APPENDIX D.7
ARCHAEOLOGICAL RESOURCES
Stage 1 Archaeological Assessment
Background Study

Strasburg Road Extension Class Environmental Assessment,
From 500 m North of Stauffer Drive to New Dundee Road,
Former Township of Waterloo, Waterloo County
City of Kitchener, Ontario

Prepared for:

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MTC PIF P057-638-2010 & P057-684-2011
ASI File 10EA-056

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EXECUTIVE SUMMARY

Archaeological Services Inc. (ASI) was contracted by SNC-Lavalin Inc., Toronto, on behalf of the City of Kitchener, to conduct a Stage 1 Archaeological Assessment (background research) for the Strasburg Road Extension Class Environmental Assessment Study. The project is located within the City of Kitchener and extends from 500 m north of Stauffer Drive to New Dundee Road.

The Stage 1 Archaeological Assessment determined that seven archaeological sites have been registered within 1 km of the study area. Additionally, a review of the general physiography and local nineteenth century land use of the study area suggests that it has potential for the identification of both Aboriginal and Euro-Canadian archaeological sites.

An archaeological potential model was produced to corroborate the results of the background study. The potential model supports the conclusions of the background research and confirms that the study area contains archaeological potential.

In light of the results of the background research and archaeological potential modeling undertaken for the Stage 1 Archaeological Assessment of the Strasburg Road extension study area, ASI makes the following recommendations:

1. Archaeological potential exists in the Strasburg Road extension study area. All these lands will require a Stage 2 Archaeological Assessment (Property Survey), which must be conducted in accordance with Sections 2.1.1 and 2.1.2 of the 2011 Standards and Guidelines for Consultant Archaeologists. The Stage 2 assessment must involve a combination of pedestrian survey of all ploughable lands and test pit survey for the remainder.
   - Pedestrian survey involves systematically walking over freshly ploughed and weathered agricultural lands; and,
   - Test pit survey involves the systematic excavation of small test pits at 5 metre intervals and can be conducted only in areas where ploughing is not feasible.
## ARCHAEOLOGICAL SERVICES INC.
ENVIRONMENTAL ASSESSMENT DIVISION

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1.0 PROJECT CONTEXT

Archaeological Services Inc. (ASI) was contracted by SNC-Lavalin Inc., Toronto, on behalf of the City of Kitchener, to conduct a Stage 1 Archaeological Assessment (background research) for the Strasburg Road Extension Class Environmental Assessment Study (Figure 1). The project is located within the City of Kitchener and extends from approximately 500 m north of Stauffer Drive to New Dundee Road.

This assessment was conducted under the project management of Caitlin Lacy (R303) and project direction of Robert Pihl (P057), both of ASI; Mr. Pihl was also the licensee for the project (PIF P057-638-2010 and P057-684-2011).

The objectives of this report are:

- To provide information about the geography, history, previous archaeological fieldwork and current land condition of the study area;
- To evaluate in detail the archaeological potential of the study area which can be used, if necessary, to support recommendations for Stage 2 Archaeological Assessment for all or parts of the property; and
- To recommend appropriate strategies for Stage 2 Archaeological Assessment, if necessary.

This report describes the Stage 1 assessment that was conducted for this project and is organized as follows: Section 1.0 describes the project context and summarizes the background study that was conducted to provide the archaeological and historical context for the project study area; Section 2.0 provides analysis of the background study, archaeological potential and conclusions; Section 3.0 provides recommendations for the next assessment steps; and the remaining sections contain other report information that is required by the Ministry of Tourism, Culture, and Sport’s (MTCS) 2011 Standards and Guidelines for Consultant Archaeologists (S&G), e.g., advice on compliance with legislation, works cited, mapping and photo-documentation.

1.1 Development Context

All work has been undertaken as required by Environmental Assessment Act, RSO (1990) and regulations made under the Act, and are therefore subject to all associated legislation. This project is being conducted under the Class Environmental Assessment process.

All activities carried out during this assessment were completed in accordance with the terms of the Ontario Heritage Act (2005) and the Standards and Guidelines for Consultant Archaeologists (S&G).

Permission to access the study area and to carry out all activities necessary for the completion of the assessment was granted by SNC-Lavalin Inc. on June 18, 2010.
1.2 Archaeological Context

This section provides background research pertaining to previous archaeological fieldwork conducted within and in the vicinity of the Strasburg Road extension study area, its environmental characteristics (including drainage, soils or surficial geology and topography, etc.), and current land use and field conditions. Three sources of information were consulted to provide information about previous archaeological research in the study area; the site record forms for registered sites housed at the MTCS; published and unpublished documentary sources; and the files of ASI.

1.2.1 Previous Archaeological Research

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database (OASD) maintained by the MTCS. This database contains archaeological sites registered within the Borden system. Under the Borden system, Canada has been divided into grid blocks based on latitude and longitude. A Borden block is approximately 13 km east to west, and approximately 18.5 km north to south. Each Borden block is referenced by a four-letter designator, and sites within a block are numbered sequentially as they are found. The study area under review is located in Borden blocks AiHc.

According to the OASD (email communication, Robert von Bitter, MTCS Data Coordinator, June 23, 2010), seven archaeological sites have been registered within 1 km of the study area.

Table 1: List of previously registered within 1 km of the study area

<table>
<thead>
<tr>
<th>Borden #</th>
<th>Site Name</th>
<th>Cultural Affiliation</th>
<th>Site Type</th>
<th>Researcher</th>
</tr>
</thead>
<tbody>
<tr>
<td>AiHc-1</td>
<td>Elliot Village</td>
<td>Aboriginal</td>
<td>Cabin</td>
<td>G. MacDonald</td>
</tr>
<tr>
<td>AiHc-19</td>
<td>Reidel Road</td>
<td>Aboriginal – Woodland</td>
<td>Undetermined</td>
<td>LMA*</td>
</tr>
<tr>
<td>AiHc-20</td>
<td>Van Ordt-Duerrstein</td>
<td>Aboriginal – Woodland</td>
<td>Village, burial</td>
<td>J. Redmond</td>
</tr>
<tr>
<td>AiHc-22</td>
<td>Aboriginal</td>
<td></td>
<td>Isolated Find</td>
<td>MIA</td>
</tr>
<tr>
<td>AiHc-45</td>
<td>Aboriginal – Archaic</td>
<td></td>
<td>Isolated Find</td>
<td>ASI</td>
</tr>
<tr>
<td>AiHc-65</td>
<td>Carydale</td>
<td>Euro-Canadian</td>
<td>Homestead</td>
<td>ASI</td>
</tr>
<tr>
<td>AiHc-71</td>
<td>Aberdeen 1</td>
<td>Aboriginal</td>
<td>Isolated Find</td>
<td>ASI</td>
</tr>
</tbody>
</table>

1.2.2 Geography

In addition to the known archaeological sites, the state of the natural environment is an important predictor of archaeological potential. Accordingly, a description of the physiography and soils are briefly discussed for the study area.

Section 1.3.1 of the S&G stipulates that primary water sources (lakes, rivers, streams, creeks, etc.), secondary water sources (intermittent streams and creeks, springs, marshes, swamps, etc.), ancient water sources (glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, cobble beaches, etc.), as well as accessible or inaccessible shorelines (high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.) are characteristics that indicate archaeological potential.
Water has been identified as the major determinant of site selection and the presence of potable water is the single most important resource necessary for any extended human occupation or settlement. Since water sources have remained relatively stable in Ontario after the Pleistocene era, proximity to water can be regarded as a useful index for the evaluation of archaeological site potential. Indeed, distance from water has been one of the most commonly used variables for predictive modeling of site location.

Section 1.3.1 of the S&G also lists other geographic characteristics that can indicate archaeological potential including: elevated topography (eskers, drumlins, large knolls, plateaux), pockets of well-drained sandy soil, especially near areas of heavy soil or rocky ground, distinctive land formations that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. Physical indicators of use may be present, such as burials, structures, offerings, rock paintings or carvings. Resource areas, including: food or medicinal plants (migratory routes, spawning areas) are also considered characteristics that indicate archaeological potential.

The study area is situated within the Waterloo Hills physiographic region of southern Ontario (Chapman and Putnam 1984:136-137). The region occupies about 775 km², lying primarily in the Regional Municipality of Waterloo. This region is dominated by sandy hills with outwash sands occupying the intervening hollows. Soils within the region may be characterized as mature Grey Brown Luvisolic soils. More specifically, Waterloo County can be classified in the series ‘Waterloo sandy loam’ and are found on most of the rounded, sandy hills of the area.

The study area is underlain by glacial deposits of the Lake Wisonsinan sub-stage. According to the Ontario Geological Survey’s surficial geology mapping, the study area consists of ice-contact stratified sand, such as outwash sand, kames and eskers. Surficial geology information is mapped and presented in Figure 2 and soil drainage information is presented in Figure 3.

In terms of water sources, Blair Creek, a primary water source, bisects the study area.

1.3 Historical Context

This section provides a brief summary of historic research for the study area. A review of available primary and secondary source material was undertaken to produce a contextual overview, including a general description of settlement and historic land use. Historically, the study area was located on Lots 5 and 6, Beasley’s New Survey, and Lots 9 and 14, Biehn’s Tract, in the Former Township of Waterloo and Lots 38 and 39, Cocnession 12 in the Former Township of North Dumfries, County of Waterloo.

1.3.1 Contact Period

The study area is located within an area known to have been occupied by the Neutral Nation. The first record of a European visit to southern Ontario was made in 1615 by Samuel de Champlain, who reported that a group of Iroquoian-speaking people situated between the New York Iroquois and the Huron were at peace and remained “la nation neutre”. In subsequent years the French visited and traded among the Neutral, but the first documented visit was not until 1626, when the Recollet missionary Joseph de la Roche Daillon recorded his visit to the villages of the
Att wandaron, whose name in the Huron language meant “those who speak a slightly different
tongue” (the Neutral apparently referred to the Huron by the same term). Like the Huron, Petun
and New York Iroquois, the Neutral people were settled village horticulturalists. The Neutral
territory included discrete settlement clusters in the lower Grand River, Fairchild-Big Creek,
Upper Twenty Mile Creek, Spencer-Bronte Creek drainages, Milton, Grimsby, Eastern Niagara
Escarment and Onondaga Escarpment areas. The primary village was Kandoucho, probably in
the vicinity of Brantford. In the years 1649 to 1651, the Neutral settlements were destroyed by the
Iroquois (Mika and Mika 1977: 252).

Between 1647 and 1651, the villages of the Neutral were destroyed by the New York Iroquois,
who subsequently settled along strategic trade routes on the north shore of Lake Ontario for a
brief period during the late 17th-century. One French explorer who is known to have entered the
Burlington Bay area during this period was Rene-Robert Cavalier de La Salle, who left Montreal
with a flotilla of nine canoes and eventually reached the head of Lake Ontario in September of
1669. After landing, de La Salle’s group travelled to the Seneca village of Tinoouataoua, the
exact location of which is open to speculation (ASI 2004:13-14), and his explorations in the area
may have utilized the Humber Trail (MPP:1986 42).

During the late 17th and early 18th centuries, the former Neutral territory came to be occupied by
the Mississauga, an Algonquian-speaking southeastern Ojibwa people whose subsistence
economy was based on garden farming, as well as hunting, fishing and gathering wild plants. The
Mississauga and other Ojibwa groups began expanding southward from their homelands in the
upper Great Lakes in the late 17th century, coming into occasional conflict with the New York
Iroquois who had established themselves in southern Ontario (although alliances between the two
groups were occasionally established as well). The colonial government recognized the
Mississauga as the “owners” of the north shore of Lake Ontario and entered into negotiations for
additional tracts of land as the need arose to facilitate European settlement (ASI 2004:14).

1.3.2 Township Survey and Settlement

The land now occupied by the City of Kitchener was once part of a large tract of more than
24,000 hectares of land that was set aside for the Six Nations by the British Crown following the
American War of Independence. Between 1796 and 1798, 38,000 hectares was acquired by
Colonel Richard Beasley, a United Empire Loyalist. By the end of the 1790s Pennsylvania
German Mennonite farmers, starting with members of the Betzner and Sherk families, settled in
the area. By pooling their resources, a group of Mennonites were able to purchase Beasley’s
unsold land, forming the German Company Tract. Lands were divided into farms for distribution.

In 1816, the German Company Tract became the Township of Waterloo. Between the 1820s and
the 1870s a steady migration of German-speaking Europeans settled in the area. Population
growth and road improvements helped to establish the hamlet of Berlin in 1833. The construction
of the Grand Trunk Railway through Berlin in 1856 completely opened up the area to increasing
settlement and future industrialization. By the end of the nineteenth century, Berlin was an
established industrial centre within the Dominion of Canada, boasting a variety of factories. This
extensive industrialization had a significant impact on the urban landscape as large factories and
the homes of industrialists and workers replaced many pioneer-era structures.
Following the outbreak of World War I and its associated anti-German sentiment, the newly created City changed its name from Berlin, so named in honour of the first settler’s German heritage, to Kitchener, after the British General Horatio Herbert Kitchener of Boer War fame.

In 1925, the City of Kitchener developed its first City Plan to manage its rapid growth. The Adams-Seymour Plan significantly influenced how the City would develop in the twentieth century by creating a comprehensive zoning by-law that established distinct residential districts and located commercial and industrial areas along primary arterial roads (Kitchener 2009).

### 1.3.3 Historic Map Review

The 1861 *Tremaine Map of Waterloo Township*, the 1877 *Illustrated Historical Atlas of Waterloo & Wellington Counties*, and the 1881 *Waterloo Supplement in the Illustrated Atlas of the Dominion of Canada* were reviewed to determine the potential for the presence of historical archaeological remains within the study area during the nineteenth century (Figures 4 -6). It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases, given that they were financed by subscription, and subscribers were given preference with regard to the level of detail provided on the maps. Moreover, not every feature of interest would have been within the scope of the atlases.

Historically, the study area was located on Lots 5 and 6, Beasley’s New Survey, and Lots 9 and 14, Biehn’s Tract, in the Former Township of Waterloo and Lots 38 and 39, Concession 12 in the Former Township of North Dumfries, County of Waterloo. New Dundee Road is a historically surveyed thoroughfare travelling east-west across the township. It currently serves as the boundary between the City of Kitchener and the Township of North Dumfries.

Tables 2 and 3 provide a summary of the study area’s historic location and associated features depicted on the 1861 historic mapping. No property owners or historic features are illustrated on the 1881 historic atlas. It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases, given that they were financed by subscription, and subscribers were given preference with regard to the level of detail provided on the maps. Moreover, not every feature of interest would have been within the scope of the atlases.

#### Table 2: Summary of 1861 Property Owner(s) and Historic Feature(s) within the Study Area

<table>
<thead>
<tr>
<th>Location</th>
<th>Property Owner(s)/Resident(s)</th>
<th>Historic Feature(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lot 5, Beasley’s New Survey</td>
<td>James Goodfellow</td>
<td>---</td>
</tr>
<tr>
<td>Lot 6, Beasley’s New Survey</td>
<td>Mrs. J.C. Wallace</td>
<td>---</td>
</tr>
<tr>
<td>Lot 6, Beasley’s New Survey</td>
<td>John Walker</td>
<td>---</td>
</tr>
<tr>
<td>Lot 9, Biehn’s Tract</td>
<td>Geo. Hislop</td>
<td>---</td>
</tr>
<tr>
<td>Lot 14, Biehn’s Tract</td>
<td>Quinlin Latnar</td>
<td>---</td>
</tr>
<tr>
<td>Lot 14, Biehn’s Tract</td>
<td>G. Hislop</td>
<td>---</td>
</tr>
</tbody>
</table>

#### Table 3: Summary of 1877 Property Owner(s) and Historic Feature(s) within the Study Area
For the Euro-Canadian period, the majority of early nineteenth century farmsteads (i.e., those which are arguably the most potentially significant resources and whose locations are rarely recorded on nineteenth century maps) are likely to be captured by the basic proximity to the water model outlined in Section 1.2.2 of this report since these occupations were subject to similar environmental constraints. An added factor, however, is the development of the network of concession roads and railroads through the course of the nineteenth century. These transportation routes frequently influenced the siting of farmsteads and businesses. Accordingly, undisturbed lands within 100 m of an early settlement road, such as New Dundee Road are also considered to have potential for the presence of Euro-Canadian archaeological sites.

Section 1.3.1 of the S&G stipulates that areas of early Euro-Canadian settlement (pioneer homesteads, isolated cabins, farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries, are considered to have archaeological potential. Early historical transportation routes (trails, passes, roads, railways, portage routes), properties listed on a municipal register or designated under the Ontario Heritage Act or a federal, provincial, or municipal historic landmark or site are also considered to have archaeological potential.

2.0 ANALYSIS AND CONCLUSIONS

The archaeological and historical context was analyzed to help determine the archaeological potential of the study area. An analysis of the archaeological potential of the Strasburg Road extension study area is presented in Sections 2.1 and 2.2 of this report, and conclusions of the background study are presented in Section 2.3.

2.1 Analysis of Archaeological Potential

Section 1.3.1 of the S&G lists characteristics that indicate where archaeological resources are most likely to be found, and archaeological potential is confirmed when one or more features of archaeological potential are present. Accordingly, the Strasburg Road extension study area meets the following criteria used for determining archaeological potential:

- Previously registered archaeological sites (i.e. AiHc-22);
- Water sources: primary, secondary, or ancient water sources (i.e. Blair Creek);
- Early Euro-Canadian settlement (i.e. pioneer homestead); and
- Early historical transportation route (i.e. New Dundee Road).

These criteria characterize the study area as having potential for the identification of Aboriginal and Euro-Canadian archaeological resources.
2.2 Archaeological Potential Model

Archaeological potential models are developed as tools to assist land-use planners and policy makers in evaluating the threat to archaeological resources that might occur through proposed land-development projects. Since the majority of archaeological sites have not yet been documented or registered with the OASD, the only alternative is to use archaeological science to partition the landscape into zones that exhibit archaeological potential versus those that do not. The result is an archaeological potential map against which the footprint of proposed development alternatives can be evaluated.

Using the information from known archaeological sites and historic features, GIS mapping was reviewed to determine if archaeological potential is present within the study area. The mapping of archaeological site potential confirmed that the study area exhibits archaeological potential. Archaeological potential mapping is presented in Figure 6.

2.3 Conclusions

The Stage 1 Archaeological Assessment was conducted to assist with the Strasburg Road extension EA. The background research determined that seven archaeological sites have been registered within the Strasburg Road extension study area. A review of the general physiography and local nineteenth century land use of the study area suggested that it has potential for the identification of Aboriginal and Euro-Canadian archaeological sites.

An archaeological potential model was produced to corroborate the results of the background study. The potential model supports the conclusions of the background research and suggests that the study area contains archaeological potential.

3.0 RECOMMENDATIONS

In light of the results of the background research and archaeological potential modeling undertaken for the Stage 1 Archaeological Assessment of the Strasburg Road extension study area, ASI makes the following recommendations:

1. Archaeological potential exists in the Strasburg Road extension study area. All these lands will require a Stage 2 Archaeological Assessment (Property Survey), which must be conducted in accordance with Sections 2.1.1 and 2.1.2 of the 2011 Standards and Guidelines for Consultant Archaeologists. The Stage 2 assessment must involve a combination of pedestrian survey of all ploughable lands and test pit survey for the remainder.
   - Pedestrian survey involves systematically walking over freshly ploughed and weathered agricultural lands; and,
   - Test pit survey involves the systematic excavation of small test pits at 5 metre intervals and can be conducted only in areas where ploughing is not feasible.

Notwithstanding the results and recommendations presented in this study, Archaeological Services Inc. notes that no archaeological assessment, no matter how thorough or carefully...
completed, can necessarily predict, account for, or identify every form of isolated or deeply buried archaeological deposit. In the event that archaeological remains are found during subsequent construction activities, the consultant archaeologist, approval authority, and the Cultural Programs Unit of the Ministry of Tourism, Culture and Sport should be immediately notified.

4.0 ADVICE ON COMPLIANCE WITH LEGISLATION

ASI advises compliance with the following legislation:

- This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development;

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

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

5.0 BIBLIOGRAPHY

Archaeological Services Inc (ASI)

Chapman, L. J. and F. Putnam

Kitchener

MacDonald, D.

Mayer, Pihl, Poulton and Associates, Incorporated (MPP)

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Museum of Indian Archaeology

Ontario Ministry of Environment
1990 *Environmental Assessment Act*

Ontario Ministry of Tourism and Culture
2005 *Ontario Heritage Act.*

Parsell, H. & Co.
1877 *Illustrated Historical Atlas of Waterloo & Wellington Counties*

Tremaine, George
1861 *Tremaine's Map of Waterloo County.*
6.0 MAPS
Figure 2: Strasburg Road Extension - Surficial Geology
Figure 3: Strasburg Road Extension - Soil Drainage
Figure 4: The study area overlaid on the 1861 map of Waterloo Township. Base Map: (Tremaine 1861).

Figure 5: The study area overlaid on the 1877 map of North Dunfries Township. Base map: (Parsell & Co. 1877).

Figure 5: The study area overlaid on the 1881 map of Waterloo Township. Base Map: (MacDonald 1881).
Figure 7: Strasburg Road Extension - Archaeological Potential Model