PATERSON GROUP

memorandum

re: **Geotechnical Investigation – Response to Municipality of Mississippi Mills and RVCA Comments**
Proposed Residential Development
1825 Ramsay Concession 11A- Mississippi Mills, Ontario

to: NOVATECH - **Mr. Drew Blair** - D.Blair@novatech-eng.com
cc: Regional Group - **Ms. Stefanie Kaminski** - skaminski@regionalgroup.ca
date: September 14, 2023
file: PG5860-MEMO.02

Further to your request and authorization, Paterson Group (Paterson) prepared this memorandum to provide responses to the geotechnical-related comments from the Municipality of Mississippi Mills and RVCA. This memorandum should be read in conjunction with the Geotechnical Investigation Report (Paterson Group Report PG5860-1 Revision 2 dated February 7, 2023) which has been prepared for the proposed development at the aforementioned site.

Geotechnical Investigation Comments

Municipality of Mississippi Mills - Comment 39: *It is noticed that the proposed underground pipe has a depth as deep as 3+ metres, therefore the borehole depth should be larger than what has been done described in the report.*

Response: It is understood that an approximate grade raise of 2.0m is anticipated at the subject site. Therefore, the final pipe invert levels are not anticipated to be deeper than the bottom of the excavated test pits. In this case, the depth of the competed test holes are considered sufficient from a geotechnical perspective.

MVCA – SWM Engineering Review - Comment 3: *Soil profile and test data provided in the Geotechnical report show groundwater elevations of 0.1 m, 0.3 m, and 0.1 m at test pit locations TP1-21, TP 5-21, and TP 7-21, respectively, respectively, within phase 8. Please analyze the impact of grade rise (topsoil) and removal of organic soil from a very high groundwater elevation area on the neighbouring wetland area.*

Response: Although water infiltration was observed at relatively shallow depths of 0.1 to 0.3m, however, this does not necessarily indicate the long-term groundwater level. It should be noted that the long-term groundwater level can be estimated based on the observed colour and consistency of the recovered soil samples. Based on these observations, it is estimated that the long-term groundwater table can be expected at approximately 1.5 to 2.0 m below ground surface. However, it should be noted that surface water was observed within the organic containing layers within the southwest portion of the site, which could lead to an initial heavy in-flux of water within open excavations such as the one observed during the current geotechnical investigation.

Having said that, it should be noted that under short term conditions, a local groundwater lowering is anticipated due to construction of the proposed development. Based on the existing groundwater level, the extent of any significant groundwater lowering will take place within a limited range of the proposed structures. Based on the proximity of neighbouring properties and minimal zone impacted by the groundwater lowering, the proposed development will not negatively impact the neighbouring wetlands. Therefore, no issues are expected, from a geotechnical perspective, with respect to groundwater lowering that would cause long term adverse effects to adjacent wetlands due to the proposed development.

We trust that this information satisfies your immediate requirements.

Best Regards,

Paterson Group Inc.

Ghada Ali, EIT.

Maha K. Saleh, P.Eng.