March 26, 2019 BY EMAIL

City of Ottawa
Planning and Infrastructure Approvals Branch
Infrastructure Approvals Division
110 Laurier Street West, 4th Floor
Ottawa, ON
K1P 1J1

Attention: **Mr. Mark Fraser**
Program Manager, Infrastructure Approvals

Reference: **Block 14 (Bridlewood Trails – Phase 2 Subdivision)**
Stormwater Management Report
Our File No. 114013

The storm HGL analysis for the Block 14 development has been revised to address the following outstanding comment provided by the City on December 21 ,2018:

> *Please provide confirmation that the assumption that the downstream HGL is equal to the downstream pipe obvert is accurate.*

It is our understanding that all other comments have been addressed to the City's satisfaction in the revised SWM Report (Rev 4 - January 18, 2019) submitted with the MOE ECA application package. As such, we recommend that this letter be appended to the ECA application in lieu of revising and resubmitting the Block 14 SWM report.

Revised HGL Analysis

In the January 2019 SWM report, a fixed downstream boundary condition of 95.30m was applied to the Block 14 outlet and used to evaluate the storm HGL for the 100-year and stress test (100-year+20%) events. This elevation represents the obvert of the receiving storm sewer, based on the preliminary storm sewer design for the future Bridlewood 3 development.

Since the January 2019 report submission, Novatech has completed the first Draft Plan Submission for the downstream Bridlewood 3 development, which includes a PCSWMM model of the proposed Bridlewood 3 storm sewers. The results of the Bridlewood 3 HGL analysis indicates that the 100-year water level in Cell 2 of the Monahan Drain will surcharge the storm sewers, and the HGL at the outlet from Block 14 outlet is 95.61 (0.31m above the pipe obvert). The downstream boundary condition for the stress-test event has been similarly revised to 95.65m. The revised HGL elevations for Block 14 are outlined in **Table 1** on the following page.

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Table 1: Block 14 HGL Elevations - Revised Downstream Boundary Condition

Manhole ID	MH Invert Elevation (m)	T/G Elevation (m)	Design USF (m)	100-yr 4hr		100-yr 4hr +20%	
				HGL Elevation (m)	Clearance (m)	HGL Elevation (m)	Clearance (m)
200 (STM)	95.02	97.95	96.40	95.67	0.73	95.79	0.61
202 (STM)	94.92	97.95	96.40	95.67	0.73	95.77	0.63
204 (STM)	94.81	97.91	96.35	95.67	0.68	95.76	0.59
206 (STM)	94.50	97.93	96.40	95.65	0.75	95.71	0.69
208 (STM)	94.41	97.92	96.40	95.63	0.77	95.68	0.72
210 (STM)	94.36	97.87	96.40	95.62	0.78	95.67	0.73
212 (STM)	94.86	97.89	96.35	95.66	0.69	95.72	0.63
Bridlewood 3							
MH700	94.25	97.70	-	**95.61**	-	95.65	-

As indicated in **Table 1**, the HGL elevations within Block 14 for both the 100-year and 100-year+20% storm events are still at least 0.30m below the USF elevations of the proposed buildings, and there are no changes required to the grading and servicing design resulting from the updated HGL analysis.

We trust that this satisfies your comment regarding the downstream boundary condition used in the Block 14 stormwater management analysis. If you have any further comments or questions, please contact the undersigned.

Yours truly,

NOVATECH

Michael Petepiece, P.Eng.
Sr. Project Manager | Water Resources

cc: Charles Warnock, City of Ottawa

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