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Ref: OP11-034

Town of Carleton Place
175 Bridge Street
Carleton Place, ON K7C 2V8

ATTENTION: Wayne Fraser, Public Works Coordinator

REFERENCE: Cost Estimate for Conducting a Phase I ESA and Filing a Record of Site Condition for the Northern Portion of 7 Beckwith Street, Town of Carleton Place v.2

Dear Wayne,

As per Paul Knowles' recent requests, SNC-Lavalin Environment (SLE) is pleased to provide herein a proposal for the above-referenced work. This proposal provides a brief description of the Record of Site Condition process and requirements, and describes the work that will be undertaken by SLE to satisfy the Town's objectives.

Background

The Town of Carleton Place purchased the 7 Beckwith Street site from Canadian Tire Corporation (CTC) in 2008. The Town intends to partition the property, which is currently considered commercial land use, into two separate parcels. The northern-most parcel is expected to extend from approximately the northern side of the existing CTC building to the current northern property line of the site. The Town intends to develop the northern property or to divest it for mixed commercial-residential land use.

In order for the currently commercial land to be approved for residential land use, Ontario Regulation 153/04 (as amended) requires that a Record of Site Condition (RSC) be filed with, and approved by, the Ministry of the Environment (MOE).

The RSC is essentially a form which is completed on-line from the MOE website. It contains certifications by Qualified Persons (QPs) that a property meets an appropriate standard for the intended use (e.g. the northern property would need to meet residential land use Site Condition Standards under Part XV.1 of the Ontario Environmental Protection Act). For the Town's reference, an example of an RSC for another site is provided in Appendix A of this proposal (downloaded from: <http://www.environment.ene.gov.on.ca/besr-public/generalSearch.do?action=display&>).

Currently, there are several requirements that must be satisfied before a RSC can be approved for the northern property. These include the following:

- A Phase I ESA (outstanding requirement);
- A legal description/survey of the northern property(outstanding requirement);
- A Phase II ESA (completed requirement);



- Soil and groundwater conditions that satisfy either 1) the MOE (2009) general site condition standards for residential land use in a shallow soil condition, or 2) site-specific standards derived through risk assessment. (outstanding requirement).

As indicated above, a Phase I ESA has not been conducted and, therefore, it is included in the proposed scope of work herein. A legal description/survey has also not been prepared for the northern part of the site. However, as per SLE's discussion with Wayne Fraser on March 23, 2011, a description/survey for the northern property will be conducted by the Town's contractor and, therefore, it is not included herein (this description/survey must be available for inclusion with the RSC submission).

Several Phase II ESAs have been completed, including most recently a Phase II ESA by SLE (2010). However based on a cursory review of the recent analytical results from SLE (2010), a number of soil and groundwater exceedances of MOE (2009) Table 6 residential land use standards are present on the northern parcel that must be addressed before the RSC can be filed with, and approved by, the MOE. The following table summarizes the exceedances identified from SLE's review of the 2010 Phase II ESA; a more detailed review of all analytical data from historical Phase II ESAs must be conducted and is, therefore, included in the proposed scope of work.

Summary of Exceedances of MOE (2009) Table 6 Standards
(From SLE [2010]; excludes data from historical reports.
Other exceedances may also be present)

Media	Borehole/Monitoring Well No. and Contaminant
Soil	BH-10-06: Barium (~0.75 m bgs) BH-10-07: Barium (~4.5 m bgs) BH-10-08: Barium (~4.5 m bgs)
Groundwater (in the bedrock)	MW10-1: chloroform ¹ and chromium (VI) ² MW08-21A: chloroform ¹ MW08-21B: chloroform ¹

Assuming the above soil exceedances are the only exceedances present on the northern property (note that additional review is required to confirm this), the resulting estimated area of

¹ The chloroform historically detected on the northern property is believed to have resulted from a leaking watermain on Beckwith Street that was subsequently repaired by the Town in October 2010. The MOE's Senior Hydrogeologist, Mr. Frank Crossley, indicated to SLE that this chloroform was a non-issue given the source (SLE, 2010). However, the chloroform may have to be addressed more thoroughly to satisfy the requirements of the RSC. Fortunately, chloroform was not detected at MW08-21A and MW08-21B in recent sampling conducted in March 2010, approximately 5 months the watermain was repaired. Although chloroform was still detected at MW10-1 in March 2011, it was at a much lower concentration than in 2010 (e.g. 3.8 µg/L in 2011 compared to 103 µg/L in 2010). This suggests that the chloroform may be a short-lived issue in the groundwater system and will naturally attenuate.

² Cr⁶⁺ was reported by SLE (2010) above the MOE Table 6 standard in a duplicate groundwater sample but not in the original sample. However, this well was resampled in March 2011 and Cr⁶⁺ was not detected. This suggests the previous detection was an analytical error and that Cr⁶⁺ is not a groundwater contaminant.



barium-contaminated soil on the northern property is approximately 700 m² (refer to Figure 1 attached). Assuming an average soil thickness of 3.5 m in this area (actual soil thicknesses range from approximately 0.8 to 5.5 m), the volume of soil that would require excavation is approximately 2,450 m³, or approximately 4,900 tonnes. The rough order of magnitude (ROM) cost for remediating/managing this soil ranges from \$250,000 to \$500,000. This cost does not include any groundwater remediation, if required.

Given the large cost for remediation, as indicated above, SLE recommends that the Town conduct a Tier 2 risk assessment as a more cost-effective approach for managing impacts. The risk assessment would be conducted with the expectation that the current exceedances pose no significant risk and, therefore, could be left on-site (note: SLE has conducted a cursory review of the Tier 2 model and it appears that this method would be successful for managing for soil (barium) and groundwater (chloroform) issues).

Objectives and Scope of Work

The objective of the project is to obtain a Record of Site condition for the northern property to allow mixed residential/commercial development. To meet this objective, the following scope of work would be conducted in the northern property:

- Task 1 – Preparation of a Phase I ESA;
- Task 2 – Completion of a Tier 2 Risk Assessment;
- Task 3 – Preparation of Record of Site Condition.

The above tasks are described in the following sections.

Task 1 – Preparation of a Phase I ESA

The Phase I ESA will be conducted in accordance with the requirements of O.Reg. 153/04 (as amended). The purpose of the Phase I ESA is to identify potentially contaminating activities, both on and off-site, that may have impacted the site. The Phase I will identify whether any further environmental investigation (e.g. sampling) is required beyond what has already been conducted.

The report will be structured as follows:

1. Executive Summary
2. Introduction
3. Site Description
4. Records Review
5. Site Visit
6. Interviews
7. Findings
8. Evaluation of Findings
9. Conclusions
10. Qualifications of the Assessor



- 11. References and Supporting Documentation
- 12. Appendices
 - A - Maps, Figures, and Photographs
 - B - Ownership/Historical Documentation
 - C - Regulatory Documentation
 - D - Documentation of Interviews

Task 2 – Tier 2 Risk Assessment

SLE would conduct the risk assessment using the MOE's established Tier 2 model spreadsheets. This approach will expedite not only completion of the risk assessment, but the MOE's review and approval.

As part of the risk assessment, it is anticipated that two (2) rounds of soil gas sampling at three (3) new locations on the northern property, for chloroform, would be required to help assess the potential risk to indoor air quality.

Also, as part of the risk assessment work, all available soil and groundwater analytical results for the northern property would be compiled and screened. This includes results from the following reports:

- Butts, Ross, Magwood and Hall Ltd., 1969. Report of a Site Investigation, Beckwith Street at Lake Avenue East, Carleton Place. June 1969.
- Butts, Magwood and Hall Ltd., 1975. Subsurface Investigation for Canadian Tire Corporation at Beckwith Street, Town of Carleton Place, Ontario. August 1975.
- Malroz Engineering Inc., 2006. Environmental Site Assessment, CTAS #018, 7 Beckwith Street, Carleton Place, Ontario. Prepared for Canadian Tire Real Estate Limited, August 2006.
- Winchurch Environmental Ltd., 1997. Canadian Tire Store #18, 7 Beckwith Street, Carleton Place, Ontario - Phase I Environmental Site Assessment. Prepared for Canadian Tire Corporation. July 1997.
- Winchurch Environmental Ltd., 1998. Canadian Tire Store #18, 7 Beckwith Street, Carleton Place, Ontario - Phase II Environmental Site Assessment. Prepared for Canadian Tire Corporation. March 1998.
- Winchurch Environmental Ltd., 2001. Former Canadian Tire Store #018, 7 Beckwith Street, Carleton Place, Ontario - Service Centre Decommissioning, Environmental Site Inspection. Prepared for Canadian Tire Corporation. June 5, 2001.
- Winchurch Environmental Ltd., 2005. Canadian Tire Store No. 018, 7 Beckwith Street, Carleton Place, Ontario - Phase II Environmental Site Assessment. Prepared for Canadian Tire Corporation. August 31, 2005.
- Aqua Terre, 2009. Environmental Site Assessment in the Vicinity of 7 Beckwith Street, Carleton Place, Ontario- Draft. January 29, 2009.
- Aqua Terre, 2009. Supplemental Delineation of PCE in the Vicinity of 7 Beckwith Street, Carleton Place. November 26, 2009.
- SLE, 2010. 7 Beckwith Street Supplemental Phase II ESA Northern Portion of the Site. December 15, 2010.



The risk assessment would be submitted to the Town for initial review, and then would be issued to the MOE for final review and approval. The risk assessment would become a key supporting document for the Record of Site Condition.

Task 3 – Record of Site Condition (RSC)

Once the risk assessment has been approved by the MOE, a RSC will be prepared for the Town's review and signature. The RSC would be submitted to the Town within four (4) weeks of the MOE approving the risk assessment. The Town will be required to sign the RSC prior to its submission to the MOE for approval. Approval of the RSC by the MOE may take in the order of a few weeks to a year.

At the end of the successful RSC process, the Town would be able to develop the northern property as residential or mixed residential/commercial. However, some risk management actions may be required to remove potential expose pathways. (e.g. paving ground surfaces, etc.)

Project Costs

Estimated project costs are presented in Table 1. These are based on SLE's staff charge-out rates, estimated contractor costs, and the scope of work described in this proposal. Laboratory costs are based on standard turnaround times. SLE's estimated cost to complete the work as outlined in this proposal is approximately \$40,300, excluding taxes. This estimate does not include the cost for a legal survey (to be contracted directly by the Town for inclusion with the RSC).

We trust the above is satisfactory. Please feel free to contact the undersigned if you have any questions or require additional information.

Submitted by:

SNC-LAVALIN ENVIRONMENT
DIVISION OF SNC-LAVALIN INC.

Robert Timlin, P.Geo. (ON), P.Geo. (AB)
Manager Technical Services



Terms and Conditions

1. The above cost estimate is based on the current knowledge of the required work by SNC-Lavalin Inc., Environment Division (SLE) under normal site conditions. Billings will be based on actual personnel charges and expenses.
2. All charges will be billed monthly. Estimated costs exclude GST, PST and HST where applicable. Billing payment is due in net 30 days. SLE will apply 2% per month to all accounts over 30 days.
3. This proposal is valid for a 120 day period from the date it is forwarded. If this proposal is not accepted within this time period, SLE reserves the right to revise the proposal.
4. SLE is prepared to undertake the work immediately after receiving written notification to proceed.
5. It is assumed that the Client will grant SLE, or obtain, unencumbered access to the subject site for SLE and its subcontractors, and that all tenants and occupants will be advised of our activities.
6. In performing the work SLE will exercise the degree of skill, efficiency and judgement commensurate with that of professional engineering firms with respect to services of a comparable nature. If SLE does not perform in accordance with this standard of care, SLE's responsibility to the client will be limited to the re-performance of the defective work at its sole cost, it being understood that such cost will not exceed the original fee.
7. The Client shall, except in the case of fault or negligence on the part of SLE, indemnify and hold harmless SLE from and against all liability, loss or damage that SLE may suffer as a result of claims, demands, costs or judgements (including legal costs) arising out of the performance of the work. This indemnification shall extend to damage to underground utilities or structures which are not properly called to attention, are improperly located or identified by the Client, or incorrectly shown on drawings that may be furnished to SLE.