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September 22, 2022
File: 22298

King Paving & Construction Ltd.
1077 Howard Avenue
Burlington, Ontario
Via email: jahutter@kingpaving.com

Attention: Mr. John Hutter, VP Operations

Re: Environmental Opinion Letter – 291 North Service Road, Burlington, Ontario

INTRODUCTION

This letter was provided by Landtek Limited in response to a request on behalf of the Solution Stream at the direction of the City of Burlington. Based on the information provided to Landtek, it is understood that King Paving & Construction Ltd. concerning the development of 291 North Service Road in Burlington, Ontario for proposed industrial Use.

SCOPE OF WORK

Landtek conducted the following scope of work:

1. Completing the City of Burlington's Environmental Site Screening Questionnaire on behalf of the client.

2. Provide opinion by a Qualified Person (QP ESA) as defined by O.Reg. 153/04 concerning the proposed Site Development and the potential impact of methane from the historical land fill located to the west of the Site Development, based on the information provided to Landtek specifically in the report - Closed Burlington North Service Road Landfill Site – 2021 Annual Monitoring Report prepared by WSP dated March 31, 2022 for Halton Region (2021 Landfill Monitoring Report)

SITE DESCRIPTION

Based on information from Client, the Site development area is and irregular shaped approximately 2 ha of a larger parcel located to the south of the former landfill. The proposed development will be for King Paving's Asphalt batching facility. The development area is located to the south of Hydro One electrical transmission corridor adjacent to North Service Road, approximately 150 m from the southern extent of the closed Burlington Landfill, with the proposed development infrastructure approximately 200 m from the southern extent of the former landfill.

Geological Data and Groundwater

Geological and Hydrogeological information sources were reviewed to determine the nature of the subsurface strata on Site. The topography of the Site slopes to the south. The elevation of the Site is approximately 120 metres above sea level (masl). Surface drainage flows towards drainage ditches located along the south side of the Site which then discharges into ditches along North Service Road located along the south side of the property.

Based on a review of an existing geological publication for the site area, Ontario Geological Survey (OGS) Map 2509: "Quaternary Geology of the Hamilton Area", the site is underlain by a veneer of lacustrine and outwash sand deposits. These deposits generally comprise sands and silty sands. Underlying the sand deposits is clay or silt till, identified as a sequence of the Halton Till.

According to the OGS Map 2336 "Paleozoic Geology of the Hamilton Area", the superficial geology is underlain by red shale bedrock of the Queenston Formation. Previous geotechnical investigation undertaken in the vicinity of the site indicates that shale bedrock is at shallow depths beneath the site (i.e. less than 5 m below existing ground level).

Information provided by a large number of historical borehole records from within the vicinity of the site, and held by the OGS, generally confirms the anticipated geological conditions beneath the site. Based on the data from records for boreholes, located approximately 100 m of the site, the superficial soil profile confirms the presence of silt or clay till underlying sand deposits to a depth of approximately 5 m. Red shale bedrock is reported underlying the till deposits.

The nearest open water feature is Lake Ontario, located approximately 2.0 km south of the Site.

Closed Burlington N.S.R. Landfill Site – 2021 Annual Monitoring Report

Landtek was provided with the 2021 Landfill Monitoring Report. The Closed Burlington North Service Road Landfill Site (Site) is located on the northwestern side of the North Service Road and west of King Road. The landfill area covers an area of waste is approximately 34.5 ha. The landfill received waste from 1971 to December 1988, when the landfill was closed. A monitoring program with annual reporting has been in place since 1980 under Provisional Certificate of Approval A210102.

A leachate interceptor collection system has been located to the east, west and south side of landfill to control run-off from the landfill. The landfill volume is approximately 7 m above the leachate collection system.

Topography and local terrain slope in a southerly direction with flow toward the local watercourses. Regional groundwater flows in a southerly direction from higher elevations near the Escarpment toward Hamilton Harbour portion of Lake Ontario.

- Local shallow groundwater flow is influenced primarily by local terrain with flow toward the local watercourses.
- Local groundwater quality in the overburden and bedrock is naturally poor with some parameters exceeding the Ontario Drinking Water Quality Standards (ODWQS, MECP 2006 and updates).

- No groundwater users or water supply wells for domestic use adjacent to the Site. Landfill influences on groundwater quality are typically limited to areas immediately adjacent to and downgradient of the refuse.

Groundwater Monitoring and Quality

- Groundwater quality at the landfill property boundary monitors, particularly in the northeastern portion of the Site, indicate a leachate influence.
- Monitors located on the landfill property south and southwest of the refuse indicate that groundwater quality from is marginally influenced by landfill leachate.
- several inorganic parameter concentrations at the southern property boundary exceeded the Ministry of the Environment, Conservation and Parks (MECP) Guideline B-7 criteria for reasonable use in 2021.
- Organic parameters also exceeded the MECP Guideline B-7 criteria within on-site and property boundary monitors, including 1,4-dichlorobenzene, benzene, dichloromethane, and vinyl chloride.
- No leachate influences on surface water quality were observed in Falcon Creek adjacent to, and downgradient of, the former landfill.

Methane Gas

- Combustible gas (methane) concentrations adjacent to the eastern boundary of the landfill, on the Meridian Brick property, periodically exceed the lower explosive limit (LEL) for methane.
- A sentinel gas monitoring network is currently in place. The report stated no significant concentrations of combustible gas have been detected within the sentinel monitors to the south of the landfill.

CONCLUSIONS

Based on the information provided Landtek make the following conclusions:

- Methane gas/combustible gas are not considered to have an impact on the proposed buildings that will be constructed adjacent to North Service Road

- Methane gas should continue to be monitored on southeastern boundaries and within the proposed development.

Yours truly,

LANDTEK LIMITED

Paul Blunt, P. Eng. QP_{ESA}

Attachments: Statement of Limitations

Limitations of Report

This report was prepared for the sole use of the Client and authorized financial and mortgage institutions. It is intended to provide an evaluation of the current environmental conditions at the subject Site. Any use of this report, or decisions made based on it, by an unauthorized party, is the responsibility of the unauthorized party. Landtek Limited accepts no responsibility for damages of any type suffered by the unauthorized party as a result of actions or decisions made based on this report.

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering with in the limited scope of work.

It should be noted that all surficial environmental assessments are inherently limited in the sense that conclusions are drawn and recommendations developed from information obtained from limited research and Site evaluation. Subsurface conditions were not field investigated as part of this study and may differ from the conditions implied by the surficial observations. Additionally, the passage of time may result in a change in the environmental characteristics at this Site and surrounding properties. Landtek does not warrant against future operations or conditions, or against operations or conditions present of a type or at a location not investigated.

The conclusions and recommendations given in this report are based on information obtained from various sources noted and a visual examination of the Site. It is based on the conditions of the subject property at the time of the field investigation supplemented by a review of historical information to assess environmental conditions at the Site reported. Landtek Limited assumes that information provided by others is factual and accurate, and accepts no responsibility for any deficiency, misstatement, of inaccuracy in this report from information provided by others.

The primary direction of groundwater flow is assumed to follow topography, unless otherwise indicated by measurement of potentiometric surface or other quantifiable data.

Sampling and analysis of soil, groundwater, or other materials was not carried out as part of the scope of work. The findings of the assessment cannot be extended to reflect portions of the Site that were unavailable for direct observation by Landtek Limited.

This assessment should not be considered a comprehensive audit that eliminates all risks of encountering environmental problems. There is no warranty expressed or implied by this report concerning the status of the study Site.