

July 19, 2024

Project/File: 161500301

Sarah Mastroianni

Niagara Peninsula Conservation Authority (NPCA)
3350 Merrittville Highway, Unit 9, Thorold, Ontario L2V 4Y6

Dear Sarah Mastroianni,

Reference: Site Alteration Addendum to Project Eagle, Port Colborne, Ontario, Preliminary Stormwater Management Report

In response to your email dated June 24, 2024, and in support of the above-noted Preliminary Stormwater Management Report, this letter serves to present the specifics of Site Alteration at the Project Eagle Site. This letter is intended to be read in conjunction with the submitted site alteration drawings as part of the package.

1 Existing Conditions Hydrologic Model

According to the information provided in the Headwater Drainage Feature Assessment (HDFA) by MTE, July 8, 2024, the southern drainage area was further refined into two (2) catchments, 101 and 102. This division will affect the previously presented existing flows targets for the stormwater management facility (SWMF) No. 1 and No. 2 in the southeast and southwest of the Site, respectively. All the other information regarding the existing conditions, such as topography, land use, and the proposed conditions hydrologic model, remains the same as in the last submission of the Preliminary Stormwater Management (SWM) Report by Stantec, June 18, 2024. The following sections detail the site alterations, and the following table shows the delineation of existing drainage catchments and is also provided in Figure 1, attached.

Table 1. Southern Existing Drainage Catchments

Area ID	Location	Area (ha)	Flow Direction
101	Southeast	31.29	Southeast, ultimately into Lyons Creek
102	Southwest	7.38	Southwest to a constructed drainage ditch, flows to Lyons Creek

Reference: Site Alteration Addendum to Project Eagle, Port Colborne, Ontario, Preliminary Stormwater Management Report

Input and output files for the SWMHYMO model are provided in the attachments. Soil Conservation Service (SCS) Curve Numbers and catchment parameters were calculated for each existing catchment based on land use and soil type and the model parameters are also included in the attachments.

Reference: Site Alteration Addendum to Project Eagle, Port Colborne, Ontario, Preliminary Stormwater Management Report

2 Interim Sediment Basins

The proposed ultimate SWM pond locations are to be used as interim sediment basins with outlets to the existing watercourses. The contributing drainage areas for each sediment basin are proposed to follow ultimate proposed conditions and are shown on Figure 2, attached. All 3 interim sediment basins were design based on Sustainable Technologies Evaluation Program (STEP) Erosion & Sediment Control Guide for Urban Construction (2020) and discussed below.

2.1 Southeast Sediment Basin

The southeast (SE) pond serves as an interim sediment basin with a permanent pool at an elevation of 179.0 m. The bottom and top of the pond are located at elevations of 178.0 m and 179.6 m, respectively. The outlet structure for this sediment basin will be an orifice with a diameter of 150 mm, completed with an overflow weir at an elevation of 179.3 m. More details are provided in the table below and in the stage/storage/discharge calculations of the sediment basin attached to this letter.

Table 2 - SE Sediment Basin Requirements

Target Permanent Pool	5,796 m ³
Provided Permanent Pool	11,852 m ³
Minimum Active Storage	3,916 m ³
Provided Active Storage	4,354 m ³

The table below indicates that water quantity targets have been met, as the post-development peak flow rates to the target discharges were established through existing conditions modeling.

Reference: Site Alteration Addendum to Project Eagle, Port Colborne, Ontario, Preliminary Stormwater Management Report

Table 3. Sediment Basin Performance Characteristics – SE

Storm Event	25 mm	2-year	5-year	10-year	25-year	50-year	100-year	Hurricane Hazel	SCS Type II 100-year
Existing Flows Towards SW (m ³ /s)	1.508	2.763	3.466	4.028	4.903	5.600	6.288	4.577	9.088
Proposed Flows to the Sediment Basin (m ³ /s)	1.410	2.551	3.172	3.666	4.426	5.037	5.627	4.575	8.063
Proposed Flows from the Sediment Basin (m ³ /s)	0.030	0.819	1.373	1.817	2.600	3.337	3.980	4.545	7.087
Maximum Storage Volume (m ³)	4,061	4,903	5,292	5,604	6,030	6,312	6,557	6,771	7,854
Maximum Ponding Depth (m)	0.28	0.34	0.36	0.38	0.41	0.43	0.44	0.46	0.52
Maximum Ponding Elevation (m)	179.28	179.34	179.36	179.38	179.41	179.43	179.44	179.46	179.52
Drawdown Time (hours)	63.28	66.25	66.35	66.42	66.50	66.52	66.53	66.55	66.61

2.2 Southwest Sediment Basin

The southwest (SW) pond serves as an interim sediment basin with a permanent pool at an elevation of 179.5 m. The bottom and top of the pond are located at elevations of 178.5 m and 180.7 m, respectively. The outlet structure for this sediment basin will consist of two orifices, with diameters of 120 mm and 375 mm, at elevations of 179.3 m and 179.8 m, respectively, and will be completed with an overflow weir at an elevation of 180.4 m. More details are provided in the table below and in the stage/storage/discharge calculations of the sediment basin attached to this letter.

Table 4 - SW Sediment Basin Requirements

Target Permanent Pool	2,277 m ³
Provided Permanent Pool	5,696 m ³
Minimum Active Storage	1,539 m ³
Provided Active Storage	2,473 m ³

Reference: Site Alteration Addendum to Project Eagle, Port Colborne, Ontario, Preliminary Stormwater Management Report

The table below indicates that water quantity targets have been met, as the post-development peak flow rates to the target discharges were established through existing conditions modeling.

Table 5. Sediment Basin Performance Characteristics – SW

Storm Event	25 mm	2-year	5-year	10-year	25-year	50-year	100-year	Hurricane Hazel	SCS Type II 100-year
Existing Flows Towards SW (m ³ /s)	0.395	0.721	0.905	1.054	1.288	1.470	1.652	1.080	2.337
Proposed Flows to the Sediment Basin (m ³ /s)	0.570	1.030	1.281	1.480	1.788	2.035	2.275	1.799	3.251
Proposed Flows from the Sediment Basin (m ³ /s)	0.018	0.048	0.100	0.123	0.145	0.166	0.184	1.776	0.762
Maximum Storage Volume (m ³)	1,544	2,710	3,162	3,546	4,219	4,837	5,383	8,805	8,103
Maximum Ponding Depth (m)	0.19	0.33	0.38	0.43	0.51	0.58	0.65	1.03	0.95
Maximum Ponding Elevation (m)	179.69	179.83	179.88	179.93	180.01	180.08	180.15	180.53	180.45
Drawdown Time (hours)	44.95	59.97	61.84	62.90	64.25	65.25	66.05	69.18	68.98

2.3 Northeast Sediment Basin

The northeast (NE) pond serves as an interim sediment basin with a permanent pool at an elevation of 178.0 m. The bottom and top of the pond are located at elevations of 177.0 m and 179.3 m, respectively. The outlet structure for this sediment basin will consist of two orifices, with diameters of 165 mm and 375 mm, at elevations of 177.8 m and 178.3 m, respectively, and will be completed with an overflow weir at an elevation of 179.0 m. More details are provided in the table below and in the stage/storage/discharge calculations of the sediment basin attached to this letter.

Table 6 - NE Sediment Basin Requirements

Target Permanent Pool	2,277 m ³
Provided Permanent Pool	5,696 m ³
Minimum Active Storage	1,539 m ³
Provided Active Storage	2,473 m ³

Reference: Site Alteration Addendum to Project Eagle, Port Colborne, Ontario, Preliminary Stormwater Management Report

The table below indicates that water quantity targets have been met, as the post-development peak flow rates to the target discharges were established through existing conditions modeling.

Table 7. Sediment Basin Performance Characteristics – NE

Storm Event	25 mm	2-year	5-year	10-year	25-year	50-year	100-year	Hurricane Hazel	SCS Type II 100-year
Existing Flows Towards NE (m ³ /s)	0.765	1.536	1.977	2.339	2.903	3.387	3.852	4.623	6.463
Proposed Flows to the Sediment Basin (m ³ /s)	1.150	2.089	2.597	2.999	3.615	4.118	4.600	4.024	6.614
Proposed Flows from the Sediment Basin (m ³ /s)	0.033	0.105	0.147	0.167	0.197	0.223	0.246	3.947	1.985
Maximum Storage Volume (m ³)	3,525	6,049	7,324	8,452	10,160	11,690	13,040	19,330	17,690
Maximum Ponding Depth (m)	0.22	0.37	0.45	0.51	0.61	0.70	0.77	1.12	1.03
Maximum Ponding Elevation (m)	178.22	178.37	178.45	178.51	178.61	178.70	178.77	179.12	179.03
Drawdown Time (hours)	51.11	65.84	68.86	70.82	73.24	75.15	76.66	81.01	80.77

2.4 Interim Conditions Results

The drawdown times for all storm events and all ponds are more than 48 hours with the exception of the SW pond during the 25 mm storm event, which has a drawdown time of 45 hours. These drawdown times are long enough to encourage settlement of sediments within the sediment basins.

Input and output files for the SWMHYMO model and the model parameters are provided in the attachments.

Reference: Site Alteration Addendum to Project Eagle, Port Colborne, Ontario, Preliminary Stormwater Management Report

3 Headwater Drainage Feature

The HDFA distributed the headwater drainage features (HDF) into management recommendation levels with the recommendations being either to mitigate impacts or protect the feature. The HDF Figure 1, by MTE, dated July 5, 2024, is provided in the attachments and outlines what features can be impacted and which are to be protected.

H2S2 and H2S1 are the only HDF that need to be protected based on the referenced report and therefore baseflow needs to be maintained to that feature. It is proposed that the SW sediment basin and ultimately SWMF 2 will be discharged into H2S2 headwater which will serve to maintain baseflows.

The SE sediment basin, ultimately SWMF 1, will discharge to HDF H1 to maintain baseflows to that feature and the N sediment basin, ultimately SWMF 3, will discharge to HDF H3 to maintain baseflows to that feature. Given that all proposed flows are lower than existing, it is assumed that capacity exists to carry those flows.

Reference: Site Alteration Addendum to Project Eagle, Port Colborne, Ontario, Preliminary Stormwater Management Report

4 Erosion and Sediment Control

The following approach to erosion and sediment control onsite has been prepared to minimize the potential impacts associated with onsite erosion and/or offsite transport of sediment to downstream areas.

Prior to any grading or servicing works commencing onsite, erosion and sedimentation control measures shall be implemented as detailed on the Pre-grading, Erosion and Sedimentation Control Plans. The erosion and sedimentation controls will include the following items:

- Steep slopes (>3:1) shall have erosion blankets.
- Light and/or heavy-duty silt fencing will be erected on all Site boundaries where there is potential for runoff to be discharged offsite, to protect adjacent downstream lands from migration of sediment in overland flow. The location of this fencing will be adjacent to the limit of grading. Silt fence attached to page wire fencing will be installed periodically throughout the Site adjacent to sensitive areas. Robust silt fencing with straw bales between shall be erected at the limit of grading along the entire southern Site limit that is adjacent to the Lyon's Creek Drain. All silt fencing shall be erected before grading begins to protect adjacent and downstream areas from migration of sediment in overland flow.
- Erosion control berms/swales will be located in appropriate (critical) areas to divert flows to temporary sediment basins.
- A construction entrance feature ("mud-mat") will be provided at all Site entrances to minimize the offsite transport of sediment via construction vehicles.
- Swales constructed onsite will have temporary rock check dams to help attenuate flows and encourage deposition of suspended sediment where appropriate.
- All disturbed areas where construction is not expected for 30 days shall be re-vegetated with 50 mm of topsoil and hydro-seeding according to OPSS 572.
- During construction, all catchbasins are to be sealed until roads are paved to prevent sediment deposition in the catchbasin's sumps and conveyance of silt to the SWMF.

The erosion control measures shall be maintained in good repair during the entire construction period and shall only be removed as contributing drainage areas are restored and stabilized.

As discussed earlier, the HDF H2S2, H2S1, H1 and H3 will be retained, and adjacent to them, erosion and sedimentation control (ESC) should be implemented. ESC measures need to be placed at least 30 meters away from the protected HDF to be retained (H2S2 and H2S1), including a robust silt fence or similar

Reference: Site Alteration Addendum to Project Eagle, Port Colborne, Ontario, Preliminary Stormwater Management Report

barrier. Additionally, a 10-meter southern offset from the existing ditch line for H3 and 10-meter western offset from the H1 ditch line is required. As indicated in the HDFA, ESC fencing needs to be inspected prior to construction and before rain events during construction. All fencing will be removed after site stabilization and adequate re-vegetation has occurred.

Reference: Site Alteration Addendum to Project Eagle, Port Colborne, Ontario, Preliminary Stormwater Management Report

5 Conclusion

- The delineation of catchments 101 and 102 under existing conditions has adjusted the flow rates, with existing flows targets for the SWMFs increasing in catchment 101 and decreasing in 102 compared to the SWM Report submission.
- The proposed flow discharges from the sediment basins under the interim conditions are less than the water quantity targets for all storm events.
- The drawdown times for all sediment basins under the interim conditions are more than 48 hours, except for the southwest sediment basin during the 25 mm storm event, which has a drawdown time of 45 hours.
- In addition to the ESC measures for site, specific attention will be paid to the ESC measures to protect retained HDF H2S2, H2S1, H1 and H3.

We trust this information meets your requirements and addresses any inquiries you may have regarding the site alteration at the Project Eagle Site. Should you need any further details or clarification, please do not hesitate to contact the undersigned.

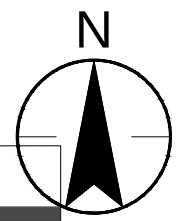
Regards,

STANTEC CONSULTING LTD.

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Attachment: Figure 1, Existing Storm Drainage Area Plan
Figure 2, Proposed Storm Drainage Area Plan
Figure 1, Headwater Drainage Features, MTE
SWMHYMO Parameters – Pre-Development Conditions
Sediment Basin Design Calculations
SWMHYMO Parameters – Interim Conditions
SWMHYMO Model Input and Output File – Interim Conditions, Site Alteration



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Liability Note:
The Contractor shall verify and be responsible for all dimensions.
DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay.

Notes

Legend

123

0.23 123

IMPERVIOUS LEVEL

AREA ID

CONTRIBUTING AREA (ha)

INTERNAL DRAINAGE BOUNDARY

Disclaimer

- Preliminary grading and cut-fill based on conceptual site plan created by others.
- Surface information used for cut fill plan taken from Gray architects and engineers conceptual design plan. Topographic survey required for precise calculations.
- This is a compiled plan and should not be considered a plan of survey.
- Conceptual design expected to outlet to nearby existing creek.
- Existing creek elevations shown are not accurate and are to be field verified to confirmed actual creek bottom elevations.

Revision		By	Appd.	YY.MM.DD
2. FOR DISCUSSION PURPOSES ONLY		DJL	AKK	24.03.07
1. FOR DISCUSSION PURPOSES ONLY		DJL	DV	23.12.05
Issued		By	Appd.	YY.MM.DD
File Name: 161581318_csd		DJL	AKK	DJL 24.03.07
		Dwn.	Chkd.	Dsgn. YY.MM.DD

Permit-Seal

Client/Project



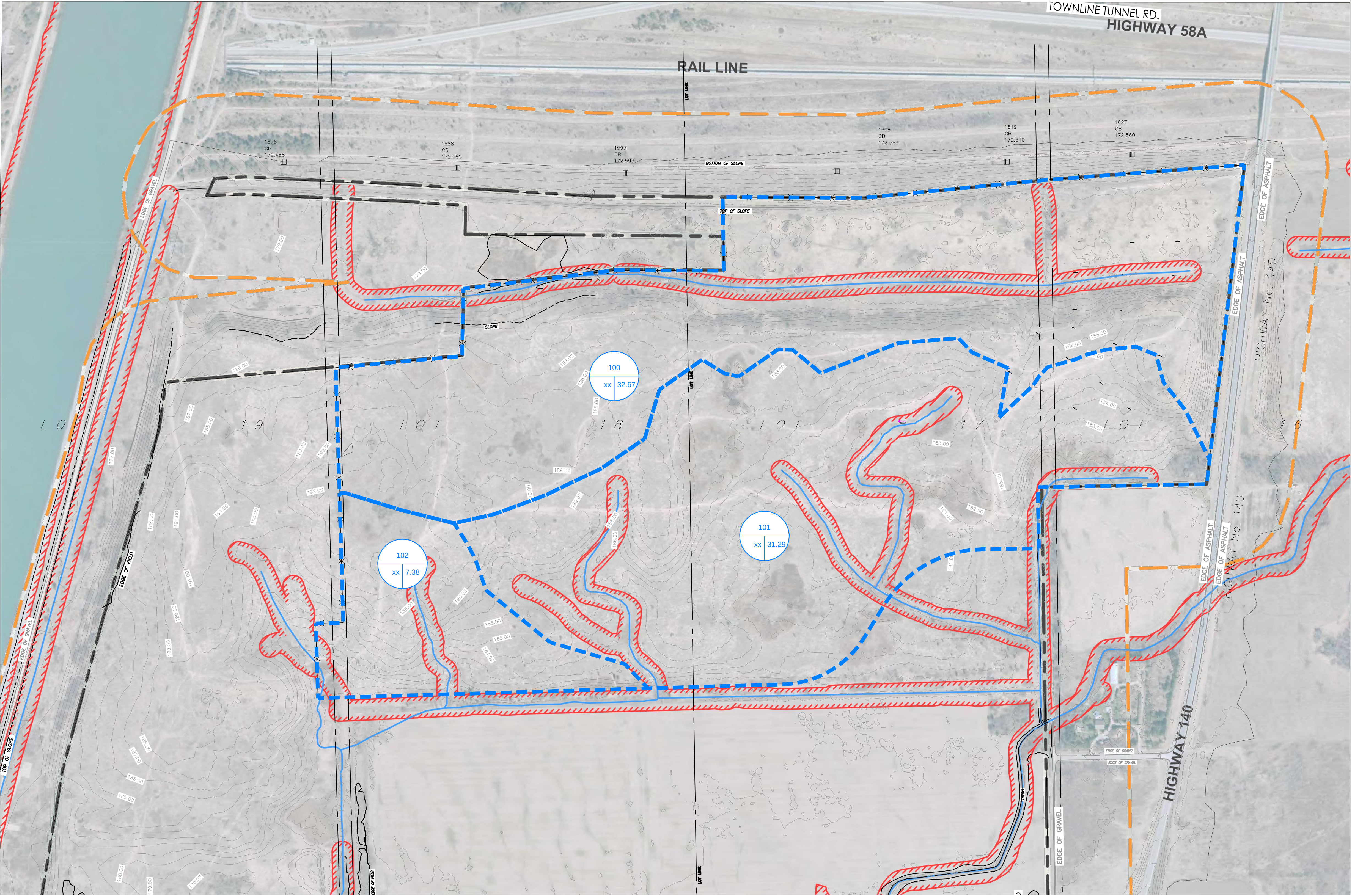
PROJECT EAGLE

Port Colborne, ON Canada

Title

EXISTING STORM DRAINAGE
AREA PLAN

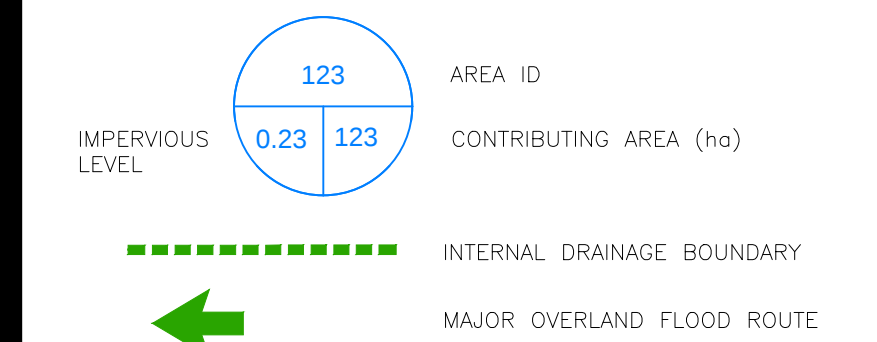
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Drawing No.	Sheet	Revision
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The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay.

Legend



- Preliminary grading and cut-fill based on conceptual site plan created by others.
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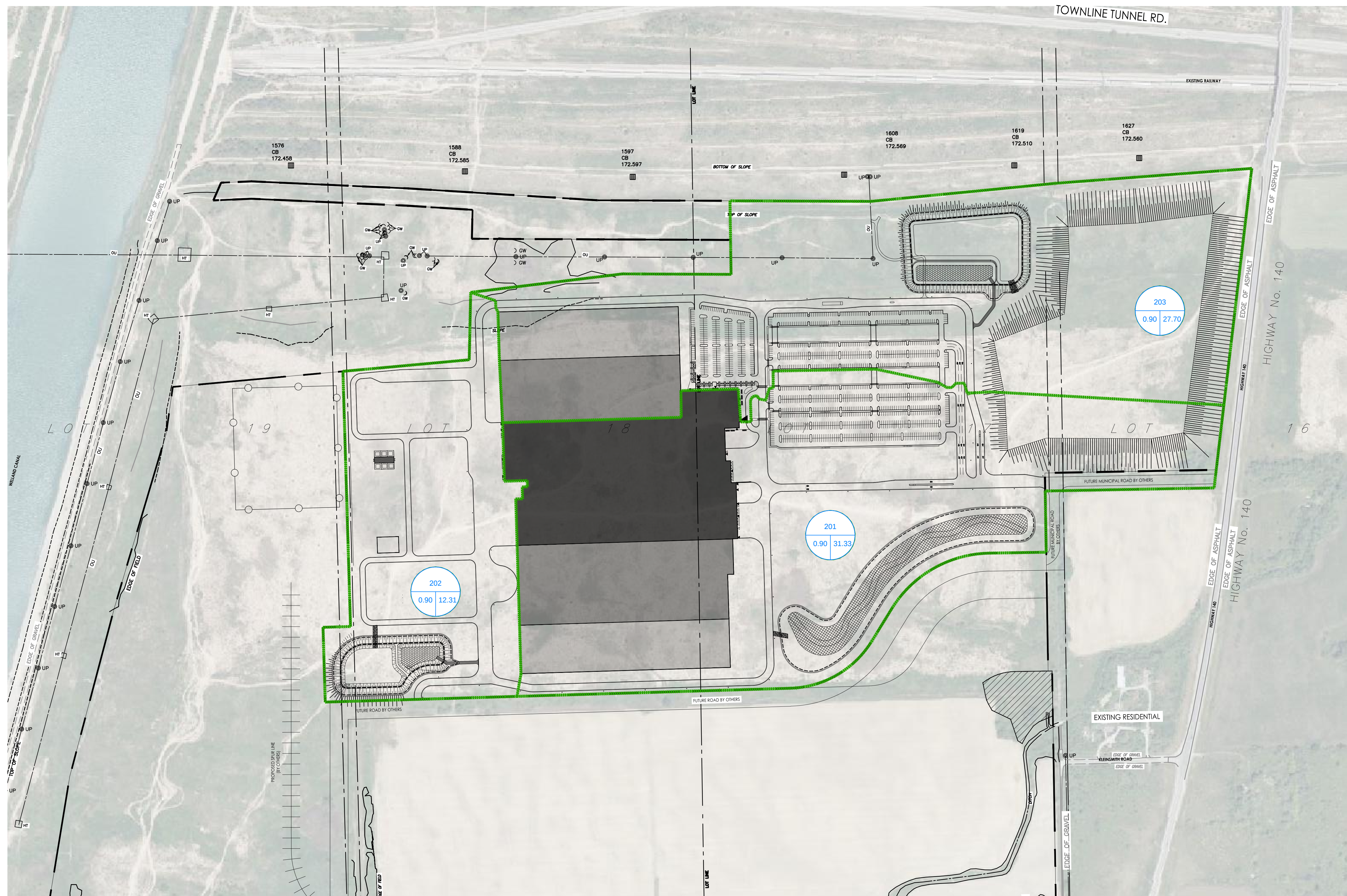
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1. FOR DISCUSSION PURPOSES ONLY	DJL	AKK	23.12.05	
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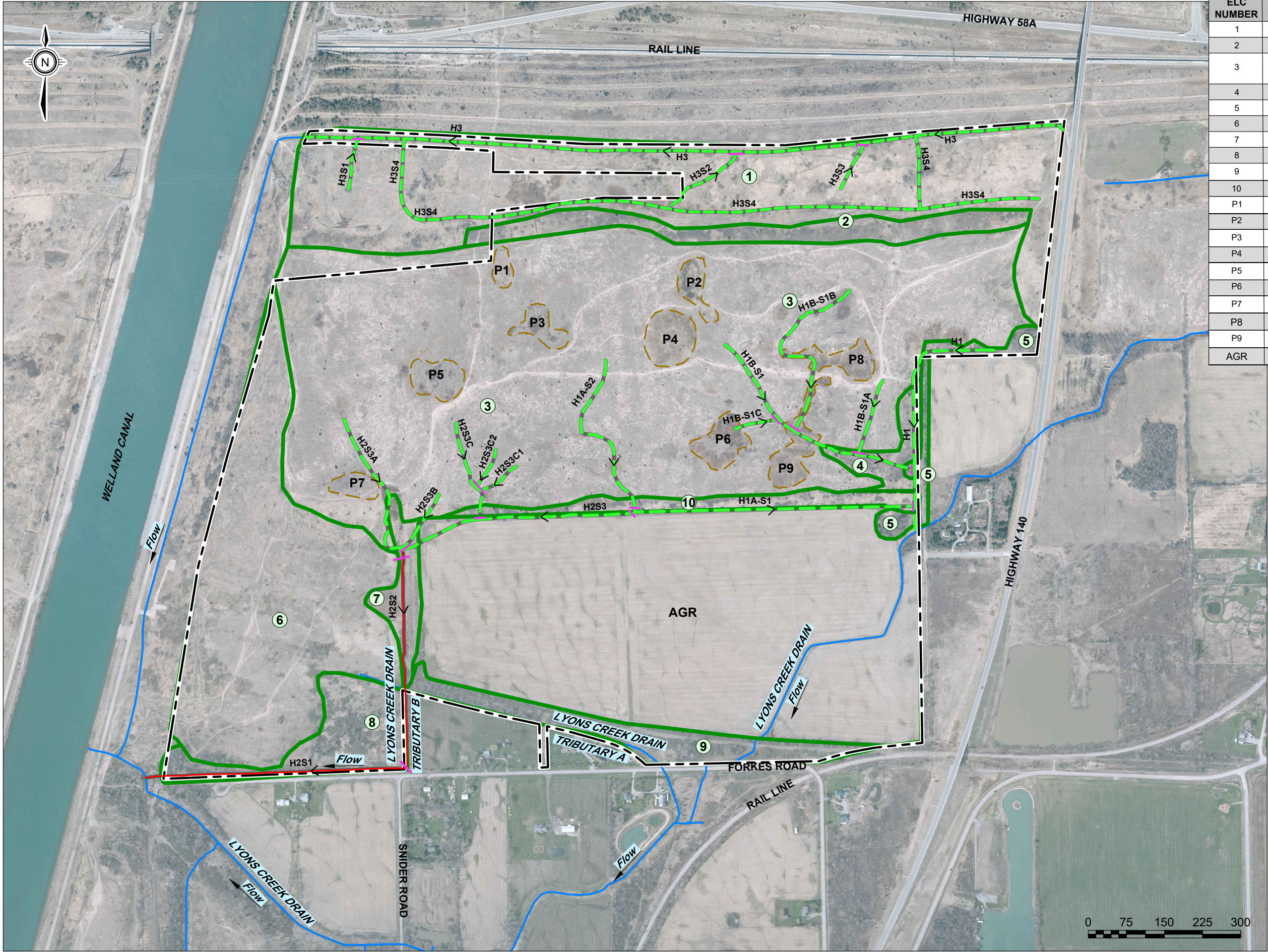
Permit-Seal



Title
PROPOSED STORM DRAINAGE
AREA PLAN

2 2 of 5 0





ELC NUMBER	ELC CODE	Description
1	CUM1	Mineral Cultural Meadow (27.51ha)
2	CUT1	Mineral Cultural Thicket (4.21ha)
3	CUM1/OPEN GROUND	Mineral Cultural Meadow (67.08ha)
4	CUT1	Mineral Cultural Thicket (1.48ha)
5	CUW1	Mineral Cultural Woodland (1.72ha)
6	CUT1	Mineral Cultural Thicket (20.62ha)
7	MAM2	Mineral Meadow Marsh (1.78ha)
8	SWT	Swamp Thicket (4.32ha)
9	CUW/SWD	Cultural Woodland/ Deciduous Swamp (4.03ha)
10	CUT	Cultural Thicket (2.36ha)
P1		Phragmites Inclusions (0.25ha)
P2		Phragmites Inclusions (0.49ha)
P3		Phragmites Inclusions (0.49ha)
P4		Phragmites Inclusions (0.92ha)
P5		Phragmites Inclusions(0.69ha)
P6		Phragmites Inclusions (0.76ha)
P7		Phragmites Inclusions (0.38ha)
P8		Phragmites Inclusions (0.66ha)
P9		Phragmites Inclusions (0.93ha)
AGR		Agricultural Land (40.49ha)

LEGEND

- SUBJECT SITE
- ① VEGETATION COMMUNITY
- - - VEGETATION COMMUNITY (Phragmites Inclusions)
- WATERCOURSE (LIO)
- MITIGATION
- PROTECTION
- REACH BREAK
- < FLOW DIRECTION

REFERENCES

SOUTHWESTERN ONTARIO ORTHOPHOTOGRAPHY PROJECT (2020), SOURCE: DATA PROVIDED BY ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY, © COPYRIGHT: 2024 KING'S PRINTER OF ONTARIO, ALL RIGHTS RESERVED; AND LAND INFORMATION ONTARIO (LIO), WATER NETWORK.

NOTES

THIS FIGURE IS SCHEMATIC ONLY AND TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT. ALL LOCATIONS ARE APPROXIMATE.



Engineers, Scientists, Surveyors

PROJECT

HEADWATER DRAINAGE FEATURE ASSESSMENT

HIGHWAY 140 LAND HOLDING

PORT COLBORNE, ONTARIO

TITLE

HEADWATER DRAINAGE FEATURES

Drawn	DCH	Scale	1:7,500	Figure	1
Checked		Project No.	53689-101		
Date	2024-07-05	Rev No.	0		

SWMHYMO Parameters

161500301 - Project Eagle

Pre-Development Conditions

NashHyd

Area Description	Catchment ID	Area (ha)	CN	IA (mm)	Slope (%)	Length (m)	R.C	TC (hrs)	TP (hrs)
Internal									
North Catchment	100	32.67	87	5.00	2.61	767	0.47	0.42	0.28
Southeast Catchment	101	31.29	93	5.00	3.27	488	0.54	0.26	0.17
Southwest Catchment	102	7.38	93	5.00	3.27	352	0.54	0.22	0.14

Notes:

Time of Concentration calculated using the Airport Method
(For areas less than 100 ha, and RC less than 0.4)

$$T_c = [3.26 (1.1-C) L^{0.5}] / S^{0.33}$$

Where: C = Runoff Coefficient according to
MTO Design chart 1.07
L = Length of Overland Flow (m)
S = Slope (%)

Time of Concentration calculated using the Bransby Williams Method
(For areas less than 100 ha, and RC greater than 0.4)

$$T_c = 0.057 * L / [(Sw^{0.2}) * (A^{0.1})]$$

Where: tc = time of concentration, minutes
L = catchment or watershed length, m
Sw = catchment or watershed slope, %
A = catchment or watershed area, ha

Time to Peak (hr)

$$T_p = T_c(N-1)/N$$

Where: N = number of linear resevoirs (N=3)

Subject: SE Sediment Basin - Stage/Storage/Discharge
Project: Project Eagle Site Alt
Project No.: 161500301
Date: 17-Jul-24

Requirements			Orifice		Overflow Weir	
Basin Side Slope:	5		Orifice Elevation (m):	0.8	Overflow Weir Sill Elevation (m):	1.3
Drainage Area (ha):	31.33		Orifice Diameter (mm):	150	Bottom Width (m):	40
Min Perm. Pool Vol (m ³ /ha):	185		Orifice Discharge Coefficient:	0.6	Weir Discharge Coefficient:	1.7
Target Perm. Pool Vol (m ³):	5796		Orifice Area (sq. m):	0.0177	Weir Side Slope:	5
Min Active Storage(m ³):	3916					

Note: Design based on STEP Erosion & Sediment Control Guidelines for Urban Construction (2020)

	Elevation (m)	Discharge (cms)	Active Storage (cu. m)	Total Vol. (cu. m.)	Cum. Det. Time (hrs)	Depth (m)	Area (sq. m)	Incr. Vol. (cu. m)	Permanent Pool (cu. m)	Orifice Head (m)	Orifice Discharge (cms)	Incr. Det. Time (hrs)	Overflow Weir Head (m)	Overflow Weir Discharge (cms)
Bottom of Sediment Basin	178.00	0.000		0.0		0	9562		0.0					
	178.10	0.000		981.3		0.1	10064	981.3	981.3					
	178.20	0.000		2010.9		0.2	10566	1029.6	2010.9					
	178.30	0.000		3087.6		0.3	11073	1076.7	3087.6					
	178.40	0.000		4210.3		0.4	11586	1122.8	4210.3					
	178.50	0.000		5378.0		0.5	12104	1167.7	5378.0					
	178.60	0.000		6589.6		0.6	12627	1211.6	6589.6					
	178.70	0.000		7843.9		0.7	13156	1254.3	7843.9					
	178.80	0.000		9139.9		0.8	13691	1296.0	9139.9					
Permanent Pool	178.90	0.000		10476.4		0.9	14231	1336.5	10476.4					
	179.00	0.000	0.0	11852.4	0.0	1	14776	1376.0	11852.4	0.000	0.000	0.0		
	179.10	0.022	1414.3	13266.7	35.3	1.1	15327	1414.3		0.225	0.022	35.3		
	179.20	0.027	2865.9	14718.3	51.7	1.2	15883	1451.6		0.325	0.027	16.4		
	179.30	0.031	4353.7	16206.0	66.1	1.3	16445	1487.8		0.425	0.031	14.4	0	0.000
	179.40	2.211	5876.5	17728.8	66.5	1.4	17012	1522.8		0.525	0.034	0.4	0.1	2.177
Top of Sediment Basin	179.50	6.271	7433.2	19285.6	66.6	1.5	17584	1556.8		0.625	0.037	0.1	0.2	6.234
	179.60	11.633	10210.0	22062.3	66.7	1.6	18514	2776.7		0.725	0.040	0.1	0.3	11.593

Rainfall Event	Elevation (m)	Depth (m)	Volume (cu. m.)	Drawdown hr
25 mm	179.28	0.28	4,061	63.28
2-year	179.34	0.34	4,903	66.25
5-year	179.36	0.36	5,292	66.35
10-year	179.38	0.38	5,604	66.42
25-year	179.41	0.41	6,030	66.50
50-year	179.43	0.43	6,312	66.52
100-year	179.44	0.44	6,557	66.53
Hurricane Hazel	179.46	0.46	6,771	66.55
100 SCS	179.52	0.52	7,854	66.61

Subject: SW Sediment Basin - Stage/Storage/Discharge
Project: Project Eagle Site Alt
Project No.: 161500301
Date: 17-Jul-24

Requirements				Orifice 1		Horizontal	Orifice 2		Overflow Weir	
Basin Side Slope:	5	Orifice Elevation (m):	0.8	Orifice Elevation (m):	1.3	Overflow Weir Sill Elevation (m):	1.9			
Drainage Area (ha):	12.31	Orifice Diameter (mm):	120	Orifice Diameter (mm):	375	Bottom Width (m):	18			
Min Perm. Pool Vol (m ³ /ha):	185	Orifice Discharge Coefficient:	0.6	Orifice Discharge Coefficient:	0.6	Weir Discharge Coefficient:	1.7			
Target Perm. Pool Vol (m ³):	2277	Orifice Area (sq. m):	0.0113	Orifice Area (sq. m):	0.1104	Weir Side Slope:	5			
Min Active Storage(m ³):	1539									

Note: Design based on STEP Erosion & Sediment Control Guidelines for Urban Construction (2020)

	Elevation (m)	Discharge (cms)	Active Storage (cu. m)	Total Vol. (cu. m.)	Cum. Det. Time (hrs)	Depth (m)	Area (sq. m)	Incr. Vol. (cu. m)	Permanent Pool (cu. m)	Orifice 1 Head (m)	Orifice 1 Discharge (cms)	Orifice 2 Head (m)	Orifice 2 Discharge (cms)	Total Orifice Outflow (cms)	Incr. Det. Time (hrs)	Overflow Weir Head (m)	Overflow Weir Discharge (cms)
Bottom of Sediment Basin	178.50	0.000		0		0	9562		0.0								
	178.60	0.000		489		0.1	10064	488.6	488.6								
	178.70	0.000		997		0.2	10566	507.9	996.6								
	178.80	0.000		1524		0.3	11073	527.2	1523.7								
	178.90	0.000		2069		0.4	11586	545.3	2069.0								
	179.00	0.000		2632		0.5	12104	563.0	2632.0								
	179.10	0.000		3213		0.6	12627	580.8	3212.8								
	179.20	0.000		3810		0.7	13156	597.1	3809.9								
	179.30	0.000		4423		0.8	13691	613.5	4423.4								
	179.40	0.000		5052		0.9	14231	629.0	5052.4								
Permanent Pool	179.50	0.000	0.0	5696	0.0	1	14776	644.0	5696.4		0.000			0.0000	0.0		
	179.60	0.015	895.0	6591	33.8	1.1	15327	895.0		0.24	0.015			0.015	33.8		
	179.70	0.018	1657.6	7354	46.9	1.2	15883	762.5		0.34	0.018			0.018	13.1		
	179.80	0.020	2473.3	8170	59.0	1.3	16445	815.7		0.44	0.020	0.00	0.000	0.020	12.1		
	179.90	0.115	3294.7	8991	62.4	1.4	17012	821.4		0.54	0.022	0.10	0.093	0.115	3.4		
	180.00	0.155	4133.6	9830	64.1	1.5	17584	839.0		0.64	0.024	0.20	0.131	0.155	1.7		
	180.10	0.187	4989.8	10686	65.5	1.6	18514	856.2		0.74	0.026	0.30	0.161	0.187	1.4		
	180.20	0.213	5861.8	11558	66.7	1.7		871.9		0.84	0.028	0.40	0.186	0.213	1.2		
	180.30	0.237	6748.4	12445	67.8	1.8		886.7		0.94	0.029	0.50	0.208	0.237	1.1		
	180.40	0.258	7648.9	13345	68.8	1.9		900.4		1.04	0.031	0.60	0.227	0.258	1.0	0	0.000
	180.50	1.272	8562.0	14258	69.1	2		913.1		1.14	0.032	0.70	0.246	0.278	0.3	0.1	0.995
	180.60	3.185	9486.8	15183	69.3	2.1		924.8		1.24	0.033	0.80	0.263	0.296	0.1	0.2	2.889
	180.70	5.760	10632.4	16329	69.3	2.2		1145.6		1.34	0.035	0.90	0.278	0.313	0.1	0.3	5.447

Rainfall Event	Elevation (m)	Depth (m)	Volume (cu. m.)	Drawdown hr
25 mm	179.69	0.19	1,544	44.95
2-year	179.83	0.33	2,710	59.97
5-year	179.88	0.38	3,162	61.84
10-year	179.93	0.43	3,546	62.90
25-year	180.01	0.51	4,219	64.25
50-year	180.08	0.58	4,837	65.25
100-year	180.15	0.65	5,383	66.05
Hurricane Hazel	180.53	1.03	8,805	69.18
100 SCS	180.45	0.95	8,103	68.98

Subject: N Sediment Basin - Stage/Storage/Discharge
Project: Project Eagle Site Alt
Project No.: 161500301
Date: 17-Jul-24

Requirements		Orifice 1		Horizontal	Orifice 2		Overflow Weir	
Basin Side Slope:	5	Orifice Elevation (m):	0.8	Orifice Elevation (m):	1.3	Overflow Weir Sill Elevation (m):	2	
Drainage Area (ha):	27.7	Orifice Diameter (mm):	165	Orifice Diameter (mm):	375	Bottom Width (m):	46	
Min Perm. Pool Vol (m ³ /ha):	185	Orifice Discharge Coefficient:	0.6	Orifice Discharge Coefficient:	0.6	Weir Discharge Coefficient:	1.7	
Target Perm. Pool Vol (m ³):	5125	Orifice Area (sq. m):	0.0214	Orifice Area (sq. m):	0.1104	Weir Side Slope:	5	
Min Active Storage(m ³):	3463							

Note: Design based on STEP Erosion & Sediment Control Guidelines for Urban Construction (2020)

	Elevation (m)	Discharge (cms)	Active Storage (cu. m)	Total Vol. (cu. m.)	Cum. Det. Time (hrs)	Depth (m)	Area (sq. m)	Incr. Vol. (cu. m)	Permanent Pool (cu. m)	Orifice 1 Head (m)	Orifice 1 Discharge (cms)	Orifice 2 Head (m)	Orifice 2 Discharge (cms)	Total Orifice Outflow (cms)	Incr. Det. Time (hrs)	Overflow Weir Head (m)	Overflow Weir Discharge (cms)
Bottom of Sediment Basin	177.00	0.000		0		0	9562		0.0								
	177.10	0.000		1125		0.1	10064	1125.3	1125.3								
	177.20	0.000		2289		0.2	10566	1163.3	2288.6								
	177.30	0.000		3488		0.3	11073	1199.4	3487.9								
	177.40	0.000		4722		0.4	11586	1233.7	4721.6								
	177.50	0.000		5988		0.5	12104	1266.2	5987.8								
	177.60	0.000		7285		0.6	12627	1296.9	7284.7								
	177.70	0.000		8610		0.7	13156	1325.8	8610.4								
	177.80	0.000		9963		0.8	13691	1352.8	9963.3								
Permanent Pool	177.90	0.000		11341		0.9	14231	1378.1	11341.4								
	178.00	0.000	0.0	13148	0.0	1	14776	1807.0	13148.4		0.000			0.000	0.0		
	178.10	0.027	1576.1	14725	33.0	1.1	15327	1576.1		0.22	0.027			0.027	33.0		
	178.20	0.032	3220.5	16369	48.6	1.2	15883	1644.4		0.32	0.032			0.032	15.6		
	178.30	0.037	4873.4	18022	62.0	1.3	16445	1653.0		0.42	0.037	0.00	0.000	0.037	13.4		
	178.40	0.134	6550.4	19699	67.5	1.4	17012	1677.0		0.52	0.041	0.10	0.093	0.134	5.5		
	178.50	0.176	8250.5	21399	70.5	1.5	17584	1700.1		0.62	0.045	0.20	0.131	0.176	3.1		
	178.60	0.209	9973.0	23121	73.0	1.6	18514	1722.4		0.72	0.048	0.30	0.161	0.209	2.5		
	178.70	0.237	11716.9	24865	75.2	1.7		1743.9		0.82	0.051	0.40	0.186	0.237	2.2		
	178.80	0.262	13481.3	26630	77.1	1.8		1764.5		0.92	0.054	0.50	0.208	0.262	2.0		
	178.90	0.285	15265.5	28414	79.0	1.9		1784.2		1.02	0.057	0.60	0.227	0.285	1.8		
	179.00	0.306	17068.6	30217	80.7	2		1803.1		1.12	0.060	0.70	0.246	0.306	1.7	0	0.000
	179.10	2.825	18889.6	32038	81.0	2.1		1821.1		1.22	0.063	0.80	0.263	0.325	0.3	0.1	2.500
	179.20	7.490	20727.9	33876	81.1	2.2		1838.2		1.32	0.065	0.90	0.278	0.344	0.1	0.2	7.146
	179.30	13.630	22582.1	35731	81.1	2.3		1854.3		1.42	0.068	1.00	0.294	0.361	0.0	0.3	13.269
Top of Sediment Basin																	

Rainfall Event	Elevation (m)	Depth (m)	Volume (cu. m.)	Drawdown hr
25 mm	178.22	0.22	3,525	51.11
2-year	178.37	0.37	6,049	65.84
5-year	178.45	0.45	7,324	68.86
10-year	178.51	0.51	8,452	70.82
25-year	178.61	0.61	10,160	73.24
50-year	178.70	0.70	11,690	75.15
100-year	178.77	0.77	13,040	76.66
Hurricane Hazel	179.12	1.12	19,330	81.01
100 SCS	179.03	1.03	17,690	80.77

SWMHYMO Parameters

161500301 - Project Eagle

Site Alteration Conditions

NashHyd

Area Description	Catchment ID	Area (ha)	CN	IA (mm)	Slope (%)	Length (m)	R.C	TC (hrs)	TP (hrs)
Internal									
SE Area	201	31.33	94	5.00	2.50	600	0.55	0.34	0.22
SW Area	202	12.31	94	5.00	2.50	500	0.55	0.31	0.21
North Area	203	27.70	94	5.00	2.50	650	0.55	0.37	0.25

Notes:

Time of Concentration calculated using the Airport Method
(For areas less than 100 ha, and RC less than 0.4)

$$T_c = [3.26 (1.1 - C) L^{0.5}] / S^{0.33}$$

Where: C = Runoff Coefficient according to
MTO Design chart 1.07
L = Length of Overland Flow (m)
S = Slope (%)

Time of Concentration calculated using the Bransby Williams Method
(For areas less than 100 ha, and RC greater than 0.4)

$$T_c = 0.057 * L / [(S_w^{0.2}) * (A^{0.1})]$$

Where: tc = time of concentration, minutes
L = catchment or watershed length, m
Sw = catchment or watershed slope, %
A = catchment or watershed area, ha

Time to Peak (hr)

$$T_p = T_c(N-1)/N$$

Where: N = number of linear resevoirs (N=3)

```
00001> 2 Metric units
00002> #####
00003> *# Project Name: [Project Eagle] Project Number: [161500301]
00004> *# Date : 2024-07-17
00005> *# Modeller : [ARK]
00006> *# Company : Stantec Consulting Ltd. (London)
00007> *# License # : 4730904
00008> #####
00009> *#
00010> *#
00011> *# This model represents the hydrologic characteristics of the Site Alteration
00012> *# conditions.
00013> *# Storm events modeled are:
00014> *# 2YR, 5YR, 10YR, 25YR, 50YR, and 100YR 3hr Chicago Storm
00015> *# 25 mm 4hr Chicago Storm (Using City of London IDF Parameters)
00016> *# Regional Storm Event: 48hr Hurricane Hazel
00017> *# 100YR 24hr SCS Type II
00018> *#
00019> #####
00020> *#-----|-----|
00021> START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[1]
00022> *# ["1dn25mm.4hr"] <--storm filename, one per line for NSTORM
00023> *#-----|-----|
00024> READ STORM STORM_FILENAME=["STORM.001"]
00025> *#-----|-----|
00026> #####
00027> *#
00028> *# Site Alt Conditions Conditions
00029> *# SE Area
00030> *#
00031> #####
00032> DESIGN NASHYD ID=[01], NHYD=["201"], DT=[1]min, AREA=[31.33] (ha),
00033> DWF=[0.0] (cms), CN/C=[94], TP=[0.22]hrs,
00034> RAINFALL=[ , , , ] (mm/hr), END=-1
00035> *#-----|-----|
00036> ROUTE RESERVOIR IDout=[02], NHYD=["SWMFSE"], IDin=[01],
00037> RDT=[1] (min),
00038> TABLE of ( OUTFLOW-STORAGE ) values
00039> (cms) - (ha-m)
00040> [ 0.0 , 0.0 ]
00041> [ 0.022 , 0.141 ]
00042> [ 0.027 , 0.287 ]
00043> [ 0.031 , 0.435 ]
00044> [ 2.211 , 0.588 ]
00045> [ 6.271 , 0.743 ]
00046> [ 11.633 , 1.021 ]
00047> [ -1 , -1 ] (max twenty pts)
00048> IDovf=[03], NHYDovf=["OverflowSE"]
00049> *#-----|-----|
00050> #####
00051> *#
00052> *# Site Alt Conditions Conditions
00053> *# SW Area
00054> *#
00055> #####
00056> DESIGN NASHYD ID=[01], NHYD=["202"], DT=[1]min, AREA=[12.31] (ha),
00057> DWF=[0.0] (cms), CN/C=[94], TP=[0.21]hrs,
00058> RAINFALL=[ , , , ] (mm/hr), END=-1
00059> *#-----|-----|
00060> ROUTE RESERVOIR IDout=[02], NHYD=["SWMFSW"], IDin=[01],
00061> RDT=[1] (min),
00062> TABLE of ( OUTFLOW-STORAGE ) values
00063> (cms) - (ha-m)
00064> [ 0.0 , 0.0 ]
00065> [ 0.015 , 0.090 ]
00066> [ 0.018 , 0.166 ]
00067> [ 0.020 , 0.247 ]
00068> [ 0.115 , 0.329 ]
00069> [ 0.258 , 0.765 ]
00070> [ 1.272 , 0.856 ]
00071> [ 3.185 , 0.949 ]
00072> [ 5.760 , 1.063 ]
00073> [ -1 , -1 ] (max twenty pts)
00074> IDovf=[03], NHYDovf=["OverflowSW"]
00075> *#-----|-----|
00076> #####
00077> *#
00078> *# Site Alt Conditions Conditions
00079> *# N Area
00080> *#
00081> #####
00082> DESIGN NASHYD ID=[01], NHYD=["203"], DT=[1]min, AREA=[27.70] (ha),
00083> DWF=[0.0] (cms), CN/C=[94], TP=[0.25]hrs,
00084> RAINFALL=[ , , , ] (mm/hr), END=-1
00085> *#-----|-----|
00086> ROUTE RESERVOIR IDout=[02], NHYD=["SWMFN"], IDin=[01],
00087> RDT=[1] (min),
00088> TABLE of ( OUTFLOW-STORAGE ) values
00089> (cms) - (ha-m)
00090> [ 0.0 , 0.0 ]
00091> [ 0.027 , 0.158 ]
00092> [ 0.032 , 0.322 ]
00093> [ 0.037 , 0.487 ]
00094> [ 0.134 , 0.655 ]
00095> [ 0.285 , 1.527 ]
00096> [ 2.825 , 1.889 ]
00097> [ 7.490 , 2.073 ]
00098> [ 13.630 , 2.258 ]
00099> [ -1 , -1 ] (max twenty pts)
00100> IDovf=[03], NHYDovf=["OverflowN"]
00101> *#-----|-----|
00102> *#-----|-----|
00103> START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[2]
00104> *# ["002YR.HYD"] <--storm filename, one per line for NSTORM ti
00105> *#-----|-----|
00106> START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[5]
00107> *# ["005YR.HYD"] <--storm filename, one per line for NSTORM ti
00108> *#-----|-----|
00109> START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[10]
00110> *# ["10YR.HYD"] <--storm filename, one per line for NSTORM tim
00111> *#-----|-----|
00112> START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[25]
00113> *# ["25YR.HYD"] <--storm filename, one per line for NSTORM tim
00114> *#-----|-----|
00115> START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[50]
00116> *# ["50YR.HYD"] <--storm filename, one per line for NSTORM tim
00117> *#-----|-----|
00118> START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[100]
00119> *# ["100YR.HYD"] <--storm filename, one per line for NSTORM ti
00120> *#-----|-----|
00121> START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[101]
00122> *# ["SCS100.HYD"] <--storm filename, one per line for NSTORM t
00123> *#-----|-----|
00124> START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[251]
00125> *# ["hurhaz48.stm"] <--storm filename, one per line for NSTORM
00126> *#-----|-----|
00127> FINISH
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00001> =====
00002>
00003> SSSSS W W M M H H Y Y M M O O 999 999 =====
00004> S W W M M H H Y Y M M O O 9 9 9 9
00005> SSSSS W W W M M H H H Y Y M M O O ## 9 9 9 9 Ver 4.05
00006> S W W M M H H Y Y M M O O 9999 9999 Sept 2011
00007> SSSSS W W M M H H Y Y M M O O 9 9 9 9 =====
00008> StormWater Management HYdrologic Model 999 999 # 4730904
00009>
00010>
00011> ***** SWMHYMO Ver/4.05 *****
00012> ***** A single event and continuous hydrologic simulation model *****
00013> ***** based on the principles of HYMO and its successors *****
00014> ***** OTTHYMO-83 and OTTHYMO-89 *****
00015> ***** Distributed by: J.F. Gabourin and Associates Inc. *****
00016> ***** Ottawa, Ontario: (613) 836-3884 *****
00017> ***** Gatineau, Quebec: (819) 243-6858 *****
00018> ***** E-Mail: swmhyo@jfsa.com *****
00019>
00020>
00021>
00022>
00023>
00024> ***** Licensed user: Stantec Consulting Ltd. (Kitchener) *****
00025> ***** Kitchener SERIAL#:4730904 *****
00026>
00027>
00028>
00029> ***** PROGRAM ARRAY DIMENSIONS *****
00030> ***** Maximum value for ID numbers : 10 *****
00031> ***** Max. number of rainfall points: 105408 *****
00032> ***** Max. number of flow points : 105408 *****
00033>
00034>
00035>
00036> ***** D E T A I L E D O U T P U T *****
00037>
00038> * DATE: 2024-07-17 TIME: 14:13:24 RUN COUNTER: 000335 *
00039>
00040> * Input filename: C:\SWMOD-1\SWMHYMO\Eagle\comments\SWMSIT-2.DAT *
00041> * Output filename: C:\SWMOD-1\SWMHYMO\Eagle\comments\SWMSIT-2.out *
00042> * Summary filename: C:\SWMOD-1\SWMHYMO\Eagle\comments\SWMSIT-2.sum *
00043> * User comments:
00044> * 1:
00045> * 2:
00046> * 3:
00047>
00048>
00049>
00050>
00051> *****
00052> *# Project Name: [Project Eagle] Project Number: [161500301]
00053> *# Date : 2024-07-17
00054> *# Modeller : [AKK]
00055> *# Company : Stantec Consulting Ltd. (London)
00056> *# License # : 4730904
00057> *#
00058> *****
00059> *#
00060> *# This model represents the hydrologic characteristics of the Site Alteration
00061> *# conditions.
00062> *# Storm events modeled are:
00063> *# 2YR, 5YR, 10YR, 25YR, 50YR, and 100YR 3hr Chicago Storm
00064> *# 25 mm 4hr Chicago Storm (Using City of London IDF Parameters)
00065> *# Regional Storm Event: 48hr Hurricane Hazel
00066> *# 100YR 24hr SCS Type II
00067> *#
00068> *****
00069>
00070> | START | Project dir.: C:\SWMOD-1\SWMHYMO\Eagle\comments\
00071> | Rainfall dir.: C:\SWMOD-1\SWMHYMO\Eagle\comments\
00072> | TZERO = .00 hrs on 0
00073> | METOUT= 2 (output = METRIC)
00074> | NRUN = 001
00075> | NSTORM= 1
00076> | # 1=1dn25mm.4hr
00077>
00078> 001:0002-----
00079>
00080> | READ STORM | Filename: 25mm, 4hr Chicago Storm from London IDF
00081> | Ptotal= 25.05 mm | Comments: 25mm, 4hr Chicago Storm from London IDF
00082>
00083> TIME RAIN | TIME RAIN | TIME RAIN | TIME RAIN
00084> hrs mm/hr | hrs mm/hr | hrs mm/hr | hrs mm/hr
00085> .08 1.406 | 1.08 6.875 | 2.08 4.268 | 3.08 1.931
00086> .17 1.497 | 1.17 10.874 | 2.17 3.856 | 3.17 1.851
00087> .25 1.601 | 1.25 25.649 | 2.25 3.521 | 3.25 1.779
00088> .33 1.722 | 1.33 75.607 | 2.33 3.242 | 3.33 1.712
00089> .42 1.866 | 1.42 33.194 | 2.42 3.006 | 3.42 1.650
00090> .50 2.039 | 1.50 18.435 | 2.50 2.804 | 3.50 1.594
00091> .58 2.251 | 1.58 12.551 | 2.58 2.629 | 3.58 1.541
00092> .67 2.519 | 1.67 9.468 | 2.67 2.477 | 3.67 1.492
00093> .75 2.866 | 1.75 7.594 | 2.75 2.342 | 3.75 1.446
00094> .83 3.335 | 1.83 6.343 | 2.83 2.222 | 3.83 1.404
00095> .92 4.007 | 1.92 5.451 | 2.92 2.115 | 3.92 1.364
00096> 1.00 5.048 | 2.00 4.784 | 3.00 2.018 | 4.00 1.326
00097>
00098>
00099> 001:0003-----
00100> *****
00101> *#
00102> *# Site Alt Conditions Conditions
00103> *# SE Area
00104> *#
00105> *****
00106>
00107> | DESIGN NASHYD | Area (ha)= 31.33 Curve Number (CN)=94.00
00108> | 01:201 DT= 1.00 | Ia (mm)= 1.500 # of Linear Res. (N)= 3.00
00109> | U.H. Tp(hrs)= .220
00110>
00111> Unit Hyd Qpeak (cms)= 5.439
00112>
00113> PEAK FLOW (cms)= 1.410 (i)
00114> TIME TO PEAK (hrs)= 1.600
00115> RUNOFF VOLUME (mm)= 13.946
00116> TOTAL RAINFALL (mm)= 25.048
00117> RUNOFF COEFFICIENT = .557
00118>
00119> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00120>
00121>
00122> 001:0004-----
00123>
00124> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
00125> | IN>01: (201 ) |
00126> | OUT<02: (SWMFSE) |
00127> *****
00128>
00129>
00130>
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00252>
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00255> ** END OF RUN : 1
00256>
00257> *****
00258>
00259>
00260>
00261>
00262>
00263>
00264> | START | Project dir.: C:\SWMMOD-1\SWMHYMO\Eagle\comments\
00265> |-----| Rainfall dir.: C:\SWMMOD-1\SWMHYMO\Eagle\comments\
00266>
00267> TZERO = .00 hrs on 0
00268> METOUT= 2 (output = METRIC)
00269> NRUN = 002
00270> NSTORM= 1
00271> # 1=002YR.HYD
00272>
00273> 002:0002-----
00274> *# Project Name: [Project Eagle] Project Number: [161500301]
00275> *# Date : 2024-07-17
00276> *# Modeller : [AKK]
00277> *# Company : Stantec Consulting Ltd. (London)
00278> *# License # : 4730904
00279> *#*****
00280> *#
00281> *#
00282> *# This model represents the hydrologic characteristics of the Site Alteration
00283> *# conditions.
00284> *# Storm events modeled are:
00285> *# 2YR, 5YR, 10YR, 25YR, 50YR, and 100YR 3hr Chicago Storm
00286> *# 25 mm 4hr Chicago Storm (Using City of London IDF Parameters)
00287> *# Regional Storm Event: 48hr Hurricane Hazel
00288> *# 100YR 24hr SCS Type II
00289> *#
00290> *#*****
00291>
00292> 002:0002-----
00293>
00294> | READ STORM | Filename: CHICAGO STORM 2 Years, 3hr from Colborne
00295> | Ptotal= 36.37 mm | Comments: CHICAGO STORM 2 Years, 3hr from Colborne
00296>
00297> TIME RAIN | TIME RAIN | TIME RAIN | TIME RAIN
00298> hrs mm/hr | hrs mm/hr | hrs mm/hr | hrs mm/hr
00299> .08 3.094 | .83 9.551 | 1.58 11.939 | 2.33 4.519
00300> .17 3.326 | .92 12.836 | 1.67 10.023 | 2.42 4.243
00301> .25 3.600 | 1.00 19.669 | 1.75 8.649 | 2.50 4.002
00302> .33 3.930 | 1.08 41.191 | 1.83 7.616 | 2.58 3.789
00303> .42 4.334 | 1.17 99.781 | 1.92 6.813 | 2.67 3.599
00304> .50 4.841 | 1.25 48.700 | 2.00 6.171 | 2.75 3.429
00305> .58 5.497 | 1.33 28.010 | 2.08 5.645 | 2.83 3.276
00306> .67 6.380 | 1.42 19.395 | 2.17 5.207 | 2.92 3.137
00307> .75 7.633 | 1.50 14.781 | 2.25 4.837 | 3.00 3.010
00308>
00309>
00310> 002:0003-----
00311> *#*****
00312> *#
00313> *# Site Alt Conditions Conditions
00314> *# SE Area
00315> *#
00316> *#*****
00317>
00318> | DESIGN NASHYD | Area (ha)= 31.33 Curve Number (CN)=94.00
00319> | 01:201 DT= 1.00 | Ia (mm)= 1.500 # of Linear Res. (N)= 3.00
00320> |-----| U.H. Tp(hrs)= .220
00321>
00322> Unit Hyd Qpeak (cms)= 5.439
00323>
00324> PEAK FLOW (cms)= 2.551 (i)
00325> TIME TO PEAK (hrs)= 1.417
00326> RUNOFF VOLUME (mm)= 23.804
00327> TOTAL RAINFALL (mm)= 36.371
00328> RUNOFF COEFFICIENT = .654
00329>
00330> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00331>
00332>
00333> 002:0004-----
00334>
00335> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
00336> | IN>01: (201 ) |
00337> | OUT<02: (SWMFSE) | ***** OUTFLOW STORAGE TABLE *****
00338> |-----| OUTFLOW STORAGE | OUTFLOW STORAGE
00339> | (cms) (ha.m.) | (cms) (ha.m.) |
00340> | .000 .0000E+00 | 2.211 .5880E+00
00341> | .022 .1410E+00 | 6.271 .7430E+00
00342> | .027 .2870E+00 | 11.633 .1021E+01
00343> | .031 .4350E+00 | .000 .0000E+00
00344>
00345> ROUTING RESULTS AREA QPEAK TPEAK R.V.
00346> (ha) (cms) (hrs) (mm)
00347> INFLOW >01: (201 ) 31.33 2.551 1.417 23.804
00348> OUTFLOW<02: (SWMFSE) 31.33 .819 2.000 23.803
00349> OVERFLOW<03: (Overfl) .00 .000 .000 .000
00350>
00351> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
00352> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
00353> PERCENTAGE OF TIME OVERFLOWING (%)= .00
00354>
00355>
00356> PEAK FLOW REDUCTION [Qout/Qin] (%)= 32.091
00357> TIME SHIFT OF PEAK FLOW (min)= 35.00
00358> MAXIMUM STORAGE USED (ha.m.)=.4903E+00
00359>
00360>
00361> 002:0005-----
00362> *#*****
00363> *#
00364> *# Site Alt Conditions Conditions
00365> *# SW Area
00366> *#
00367> *#*****
00368>
00369> | DESIGN NASHYD | Area (ha)= 12.31 Curve Number (CN)=94.00
00370> | 01:202 DT= 1.00 | Ia (mm)= 1.500 # of Linear Res. (N)= 3.00
00371> |-----| U.H. Tp(hrs)= .210
00372>
00373> Unit Hyd Qpeak (cms)= 2.239
00374>
00375> PEAK FLOW (cms)= 1.030 (i)
00376> TIME TO PEAK (hrs)= 1.400
00377> RUNOFF VOLUME (mm)= 23.804
00378> TOTAL RAINFALL (mm)= 36.371
00379> RUNOFF COEFFICIENT = .654
00380>
00381> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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00382>
00383>
00384> 002:0006-----
00385>
00386> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
00387> | IN>01: (202 ) |
00388> | OUT<02: (SWMFSE) | ***** OUTFLOW STORAGE TABLE *****
00389> |-----| OUTFLOW STORAGE | OUTFLOW STORAGE
00390> | (cms) (ha.m.) | (cms) (ha.m.) |
00391> | .000 .0000E+00 | .258 .7650E+00
00392> | .015 .9000E-01 | 1.272 .8560E+00
00393> | .018 .1660E+00 | 3.185 .9490E+00
00394> | .020 .2470E+00 | 5.760 .1063E+01
00395> | .115 .3290E+00 | .000 .0000E+00
00396>
00397> ROUTING RESULTS AREA QPEAK TPEAK R.V.
00398> (ha) (cms) (hrs) (mm)
00399> INFLOW >01: (202 ) 12.31 1.030 1.400 23.804
00400> OUTFLOW<02: (SWMFSE) 12.31 .048 3.283 23.803
00401> OVERFLOW<03: (Overfl) .00 .000 .000 .000
00402>
00403> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
00404> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
00405> PERCENTAGE OF TIME OVERFLOWING (%)= .00
00406>
00407>
00408> PEAK FLOW REDUCTION [Qout/Qin] (%)= 4.645
00409> TIME SHIFT OF PEAK FLOW (min)= 113.00
00410> MAXIMUM STORAGE USED (ha.m.)=.2710E+00
00411>
00412>
00413> 002:0007-----
00414> *#*****
00415> *#
00416> *# Site Alt Conditions Conditions
00417> *# N Area
00418> *#
00419> *#*****
00420>
00421> | DESIGN NASHYD | Area (ha)= 27.70 Curve Number (CN)=94.00
00422> | 01:203 DT= 1.00 | Ia (mm)= 1.500 # of Linear Res. (N)= 3.00
00423> |-----| U.H. Tp(hrs)= .250
00424>
00425> Unit Hyd Qpeak (cms)= 4.232
00426>
00427> PEAK FLOW (cms)= 2.089 (i)
00428> TIME TO PEAK (hrs)= 1.450
00429> RUNOFF VOLUME (mm)= 23.804
00430> TOTAL RAINFALL (mm)= 36.371
00431> RUNOFF COEFFICIENT = .654
00432>
00433> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00434>
00435>
00436> 002:0008-----
00437>
00438> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
00439> | IN>01: (203 ) |
00440> | OUT<02: (SWMFN ) | ***** OUTFLOW STORAGE TABLE *****
00441> |-----| OUTFLOW STORAGE | OUTFLOW STORAGE
00442> | (cms) (ha.m.) | (cms) (ha.m.) |
00443> | .000 .0000E+00 | .285 .1527E+01
00444> | .027 .1580E+00 | 2.825 .1889E+01
00445> | .032 .3220E+00 | 7.490 .2073E+01
00446> | .037 .4870E+00 | 13.630 .2258E+01
00447> | .134 .6550E+00 | .000 .0000E+00
00448>
00449> ROUTING RESULTS AREA QPEAK TPEAK R.V.
00450> (ha) (cms) (hrs) (mm)
00451> INFLOW >01: (203 ) 27.70 2.089 1.450 23.804
00452> OUTFLOW<02: (SWMFN ) 27.70 .105 3.350 23.803
00453> OVERFLOW<03: (Overfl) .00 .000 .000 .000
00454>
00455> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
00456> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
00457> PERCENTAGE OF TIME OVERFLOWING (%)= .00
00458>
00459>
00460> PEAK FLOW REDUCTION [Qout/Qin] (%)= 5.028
00461> TIME SHIFT OF PEAK FLOW (min)= 114.00
00462> MAXIMUM STORAGE USED (ha.m.)=.6049E+00
00463>
00464>
00465> 002:0009-----
00466>
00467> 002:0002-----
00468> ** END OF RUN : 4
00469>
00470> *****
00471>
00472>
00473>
00474>
00475>
00476>
00477> | START | Project dir.: C:\SWMMOD-1\SWMHYMO\Eagle\comments\
00478> |-----| Rainfall dir.: C:\SWMMOD-1\SWMHYMO\Eagle\comments\
00479>
00480> TZERO = .00 hrs on 0
00481> METOUT= 2 (output = METRIC)
00482> NRUN = 005
00483> NSTORM= 1
00484> # 1=005YR.HYD
00485>
00486> 005:0002-----
00487> *# Project Name: [Project Eagle] Project Number: [161500301]
00488> *# Date : 2024-07-17
00489> *# Modeller : [AKK]
00490> *# Company : Stantec Consulting Ltd. (London)
00491> *# License # : 4730904
00492> *#*****
00493> *#
00494> *#
00495> *# This model represents the hydrologic characteristics of the Site Alteration
00496> *# conditions.
00497> *# Storm events modeled are:
00498> *# 2YR, 5YR, 10YR, 25YR, 50YR, and 100YR 3hr Chicago Storm
00499> *# 25 mm 4hr Chicago Storm (Using City of London IDF Parameters)
00500> *# Regional Storm Event: 48hr Hurricane Hazel
00501> *# 100YR 24hr SCS Type II
00502> *#
00503> *#*****
00504>
00505> 005:0002-----
00506>
00507> | READ STORM | Filename: CHICAGO STORM 5 Years, 3hr from Colborne
00508> | Ptotal= 42.70 mm | Comments: CHICAGO STORM 5 Years, 3hr from Colborne
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00509> -----
00510>          TIME      RAIN      TIME      RAIN      TIME      RAIN      TIME      RAIN
00511>          hrs      mm/hr      hrs      mm/hr      hrs      mm/hr      hrs      mm/hr
00512>          .08      3.757      .83      11.211      1.58      13.931      2.33      5.426
00513>          .17      4.031      .92      14.951      1.67      11.750      2.42      5.105
00514>          .25      4.353      1.00      22.713      1.75      10.182      2.50      4.823
00515>          .33      4.739      1.08      47.493      1.83      9.000      2.58      4.573
00516>          .42      5.210      1.17      118.092      1.92      8.078      2.67      4.351
00517>          .50      5.800      1.25      56.211      2.00      7.339      2.75      4.151
00518>          .58      6.560      1.33      32.225      2.08      6.732      2.83      3.971
00519>          .67      7.579      1.42      22.401      2.17      6.225      2.92      3.808
00520>          .75      9.019      1.50      17.161      2.25      5.795      3.00      3.658
00521> -----
00522> -----
00523> 005:0003-----
00524> *****
00525> *#
00526> *# Site Alt Conditions Conditions
00527> *# SE Area
00528> *#
00529> *****
00530> -----
00531> | DESIGN NASHYD      | Area (ha)= 31.33      Curve Number (CN)=94.00
00532> | 01:201      DT= 1.00      | Ia (mm)= 1.500      # of Linear Res. (N)= 3.00
00533> -----
00534>          U.H. Tp(hrs)= .220
00535> -----
00536>          Unit Hyd Qpeak (cms)= 5.439
00537> -----
00538>          PEAK FLOW (cms)= 3.172 (i)
00539>          TIME TO PEAK (hrs)= 1.417
00540>          RUNOFF VOLUME (mm)= 29.566
00541>          TOTAL RAINFALL (mm)= 42.701
00542>          RUNOFF COEFFICIENT = .692
00543> -----
00544>          (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00545> -----
00546> 005:0004-----
00547> -----
00548> | ROUTE RESERVOIR      | Requested routing time step = 1.0 min.
00549> | IN>01: (201 )      |
00550> | OUT<02: (SWMFSE)      |
00551> -----
00552>          ***** OUTFLOW STORAGE TABLE *****
00553>          OUTFLOW STORAGE      | OUTFLOW STORAGE
00554>          (cms) (ha.m.)      | (cms) (ha.m.)
00555>          .000 .0000E+00      | 2.211 .5880E+00
00556>          .022 .1410E+00      | 6.271 .7430E+00
00557>          .027 .2870E+00      | 11.633 .1021E+01
00558>          .031 .4350E+00      | .000 .0000E+00
00559> -----
00560>          ROUTING RESULTS          AREA      QPEAK      TPEAK      R.V.
00561>          (cms) (ha) (cms) (hrs) (mm)
00562>          INFLOW >01: (201 )      31.33      3.172      1.417      29.566
00563>          OUTFLOW<02: (SWMFSE)      31.33      1.373      1.850      29.565
00564>          OVERFLOW<03: (Overfl)      .00      .000      .000      .000
00565> -----
00566>          TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
00567>          CUMULATIVE TIME OF OVERFLOWS (hours)= .00
00568>          PERCENTAGE OF TIME OVERFLOWING (%) = .00
00569> -----
00570>          PEAK FLOW REDUCTION [Qout/Qin] (%) = 43.284
00571>          TIME SHIFT OF PEAK FLOW (min)= 26.00
00572>          MAXIMUM STORAGE USED (ha.m.)=.5292E+00
00573> -----
00574> 005:0005-----
00575> *****
00576> *#
00577> *# Site Alt Conditions Conditions
00578> *# SW Area
00579> *#
00580> *****
00581> -----
00582> | DESIGN NASHYD      | Area (ha)= 12.31      Curve Number (CN)=94.00
00583> | 01:202      DT= 1.00      | Ia (mm)= 1.500      # of Linear Res. (N)= 3.00
00584> -----
00585>          U.H. Tp(hrs)= .210
00586> -----
00587>          Unit Hyd Qpeak (cms)= 2.239
00588> -----
00589>          PEAK FLOW (cms)= 1.281 (i)
00590>          TIME TO PEAK (hrs)= 1.400
00591>          RUNOFF VOLUME (mm)= 29.566
00592>          TOTAL RAINFALL (mm)= 42.701
00593>          RUNOFF COEFFICIENT = .692
00594> -----
00595>          (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00596> -----
00597> 005:0006-----
00598> -----
00599> | ROUTE RESERVOIR      | Requested routing time step = 1.0 min.
00600> | IN>01: (202 )      |
00601> | OUT<02: (SWMFSW)      |
00602> -----
00603>          ***** OUTFLOW STORAGE TABLE *****
00604>          OUTFLOW STORAGE      | OUTFLOW STORAGE
00605>          (cms) (ha.m.)      | (cms) (ha.m.)
00606>          .000 .0000E+00      | .258 .7650E+00
00607>          .015 .3000E+01      | 1.272 .8560E+00
00608>          .018 .1660E+00      | 3.185 .9490E+00
00609>          .020 .2470E+00      | 5.760 .1063E+01
00610>          .115 .3290E+00      | .000 .0000E+00
00611> -----
00612>          ROUTING RESULTS          AREA      QPEAK      TPEAK      R.V.
00613>          (cms) (ha) (cms) (hrs) (mm)
00614>          INFLOW >01: (202 )      12.31      1.281      1.400      29.566
00615>          OUTFLOW<02: (SWMFSW)      12.31      .100      3.150      29.565
00616>          OVERFLOW<03: (Overfl)      .00      .000      .000      .000
00617> -----
00618>          TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
00619>          CUMULATIVE TIME OF OVERFLOWS (hours)= .00
00620>          PERCENTAGE OF TIME OVERFLOWING (%) = .00
00621> -----
00622>          PEAK FLOW REDUCTION [Qout/Qin] (%) = 7.817
00623>          TIME SHIFT OF PEAK FLOW (min)= 105.00
00624>          MAXIMUM STORAGE USED (ha.m.)=.3162E+00
00625> -----
00626> 005:0007-----
00627> *****
00628> *#
00629> *# Site Alt Conditions Conditions
00630> *# N Area
00631> *#
00632> *****
00633> -----
00634> | DESIGN NASHYD      | Area (ha)= 27.70      Curve Number (CN)=94.00
00635> | 01:203      DT= 1.00      | Ia (mm)= 1.500      # of Linear Res. (N)= 3.00
00636> -----
00637>          U.H. Tp(hrs)= .250
00638> -----
00639>          Unit Hyd Qpeak (cms)= 4.232
00640> -----
00641>          PEAK FLOW (cms)= 2.597 (i)
00642>          TIME TO PEAK (hrs)= 1.450
00643>          RUNOFF VOLUME (mm)= 29.566
00644>          TOTAL RAINFALL (mm)= 42.701
00645>          RUNOFF COEFFICIENT = .692
00646> -----
00647>          (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00648> -----
00649> 005:0008-----
00650> -----
00651> | ROUTE RESERVOIR      | Requested routing time step = 1.0 min.
00652> | IN>01: (203 )      |
00653> | OUT<02: (SWMFN )      |
00654> -----
00655>          ***** OUTFLOW STORAGE TABLE *****
00656>          OUTFLOW STORAGE      | OUTFLOW STORAGE
00657>          (cms) (ha.m.)      | (cms) (ha.m.)
00658>          .000 .0000E+00      | .285 .1527E+01
00659>          .027 .1580E+00      | 2.825 .1889E+01
00660>          .032 .3220E+00      | 7.490 .2073E+01
00661>          .037 .4870E+00      | 13.630 .2258E+01
00662>          .134 .6550E+00      | .000 .0000E+00
00663> -----
00664>          ROUTING RESULTS          AREA      QPEAK      TPEAK      R.V.
00665>          (cms) (ha) (cms) (hrs) (mm)
00666>          INFLOW >01: (203 )      27.70      2.597      1.450      29.566
00667>          OUTFLOW<02: (SWMFN )      27.70      .147      3.317      29.565
00668>          OVERFLOW<03: (Overfl)      .00      .000      .000      .000
00669> -----
00670>          TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
00671>          CUMULATIVE TIME OF OVERFLOWS (hours)= .00
00672>          PERCENTAGE OF TIME OVERFLOWING (%) = .00
00673> -----
00674>          PEAK FLOW REDUCTION [Qout/Qin] (%) = 5.675
00675>          TIME SHIFT OF PEAK FLOW (min)= 112.00
00676>          MAXIMUM STORAGE USED (ha.m.)=.7324E+00
00677> -----
00678> 005:0009-----
00679> -----
00680> 005:0002-----
00681> -----
00682> 005:0002-----
00683> ** END OF RUN : 9
00684> -----
00685> -----
00686> -----
00687> -----
00688> -----
00689> -----
00690> -----
00691> -----
00692> | START      | Project dir.: C:\SWMMOD-1\SWMHYMO\Eagle\comments\
00693> | Rainfall dir.: C:\SWMMOD-1\SWMHYMO\Eagle\comments\
00694> TZERO = .00 hrs on 0
00695> METOUT= 2 (output = METRIC)
00696> NRUN = 010
00697> NSTORM= 1
00698> # 1=10YR.HYD
00699> -----
00700> 010:0002-----
00701> *****
00702> *# Project Name: [Project Eagle] Project Number: [161500301]
00703> *# Date : 2024-07-17
00704> *# Modeller : [AKK]
00705> *# Company : Stantec Consulting Ltd. (London)
00706> *# License # : 4730904
00707> *****
00708> -----
00709> *#
00710> *# This model represents the hydrologic characteristics of the Site Alteration
00711> *# conditions.
00712> *# Storm events modeled are:
00713> *# 2YR, 5YR, 10YR, 25YR, 50YR, and 100YR 3hr Chicago Storm
00714> *# 25 mm 4hr Chicago Storm (Using City of London IDF Parameters)
00715> *# Regional Storm Event: 48hr Hurricane Hazel
00716> *# 100YR 24hr SCS Type II
00717> *****
00718> -----
00719> -----
00720> 010:0002-----
00721> -----
00722> | READ STORM      | Filename: CHICAGO STORM 10 Years, 3hr from Colborn
00723> | Ptotal= 47.76 mm      | Comments: CHICAGO STORM 10 Years, 3hr from Colborn
00724> -----
00725>          TIME      RAIN      TIME      RAIN      TIME      RAIN      TIME      RAIN
00726>          hrs      mm/hr      hrs      mm/hr      hrs      mm/hr      hrs      mm/hr
00727>          .08      4.368      .83      12.544      1.58      15.478      2.33      6.229
00728>          .17      4.675      .92      16.574      1.67      13.127      2.42      5.873
00729>          .25      5.035      1.00      24.913      1.75      11.431      2.50      5.560
00730>          .33      5.466      1.08      51.922      1.83      10.148      2.58      5.282
00731>          .42      5.990      1.17      133.409      1.92      9.144      2.67      5.034
00732>          .50      6.643      1.25      61.515      2.00      8.335      2.75      4.810
00733>          .58      7.481      1.33      35.164      2.08      7.670      2.83      4.608
00734>          .67      8.598      1.42      24.576      2.17      7.113      2.92      4.424
00735>          .75      10.168      1.50      18.949      2.25      6.638      3.00      4.256
00736> -----
00737> -----
00738> 010:0003-----
00739> *****
00740> *#
00741> *# Site Alt Conditions Conditions
00742> *# SE Area
00743> *#
00744> *****
00745> -----
00746> | DESIGN NASHYD      | Area (ha)= 31.33      Curve Number (CN)=94.00
00747> | 01:201      DT= 1.00      | Ia (mm)= 1.500      # of Linear Res. (N)= 3.00
00748> -----
00749>          U.H. Tp(hrs)= .220
00750> -----
00751>          Unit Hyd Qpeak (cms)= 5.439
00752> -----
00753>          PEAK FLOW (cms)= 3.666 (i)
00754>          TIME TO PEAK (hrs)= 1.400
00755>          RUNOFF VOLUME (mm)= 34.257
00756>          TOTAL RAINFALL (mm)= 47.763
00757>          RUNOFF COEFFICIENT = .717
00758> -----
00759>          (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00760> -----
00761> 010:0004-----
00762> -----
```

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00763> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
00764> | IN>01: (201 ) |
00765> | OUT<02: (SWMFSE) |
00766> |
00767> |
00768> |
00769> |
00770> |
00771> |
00772> |
00773> | ROUTING RESULTS | AREA | QPEAK | TPEAK | R.V.
00774> |-----| | (ha) | (cms) | (hrs) | (mm)
00775> | INFLOW >01: (201 ) | 31.33 | 3.666 | 1.400 | 34.257
00776> | OUTFLOW<02: (SWMFSE) | 31.33 | 1.817 | 1.783 | 34.256
00777> | OVERFLOW<03: (Overfl) | .00 | .000 | .000 | .000
00778> |
00779> | TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
00780> | CUMULATIVE TIME OF OVERFLOWS (hours)= .00
00781> | PERCENTAGE OF TIME OVERFLOWING (%)= .00
00782> |
00783> |
00784> | PEAK FLOW REDUCTION [Qout/Qin] (%)= 49.559
00785> | TIME SHIFT OF PEAK FLOW (min)= 23.00
00786> | MAXIMUM STORAGE USED (ha.m.)=.5604E+00
00787> |
00788> |-----|
00789> | 010:0005-----|
00790> | *****|
00791> | *# Site Alt Conditions Conditions
00792> | *# SW Area
00793> | *#
00794> | *#
00795> | *****|
00796> |-----|
00797> | DESIGN NASHYD | Area (ha)= 12.31 | Curve Number (CN)=94.00
00798> | 01:202 DT= 1.00 | Ia (mm)= 1.500 | # of Linear Res. (N)= 3.00
00799> | U.H. Tp(hrs)= .210
00800> |
00801> | Unit Hyd Qpeak (cms)= 2.239
00802> |
00803> |
00804> | PEAK FLOW (cms)= 1.480 (i)
00805> | TIME TO PEAK (hrs)= 1.400
00806> | RUNOFF VOLUME (mm)= 34.257
00807> | TOTAL RAINFALL (mm)= 47.763
00808> | RUNOFF COEFFICIENT = .717
00809> |
00810> | (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00811> |-----|
00812> | 010:0006-----|
00813> | *****|
00814> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
00815> | IN>01: (202 ) |
00816> | OUT<02: (SWMFSW) |
00817> |
00818> |
00819> |
00820> |
00821> |
00822> |
00823> |
00824> |
00825> | ROUTING RESULTS | AREA | QPEAK | TPEAK | R.V.
00826> |-----| | (ha) | (cms) | (hrs) | (mm)
00827> | INFLOW >01: (202 ) | 12.31 | 1.480 | 1.400 | 34.257
00828> | OUTFLOW<02: (SWMFSW) | 12.31 | .123 | 3.133 | 34.256
00829> | OVERFLOW<03: (Overfl) | .00 | .000 | .000 | .000
00830> |
00831> | TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
00832> | CUMULATIVE TIME OF OVERFLOWS (hours)= .00
00833> | PERCENTAGE OF TIME OVERFLOWING (%)= .00
00834> |
00835> |
00836> | PEAK FLOW REDUCTION [Qout/Qin] (%)= 8.335
00837> | TIME SHIFT OF PEAK FLOW (min)= 104.00
00838> | MAXIMUM STORAGE USED (ha.m.)=.3546E+00
00839> |
00840> |-----|
00841> | 010:0007-----|
00842> | *****|
00843> | *#
00844> | *# Site Alt Conditions Conditions
00845> | *# N Area
00846> | *#
00847> | *#
00848> | *****|
00849> | DESIGN NASHYD | Area (ha)= 27.70 | Curve Number (CN)=94.00
00850> | 01:203 DT= 1.00 | Ia (mm)= 1.500 | # of Linear Res. (N)= 3.00
00851> | U.H. Tp(hrs)= .250
00852> |
00853> | Unit Hyd Qpeak (cms)= 4.232
00854> |
00855> | PEAK FLOW (cms)= 2.999 (i)
00856> | TIME TO PEAK (hrs)= 1.450
00857> | RUNOFF VOLUME (mm)= 34.257
00858> | TOTAL RAINFALL (mm)= 47.763
00859> | RUNOFF COEFFICIENT = .717
00860> |
00861> | (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00862> |-----|
00863> | 010:0008-----|
00864> | *****|
00865> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
00866> | IN>01: (203 ) |
00867> | OUT<02: (SWMFN ) |
00868> |
00869> |
00870> |
00871> |
00872> |
00873> |
00874> |
00875> |
00876> |
00877> | ROUTING RESULTS | AREA | QPEAK | TPEAK | R.V.
00878> |-----| | (ha) | (cms) | (hrs) | (mm)
00879> | INFLOW >01: (203 ) | 27.70 | 2.999 | 1.450 | 34.257
00880> | OUTFLOW<02: (SWMFN ) | 27.70 | .167 | 3.333 | 34.256
00881> | OVERFLOW<03: (Overfl) | .00 | .000 | .000 | .000
00882> |
00883> | TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
00884> | CUMULATIVE TIME OF OVERFLOWS (hours)= .00
00885> | PERCENTAGE OF TIME OVERFLOWING (%)= .00
00886> |
00887> |
00888> | PEAK FLOW REDUCTION [Qout/Qin] (%)= 5.566
00889> | TIME SHIFT OF PEAK FLOW (min)= 113.00
00890> |
00891> |
00892> |
00893> |
00894> |
00895> |
00896> |
00897> |
00898> |
00899> |
00900> | ** END OF RUN : 24
00901> |
00902> | *****|
00903> |-----|
00904> |
00905> |
00906> |
00907> |
00908> |
00909> | | START | Project dir.: C:\SWMMOD-1\SWHMYO\Eagle\comments\
00910> | | Rainfall dir.: C:\SWMMOD-1\SWHMYO\Eagle\comments\
00911> | TZERO = .00 hrs on 0
00912> | METOUT= 2 (output = METRIC)
00913> | NRUN = 025
00914> | NSTORM= 1
00915> | # 1=25YR.HYD
00916> |-----|
00917> | 025:0002-----|
00918> | *****|
00919> | *# Project Name: [Project Eagle] Project Number: [161500301]
00920> | *# Date : 2024-07-17
00921> | *# Modeller : [AKK]
00922> | *# Company : Stantec Consulting Ltd. (London)
00923> | *# License # : 4730904
00924> | *****|
00925> | *****|
00926> | *#
00927> | *# This model represents the hydrologic characteristics of the Site Alteration
00928> | *# conditions.
00929> | *# Storm events modeled are:
00930> | *# 2YR, 5YR, 10YR, 25YR, 50YR, and 100YR 3hr Chicago Storm
00931> | *# 25 mm 4hr Chicago Storm (Using City of London IDF Parameters)
00932> | *# Regional Storm Event: 48hr Hurricane Hazel
00933> | *# 100YR 24hr SCS Type II
00934> | *#
00935> | *****|
00936> |-----|
00937> | 025:0002-----|
00938> | *****|
00939> | READ STORM | Filename: CHICAGO STORM 25 Years, 3hr from Colborn
00940> | Ptotal= 55.20 mm | Comments: CHICAGO STORM 25 Years, 3hr from Colborn
00941> |-----|
00942> | TIME RAIN | TIME RAIN | TIME RAIN | TIME RAIN | TIME RAIN | TIME RAIN
00943> | hrs mm/hr | hrs mm/hr | hrs mm/hr | hrs mm/hr | hrs mm/hr | hrs mm/hr
00944> | .08 5.275 | .83 14.397 | 1.58 17.590 | 2.33 7.402 | 2.33 7.402 | 2.33 7.402
00945> | .17 5.629 | .92 18.778 | 1.67 15.034 | 2.42 6.998 | 2.42 6.998 | 2.42 6.998
00946> | .25 6.043 | 1.00 27.803 | 1.75 13.180 | 2.50 6.642 | 2.50 6.642 | 2.50 6.642
00947> | .33 6.535 | 1.08 57.841 | 1.83 11.770 | 2.58 6.325 | 2.58 6.325 | 2.58 6.325
00948> | .42 7.131 | 1.17 159.527 | 1.92 10.661 | 2.67 6.041 | 2.67 6.041 | 2.67 6.041
00949> | .50 7.869 | 1.25 68.696 | 2.00 9.764 | 2.75 5.785 | 2.75 5.785 | 2.75 5.785
00950> | .58 8.810 | 1.33 38.966 | 2.08 9.022 | 2.83 5.552 | 2.83 5.552 | 2.83 5.552
00951> | .67 10.056 | 1.42 27.436 | 2.17 8.397 | 2.92 5.340 | 2.92 5.340 | 2.92 5.340
00952> | .75 11.792 | 1.50 21.350 | 2.25 7.863 | 3.00 5.146 | 3.00 5.146 | 3.00 5.146
00953> |-----|
00954> |-----|
00955> | 025:0003-----|
00956> | *****|
00957> | *#
00958> | *# Site Alt Conditions Conditions
00959> | *# SE Area
00960> | *#
00961> | *****|
00962> |-----|
00963> | DESIGN NASHYD | Area (ha)= 31.33 | Curve Number (CN)=94.00
00964> | 01:201 DT= 1.00 | Ia (mm)= 1.500 | # of Linear Res. (N)= 3.00
00965> | U.H. Tp(hrs)= .220
00966> |
00967> | Unit Hyd Qpeak (cms)= 5.439
00968> |
00969> | PEAK FLOW (cms)= 4.426 (i)
00970> | TIME TO PEAK (hrs)= 1.400
00971> | RUNOFF VOLUME (mm)= 41.251
00972> | TOTAL RAINFALL (mm)= 55.204
00973> | RUNOFF COEFFICIENT = .747
00974> |
00975> | (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
00976> |-----|
00977> | 025:0004-----|
00978> | *****|
00979> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
00980> | IN>01: (201 ) |
00981> | OUT<02: (SWMFSE) |
00982> |
00983> |
00984> |
00985> |
00986> |
00987> |
00988> |
00989> |
00990> | ROUTING RESULTS | AREA | QPEAK | TPEAK | R.V.
00991> |-----| | (ha) | (cms) | (hrs) | (mm)
00992> | INFLOW >01: (201 ) | 31.33 | 4.426 | 1.400 | 41.251
00993> | OUTFLOW<02: (SWMFSE) | 31.33 | 2.600 | 1.717 | 41.250
00994> | OVERFLOW<03: (Overfl) | .00 | .000 | .000 | .000
00995> |
00996> | TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
00997> | CUMULATIVE TIME OF OVERFLOWS (hours)= .00
00998> | PERCENTAGE OF TIME OVERFLOWING (%)= .00
00999> |
10000> |
10001> | PEAK FLOW REDUCTION [Qout/Qin] (%)= 58.746
10002> | TIME SHIFT OF PEAK FLOW (min)= 19.00
10003> | MAXIMUM STORAGE USED (ha.m.)=.6030E+00
10004> |-----|
10005> |-----|
10006> | 025:0005-----|
10007> | *****|
10008> | *#
10009> | *# Site Alt Conditions Conditions
10010> | *# SW Area
10011> | *#
10012> | *****|
10013> |-----|
10014> | DESIGN NASHYD | Area (ha)= 12.31 | Curve Number (CN)=94.00
10015> | 01:202 DT= 1.00 | Ia (mm)= 1.500 | # of Linear Res. (N)= 3.00
10016> | U.H. Tp(hrs)= .210
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0101> Unit Hyd Qpeak (cms)= 2.239
0101>
0101> PEAK FLOW (cms)= 1.788 (i)
0102> TIME TO PEAK (hrs)= 1.383
0102> RUNOFF VOLUME (mm)= 41.251
0102> TOTAL RAINFALL (mm)= 55.204
0102> RUNOFF COEFFICIENT = .747
0102>
0102> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
0102>
-----
01029> 025:0006-----
01030>
01031> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
01032> | IN>01: (202 ) |
01033> | OUT<02: (SWMFSW) |
01034>
===== OUTFLOW STORAGE TABLE =====
01035> OUTFLOW STORAGE | OUTFLOW STORAGE
01035> (cms) (ha.m.) | (cms) (ha.m.)
01036> .000 .0000E+00 | .258 .7650E+00
01037> .015 .9000E-01 | 1.272 .8560E+00
01038> .018 .1660E+00 | 3.185 .9490E+00
01039> .020 .2470E+00 | 5.760 .1063E+01
01040> .115 .3290E+00 | .000 .0000E+00
01041>
01042> ROUTING RESULTS AREA QPEAK TPEAK R.V.
01043> ----- (ha) (cms) (hrs) (mm)
01044> INFLOW >01: (202 ) 12.31 1.788 1.383 41.251
01045> OUTFLOW<02: (SWMFSW) 12.31 .145 3.150 41.249
01046> OVERFLOW<03: (Overfl) .00 .000 .000 .000
01047>
01048> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
01049> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
01050> PERCENTAGE OF TIME OVERFLOWING (%)= .00
01051>
01052> PEAK FLOW REDUCTION [Qout/Qin] (%)= 8.133
01053> TIME SHIFT OF PEAK FLOW (min)= 106.00
01055> MAXIMUM STORAGE USED (ha.m.)=.4219E+00
01056>
01057>
-----
01058> 025:0007-----
01059> *****
01060>
01061> *# Site Alt Conditions Conditions
01062> *# N Area
01063> *#
01064> *****
01065>
01066> | DESIGN NASHYD | Area (ha)= 27.70 Curve Number (CN)=94.00
01067> | 01:203 DT= 1.00 | Ia (mm)= 1.500 # of Linear Res. (N)= 3.00
01068> | U.H. Tp(hrs)= .250
01069>
01070> Unit Hyd Qpeak (cms)= 4.232
01071>
01072> PEAK FLOW (cms)= 3.615 (i)
01073> TIME TO PEAK (hrs)= 1.433
01074> RUNOFF VOLUME (mm)= 41.251
01075> TOTAL RAINFALL (mm)= 55.204
01076> RUNOFF COEFFICIENT = .747
01077>
01078> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01079>
01080>
-----
01081> 025:0008-----
01082>
01083> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
01084> | IN>01: (203 ) |
01085> | OUT<02: (SWMFN ) |
01086>
===== OUTFLOW STORAGE TABLE =====
01087> OUTFLOW STORAGE | OUTFLOW STORAGE
01087> (cms) (ha.m.) | (cms) (ha.m.)
01088> .000 .0000E+00 | .285 .1527E+01
01089> .027 .1580E+00 | 2.825 .1889E+01
01090> .032 .3220E+00 | 7.490 .2073E+01
01091> .037 .4870E+00 | 13.630 .2258E+01
01092> .134 .6550E+00 | .000 .0000E+00
01093>
01094> ROUTING RESULTS AREA QPEAK TPEAK R.V.
01095> ----- (ha) (cms) (hrs) (mm)
01096> INFLOW >01: (203 ) 27.70 3.615 1.433 41.251
01097> OUTFLOW<02: (SWMFN ) 27.70 .197 3.333 41.250
01098> OVERFLOW<03: (Overfl) .00 .000 .000 .000
01099>
01100> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
01101> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
01102> PERCENTAGE OF TIME OVERFLOWING (%)= .00
01103>
01104> PEAK FLOW REDUCTION [Qout/Qin] (%)= 5.436
01105> TIME SHIFT OF PEAK FLOW (min)= 114.00
01107> MAXIMUM STORAGE USED (ha.m.)=.1016E+01
01108>
01109>
-----
01110> 025:0009-----
01111>
01112> 025:0002-----
01113>
01114> 025:0002-----
01115>
01116> 025:0002-----
01117>
01118> 025:0002-----
01119> ** END OF RUN : 49
01120>
01121> *****
01122>
01123>
01124>
01125>
01126>
01127>
01128> | START | Project dir.: C:\SWMMOD-1\SWMHYMO\Eagle\comments\
01129> | Rainfall dir.: C:\SWMMOD-1\SWMHYMO\Eagle\comments\
01130> | TZERO = .00 hrs on 0
01131> | METOUT= 2 (output = METRIC)
01132> | NRUN = 050
01133> | NSTORM= 1
01134> | # 1=50YR.HYD
01135>
01136> 050:0002-----
01137> *****
01138> *# Project Name: [Project Eagle] Project Number: [161500301]
01139> *# Date : 2024-07-17
01140> *# Modeler : [ARK]
01141> *# Company : Stantec Consulting Ltd. (London)
01142> *# License # : 4730904
01143> *****
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01144> *****
01145>
01146> *# This model represents the hydrologic characteristics of the Site Alteration
01147> *# conditions
01148> *# Storm events modeled are:
01149> *# 2YR, 5YR, 10YR, 25YR, 50YR, and 100YR 3hr Chicago Storm
01150> *# 25 mm 4hr Chicago Storm (Using City of London IDF Parameters)
01151> *# Regional Storm Event: 48hr Hurricane Hazel
01152> *# 100YR 24hr SCS Type II
01153>
01154> *****
01155>
01156> 050:0002-----
01157>
01158> | READ STORM | Filename: CHICAGO STORM 50 Years, 3hr from Colborn
01159> | Ptotal= 61.74 mm | Comments: CHICAGO STORM 50 Years, 3hr from Colborn
01160>
01161> TIME RAIN | TIME RAIN | TIME RAIN | TIME RAIN
01162> hrs mm/hr | hrs mm/hr | hrs mm/hr | hrs mm/hr
01163> .08 6.075 | .83 16.290 | 1.58 19.828 | 2.33 8.476
01164> .17 6.475 | .92 21.140 | 1.67 16.997 | 2.42 8.022
01165> .25 6.944 | 1.00 31.074 | 1.75 14.937 | 2.50 7.620
01166> .33 7.499 | 1.08 63.899 | 1.83 13.368 | 2.59 7.262
01167> .42 8.171 | 1.17 175.021 | 1.92 12.130 | 2.67 6.941
01168> .50 9.001 | 1.25 75.740 | 2.00 11.127 | 2.75 6.652
01169> .58 10.058 | 1.33 43.302 | 2.08 10.296 | 2.83 6.389
01170> .67 11.453 | 1.42 30.673 | 2.17 9.595 | 2.92 6.149
01171> .75 13.392 | 1.50 23.979 | 2.25 8.996 | 3.00 5.929
01172>
01173>
01174> 050:0003-----
01175> *****
01176>
01177> *# Site Alt Conditions Conditions
01178> *# SE Area
01179> *#
01180> *****
01181>
01182> | DESIGN NASHYD | Area (ha)= 31.33 Curve Number (CN)=94.00
01183> | 01:201 DT= 1.00 | Ia (mm)= 1.500 # of Linear Res. (N)= 3.00
01184> | U.H. Tp(hrs)= .220
01185>
01186> Unit Hyd Qpeak (cms)= 5.439
01187>
01188> PEAK FLOW (cms)= 5.037 (i)
01189> TIME TO PEAK (hrs)= 1.400
01190> RUNOFF VOLUME (mm)= 47.467
01191> TOTAL RAINFALL (mm)= 61.742
01192> RUNOFF COEFFICIENT = .769
01193>
01194> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01195>
01196>
01197> 050:0004-----
01198>
01199> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
01200> | IN>01: (201 ) |
01201> | OUT<02: (SWMFSE) |
01202>
===== OUTFLOW STORAGE TABLE =====
01203> OUTFLOW STORAGE | OUTFLOW STORAGE
01203> (cms) (ha.m.) | (cms) (ha.m.)
01204> .000 .0000E+00 | 2.211 .5880E+00
01205> .022 .1410E+00 | 6.271 .7430E+00
01206> .027 .2870E+00 | 11.633 .1021E+01
01207> .031 .4350E+00 | .000 .0000E+00
01208>
01209> ROUTING RESULTS AREA QPEAK TPEAK R.V.
01210> ----- (ha) (cms) (hrs) (mm)
01211> INFLOW >01: (201 ) 31.33 5.037 1.400 47.467
01212> OUTFLOW<02: (SWMFSE) 31.33 3.337 1.667 47.465
01213> OVERFLOW<03: (Overfl) .00 .000 .000 .000
01214>
01215> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
01216> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
01217> PERCENTAGE OF TIME OVERFLOWING (%)= .00
01218>
01219> PEAK FLOW REDUCTION [Qout/Qin] (%)= 66.248
01220> TIME SHIFT OF PEAK FLOW (min)= 16.00
01221> MAXIMUM STORAGE USED (ha.m.)=.6312E+00
01222>
01223>
01224>
01225> 050:0005-----
01226> *****
01227>
01228> *# Site Alt Conditions Conditions
01229> *# SW Area
01230> *#
01231> *****
01232>
01233> | DESIGN NASHYD | Area (ha)= 12.31 Curve Number (CN)=94.00
01234> | 01:202 DT= 1.00 | Ia (mm)= 1.500 # of Linear Res. (N)= 3.00
01235> | U.H. Tp(hrs)= .210
01236>
01237> Unit Hyd Qpeak (cms)= 2.239
01238>
01239> PEAK FLOW (cms)= 2.035 (i)
01240> TIME TO PEAK (hrs)= 1.383
01241> RUNOFF VOLUME (mm)= 47.467
01242> TOTAL RAINFALL (mm)= 61.742
01243> RUNOFF COEFFICIENT = .769
01244>
01245> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01246>
01247>
01248> 050:0006-----
01249>
01250> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
01251> | IN>01: (202 ) |
01252> | OUT<02: (SWMFSW) |
01253>
===== OUTFLOW STORAGE TABLE =====
01254> OUTFLOW STORAGE | OUTFLOW STORAGE
01254> (cms) (ha.m.) | (cms) (ha.m.)
01255> .000 .0000E+00 | .258 .7650E+00
01256> .015 .9000E-01 | 1.272 .8560E+00
01257> .018 .1660E+00 | 3.185 .9490E+00
01258> .020 .2470E+00 | 5.760 .1063E+01
01259> .115 .3290E+00 | .000 .0000E+00
01260>
01261> ROUTING RESULTS AREA QPEAK TPEAK R.V.
01262> ----- (ha) (cms) (hrs) (mm)
01263> INFLOW >01: (202 ) 12.31 2.035 1.383 47.467
01264> OUTFLOW<02: (SWMFSW) 12.31 .166 3.150 47.466
01265> OVERFLOW<03: (Overfl) .00 .000 .000 .000
01266>
01267> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
01268> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
01269> PERCENTAGE OF TIME OVERFLOWING (%)= .00
01270>
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01271>
01272> PEAK FLOW REDUCTION [Qout/Qin] (%) = 8.143
01273> TIME SHIFT OF PEAK FLOW (min) = 106.00
01274> MAXIMUM STORAGE USED (ha.m.) = .4637E+00
01275>
01276> -----
01277> 050:0007-----
01278> *****
01279> *#
01280> *# Site Alt Conditions Conditions
01281> *# N Area
01282> *#
01283> *****
01284> -----
01285> | DESIGN NASHYD | Area (ha) = 27.70 Curve Number (CN) = 94.00
01286> | 01:203 DT= 1.00 | Ia (mm) = 1.500 # of Linear Res. (N) = 3.00
01287> | U.H. Tp(hrs) = .250
01288>
01289> Unit Hyd Qpeak (cms) = 4.232
01290>
01291> PEAK FLOW (cms) = 4.118 (i)
01292> TIME TO PEAK (hrs) = 1.433
01293> RUNOFF VOLUME (mm) = 47.467
01294> TOTAL RAINFALL (mm) = 61.742
01295> RUNOFF COEFFICIENT = .769
01296>
01297> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01298>
01299> -----
01300> 050:0008-----
01301> *****
01302> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
01303> | IN>01: (203 ) |
01304> | OUT<02: (SWMFN ) |
01305> -----
01306> | OUTFLOW STORAGE | OUTFLOW STORAGE
01307> | (cms) (ha.m.) | (cms) (ha.m.)
01308> | .000 .0000E+00 | .285 .1527E+01
01309> | .027 .1580E+00 | 2.825 .1889E+01
01310> | .032 .3220E+00 | 7.490 .2073E+01
01311> | .037 .4870E+00 | 13.630 .2258E+01
01312> | .134 .6550E+00 | .000 .0000E+00
01313>
01314> ROUTING RESULTS AREA QPEAK TPEAK R.V.
01315> | (ha) (cms) (hrs) (mm)
01316> | INFLOW >01: (203 ) 27.70 4.118 1.433 47.467
01317> | OUTFLOW<02: (SWMFN ) 27.70 .223 3.333 47.466
01318> | OVERFLOW<03: (Overfl) .00 .000 .000 .000
01319>
01320> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
01321> CUMULATIVE TIME OF OVERFLOWS (hours) = .00
01322> PERCENTAGE OF TIME OVERFLOWING (%) = .00
01323>
01324> PEAK FLOW REDUCTION [Qout/Qin] (%) = 5.415
01325> TIME SHIFT OF PEAK FLOW (min) = 114.00
01326> MAXIMUM STORAGE USED (ha.m.) = .1169E+01
01327>
01328> -----
01329> 050:0009-----
01330> -----
01331> 050:0002-----
01332> -----
01333> 050:0002-----
01334> -----
01335> 050:0002-----
01336> -----
01337> 050:0002-----
01338> -----
01339> 050:0002-----
01340> ** END OF RUN : 99
01341>
01342> *****
01343>
01344>
01345>
01346>
01347>
01348> -----
01349> | START | Project dir.: C:\SWMMOD-1\SWMHYMO\Eagle\comments\
01350> | Rainfall dir.: C:\SWMMOD-1\SWMHYMO\Eagle\comments\
01351> | TZERO = .00 hrs on 0
01352> | METOUT= 2 (output = METRIC)
01353> | NRUN = 100
01354> | NSTORM= 1
01355> | # 1=100YR.HYD
01356> -----
01357> 100:0002-----
01358> *****
01359> *# Project Name: [Project Eagle] Project Number: [161500301]
01360> *# Date : 2024-07-17
01361> *# Modeller : [AKK]
01362> *# Company : Stantec Consulting Ltd. (London)
01363> *# License # : 4730904
01364> *****
01365> *****
01366> *#
01367> *# This model represents the hydrologic characteristics of the Site Alteration
01368> *# conditions.
01369> *# Storm events modeled are:
01370> *# 2YR, 5YR, 10YR, 25YR, 50YR, and 100YR 3hr Chicago Storm
01371> *# 25 mm 4hr Chicago Storm (Using City of London IDF Parameters)
01372> *# Regional Storm Event: 48hr Hurricane Hazel
01373> *# 100YR 24hr SCS Type II
01374> *#
01375> *****
01376> -----
01377> 100:0002-----
01378> -----
01379> | READ STORM | Filename: CHICAGO STORM 100 Years, 3hr from Colbor
01380> | Ptotal= 67.44 mm | Comments: CHICAGO STORM 100 Years, 3hr from Colbor
01381> -----
01382> | TIME RAIN | TIME RAIN | TIME RAIN | TIME RAIN
01383> | hrs mm/hr | hrs mm/hr | hrs mm/hr | hrs mm/hr
01384> | .08 6.710 | .83 17.742 | 1.58 21.533 | 2.33 9.322
01385> | .17 7.147 | .92 22.937 | 1.67 18.501 | 2.42 8.828
01386> | .25 7.657 | 1.00 33.556 | 1.75 16.290 | 2.50 8.392
01387> | .33 8.261 | 1.08 68.925 | 1.83 14.603 | 2.58 8.003
01388> | .42 8.990 | 1.17 193.763 | 1.92 13.270 | 2.67 7.654
01389> | .50 9.891 | 1.25 81.753 | 2.00 12.188 | 2.75 7.339
01390> | .58 11.034 | 1.33 46.644 | 2.08 11.291 | 2.83 7.052
01391> | .67 12.541 | 1.42 33.126 | 2.17 10.533 | 2.92 6.791
01392> | .75 14.629 | 1.50 25.972 | 2.25 9.884 | 3.00 6.551
01393>
01394> -----
01395> 100:0003-----
01396> *****
01397> *#
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01398> *# Site Alt Conditions Conditions
01399> *# SE Area
01400> *****
01401> *****
01402> -----
01403> | DESIGN NASHYD | Area (ha) = 31.33 Curve Number (CN) = 94.00
01404> | 01:201 DT= 1.00 | Ia (mm) = 1.500 # of Linear Res. (N) = 3.00
01405> | U.H. Tp(hrs) = .220
01406>
01407> Unit Hyd Qpeak (cms) = 5.439
01408>
01409> PEAK FLOW (cms) = 5.627 (i)
01410> TIME TO PEAK (hrs) = 1.400
01411> RUNOFF VOLUME (mm) = 52.929
01412> TOTAL RAINFALL (mm) = 67.442
01413> RUNOFF COEFFICIENT = .785
01414>
01415> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01416>
01417> -----
01418> 100:0004-----
01419> -----
01420> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
01421> | IN>01: (201 ) |
01422> | OUT<02: (SWMFSE) |
01423> -----
01424> | OUTFLOW STORAGE | OUTFLOW STORAGE
01425> | (cms) (ha.m.) | (cms) (ha.m.)
01426> | .000 .0000E+00 | 2.211 .5880E+00
01427> | .022 .1410E+00 | 6.271 .7430E+00
01428> | .027 .2870E+00 | 11.633 .1021E+01
01429> | .031 .4350E+00 | .000 .0000E+00
01430>
01431> ROUTING RESULTS AREA QPEAK TPEAK R.V.
01432> | (ha) (cms) (hrs) (mm)
01433> | INFLOW >01: (201 ) 31.33 5.627 1.400 52.929
01434> | OUTFLOW<02: (SWMFSE) 31.33 3.980 1.633 52.927
01435> | OVERFLOW<03: (Overfl) .00 .000 .000 .000
01436>
01437> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
01438> CUMULATIVE TIME OF OVERFLOWS (hours) = .00
01439> PERCENTAGE OF TIME OVERFLOWING (%) = .00
01440>
01441> PEAK FLOW REDUCTION [Qout/Qin] (%) = 70.724
01442> TIME SHIFT OF PEAK FLOW (min) = 14.00
01443> MAXIMUM STORAGE USED (ha.m.) = .6557E+00
01444>
01445> -----
01446> 100:0005-----
01447> *****
01448> *****
01449> *# Site Alt Conditions Conditions
01450> *# SW Area
01451> *****
01452> *****
01453> -----
01454> | DESIGN NASHYD | Area (ha) = 12.31 Curve Number (CN) = 94.00
01455> | 01:202 DT= 1.00 | Ia (mm) = 1.500 # of Linear Res. (N) = 3.00
01456> | U.H. Tp(hrs) = .210
01457>
01458> Unit Hyd Qpeak (cms) = 2.239
01459>
01460> PEAK FLOW (cms) = 2.275 (i)
01461> TIME TO PEAK (hrs) = 1.383
01462> RUNOFF VOLUME (mm) = 52.929
01463> TOTAL RAINFALL (mm) = 67.442
01464> RUNOFF COEFFICIENT = .785
01465>
01466> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01467>
01468> -----
01469> 100:0006-----
01470> -----
01471> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
01472> | IN>01: (202 ) |
01473> | OUT<02: (SWMFSW) |
01474> -----
01475> | OUTFLOW STORAGE | OUTFLOW STORAGE
01476> | (cms) (ha.m.) | (cms) (ha.m.)
01477> | .000 .0000E+00 | .258 .7650E+00
01478> | .015 .9000E-01 | 1.272 .8560E+00
01479> | .018 .1660E+00 | 3.185 .9490E+00
01480> | .020 .2470E+00 | 5.760 .1063E+01
01481> | .115 .3290E+00 | .000 .0000E+00
01482>
01483> ROUTING RESULTS AREA QPEAK TPEAK R.V.
01484> | (ha) (cms) (hrs) (mm)
01485> | INFLOW >01: (202 ) 12.31 2.275 1.383 52.929
01486> | OUTFLOW<02: (SWMFSW) 12.31 .184 3.150 52.928
01487> | OVERFLOW<03: (Overfl) .00 .000 .000 .000
01488>
01489> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
01490> CUMULATIVE TIME OF OVERFLOWS (hours) = .00
01491> PERCENTAGE OF TIME OVERFLOWING (%) = .00
01492>
01493> PEAK FLOW REDUCTION [Qout/Qin] (%) = 8.073
01494> TIME SHIFT OF PEAK FLOW (min) = 106.00
01495> MAXIMUM STORAGE USED (ha.m.) = .5383E+00
01496>
01497> -----
01498> 100:0007-----
01499> *****
01500> *#
01501> *# Site Alt Conditions Conditions
01502> *# N Area
01503> *****
01504> *****
01505> -----
01506> | DESIGN NASHYD | Area (ha) = 27.70 Curve Number (CN) = 94.00
01507> | 01:203 DT= 1.00 | Ia (mm) = 1.500 # of Linear Res. (N) = 3.00
01508> | U.H. Tp(hrs) = .250
01509>
01510> Unit Hyd Qpeak (cms) = 4.232
01511>
01512> PEAK FLOW (cms) = 4.600 (i)
01513> TIME TO PEAK (hrs) = 1.433
01514> RUNOFF VOLUME (mm) = 52.929
01515> TOTAL RAINFALL (mm) = 67.442
01516> RUNOFF COEFFICIENT = .785
01517>
01518> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01519>
01520> -----
01521> 100:0008-----
01522> -----
01523> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
01524> | IN>01: (203 ) |
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01525> | OUT<02: (SWMFM ) | ===== OUTFLOW STORAGE TABLE =====
01526> |-----|-----|-----|-----|-----|-----|
01527> | (cms) (ha.m.) | (cms) (ha.m.) |
01528> | .000 .0000E+00 | .285 .1527E+01 |
01529> | .027 .1580E+00 | 2.825 .1889E+01 |
01530> | .032 .3220E+00 | 7.490 .2073E+01 |
01531> | .037 .4870E+00 | 13.630 .2258E+01 |
01532> | .134 .6550E+00 | .000 .0000E+00 |
01533> |-----|-----|-----|-----|-----|-----|
01534> | ROUTING RESULTS | AREA | QPEAK | TPEAK | R.V. |
01535> | (ha) (cms) (hrs) (mm) |
01536> | INFLOW >01: (203 ) | 27.70 | 4.600 | 1.433 | 52.929 |
01537> | OUTFLOW<02: (SWMFM ) | 27.70 | .246 | 3.333 | 52.927 |
01538> | OVERFLOW<03: (Overfl) | .00 | .000 | .000 | .000 |
01539> |-----|-----|-----|-----|-----|-----|
01540> | TOTAL NUMBER OF SIMULATED OVERFLOWS = | 0 |
01541> | CUMULATIVE TIME OF OVERFLOWS (hours)= | .00 |
01542> | PERCENTAGE OF TIME OVERFLOWING (%) = | .00 |
01543> |-----|-----|-----|-----|-----|-----|
01544> | PEAK FLOW REDUCTION [Qout/Qin] (%) = | 5.355 |
01545> | TIME SHIFT OF PEAK FLOW (min) = | 114.00 |
01546> | MAXIMUM STORAGE USED (ha.m.) = | .1304E+01 |
01547> |-----|-----|-----|-----|-----|-----|
01548> |
01549> |-----|-----|-----|-----|-----|-----|
01550> | 100:0009-----|-----|-----|-----|-----|-----|
01551> |-----|-----|-----|-----|-----|-----|
01552> | 100:0002-----|-----|-----|-----|-----|-----|
01553> |-----|-----|-----|-----|-----|-----|
01554> | 100:0002-----|-----|-----|-----|-----|-----|
01555> |-----|-----|-----|-----|-----|-----|
01556> | 100:0002-----|-----|-----|-----|-----|-----|
01557> |-----|-----|-----|-----|-----|-----|
01558> | 100:0002-----|-----|-----|-----|-----|-----|
01559> |-----|-----|-----|-----|-----|-----|
01560> | 100:0002-----|-----|-----|-----|-----|-----|
01561> |-----|-----|-----|-----|-----|-----|
01562> | 100:0002-----|-----|-----|-----|-----|-----|
01563> | ** END OF RUN : 100 |
01564> |-----|-----|-----|-----|-----|-----|
01565> |-----|-----|-----|-----|-----|-----|
01566> |-----|-----|-----|-----|-----|-----|
01567> |-----|-----|-----|-----|-----|-----|
01568> |-----|-----|-----|-----|-----|-----|
01569> |-----|-----|-----|-----|-----|-----|
01570> |-----|-----|-----|-----|-----|-----|
01571> |-----|-----|-----|-----|-----|-----|
01572> | START | Project dir.: C:\SWMMOD-1\SWMHYMO\Eagle\comments\
01573> |-----|-----|-----|-----|-----|-----|
01574> | TZERO = .00 hrs on 0 | Rainfall dir.: C:\SWMMOD-1\SWMHYMO\Eagle\comments\
01575> | METOUT= 2 (output= METRIC) |
01576> | NRUN = 101 |
01577> | NSTORM= 1 |
01578> | # 1=SCS100.HYD |
01579> |-----|-----|-----|-----|-----|-----|
01580> | 101:0002-----|-----|-----|-----|-----|-----|
01581> | ***** |
01582> | * Project Name: [Project Eagle] Project Number: [161500301] |
01583> | * Date : 2024-07-17 |
01584> | * Modeller : [ARK] |
01585> | * Company : Stantec Consulting Ltd. (London) |
01586> | * License # : 4730904 |
01587> | ***** |
01588> | ***** |
01589> | * |
01590> | * This model represents the hydrologic characteristics of the Site Alteration |
01591> | * conditions. |
01592> | * Storm events modeled are: |
01593> | * 2YR, 5YR, 10YR, 25YR, 50YR, and 100YR 3hr Chicago Storm |
01594> | * 25 mm 4hr Chicago Storm (Using City of London IDF Parameters) |
01595> | * Regional Storm Event: 48hr Hurricane Hazel |
01596> | * 100YR 24hr SCS Type II |
01597> | * |
01598> | ***** |
01599> | ***** |
01600> | 101:0002-----|-----|-----|-----|-----|-----|
01601> |-----|-----|-----|-----|-----|-----|
01602> | READ STORM | Filename: SCS STORM Type II 100 Years, 24hr SCS fr
01603> | Ptotal= 129.60 mm | Comments: SCS STORM Type II 100 Years, 24hr SCS fr
01604> |-----|-----|-----|-----|-----|-----|
01605> | TIME RAIN | TIME RAIN | TIME RAIN | TIME RAIN |
01606> | hrs mm/hr | hrs mm/hr | hrs mm/hr | hrs mm/hr |
01607> | .25 1.426 | 6.25 2.592 | 12.25 18.662 | 18.25 2.333 |
01608> | .50 1.426 | 6.50 2.592 | 12.50 18.662 | 18.50 2.333 |
01609> | .75 1.426 | 6.75 2.592 | 12.75 9.590 | 18.75 2.333 |
01610> | 1.00 1.426 | 7.00 2.592 | 13.00 9.590 | 19.00 2.333 |
01611> | 1.25 1.426 | 7.25 2.592 | 13.25 6.739 | 19.25 2.333 |
01612> | 1.50 1.426 | 7.50 2.592 | 13.50 7.258 | 19.50 2.333 |
01613> | 1.75 1.426 | 7.75 2.592 | 13.75 5.443 | 19.75 2.333 |
01614> | 2.00 1.426 | 8.00 2.592 | 14.00 5.443 | 20.00 2.333 |
01615> | 2.25 1.685 | 8.25 3.499 | 14.25 3.888 | 20.25 1.555 |
01616> | 2.50 1.685 | 8.50 3.499 | 14.50 3.888 | 20.50 1.555 |
01617> | 2.75 1.685 | 8.75 3.499 | 14.75 3.888 | 20.75 1.555 |
01618> | 3.00 1.685 | 9.00 3.499 | 15.00 3.888 | 21.00 1.555 |
01619> | 3.25 1.685 | 9.25 4.147 | 15.25 3.888 | 21.25 1.555 |
01620> | 3.50 1.685 | 9.50 4.147 | 15.50 3.888 | 21.50 1.555 |
01621> | 3.75 1.685 | 9.75 4.666 | 15.75 3.888 | 21.75 1.555 |
01622> | 4.00 1.685 | 10.00 4.666 | 16.00 3.888 | 22.00 1.555 |
01623> | 4.25 2.074 | 10.25 5.962 | 16.25 2.333 | 22.25 1.555 |
01624> | 4.50 2.074 | 10.50 5.962 | 16.50 2.333 | 22.50 1.555 |
01625> | 4.75 2.074 | 10.75 8.035 | 16.75 2.333 | 22.75 1.555 |
01626> | 5.00 2.074 | 11.00 8.035 | 17.00 2.333 | 23.00 1.555 |
01627> | 5.25 2.074 | 11.25 12.442 | 17.25 2.333 | 23.25 1.555 |
01628> | 5.50 2.074 | 11.50 12.442 | 17.50 2.333 | 23.50 1.555 |
01629> | 5.75 2.074 | 11.75 53.914 | 17.75 2.333 | 23.75 1.555 |
01630> | 6.00 2.074 | 12.00 143.078 | 18.00 2.333 | 24.00 1.555 |
01631> |-----|-----|-----|-----|-----|-----|
01632> |-----|-----|-----|-----|-----|-----|
01633> | 101:0003-----|-----|-----|-----|-----|-----|
01634> | ***** |
01635> | * |
01636> | * Site Alt Conditions Conditions |
01637> | * SE Area |
01638> | * |
01639> | ***** |
01640> |-----|-----|-----|-----|-----|-----|
01641> | DESIGN NASHYD | Area (ha)= 31.33 Curve Number (CN)=94.00
01642> | 01:201 DT= 1.00 | Ia (mm)= 1.500 # of Linear Res. (N)= 3.00
01643> | U.H. Tp(hrs)= .220 |
01644> |-----|-----|-----|-----|-----|-----|
01645> | Unit Hyd Qpeak (cms)= 5.439 |
01646> |-----|-----|-----|-----|-----|-----|
01647> | PEAK FLOW (cms)= 8.063 (I) |
01648> | TIME TO PEAK (hrs)= 12.100 |
01649> | RUNOFF VOLUME (mm)= 113.709 |
01650> | TOTAL RAINFALL (mm)= 129.601 |
01651> | RUNOFF COEFFICIENT = .877 |

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01652> |-----|-----|-----|-----|-----|-----|
01653> | (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY. |
01654> |-----|-----|-----|-----|-----|-----|
01655> |-----|-----|-----|-----|-----|-----|
01656> | 101:0004-----|-----|-----|-----|-----|-----|
01657> |-----|-----|-----|-----|-----|-----|
01658> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
01659> | IN>01: (201 ) |
01660> | OUT<02: (SWMFSE) | ===== OUTFLOW STORAGE TABLE =====
01661> |-----|-----|-----|-----|-----|-----|
01662> | OUTFLOW STORAGE | OUTFLOW STORAGE |
01663> | (cms) (ha.m.) | (cms) (ha.m.) |
01664> | .000 .0000E+00 | 2.211 .5880E+00 |
01665> | .022 .1410E+00 | 6.271 .7430E+00 |
01666> | .027 .2870E+00 | 11.633 .1021E+01 |
01667> | .031 .4350E+00 | .000 .0000E+00 |
01668> |-----|-----|-----|-----|-----|-----|
01669> | ROUTING RESULTS | AREA | QPEAK | TPEAK | R.V. |
01670> | (ha) (cms) (hrs) (mm) |
01671> | INFLOW >01: (201 ) | 31.33 | 8.063 | 12.100 | 113.709 |
01672> | OUTFLOW<02: (SWMFSE) | 31.33 | 7.087 | 12.200 | 113.706 |
01673> | OVERFLOW<03: (Overfl) | .00 | .000 | .000 | .000 |
01674> |-----|-----|-----|-----|-----|-----|
01675> | TOTAL NUMBER OF SIMULATED OVERFLOWS = | 0 |
01676> | CUMULATIVE TIME OF OVERFLOWS (hours)= | .00 |
01677> | PERCENTAGE OF TIME OVERFLOWING (%) = | .00 |
01678> |-----|-----|-----|-----|-----|-----|
01679> | PEAK FLOW REDUCTION [Qout/Qin] (%) = | 87.887 |
01680> | TIME SHIFT OF PEAK FLOW (min)= | 6.00 |
01681> | MAXIMUM STORAGE USED (ha.m.) = | .7854E+00 |
01682> |-----|-----|-----|-----|-----|-----|
01683> |-----|-----|-----|-----|-----|-----|
01684> | 101:0005-----|-----|-----|-----|-----|-----|
01685> | ***** |
01686> | * |
01687> | * Site Alt Conditions Conditions |
01688> | * SW Area |
01689> | * |
01690> | ***** |
01691> |-----|-----|-----|-----|-----|-----|
01692> | DESIGN NASHYD | Area (ha)= 12.31 Curve Number (CN)=94.00
01693> | 01:202 DT= 1.00 | Ia (mm)= 1.500 # of Linear Res. (N)= 3.00
01694> | U.H. Tp(hrs)= .210 |
01695> |-----|-----|-----|-----|-----|-----|
01696> | Unit Hyd Qpeak (cms)= 2.239 |
01697> |-----|-----|-----|-----|-----|-----|
01698> | PEAK FLOW (cms)= 3.251 (i) |
01699> | TIME TO PEAK (hrs)= 12.083 |
01700> | RUNOFF VOLUME (mm)= 113.709 |
01701> | TOTAL RAINFALL (mm)= 129.601 |
01702> | RUNOFF COEFFICIENT = .877 |
01703> |-----|-----|-----|-----|-----|-----|
01704> | (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY. |
01705> |-----|-----|-----|-----|-----|-----|
01706> |-----|-----|-----|-----|-----|-----|
01707> | 101:0006-----|-----|-----|-----|-----|-----|
01708> |-----|-----|-----|-----|-----|-----|
01709> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
01710> | IN>01: (202 ) |
01711> | OUT<02: (SWMFSW) | ===== OUTFLOW STORAGE TABLE =====
01712> |-----|-----|-----|-----|-----|-----|
01713> | OUTFLOW STORAGE | OUTFLOW STORAGE |
01714> | (cms) (ha.m.) | (cms) (ha.m.) |
01715> | .000 .0000E+00 | .258 .7650E+00 |
01716> | .015 .9000E-01 | 1.272 .8560E+00 |
01717> | .018 .1660E+00 | 3.185 .9490E+00 |
01718> | .020 .2470E+00 | 5.760 .1063E+01 |
01719> | .115 .3290E+00 | .000 .0000E+00 |
01720> |-----|-----|-----|-----|-----|-----|
01721> | ROUTING RESULTS | AREA | QPEAK | TPEAK | R.V. |
01722> | (ha) (cms) (hrs) (mm) |
01723> | INFLOW >01: (202 ) | 12.31 | 3.251 | 12.083 | 113.709 |
01724> | OUTFLOW<02: (SWMFSW) | 12.31 | .762 | 12.650 | 113.705 |
01725> | OVERFLOW<03: (Overfl) | .00 | .000 | .000 | .000 |
01726> |-----|-----|-----|-----|-----|-----|
01727> | TOTAL NUMBER OF SIMULATED OVERFLOWS = | 0 |
01728> | CUMULATIVE TIME OF OVERFLOWS (hours)= | .00 |
01729> | PERCENTAGE OF TIME OVERFLOWING (%) = | .00 |
01730> |-----|-----|-----|-----|-----|-----|
01731> | PEAK FLOW REDUCTION [Qout/Qin] (%) = | 23.433 |
01732> | TIME SHIFT OF PEAK FLOW (min)= | 34.00 |
01733> | MAXIMUM STORAGE USED (ha.m.) = | .8103E+00 |
01734> |-----|-----|-----|-----|-----|-----|
01735> |-----|-----|-----|-----|-----|-----|
01736> | 101:0007-----|-----|-----|-----|-----|-----|
01737> | ***** |
01738> | * |
01739> | * Site Alt Conditions Conditions |
01740> | * N Area |
01741> | * |
01742> | ***** |
01743> |-----|-----|-----|-----|-----|-----|
01744> | DESIGN NASHYD | Area (ha)= 27.70 Curve Number (CN)=94.00
01745> | 01:203 DT= 1.00 | Ia (mm)= 1.500 # of Linear Res. (N)= 3.00
01746> | U.H. Tp(hrs)= .250 |
01747> |-----|-----|-----|-----|-----|-----|
01748> | Unit Hyd Qpeak (cms)= 4.232 |
01749> |-----|-----|-----|-----|-----|-----|
01750> | PEAK FLOW (cms)= 6.614 (i) |
01751> | TIME TO PEAK (hrs)= 12.117 |
01752> | RUNOFF VOLUME (mm)= 113.709 |
01753> | TOTAL RAINFALL (mm)= 129.601 |
01754> | RUNOFF COEFFICIENT = .877 |
01755> |-----|-----|-----|-----|-----|-----|
01756> | (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY. |
01757> |-----|-----|-----|-----|-----|-----|
01758> |-----|-----|-----|-----|-----|-----|
01759> | 101:0008-----|-----|-----|-----|-----|-----|
01760> |-----|-----|-----|-----|-----|-----|
01761> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
01762> | IN>01: (203 ) |
01763> | OUT<02: (SWMFM ) | ===== OUTFLOW STORAGE TABLE =====
01764> |-----|-----|-----|-----|-----|-----|
01765> | OUTFLOW STORAGE | OUTFLOW STORAGE |
01766> | (cms) (ha.m.) | (cms) (ha.m.) |
01767> | .000 .0000E+00 | .285 .1527E+01 |
01768> | .027 .1580E+00 | 2.825 .1889E+01 |
01769> | .032 .3220E+00 | 7.490 .2073E+01 |
01770> | .037 .4870E+00 | 13.630 .2258E+01 |
01771> | .134 .6550E+00 | .000 .0000E+00 |
01772> |-----|-----|-----|-----|-----|-----|
01773> | ROUTING RESULTS | AREA | QPEAK | TPEAK | R.V. |
01774> | (ha) (cms) (hrs) (mm) |
01775> | INFLOW >01: (203 ) | 27.70 | 6.614 | 12.117 | 113.709 |
01776> | OUTFLOW<02: (SWMFM ) | 27.70 | 1.985 | 12.267 | 113.705 |
01777> | OVERFLOW<03: (Overfl) | .00 | .000 | .000 | .000 |
01778> |-----|-----|-----|-----|-----|-----|
01779> | TOTAL NUMBER OF SIMULATED OVERFLOWS = | 0 |

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01779> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
01780> PERCENTAGE OF TIME OVERFLOWING (%)= .00
01781>
01782>
01783> PEAK FLOW REDUCTION [Qout/Qin](%)= 30.017
01784> TIME SHIFT OF PEAK FLOW (min)= 33.00
01785> MAXIMUM STORAGE USED (ha.m.)=.1769E+01
01786>
01787> -----
01788> 101:0009-----
01789> -----
01790> 101:0002-----
01791> -----
01792> 101:0002-----
01793> -----
01794> 101:0002-----
01795> -----
01796> 101:0002-----
01797> -----
01798> 101:0002-----
01799> -----
01800> 101:0002-----
01801> -----
01802> 101:0002-----
01803> ** END OF RUN : 250
01804>
01805> *****
01806>
01807>
01808>
01809>
01810>
01811> -----
01812> | START | Project dir.: C:\SWMMOD-1\SWMHYMO\Eagle\comments\
01813> |-----| Rainfall dir.: C:\SWMMOD-1\SWMHYMO\Eagle\comments\
01814> | TZERO = .00 hrs on 0
01815> | METOUT = 2 (output = METRIC)
01816> | NRUN = 251
01817> | NSTORM = 1
01818> | # 1=hurhaz48.stm
01819> -----
01820> 251:0002-----
01821> *****
01822> *# Project Name: [Project Eagle] Project Number: [161500301]
01823> *# Date : 2024-07-17
01824> *# Modeller : [ARK]
01825> *# Company : Stantec Consulting Ltd. (London)
01826> *# License # : 4730904
01827> *#*****
01828> *#*****
01829> *#
01830> *# This model represents the hydrologic characteristics of the Site Alteration
01831> *# conditions.
01832> *# Storm events modeled are:
01833> *# 2YR, 5YR, 10YR, 25YR, 50YR, and 100YR 3hr Chicago Storm
01834> *# 25 mm 4hr Chicago Storm (Using City of London IDF Parameters)
01835> *# Regional Storm Event: 48hr Hurricane Hazel
01836> *# 100YR 24hr SCS Type II
01837> *#
01838> *#*****
01839> -----
01840> 251:0002-----
01841> -----
01842> | READ STORM | Filename: REGIONAL STORM
01843> | Ptotal = 285.00 mm | Comments: REGIONAL STORM
01844> -----
01845>
01846> TIME RAIN | TIME RAIN | TIME RAIN | TIME RAIN
01847> hrs mm/hr | hrs mm/hr | hrs mm/hr | hrs mm/hr
01848> .25 2.000 | 12.25 2.000 | 24.25 2.000 | 36.25 6.000
01849> .50 2.000 | 12.50 2.000 | 24.50 2.000 | 36.50 6.000
01850> .75 2.000 | 12.75 2.000 | 24.75 2.000 | 36.75 6.000
01851> 1.00 2.000 | 13.00 2.000 | 25.00 2.000 | 37.00 6.000
01852> 1.25 2.000 | 13.25 2.000 | 25.25 2.000 | 37.25 4.000
01853> 1.50 2.000 | 13.50 2.000 | 25.50 2.000 | 37.50 4.000
01854> 1.75 2.000 | 13.75 2.000 | 25.75 2.000 | 37.75 4.000
01855> 2.00 2.000 | 14.00 2.000 | 26.00 2.000 | 38.00 4.000
01856> 2.25 2.000 | 14.25 2.000 | 26.25 2.000 | 38.25 6.000
01857> 2.50 2.000 | 14.50 2.000 | 26.50 2.000 | 38.50 6.000
01858> 2.75 2.000 | 14.75 2.000 | 26.75 2.000 | 38.75 6.000
01859> 3.00 2.000 | 15.00 2.000 | 27.00 2.000 | 39.00 6.000
01860> 3.25 2.000 | 15.25 2.000 | 27.25 2.000 | 39.25 13.000
01861> 3.50 2.000 | 15.50 2.000 | 27.50 2.000 | 39.50 13.000
01862> 3.75 2.000 | 15.75 2.000 | 27.75 2.000 | 39.75 13.000
01863> 4.00 2.000 | 16.00 2.000 | 28.00 2.000 | 40.00 13.000
01864> 4.25 2.000 | 16.25 2.000 | 28.25 2.000 | 40.25 17.000
01865> 4.50 2.000 | 16.50 2.000 | 28.50 2.000 | 40.50 17.000
01866> 4.75 2.000 | 16.75 2.000 | 28.75 2.000 | 40.75 17.000
01867> 5.00 2.000 | 17.00 2.000 | 29.00 2.000 | 41.00 17.000
01868> 5.25 2.000 | 17.25 2.000 | 29.25 2.000 | 41.25 13.000
01869> 5.50 2.000 | 17.50 2.000 | 29.50 2.000 | 41.50 13.000
01870> 5.75 2.000 | 17.75 2.000 | 29.75 2.000 | 41.75 13.000
01871> 6.00 2.000 | 18.00 2.000 | 30.00 2.000 | 42.00 13.000
01872> 6.25 2.000 | 18.25 2.000 | 30.25 2.000 | 42.25 23.000
01873> 6.50 2.000 | 18.50 2.000 | 30.50 2.000 | 42.50 23.000
01874> 6.75 2.000 | 18.75 2.000 | 30.75 2.000 | 42.75 23.000
01875> 7.00 2.000 | 19.00 2.000 | 31.00 2.000 | 43.00 23.000
01876> 7.25 2.000 | 19.25 2.000 | 31.25 2.000 | 43.25 13.000
01877> 7.50 2.000 | 19.50 2.000 | 31.50 2.000 | 43.50 13.000
01878> 7.75 2.000 | 19.75 2.000 | 31.75 2.000 | 43.75 13.000
01879> 8.00 2.000 | 20.00 2.000 | 32.00 2.000 | 44.00 13.000
01880> 8.25 2.000 | 20.25 2.000 | 32.25 2.000 | 44.25 13.000
01881> 8.50 2.000 | 20.50 2.000 | 32.50 2.000 | 44.50 13.000
01882> 8.75 2.000 | 20.75 2.000 | 32.75 2.000 | 44.75 13.000
01883> 9.00 2.000 | 21.00 2.000 | 33.00 2.000 | 45.00 13.000
01884> 9.25 2.000 | 21.25 2.000 | 33.25 2.000 | 45.25 53.000
01885> 9.50 2.000 | 21.50 2.000 | 33.50 2.000 | 45.50 53.000
01886> 9.75 2.000 | 21.75 2.000 | 33.75 2.000 | 45.75 53.000
01887> 10.00 2.000 | 22.00 2.000 | 34.00 2.000 | 46.00 53.000
01888> 10.25 2.000 | 22.25 2.000 | 34.25 2.000 | 46.25 38.000
01889> 10.50 2.000 | 22.50 2.000 | 34.50 2.000 | 46.50 38.000
01890> 10.75 2.000 | 22.75 2.000 | 34.75 2.000 | 46.75 38.000
01891> 11.00 2.000 | 23.00 2.000 | 35.00 2.000 | 47.00 38.000
01892> 11.25 2.000 | 23.25 2.000 | 35.25 3.000 | 47.25 13.000
01893> 11.50 2.000 | 23.50 2.000 | 35.50 3.000 | 47.50 13.000
01894> 11.75 2.000 | 23.75 2.000 | 35.75 3.000 | 47.75 13.000
01895> 12.00 2.000 | 24.00 2.000 | 36.00 3.000 | 48.00 13.000
01896>
01897> 251:0003-----
01898> *****
01899> *#
01900> *# Site Alt Conditions Conditions
01901> *# SE Area
01902> *#
01903> *#*****
01904> -----
01905> | DESIGN NASHYD | Area (ha)= 31.33 Curve Number (CN)=94.00
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01906> | 01:201 DT= 1.00 | Ia (mm)= 1.500 # of Linear Res. (N)= 3.00
01907> ----- U.H. Tp(hrs)= .220
01908>
01909> Unit Hyd Qpeak (cms)= 5.439
01910>
01911> PEAK FLOW (cms)= 4.575 (i)
01912> TIME TO PEAK (hrs)= 46.017
01913> RUNOFF VOLUME (mm)= 268.165
01914> TOTAL RAINFALL (mm)= 285.000
01915> RUNOFF COEFFICIENT = .941
01916>
01917> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01918>
01919> -----
01920> 251:0004-----
01921> -----
01922> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
01923> | IN>01: (201 ) |
01924> | OUT<02: (SWMFSE) | ===== OUTFLOW STORAGE TABLE =====
01925> | OUTFLOW STORAGE | OUTFLOW STORAGE
01926> | (cms) (ha.m.) | (cms) (ha.m.)
01927> | .000 .0000E+00 | 2.211 .5880E+00
01928> | .022 .1410E+00 | 6.271 .7430E+00
01929> | .027 .2870E+00 | 11.633 .1021E+01
01930> | .031 .4350E+00 | .000 .0000E+00
01931>
01932> ROUTING RESULTS AREA QPEAK TPEAK R.V.
01933> (ha) (cms) (hrs) (mm)
01934> INFLOW >01: (201 ) 31.33 4.575 46.017 268.165
01935> OUTFLOW<02: (SWMFSE) 31.33 4.545 46.067 268.157
01936> OVERFLOW<03: (Overfl) .00 .000 .000 .000
01937>
01938> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
01939> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
01940> PERCENTAGE OF TIME OVERFLOWING (%)= .00
01941>
01942> -----
01943> PEAK FLOW REDUCTION [Qout/Qin](%)= 99.363
01944> TIME SHIFT OF PEAK FLOW (min)= 3.00
01945> MAXIMUM STORAGE USED (ha.m.)=.6771E+00
01946>
01947> -----
01948> 251:0005-----
01949> *****
01950> *#
01951> *# Site Alt Conditions Conditions
01952> *# SW Area
01953> *#
01954> *#*****
01955> -----
01956> | DESIGN NASHYD | Area (ha)= 12.31 Curve Number (CN)=94.00
01957> | 01:202 DT= 1.00 | Ia (mm)= 1.500 # of Linear Res. (N)= 3.00
01958> | U.H. Tp(hrs)= .210
01959>
01960> Unit Hyd Qpeak (cms)= 2.239
01961>
01962> PEAK FLOW (cms)= 1.799 (i)
01963> TIME TO PEAK (hrs)= 46.000
01964> RUNOFF VOLUME (mm)= 268.165
01965> TOTAL RAINFALL (mm)= 285.000
01966> RUNOFF COEFFICIENT = .941
01967>
01968> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
01969>
01970> -----
01971> 251:0006-----
01972> -----
01973> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
01974> | IN>01: (202 ) |
01975> | OUT<02: (SWMFSE) | ===== OUTFLOW STORAGE TABLE =====
01976> | OUTFLOW STORAGE | OUTFLOW STORAGE
01977> | (cms) (ha.m.) | (cms) (ha.m.)
01978> | .000 .0000E+00 | .258 .7650E+00
01979> | .015 .9000E-01 | 1.272 .8560E+00
01980> | .018 .1660E+00 | 3.185 .9490E+00
01981> | .020 .2470E+00 | 5.760 .1063E+01
01982> | .115 .3290E+00 | .000 .0000E+00
01983>
01984> ROUTING RESULTS AREA QPEAK TPEAK R.V.
01985> (ha) (cms) (hrs) (mm)
01986> INFLOW >01: (202 ) 12.31 1.799 46.000 268.165
01987> OUTFLOW<02: (SWMFSE) 12.31 1.776 46.083 268.155
01988> OVERFLOW<03: (Overfl) .00 .000 .000 .000
01989>
01990> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
01991> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
01992> PERCENTAGE OF TIME OVERFLOWING (%)= .00
01993>
01994> PEAK FLOW REDUCTION [Qout/Qin](%)= 98.706
01995> TIME SHIFT OF PEAK FLOW (min)= 5.00
01996> MAXIMUM STORAGE USED (ha.m.)=.8805E+00
01997>
01998> -----
01999>
02000> 251:0007-----
02001> *****
02002> *#
02003> *# Site Alt Conditions Conditions
02004> *# N Area
02005> *#
02006> *#*****
02007> -----
02008> | DESIGN NASHYD | Area (ha)= 27.70 Curve Number (CN)=94.00
02009> | 01:203 DT= 1.00 | Ia (mm)= 1.500 # of Linear Res. (N)= 3.00
02010> | U.H. Tp(hrs)= .250
02011>
02012> Unit Hyd Qpeak (cms)= 4.232
02013>
02014> PEAK FLOW (cms)= 4.024 (i)
02015> TIME TO PEAK (hrs)= 46.017
02016> RUNOFF VOLUME (mm)= 268.164
02017> TOTAL RAINFALL (mm)= 285.000
02018> RUNOFF COEFFICIENT = .941
02019>
02020> (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
02021>
02022> -----
02023> 251:0008-----
02024> -----
02025> | ROUTE RESERVOIR | Requested routing time step = 1.0 min.
02026> | IN>01: (203 ) |
02027> | OUT<02: (SWMFN ) | ===== OUTFLOW STORAGE TABLE =====
02028> | OUTFLOW STORAGE | OUTFLOW STORAGE
02029> | (cms) (ha.m.) | (cms) (ha.m.)
02030> | .000 .0000E+00 | .285 .1527E+01
02031> | .027 .1580E+00 | 2.825 .1889E+01
02032> | .032 .3220E+00 | 7.490 .2073E+01
```

```
02033> ----- .037 .4870E+00 | 13.630 .2258E+01
02034> ----- .134 .6550E+00 | .000 .0000E+00
02035>
02036> ROUTING RESULTS AREA QPEAK TPEAK R.V.
02037> ----- (ha) (cms) (hrs) (mm)
02038> INFLOW >01: (203 ) 27.70 4.024 46.017 268.164
02039> OUTFLOW<02: (SWMFN ) 27.70 3.947 46.117 268.156
02040> OVERFLOW<03: (Overfl) .00 .000 .000 .000
02041>
02042> TOTAL NUMBER OF SIMULATED OVERFLOWS = 0
02043> CUMULATIVE TIME OF OVERFLOWS (hours)= .00
02044> PERCENTAGE OF TIME OVERFLOWING (%)= .00
02045>
02046>
02047> PEAK FLOW REDUCTION [Qout/Qin] (%)= 98.096
02048> TIME SHIFT OF PEAK FLOW (min)= 6.00
02049> MAXIMUM STORAGE USED (ha.m.)=.1933E+01
02050>
02051> -----
02052> 251:0009-----
02053> -----
02054> 251:0002-----
02055> -----
02056> 251:0002-----
02057> -----
02058> 251:0002-----
02059> -----
02060> 251:0002-----
02061> -----
02062> 251:0002-----
02063> -----
02064> 251:0002-----
02065> -----
02066> 251:0002-----
02067> -----
02068> 251:0002-----
02069> FINISH
02070> -----
02071> *****
02072> WARNINGS / ERRORS / NOTES
02073> -----
02074> Simulation ended on 2024-07-17 at 14:13:26
02075> =====
02076>
02077>
```