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**CN Milton Mobility Logistics Hub
Review of Environmental Impact Statement (EIS)
and Supporting Documents**

Archaeology

Submitted to:

Regional Municipality of Halton

Prepared by:

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1.0 INTRODUCTION

1.1 SUMMARY OF FINDINGS

The Environmental Impact Statement provided by CN (“CN EIS”) in support of the proposed Milton Mobility Logistics Hub (the “Project”) does not provide sufficient information to allow the Joint Panel to assess whether the Project is likely to result in Significant Adverse Environmental Effects with respect to archaeological resources. In particular, CN has not yet provided Stage 3 archaeological assessment reports.

In **Appendix B** to this report, I have set out **2** information requests that I suggest be made to CN in respect of its work on archaeological resources.

1.2 PURPOSE OF REVIEW AND SCOPE OF REPORT

I was retained by the Regional Municipality of Halton, the City of Burlington, the Town of Halton Hills, the Town of Milton and the Town of Oakville (the “Halton Municipalities”) to conduct a review of the CN EIS with respect to archaeological resources.

This report provides an analysis of the sufficiency of the CN EIS as it relates to my area of technical expertise. I have focused the report on whether sufficient information has been provided in the EIS to determine whether the Project meets the requirements of the EIS Guidelines dated July 2015 (the “EIS Guidelines”), as well as the standards set out in the Halton Brief.

As directed by the Joint Panel, I have considered sufficiency in the context of whether adequate information has been provided to allow a proper assessment of the technical validity of the information, methods, analysis, and conclusions regarding the significance of any environmental effects, mitigation, and proposed follow-up programs.

1.3 QUALIFICATIONS

I am currently a Partner at Archaeological Services Inc. (ASI) and Director of ASI’s Environmental Assessment Division. I have worked as an archaeological consultant in the province of Ontario since 1996 and hold a Professional Archaeological licence for the Province of Ontario (#P094). I received my Master of Science (Anthropology) from the University of Toronto, and my BA Hons from York University. Prior to joining ASI, I operated my own archaeological consulting firm for five years. I joined ASI in 2008 to help manage the Highway 407 East Extension project, the largest archaeological project of its kind in Ontario. In 2010, I was promoted to Senior Archaeologist and in 2014 became a Manager in ASI’s Environmental Assessment (EA) division. On October 1st 2016, I assumed my current role. As Director of EA, I manage a team of dedicated staff from ASI’s Toronto and Burlington offices in the preparation of proposals and the successful completion of hundreds of archaeological assessment projects annually, including Class EA’s, Transit Project Assessments, and Individual EAs.

1.4 DOCUMENTS REVIEWED

Please see the list of documents I have reviewed at **Appendix A**.



2.0 ASSESSMENT OF EIS

Section 3.3.2 of the EIS Guidelines require CN to identify and examine Valued Components (“VCs”) that may be impacted by the Project and to describe them “in sufficient detail to allow the reviewer to understand their importance and to assess the potential for environmental effects arising from the project activities.”

Under Section 6.3.5 of the EIS Guidelines, CN must consider the following effects:

effects to physical and cultural heritage, and structures, sites or things of historical, archaeological, paleontological or architectural significance to local heritage, including, but not limited to:

- *the loss or destruction of physical and cultural heritage;*
- *changes to access to physical and cultural heritage; and*
- *changes to the cultural value or importance associated with physical and cultural heritage.*

Under Section 6.2.2 of the CN EIS, CN identifies “archaeological and cultural heritage resources” as a VC.

2.1 STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT REPORT

To date, Stantec has completed a Stage 1-2 archaeological assessment report, *Milton Logistics Hub – Technical Data report Stage 1-2 Archaeological Assessment*, that details the Stage 1 background research conducted for the Local Assessment Area (“LAA”) and the Stage 2 field results for Stantec’s assessment of the Project Development Area (“PDA”). The report is included as Appendix E.14 to the CN EIS.

The Stage 2 assessment documents 56 locations where archaeological resources were identified, and recommends that 14 of these have sufficient cultural heritage value to require a Stage 3 assessment. Further, Stantec states that at least five of these archaeological sites may require Stage 4 mitigation of impacts (salvage excavation).

In the CN EIS, Stantec states that the Stage 3 assessments are scheduled for 2016 (CN EIS, p. 261) and in its September 30, 2016 response to Information Request 9 (“IR9”), Stantec advises that the Stage 3 field investigations are underway and scheduled to be completed in 2016 (IR9 Response, Sept. 30, 2016, p. 6). However, to date, CN has not provided any Stage 3 assessments. In the same response to IR9 Stantec also states that Stage 4 excavations, if required, are planned for Spring 2017 (IR9 Response, Sept. 30, 2016, p. 6).

The Stage 1-2 archaeological assessment report is, for the most part, detailed and well organized and has been structured to meet the appropriate provincial requirements (the 2011 *Standards and Guidelines for Consultant Archaeologists* (“S & G”)). However, Stantec archaeologists have not recommended an archaeological site, identified as ‘Location 5’ for a Stage 3 assessment when it clearly meets provincial requirements for further archaeological assessment.

In section 6.5 of the CN EIS Stantec states that Location 5 (AiGx-391) does not fulfill the criteria for a Stage 3 archaeological investigation as per Section 2.2 of the Ministry of Tourism Culture and Sport’s (“MTCS”) 2011 Standards and Guidelines (Stantec 2016: 231; Table 138). However, Location 5 contains a projectile point (or arrowhead) that is “manufactured from Flint Ridge Chalcedony” (Stantec 2016: 64). This material is considered to be “exotic” in that it does not occur naturally in Ontario. As per S & G Section 2.2 Standard 1, single examples of exotic chert (*i.e.*, the projectile point) require Stage 3 assessment.



2.2 MINISTRY OF TOURISM, CULTURE AND SPORT

All archaeological activities in Ontario are legislated by the *Ontario Heritage Act*, which is administered by the MTCS. As per the *Ontario Heritage Act* R.S.O. 1990, c O.18, all professional consulting archaeologists must have a valid archaeological licence from MTCS. It is a licensing condition to submit archaeological technical reports for each project undertaken to MTCS for review and acceptance into the Provincial Registry of Reports.

In 2011, the Ministry of Tourism and Culture (as it was then named) published a technical document, the *Standards and Guidelines for Consultant Archaeologists* (“S & G”) that provides regulations for conducting and reporting on all archaeological assessments in Ontario.

Compliance with the S & G for all four stages of the archaeological assessment process is a critical test for the sufficiency of the technical studies that have been undertaken by CN’s archaeologists for the Project.

2.3 INFORMATION REQUESTS

Stage 3 and 4 Reports

As noted above, the Stantec Stage 1-2 report recommends that Stage 3 assessments must be undertaken on 14 archaeological sites (or “Locations”). A Stage 3 assessment is required for all archaeological sites that demonstrate cultural heritage value and/or interest (CHVI). The intention of a Stage 3 is to assess the CHVI and to determine if the CHVI has been sufficiently documented or if further measures are required to protect or document the site fully through excavation. If the Stage 3 determines that the site has not been fully documented, then a recommendation will be made that the site has further CHVI and requires Stage 4 mitigation of impacts. The Stage 3 report will recommend appropriate strategies for either a) protection and/or future conservation of the archaeological site; or b) detailed excavation strategies. The MTCS states that the preferred approach is always to protect an archaeological site from development impacts. Stage 4 excavation can only proceed when the development proponent can demonstrate that it is not feasible to protect the site for engineering or practical purposes. Insufficient methodological approaches can be determined upon review of the Stage 3 reports.

Stage 4 mitigation of impacts is the final step in an archaeological assessment and it entails either: a) the complete excavation of the archaeological resource; or, b) the long term protection and avoidance of the archaeological resource. The approach to be taken with respect to mitigation is determined at Stage 3. If the site is to be fully excavated then the Stage 4 report becomes the ultimate record of all the data gathered during the excavation. Because excavation is an inherently destructive process, the excavation has to be undertaken correctly from the start. This is critical to ensure that the archaeological site becomes a valuable part of the record of the heritage of Ontario. Ultimately, a review of the Stage 4 work would allow for a determination regarding whether potential impacts to the archaeological resource have been sufficiently mitigated.

According to the Stage 1-2 report, Stantec makes the preliminary determination that 12 of the 14 sites recommended for Stage 3 may also require Stage 4 mitigation of impacts (Stantec 2016: 227; Table 137). These excavations will presumably proceed in 2017, if the sites cannot be protected from the proposed Project.

To summarize, without the Stage 3 archaeological assessment reports and the Stage 4 mitigation of development impacts reports, the archaeological assessment process is incomplete for the Project. More importantly, I cannot assess the Project’s potential impacts to archaeological resources until I am provided with and review all of Stantec’s Stage 3 assessment reports, which will include its recommendations with respect to any required Stage 4 mitigation work.



In addition, for the reasons set out above, Location 5 should be added to Stantec's list of sites requiring Stage 3 archaeological assessment.

Information Request:

Topic <i>(include reference(s) to relevant sections of the EIS Guidelines and/or Halton Brief)</i>	Reference to CN EIS <i>(section or page # of EIS, CN responses to Information Requirements, etc.)</i>	Requested Information	Rationale
<p>Stage 3 Archaeological Assessment</p> <p>EIS Guidelines, Section 3.3.2 and Part 2, Sections 6.3.4 and 6.3.5</p> <p>Halton Brief: F.3.6 Cultural Heritage Resources</p>	<p>CN EIS, section 6.2.2</p> <p>CN EIS, App. E.14 - <i>Milton Logistics Hub – Technical Data report Stage 1-2 Archaeological Assessment</i></p> <p>IR 9 Response, Sept. 30, 2016, page 6</p>	<p>ECA1. Stage 3 Archaeological Assessment Reports</p> <p>Please provide all Stage 3 Archaeological Assessment Reports, including a Stage 3 report for Location 5.</p>	<p>Stage 3 reports are required in order to assess the potential impacts of the Project on archaeological resources and to determine if the archaeological assessments have been conducted sufficiently to ensure the conservation of these heritage resources.</p> <p>CN has advised that Stage 3 field investigations are scheduled to be completed in 2016 (IR9 Response). However, to date, CN has not provided any Stage 3 assessments. CN has also advised that Stage 4 excavations, if required, are planned for Spring 2017 (IR9 Response).</p>

MTCS Letters of Acceptance

After reviewing an archaeological assessment report, MTCS issues to the archaeological licensee a Letter of Acceptance into the Ontario Public Register of Archaeological Reports. If the report is deemed not to meet the S & G then MTCS will request revisions in order for it to be accepted. A critical test to determine if an archaeological assessment meets provincial requirements is to know the outcome of the MTCS review of the report.



To date, CN has not provided a MTCS acceptance letter for the Stage 1-2 assessment report. Once the Stage 3 and 4 reports are completed, MTCS letters are expected for those as well.

Information Request:

Topic <i>(include reference(s) to relevant sections of the EIS Guidelines and/or Halton Brief)</i>	Reference to CN EIS <i>(section or page # of EIS, CN responses to Information Requirements, etc.)</i>	Requested Information	Rationale
MTCS Approval EIS Guidelines, Section 3.3.2 and Part 2, Sections 6.3.4 and 6.3.5 Halton Brief: F.3.6 Cultural Heritage Resources <i>Ontario Heritage Act and MTCS Standards and Guidelines</i>	CN EIS, section 6.2.2 CN EIS, App. E.14 - <i>Milton Logistics Hub – Technical Data report Stage 1-2 Archaeological Assessment</i>	ECA 2 – MTCS Approval Please provide the Ministry of Tourism Culture and Sport (MTCS) Letter of Acceptance into the Ontario Public Register of Archaeological Reports for Stantec’s Stage 1 and 2 Archaeological Assessment as well as MTCS Letters of Acceptance for all Stage 3 and Stage 4 reports once available.	The MTCS letters are required to determine the reports’ compliance with MTCS provincial Standards and Guidelines.

3.0 MUNICIPAL STANDARDS

3.1 STANDARDS IN HALTON BRIEF

The Halton Brief identifies the following Halton Region Official Plan standard applicable to archaeological resources:

Prior to development occurring in or near areas of archaeological potential, require assessment and mitigation in accordance with provincial requirements and the Regional archaeological management plan. (ROP Reference 167(6)) Halton Brief, Table D.8)



I have been asked to review the applicable standard in the Halton Brief, and to list any technical information within my area of expertise that is required to inform the application of the standard. My commentary is found in the last three columns of the table below.

Review of Municipal Standards as set out in the Halton Brief – Employment Lands – Table D.8

Municipal Standard with references to Halton Brief Appendices A & B (Appendix C definitions in footnotes)	Technical information required to inform the application of the standard	Does CN propose mitigation relevant to this standard?	Does CN propose any follow-up relevant to this standard?
<p>Cultural Heritage Resources</p> <p>Prior to <i>development</i>¹ occurring in or near <i>areas of archaeological potential</i>², require assessment and mitigation in accordance with provincial requirements and the Regional archaeological management plan (ROP Reference 167(6)) Halton Brief, Table D.8</p>	<p>Sufficient Stage 3 assessment work and Stage 4 mitigation work are required in order to apply the standard. ECA1</p>	<p>No, given that Stage 3 assessment reports have not yet been provided.</p>	<p>Yes, CN proposes Stage 3 assessments and Stage 4 work.</p> <p>However, an additional Stage 3 assessment report should be required for one site (Location 5) that was not recommended for further work in the Stage 1-2 report.</p>

3.2 OTHER MUNICIPAL STANDARDS

The Regional Municipality of Halton (“Halton Region”) has an archaeological management plan, created in 1998 and updated in 2008, that provides Halton Region with guidance and policy recommendations on how to adequately undertake archaeological planning in land use and development contexts: *Master Plan of Archaeological Resources of the Regional Municipality of Halton, 2008 Update* (“Halton’s Archaeological Master Plan”).

The Stage 1-2 archaeological assessment report is, for the most part, detailed and well organized and has been structured to meet the requirements of Halton’s Archaeological Master Plan, with the exception of the lack of a recommendation for Stage 3 assessment for ‘Location 5’ as is noted above in Section 2.1.

¹ **Development (ROP):** the creation of a new lot, a change in land use, or the construction of buildings and structures, any of which requires approval under the Planning Act, or that are subject to the Environmental Assessment Act, but does not include: 226(1) activities that create or maintain infrastructure authorized under an environmental assessment process, 226(2) works subject to the Drainage Act, or 226(3) within the Greenbelt Plan Area, the carrying out of agricultural practices on land that was being used for agricultural uses on the date the Greenbelt Plan 2005 came into effect.

Development (PPS): the creation of a new lot, a change in land use, or the construction of buildings and structures requiring approval under the Planning Act, but does not include: a) activities that create or maintain infrastructure authorized under an environmental assessment process; b) works subject to the Drainage Act; or c) for the purposes of policy 2.1.4(a), underground or surface mining of minerals or advanced exploration on mining lands in significant areas of mineral potential in Ecoregion SE, where advanced exploration has the same meaning as under the Mining Act. Instead, those matters shall be subject to policy 2.1.5(a).

² **Areas of archaeological potential (PPS):** Areas with the likelihood to contain archaeological resources. Methods to identify archaeological potential are established by the Province, but municipal approaches which achieve the same objectives may also be used. The Ontario Heritage Act requires archaeological potential to be confirmed through archaeological fieldwork.



4.0 CONCLUSIONS

CN has not provided sufficient information to assess the adequacy of the CN EIS's prediction of effects on archaeological resources. The following additional information is required:

- Stage 3 archaeological assessment reports;
- MTCS Letter of Acceptance for the Stage 1-2 report, as well as for the Stage 3 reports once they are available;
- The Stage 4 reports and associated MTCS Letters of Acceptance will also be required if/when Stage 4 is complete.

I request that the Joint Panel ask CN to remedy these sufficiency issues by providing the requested information.

Signed this 10th day of March, 2017



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Appendix A

Documents Reviewed

- 1) EIS Guidelines
- 2) CN EIS (including the cover letter from CN dated December 7, 2015, the summary and the report); and
 - a) Appendix A - Final EIS Guidelines
 - b) Appendix B (Figures)
 - c) Appendix C (Renderings)
 - d) Appendix E.14 - Stage 1 and 2 Archaeology
 - e) Appendix F – Site Selection Study
 - f) Appendix G - Mitigation Measures and Commitments
- 3) CEAA Information Requests (March 15, 2016)
- 4) CN Response to CEAA Information Requests (May 18, 2016)
- 5) CEAA Additional Information Requests (July 14, 2016)
- 6) CN Response to CEAA Additional Information Requests (Sept. 30, 2016)
- 7) Letter from Mississaugas of the New Credit First Nation to Review Panel Secretariat dated January 25, 2017
- 8) Letter from Mississaugas of the New Credit First Nation to Review Panel Secretariat dated February 21, 2017
- 9) Halton Municipalities Brief

