

re: Geotechnical Response to City Comments
 Proposed Commercial Building
 2 Bill Leathem Drive - Ottawa

to: BBS Construction Ltd. - Mr. Mark Kauhanen - Mark.Kauhanen@bbsconstruction.ca

date: September 25, 2020

file: PG5257-MEMO.01 Revision 1

Further to your request and authorization, Paterson Group (Paterson) prepared the following memorandum to provide geotechnical responses to the engineering comments provided by the City of Ottawa staff regarding the proposed commercial development at the aforementioned site. This memorandum should be read in conjunction with our Geotechnical Report PG5257-1 Revision 1 dated August 6, 2020.

Comment 1.10: *Provide recommendations for the stormwater pond and lining requirements.*

Response: The long term performance of the proposed SWMP will depend on the stability of its excavation side slopes. It is recommended that the excavation side slopes be maintained at a minimum of 3H:1V.

Upon reviewing the grading plan provided by McIntosh Perry (Revision 2, dated August 6, 2020), the slopes surrounding the proposed pond are proposed to be shaped between 3H:1V and 4H:1V which is considered acceptable from a geotechnical perspective. The bottom of the pond is designed at an elevation of 89.5 m with the 100-year water level of 89.96 m.

Based on our findings in the borehole locations drilled within the SWMP immediate area, the bottom of the pond is expected to consist of a brown, non permeable silty clay deposit. Therefore, a clay liner will not be required for the subject pond.

It is recommended that periodic inspections of bearing surfaces, excavation slopes and compaction testing be completed by the geotechnical consultant during construction. It is further recommended to limit seeding or hydroseeding the slope face until the SWMP side slopes have allowed trapped surficial water to drain. Also, an erosion control blanket should be placed over the finished topsoil surface to reduce surficial erosion until vegetation can establish.

Comment 1.11: *Provide recommendations for trees located on site.*

Response: Please refer to Subsection 6.8 under our revised geotechnical investigation Report PG5257-1 Revision 1 dated August 6, 2020.

Comment 1.11: *The city of Ottawa Official Plan Schedule K Environmental Constraints identifies the ravine to rear as an unstable slope. Provide setback recommendations for site works on the property and other recommendations related to the unstable stable.*

Original Response: Based on a review of the available topographic information, the existing slope is inclined at 3H:1V or shallower. This is considered a stable slope as per the slope stability guidelines issued by the City of Ottawa. Therefore, the slope is considered stable and limit of hazard land setbacks are not required for the subject slope from a geotechnical perspective. It should be noted that a site visit will be completed to observe the slope face and a walkthrough the toe of the slope will be completed to identify any active erosion that may impact the stability of the current slope, if present.

Updated Response: Further to our previous response, Paterson completed a site visit on September 17, 2020 to review the existing conditions of the subject slope. Our field observations have been summarized in the attached field visit report prepared under PG5257-MEMO.03, dated September 17, 2020 and attached to the present memorandum.

In summary, the subject ravine and abutting slope face was observed to be inclined at a 3H:1V and shallower and heavily vegetated. Minor erosion was noted along the toe of the slope abutting onto the ravine which consisted of some exposure of rootlets along the toe of the slope. Based on our field observation, the active creek will not present excessive erosion that may impact the stability of the overall slope. Further to our review of the subject site and proposed development, the proposed building is set back sufficiently from the top of the slope such that it will not impact the slopes overall stability. Based on our review, the subject slope is considered stable and has a geotechnical global stability factor of safety greater than 1.5. No limit of hazard lands setbacks are required for the subject site from a geotechnical perspective.

We trust that this information satisfies your immediate requirements.

Paterson Group Inc.



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re: Geotechnical Review - Slope Conditions
 Proposed Commercial Building
 2 Bill Leathem Drive - Ottawa

to: BBS Construction Ltd. - Mr. Mark Kauhanen - Mark.Kauhanen@bbsconstruction.ca

date: September 17, 2020

file: PG5257-MEMO.03

Further to your request, Paterson Group (Paterson) completed a site visit on September 17, 2020 to review the condition of the slopes of the ravine running from west to east along the southwest corner of the subject site.

Field Observations

The side-slopes running alongside the ravine was observed to consist of a brown silty clay with some topsoil and being heavily vegetated from top to bottom. The height of the slopes, measured from toe of the slope to the observed top of the slope ranged between 2.5 m to 3.5 m with a maximum inclination of 3H:1V. Furthermore, some minor erosion extending up to 300 mm from the toe of the slopes was observed in some areas of the ravine course.

The channel of the ravine consisted of brown silty clay and its width varied between 2 to 8 m. At the time of our visit, the ravine channel was observed to be moist with minor water ponding in some areas, however, was not observed to be active.

Geotechnical Review and Commentary

Based on our cursory review, the ravines side-slopes are considered to be stable from a geotechnical perspective.

We trust that this information satisfies your immediate requirements.

Paterson Group Inc.



Vincent Duquette, EIT

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Photographs from Site Visits – September 17, 2020

Photo 1: General picture showing the vegetated slope and moist conditions of the ravine's channel.



Photo 2: Close up picture showing one of the areas with minor erosion extending up 300 mm from the toe of the slope.



Photographs from Site Visits – September 17, 2020

Photo 3: Showing the 3H:1V inclination of the slope with a height varying from 2.5 m to 3.5 m from top to toe.

