August 25, 2023

Colliers Project Leaders
27 Place D'Armes, Suite 201
Kingston, ON K7K 6Z6

Via email:
domenico.giangregorio@colliersprojectleaders.com

Attention: Domenico Giangregorio | Project Manager

Re: Review and Update of Phase ESA and Soil Investigation Program Reports
Ottawa Carleton Detention Centre
2244 Innes Road, Ottawa, ON
ECOH Project No.: 25996

1. INTRODUCTION AND BACKGROUND

ECOH Management Inc. (ECOH) is pleased to provide Colliers Project Leaders (the Client) with this letter report summarizing ECOH's review of the Phase One ESA and Soil Investigation Program reports and providing an update to the Phase One ESA Report prepared by ECOH for the Ottawa Carleton Detention Centre located at 2244 Innes Road, Ottawa, Ontario (the Site).

2. OBJECTIVE AND SCOPE

It is understood by ECOH that The City of Ottawa requires environmental reports prepared by and signed and stamped by a Qualified Person in order to support the submission of a Site Plan Control application for the Site. The work being proposed at the Site includes the modification of a mixed gravel and asphalt parking area and paving of the entire area to optimize the use of available space. The reports have been prepared by a Qualified Person who is no longer employed by ECOH and they were not stamped at the time they were prepared. The objective of this letter is to review the reports, provide a summary, update readily available information for the Phase One ESA and provide a letter signed and stamped by a Qualified Person supporting the validity of the reports.

To support this process, ECOH reviewed two environmental reports prepared for the Site as well as the background information gathered in their preparation. It should be noted that although the entire Site was included in the scope of work for the Phase One ESA, this review, including a Site visit to visually assess current Site conditions, will focus on the areas of the proposed parking lot upgrade which was the scope for the Soil Investigation Program.

The following two reports were reviewed as part of this assessment.

1. *Phase One Environmental Site Assessment, Ottawa Carleton Detention Centre, 2244 Innes Road, Ottawa, Ontario*, prepared by ECOH for Colliers Project Leaders (on behalf of Infrastructure Ontario), ECOH Project No. 16868, dated February 2017.
2. *Soil Investigation Program, Ottawa Carleton Detention Centre, 2244 Innes Road, Ottawa, ON*, prepared by ECOH for Colliers Project Leaders, ECOH Project No. 25996, dated December 4, 2020.

3. REPORT REVIEWS

The reports and any available supporting documentation were reviewed. The following summaries are provided for information purposes only. Any opinions presented are based on all information reviewed.

3.1 Phase One Environmental Site Assessment

ECOH Management Inc. (ECOH) was retained by Colliers Project Leaders (Colliers) on behalf of Infrastructure Ontario (IO) to undertake a Phase One Environmental Site Assessment (ESA) at the property located at 2244 Innes Road, Ottawa, Ontario (herein referred to as the Phase One Property). The Phase One ESA was conducted in general accordance with O. Reg. 153/04 (as amended) and in general accordance with the Canadian Standard Association ("CSA") Z768-01 Standard.

Based on information obtained from the records review, site interview and the site reconnaissance, ECOH identified various PCAs on the Phase One Property and within the Phase One Study Area which have resulted in the following 10 APECs:

1. Paved and gravel areas due to the current and historic application of de-icing salt over the winter months.
2. Block B, Block D and below the shipping and receiving area between Blocks B and D due to the current use of three (3) ASTs within Block B and Block D, and the historic use of two (2) USTs below the shipping and receiving area.
3. Below the main entrance parking lot due to the current use of two (2) USTs.
4. The northwest portion of the Phase One Property (i.e. the former location of crops) due to the potential historic application of pesticides and herbicides.
5. The north storage container due to the storage of gasoline filled jerry cans.
6. The north storage container due to the storage of de-icing salt.
7. The area north of the storm water retention pond due to the current location of two (2) ASTs.
8. The storm water retention pond due to the potential for the collection of meltwater in spring containing elevated concentrations of sodium and chloride related to the de-icing salt applied on the Phase One Property over the winter months.
9. The maintenance garage bays due to the presence of bays and an interceptor trench and the potential for vehicle or equipment maintenance, refueling and/or wash-downs to have been historically conducted.
10. The west side of the Phase One Property due to the potentially contaminated adjacent property and the potential for contaminant migration onto the Phase One Property.

As a result of the identified APECs, ECOH recommended that a Phase Two ESA be undertaken at the Phase One Property.

Based on the recommendation of the Phase One ESA, a Soil Investigation Program was conducted in the areas that will be affected by the proposed parking lot upgrade.

3.2 Soil Investigation Program

ECOH Management Inc. (ECOH) was retained by Colliers Project Leaders (Colliers) to conduct a soil investigation program at the Ottawa Carleton Detention Centre (OCDC) property located at 2244 Innes Road in Ottawa, ON. (herein referred to as the Site) between August and October of 2020. The work was conducted in support of a proposed parking lot expansion project at the Site. In support of this project and for due diligence purposes, Colliers requested that ECOH conduct a soil investigation program at the Site in order to better understand environmental conditions and to provide background information in support of preparing a soil management plan (SMP).

The objective of the soil investigation program was to assess the soil quality at the Site with respect to potential adverse environmental effects to the Site, specifically, the areas covered by the parking lot expansion project. The soil investigation program work plan was based on the Phase I ESA completed at the Site by ECOH. In the Phase One ESA report ECOH identified the following Areas of Potential Environmental Concern (APECs) which may require consideration with respect to the proposed parking lot expansion activities.

- APEC #2 - Block B, Block D and below the shipping and receiving area between Blocks B and D due to the current use of three (3) aboveground storage tanks (ASTs) within Block B and Block D, and the historic use of two (2) underground storage tanks (USTs) below the shipping and receiving area.
- APEC #3 - Below the main entrance parking lot due to the current use of two (2) USTs.
- APEC # 4 - The northwest portion of the Site (i.e. the former location of crops) due to the potential historic application of pesticides and herbicides.
- APEC # 10 - The west side of the Site due to the potentially contaminated adjacent property and the potential for contaminant migration onto the Site.

The following is a summary of the soil investigation program activities undertaken to address the APECs identified above, along with the investigation's findings.

- The soil investigation program field activities were undertaken at the Site between August 25, 2020 and October 15, 2020 and included the advancement of 15 boreholes, none of which were instrumented with groundwater monitoring wells. The advancement of 15 boreholes provided adequate lateral coverage throughout the parking lot areas and provide sufficient soil samples to be representative of the estimated 2,500 m^3 of soil scheduled for removal as part of the parking lot expansion project.
- The soil stratigraphy at the Site comprised a sand and gravel fill layer beneath the gravel or topsoil cover, underlain by a native brown sand and grey clay strata.

- There was no visual or olfactory evidence of impacts in the samples collected, with the exception that olfactory evidence of a "VOC or petroleum hydrocarbon-like" odour was noted in soil samples within the brown sand stratum in borehole BH13.
- The MECP Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition with Parkland/Institutional/Residential Property Use and Coarse Textured Soil Conditions were selected to assess the environmental quality of soil at the Site.
- A total of 26 soil samples, which included two (2) field duplicate soil samples, were collected and submitted to ALS for chemical analysis of select scheduled parameters; including: petroleum hydrocarbon (PHC) fractions 1 through 4 (F1-F4), benzene, toluene, ethylbenzene and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), metals & select inorganics, electrical conductivity (EC), sodium absorption ratio (SAR) and/or organochlorine (OC) pesticides. The soil analytical results indicated that concentrations for the parameters analyzed were below the applicable MECP Table 3 SCS in the samples analyzed, with the exception of the following:
    - Cyanide exceeded the applicable MECP Table 3 SCS in one soil sample collected from borehole BH7.
    - Vanadium exceeded the applicable MECP Table 3 SCS in one soil sample collected from borehole BH2.
    - SAR exceeded the applicable MECP Table 3 SCS in soil samples collected from boreholes BH1 and BH3.
    - EC and SAR exceeded the applicable MECP Table 3 SCS in soil samples collected from boreholes BH2, BH7, and BH15.

Based on the findings of the soil investigation program, the following is concluded:

- Soil impacts within the investigated areas are limited to elevated cyanide, EC and/or SAR concentrations which exceed the applicable MECP Table 3 SCS in five (5) borehole locations, i.e. BH1, BH2, BH3, BH7 and BH15. Of note, EC, SAR and cyanide constituent impacts are likely a result of de-icing salt applications at the Site. As such, under the current environment and as per O. Reg. 153/04 (as amended), Section 49.1, the applicable site condition standard for EC and SAR are deemed not to be exceeded in consideration that salt has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both. Notwithstanding the above, it is concluded that the salt impacts will need to be addressed within the soil management plan to ensure that when the salt impacted soil is removed from the Site it is managed as excess soil in accordance with applicable provisions under O. Reg. 406/19.
- Vanadium exceeded the applicable MECP Table 3 SCS in the borehole BH2. Based on the confined location of the vanadium impact, it is recommended that the Project's SMP include provisions for the remediation / management of the identified vanadium impacted soil.

Based on the above, it was concluded that there is sufficient information to proceed with the development of a soil management plan (SMP) which will be prepared by ECOH and submitted to Colliers under separate cover. The soil management plan will be prepared to ensure that the applicable provisions of Ontario Regulation (O. Reg.) 406/19 are identified and implemented at the time of construction and that instructions are provided for the management of the excess soil generated during the construction activities.

Although it was not specifically noted in the Soil Investigation Program report, it is believed that the one vanadium exceedance is also related to application of de-icing salts at the Site and as such, would also not be deemed an exceedance as per O. Reg. 153/04.

4. PHASE ONE ESA UPDATE

An assessment was undertaken to determine if there had been any changes to environmental conditions at the Site since the time of the Phase One ESA and the soil investigation. The information gathered and conclusions are presented herein.

4.1 Site Visit

A site visit was conducted on August 22, 2023. Weather was clear and visibility was good. The area included primarily gravel and asphalt areas that are currently being used for vehicle parking. The visual assessment included all areas on and immediately adjacent to the proposed parking lot upgrade areas. There were no visual indications of staining or contaminant impacts visible at the time of the Site visit. No other items of concern were observed at the time of the Site visit.

4.2 Interviews

Three people familiar with the Site were interviewed as part of the update process. The persons interviewed along with the information they provided are presented below.

- Alex Rao, Maintenance Staff at OCDC – familiar with site for four years: Alex accompanied ECOH staff during the site tour and indicated that he was not aware of any issues or environmental concerns associated with the Site in the time he was at the Site.
- Clayton Reid, Maintenance Manager at OCDC – familiar with site for many years and maintenance manager since 2016: Clayton indicated that he was not aware of any environmental issues or concerns associated with the Site. He also confirmed that to the best of his knowledge, activities at the site have not changed since the Phase One ESA was prepared.
- Richard Breault, Retired Maintenance Manager (2016) at OCDC – familiar with Site for many years. Richard was contacted on August 22, 2023, and indicated that he was not aware of any environmental concerns during his time at OCDC up to the time that he retired in 2016.

5. FINDINGS AND CONCLUSIONS

Based on ECOH's review of the two environmental reports the following is concluded with respect the Site's current environmental conditions.

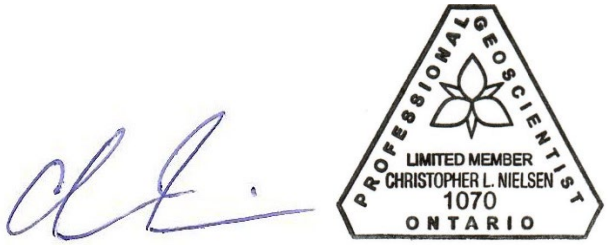
- The two reports appear to have been conducted appropriately and as per applicable regulatory requirements, and issues identified in the Phase One ESA report appear to be complete and accurate.
- All APECs identified in the Phase One ESA report in the areas of the proposed parking lot upgrades were addressed in the Soil Investigation Program report.
- There appear to have been no changes or new environmental issues during the years since the two reports noted above were prepared that would change the conclusions of the reports or the environmental conditions of the Site in the areas of the proposed parking lot upgrades.
- The recommendation for preparation of a Soil Management Plan has been made and will be implemented as part of the Site parking lot upgrade program.
- No issues or concerns not identified in the Phase One ESA and Soil Investigation Program reports were identified during the preparation of this report.

6. CLOSURE

We trust that the information contained in this report meets your requirements. If you require additional information, please do not hesitate to contact the undersigned.

ECOH
Environmental Consulting
Occupational Health

Prepared by:



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