



# MEMORANDUM

TO Farrah Ward, Geranium Corporation

DATE September 3, 2015

FROM Christopher Davidson and John Easton

PROJECT No. 13-1186-0360

## HIGHLAND GATE – PRELIMINARY RESULTS OF WATER BUDGET ANALYSIS

This technical memorandum presents the preliminary results of an annual water budget analysis that was completed for several watercourses at the Highland Gate site in Aurora, Ontario. The water budget analysis was conducted under existing conditions and proposed conditions with consideration for Low Impact Development (LID) features, recognizing that the surplus results represent the average annual flow at the downstream (north) end of the site. The results and methodology presented herein are consistent with the information that was outlined in Golder’s letter response to LSRCA comments dated August 14, 2015.

The results of the water budget analysis are provided below in Tables 1 through 3, noting that these results are preliminary and may be refined as part of final reporting:

**Table 1: Water Budget Results - Surplus**

Feature	Surplus (m <sup>3</sup> /yr)			Change (%)
	Existing	Proposed with Low-Impact Development	Change	
Western Tributary (ORM Wetland)	1,147,000	1,174,000	27,000	2.40%
Eastern Tributary	1,194,000	1,212,000	18,000	1.50%
Tannery Creek (Non-ORM Woodland)	1,162,000	1,173,000	11,000	0.90%

**Table 2: Water Budget Results - Infiltration**

Feature	Infiltration (m <sup>3</sup> /yr)			Change (%)
	Existing	Proposed with Low-Impact Development	Change	
Western Tributary (ORM Wetland)	444,000	441,000	-3,000	-0.70%
Eastern Tributary	345,000	344,000	-1,000	-0.30%
Tannery Creek (Non-ORM Woodland)	361,000	360,000	-1,000	-0.30%

**Table 3: Water Budget Results - Runoff**

Feature	Runoff (m <sup>3</sup> /yr)			Change (%)
	Existing	Proposed with Low-Impact Development	Change	
Western Tributary (ORM Wetland)	703,000	733,000	30,000	4.30%
Eastern Tributary	849,000	868,000	19,000	2.20%
Tannery Creek (Non-ORM Woodland)	800,000	813,000	13,000	1.60%

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