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GARBAGE LANDFILL REVIEW REPORT

AT

**ELEPHANT LAKE COTTAGES
HARCOURT, DYSART ET AL.**

PREPARED FOR:

2463756 Ontario Inc.

May 22, 2023

BACKGROUND

King EPCM was retained by the Client (2463756 Ontario Inc.) to conduct engineering investigations and services for the property located along the shoreline of Elephant Lake and Benoir Lake in the County of Haliburton, Municipality of Dysart et al. (the Site), as part of cottage permit submissions. Abovementioned property is approximately 2000 Acres in size, divided to two different Blocks, one of them located east of the Benoir lake, behind the Benoir lake Rd. (Phase 1) but the other, located north of the Elephant lake (Phase 2), near the shoreline. The following is a brief review of the environmental impact of the closed garbage landfill, located near Phase 1 of the proposed development project behind Benoir Lake Rd.

EXISTING LANDFILL

A landfill is defined as a well-engineered depression in the ground used for the disposal of solid waste. Landfills contain a variety of wastes, mainly consisting of municipal solid waste (MSW) or everyday single-use items. To investigate the potential adverse effects of the landfill on the environment and public health of future residents, a through environmental assessment is needed.

This landfill was established northeast of Benoir Lake in September 1986 and operated under Environmental Compliance Approval No. A330323 and it was on Part Lot 30, Concession XII in the geographical Municipality of Dysart et al., County of Haliburton (724617 E, 5008476 N). It is currently closed because it reached its full capacity. However, leachate, the contaminated liquid that drains from the waste material, is one of the three most common landfill problems, aside from toxins and greenhouse gases. Leachate is generated when rainwater filters through the waste, and the liquid is leached or drawn out.

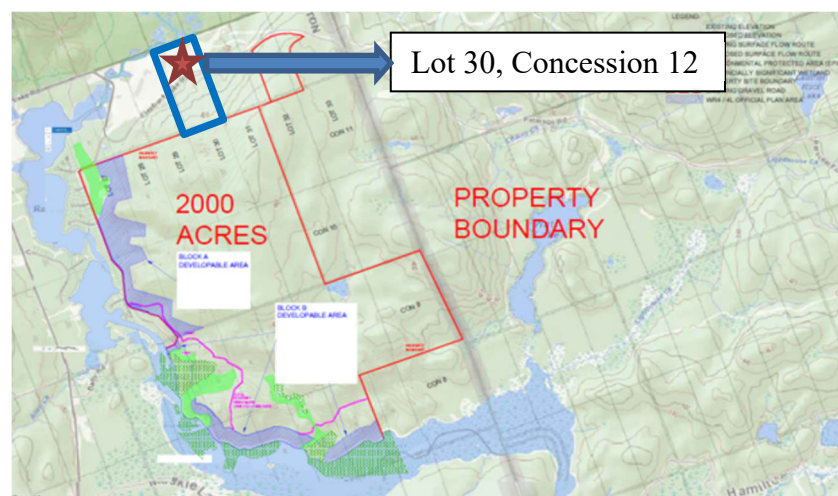


Figure 1- Site Overview and garbage landfill location in Lot 30, Concession 12

POTENTIAL IMPACTS

The landfill is located on the east bank of the York River estuary to Benoir Lake at an elevation of 355-356 meters, and on the opposite side there are forest hill of the site property. According to the hydrological investigations using OFAT (Ontario Flow Assessment Tool), the direction of water flow in the mountainous catchment overlooking the landfill is from north to south and goes to the York River. Therefore, according to the natural land slope, there is no direct water flow from the landfill to the southwest of the landfill, which is the first proposed lot in Phase 1. The nearest proposed development (Lot A1) is located at a distance of 1200 meters from the landfill, and generally considered sufficiently far away. Additionally, no direct surface and/or groundwater flow connects between the landfill site and to the proposed development area. There is a large bedrock escarpment / hill separating the two locations.

Although leachate impacted water is expected to flow radially and down, away from the waste mound, it is expected the shallow groundwater will ultimately be funnelled to the northwest given the surrounding bedrock features. Groundwater flows in the overburden aquifer on-site is directed primarily to the northwest; however, probable localized radial outward flows from the waste mound to the west and southwest of the landfill might be occurred but it is far away from the proposed cottages.

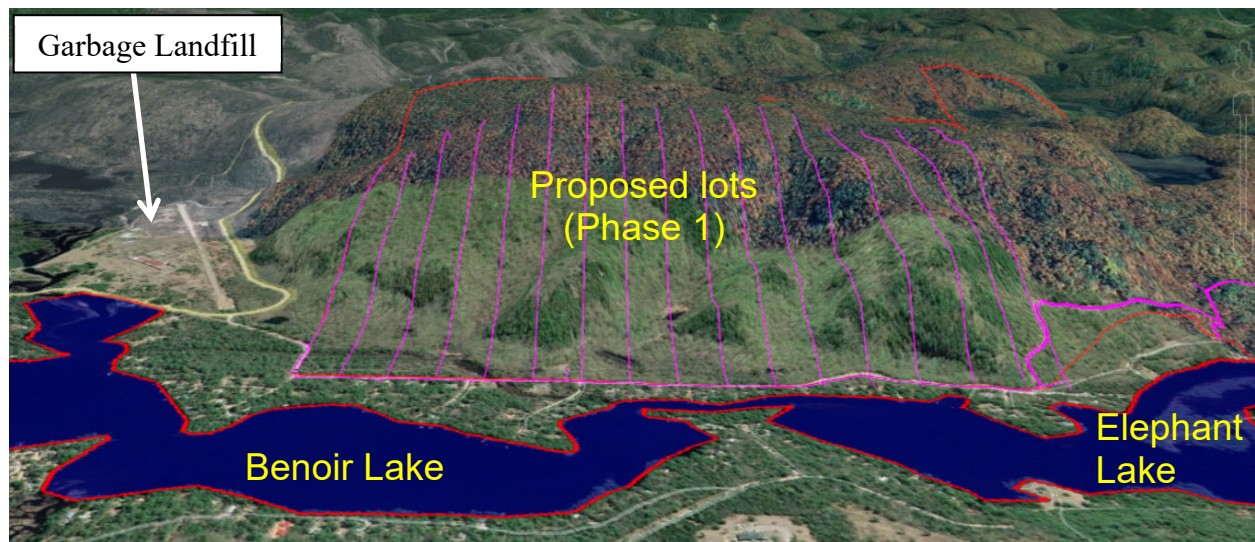


Figure 2- West view of the site property (Phase 1) and garbage landfill

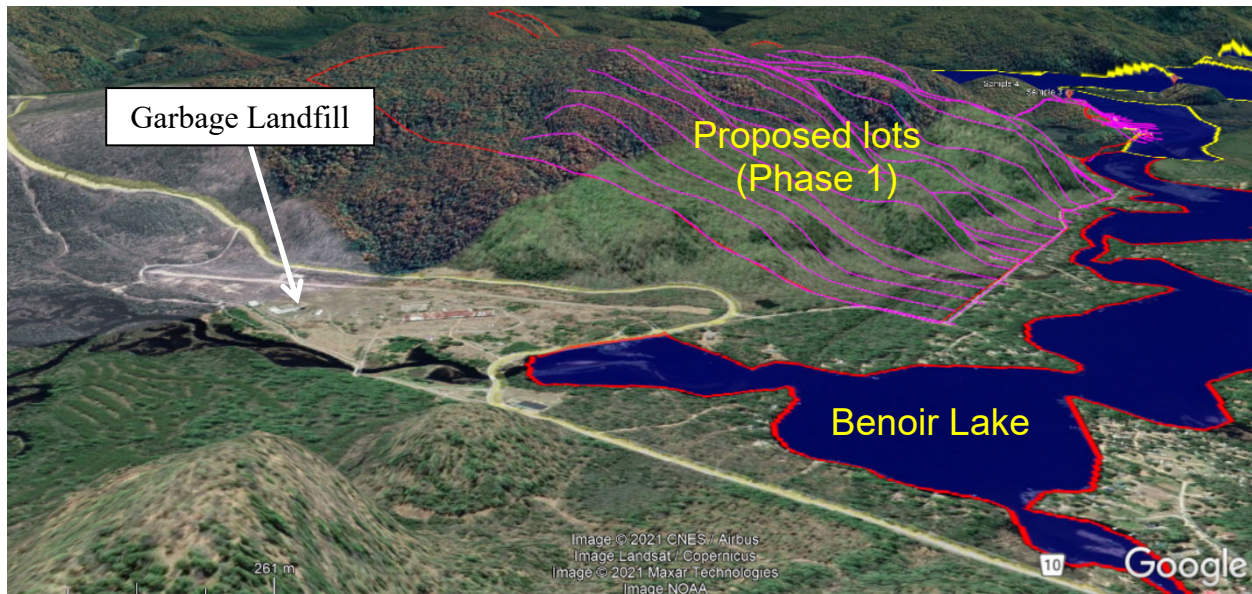


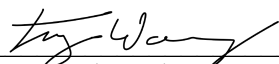
Figure 3- North view of the site property (Phase 1) and garbage landfill

SUMMARY

It is in the Engineer's opinion that the historic landfill at Lot 12 and Concession XII is sufficiently far away from the proposed developments, and that there would not be any impacts on proposed development.

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Respectfully,


Yu Tao (Tony) Wang, P. Eng
Principal Engineer
King EPCM

