 2). A summary of occupants and land uses from the mid-19th to the early 20th century appears in Table 3.

Table 3: Occupational History and Past Land Uses

Lot	Concession	Mid-19 th century	Late 19 th century	Early 20 th century
28	3	Northeast portion of John McCague's property; Woodbine Avenue appears to the east; north of the settlement of Victoria Square; no structures indicated	Northeast portion of John McCague's property; traversed by a cart path that spans between Woodbine Avenue and Leslie Street; one house and orchard are situated to the east of Leslie Street, outside of the study area	Cleared lands west of Woodbine Avenue; partially treed areas near the southwestern portion, outside of the study area
29	3	East and north central sections of John Baker's property; adjacent to Woodbine Avenue to the east; partially traversed by tributaries of an unnamed waterbody; no structures indicated	East and north parts of John Baker's property; traversed by a cart path that spans between Woodbine Avenue and Leslie Street; one house is indicated in the central portion of the property, outside of the study area	Cleared lands west of Woodbine Avenue; a wooden home is illustrated just west of the same road, outside of the study area
30	3	Southern and central portions of William Boynton's property; west of Woodbine Avenue and south of 19 th Avenue; partially traversed by tributaries of Berczy Creek; no structures indicated	Southern and central portions of William Boynton's property; a house and orchard are indicated adjacent to Woodbine Avenue, outside of the study area	Cleared lands west of Woodbine Avenue and south of 19 th Avenue; a wooden home continues to be indicated west of Woodbine Avenue
31	3	Northeast and southcentral sections of Alfred Read's property; west of Woodbine Avenue and north of 19 th Avenue; traversed by a tributary of Berczy Creek; one structure indicated just north of 19 th Avenue	Northeast and southern portions of Mrs. Read's property; an access route is visible between a house in the central portion of the property and 19 th Avenue; a orchard is indicated directly west of the house	Cleared lands west of Woodbine Avenue and north of the 19 th Avenue; a brick or stone home is indicated to the west of the study area

The aerial images from the second half of the 20th and into the 21st centuries document substantial land use changes over time. From 1954 to 1978, the study area comprised agricultural land with tree lines between the fields and along Woodbine Avenue and 19th Avenue as well as a driveway crossing Road E1 to Woodbine Avenue (Map 6–Map 8). By 1988, Highway 404 had been constructed to the west of the study area, as well as the 19th Avenue overpass (Map 9). However, the subject lands remained agricultural and continued to be used as such until after the end of the 20th century (Map 10). The early 21st century witnessed increasing development along the Highway 404 corridor with the establishment of a paved industrial storage facility or staging yard that abuts western extent of Road D (Map 11). By 2013, the Honda campus had been constructed along with additional infrastructure to allow access to the facility from Woodbine Avenue (i.e., Honda Boulevard, the Woodbine Avenue Bypass and Victoria Square Boulevard). Additional construction activities can also be observed south of the plant and to the east of Honda Boulevard (Map 12). The land use at the time of assessment can be classified as a mixture of infrastructural (e.g., urban roadways), industrial, residential, agricultural and unutilized lands.

1.3 Archaeological Context

The Stage 1 assessment (property inspection) was conducted on May 10, 2019 under PIF #P007-0985-2019. The limits of the study area were confirmed using georeferenced aerial imagery showing artificial and natural formations in relation to the project lands.

The archaeological context of any given study area must be informed by 1) the condition of the property as found (Section 1.3.1), 2) a summary of registered or known archaeological sites located within a minimum 1 km radius (Section 1.3.2) and 3) descriptions of previous archaeological fieldwork carried out within the limits of, or immediately adjacent to the subject lands (Section 1.3.3).

1.3.1 Condition of the Property

The study area lies within the Great Lakes–St. Lawrence forest, which is a transitional zone between the southern deciduous forest and the northern boreal forest. This forest extends along the St. Lawrence River across central Ontario to Lake Huron and west of Lake Superior along the border with Minnesota, and its southern portion extends into the more populated areas of Ontario. This forest is dominated by hardwoods, featuring species such as maple, oak, yellow birch, white and red pine. Coniferous trees such as white pine, red pine, hemlock and white cedar commonly mix with deciduous broad-leaved species, such as yellow birch, sugar and red maples, basswood and red oak (MNR 2019).

In terms of local physiography, the study area lies within the region known as the Peel Plain, which traverses parts of the City of Toronto and the Regional Municipalities of York, Peel and Halton. This plain is characterized by level-to-undulating clay soils which slope gradually toward Lake Ontario. The region contains deep valleys cut by the Credit, Humber, Don and Rouge Rivers (as well as other smaller streams like Bronte, Oakville and Etobicoke Creeks), and generally lacks large undrained depressions, swamps and bogs (Chapman and Putnam 1984:174–175).

According to the Ontario Soil Survey, the study area comprises a mixture of Milliken loam, Chinguacousy clay loam and Peel clay. Road A consists only of Milliken loam, Road C1 comprises a mixture of Milliken loam and Chinguacousy clay loam, Road D consists of Milliken loam, Chinguacousy clay loam as well as Peel clay and Road E1 comprises Milliken loam and Peel clay. Milliken loam is a Grey-Brown Podzolic that consists of medium textured shaly calcareous till with imperfect to moderate drainage. The internal and external drainage of Milliken loam is good, though little erosion occurs except for those instances where sufficient slope permits. Milliken loam is well suited to the cultivation of cereal crops, corn and hay as well as pasture and some fruit where the climate is suitable (Hoffman and Richards 1955:34–35). Chinguacousy clay loam is also a Grey-Brown Podzolic that also consists of medium textured shaly calcareous till. Erosion is typically slow due to its imperfect drainage and it is well suited for the cultivation of cereal grains and pasture though some cash crops are grown where the soil is more heavily managed and the weather permits (Hoffman and Richards 1955:41). Peel clay, a Grey-Brown Podzolic, is made up of stone free lacustrine materials with imperfect drainage qualities. The internal drainage of Peel clay is low, and the run-off is slow, except where the slope is sufficient to provide a somewhat more rapid external drainage. Peel clay is well suited to the production of cereal grains, hay and

pasture, and is adapted to dairy farming. Productivity can be fairly well maintained through the use of good farm practices (Hoffman and Richards 1955:71–73).

In terms of local watersheds, the subject lands fall within the Rouge River drainage basin, which is under the jurisdiction of Toronto and Region Conservation Authority (TRCA 2019). Specifically, Road A is traversed by an unnamed wetland and is located 90 m northeast of a tributary of Berczy Creek and 186 m northwest of an unnamed waterbody. Road C1 is situated 63 m southwest of the Rouge River Headwater Wetland Complex, 83 m southwest of a tributary of Berczy Creek and 250 m south of an unnamed waterbody. Road D is located 28 m west of an unnamed wetland, 46 m west of a tributary of Berczy Creek, 209 m east of the Rouge River and 237 m south of an unnamed waterbody, whereas Road E1 is located 99 m west of an unnamed wetland, 107 m west of an unnamed waterbody and 145 m west of a tributary of Berczy Creek.

At the time of assessment, the study area consisted of extant roadways, sidewalks, grassed areas along the extant ROWs and parts of several agricultural fields, industrial establishments, unused lands as well as one residential property. Field conditions were ideal during the assessment, with high ground surface visibility. No unusual physical features were encountered that affected the results of the Stage 1 assessment.

1.3.2 Registered or Known Archaeological Sites

The Ontario Archaeological Sites Database and the Ontario Public Register of Archaeological Reports were consulted to determine whether any registered or known archaeological resources occur within a 1 km radius of the study area. In response to a request for assistance, the Archaeological Data Coordinator indicated that there are 23 registered sites located within the specified distance. In terms of other known resources (e.g., Isolated Non-Diagnostic Find Spots, Leads or unreported deposits), no unregistered sites were identified within a 1 km radius. The sites are summarized in Table 4.

Table 4: Registered or Known Archaeological Sites

Borden No. / ID No.	Site Name / Identifier	Time Period	Affinity	Site Type	Distance from Study Area
AlGu-11	Barker	Unspecified	Unspecified	Camp/campsite	300 m–1 km
AlGu-12	Bruce Creek	Pre-Contact	Indigenous	Camp/campsite	300 m–1 km
AlGu-14	Almira	Pre-Contact	Indigenous	Camp/campsite	300 m–1 km
AlGu-350	Unspecified	Post-Contact	Euro-Canadian	Findspot	300 m–1 km
AlGu-351	Foster	Post-Contact	Euro-Canadian	Homestead	300 m–1 km
AlGu-352	Unspecified	Pre-Contact	Indigenous	Findspot	300 m–1 km
AlGu-353	Unspecified	Pre-Contact	Indigenous	Findspot	300 m–1 km
AlGu-370	Baker	Post-Contact	Euro-Canadian	Homestead	50 m–300 m
AlGu-379	McCague	Post-Contact	Unspecified	Unspecified	< 50 m
AlGu-380	Rice	Archaic, Early	Indigenous	Unspecified	50 m–300 m
AlGu-390	Barber 2	Unspecified	Unspecified	Unspecified	300 m–1 km
AlGu-391	Barber's Pit	Unspecified	Unspecified	Unspecified	300 m–1 km
AlGu-401	Glendower	Post-Contact	Euro-Canadian	Farmstead	300 m–1 km
AlGu-457	Glendower 2	Post-Contact	Euro-Canadian	Farmstead	50 m–300 m
AlGu-462	Peach 1	Post-Contact	Euro-Canadian	Homestead	300 m–1 km
AlGu-463	Peach 2	Post-Contact	Euro-Canadian	Homestead	300 m–1 km

Borden No. / ID No.	Site Name / Identifier	Time Period	Affinity	Site Type	Distance from Study Area
AlGu-464	Peach 3	Post-Contact	Euro-Canadian	Homestead	300 m–1 km
AlGu-465	James Nigh	Post-Contact	Euro-Canadian	Homestead/midden	300 m–1 km
AlGu-466	Spring Family	Post-Contact	Euro-Canadian	Homestead	300 m–1 km
AlGu-467	Teal Family	Post-Contact	Euro-Canadian	Homestead	300 m–1 km
AlGu-470	AlGu-470-P1	Paleo-Indian, Pre-Contact	Indigenous	Findspot	300 m–1 km
AlGu-472	Baker Dump	Post-Contact	Euro-Canadian	Scatter	300 m–1 km
AlGu-510	Victoria Square 1	Post-Contact	Euro-Canadian	Homestead	300 m–1 km

None of these previously identified sites fall within the project lands, although AlGu-379 is located within 50 m of Road E1. AlGu-370, AlGu-380 and AlGu-457 are located within 300 m of the study area and must also be considered as relevant features of archaeological potential. The assessments associated with the investigation of AlGu-370 and AlGu-457 are beyond 50 m from the study area, but the assessment for AlGu-380 is located in close proximity. As relevant sites that could represent archaeological concerns for the project, AlGu-379 and AlGu-380 are further discussed in Section 1.3.3. The remaining sites represent more distant archaeological resources.

1.3.3 Previous Archaeological Work

A review of available archaeological management plans and/or other archaeological potential mapping was undertaken to inform the assessment process. Specifically, the *York Region: Draft Archaeological Management Plan* (ASI 2013) was examined for information that could influence the potential modelling and recommendations. The associated mapping indicates that at least part of the study area has composite archaeological potential (i.e., potential for both Indigenous and Euro-Canadian archaeological resources). Low integrity/no archaeological potential areas were limited primarily to the central part of Road A, the southern and central parts of Road E1 as well as the central part of Road D (Map 13).

Reports documenting assessments conducted within the subject lands and assessments that resulted in the discovery of archaeological sites that could extend into the subject lands were also sought during the research component of the study. In order to ensure that all relevant past work was identified, an investigation was launched to identify reports involving assessments within 50 m of the study area. The investigation determined that there are seven available reports documenting previous archaeological fieldwork within the specified distance. The relevant results and recommendations are summarized below as required by Section 7.5.8 Standards 4–5 of the *S&Gs* (MTC 2011:126).

1.3.3.1 Woodbine Avenue Bypass of Victoria Square (Stage 1)

In 2003, a Stage 1 archaeological assessment was conducted under CIF #2002-020-273 for the proposed alignment of the Woodbine Avenue Bypass of Victoria Square (ASI 2003). The assessed lands extend from the intersection of 19th Avenue and Woodbine Avenue in the north to the intersection of Major Mackenzie Drive and Woodbine Avenue in the south, between Highway 404 to the west and Warden Avenue to the east. This area overlaps the eastern section of Road D as well as more than half of Road E1. The Stage 1 assessment indicated that the lands to be impacted

by the preferred alignment of the bypass possessed archaeological potential and were recommended for a Stage 2 property assessment prior to any ground disturbing activities.

1.3.3.2 11160 Woodbine Avenue (Stage 1-2)

In September and November 2007, Stage 1 and 2 archaeological assessments were conducted under CIF #P013-377-2007 for a proposed commercial development (AAL 2008). The study area consisted of a rectangular 50-acre parcel between the Highway 404 ROW and Woodbine Avenue as well as an 8-acre linear parcel associated with a proposed road corridor. The assessed lands overlap the southern part of Road E1. The Stage 1 assessment determined that the study area consisted of a mixture of areas of archaeological potential and areas of no archaeological potential. The Stage 2 assessment resulted in the discovery of two locations of archaeological materials: the Rice site (AlGu-380) and the McCague site (AlGu-379).

The Rice site (AlGu-380) consisted of an isolated Early Archaic projectile point located at the northern edge of the assessed lands (west of Road E1). Intensification of the pedestrian survey was conducted at 1 m intervals, but no additional materials were recovered. The site was found to possess no further CHVI and was not recommended for further work. The McCague site (AlGu-379) was found near the southern edge of the assessed lands, just east of the southern terminus of Road E1. Intensification was also conducted at 1 m intervals and resulted in the discovery of a roughly 40 x 40 m scatter of Euro-Canadian materials dating to the mid-19th century. A total of 38 artifacts were recovered from the surface. The site was found to have further CHVI and was recommended for Stage 3 site-specific assessment as well as Stage 4 excavation prior to development (AAL 2008:7).

1.3.3.3 The McCague Site (Stage 3–4)

As per the recommendations made in the earlier Stage 1-2 report, Stage 3–4 excavations of the McCague Site (AlGu-379) were conducted in May 2008 under CIF #P013-410-2007 (AAL 2010). As noted above, the site was situated less than 50 m from the southern extent of Road E1. During a Controlled Surface Pick-up, an additional 118 Euro-Canadian artifacts were recovered within a 46 x 24 m (E-W) semi-circular area. A total of 20 one-metre test units were excavated, in which yields ranged between 2–129 artifacts per unit. The site was found to have further CHVI and was recommended for Stage 4 mitigation of development impacts. The Stage 4 excavation of the McCague Site (AlGu-379) involved mechanical topsoil removal and feature excavation.

A total of 1,215 artifacts and other remains were observed during the CSP, test unit excavation, mechanical topsoil removal and feature excavation. Sampling was conducted and only one piece of plaster was retained to reduce redundant laboratory processing. The retained assemblage comprised 1,166 Euro-Canadian artifacts and 49 organic remains. The Euro-Canadian diagnostics generally date from the 1840s to the early 1870s. The Stage 4 investigation resulted in the identification of 18 true cultural features: one drain, one plaster filled pit, one refuse filled depression, one refuse pit, two sub-floor pits and twelve post moulds. The available evidence supported the interpretation that the site represented the remains of a first-generation homestead occupied by the McCague family prior to the construction of a more substantial home in the western portion of the property in the late 19th century. The McCague Site (AlGu-379) was fully excavated and documented, and therefore does not represent a concern for the project.

1.3.3.4 Highway 404 Crossing (Stage 1)

In 2013, a Stage 1 archaeological assessment was conducted under PIF #P018-467-2013 for lands to be impacted by a road crossing of Highway 404 between Elgin Mills Road and 19th Avenue (NDA 2014). The assessed lands overlap the portion of Road C1 south of 19th Avenue as well as the entirety of Roads D and E1. The Stage 1 assessment documented numerous areas of disturbance, but also identified several areas of archaeological potential. It was recommended that all accessible and undisturbed areas that could be impacted by the project be subject to Stage 2 property assessment. No specific areas of disturbance were illustrated in the mapping.

1.3.3.5 Victoria Square Boulevard Improvements (Stage 1–2)

In April 2016 and June 2017, Stage 1 and 2 archaeological assessments were conducted under PIF #P468-004-2017 for proposed improvements to Victoria Square Boulevard between the north and south intersections with the Woodbine Bypass (Golder 2018). The assessments were conducted under licence P1056; however, the PIF and reporting responsibilities were transferred to P468 due to extenuating circumstances. The assessed area falls within 50 m of the southern terminus of Road E1. The Stage 1 assessment determined that the study area consisted of a mixture of areas of archaeological potential and areas of no archaeological potential. The Stage 2 assessment determined that much of the study area that was indicated as having archaeological potential during the Stage 1 assessment was subject to deep ground disturbing activities as a result of the installation of subterranean infrastructure. The assessment resulted in the identification of one location of Euro-Canadian archaeological materials: Location 1/Victoria Square 1 (AlGu-510). Location 1 was found to be of further CHVI. The disturbed lands were not recommended for further assessment, and Victoria Square 1 was recommended for a Stage 3 site-specific assessment prior to development. Two cemeteries were also noted adjacent to the assessed area, and further assessment was recommended if any impacts were required within 10 m. None of these areas of archaeological concern are located within 50 m of the subject lands.

1.3.3.6 Disturbed Ground Bed Protection (Stage 1)

In June and August 2016, a Stage 1 archaeological assessment was conducted under PIF #P415-0084-2016 for lands to be impacted by the installation of anode rectifier beds as part of TransCanada Pipeline's ongoing preventative maintenance program (Stantec 2016). The assessed lands traverse the northern portion of Road E1 and abut the southeastern terminus of Road C1. The Stage 1 assessment identified areas of archaeological potential and areas of no archaeological potential. All areas of archaeological potential were recommended for Stage 2 assessment in advance of development. The portion traversing the subject lands was found to be deeply disturbed by the construction of several underground utilities and free of further archaeological concern.

1.3.3.7 2780 19th Avenue (Stage 1–2)

In July 2017, Stage 1 and 2 archaeological assessments were conducted under PIF #P344-0151-2017 in advance of a property purchase at 2780 19th Avenue (BRI 2017). The assessed lands traverse the entirety of Road A as well as the northern terminus of Road C1. The Stage 1 assessment determined that the study area consisted of a mixture of areas of archaeological potential and areas of no archaeological potential. The Stage 2 assessment of the areas of archaeological potential did

not result in the discovery of any archaeological materials. No further work was recommended, and the assessed lands were identified as being free of further archaeological concern.

2.0 STAGE 1 BACKGROUND STUDY

2.1 Background

The Stage 1 assessment involved background research to document the geography, history, previous archaeological fieldwork and current land condition of the study area. This desktop examination included research from archival sources, archaeological publications and online databases. It also included the analysis of a variety of historic maps and aerial images. The results of the research conducted for the background study are summarized below.

With occupation beginning approximately 11,000 years ago, the greater vicinity of the study area comprises a complex chronology of Pre-Contact and Post-Contact histories (Section 1.2). Artifacts associated with Palaeo-Indian, Archaic, Woodland and Early Contact traditions are well-attested in the City of Markham, and Euro-Canadian archaeological sites dating to pre-1900 and post-1900 contexts are likewise common. The presence of 23 previously identified archaeological sites in the surrounding area demonstrates the desirability of this locality for early settlement (Section 1.3.2). The investigation confirmed that none of these sites extend into the subject lands, although one was situated within 50 m of Road E1. Background research identified five areas of previous assessment within the study area (Section 1.3.3).

The natural environment of the study area would have been attractive to both Indigenous and Euro-Canadian populations as a result of proximity to the Rough River Headwater Complex, tributaries of Berczy Creek and associated wetland complexes. The areas of well-drained soils would have been ideal for agriculture, and the diverse local vegetation would also have encouraged settlement throughout Ontario's lengthy history. Euro-Canadian populations would have been drawn to the historically-surveyed thoroughfares of 19th Avenue and Woodbine Avenue, which had highly similar alignments to the modern roadways.

In summary, the background study included an up-to-date listing of sites from the Ontario Archaeological Sites Database (within at least a 1 km radius), the consideration of previous local archaeological fieldwork (within at least a 50 m radius), the analysis of historic maps (at the most detailed scale available) and the study of aerial imagery. A review of an archaeological management plan was also carried out. ARA therefore confirms that the standards for background research set out in Section 1.1 of the *S&Gs* (MTC 2011:14–15) were met.

2.2 Field Methods (Property Inspection)

In order to gain first-hand knowledge of the geography, topography and current condition of the study area, a property inspection was conducted on May 10, 2019 (Image 1–Image 10). Environmental conditions were acceptable during the inspection, with overcast skies, good lighting and a high of 15 °C. ARA therefore confirms that fieldwork was carried out under weather and lighting conditions that met the requirements set out in Section 1.2 Standard 2 of the *S&Gs* (MTC 2011:16).

The study area was subjected to random spot-checking in accordance with the requirements set out in Section 1.2 of the *S&Gs* (MTC 2011:15–17). Specifically, the inspection began at the southern end of Road C1 and progressed to Road E1 and Road D before finishing at Road A. The

visually inspected areas were examined under conditions that permitted good visibility of land features. The inspection confirmed that all surficial features of archaeological potential (e.g., the historic roadways) were present where they were previously identified and did not result in the identification of any additional features of archaeological potential not visible on mapping (e.g., relic water channels, patches of well-drained soils, etc.).

The inspection determined that parts of the study area were deeply disturbed by past construction activities. No natural features (e.g., sloped lands, permanently wet areas, overgrown vegetation, heavier soils than expected, etc.) or other significant built features (e.g., heritage structures, landscapes, plaques, monuments, cemeteries, etc.) that would affect assessment strategies were identified within the study area.

2.3 Analysis and Conclusions

In addition to relevant historical sources and the results of past archaeological assessments, the archaeological potential of a property can be assessed using its soils, hydrology and landforms as considerations. Section 1.3.1 of the *S&Gs* (MTC 2011:17–18) recognizes the following features or characteristics as indicators of archaeological potential: previously identified sites, water sources (past and present), elevated topography, pockets of well-drained sandy soil, distinctive land formations, resource areas, areas of Euro-Canadian settlement, early transportation routes, listed or designated properties, historic landmarks or sites, and areas that local histories or informants have identified with possible sites, events, activities or occupations.

The Stage 1 assessment resulted in the identification of several features of archaeological potential in the vicinity of the study area (Map 14 and SD Map 1). The closest and most relevant indicators of archaeological potential (i.e., those that would directly affect survey interval requirements) include four registered archaeological sites (AlGu-370, AlGu-379, AlGu-380 and AlGu-457), two primary water sources (the Rouge River and a tributary of Berczy Creek), multiple secondary water sources (the Rouge River Headwater Wetland Complex, unnamed waterbodies and unnamed wetlands), two historic roads (19th Avenue and Woodbine Avenue), six historic farmstead localities and one historic schoolhouse. Background research did not identify any features indicating that the study area has potential for deeply buried archaeological resources.

Although proximity to a feature of archaeological potential is a significant factor in the potential modelling process, current land conditions must also be considered. Section 1.3.2 of the *S&Gs* (MTC 2011:18) emphasizes that 1) quarrying, 2) major landscaping involving grading below topsoil, 3) building footprints and 4) sewage/infrastructure development can result in the removal of archaeological potential, and Section 2.1 of the *S&Gs* (MTC 2011:28) states that 1) permanently wet areas, 2) exposed bedrock and 3) steep slopes ($> 20^\circ$) can also be considered as having no archaeological potential. Areas previously assessed and not recommended for further work also require no further assessment.

The *York Region: Draft Archaeological Management Plan* (ASI 2013) indicates that the majority of the study area has archaeological potential, and the areas of no archaeological potential were limited to the central part of Road A, the southern and central parts of Road E1 as well as the central part of Road D (Map 13). However, this modelling was not the result of a property-specific assessment and therefore does not fully account for land-use history and current conditions.

Multiple previously assessed areas of no further concern were identified within the project lands, and the associated sections of overlap do not require any additional assessment.

ARA's visual inspection, coupled with the analysis of historical sources and digital environmental data, resulted in the identification of numerous areas of no archaeological potential within the remainder of the study area. Specifically, alterations associated with road construction and maintenance (e.g., 19th Avenue, Woodbine Avenue, Honda Boulevard as well as their associated cross streets and intersections) and TransCanada Pipeline subterranean infrastructure have resulted in the removal of archaeological potential in several areas. These areas have clearly been impacted by past earth-moving activities, resulting in the disturbance of the original soils to a significant depth and severe damage to the integrity of any archaeological resources. The remainder of the assessed area was determined to have archaeological potential, including a variety of agricultural fields, grassed areas and treed areas.

In summary, the Stage 1 assessment determined that the study area comprised a mixture of areas of archaeological potential, areas of no archaeological potential and previously assessed lands of no further concern. At the time of assessment, 40.59% (2.63 ha) of the study area had archaeological potential and fell within agricultural lands located < 300 m from a feature of archaeological potential, whereas 20.43% (1.32 ha) of the study area had archaeological potential and fell within non-agricultural lands located < 300 m from a feature of archaeological potential. Areas that are potentially disturbed but retain archaeological potential until such time as disturbance can be confirmed comprised 1.30% (0.08 ha), whereas 7.80% (0.51 ha) was identified as disturbed and 29.88% (1.94 ha) was previously assessed and not recommended for further work. The potential modelling results are presented in Map 15–Map 20 and SD Map 2. The limits of the project lands ('study area') and the past assessments are depicted as layers in these maps.

3.0 RECOMMENDATIONS

The Stage 1 assessment determined that the study area comprised a mixture of areas of archaeological potential, areas of no archaeological potential and previously assessed lands of no further archaeological concern. ARA recommends that all identified areas of archaeological potential that could be impacted by the project be subject to a Stage 2 property assessment in accordance with Section 2.1 of the *S&Gs* (MTC 2011:28–39).

The agricultural fields throughout Road C1, the northern section of Road D and the central sections of Road E1 must be assessed using the pedestrian survey method at an interval of 5 m. All ground surfaces must be recently ploughed (typically within the month prior to assessment), weathered by one heavy rainfall or several light rains, and provide at least 80% visibility. If archaeological materials are encountered, the transect interval must be decreased to at least 1 m and a close inspection of the ground must be conducted over a minimum of a 20 m radius around the find. This interval must be continued until the full extent of the scatter has been defined.

The grassed and treed areas within the northern section of Road C1, the southern edge and eastern portion of Road D as well as the southcentral section of Road E1 must be assessed using the test pit survey method. A survey interval of 5 m will be required due to the proximity of the lands to the identified features of archaeological potential. Given the likelihood that the remaining area of potential in the central portion of Road E1 has been impacted by past construction activities, a combination of visual inspection and test pit survey should be utilized to confirm the extents of any disturbed areas in accordance with Section 2.1.8 of the *S&Gs* (MTC 2011:38). This will allow for the empirical evaluation of the integrity of the soils and the depth of any past disturbances. If disturbance cannot be confirmed, then a test pit survey interval of 5 m must be maintained.

Regardless of the survey method employed, each test pit must be excavated into at least the first 5 cm of subsoil, and the resultant pits must be examined for stratigraphy, potential features and/or evidence of fill. The soil from each test pit must be screened through mesh with an aperture of no greater than 6 mm and examined for archaeological materials. If archaeological materials are encountered, all PTPs must be documented and intensification may be required.

The identified areas of no archaeological potential and the previously assessed areas of no further concern do not require any additional assessment. Given that there are still outstanding archaeological concerns within the subject lands, no ground alterations or development of any kind may occur within the assessed area until the Stage 2 assessment is complete, a recommendation that the lands require no further archaeological assessment is made, and the associated report is entered into the Ontario Public Register of Archaeological Reports.

4.0 ADVICE ON COMPLIANCE WITH LEGISLATION

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

- This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the MTCS, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.
- It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.
- Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.
- 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 Consumer Services.

5.0 IMAGES



Image 1: Previously Assessed Lands
(May 10, 2019; Facing West)



Image 2: Previously Assessed Lands
(May 10, 2019; Facing North)



Image 3: Disturbed Lands
(May 10, 2019; Facing South)



Image 4: Area of Potential
(May 10, 2019; Facing North)



Image 5: Disturbed Lands
(May 10, 2019; Facing East)



Image 6: Disturbed Lands
(May 10, 2019; Facing South)



Image 7: Area of Potential
(May 10, 2019; Facing West)



Image 8: Disturbed Lands
(May 10, 2019; Facing West)

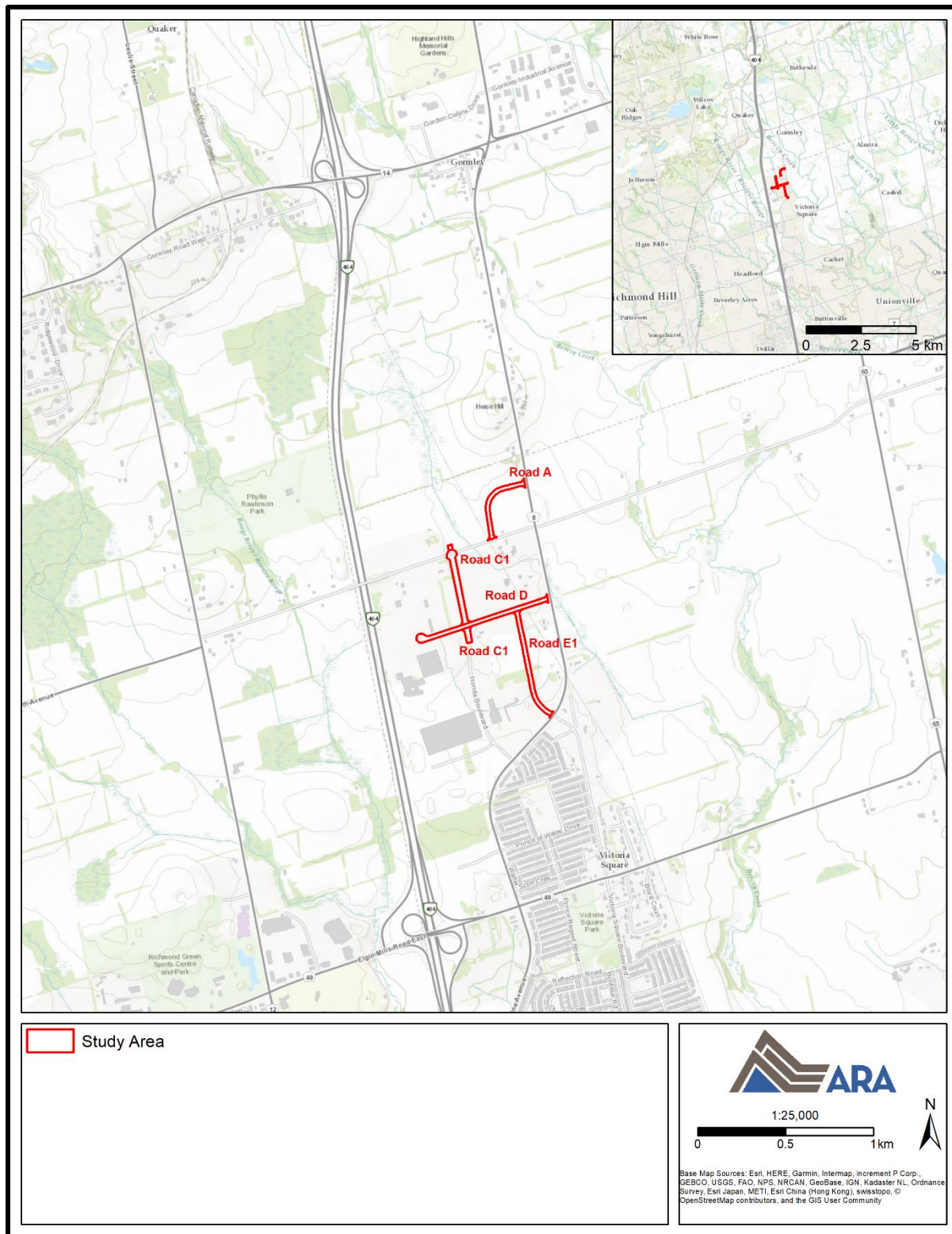


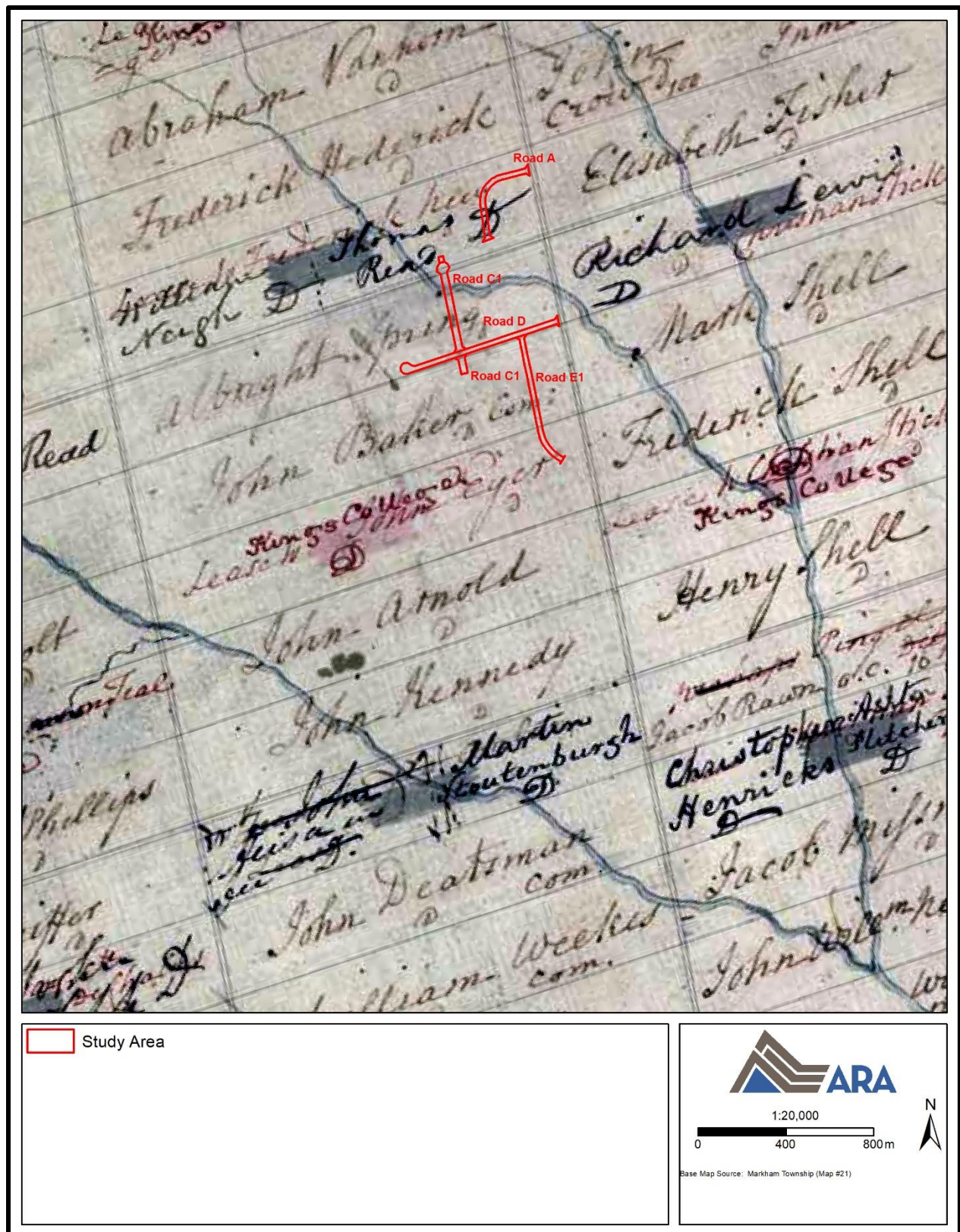
Image 9: Disturbed Lands
(May 10, 2019; Facing Northwest)



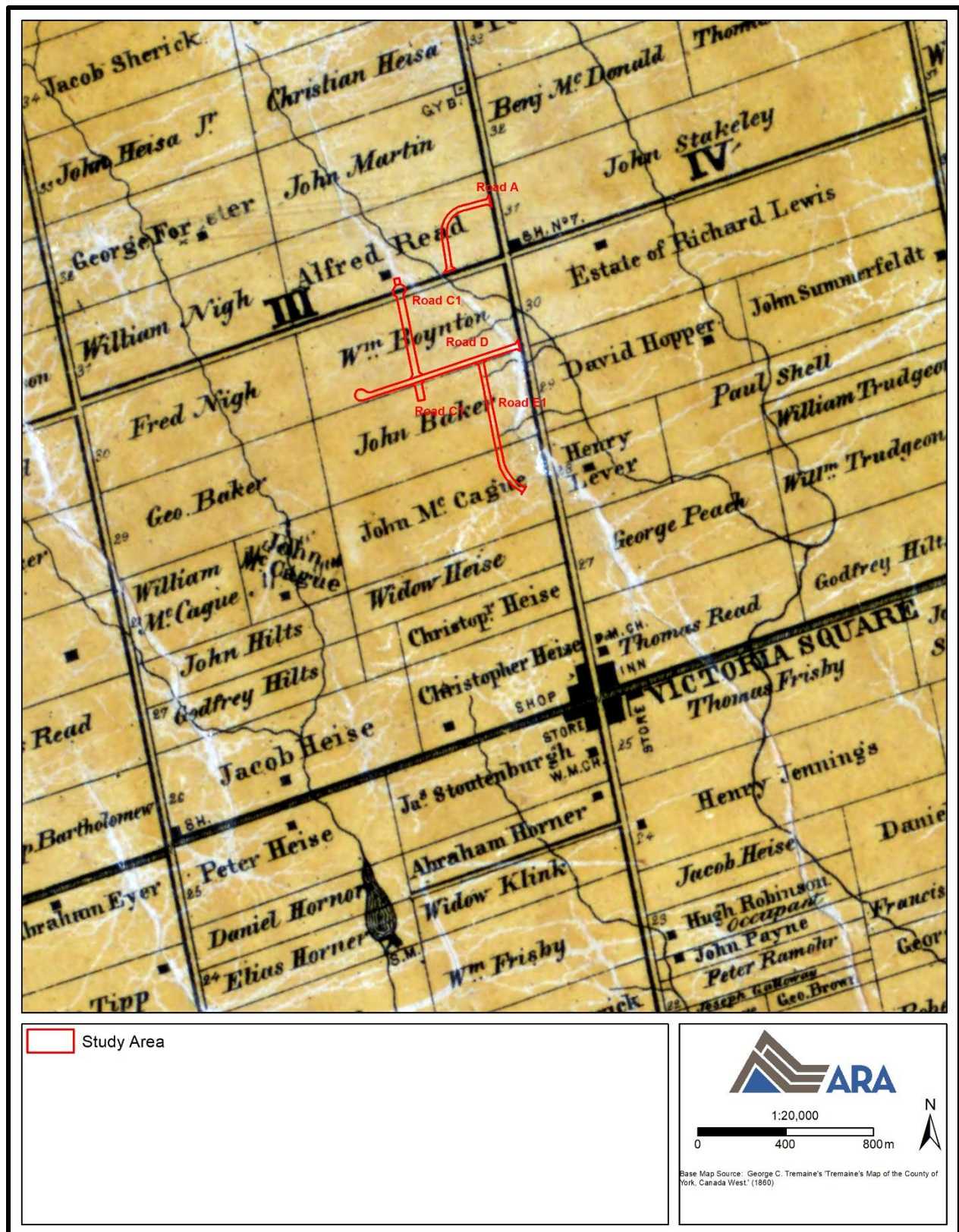
**Image 10: Previously Assessed
Lands**
(May 10, 2019; Facing Northeast)

6.0 MAPS

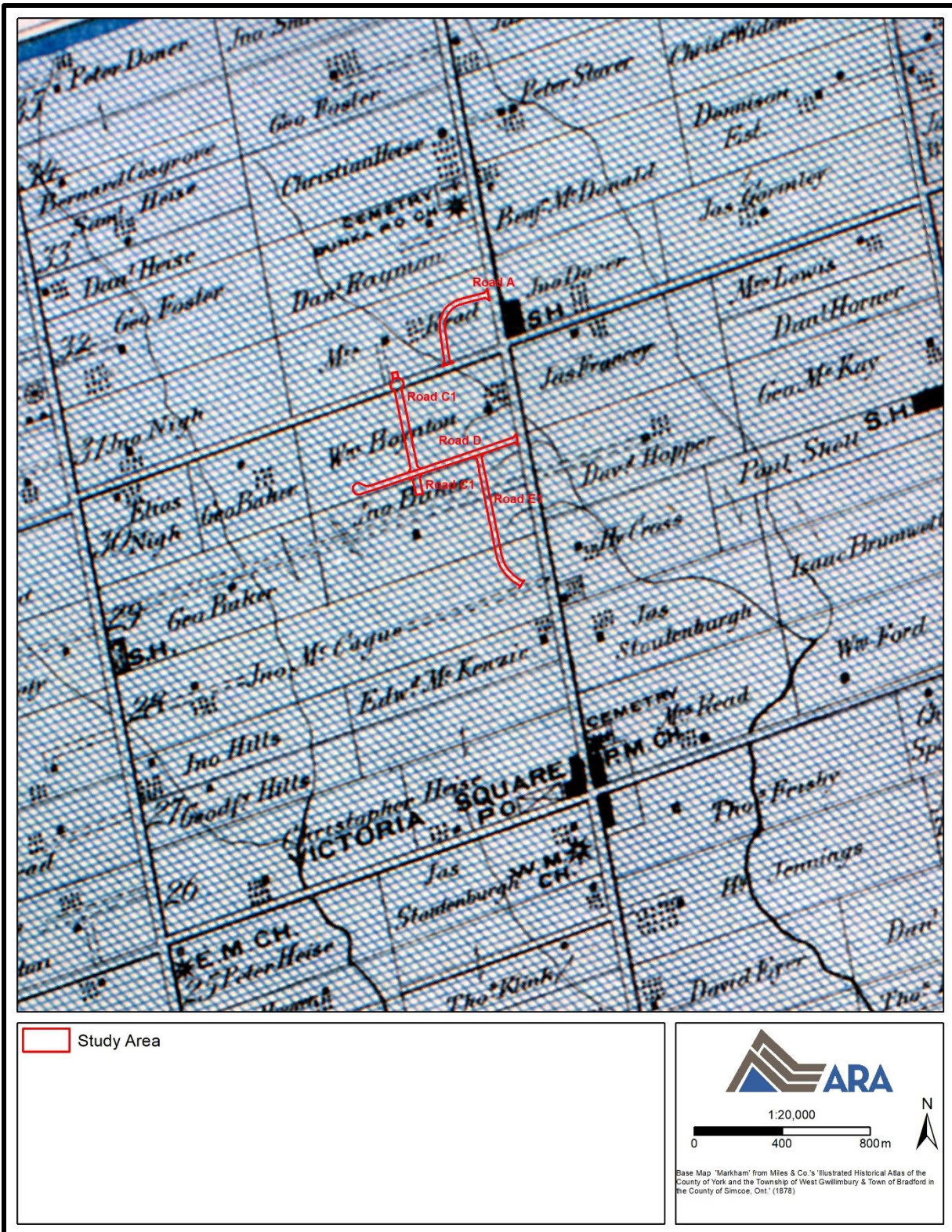




Map 2: Patent Plan for Markham Township (No Date)
(Produced under licence using ArcGIS® software by Esri, © Esri; AO 2015)

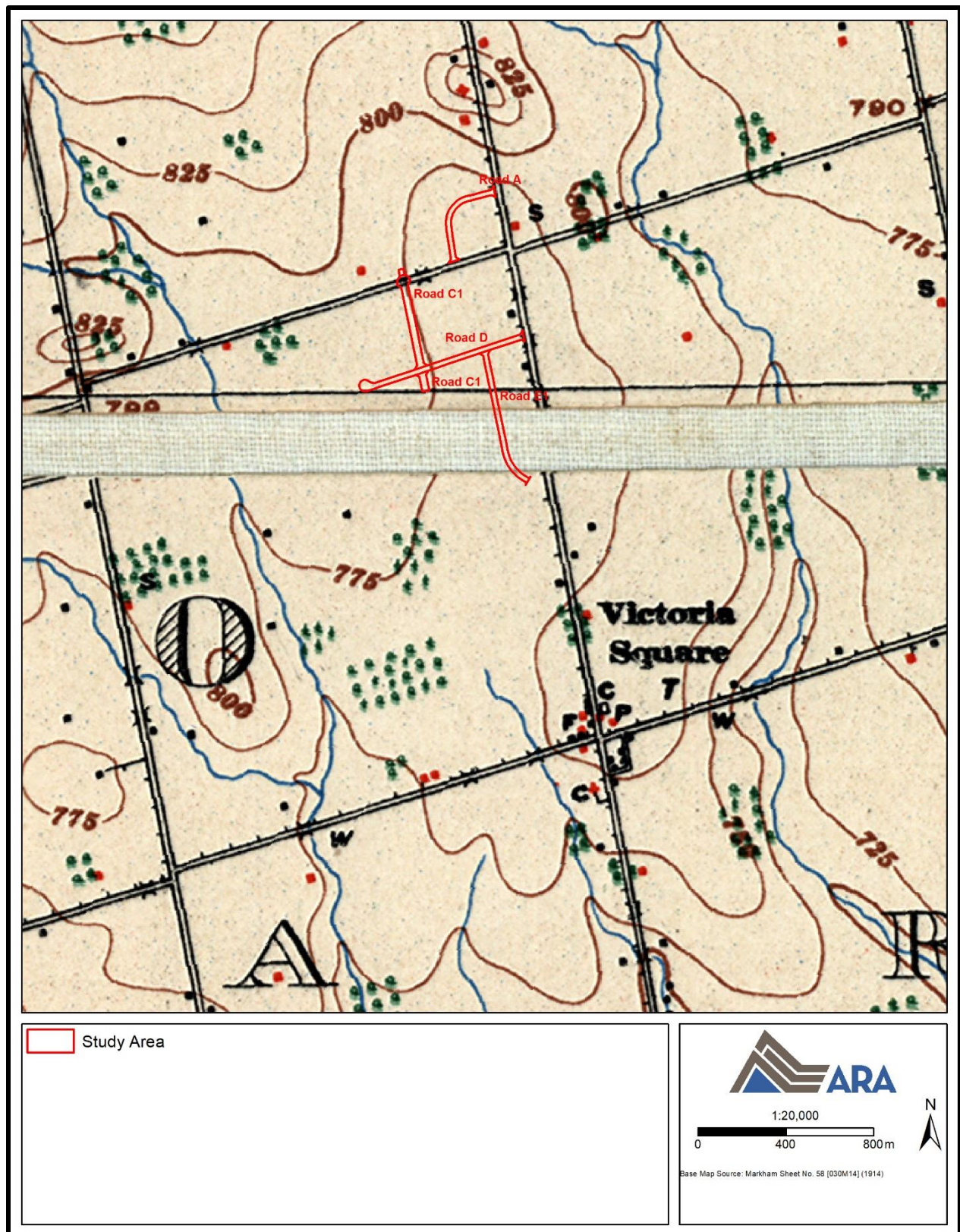


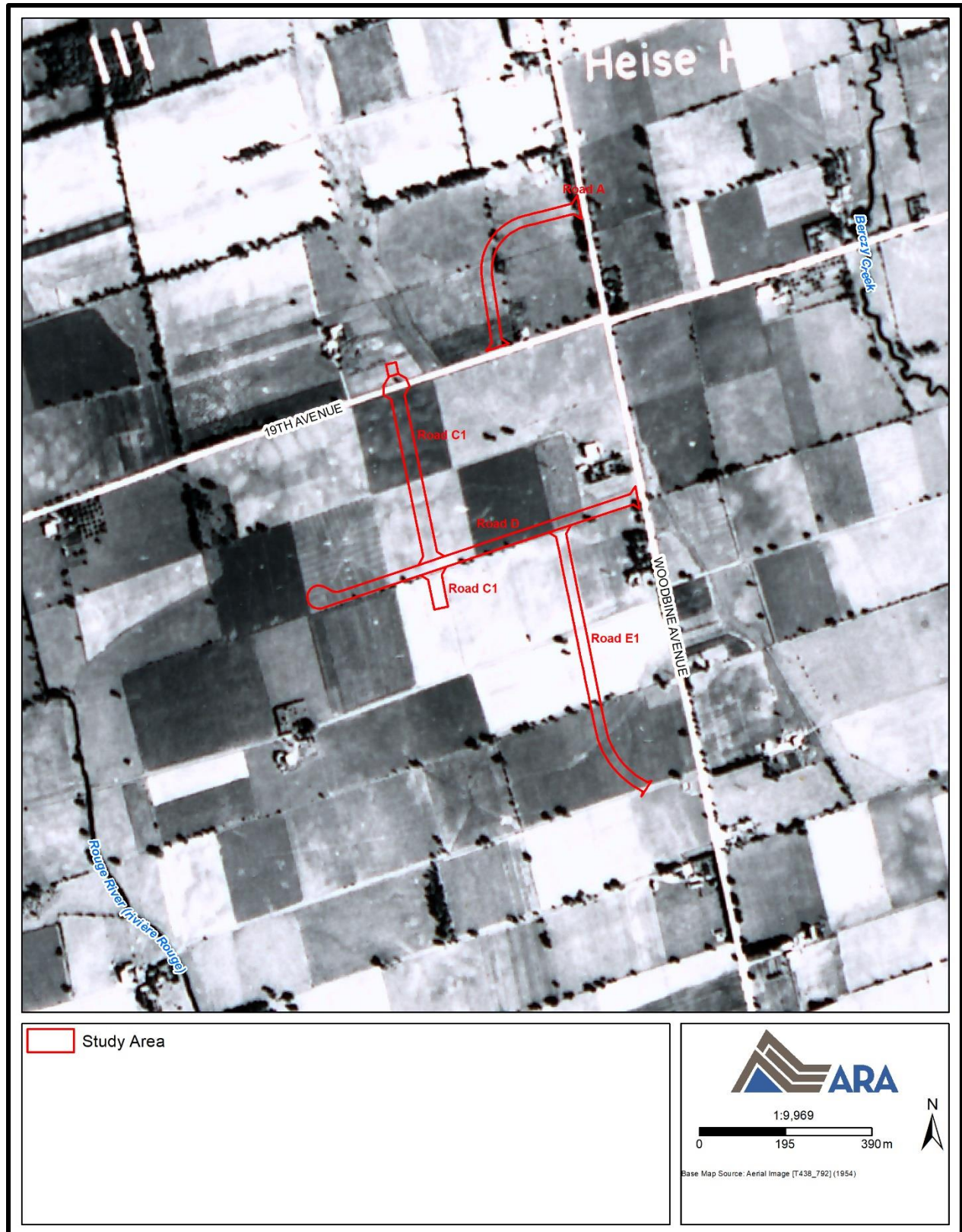
Map 3: G.C. Tremain's Tremain's Map of the County of York, Canada West (1860)
(Produced under licence using ArcGIS® software by Esri, © Esri; University of Toronto 2019)



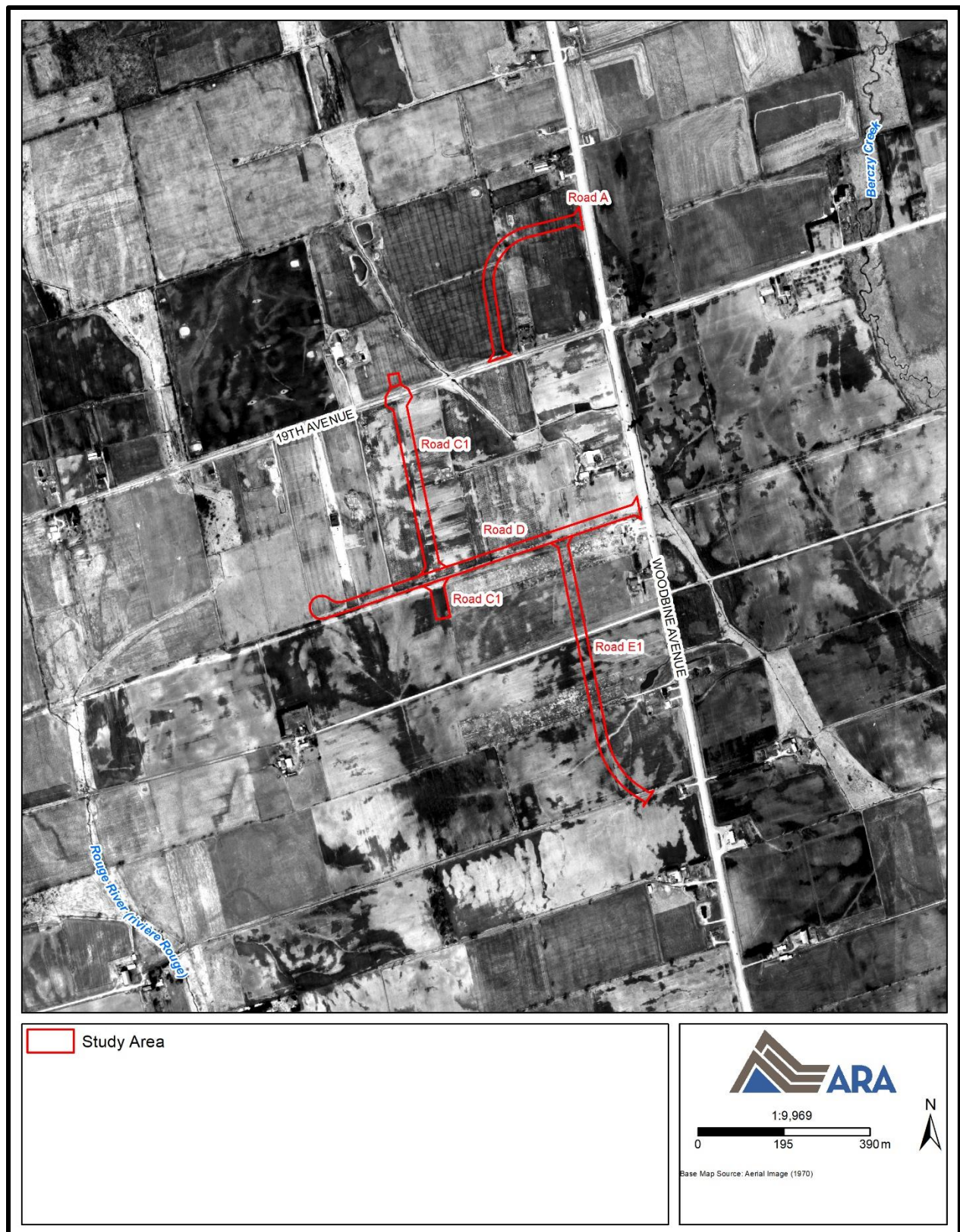
Map 4: Miles & Co's Illustrated Historical Atlas of the County of York and the Township of West Gwillimbury & Town of Bradford in the County of Simcoe, Ontario (1878)

(Produced under licence using ArcGIS® software by Esri, © Esri; McGill University 2001)

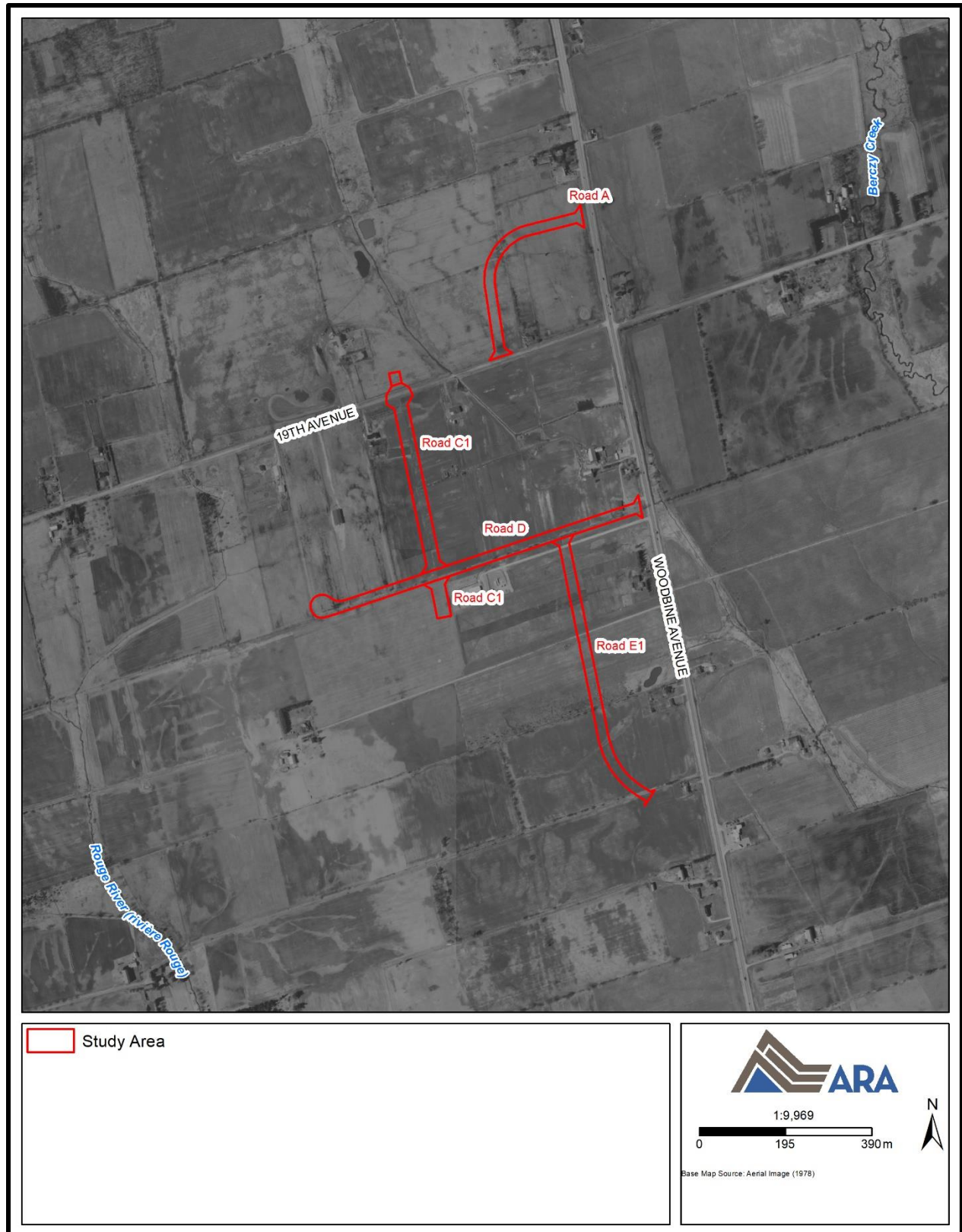




Map 6: Aerial Image (1954)
(Produced under licence using ArcGIS® software by Esri, © Esri; University of Toronto 2019)

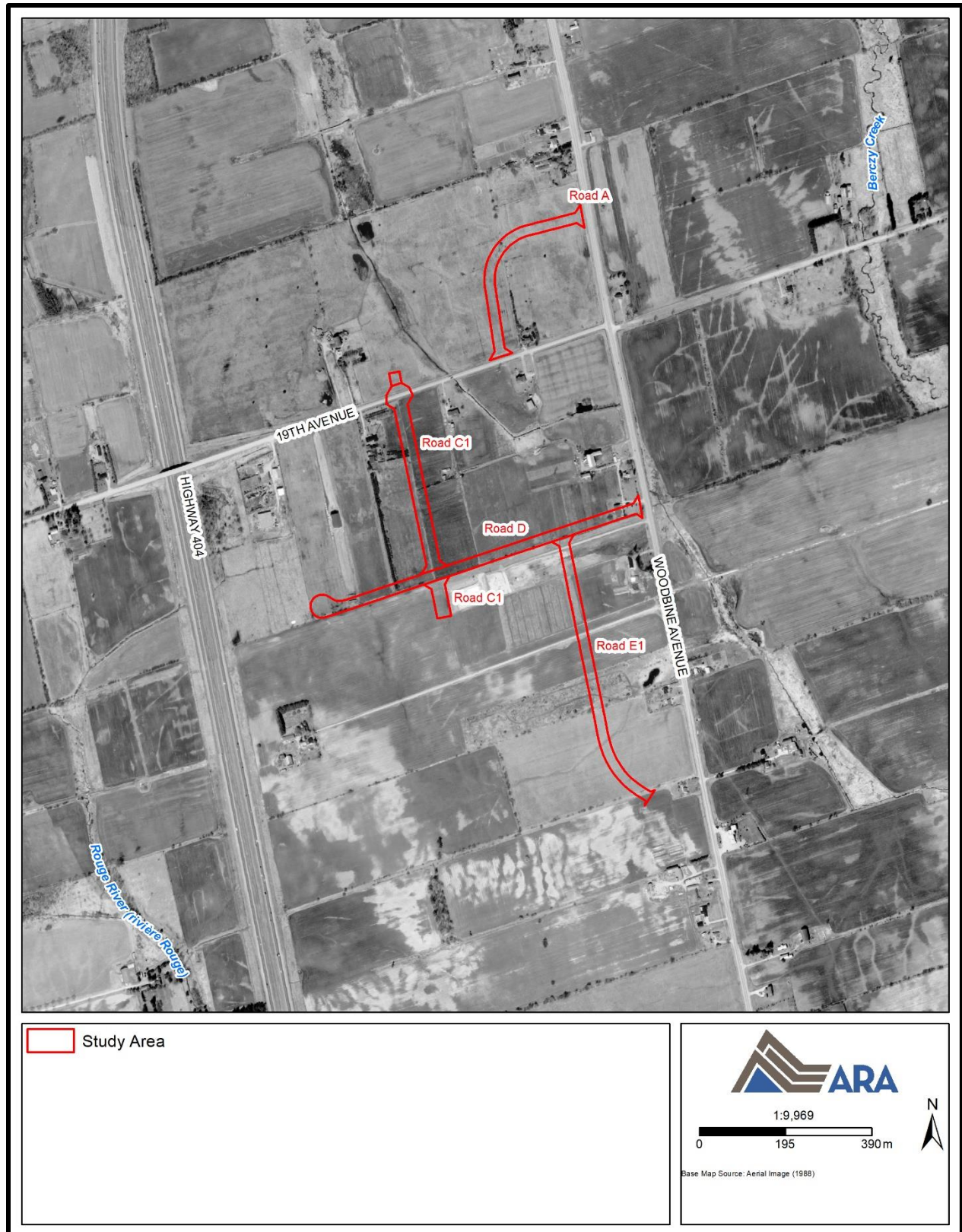


Map 7: Aerial Image (1970)
(Produced under licence using ArcGIS® software by Esri, © Esri; York Region 2019)

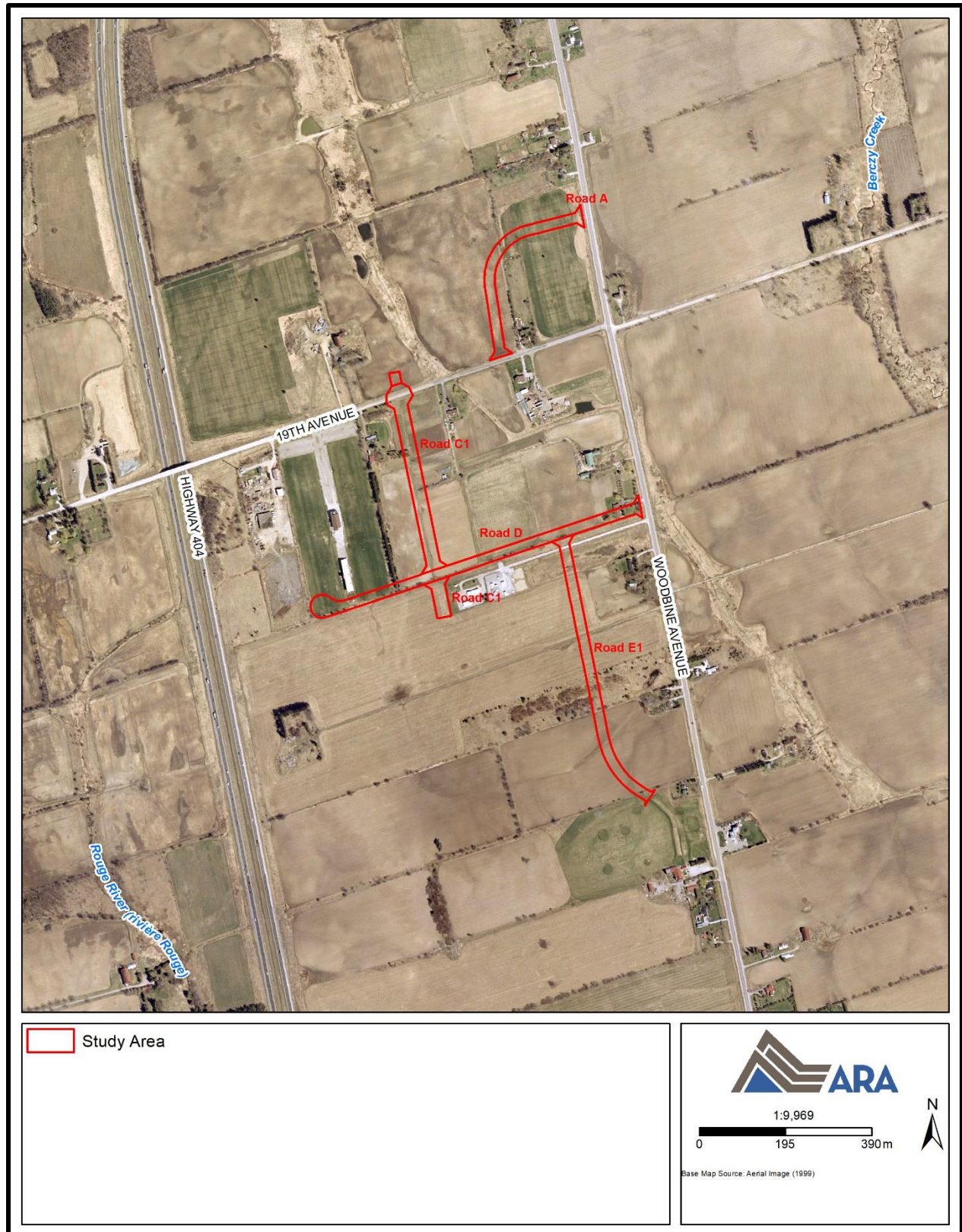


Map 8: Aerial Image (1978)

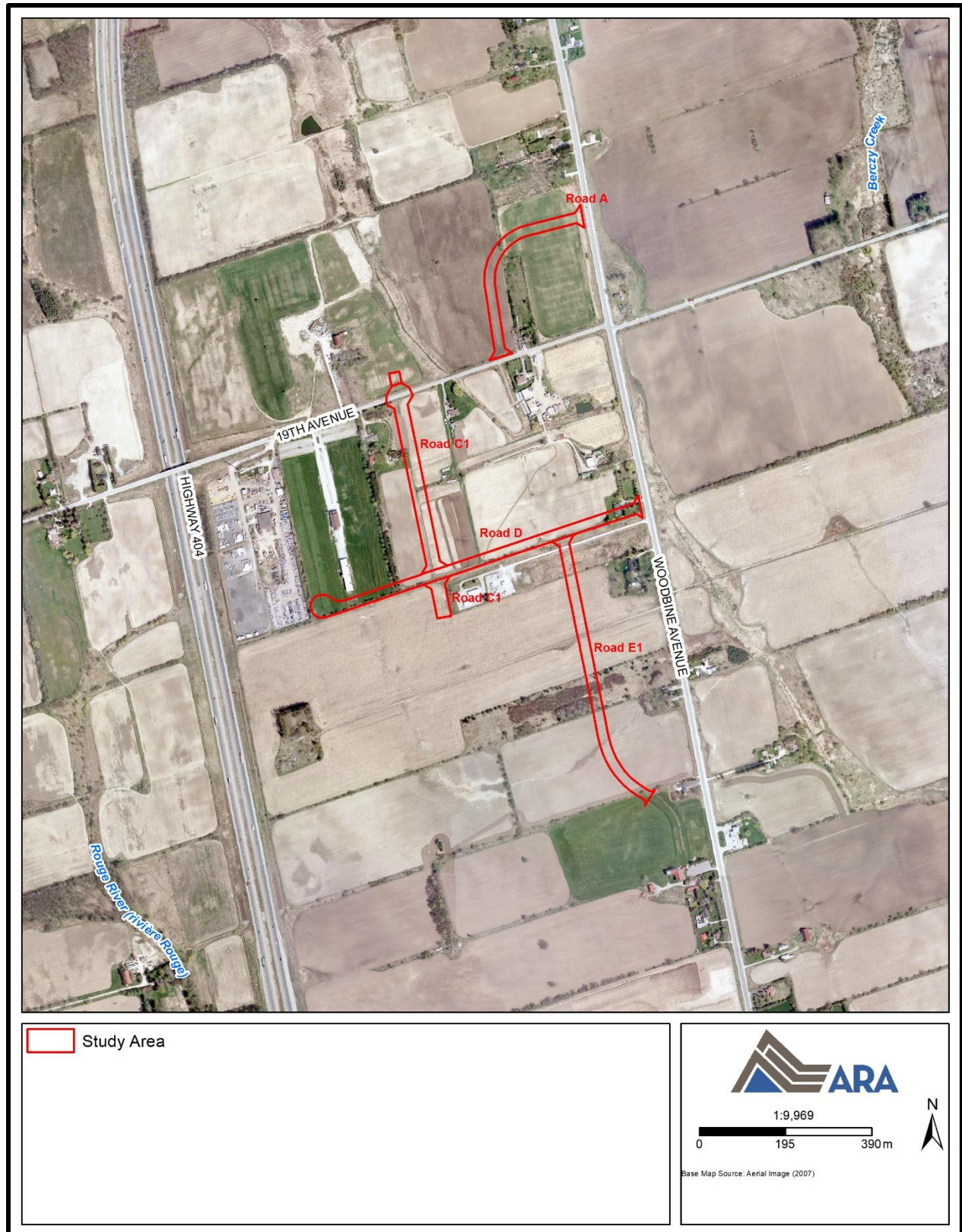
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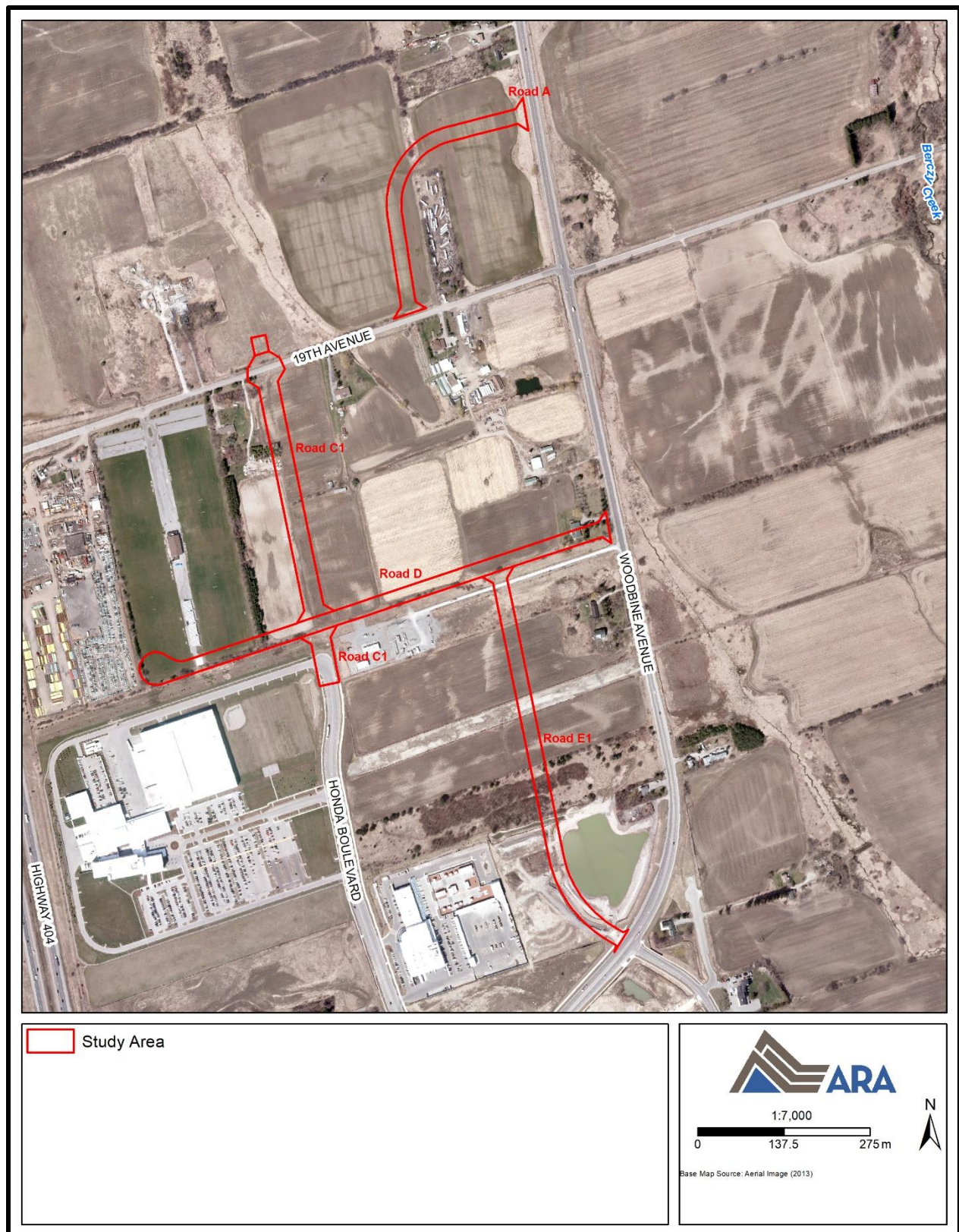
Map 9: Aerial Image (1988)
(Produced under licence using ArcGIS® software by Esri, © Esri; York Region 2019)



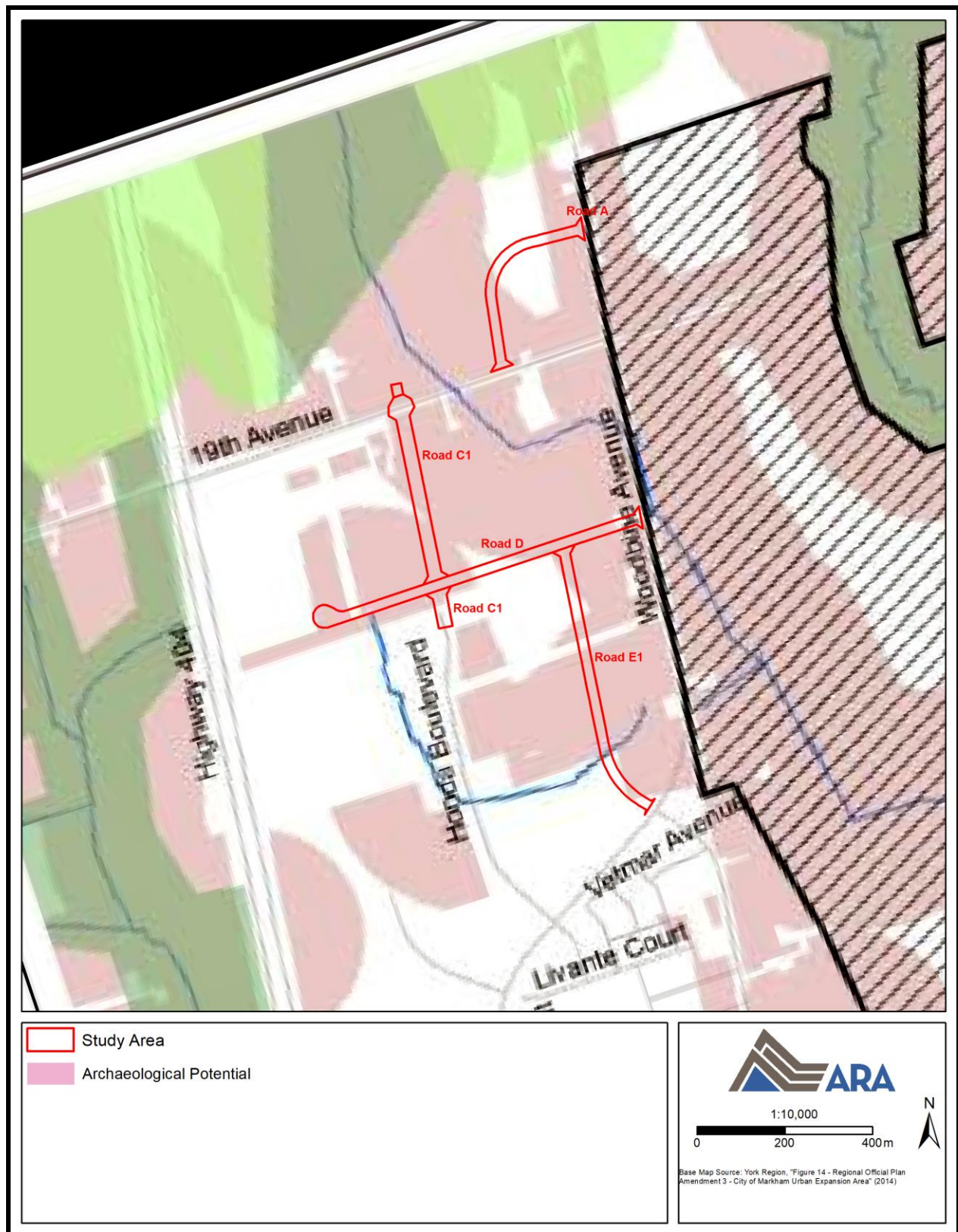
Map 10: Aerial Image (1999)
(Produced under licence using ArcGIS® software by Esri, © Esri; York Region 2019)



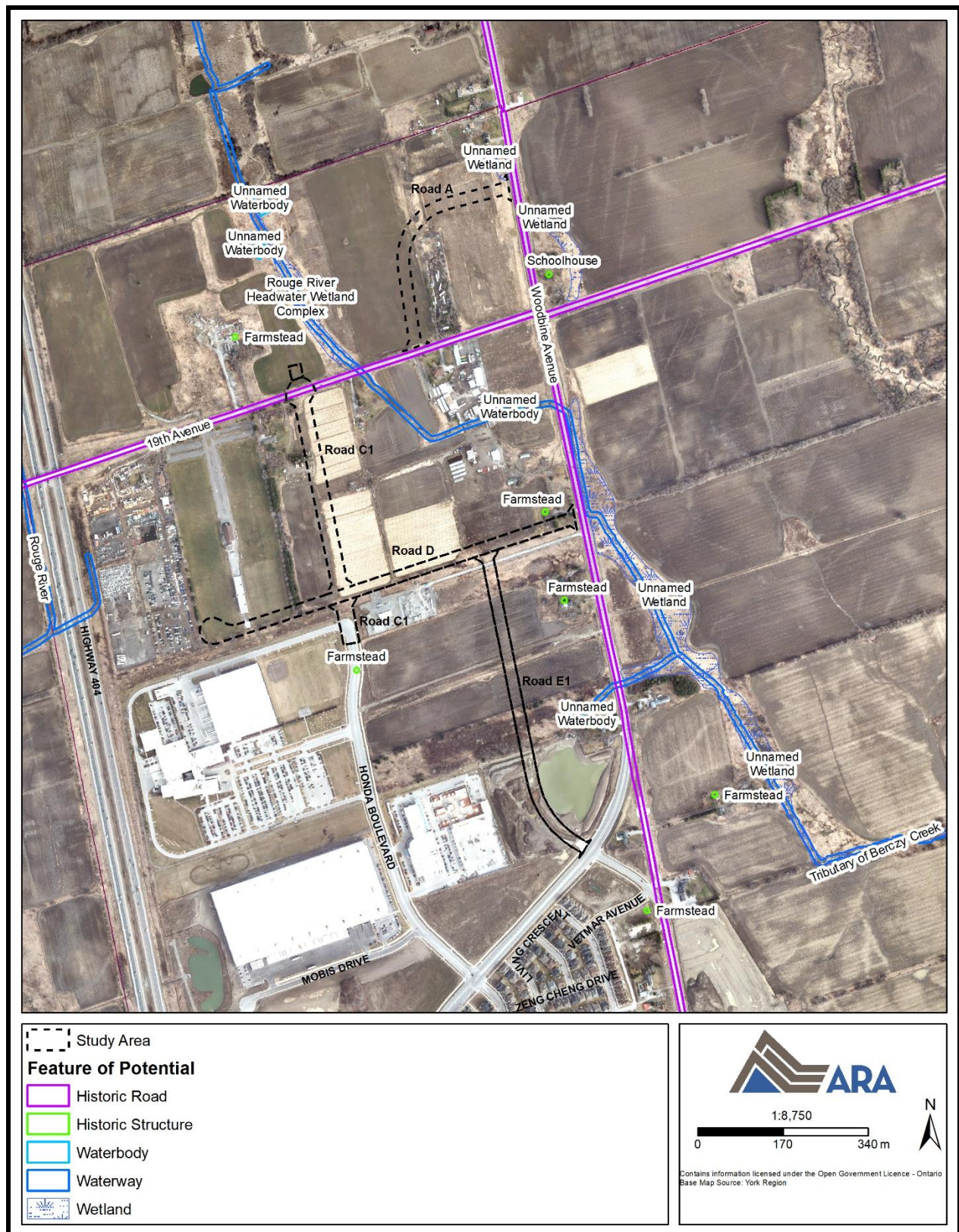
Map 11: Aerial Image (2007)
(Produced under licence using ArcGIS® software by Esri, © Esri; York Region 2019)

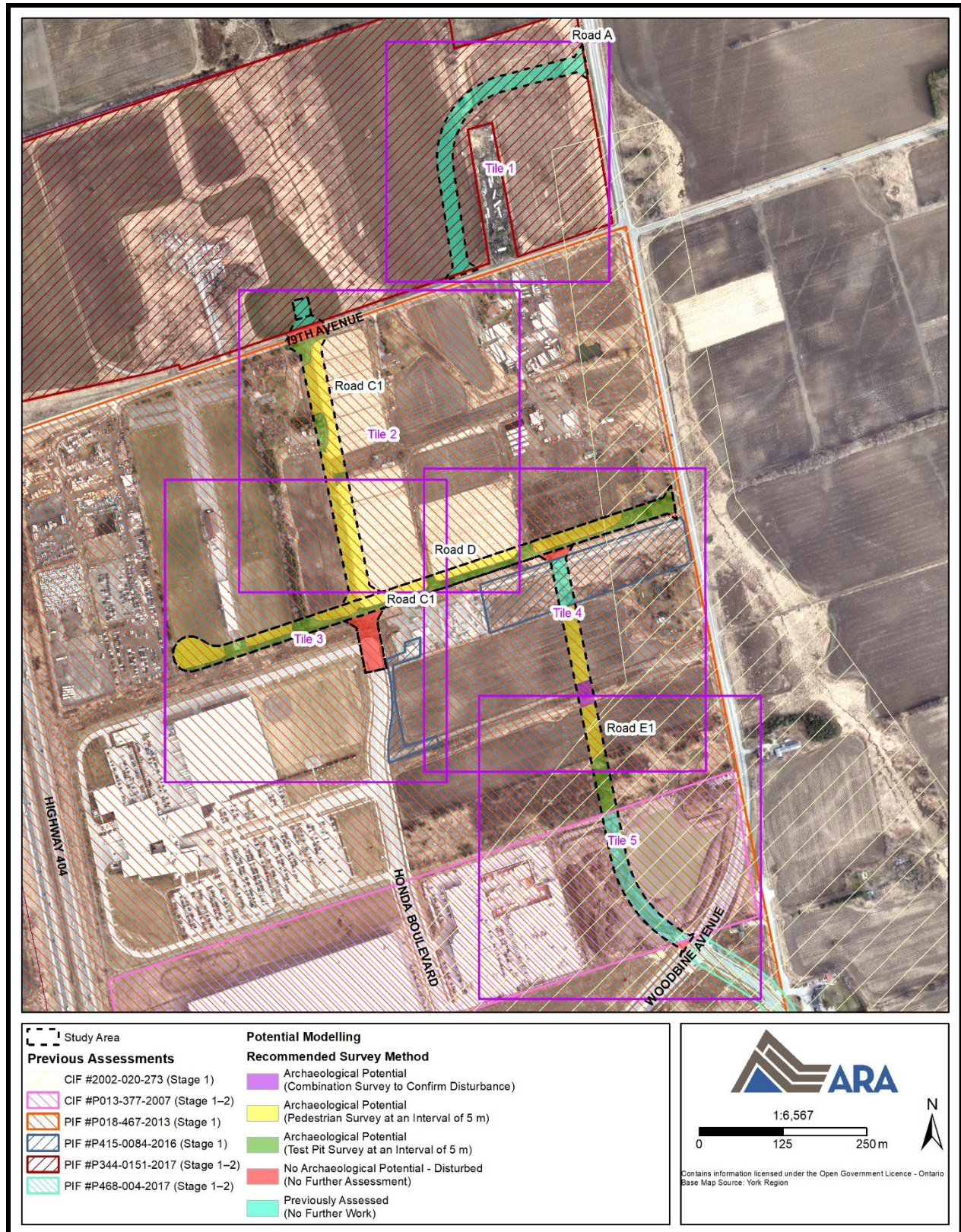


Map 12: Aerial Image (2013)
(Produced under licence using ArcGIS® software by Esri, © Esri; York Region 2019)

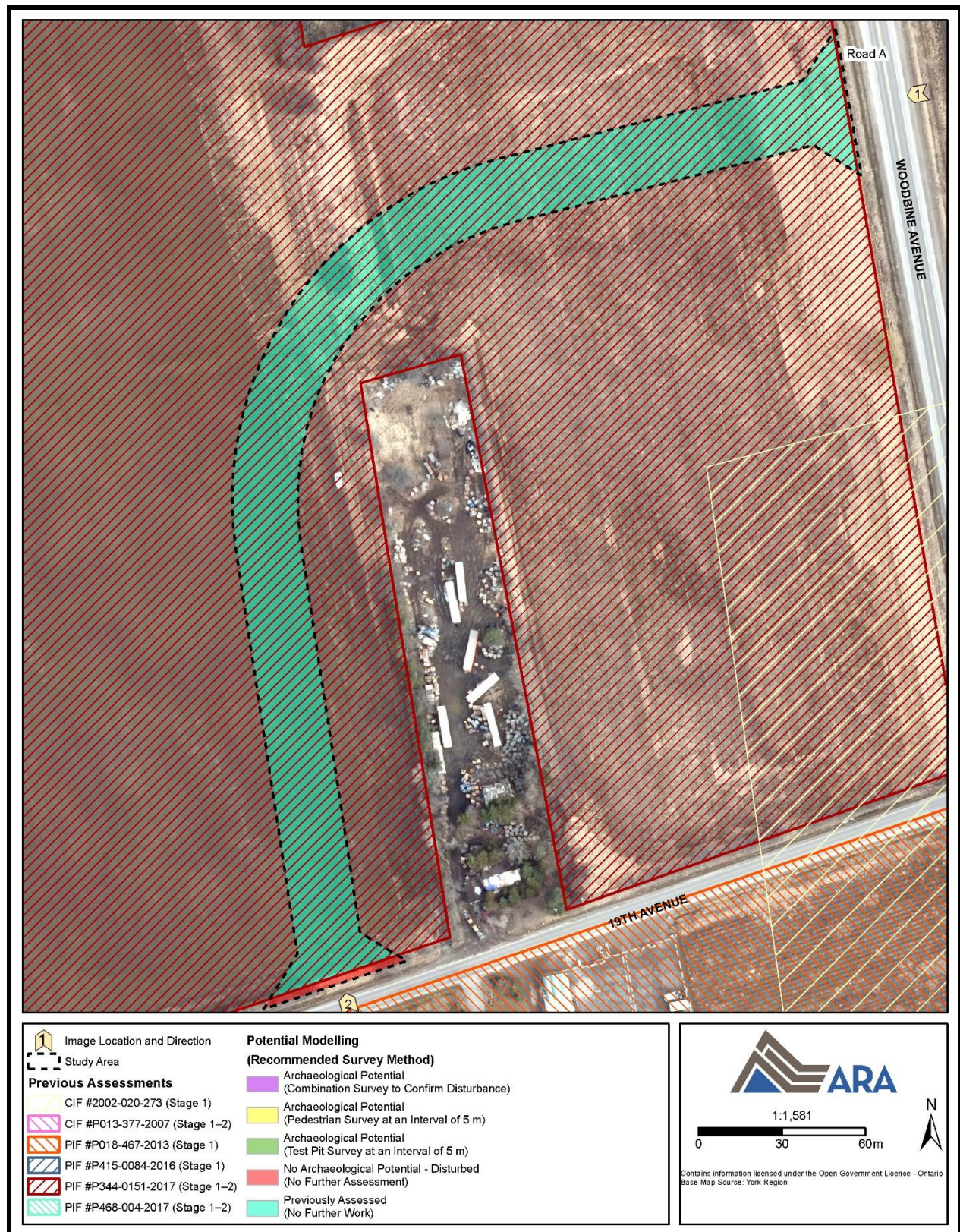


Map 13: York Region: Draft Archaeological Management Plan
(Produced under licence using ArcGIS® software by Esri, © Esri; ASI 2013)

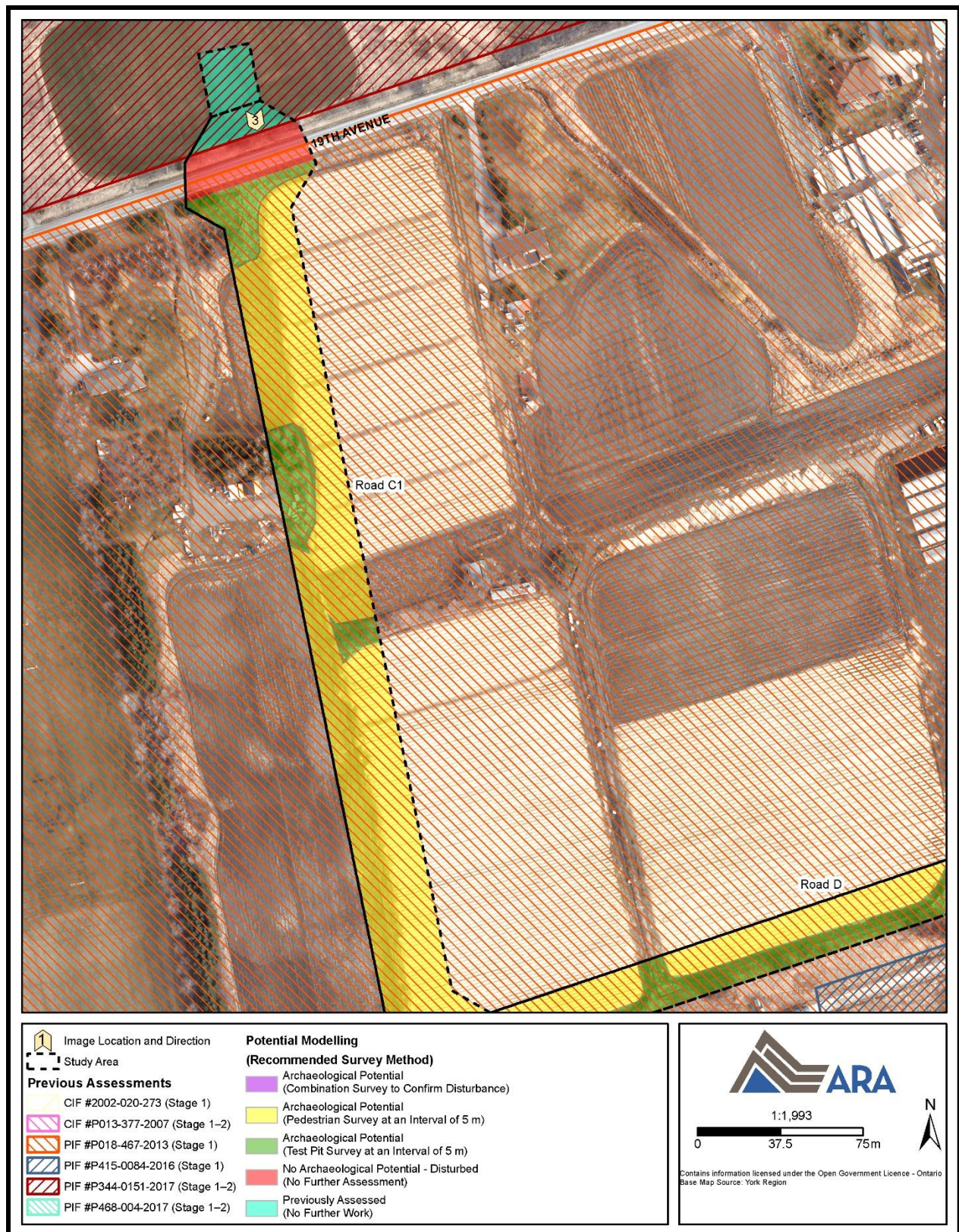




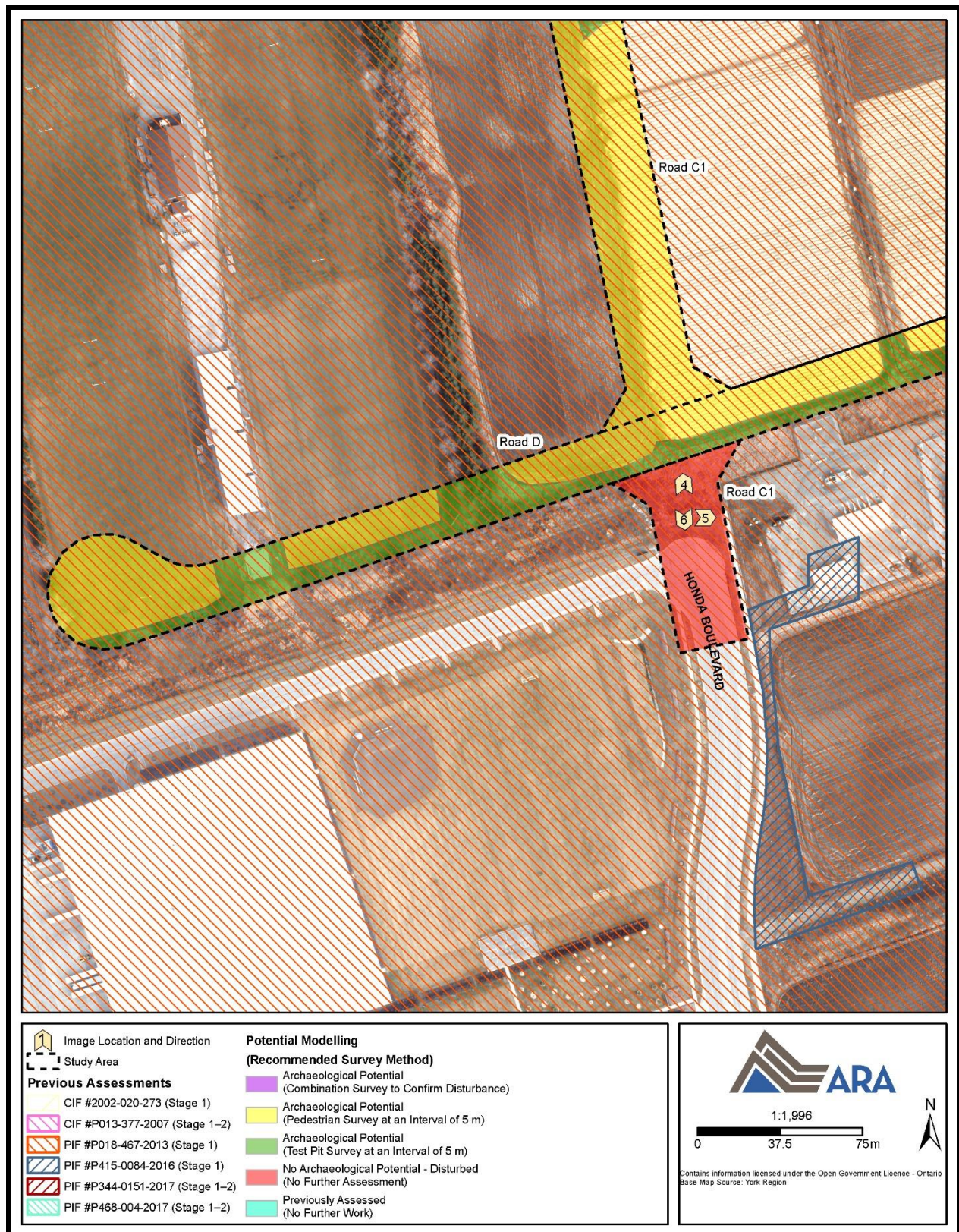
Map 15: Potential Modelling and Recommendations (Overview)
(Produced under licence using ArcGIS® software by Esri, © Esri)



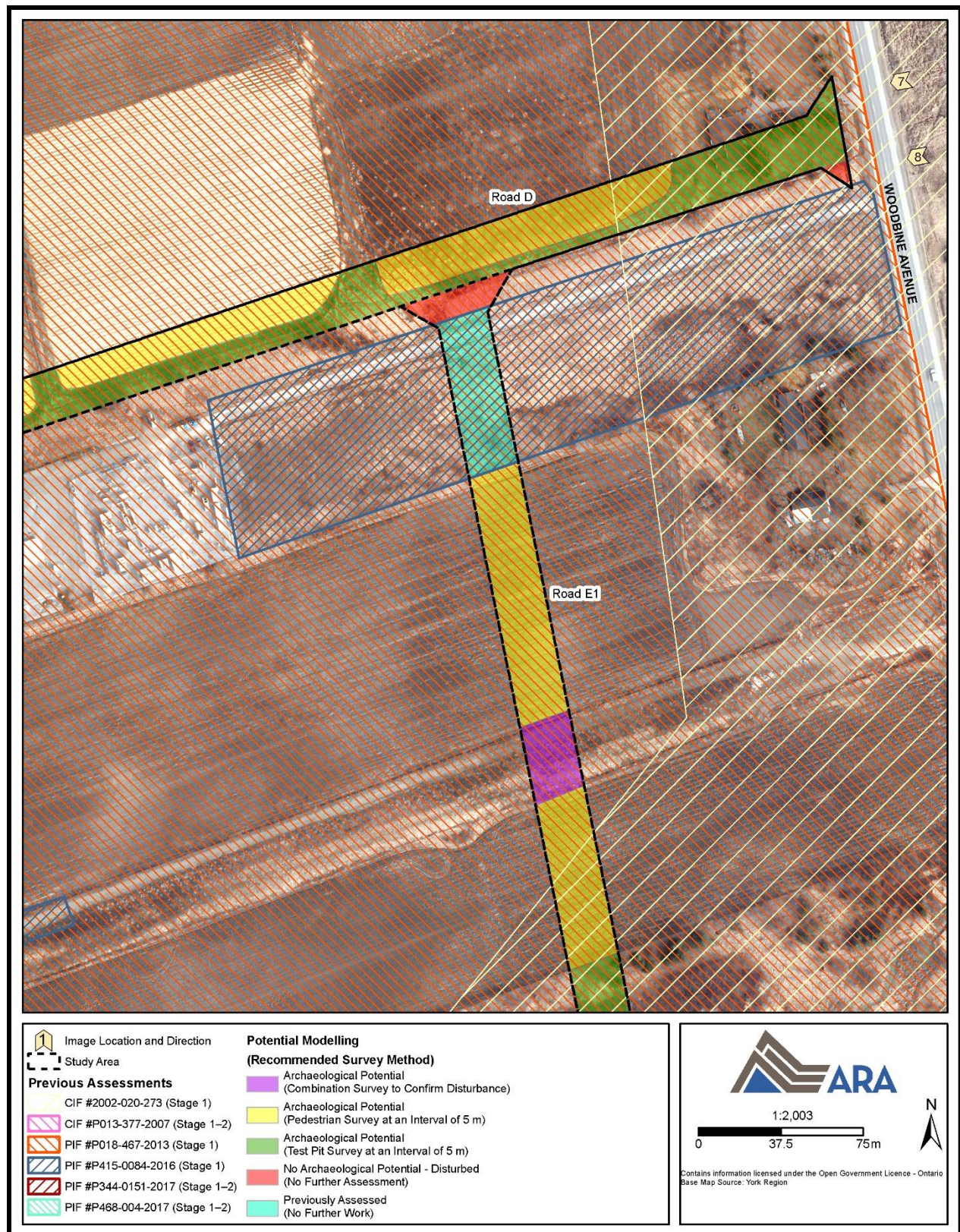
Map 16: Potential Modelling and Recommendations (Tile 1)
(Produced under licence using ArcGIS® software by Esri, © Esri)



Map 17: Potential Modelling and Recommendations (Tile 2)
(Produced under licence using ArcGIS® software by Esri, © Esri)



Map 18: Potential Modelling and Recommendations (Tile 3)
(Produced under licence using ArcGIS® software by Esri, © Esri)



Map 19: Potential Modelling and Recommendations (Tile 4)
(Produced under licence using ArcGIS® software by Esri, © Esri)



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