March 14, 2019

Mr. W.A. (Sandy) Higgins
Parkbridge Lifestyle Communities Inc.
200 1st Street
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Subject: Executive Summary
Geotechnical Conditions and Slope Stability Assessments
Meneset-On-The-Lake Subdivision
Township of Ashfield-Colborne-Wawanosh, Ontario

Mr. Higgins:

LVM Inc. (now Englobe Corp.) was initially retained by Parkbridge Lifestyle Communities Inc. in October 2013 to carry out an assessment of the Lake Huron embankment along the west side of the Meneset-on-the-Lake residential development.

A geotechnical investigation was undertaken to determine the site subsoil and groundwater conditions at the top of the bank, and based on the results of this investigation, prepare engineering recommendations with regard to the slope stability setbacks per the Maitland Valley Conservation Authority (MVCA) Shoreline Policies.

The Meneset-on-the Lake property covers approximately 21.5 ha and is located north of Goderich in the Township of Ashfield-Colborne-Wawanosh, Ontario. The property is bordered on the west by Lake Huron; on the north by farmland and the Goderich Airport, on the south by forested lands and the Maitland River, and on the east by farmland and Highway 21.

The slope along Lake Huron is approximately 650 m in length, and is 35 to 36 m high. The existing slope is generally inclined between 22 and 32 degrees to the horizontal with some steeper sections in the sandy/silty soils in the upper 6 to 8 m near the top. Iroquois Lane runs parallel to the top of the slope and single storey mobile residential dwellings are located along both sides of Iroquois Lane. Several of the dwellings are less than 15 m from the top of the bank.

The Lake Huron water level is at approximately Elevation 176 m and the top of the slope is at approximately Elevation 211 to 212 m.

The slope is partially vegetated with small bushes and trees. There are many denuded areas and evidence of face failures at the top half of the slope and slumps and bulges on the lower half of the slope. Wave erosion is evident at the toe.

During the course of this investigation, 5 boreholes and one groundwater monitoring well were completed. The boreholes were advanced to depths ranging between 9.1 and 31.1 m.

Based on the results of the geotechnical investigation, the subsurface stratigraphy comprises topsoil overlying sand and silt which overlie a major deposit of glacial till. The upper sand deposits contain a perched groundwater table.

The purpose of this assessment was to determine the stability of the existing slope and provide recommendations for setback distances for future development (i.e. define the limit of the natural hazard). During the course of this investigation, slope stability analyses were completed to assess the factor of safety that the slope might fail. The factor of safety is a numerical value assessing the overall risk that the slope might fail, with the acceptable factor of safety for a particular slope recognizing the land use, slope geometry, site soil and groundwater conditions, and other factors specific to the site and geographic area. The Ontario Ministry of Natural Resources and Forestry (MNRF) has developed guidance on the general methodology to be applied in assessing the hazards associated with shoreline bluffs/slopes, and this methodology has been largely adopted by other agencies and conservation authorities.

The MNRF methodology requires the determination of the stable slope angle, drawn up from the toe of the slope. The MNRF methodology also considers that the toe of slopes adjacent to the Great Lakes and other water bodies are susceptible to erosion due to wave action/uprush and shoreline properties. The effect of toe erosion is ongoing receding of the slope over time, with the top of the slope therefore also receding as the stable slope line moves laterally into the bluff. The Maitland Valley Conservation Authority (MVCA) has records of the rate of toe erosion at 100-metre intervals along the bluff/shoreline within its jurisdiction, and this data was used by LVM/Englobe to further assess the impact of toe erosion on the bluff slopes.

The factors of safety recommended by MNRF are summarized in the following table:

	Land Uses	Design Minimum Factor of Safety
A	PASSIVE – No buildings near slope; farm, field, bush, forest, timberland, wood, wasteland, badlands, tundra	1.1
B	LIGHT – No habitable structures near slope; recreational parks, golf courses, buried small utilities, tile beds, barns, garages, sheds, swimming pools, satellite dishes, dog houses	1.1 to 1.2
C	ACTIVE – Habitable or occupied structures near slope; residential, commercial and industrial buildings, retaining walls, storage/warehousing of non-hazardous substances	1.3 to 1.5
D	INFRASTRUCTURE and PUBLIC USE – Public use structures or buildings (i.e. hospitals, schools, stadiums), cemeteries, bridges, high voltage power lines, towers, storage/warehousing of hazardous materials, waste management areas	1.4 to 1.5

The table recognizes the consequences or risks to land use or life in the event of a slope failure. It is a general practice and the policy of many regulatory organizations in Ontario to adopt a factor of safety of 1.5 for slopes in areas of Active land use. Englobe recommended that a factor of safety of 1.5 was appropriate for the assessing the risk of slope failure at the Meneset-on-the-Lake development considering that the residences at/near the top of the slope were occupied year-round and as such, there was a potential risk to the residents in the event of a failure. As a result of its analyses, LVM/Englobe reported to Parkbridge that a number of properties adjacent to the shoreline bluff were within area of unacceptable risk (FoS <1.5, with several properties in locations where the FoS was approaching unity).

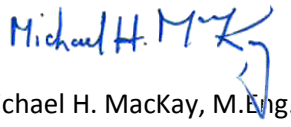
Golder Associates, on behalf of several tenants occupying properties immediately adjacent to the bluff/shoreline, completed a review of the LVM reports and completed limited supplementary analyses of the slope. Golder was of the opinion that a factor of safety of 1.3 would be suitable for this site, but its conclusions were also based on an assumption that there was no toe erosion occurring at the bottom of the slope. This was contrary to MVCA data that specifies the rates of toe erosion at 100 m intervals along the Lake Huron shoreline within its jurisdiction, as well as observations by LVM/Englobe. Nevertheless, Golder also concluded that a number of residences were at risk of failure and recommended relocation of some of the residences.

The Landlord Tenant Board decision in June 2018 accepted that Parkbridge, as landlord, could rely upon LVM/Englobe's conclusion that a 1.5 factor of safety was appropriate for assessment of the risk of slope failure at the Meneset-on-the-Lake development. The Board determined that Golder's reliance upon a factor of safety of 1.3 was inconsistent with the standards used by the MVCA and other regulatory authorities in Ontario for new residential developments. The Board concluded that a factor of safety of 1.5 was also appropriate to assess the risk to existing structures and that Golder's attempt to distinguish new and existing structures was unsupported on a scientific basis.

We trust the enclosed to your satisfaction. If, however, additional information should be required, please communicate with the undersigned.

Yours very truly,

Englobe Corp.



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