DS Project No. 21-122-110 **February 18, 2026**

150 Steels Inc. C/O Neatt Communities
775 Main Street East, unit 1B
Milton L9T 3Z3

Attention: Michael Vernooy, P.Eng. President
Via email: mike@neattcommunities.com

RE: Site Water Balance Analysis- 150 Steels Ave, Milton, ON

DS Consultants Limited (DS) was retained by Neatt Communities to complete a water balance for the proposed development at 150 Steeles Avenue East in Milton, Ontario (Site). The Site has an approximate area of 208,000 m^2 (20.8 ha) situated approximately 350 meters west of the intersection of Steeles Avenue East and Martin Street in the Town of Milton, Ontario and is currently vacant, but previously contained a large industrial building with parking lots and roads. It is DS's understanding that the subject property will be divided into several blocks for development purposes, and the development in the future will be completed in multiple phases.

1.1 Existing Conditions (Pre-Development)

The Site has a total area of 208,000 m^2 (20.8 ha) and includes approximate pervious areas totalling 57,000 m^2 of wood lot and 83,000 m^2 of open space, and 68,000 m^2 of an impervious area (Building/Parking/Road). Although the site is currently vacant, it was previously developed with a building, parking lots and roads. These previous land use conditions have been used for the purpose of establishing existing conditions. F**igure 1** shows the pre-development conceptual model to establish existing hydrologic conditions. A summary of pre-development land uses is provided in **Table 1-1** below.

Table 1-1: Pre-Development Land Use

Land use	Pervious Area (ha)	Impervious Area(ha)
Open Space	83,000	-
Wood Lot/Area	57,000	-
Building/parking/Road	-	68,000
Total Area	**140,000**	**68,000**

1.2 Proposed Development (Post-Development)

For the water balance calculations in this report, it is estimated that the proposed development will include impervious area (residential units and paved/road/driveway) of about 138,200 m^2 and the remaining area of 69,800 m^2 will be developed as a pervious area (landscaped, NHS and Park areas). **Figure 2** shows the

post-development conceptual model considered for establishing post-hydrologic conditions. A summary of post-development land uses is provided in **Table 1-2** below.

Table 1-2: Post-Development Land Use

Land use	Pervious Area (ha)	Impervious Area(ha)
Landscaped Area	3,400	-
NHS Land	53,500	-
Park	12,900	
Building	-	946,000
Road	-	34,600
SWM Pond (clay liner-no infiltration)	-	9,000
Total Area	**69,800**	**138,200**

1.3 Water Balance Components (Thornthwaite Monthly Water Balance Model)

The Thornthwaite water balance (Thornthwaite, 1948; Mather, 1978; 1979) is an accounting-type method used to analyze the allocation of water among various components of the hydrologic cycle. Inputs to the model are monthly temperature, Site latitude, precipitation, and stormwater run-on. Outputs include monthly potential and actual evapotranspiration, evaporation, water surplus, total infiltration, and total runoff. For ease of calculation, a spreadsheet model was used for the computation.

When precipitation (P) occurs, it can either run off (R) through the surface water system, infiltrate (I) to the water table, or evaporate/evapotranspiration (ET) from the earth's surface and vegetation. The sum of R and I is termed the water surplus (S). When long-term averages of P, R, I and ET are used, there is no net change in groundwater storage (ST). Annually, however, there is a potential for minor changes in ST. The annual water budget can be stated as **P = ET + R + I + ST,** and the components are discussed below.

Precipitation (P)

Based on the precipitation data from the Georgetown WWTP climate station in Ontario, the average precipitation for the area is about 877.3 mm/year for the period between 1981 and 2010. Also, the average monthly temperature from this station has been used. The monthly distribution of precipitation is presented in **Table A-1, Appendix A.**

Storage (ST)

Groundwater storage (ST) of native soils for the existing Site was estimated using values of Water Holding Capacity (mm) of respective land use and soil types identified in Table 3.1 of the Storm Water Management (SWM) Planning & Design Manual (MOE, March 2003). The land uses, soil types and respective water holding capacities shown in **Table 1.3** were chosen to represent existing conditions and applied to March for monthly calculations.

Table 1.3: Water Holding Capacity of Native Soils in Pervious Areas

Land Uses	Soil Types	Water Holding Capacity (mm/year)	
		Pre-Development	Post-Development
Open area	Clay and Loam	200	-
Wooded Area	Clay and Loam	400	-
Landscape/Urban Lawn /Park/Buffer Area	Clay Loam	-	100

Using the procedures outlined in the SWM Planning & Design Manual for the above land use and soil type, the annual change in storage is zero (0).

Evapotranspiration (ET)

Monthly Potential Evapotranspiration (PET) is estimated using monthly temperature data and is defined as a water loss from a homogeneous vegetation-covered area that never lacks water (Thornthwaite,1948; Mather, 1978). In the Thornthwaite water balance model, PET is calculated using the Hamon equation (Hamon, 1061).

PET Hamon = 13.97 * d * D2 * Wt

Where:

d = the number of days in the month

D = the mean monthly hours of daylight in units of 12 hours

Wt = a saturated water vapour density term = 4.95 * e0.627/100

T = the monthly mean temperature in degrees Celsius

The calculated Actual Evapotranspiration (AET) is based on PET and changes in ST (Δ ST). Where there is not enough P to satisfy PET, a reduction in ST occurs. As a result, volumes of AET are less than those of PET. Also, it is assumed that evaporation will occur and will amount to 15% of the total precipitation for an impervious cover.

Precipitation Surplus (S)

Precipitation surplus is calculated as P–ET. For pervious areas, ET is considered AET, and for impervious areas, ET is evaporation.

Infiltration (I) and Runoff (R)

For pervious areas, precipitation surplus has two components in the Thornthwaite model: a runoff component (overland flow that occurs when soil moisture capacity is exceeded) and an infiltration

component. The accumulation of infiltration factors for topography, soil types and the cover as prescribed in Table 3.2 of the SWM Planning & Design Manual, MECP (2003) gives infiltration factors for existing conditions on the Site as shown below in **Table 1.4**. The runoff component calculated in the pre-development and post-development is the remaining volume of precipitation surplus following AET, ET and infiltration. Runoff coefficients were selected for the post-development using the City of Mississauga Development Requirements Manual (2016).

Table 1-4: Pre-Development and Post-Development Conditions – Infiltration Factors

Land Uses	Topography	Soil	Cover	Infiltration factor	Runoff Coefficient
Pre- Development Conditions					
Open Space	0.2	0.2	0.10	0.50	0.50
Open Space -Wooded Area	0.2	0.2	0.20	0.60	0.40
Post- Development Conditions					
Urban Lawn/Landscape-Building	0.3	0.2	0.1	0.60	0.40
Park	0.3	0.3	0.1	0.7	0.3
Open Space -NHS	0.2	0.2	2.0	0.60	0.40
Note: *** Table 3.2 of the SWM Planning & Design Manual (March 2003), MECP**					

1.4 Water Balance Analysis

To predict outputs of the pre-development and post-development water balance, various inputs were entered into the Thornthwaite model, including monthly precipitation and temperature, Site latitude, water holding capacity values for native soils and factors of infiltration as discussed in section 4.3. The analysis is summarised below, and the detailed calculations are presented in **Appendix A.**

1.4.1 Water Balance- Pre-Development

The average precipitation for the area is about 877.3 mm/year. For the pervious area, the calculated PET is 585.3 mm/year or about 67 % of the total precipitation. The monthly distribution of ST for the pervious area in clayey loam produced a unit area annual AET of 545 mm/year and 565 mm/year for open space and wooded lands. For the impervious areas, it is assumed that evaporation will occur and will amount to 10% of total precipitation (877.3 mm/year). Given a total pervious area of 140,000 m^2, and an impervious area of 68,000 m^2, the existing development is expected to produce an evapotranspiration/AET of 83,419 m^3/year, an infiltration of 24,464 m^3/year and runoff of 74596 m^3/year. The detailed calculations are presented in **Table A-2, Appendix A.**

1.4.2 Water Balance- Post-Development (Without mitigation)

A post-development water balance was completed using the provided concept plan of the future subdivision. In the post-construction scenario, changes in land use will result in about 138,200 m^2 of paved

surfaces and buildings and 69,800 m^2 of pervious areas (landscaped/NHS/Park areas). The monthly distribution of ST for landscaped/open space areas and NHS land produced a unit area annual AET of 510 mm/year and 565 mm/year. For the impervious areas, it is assumed that evaporation will occur and will amount to 10 % of total precipitation (877.3 mm/year). Given a total pervious area of 69,800 m^2 and an impervious area of 138,200 m^2, the proposed development is expected to produce an evapotranspiration/AET of 50,663 m^3/year, an infiltration of 14,092 m^3/year and a runoff of 117,723 m^3/year. The detailed calculations are presented in **Table A-3, Appendix A.**

1.4.3 Water Balance-Pre-Development to Post-Development Changes (Without Mitigations)

Based on the results of the pre-development and post-development water balance completed, the proposed development is expected to produce a decrease in annual infiltration (10,372 m^3/year) and an increase in annual runoff (43,127 m^3/year). The effects are the result of increased impervious areas, replacing pervious areas of the Site. The analysis is summarized below in **Table 1-5**. The results can be used to design appropriate LID measures to compensate for any anticipated changes or deficits in site hydrology.

Table 1-5: Summary of Water Balance- Pre-Development and Post-Development (Without Mitigation)

Development Stage	Unit	Infiltration	Runoff	Evaporation/AET
Pre-Development	m^3/year	24,464	74,596	83,419
Post-Development (No mitigation)	m^3/year	14,092	117,723	50,664
Change (Pre- to Post-Development)-No Mitigation	Change-m^3/year	- 10,372	+43,127	-32,755
Note: -ve- Decrease, + ve- Increase				

1.4.4 Water Balance - Pre-Development to Post-Development Changes (with Mitigation)

Based on Low Impact Development (LID) details provided by Urbantech Consulting, rear yard infiltration trenches are proposed to capture runoff generated from a 25 mm storm event over a 23,934 m^2 of building area(roof Area). Roof runoff will be diverted to the proposed infiltration trenches to promote infiltration and achieve pre-development conditions. On a volume basis, this mitigation is designed to provide infiltration equivalent to approximately 95% of the annual precipitation (877.3 mm/year). Detailed calculations and the monthly distribution of infiltration and runoff for a mitigated scenario are presented in **Table A-4, Appendix A.**

With the implementation of the proposed infiltration trenches with an assumed 60% infiltration efficiency, the mitigation is expected to achieve a net annual surplus of 400 m^3 relative to pre-development conditions. However, the actual infiltration performance will depend on subsurface conditions, including the infiltration capacity of the native soil and the vertical separation between the base of infiltration trenches and the seasonal high groundwater level. A minimum vertical separation of one(1) meter between the bottom of the trenches and groundwater will be required to ensure adequate infiltration performance. It is noted that the site is underlain by silty clay to clayey silt till deposits. These deposits are characterized by relatively low hydraulic conductivity, which can restrict vertical subsurface water movement. It is DS's understanding that

any additional runoff from the site will ultimately discharge to the new swale within the Town land and the Sixteen Mile Creek wetland, where it will likely infiltrate. The analysis is summarized below in **Table 1-6.**

Table 1-6- Summary of Water Balance Pre-Development and Post-Development (With Mitigations)

Hydrologic Output	Pre-Development	Post-Development	Post-Development (mitigation)	Change (Pre- to Post Development)	Change (Pre- to Post Development with mitigation)
Total AET/ET (m^3/year)	83,419	50,663	50,663	-32,755	-32,755
Total Infiltration (m^3/year)	24,464	14,092	24,863	-10,372	400
Total Runoff (m^3/year)	74,596	117,723	106,951	43,127	32,355
Note: Note: -ve- Decrease, + ve- Increase					

Should you have any questions regarding these findings, please contact the undersigned @ ppatel@dsconsultants.ca.

For DS Consultants Ltd.

P.A. Patel

Pradeep Patel, P.Geo.
Hydrogeologist

Attachments:

Figure 1: Pre-Development Land Use

Figure 2: Post-Development Land Use

Appendix A: Water Balance Calculations

Figures

Legend

- Approx Property Boundary
- Building
- Open Space/Landscape
- Woodlot
- Parking/Driveway

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Project: HYDROGEOLOGICAL INVESTIGATION
150 Steeles Avenue East, Milton, ON

Title: **PRE-DEVELOPMENT LAND USE**

N

Client: NEATT COMMUNITIES

Size:	Approved By:	Drawn By:	Date:
11x17	M.J	S.Y	February 2026
Rev. 0	Scale: As Shown	Project No.: 21-122-100	Figure No.: 1

Image/Map Source: *Google Satellite Image*

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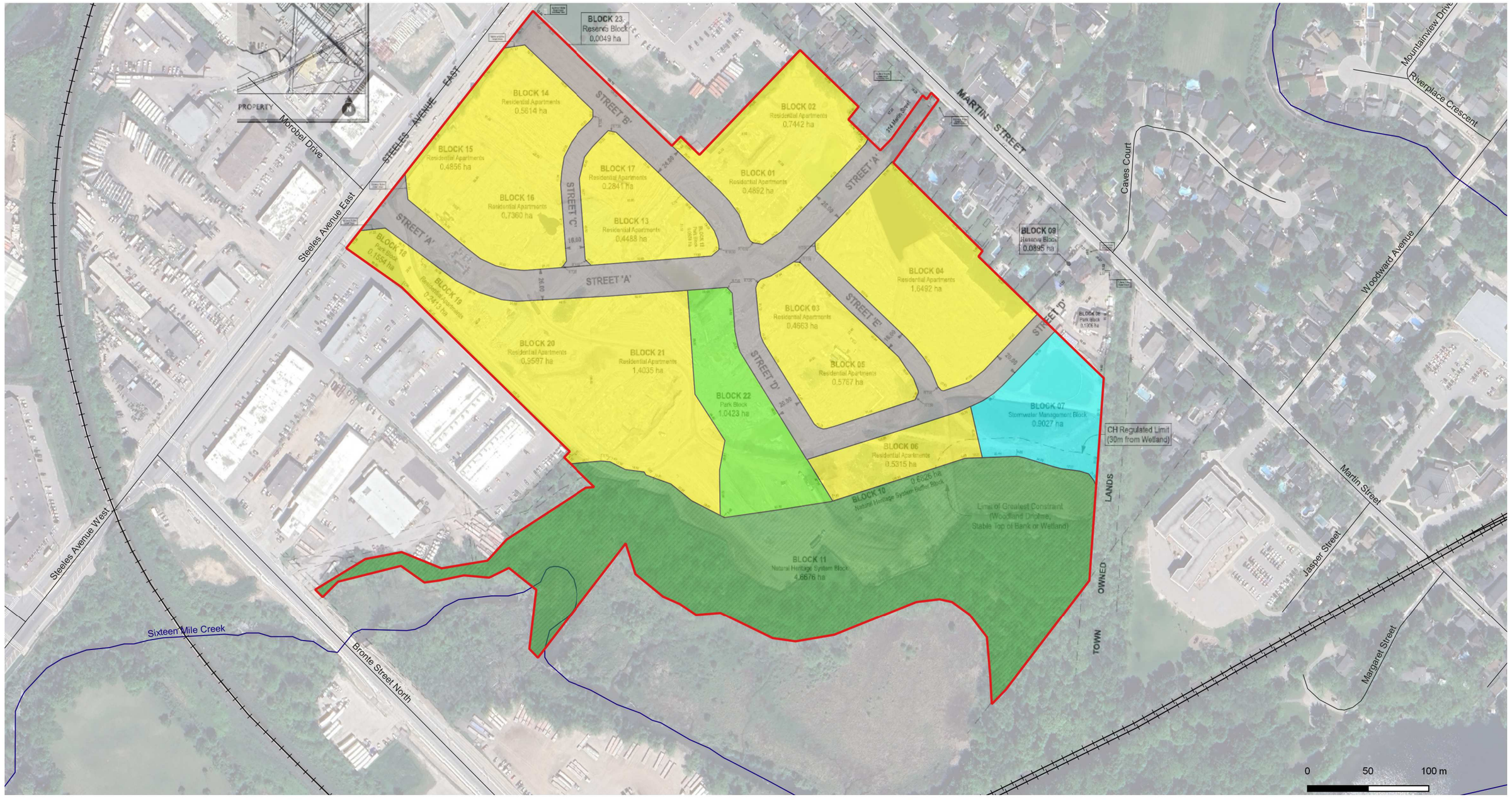

Legend

- Approx Property Boundary
- Impervious Area (Residential)
- Impervious Area (Road)
- Open Space (Heritage Area)
- Open Space (Park Block)
- Open Space SWM Block)

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Project: HYDROGEOLOGICAL INVESTIGATION
150 Steeles Avenue East, Milton, ON

Title: **POST-DEVELOPMENT LAND USE**

Client: NEATT COMMUNITIES

Size:	Approved By:	Drawn By:	Date:
11x17	M.J	S.Y	January 2026
Rev. 0	Scale: As Shown	Project No.: 21-122-100	Figure No.: **2**

Image/Map Source: *Google Satellite Image*

C:\0Sharon\21-122-100 Enviro Geo Investigations 150 Steeles Ave E\1-QGIS\HydroG\Figure 2-Post-Development Land Use.qgs Jan-22 12:40

Appendix A: Water balance Calculation

TABLE A-1

CLIMATE NORMALS 1981-2010 (GEORGETOWN WWTP CLIMATE STATION, ONTARIO)

Water Balance- 150 Steeles Ave East, Milton

	Thornthwaite (1948)					
Month	Mean Temperature (°C)	Heat Index	Unadjusted Potential Evapotranspiration (mm)	Daylight Correction Value	Adjusted Potential Evapotranspiration (mm)	Total Precipitation (mm)
January	-6.3	0.0	0.0	0.81	0.0	67.8
February	-5.2	0.0	0.0	0.82	0.0	60.0
March	-0.9	0.0	0.0	1.02	0.0	57.2
April	6.0	1.3	28.0	1.13	31.6	76.5
May	12.3	3.9	59.7	1.27	75.8	79.3
June	17.4	6.6	86.1	1.29	111.1	74.8
July	20.0	8.2	99.8	1.30	129.7	73.5
August	19.0	7.5	94.5	1.20	113.4	79.3
September	14.8	5.2	72.6	1.04	75.5	86.2
October	8.4	2.2	39.9	0.95	37.9	68.3
November	2.8	0.4	12.5	0.8	10.0	88.5
December	-2.9	0.0	0.0	0.76	0.0	65.9
TOTALS		**35.3**	**493.2**		**585.2**	**877.3**

Notes: Daylight Correction values obtained from Instruction and Tables For Computing Potential Evapotranspiration and The Water Balance (Thornthwaite & Mather, 1957)

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TABLE A-2

Pre-development Water Balance - 150 Steels Ave East, Milton

Catchments and Hydrologic Components			Month												Total
			March	April	May	June	July	August	September	October	November	December	January	February	
PET - Adjusted Potential Evapotranspiration (mm)			0.00	31.63	75.85	111.10	129.70	113.41	75.51	37.94	10.02	0.00	0.00	0.00	**585.15**
P - Total Precipitation (mm)			57.20	76.50	79.30	74.80	73.50	79.30	86.20	68.30	88.50	65.90	67.80	60.00	**877.30**
P-PET (mm)			57.20	44.87	3.45	-36.30	-56.20	-34.11	10.69	30.36	78.48	65.90	67.80	60.00	-
Soil Moisture Deficit (mm)			0.00	0.00	0.00	-36.30	-92.50	-126.61	-115.92	-85.55	-7.07	0.00	0.00	0.00	-
Water Balance- 150 Steeles Ave East, Milton	Pervious Area- Opensapce	Soil Moisture Storage (mm)	200.00	200.00	200.00	163.70	107.50	73.39	84.08	114.45	192.93	200.00	200.00	200.00	-
		Actual Potential Evapotranspiration (mm)	0.00	31.63	75.85	107.81	111.60	94.73	75.51	37.94	10.02	0.00	0.00	0.00	**545.08**
		P-AET (mm)	57.20	44.87	3.45	-33.01	-38.10	-15.43	10.69	30.36	78.48	65.90	67.80	60.00	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-33.01	-71.11	-86.53	-75.84	-45.48	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	33.01	38.10	15.43	-10.69	-30.36	-45.48	0.00	0.00	0.00	-
		Precipitation Surplus (mm)	57.20	44.87	3.45	0.00	0.00	0.00	0.00	0.00	33.00	65.90	67.80	60.00	**332.22**
		MOECC Infiltration Factor	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	
		Run-Off Coefficient	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	-
		Infiltration (mm)	28.60	22.43	1.73	0.00	0.00	0.00	0.00	0.00	16.50	32.95	33.90	30.00	**166.11**
		Run-Off (mm)	28.60	22.43	1.73	0.00	0.00	0.00	0.00	0.00	16.50	32.95	33.90	30.00	**166.11**
		Catchment Area (m^2) = 83000.00					Subcatchment Monthly Volumes								
		Infiltration (m^3)	2373.80	1861.91	143.27	0.00	0.00	0.00	0.00	0.00	1369.67	2734.85	2813.70	2490.00	**13787.20**
		Run-Off (m^3)	2373.80	1861.91	143.27	0.00	0.00	0.00	0.00	0.00	1369.67	2734.85	2813.70	2490.00	**13787.20**
	Pervious Area-Wooded Area	Soil Moisture Storage (mm)	400.00	400.00	400.00	363.70	307.50	273.39	284.08	314.45	392.93	400.00	400.00	400.00	-
		Actual Potential Evapotranspiration (mm)	0.00	31.63	75.85	109.46	120.65	104.07	75.51	37.94	10.02	0.00	0.00	0.00	**565.12**
		P-AET (mm)	57.20	44.87	3.45	-34.66	-47.15	-24.77	10.69	30.36	78.48	65.90	67.80	60.00	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-34.66	-81.80	-106.57	-95.88	-65.51	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	34.66	47.15	24.77	-10.69	-30.36	-65.51	0.00	0.00	0.00	-
		Precipitation Surplus (mm)	57.20	44.87	3.45	0.00	0.00	0.00	0.00	0.00	12.97	65.90	67.80	60.00	**312.18**
		MOECC Infiltration Factor	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	
		Run-Off Coefficient	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
		Infiltration (mm)	34.32	26.92	2.07	0.00	0.00	0.00	0.00	0.00	7.78	39.54	40.68	36.00	**187.31**
		Run-Off (mm)	22.88	17.95	1.38	0.00	0.00	0.00	0.00	0.00	5.19	26.36	27.12	24.00	**124.87**
		Catchment Area (m^2) = 57000.00					Subcatchment Monthly Volumes								
		Infiltration (m^3)	1956.24	1534.39	118.07	0.00	0.00	0.00	0.00	0.00	443.46	2253.78	2318.76	2052.00	**10676.70**
		Run-Off (m^3)	1304.16	1022.93	78.71	0.00	0.00	0.00	0.00	0.00	295.64	1502.52	1545.84	1368.00	**7117.80**
	Impervious Area- Buildings & Driveway, Parking, Road	Precipitation Surplus (mm)	57.20	76.50	79.30	74.80	73.50	79.30	86.20	68.30	88.50	65.90	67.80	60.00	**877.30**
		Evaporation Factor	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	-
		Run-Off Coefficient	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	-
		Evaporation (mm)	5.72	7.65	7.93	7.48	7.35	7.93	8.62	6.83	8.85	6.59	6.78	6.00	**87.73**
		Run-Off (mm)	51.48	68.85	71.37	67.32	66.15	71.37	77.58	61.47	79.65	59.31	61.02	54.00	**789.57**
		Catchment Area (m^2) = 68000.00					Subcatchment Monthly Volumes								
		Evaporation (m^3)	388.96	520.20	539.24	508.64	499.80	539.24	586.16	464.44	601.80	448.12	461.04	408.00	**5965.64**
		Run-Off (m^3)	3500.64	4681.80	4853.16	4577.76	4498.20	4853.16	5275.44	4179.96	5416.20	4033.08	4149.36	3672.00	**53690.76**
							Total Catchment Volumes								
Total AET (m^3)			0.00	4428.86	10618.69	15187.27	16139.67	13794.02	10571.01	5310.97	1402.63	0.00	0.00	0.00	77453.11
Total Evaporation (m^3)			388.96	520.20	539.24	508.64	499.80	539.24	586.16	464.44	601.80	448.12	461.04	408.00	5965.64
Total Infiltration (m^3)			4330.04	3396.30	261.33	0.00	0.00	0.00	0.00	0.00	1813.13	4988.63	5132.46	4542.00	24463.90
Total Runoff (m^3)			7178.60	7566.64	5075.14	4577.76	4498.20	4853.16	5275.44	4179.96	7081.51	8270.45	8508.90	7530.00	74595.76

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TABLE A-3

Post-development Water Balance (Without Mitigation) - 150 Steels Ave East, Milton

Catchments and Hydrologic Components			Month												Total
			March	April	May	June	July	August	September	October	November	December	January	February	
PET - Adjusted Potential Evapotranspiration (mm)			0.00	31.63	75.85	111.10	129.70	113.41	75.51	37.94	10.02	0.00	0.00	0.00	**585.15**
P - Total Precipitation (mm)			57.20	76.50	79.30	74.80	73.50	79.30	86.20	68.30	88.50	65.90	67.80	60.00	**877.30**
P-PET (mm)			57.20	44.87	3.45	-36.30	-56.20	-34.11	10.69	30.36	78.48	65.90	67.80	60.00	-
Soil Moisture Deficit (mm)			0.00	0.00	0.00	-36.30	-92.50	-126.61	-115.92	-85.55	-7.07	0.00	0.00	0.00	-
Water Balance- 150 Steeles Ave East, Milton	Pervious Area- Landscaped Area	Soil Moisture Storage (mm)	100.00	100.00	100.00	63.70	7.50	0.00	10.69	41.06	100.00	100.00	100.00	100.00	-
		Actual Potential Evapotranspiration (mm)	0.00	31.63	75.85	104.51	93.50	80.58	75.51	37.94	10.02	0.00	0.00	0.00	**509.54**
		P-AET (mm)	57.20	44.87	3.45	-29.71	-20.00	-1.28	10.69	30.36	78.48	65.90	67.80	60.00	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-29.71	-49.72	-51.00	-40.31	-9.94	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	29.71	20.00	1.28	-10.69	-30.36	-9.94	0.00	0.00	0.00	-
		Precipitation Surplus (mm)	57.20	44.87	3.45	0.00	0.00	0.00	0.00	0.00	68.54	65.90	67.80	60.00	**367.76**
		MOECC Infiltration Factor	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	
		Run-Off Coefficient	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
		Infiltration (mm)	34.32	26.92	2.07	0.00	0.00	0.00	0.00	0.00	41.12	39.54	40.68	36.00	**220.65**
		Run-Off (mm)	22.88	17.95	1.38	0.00	0.00	0.00	0.00	0.00	27.42	26.36	27.12	24.00	**147.10**
		Catchment Area (m^2) = 3400.00					Subcatchment Monthly Volumes								
		Infiltration (m^3)	116.69	91.53	7.04	0.00	0.00	0.00	0.00	0.00	139.82	134.44	138.31	122.40	**750.23**
		Run-Off (m^3)	77.79	61.02	4.70	0.00	0.00	0.00	0.00	0.00	93.22	89.62	92.21	81.60	**500.15**
	Pervious Area-Park	Soil Moisture Storage (mm)	100.00	100.00	100.00	63.70	7.50	0.00	10.69	41.06	100.00	100.00	100.00	100.00	-
		Actual Potential Evapotranspiration (mm)	0.00	31.63	75.85	104.51	93.50	80.58	75.51	37.94	10.02	0.00	0.00	0.00	**509.54**
		P-AET (mm)	57.20	44.87	3.45	-29.71	-20.00	-1.28	10.69	30.36	78.48	65.90	67.80	60.00	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-29.71	-49.72	-51.00	-40.31	-9.94	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	29.71	20.00	1.28	-10.69	-30.36	-9.94	0.00	0.00	0.00	-
		Precipitation Surplus (mm)	57.20	44.87	3.45	0.00	0.00	0.00	0.00	0.00	68.54	65.90	67.80	60.00	**367.76**
		MOECC Infiltration Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	
		Run-Off Coefficient	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
		Infiltration (mm)	40.04	31.41	2.42	0.00	0.00	0.00	0.00	0.00	47.98	46.13	47.46	42.00	**257.43**
		Run-Off (mm)	17.16	13.46	1.04	0.00	0.00	0.00	0.00	0.00	20.56	19.77	20.34	18.00	**110.33**
		Catchment Area (m^2) = 12900.00					Subcatchment Monthly Volumes								
		Infiltration (m^3)	516.52	405.13	31.17	0.00	0.00	0.00	0.00	0.00	618.92	595.08	612.23	541.80	**3320.86**
		Run-Off (m^3)	221.36	173.63	13.36	0.00	0.00	0.00	0.00	0.00	265.25	255.03	262.39	232.20	**1423.22**
	Pervious Area- NHS Land	Soil Moisture Storage (mm)	400.00	400.00	400.00	363.70	307.50	273.39	284.08	314.45	392.93	400.00	400.00	400.00	-
		Actual Potential Evapotranspiration (mm)	0.00	31.63	75.85	109.46	120.65	104.07	75.51	37.94	10.02	0.00	0.00	0.00	**565.12**
		P-AET (mm)	57.20	44.87	3.45	-34.66	-47.15	-24.77	10.69	30.36	78.48	65.90	67.80	60.00	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-34.66	-81.80	-106.57	-95.88	-65.51	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	34.66	47.15	24.77	-10.69	-30.36	-65.51	0.00	0.00	0.00	-
		Precipitation Surplus (mm)	57.20	44.87	3.45	0.00	0.00	0.00	0.00	0.00	12.97	65.90	67.80	60.00	**312.18**
		MOECC Infiltration Factor	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	
		Run-Off Coefficient	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
		Infiltration (mm)	34.32	26.92	2.07	0.00	0.00	0.00	0.00	0.00	7.78	39.54	40.68	36.00	**187.31**
		Run-Off (mm)	22.88	17.95	1.38	0.00	0.00	0.00	0.00	0.00	5.19	26.36	27.12	24.00	**124.87**
		Catchment Area (m^2) = 53500.00					Subcatchment Monthly Volumes								
		Infiltration (m^3)	1836.12	1440.18	110.82	0.00	0.00	0.00	0.00	0.00	416.23	2115.39	2176.38	1926.00	**10021.11**
		Run-Off (m^3)	1224.08	960.12	73.88	0.00	0.00	0.00	0.00	0.00	277.49	1410.26	1450.92	1284.00	**6680.74**
	Impervious Area- Buildings & Driveway, Road, SWM Pond	Precipitation Surplus (mm)	57.20	76.50	79.30	74.80	73.50	79.30	86.20	68.30	88.50	65.90	67.80	60.00	**877.30**
		Evaporation Factor	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	-
		Run-Off Coefficient	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	-
		Evaporation (mm)	5.72	7.65	7.93	7.48	7.35	7.93	8.62	6.83	8.85	6.59	6.78	6.00	**87.73**
		Run-Off (mm)	51.48	68.85	71.37	67.32	66.15	71.37	77.58	61.47	79.65	59.31	61.02	54.00	**789.57**
		Catchment Area (m^2) = 138200.00					Subcatchment Monthly Volumes								
		Evaporation (m^3)	790.50	1057.23	1095.93	1033.74	1015.77	1095.93	1191.28	943.91	1223.07	910.74	937.00	829.20	**12124.29**
		Run-Off (m^3)	7114.54	9515.07	9863.33	9303.62	9141.93	9863.33	10721.56	8495.15	11007.63	8196.64	8432.96	7462.80	**109118.57**
							Total Catchment Volumes								
Total AET (m^3)			0.00	2208.10	5294.18	7559.55	7978.75	6881.04	5270.40	2647.90	699.31	0.00	0.00	0.00	38539.23
Total Evaporation (m^3)			790.50	1057.23	1095.93	1033.74	1015.77	1095.93	1191.28	943.91	1223.07	910.74	937.00	829.20	12124.29
Total Infiltration (m^3)			2469.32	1936.84	149.03	0.00	0.00	0.00	0.00	0.00	1174.98	2844.90	2926.93	2590.20	14092.20
Total Runoff (m^3)			8637.77	10709.83	9955.27	9303.62	9141.93	9863.33	10721.56	8495.15	11643.58	9951.56	10238.48	9060.60	117722.69

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TABLE A-4

Post-development Water Balance (With Mitigation) - 150 Steels Ave East, Milton

Catchments and Hydrologic Components			Month												Total
			March	April	May	June	July	August	September	October	November	December	January	February	
PET - Adjusted Potential Evapotranspiration (mm)			0.00	31.63	75.85	111.10	129.70	113.41	75.51	37.94	10.02	0.00	0.00	0.00	**585.15**
P - Total Precipitation (mm)			57.20	76.50	79.30	74.80	73.50	79.30	86.20	68.30	88.50	65.90	67.80	60.00	**877.30**
P-PET (mm)			57.20	44.87	3.45	-36.30	-56.20	-34.11	10.69	30.36	78.48	65.90	67.80	60.00	-
Soil Moisture Deficit (mm)			0.00	0.00	0.00	-36.30	-92.50	-126.61	-115.92	-85.55	-7.07	0.00	0.00	0.00	-
Water Balance- 150 Steeles Ave East, Milton	Pervious Area- Landscaped Area	Soil Moisture Storage (mm)	100.00	100.00	100.00	63.70	7.50	0.00	10.69	41.06	100.00	100.00	100.00	100.00	-
		Actual Potential Evapotranspiration (mm)	0.00	31.63	75.85	104.51	93.50	80.58	75.51	37.94	10.02	0.00	0.00	0.00	**509.54**
		P-AET (mm)	57.20	44.87	3.45	-29.71	-20.00	-1.28	10.69	30.36	78.48	65.90	67.80	60.00	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-29.71	-49.72	-51.00	-40.31	-9.94	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	29.71	20.00	1.28	-10.69	-30.36	-9.94	0.00	0.00	0.00	-
		Precipitation Surplus (mm)	57.20	44.87	3.45	0.00	0.00	0.00	0.00	0.00	68.54	65.90	67.80	60.00	**367.76**
		MOECC Infiltration Factor	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	
		Run-Off Coefficient	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
		Infiltration (mm)	34.32	26.92	2.07	0.00	0.00	0.00	0.00	0.00	41.12	39.54	40.68	36.00	**220.65**
		Run-Off (mm)	22.88	17.95	1.38	0.00	0.00	0.00	0.00	0.00	27.42	26.36	27.12	24.00	**147.10**
		Catchment Area (m^2) = 3400.00					Subcatchment Monthly Volumes								
		Infiltration (m^3)	116.69	91.53	7.04	0.00	0.00	0.00	0.00	0.00	139.82	134.44	138.31	122.40	**750.23**
		Run-Off (m^3)	77.79	61.02	4.70	0.00	0.00	0.00	0.00	0.00	93.22	89.62	92.21	81.60	**500.15**
	Pervious Area-Park	Soil Moisture Storage (mm)	100.00	100.00	100.00	63.70	7.50	0.00	10.69	41.06	100.00	100.00	100.00	100.00	-
		Actual Potential Evapotranspiration (mm)	0.00	31.63	75.85	104.51	93.50	80.58	75.51	37.94	10.02	0.00	0.00	0.00	**509.54**
		P-AET (mm)	57.20	44.87	3.45	-29.71	-20.00	-1.28	10.69	30.36	78.48	65.90	67.80	60.00	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-29.71	-49.72	-51.00	-40.31	-9.94	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	29.71	20.00	1.28	-10.69	-30.36	-9.94	0.00	0.00	0.00	-
		Precipitation Surplus (mm)	57.20	44.87	3.45	0.00	0.00	0.00	0.00	0.00	68.54	65.90	67.80	60.00	**367.76**
		MOECC Infiltration Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	
		Run-Off Coefficient	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
		Infiltration (mm)	40.04	31.41	2.42	0.00	0.00	0.00	0.00	0.00	47.98	46.13	47.46	42.00	**257.43**
		Run-Off (mm)	17.16	13.46	1.04	0.00	0.00	0.00	0.00	0.00	20.56	19.77	20.34	18.00	**110.33**
		Catchment Area (m^2) = 12900.00					Subcatchment Monthly Volumes								
		Infiltration (m^3)	516.52	405.13	31.17	0.00	0.00	0.00	0.00	0.00	618.92	595.08	612.23	541.80	**3320.86**
		Run-Off (m^3)	221.36	173.63	13.36	0.00	0.00	0.00	0.00	0.00	265.25	255.03	262.39	232.20	**1423.22**
	Pervious Area- NHS Land	Soil Moisture Storage (mm)	400.00	400.00	400.00	363.70	307.50	273.39	284.08	314.45	392.93	400.00	400.00	400.00	-
		Actual Potential Evapotranspiration (mm)	0.00	31.63	75.85	109.46	120.65	104.07	75.51	37.94	10.02	0.00	0.00	0.00	**565.12**
		P-AET (mm)	57.20	44.87	3.45	-34.66	-47.15	-24.77	10.69	30.36	78.48	65.90	67.80	60.00	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-34.66	-81.80	-106.57	-95.88	-65.51	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	34.66	47.15	24.77	-10.69	-30.36	-65.51	0.00	0.00	0.00	-
		Precipitation Surplus (mm)	57.20	44.87	3.45	0.00	0.00	0.00	0.00	0.00	12.97	65.90	67.80	60.00	**312.18**
		MOECC Infiltration Factor	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	
		Run-Off Coefficient	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
		Infiltration (mm)	34.32	26.92	2.07	0.00	0.00	0.00	0.00	0.00	7.78	39.54	40.68	36.00	**187.31**
		Run-Off (mm)	22.88	17.95	1.38	0.00	0.00	0.00	0.00	0.00	5.19	26.36	27.12	24.00	**124.87**
		Catchment Area (m^2) = 53500.00					Subcatchment Monthly Volumes								
		Infiltration (m^3)	1836.12	1440.18	110.82	0.00	0.00	0.00	0.00	0.00	416.23	2115.39	2176.38	1926.00	**10021.11**
		Run-Off (m^3)	1224.08	960.12	73.88	0.00	0.00	0.00	0.00	0.00	277.49	1410.26	1450.92	1284.00	**6680.74**
	Impervious Area-Roof Block 2 and Block 4- Redirected Runoff to Rear yard infiltration trenches- 25 mm of rainfall retention, assumed 60% efficiency of infiltration trenches	Precipitation Surplus (mm)	57.20	76.50	79.30	74.80	73.50	79.30	86.20	68.30	88.50	65.90	67.80	60.00	**877.30**
		Evaporation Factor	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	-
		Run-Off Coefficient	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	-
		Evaporation (mm)	5.72	7.65	7.93	7.48	7.35	7.93	8.62	6.83	8.85	6.59	6.78	6.00	**87.73**
		Run-Off (mm)	51.48	68.85	71.37	67.32	66.15	71.37	77.58	61.47	79.65	59.31	61.02	54.00	**789.57**
		Catchment Area (m^2) = 23934.00					Subcatchment Monthly Volumes								
		Evaporation (m^3)	136.90	183.10	189.80	179.03	175.91	189.80	206.31	163.47	211.82	157.73	162.27	143.60	**2099.73**
		Run-Off (m^3)	1232.12	1647.86	1708.17	1611.24	1583.23	1708.17	1856.80	1471.22	1906.34	1419.53	1460.45	1292.44	**18897.57**
		Net Runoff (Total runoff- Gained Infiltration)(m3)	529.81	708.58	734.51	692.83	680.79	734.51	798.42	632.63	819.73	610.40	627.99	555.75	8125.95
		Gained Infiltration (Tree Pits in Pervious Area) (m3)	702.31	939.28	973.66	918.41	902.44	973.66	1058.38	838.60	1086.62	809.13	832.46	736.69	10771.61
	Impervious Area- Buildings & Driveway, Road, SWM Pond	Precipitation Surplus (mm)	57.20	76.50	79.30	74.80	73.50	79.30	86.20	68.30	88.50	65.90	67.80	60.00	877.30
		Evaporation Factor	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	-
		Run-Off Coefficient	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	-
		Evaporation (mm)	5.72	7.65	7.93	7.48	7.35	7.93	8.62	6.83	8.85	6.59	6.78	6.00	**87.73**
		Run-Off (mm)	51.48	68.85	71.37	67.32	66.15	71.37	77.58	61.47	79.65	59.31	61.02	54.00	**789.57**
		Catchment Area (m^2) = 114266.00					Subcatchment Monthly Volumes								
		Evaporation (m^3)	653.60	874.13	906.13	854.71	839.86	906.13	984.97	780.44	1011.25	753.01	774.72	685.60	**10024.56**
		Run-Off (m^3)	5882.41	7867.21	8155.16	7692.39	7558.70	8155.16	8864.76	7023.93	9101.29	6777.12	6972.51	6170.36	90221.01
							Total Catchment Volumes								
Total AET (m^3)			0.00	2208.10	5294.18	7559.55	7978.75	6881.04	5270.40	2647.90	699.31	0.00	0.00	0.00	38539.23
Total Evaporation (m^3)			790.50	1057.23	1095.93	1033.74	1015.77	1095.93	1191.28	943.91	1223.07	910.74	937.00	829.20	12124.29
Total Infiltration (m^3)			3171.63	2876.11	1122.69	918.41	902.44	973.66	1058.38	838.60	2261.59	3654.03	3759.38	3326.89	24863.81
Total Runoff (m^3)			7935.46	9770.56	8981.61	8385.22	8239.49	8889.68	9663.18	7656.56	10556.97	9142.43	9406.02	8323.91	106951.08

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