TOWN OF CALEDON

CBM-Caledon Quarry

CAART COMMENT SUMMARY TABLE RESPONSE #1 – [Hydrogeology]

Please accept the following as feedback from the Caledon Aggregate Review Team (CAART). Fully addressing each comment will expedite the potential for resolution of the consolidated CAART comments and individual agency objections. **Additional comments may be provided once a response has been prepared to the comments raised below and additional information provided**.

Colour Code	Description
	Resolved
	Resolved subject to additional information being provided to CAART Reviewers (e.g., Implementation Guide, Report Addendums)
(no colour)	Response provided, but no further action taken or required by Project Team

	Initial CAART Comments (Dec 2024)	Page / Section	Applicant Response (Feb 12, 2025)	CAART Response (December 30, 2025.)	Applicant Response (May 29, 2026)	CAART Response
1.	There are only two cross-sections provided with the geological model. They lack good reference points and are difficult for a reviewer to interpret. There is almost no discussion concerning what the cross-sections show in relation to the formations proposed for extraction.	Section 4.3.3	While the two cross-sections may not be described in detail in Section 4.3.3, the reader is referred to Section 8 for a discussion of the development of the geological model for the Site and its use in the development and implementation of integrated surface water-groundwater numerical model. In addition, WSP has prepared an Addendum to the revised Water Report to address more detailed questions from reviewers and commenting agencies. Specific to this comment, the Addendum includes a series of additional cross-sections through the hydrostratigraphic model, with a key plan provided for each section, showing its location in plan view. All available borehole data has been projected onto the cross-sections, and the licence and extraction limits are also indicated on the sections (see Addendum Report). 12-Feb-2025	The additional cross-sections provided in Appendix C of the Water Report Addendum improves upon the presentation of the site conceptual model. However, groundwater level information is not provided on the cross-sections and wetland features in the area are not shown, making it difficult for a reviewer or reader to determine relevant groundwater information from the cross-sections. Also, the names of the 2 lower formations shown in some of the cross-sections appear to be missing in the legends. Additional maps were not provided; however we believe that these are no longer necessary given the cross-sections provided in the Addendum.	Water Report Addendum, Appendix C, Figure 2, Section A-A' presents a cross section through the Coulterville Wetland Complex. The cross section is approximately parallel to the direction of groundwater flow. Water Report Addendum, Appendix C, Figure 2, Section A-A' presents a cross section through the Cataract Southwest Wetland Complex. The cross section is approximately oblique to the direction of groundwater flow, with the Section aligned from east to west and the groundwater flow direction in the area predicted to be approximately northwest to southeast. Attachment 1 presents revised versions of these cross sections, including key wetlands and the water table.	

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2.	The conceptual site model (CSM) includes 12 hydrostratigraphic units. However, there is little to no discussion to support selection of these units and the significance of each one.	Section 5.10	The hydrostratigraphic units used in the CSM are based on the hydrostratigraphy of the area as published by the OGS and used by Tier 3 regional groundwater models and, as such, WSP considers them to be well established by the geoscientific community, and were appropriately adopted for this project. The hydraulic properties of these units, based on published and site-specific data, are also summarized in this section (Section 5.10). 12-Feb-2025	Satisfactory response. (Resolved).		
3.	Additional hydrogeological cross-sections, and maps (such as isopach maps for aquifer units and perhaps formation contact structure maps) would be helpful in supporting and improving the presentation of the CSM.	Section 5.10	See Comment #1 12-Feb-2025	See response in Comment #1.	We understand based on CAART Response to Comment #1, that the requested information has been provided and no additional maps are necessary.	
4.	A table showing potential impacts to surface water levels (not just flows) at the various surface water features in the area (including wetlands) would be a useful addition to the surface water impact assessment.	Section 9.1	In response to ARL's suggestion, WSP has prepared a table summarizing the potential changes to surface water levels where there are SW monitoring stations, and a rating curve has been established (see Addendum Report). With respect to other surface water features, WSP has presented figures in the Water Report (Figures 8-2a to 8-2G, Golder 2023) showing the potential changes in the groundwater table, including areas where surface water features are supported by groundwater and may be within the zone of influence. 12-Feb-2025	The results in the table are unusual in that predicted water level changes at all surface water monitoring stations are essentially zero for both operational conditions and post-rehabilitation conditions. Data for four of the stations (SW5, SW6, SW11, SW14) indicate a 0.00 m change with a corresponding percentage change of 10 – 16%. How does no measurable change in magnitude equate to a 10 – 16% change?	The stations in question have shallow average water levels, with typical data summarized in Table 6-2 of the Water Report (WSP 2023). For example, SW14 had an average water level of 0.01 m in 2020 and 0.09 m in 2021. A change of 10% to a water level of ~ 0.04 m is a change of 0.004 m. Reliable measurement precision for surface water levels, is typically within several centimeters and therefore results are rounded to the nearest centimeter, in this case, 0.00 m change.	
5.	Some of the proposed mitigation measures for adverse interference to private wells, such as deepening the well and lowering the pump intake, may result in a decline in water quality.	Section 9.3.1	Lowering a pump and / or deepening a well due to well interference is an industry standard practice. There is no indication that this would result in a potential decline in water quality. Available data indicates that these private wells could be successfully deepened if the drawdown from pit / quarry activities is disruptive to an individual water supply. We also note that 60 of the 88 water wells in the area (Table 3-2, Golder 2023) currently draw groundwater all or in part the bedrock units below the Gasport Formation, so it is more than reasonable to infer that it is possible to deepen shallow wells successfully, if it was required. It should also be noted that potable water quality standards would have to be met in order for a new source (i.e., deepening of a well) to be considered an adequate replacement. 12-Feb-2025	Satisfactory response. (Resolved).		

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6.	The private well survey and engagement with local private well owners should consider methods that will encourage participation. Additional information (not just MECP water well record information) will be needed to ensure that adverse well interference does not become an ongoing issue when pit/quarry is operational and dewatering/water-control measures are occurring.	Section 9.3.3	There was a very poor response to the initial private well survey conducted in July 2021, which was unusual in comparison to private well surveys WSP has conducted for other projects. We understand that some individuals in the community encouraged property owners to boycott the private well survey in protest to the project. Based on WSP's recommendation, the Aggregate Resources Act site plan for the CBM Caledon Pit / Quarry includes the following recommendation and this will ensure that another door-to-door survey is completed prior to below water extraction commencing: *"Prior to below water extraction, the licensee shall complete a follow-up door-to-door survey of private wells for properties within 1,000 metres of the licence area, to supplement and verify the MECP Water Well Information System (WWIS) information, to confirm neighbouring water users and confirm baseline conditions prior to below water extraction commencing. Landowner participation in this private well survey is voluntary."* While neighbour participation is encouraged, ultimately it is up to the individual to participate. Regardless of participation, CBM will have in place a robust well response program that will ensure the protection of any wells that may be negatively affected by the quarry dewatering operations. 12-Feb-2025	Satisfactory response. (Resolved).		