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Spencer McDonald, MCIP, RPP
Land Use Planner
Upper Thames River Conservation Authority
1424 Clarke Road
London, ON, N5V 5B9

March 31, 2020

Project #
60568894

Dear Mr. McDonald:

Subject: Application for Proposed Plan of Subdivision (39T-TC1903) – SWM Report Comment Responses

This letter provides responses to the comments from the Upper Thames River Conservation Authority (UTRCA) dated January 23, 2020, relating to the August 2019 Conceptual Stormwater Management Report submission in support of the Draft Plan Application for the Hawthorne Park Subdivision. Please find the attached comment responses for your review.

If you have any questions or comments, do not hesitate to contact the undersigned.

Sincerely,
AECOM Canada Ltd.

Jack Brand

Jack Brand, M.Eng., P.Eng.
Water Resources Engineer
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Encl. UTRCA Comment Response Table

	UTRCA Comment	AECOM Response
1	Given the close proximity of groundwater to the surface in the area, and the presence of a Wellhead Protection Area (WHPA), the UTRCA recommend that only clear runoff be infiltrated as per the local water balance analysis.	Understood. The existing report states that only runoff from rear-yard areas should be infiltrated. This runoff is considered 'clean' as it is separate from runoff from areas located within the proposed right-of-way.
2	The grading and construction activities may cause sedimentation runoff, potentially harming the adjacent natural heritage features. The UTRCA will require Erosion and Sediment Control (ESC) measures with inspection, monitoring and reporting, including emergency measures and contact to avoid any negative impact on these adjacent features.	Understood. This will be included as part of the detailed engineering submission for the subject lands.
3	Under Section 2.1, the report mentions the use of the City of London's 2018 design specification and requirements manual. Please confirm that the Municipality of Thames Centre is satisfied with this.	The City of London Design and Specifications Manual is an acceptable guideline for the Municipality of Thames Centre as the Municipality does not have guidelines of its own for SWM design.
4	Section 2.1 mentions providing level 1 quality control for the front yard and right of way. The UTRCA recommends level 1 water quality control for the entire site, and not only for the front yards and right of way(s).	Understood. Level 1 "Enhanced" quality treatment has been identified for the entire subdivision lands including the medium-density and commercial blocks. The rear-yard drainage areas are not directly connected to the proposed SWM system as they are designed to pond and infiltrate clean runoff with any overflow being directed to the storm sewer network.
5	Please submit drainage area calculations under the existing conditions supported by contour information and showing any external drainage.	Catchment mapping, land-use and soil calculations have been included with the submission. Refer to the figures within the report text and Appendix C.
6	The total site area is 20.82ha. Table 1 shows minor flows into the storm outlet west and east, with areas of 3.51ha and 4.79ha respectively (approximately 8.3ha total). How will the minor flows from the rest of the site (approximately 12.52ha) be conveyed? Please provide an explanation supported by figures for the minor and major flows on the site.	It is identified in the report by the calculations, SWM figures, and model schematics, that the rear-yard areas (7.77 ha) are infiltrated, and the buffer areas (2.01 ha) sheetflow to Dorchester Creek, per existing conditions. The medium-density (1.60 ha) and commercial blocks (1.32 ha) are directly connected to the on-site storm sewer network. Table 1 will be updated to identify these areas more clearly.
7	The UTRCA regulatory storm is the 250-year storm, not the 100-year storm. Please update table 3 and other areas of the report to control flows under the proposed conditions to the 250-year storm.	Noted. It will be clearly identified that the on-site discharge will be safely conveyed during the 250-year event to the respective outlet locations.
8	Please confirm the capacity of the existing trunk sewer to ensure it has enough capacity to accept the runoff from the proposed development.	The existing trunk storm sewer was included in the model to evaluate existing and proposed conditions hydraulics. Refer to Section 3.2.8 for further explanation.
9	Please provide justification for the curve number of 69 used for the existing subdivision to the southeast as mentioned under section 3.2.6 of the report.	The gravelly sands, fine textured silt deposits and agricultural row crop surface cover warrants the selected CN of 69 applied within the hydrologic modeling.
10	Please explain how the deficit in infiltration under the proposed conditions will be compensated for, and the implications for both the site itself and for Dorchester Creek.	The reduction in infiltration from existing to proposed conditions is very minor (9%), and is considered to be within a tolerable margin given the accuracy of the required approach described in the 2003 SWM Manual. If infiltration is slightly reduced, total inputs to Dorchester Creek should be expected to be maintained by a corresponding increase in attenuated surface runoff volumes.

11	Drawing sheet 2 shows the storm sewer network for the proposed development within block 196 and block 197 as SWM basins, however, it does not show whether the minor system will enter into the proposed SWM blocks or into the existing 1300mm dia storm sewer to the south. Please provide some additional details and explain.	As described in the report, the SWM basins are proposed to intercept only major overland flow, which is anticipated to occur during events greater than the 2-year event, which is what the on-site storm sewers are designed to convey. These basins attenuate the overland flow volume and eventually release it back into the trunk storm sewer.
12	Please confirm whether the proposed SWM block will be a dry basin or a wet pond. Please confirm that the runoff from the west side of the site along street A has been directed to an existing storm sewer along Dorchester Road.	The SWM basins are proposed to be dry basins as identified in Section 3.2.1.2, no permanent pool is proposed.
13	Please confirm how the flows from the proposed SWM blocks will be conveyed downstream.	As identified in Section 3.2.1.2, each of the basins attenuate volume via orifice controls and are connected to the existing trunk storm sewer. The emergency spillway will direct runoff south to Dorchester Creek.
14	The water balance under the existing conditions should be based on the area contributing to the wetland, and supported by contour information. Please submit a figure showing the area contributing to the wetland. The water balance under the proposed conditions should mimic the existing conditions in order to maintain base flows and infiltration rates.	The water balance was completed using this method, supported by details provided by a topographic survey and existing contours of the subject site. Figures identifying the existing conditions surface drainage areas and groundwater contours were included in the reporting. Refer to the response to Comment 10 for further details.
	Drinking Water Source Protection - Clean Water Act Comments	
1	The Wellhead Protection Area should not be referred to as a MECP Wellhead Protection Area. Please remove MECP from the reference, and either refer to it as a Wellhead Protection Area or the Dorchester Drinking Water System Wellhead Protection Area.	Noted. The report has been amended accordingly.
2	It should be indicated in the report that the vulnerability score for both the WHPA-A and B is 10, or high.	Noted. The report will be updated to include the WHPA-'A' and 'B' vulnerability scores.
3	Stormwater Management facilities are considered a significant threat to drinking water in a WHPA-A and B (where the vulnerability score is 10) when the drainage area is greater than 100ha, and the predominant land use is residential. For awareness and education, please clarify in the report that the stormwater management facility is not considered a threat in this area because it does not meet these specific criteria. The way it is currently written suggests that the stormwater management facility is not a significant threat.	Noted. This was identified within Section 1.1 of the report. However, the report will be amended to explicitly state that the proposed SWM works do not meet the criteria required to qualify as a significant threat.
4	A vulnerability score of 10 is the highest vulnerability score that a vulnerable source protection area can have, and there are many activities that are, or could be, a significant drinking water threat in these areas. Please add some verbiage to this section to indicate that that may be activities associated with the proposed development that constitute a significant drinking water threat such as the sanitary sewers, which may require enhanced design or construction requirements.	Agreed. Given the vulnerability of the WHPA, we have identified several activities which may pose a threat to the drinking water supply as a result of the construction of the SWM works. Risks associated with the construction of the remaining water services (e.g. sanitary) are to be covered in those respective reports.