

Appendix B

Archaeological Report



**STAGE 1 ARCHAEOLOGICAL ASSESSMENT
OF THE
COLBORNE INDUSTRIAL PARK SANITARY SEWER PROJECT
(OPTIONS 2, 3, and 4)
CONSISTING OF
THE ROAD ALLOWANCES FOR PARTS OF PURDY ROAD,
ELGIN STREET NORTH, PERCY STREET, AND INDUSTRIAL
PARK ROAD,
AND
PART OF LOTS 31 AND 32 OF CONCESSION 2,
TOWNSHIP OF CRAMAHE,
COUNTY OF NORTHUMERLAND**

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PIF #: P025-0582-2017

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EXECUTIVE SUMMARY

Northeastern Archaeological Associates Ltd. was contracted to conduct a Stage 1 archaeological assessment of the proposed Colborne Industrial Park Sanitary Sewer project in the north end of the town of Colborne in the Township of Cramahe, County of Northumberland. This assessment was conducted under PIF# P025-0582-2017 and in compliance with the 2011 *Standards and Guidelines for Consultant Archaeologists*, as used by the Ministry of Tourism, Culture & Sport (MTCS). This report is being submitted to the Township of Cramahe as part of the municipal class environmental assessment for this infrastructure project.

The subject property consists of three proposed corridors for sanitary sewer lines, referred to in this report as Option 2, Option 3, and Option 4. Each option's corridor is roughly 10m wide and falls within the boundaries of existing road allowances or right-of-ways (ROWs) as well as some sections of undisturbed non-ROW lands. Stage 1 research indicated that, although there has been extensive prior soil disturbance in all three of the options (since the majority of these three possible corridors are within the ROWs for Purdy Road, Industrial Park Road, Percy Street, and Elgin Street North), the grassy edges beyond the existing paved roads and gravel shoulders may be partially undisturbed; furthermore, a section of Option 2 and one on Option 4 cross grassy fields and wooded or poorly drained areas that appear to be relatively undisturbed. In general, the three options that make up the subject property for this sanitary sewer project can be considered to have archaeological potential, according to the current *Standards and Guidelines for Consultant Archaeologists* (MTC 2011), for the following reasons:

- there are wetland zones and small creeks within 200m of Options 2, 3, and 4 of the subject property;
- the subject property includes features that would have made it suitable for aboriginal use and habitation, as well, such as elevated topography that is adjacent to wetlands and secondary watercourses;
- there is an unregistered pre-contact archaeological site roughly 1 km east of Area B;
- three 19th-century transportation corridors (Purdy Road, Percy Street, and Elgin Street North) are within 200m of the subject property;
- a 19th-century church and cemetery, a schoolhouse, and three houses were built within 200m of the subject property;
- the surrounding region has a well-documented and fairly intensive history of 19th-century Euro-Canadian settlement;

Based on the results of the Stage 1 background research, it is recommended that a Stage 2 archaeological assessment be conducted on all undisturbed portions of Option 2, Option 3, or Option 4 (whichever one is eventually selected as the preferred option for this project). Areas of low archaeological potential (such as the existing paved road surfaces and gravel shoulders) may be exempted from Stage 2 testing as per Standards 2.a and 2.b of Section 2.1 of the *Standards and Guidelines for Consultant Archaeologists*

(MTC 2011), while the grassy outer edges of the ROWs, together with any of the non-ROW lands, are considered at this point to have archaeological potential until the degree of prior soil disturbance within their limits can be determined during a Stage 2 archaeological assessment. These potentially undisturbed sections of the subject property will need to be assessed by test-pit survey as per Standard 1.f, Section 2.1.2 of the *Standards and Guidelines* (MTC 2011), since those corridors are less than 10m wide. Test-pit survey must be conducted in accordance with Standards 1 to 7 of Section 2.1 and Standards 1 to 9 of Section 2.1.2 of the *Standards and Guidelines* (MTC 2011).

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PROJECT PERSONNEL

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Graphics Preparation

Dale Bateman

1.0 DEVELOPMENT CONTEXT

In compliance with the requirements of the Ontario Ministry of Tourism, Culture, and Sport (MTCS) regarding land development (as stated in the 2011 *Standards and Guidelines for Consultant Archaeologists*), and the Environmental Assessment Act, a contract to carry out a Stage 1 archaeological assessment for Options 2, 3, and 4 of the Colborne Industrial Park Sanitary Sewer project was awarded to Northeastern Archaeological Associates Limited. This Stage 1 archaeological assessment report is being submitted to Cramahe Township as one of the supporting documents for the Municipal Class Environmental Assessment that is being conducted for this infrastructure project, in which the existing 3"-diameter sewer pipe system that currently services the Colborne Industrial Park will be replaced with a more modern and efficient gravity sewer system. The subject property for this archaeological assessment consists of three possible new routes for sanitary sewers, which are referred to throughout this report as "Option 2", "Option 3", and "Option 4". The proponent's "Option 1" referred to the possibility of just leaving the existing sanitary sewer system that way it currently is, and therefore it did not require archaeological assessment. The term "subject property", as used in this report, refers collectively to the combined area covered by Options 2, 3, and 4, which have some degree of overlap in their locations.

Options 2, 3, and 4 are all located just south of Highway 401, at the north end of the town of Colborne (see Maps 1 to 6 in Section 8.0), and they each consist of a narrow corridor roughly 10 metres wide. The majority of these route options fall within the limits of the heavily disturbed road allowances or right-of-ways (ROWs) for existing thoroughfares including Purdy Road, Elgin Street North, Percy Street, and Industrial Park Road; as such, these ROWs include the paved road surfaces, gravel shoulders, and ditches, as well as narrow strips of potentially undisturbed lands on either side of these features of the road beds. In addition to the ROWs, there are two sections of the proposed routes (one on Option 2 and one on Option 4) where the proposed sanitary sewer line would also have to cross through a section of undisturbed or undeveloped land, which would require an easement to be established for them.

Specifically, Option 2 includes: the Purdy Street ROW between Big Apple Drive and Elgin Street North; the ROW for Industrial Park Road; a short section of the ROW for Percy Street south of Kenwood Lane; and a section of undisturbed land between the southwest corner of Industrial Park Road and Percy Street (see Maps 1 & 4, Section 8.0).

Option 3 includes the same northern sections as Option 2 (*i.e.*, the Purdy Street ROW between Big Apple Drive and Elgin Street North and the ROW for Industrial Park Road) plus a section of the ROW for Elgin Street North that is south of the intersection with Industrial Park Road and north of Park Street East (see Maps 2 and 5 in Section 8.0). In addition to the proposed sanitary sewer corridor, Option 3 also includes plans for a sewage pumping station and a forcemain that would be built somewhere along this part of Elgin Street North, likely on lands adjacent to the ROW. The exact size and location of

the pumping station and forcemain are not currently known and would have to be determined at some point in the future during the detailed design phase of the project.

Option 4 includes the same northern sections as Options 2 and 3 (*i.e.*, the Purdy Street ROW between Big Apple Drive and Elgin Street North, as well as the ROW for Industrial Park Road), and also the same section of the ROW for Elgin Street North as with Option 3 (south of the intersection with Industrial Park Road and north of Park Street East) (see Maps 3 and 6 in Section 8.0). However, Option 4 does not include plans for a sewage pumping station or forcemain beside Elgin Street North, as Option 3 does, but it does include an additional 400m-long section that passes across an undisturbed field and wooded area between Elgin Street North and Percy Street; this section would require an easement to be established for it, since it is not within an existing ROW.

Project Director for this Stage 1 archaeological assessment is Lawrence Jackson and this report was written by Donna Morrison, with maps drafted by Dale Bateman. Maps are presented in Section 8.0. The PIF number for this Stage 1 assessment is P025-0582-2017. An optional Stage 1 site inspection visit was not conducted for this assessment.

2.0 HISTORICAL CONTEXT

2.1 Historical Information and Settlement History

The subject property is located in Cramahe Township, County of Northumberland. Cramahe Township was named after Hector Theophilus de Cramahe, an early Lieutenant-Governor of the Province of Quebec. The seat of the township, and the largest town, is Colborne, where the subject property is located. Cramahe was incorporated as a township in 1850, and in 1858 the village of Colborne seceded from the municipality as a separate township. However, in 2001, due to municipal restructuring, the two municipalities were re-amalgamated to form an expanded Township of Cramahe (Argyris 2000).

This area has a rich and varied Euro-Canadian history, beginning in 1793 when the first Loyalist settlers arrived from Vermont with the land agent, Joseph Keeler (Argyris 2000; Belden 1878). Their settlement was originally called Keeler's Creek but was later renamed as Colborne. Its first post office was opened in 1815, operating out of a store owned by Joseph Keeler. Other early enterprises included a bank and the Registry Office for the East Riding of Northumberland County. Located near the Lake Ontario shoreline, Colborne was also a port of entry into Canada, with two wharves owned by Mr. Keeler and a Mr. Campbell, respectively. The village also had a station on the Grand Trunk Railway line. Local businesses included two grist mills, a tannery, and a trade in white poplar that was shipped to the United States for use as paper (Belden 1878).

The 1878 *Belden & Company* historical atlas map for Cramahe Township shows the location of the lots and concessions as well as historical roads and buildings, if present, at that time. Based on the Belden map, the following information is noted for the subject property:

Option 2

Option 2 includes the lands within the road allowance between Concessions 2 and 3 of Cramahe Township (now Purdy Road), adjacent to Lots 31 and 32 in each of these two concessions (see Map 10 in Section 8.0). On the north side of Purdy Road, Lot 32, Concession 3 was originally split into two 100-acre parcels; the west parcel was owned in 1878 by E. H Purdy and the east parcel was owned then by W. Conklin. Both E.H. Purdy and W. Conklin had houses in the southwest corners of their parcels of land, both of which fronted on the north side of Purdy Road, adjacent to the ROW for Purdy Road (part of Option 2). Just across the road from E.H. Purdy's parcel of land, to the west, the 1878 Belden map shows the symbol for a church in the southeast corner of Lot 33. Although this church is no longer standing, there is a large cemetery at this location that was originally associated with the church. Both the church location and the cemetery are outside the limits of Option 2, however. Lot 31 in Concession 3, immediately east of Lot 32, had one owner in 1878 (Thomas Green), who owned all 200 acres of this lot and had a house well to the north of Purdy Road; however, there was also a schoolhouse in the southeast corner of Green's lot at that time, which fronted on the north side of Purdy Road adjacent to the Purdy Road ROW (part of Option 2). A section of Industrial Park Road that is the northernmost end of Option 2 also extends north from Purdy Road onto Lot 31 of Concession 3, just north of the schoolhouse.

On the south side of Purdy Road, Option 2 extends southward along the division between the northern halves of Lots 31 and 32 of Concession 2, both of which were owned in 1878 by J.S. Strong; this is now part of the ROW for Industrial Park Road. Option 2 then turns to the west across part of Lot 32 where it meets up with and extends southward down Percy Street. Strong had no houses that border on Option 2 lands, but at the southernmost end of Option 2 there was a separate small house lot on Lot 31, Concession 2 that fronted on the east side of Percy Street adjacent to the ROW for Percy Street.

In summary, there were no houses or other historic-period buildings or features directly on the Option 2 lands. However, on the lands immediately adjacent to the Options 2 lands north of Purdy Road, there was a church and its associated cemetery, two houses, and a schoolhouse. On the lands immediately adjacent to the Option 2 lands south of Purdy Road, there was only one house at the south end of the Percy Street ROW.

Option 3

The north end of Option 3 is identical to Option 2 north of Purdy Road (see Map 11 in Section 8.0). Therefore, this part of Option 3 had no houses or other historic-period buildings or features directly on it. However, on the lands immediately adjacent to the Options 3 lands north of Purdy Road (as with Option 2 north of Purdy Road), there was a church and its associated cemetery, two houses, and a schoolhouse.

On the south side of Purdy Road, Option 3 has some similarities to Option 2, in that it extends southward along the ROW for Industrial Park Road, which is between the

northern halves of Lots 31 and 32 of Concession 2, both of which were owned in 1878 by J.S. Strong. However, Option 3 takes a turn to the east, following the ROW for Industrial Park Road to where it intersects with Elgin Street North. At that point, Option 3 turns directly southward and extends along the ROW for Elgin Street North to just north of Park Street East. Based on the 1878 Belden map, there are no houses or other historic-period buildings or features directly on or adjacent to the Option 3 lands south of Purdy Road.

Option 4

The north end of Option 4 is identical to Options 2 and 3 north of Purdy Road (see Map 12 in Section 8.0). Therefore, this part of Option 4 had no houses or other historic-period buildings or features directly on it. However, on the lands immediately adjacent to the Options 4 lands north of Purdy Road (as with Options 2 and 3 north of Purdy Road), there was a church and its associated cemetery, two houses, and a schoolhouse.

On the south side of Purdy Road, Option 4 has some similarities to Options 2 and 3, in that it extends southward along the ROW for Industrial Park Road, which is between the northern halves of Lots 31 and 32 of Concession 2, both of which were owned in 1878 by J.S. Strong. As with Option 3, Option 4 takes a turn to the east, following the ROW for Industrial Park Road to where it intersects with Elgin Street North. At that point, Option 4 also turns directly southward and extends along the ROW for Elgin Street North to just north of Park Street East, as does Option 3. However, Option 4 has an extra extension that crosses over a parcel of land on Lot 31, Concession 2 that was owned in 1878 by a "Mrs. Burke", who owned most of the south half of that lot at that time. Based on the 1878 map, there were no houses or other historic-period buildings or features directly on or adjacent to the Option 4 lands south of Purdy Road.

In terms of significant 19th-century transportation corridors, Options 2, 3, and 4 consist of lands within the ROWs for Purdy Road, Elgin Street North, and Percy Street, all of which were important thoroughfares in the town in this area. Industrial Park Road does not appear to have been in existence in the 1870s, based on the Belden map, although it may have been a secondary unmarked roadway at that time.

As noted above, there are no houses or any other types of structures such as schools, churches, or mills shown within the limits of Options 2, 3, and 4. However, other properties adjacent to all three options had 19th-century houses, a school, a church, and a cemetery that were built in the 1800s. Furthermore, the subject property is just a few hundred metres north of the main part of the village of Colborne, which had many types of shops, churches, industrial features, and other normal parts of 19th-century villages. In addition, there were a number of villages and hamlets in the surrounding area, such as Castleton, Wicklow, Eddystone, and Grafton, which had similar industries, shops, and services. Therefore, this region has a lengthy history of Euro-Canadian settlement, including agricultural and residential use of these lands dating back to the late 1700s.

2.2 Land Use History of Subject Property

As described in Section 2.1, above, the majority of Options 2, 3, and 4 lie within the ROWs or road allowances for Purdy Road, Elgin Street North, and Percy Street, all of which have likely existed since the early-to-mid-1800s and have continued to be used in this way ever since. Industrial Park Road appears to have been built, or at least upgraded, during the 20th century. One section on Option 2 and one on Option 4 are not part of an existing ROW and both appear to have been part of undeveloped land that was partially used for agricultural purposes during the 1800s before it stopped being actively farmed; these sections currently consist of a grassy open fields that transition into wooded or poorly-drained areas with uneven topography on the east side of Percy Street. See Maps 7, 8, and 9 in Section 8.0 for satellite imagery showing these features.

3.0 ARCHAEOLOGICAL CONTEXT

3.1 Known Archaeological Sites In The Vicinity

A search of the Ontario Archaeological Sites Database (maintained by the *Ministry of Tourism, Culture, and Sport*) was carried out by MTCS Data Coordinator, Robert von Bitter. The results of this database search indicated that there are no registered sites located on the subject property or within a radius of 1 km. The closest known registered sites are roughly 5.5 km to the southwest of the subject property. They were discovered during the course of a Stage 2 archaeological assessment (Advance Archaeology 2006) and include two small scatters of Euro-Canadian material from the late 1800s/early 1900s (AIGI-1 and AIGI-2) and two precontact findspots of isolated non-diagnostic lithic flake tools made on Onondaga chert (AIGI-3 and AIGI-4).

The lack of recorded sites nearby may simply reflect a lack of archaeological research in the area and does not preclude the possibility of historic or precontact cultural heritage resources being found on the subject property. In fact, there is an unregistered pre-contact site about 1 km to the east of Elgin Street North, which was discovered by the landowner when he was doing some digging on his property (Argyris 2000). He gave the artifacts that he found (including a stone adze, a maul, a hammerstone, and a stone scraper) to the Anthropology Department at Trent University and was told that they were roughly 4,500-5,500 years old; however, the site has not had any archaeological fieldwork or assessment conducted on it (Argyris 2000).

3.2 Existing Conditions on the Subject Property

The subject property is located in the Iroquois Plain physiographic region of southern Ontario (Chapman and Putman 1984). The Iroquois Plain is actually the near-shore lakebed of glacial Lake Iroquois, which formed about 12,600 B.P. and was drained

by about 11,500 B.P., in the Ontario basin. Near-shore sediments consisted principally of large deposits of sand or clay near the entry points of interior drainages, which carried meltwaters and erosional deposits into the lake.

Locally, the subject property is within a large drumlinized till plain roughly 450m north of the main Lake Iroquois beach strand. There is an additional sand plain and strandline (a small embayment of Lake Iroquois) approximately 1km to the northeast (Ontario Dept. of Mines and Northern Affairs Map #2226; Chapman and Putnam 1984). The subject property is about 3.5km north of the current Lake Ontario shoreline. In terms of local water sources, there is a large wetland zone and associated secondary watercourse that crosses Options 2, 3, and 4 south of Industrial Park Road, extending from east of Elgin Street North across to west of Percy Street. Additional wetland zones and small and/or seasonal creeks are abundant in this general area, so there are at least three water sources within 300m of the subject property.

In terms of prior soil disturbance, Options 2, 3, and 4 all include existing paved roadways that have asphalt road surfaces, gravel shoulders, and existing infrastructure. Many parts of the subject property that are located on either side of the existing roads have also been subject to the excavation of drainage ditches and other grading operations. Despite the extensive road-construction disturbances that exist across most of the central portions of Options 2, 3, and 4, there may still be some small, relatively undisturbed zones within the narrow strips of land bordering the existing roads. With respect to the non-ROW lands on Options 2 and 4, they appear from satellite imagery to be fairly undisturbed and undeveloped land, part of which was probably used agriculturally in the past and has been left as a grassy open field, and part of which is wooded or poorly-drained and may never have been cleared for agricultural or other uses. Any zones within Options 2, 3, and 4 that may possibly be undisturbed would need to be examined and tested during future Stage 2 assessment in order to confirm the degree of prior soil disturbance that exists. This is also true for the possible pumping station and forcemain that are included in Option 3, but for which an exact size and location have not yet been determined. Once the details about these Option 3 features are finalized, the lands that they occupy should be examined prior to carrying out any Stage 2 fieldwork, if that Option is selected as the preferred option for this project.

4.0 ANALYSIS AND CONCLUSIONS

Despite high levels of prior soil disturbance on many parts of the subject property, the Stage 1 assessment indicates that, overall, Options 2, 3, and 4 are in locations with archaeological potential, based on several factors:

- there are several secondary water sources (e.g., wetland zones and small creeks) within 200m of the subject property;
- the subject property also includes features that would have made it suitable for aboriginal use and habitation, such as elevated topography that is adjacent to wetlands and secondary watercourses;
- there is an unregistered pre-contact archaeological site roughly 1 km east of Elgin Street North;
- three significant 19th-century transportation corridors (Percy Street, Elgin Street North, and Purdy Road) are within 200m of the subject property;
- a 19th-century church and cemetery, a schoolhouse, and three houses were built within 200m of the subject property; and
- the surrounding region has a well-documented and fairly intensive history of 19th-century Euro-Canadian settlement;

Together, these factors indicate that there is high potential for the presence of historic and pre-contact archaeological sites or cultural heritage resources on parts of the subject property. However, any sections of the property with extensive prior soil disturbance, permanently standing water, or very steep slopes (*i.e.*, with a grade higher than 20%) may be considered to be of low archaeological potential. The majority of Options 2, 3, and 4 have been extensively disturbed during prior road construction and upgrade operations, but the outer (possibly undisturbed) edges of the ROWs as well as non-ROW undisturbed lands still hold the potential for the presence of buried cultural heritage resources. The zones of archaeological potential identified in this Stage 1 assessment are shown on Maps 13, 14, and 15 of Section 8.0.

In conclusion, while much of Options 2, 3, and 4 is considered to be of low archaeological potential due to extensive prior road construction disturbance that will exempt those lands from Stage 2 assessment as per Standard 1.3.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011), the edges of the roadways should be checked to confirm if any parts are relatively undisturbed and therefore require Stage 2 assessment due to having archaeological potential. If it is confirmed that there are some potentially undisturbed sections along the outer edges of the ROWs, they will need to be assessed by test-pit survey as per Standard 1.f, Section 2.1.2 of the *Standards and Guidelines* (MTC 2011), as will the undisturbed non-ROW lands, since those corridors are less than 10m wide. Test-pit survey must be conducted in accordance with Standards 1 to 9 of Section 2.1.2 of the *Standards and Guidelines* (MTC 2011).

5.0 RECOMMENDATIONS

Based on the results of this Stage 1 assessment, the following recommendations are made:

- (1) That a Stage 2 archaeological assessment be conducted on all undisturbed portions of Option 2, Option 3, or Option 4 (whichever one is eventually selected as the preferred option for this project). These undisturbed areas are considered to be of high archaeological potential and are shaded in green on Maps 13, 14, and 15 in Section 8.0 of this report.
- (2) That the Stage 2 archaeological assessment of the high-potential zones (shaded in green on Maps 13, 14, and 15 in Section 8.0) consist of test-pit survey, as per Standards 1 to 7 of Section 2.1 and Standards 1 to 9 of Section 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011). Areas of low archaeological potential (such as the existing paved roadways shaded in grey on Maps 13, 14, and 15, Section 8.0) may be exempt from Stage 2 testing as per Standards 2.a and 2.b of Section 2.1 of the *Standards and Guidelines for Consultant Archaeologists* (MTC 2011), but the ground conditions and degree of prior soil disturbance adjacent to the roads and on all non-ROW lands will need to be verified at the time of the Stage 2 archaeological assessment in order to determine the appropriate Stage 2 assessment technique to be used, if any.

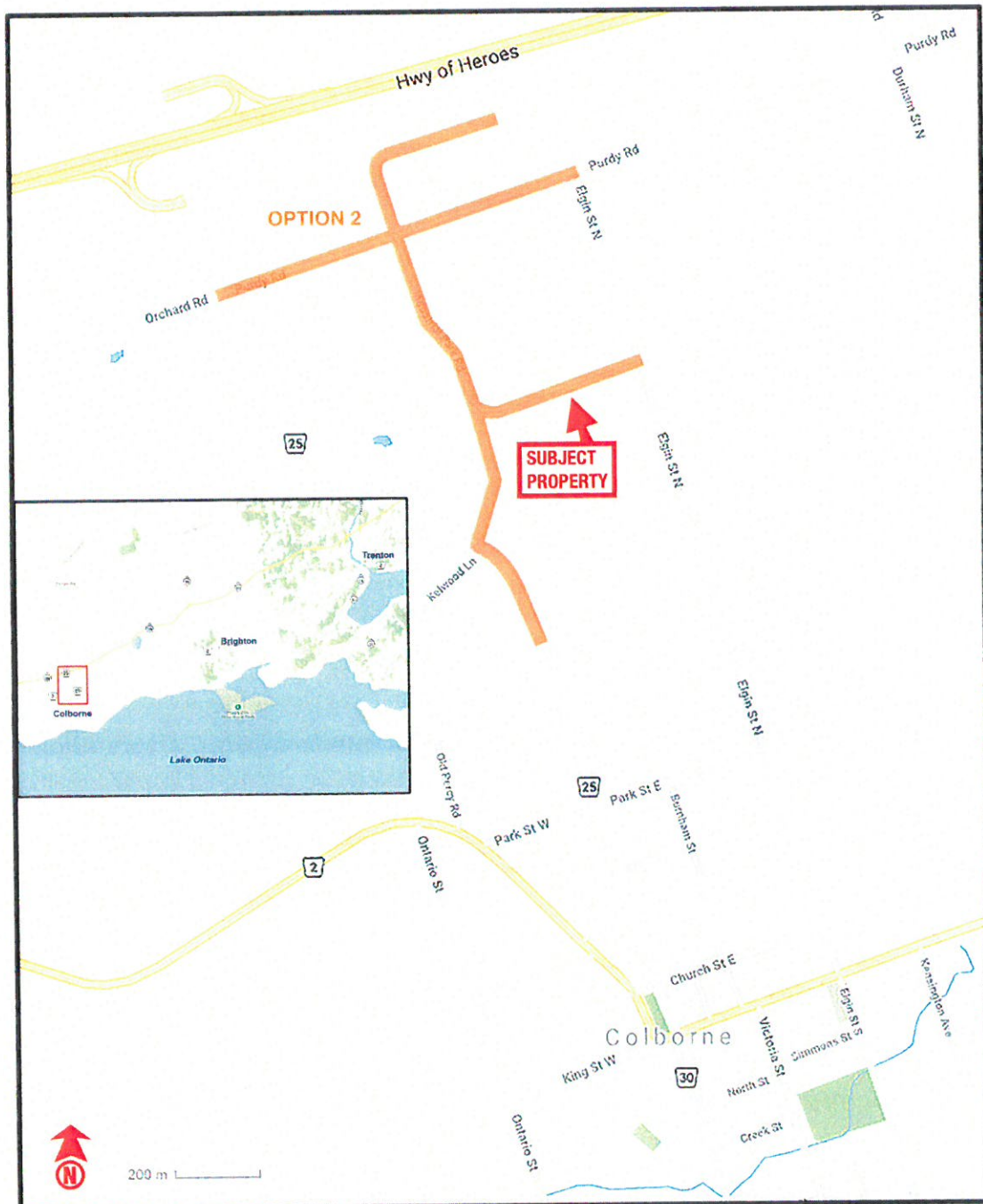
6.0 ADVICE ON COMPLIANCE WITH LEGISLATION

- a. This report is submitted to the Minister of Tourism, Culture, and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture, and Sports, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.
- b. It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such 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*.
- c. Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.
- d. The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

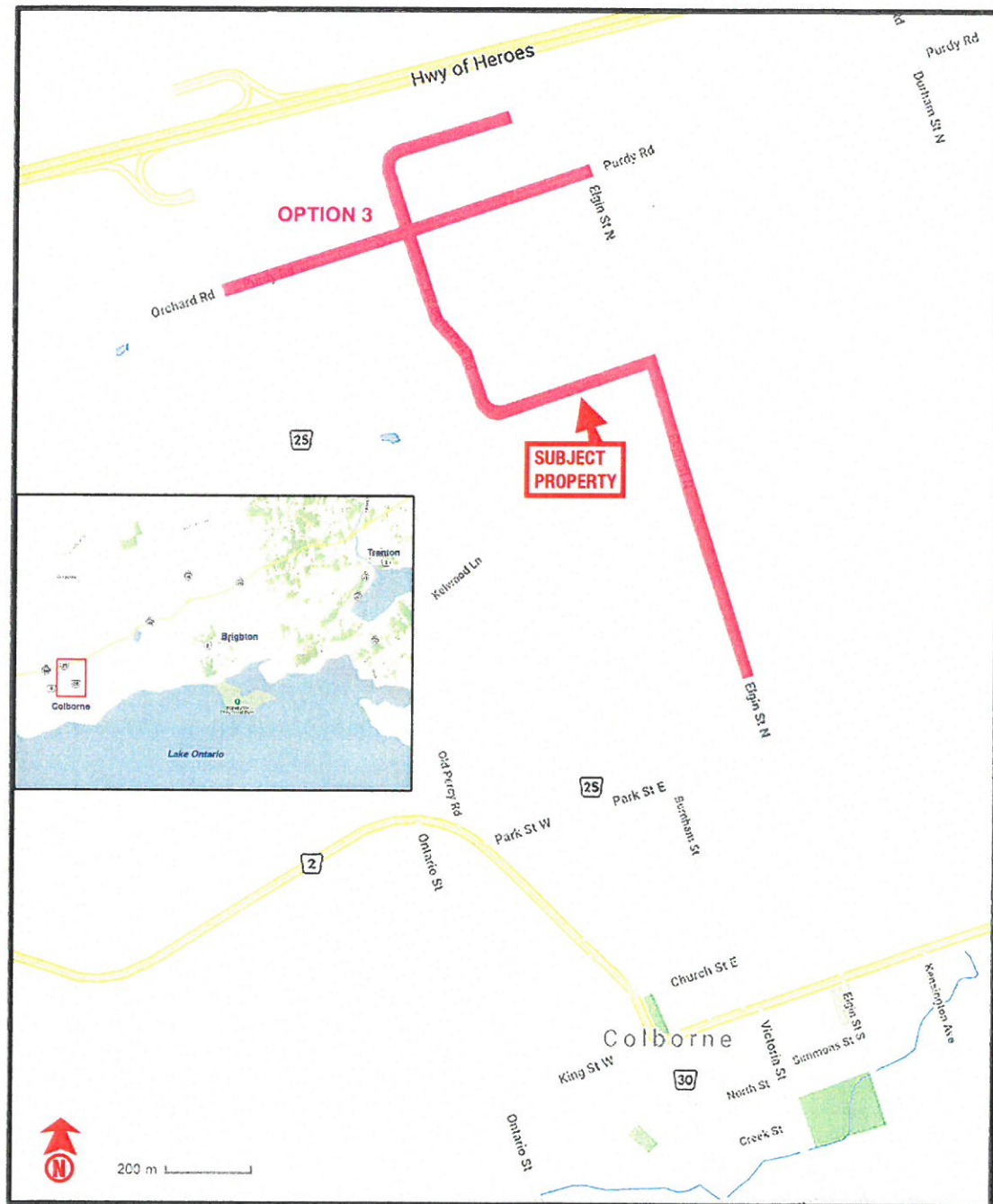
7.0 REFERENCES CITED

- Advance Archaeology
2006 *Stage 2 and 3 Archaeological Assessment of McQuillan Lands Subdivision (Phase 1), Part of Lot 5, Concessions B and C; Lots 6 and 7, Concession C; and Part of Lots 6 and 7, Concession B, Township of Haldimand, Northumberland County.* Assessment report submitted to Ontario Ministry of Culture under CIF #s P121-014 [2005] and P121-017-2006. October 23, 2006.
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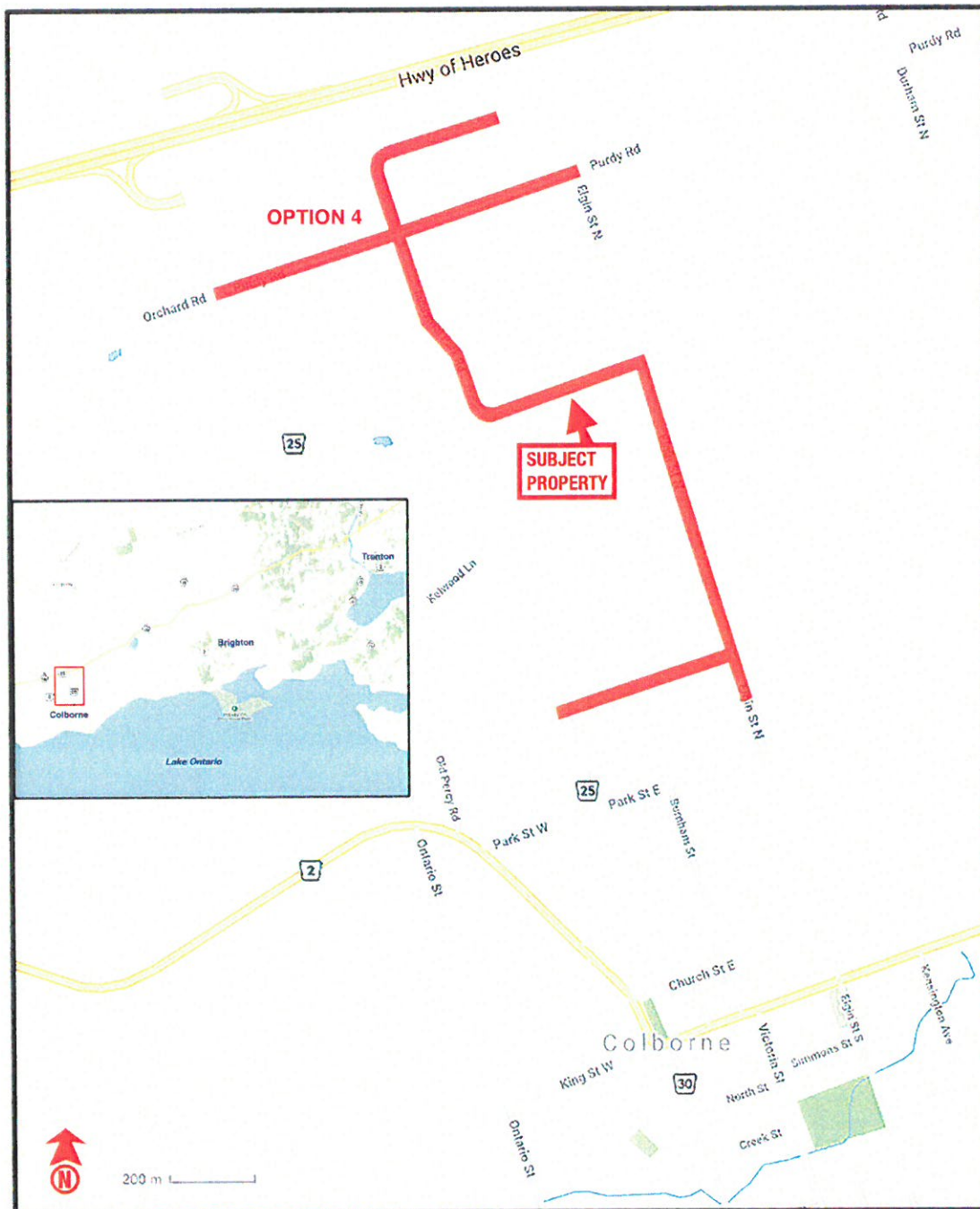
8.0 MAPS



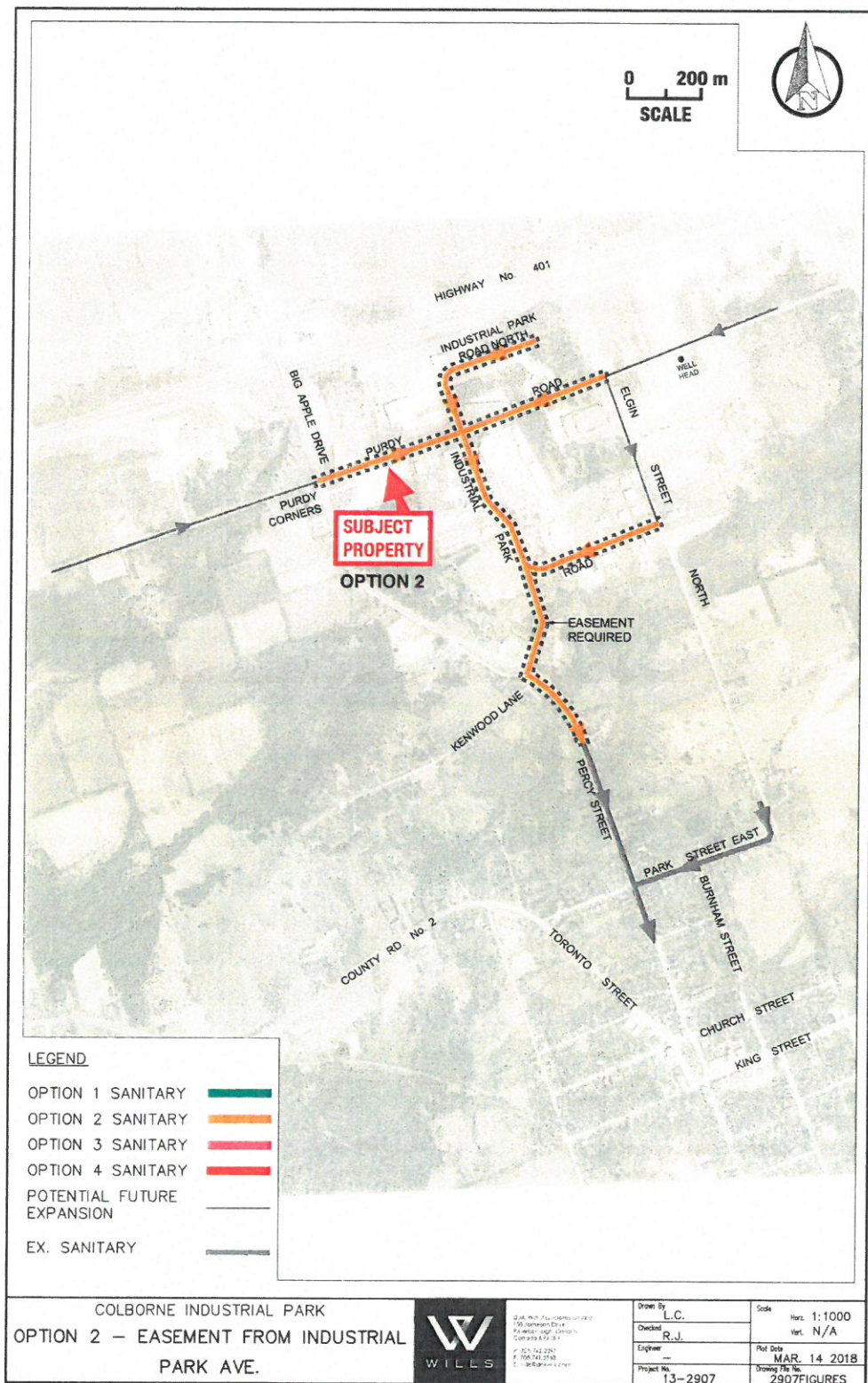
Map 1: Location of proposed Option 2 sanitary sewer route at the north end of Colborne.



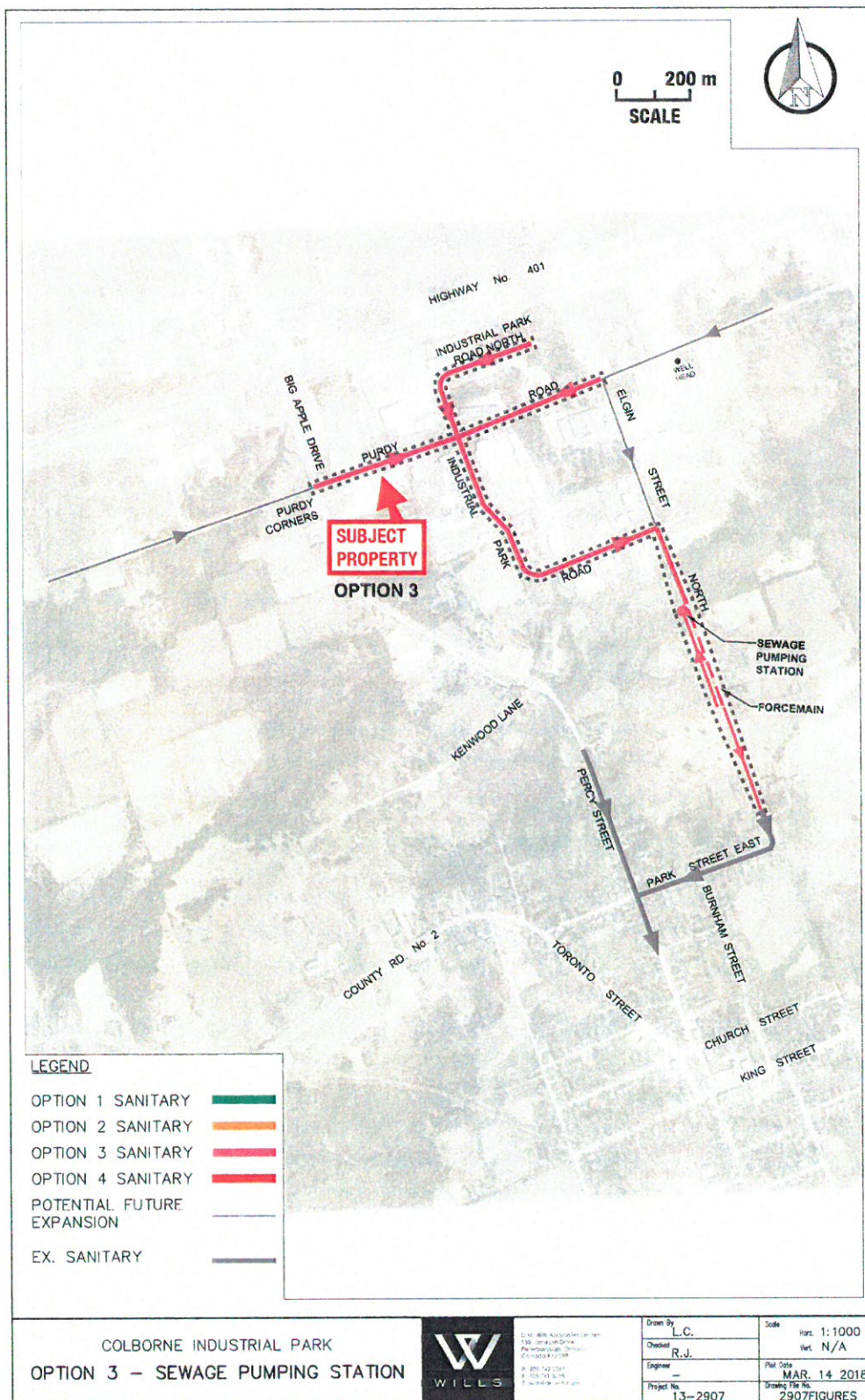
Map 2: Location of proposed Option 3 sanitary sewer route at the north end of Colborne.



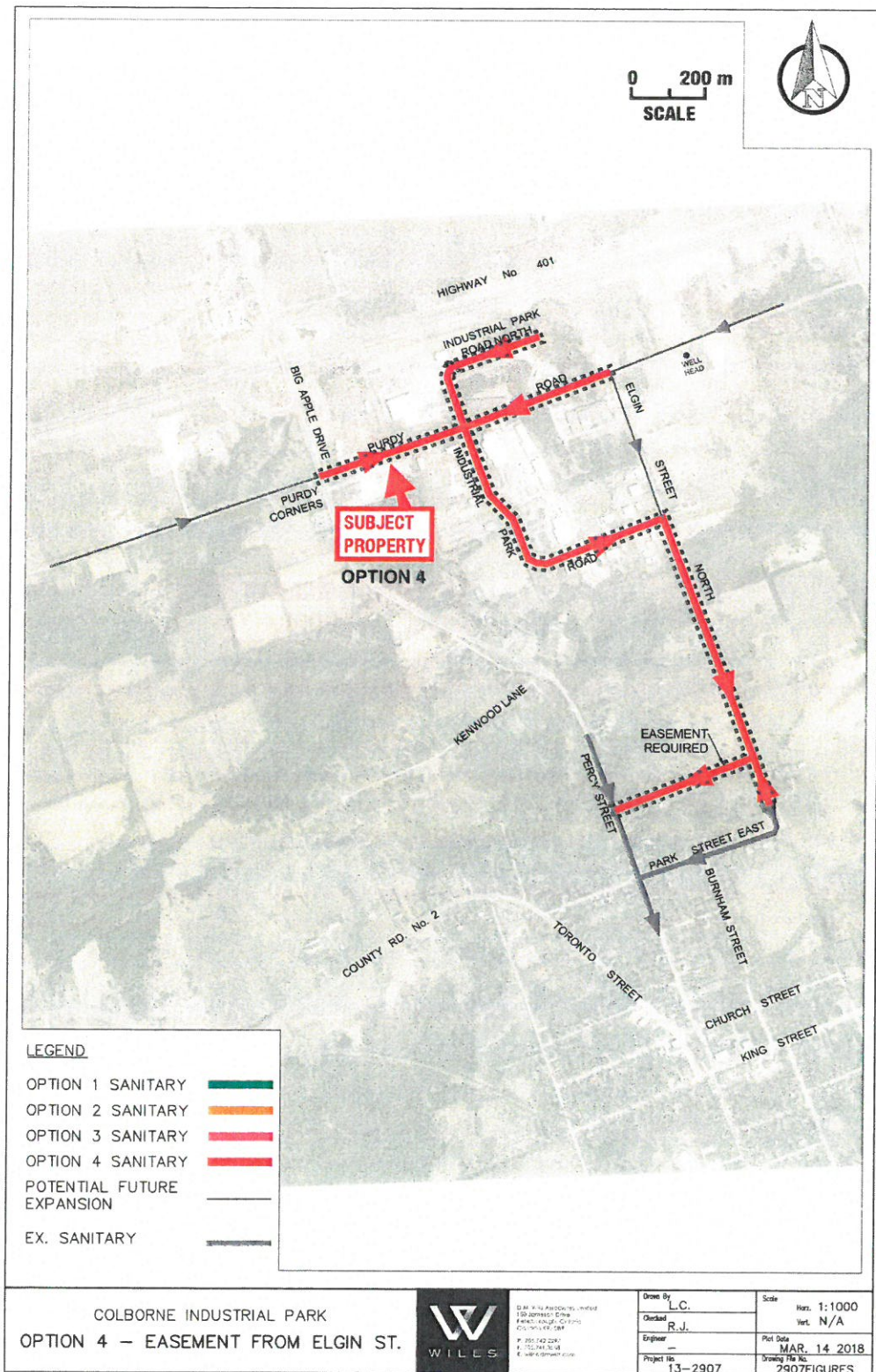
Map 3: Location of proposed Option 4 sanitary sewer route at the north end of Colborne.



Map 4: Proposed Option 2 Sanitary Sewer Route (in orange) on satellite image of Colborne
(After base map provided by D.M. Wills & Associates Ltd.)

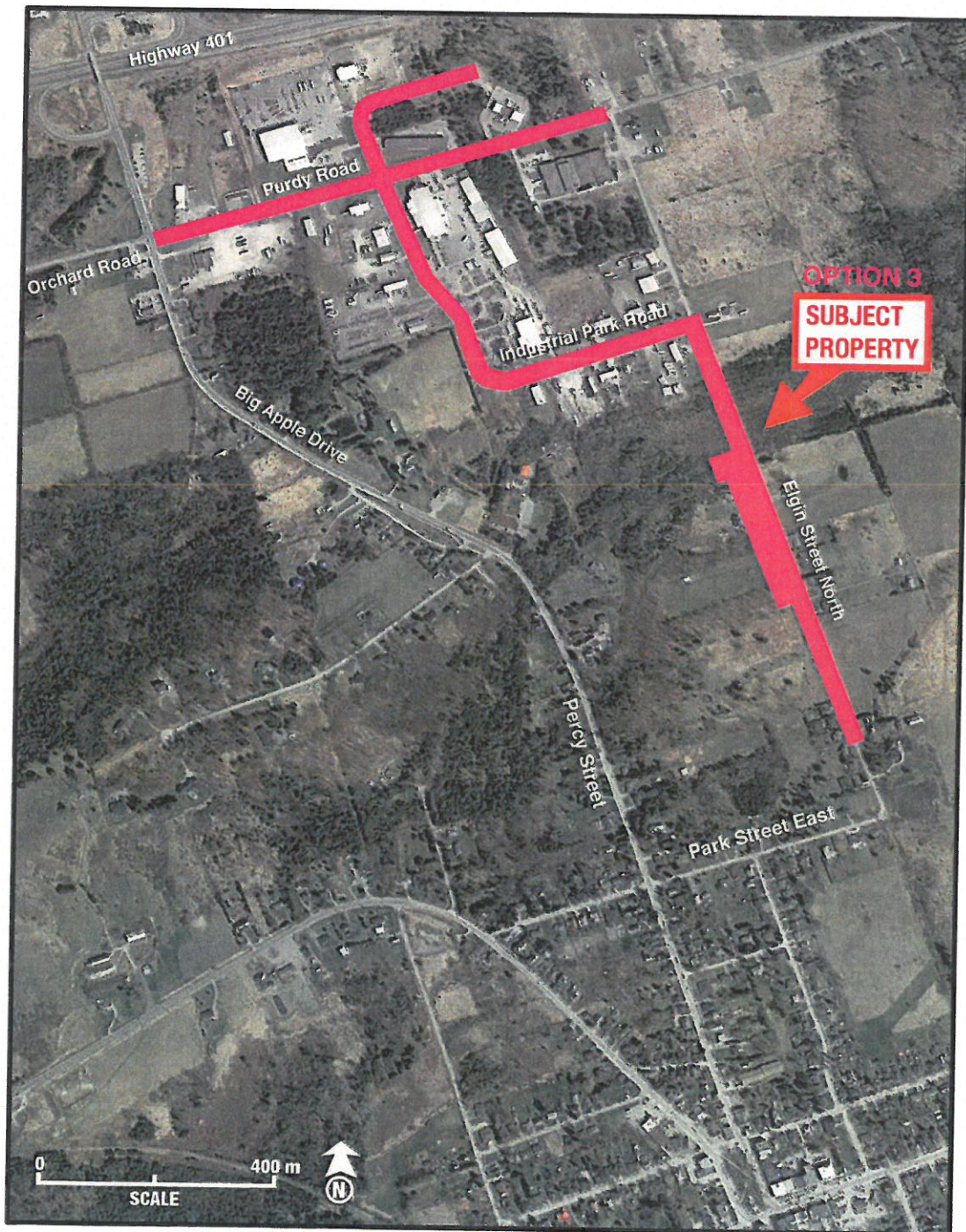


Map 5: Proposed Option 3 Sanitary Sewer Route (in pink) on satellite image of Colborne
(After base map provided by D.M. Wills & Associates Ltd.)

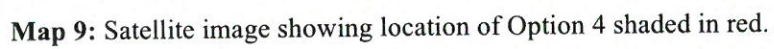


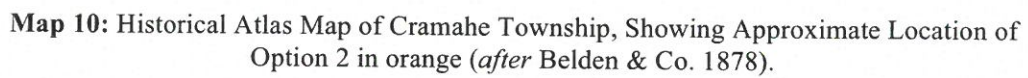


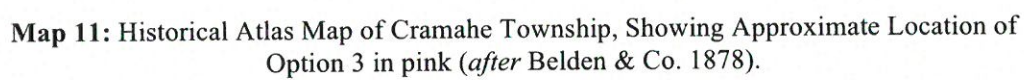
Map 7: Satellite image showing location of Option 2 shaded in orange.

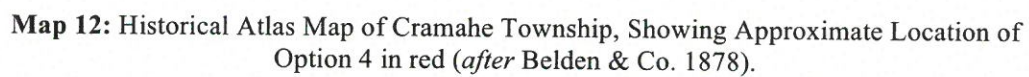


Map 8: Satellite image showing location of Option 3 shaded in pink.
Locations of possible future sewage pumping station and forcemain have been added at the estimated section of Elgin Street, but this is subject to change and will require future verification.



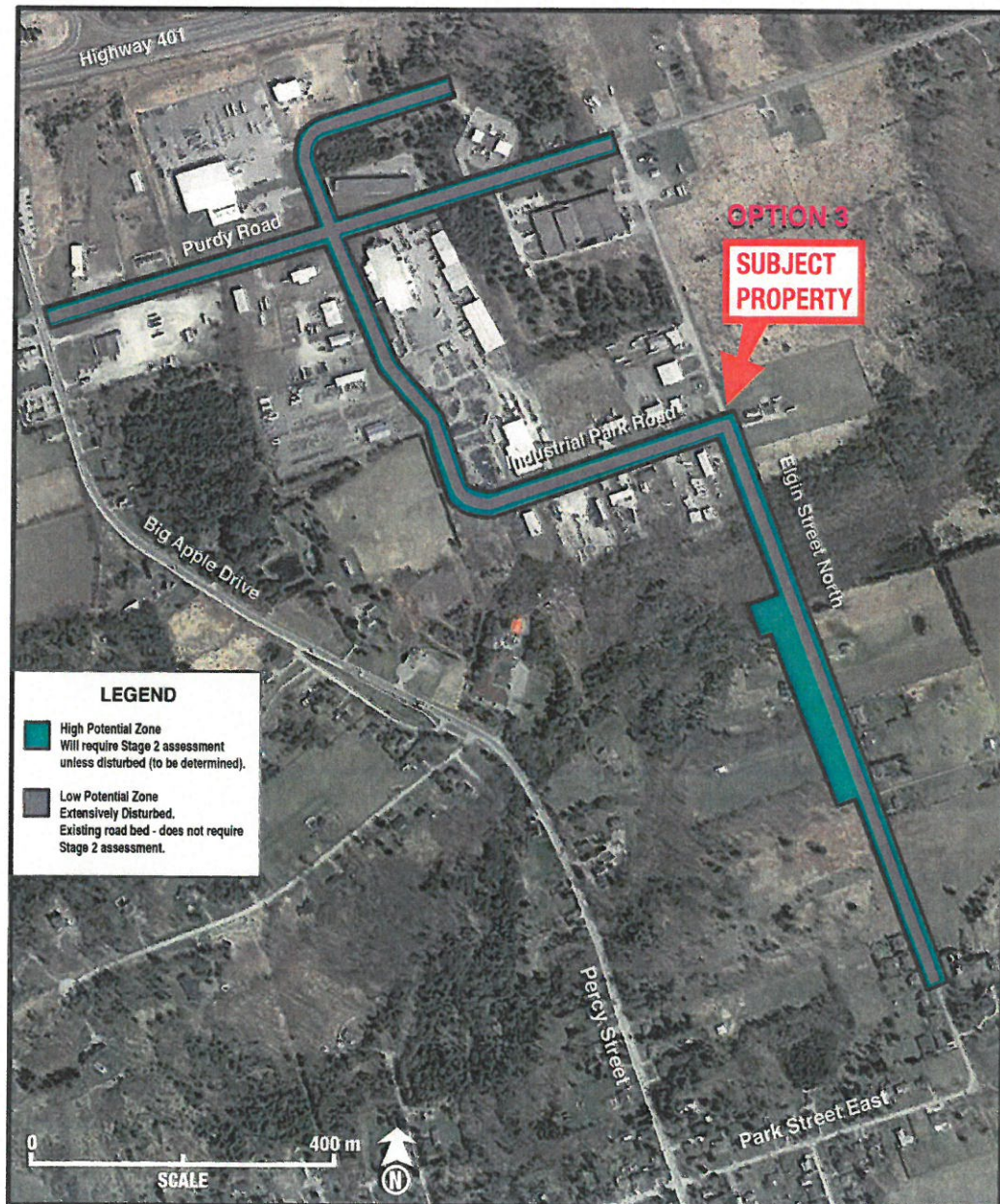








Map 13: Zones of Archaeological Potential for Option 2.



Map 14: Zones of Archaeological Potential for Option 3.



Map 15: Zones of Archaeological Potential for Option 4.