GSS ENGINEERING CONSULTANTS LTD

25-029

October 17, 2025

Municipality of West Grey
402813 Grey Road 4
Durham, Ontario
N0G 1R0

Attention: David Smith
Manager of Planning

Re: **GEI Consultants October 9, 2025 Response to Peer Review Comments on Maximum Predicted Water Table and Hydrogeological Assessment Report Proposed Class 'A' Pit Above Water (JT Pit), JT Excavating Ltd. Municipality of West Grey, Grey County**

Dear Sir,

This letter provides our comments on the October 9, 2025 response from GEI Consultants Canada Ltd. (GEI) to peer review comments made by GSS Engineering Consultants Ltd. (GSS) in a September 25, 2025 letter to the Municipality of West Grey. GSS was originally retained by the Municipality to provide peer review comments on the November 2023 (revised) maximum predicted water table and hydrogeological assessment report prepared by GM BluePlan Engineering Limited for JT Excavating Ltd. for a proposed above the water table pit to be located at 382063 Concession 4 NDR in the Municipality of West Grey. Our initial peer review comments were provided in a May 20, 2025 letter to the Municipality. Follow-up peer review comments to response letters from GEI on June 6, June 16, and September 11 were provided in letters from GSS to the Municipality dated June 12, July 23, and September 25, respectively.

COMMENTS

The September 25 GSS letter provided four summary comments for which an additional response was considered necessary. In this letter, those comments are identified with the letters a) to d) and are shown below in bold, followed by our comments on the October 9 GEI response.

a) The note to be added to the site plans to address our previous Comment 3 should indicate the timing for installing the piezometer and measuring water levels and what will be done with the water level data, consistent with our previous comment.

The wording of the site plan note provided in the October 9 GEI response indicated that the piezometer will be installed within one year of issuance of the pit licence and that the water level data will be reviewed by a qualified consultant for consistency with the conclusions presented in the hydrogeological report, which was consistent with the previous GSS recommendation. GSS understands that GEI will add the note to the hydrogeological study notes shown on the site plans. No further response is necessary.

b) The locations and invert elevations of the three culverts beneath Concession 4 NDR that were identified in the most recent response from GEI at locations immediately south and southwest of the pit property, as well as the identified watercourse on the adjacent property south of the pit property, should be shown on the site plans for the area within 120 m of the licence boundary.

The October 9 GEI response confirmed that an update to the site plans will show the locations and invert elevations of the three culverts and the identified watercourse. No further response is necessary.

c) The estimate of the post-development infiltration in the area of the proposed pits should be reviewed to confirm that it is appropriate and relevant input parameters should be provided.

Appendix A to the October 9 GEI response letter contained an October 9 GEI technical memo with detailed water balance calculations that compared the estimated pre- and post-development conditions. The approach was based on a water balance example described in Section 3.2.3 and shown in Table 3.1 of the 2003 MOE Stormwater Management Planning and Design Manual. In our experience, that approach is commonly used for water balance assessments. The memo indicated that GEI used input parameters for the water balance, including annual precipitation and evapotranspiration values, which were taken directly from the Table 3.1 example calculation. In our experience, that practice is not typical. Section 3.2.3 of the MOE manual noted that water balances should be calculated on a site by site basis. Table 3.1 reportedly showed the results of a water balance for various soil types and vegetation covers for a basin in southern Ontario at latitude 45°, which is approximately equivalent to the latitude of Lion's Head on the Bruce Peninsula.

GEI indicated that given that their study focused on comparing pre-development and post-development conditions, specifically runoff volume changes resulting from development of the pits, generic parameters were used instead of site-specific data. GEI further noted that as site-specific data could not feasibly be generated within the limited timeframe of this project, the generic parameters were considered to be appropriate for the purpose of the pre- and post-development comparison. Additional comments on that approach are provided below.

d) Based on GEI's evaluation, specific comments on the potential for impacts to the on-site central ravine and wetland feature and the watercourse on the adjacent property

to the south of the site as a result of the identified decreased runoff and increased infiltration in the area of the proposed pits should be provided, together with reasoning that is consistent with the comments provided in this letter.

The October 9 GEI technical memo provided a water balance assessment to evaluate the potential for impacts to the on-site wetland feature, the watercourse to the south of the site, and the Saugeen River. The memo noted that as a result of the drainage alterations associated with excavating the pits, all surplus precipitation would be infiltrated in the proposed pits, with no runoff to nearby surface water features, but went on to note that some of that increased infiltration will provide increased baseflow to the surface water features.

Based on their water balance calculations, GEI estimated that development of the proposed pits would result in a net reduction in the existing water contribution from the site equivalent to approximately 11% of the current contribution to the Saugeen River and 3% of the current contribution to each of the on-site wetland feature and the watercourse located south of Concession 4 NDR. In each case, there was estimated to be a net decrease in the runoff contribution and a net increase in the baseflow contribution as a result of increased infiltration on the site. GEI concluded that the ecological functions of the water features would not be adversely impacted.

In our opinion, it would have been more appropriate to identify and use representative, site-specific input parameters for the water balance calculation in accordance with standard practice. Had site-specific parameters been used, we would expect the magnitude of the estimated runoff and infiltration volumes shown in Tables 1 and 2 of the memo to be different. However, because the assessment was based on a comparison of pre- and post-development conditions, and because the same input parameters were used for both sets of calculations, we would not expect the overall findings of the assessment to materially change with respect to the potential for impacts on local surface water features. In that respect, the assessment addressed the intent of our comments. For those reasons, no additional response is considered to be necessary.

SUMMARY

GSS was retained by the Municipality of West Grey to provide a peer review of the November 2023 (revised) maximum predicted water table and hydrogeological assessment report prepared by GM BluePlan Engineering Limited (now GEI Consultants Canada Ltd.) for JT Excavating Ltd. for a proposed above the water table pit to be located at 382063 Concession 4 NDR in the Municipality of West Grey. The report was reviewed for the adequacy of the approach in comparison to typical investigations of this type and for the reasonableness of the conclusions based on the information presented. Comments from GSS and responses to those comments from GEI were provided in the correspondence described in this letter. Provided that the necessary amendments are made to the site plans as indicated by GEI, our comments have been adequately addressed.

Based on the information reviewed, and provided that the proposed pit is operated in accordance with the requirements of the approved site plans, that the recommendations made in the hydrogeological report are appropriately followed, and that the water level monitoring identified in this letter is suitably carried out, we consider it reasonable to conclude that the proposed aggregate extraction will not adversely impact local water supply wells, surface water features, or associated ecological receptors in the area as was indicated in the hydrogeological assessment report and related GEI correspondence.

We trust that this letter is sufficient for the Municipality's current requirements.

Yours truly,

GSS Engineering Consultants Ltd.

W. Brad Benson, P.Eng.
Senior Hydrogeologist