FUNCTIONAL SERVICING & STORMWATER MANAGEMENT REPORT

PARKBRIDGE CRAIGLEITH RIDGE RESIDENTIAL DEVELOPMENT TOWN OF THE BLUE MOUNTAINS

PARKBRIDGE LIFESTYLE COMMUNITIES INC.

PREPARED BY:

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1.0 INTRODUCTION

CF Crozier & Associates Inc. (Crozier) was retained by Parkbridge Lifestyle Communities Inc. (Parkbridge) to complete a Functional Servicing & Stormwater Management Report for the proposed Parkbridge Craigleith Ridge Development. Located within the Village of Craigleith south of Highway 26, the property is bounded by Lakeshore Road to the north, adjacent privately owned lands to the south and east, and Grey Road 19 to the west. Refer to **Figure 1** for the site location plan.

The Parkbridge Craigleith Ridge development is comprised of three separate property parcels. The largest 25 ha (62 acre) property is located south of Lakeshore Road and is legally described as Plan 529, Part Lot 161, Town of The Blue Mountains, County of Grey. A smaller 1.2 ha (3 acre) property is located south of Lakeshore Road and is legally described as Plan 529, Lot 172 and Part Lot 173 as Part 2 RP 16R-6640, Town of The Blue Mountains, County of Grey. Finally, the third parcel is an approximately 0.6ha undeveloped parcel located north of Lakeshore Road, bounded by Lakeshore Road and Georgian Trail. This parcel is legally described as Plan 529 Part Lot 169, Town of The Blue Mountains, County of Grey.

The development concept plan is included as **Figure 2**. The development concept reflects a total of 211 residential units comprised of a mixture of single detached, townhome and loft townhome units as well as a series of private roads, environmental, open space and stormwater management facility areas. Parkbridge proposes the subject community be developed as a land lease community geared towards the adult lifestyle and recreation markets.

This report has been prepared to provide information concerning the servicing (water, sewer, and utilities) and stormwater management to support the planning applications for the proposed development.

2.0 BACKGROUND

Crozier historically provided engineering services with respect to the subject property for a previous owner (Mr. Oelbaum). Although our work was not formally finalized to support planning applications, we have substantially completed natural hazards assessments, functional servicing and stormwater management designs for a previous concept plan on the property. The results of the natural hazards assessments were presented and refined with the Town and the Grey Sauble Conservation Authority (GSCA). Through this process, a settlement was reached with the Town and the GSCA that confirmed the hazard land limits for the subject lands. The hazard limits are to be respected in the current development application.

An additional 1.2 ha property south of Lakeshore Road, as described in Section 1.0, has also been obtained and included in the development concept. These lands were formerly referred to as the Keith lands.

Existing on-site archeological features and environmental constraints (including butternut trees) are present and therefore have been accorded appropriate buffer zones in the

updated development concept plan. Reports supporting these findings have been prepared and submitted by others under separate cover.

At the request of the Town of the Blue Mountains, Crozier has completed a comprehensive analysis of Watercourses 7, 8, 9 and 10 to assess the existing flooding conditions of the watercourses and make recommendations to improve upon the existing downstream flood conveyance infrastructure of Lakeshore Road and Highway 26 to mitigate the impact of future flood events. This analysis was completed to support the development applications of the Parkbridge Craigleith Ridge development and the neighboring MacPherson Home Farm development. The reader is directed to the report titled Regional Stormwater Plan (Crozier, Draft April 2018) for further analysis of the regional storm drainage infrastructure.

The original Functional Servicing and Stormwater Management Report (Crozier, December 2016) was submitted for review by the Town of the Blue Mountains, Grey Sauble Conservation Authority, and Ministry of Transportation. This report has been completed primarily in response to comments received from the agencies.

3.0 EXISTING SITE DESCRIPTION & NATURAL HAZARDS

The Craigleith Ridge development traverses the Nipissing Ridge with a portion of development lands on the upper terrace above the ridge, as well as below the ridge on the lower terrace lands.

The surficial soils of the site are characterized by the Soil Survey of Grey County (1954). Below the Nipissing Ridge the soil is primarily Granby sand which is generally considered as hydrologic soil Group B and is poor draining. The soils traversing the Nipissing Ridge are characterized as Waterloo sandy loam (Group A) and is considered to be well draining. Above the Nipissing Ridge, the soils are characterized as Kemble silty clay (Group C) and is considered to be imperfectly drained.

Existing vegetation across the subject lands consists of cultural meadows and clusters of trees. The Watercourse corridors and the Nipissing Ridge are densely treed.

The Nipissing Ridge possesses slopes of approximately 25-50%, save and except a portion of the Ridge immediately to the east of the Watercourse 9 valley corridor in the central portion of the site. Previous excavation works have lessened the slope of the Ridge in this area. Consequently, the Nipissing Ridge within the altered portion is generally open and vegetated with clusters of younger trees as compared to the balance of the ridge, which is more densely forested.

The site is located within the study area of the Craigleith Camperdown Subwatershed Study (prepared for GSCA by Gore & Storrie, November 1993) and the watercourse naming in this report has been adopted to be consistent with that study. Watercourses 7, 8, 9 and 10 traverse the subject lands in varying fashions as described below. Refer to **Figures 6 & 7** for pre-development drainage patterns and existing site topography.

Watercourse 7 traverses the subject lands along the east edge of the property through the

former Keith parcel. This watercourse is located in a defined channel and passes between existing residential units adjacent to Lakeshore Road. The outlet of this watercourse is downstream of Highway 26 and has been identified as a potential flood damage area in the original Gore & Storrie report, due to channel constrictions imposed by existing residences. Watercourse 7 was previously studied by Crozier as part of the "Eden Oak" development to determine the development limits adjacent Watercourse 7. The appropriate watercourse setbacks have been respected in the concept plan of the subject site. Hydraulic analysis of Watercourse 7 completed by Crozier has been included in **Appendix E.**

Watercourse 8 is a relatively small subwatershed which originates in the central portion of the site above the Nipissing Ridge. Flow from Watercourse 8 becomes diffuse below the ridge and infiltrates into the native soil structure and shallow fissured bedrock. No defined channel exists between the bottom of the Nipissing Ridge and Lakeshore Road. Downstream of Lakeshore Watercourse 8 re-develops into a small stream before crossing under Lakeshore Road, Georgian Trail, and Highway 26.

The *Watercourse 9* valley corridor bisects the upper and lower terrace lands into west and east portions. Watercourse 9 is located within a deeply incised ravine across the upper terrace lands and within a defined channel but unconfined valley setting across the lower terrace lands. Watercourse 9 has an upstream drainage area of approximately 148 ha. Regulatory floodlines were established for this watercourse (Crozier, 2006) which were subsequently incorporated into natural hazard mapping by the GSCA on behalf of the former client Mr. Oelbaum.

An existing man made pond is located in the central portion of the site adjacent to the bottom of the Nipissing Ridge. This pond intercepts sheet flow from the ridge and stores the water with an existing outlet structure discharging to *Watercourse 9*.

The *Watercourse 10* valley corridor is located along the western limits of the lower terrace lands of the subject property. Along the lower terrace lands, Watercourse 10 is located within a defined channel but unconfined valley setting. An incised drainage draw, located in the western portion of the upper terrace lands, connects into the Watercourse 10 valley corridor. The drainage shed for the watercourse is relatively small, however regulatory setbacks of 15m (min) will be maintained consistent with the requirements of the GSCA and Town for Watercourse 9.

Various geotechnical investigations of the subject site have been completed by Peto MacCallum Ltd. and have been included in **Appendix F**.

4.0 ROAD STANDARD

Access to the property is proposed to be provided via singe access at the intersection of Grey Road 19 and Craigleith Road. An emergency access has been provided to Lakeshore Road. The operations of the site access has been assessed in the Traffic Assessment (Crozier, 2018) submitted under separate cover.

The internal roadway and entrances within the property are proposed to be privately

owned and maintained.

The upper and lower portions of the site will be connected by a road that will traverse the Nipissing Ridge and cross Watercourse 9. Based on the current concept plan, three (3) watercourse crossings are to be constructed in order to cross Watercourse 9 both above and below the ridge. The crossings, culverts and road profiles will be designed to convey all minor and major storm events (up to 100-year and Regional Timmins storms).

The proposed internal roads are proposed to be private, consisting of a 12.0 m roadway service corridor containing a minimum 6.0 m wide, super elevated paved asphalt platform, sanitary sewers, storm sewers, watermain, utilities and streetlights.

5.0 SANITARY SERVICING

The Craigleith Wastewater Treatment Plant (WWTP) can accommodate wastewater flows from the proposed development. **Figure 4** reflects the recommended sanitary servicing scheme for the development. Based on this information the proposed sanitary sewer systems will likely consist of two (2) connections to an existing 525mm trunk sanitary sewer along Lakeshore Road, as shown on **Figure 4**. This will drain to the existing Lakeshore Road Sewage Pumping Station, pumping wastewater to the Craigleith WWTP.

Existing capacity is available in the system and was confirmed by the Town of Blue Mountain during the pre-consultation meeting. The Craigleith WWTP currently has approximately 4,704 units free for allocation (2013 TOBM Water & Wastewater Capacity Assessment).

Internally, sanitary flows are proposed to be conveyed via gravity sewers in the subject site. Internal sewers will follow the alignment of the proposed roadways per municipal standard. Each residential unit fronting onto the private roadways will have service laterals connected to this local sewer. Preliminary sanitary servicing flow calculations are provided in **Appendix A**. As shown in the calculations, the total peak daily flow has been determined to be *12.66 L/sec*.

Rock breaking may be required to install sanitary sewers and services in a portion of the lower terrace lands due to high bedrock levels. To balance rock removal requirements and associated cost, provision for full basements will be assessed with the client at the detailed design stage.

6.0 WATER SERVICING

Water supply for the subject development will be provided by way of connection to the existing TOBM water distribution network. The Town of Blue Mountain has commented on water supply capacity, confirming that capacity exists for the proposed development.

Figure 3 reflects the recommended water servicing scheme for the development.

Based on the above information, the proposed internal water distribution system will likely consist of connections to the existing watermain located along Grey County Road 19

(primary connection - 350mm dia.) and Lakeshore Road (secondary connection - 200mm dia.).

With these watermain surrounding the property, it will be possible to provide at least two dedicated connections to the municipal distribution network and "loop" through the development to provide system redundancy and avoid dead-end mains, as required by the Municipality and MOECC. A Pressure Reducing Valve (PRV) will likely be required given the range of elevation across the Nipissing Ridge. At the request of the Town, all internal watermain will be included under a blanket easement with operation and maintenance by the Municipality.

Local watermain with individual service connections for each unit will follow the alignment of the proposed internal roadway. The size of this watermain will be confirmed with the TOBM through the detailed design and future water modeling; however, the minimum diameter is 150 mm. Fire hydrants will be spaced as required to provide the necessary fire protection.

Preliminary water servicing flow calculations are provided in **Appendix A**. As shown in the calculations, the max day demand flow has been determined to be *5.06 L/sec* and the peak hour flow has been determined to be *11.37 L/sec*. Fire flow demand calculations will be provided at the detailed design stage in conjunction with final Architectural and detailed modeling designs.

7.0 UTILITIES

The proposed development will be serviced with natural gas, telephone, cable TV and hydro. All such utilities are currently available on the boundary roadways. Given the development is proposed as a land lease community, potential exists to service many units through rear yard utility connections.

8.0 STORMWATER MANAGEMENT & DRAINAGE

Stormwater management (SWM) for the proposed development will follow the policies and standards of the various agencies including: Town of The Blue Mountains (TOBM), Ministry of Transportation (MTO), Ministry of Environment and Climate Change (MOECC), and Grey Sauble Conservation Authority (GSCA).

The stormwater management criteria that will be met with the development are listed below:

- Water Quantity Control
    - "Post-to-Pre" rainfall/runoff peak flow control to maintain or reduce pre-development peak flows in post-development conditions at site outlets

- Water Quality Control
    - MOECC "Enhanced Protection" 80% long-term S.S. Removal given Georgian Bay as ultimate receiver

- Erosion Control
    - Source control and extended detention required to respect natural geomorphic characteristics of receiving watercourses

- Development Standard
    - Urban cross section complete with 5-year storm sewer system
    - Lot grading at 2% optimum
    - Minor and major drainage system to convey frequent and infrequent rainfall/runoff events

In response to comments received from the Municipality and the GSCA, Crozier has also authored a Regional Stormwater Management Plan for Watercourses 7, 8, 9, & 10 (Crozier, Draft April 2018). This report includes a detailed investigation of existing conveyance capacities with the aforementioned watersheds and includes recommendations for improvements downstream to Georgian Bay to protect existing flood susceptible properties.

Further to the Regional SWM Plan, *Watercourse* 9 has been identified as the primary outlet for the subject lands considering the majority of the site drains to this watercourse and the associated large upstream drainage area. As such, the sections on Stormwater Management and Drainage below explore this scheme in detail. Stormwater discharge from developed areas to Watercourses 7, 8 & 10 from the subject lands is not proposed.

8.1 Pre-Development Drainage

The site lies within multiple subwatersheds as identified in the Craigleith Camperdown Subwatershed Study prepared by Gore & Storrie (1993) for the GSCA. Refer to **Figures 6 & 7** for the pre-development drainage plans, which include existing storm catchments, sub-watershed delineations, existing culvert locations and sizes.

As shown on **Figures 6 & 7**, Watercourse 9 collects and conveys flow from approximately 148 ha upstream of Lakeshore Road and Highway 26. The 25 ha subject property is located at the downstream end near the ultimate receiving body, Georgian Bay. Given its downstream location within the subwatershed, it is reasonable to assume that site runoff enters the Watercourse 9 system and discharges to Georgian Bay in advance of the hydrograph peak of the entire subwatershed.

Watercourse 9 originates above the Niagara Escarpment. Upon traversing the escarpment, the watercourse bisects a number of ski hills before crossing Grey Road 19 just south of Craigleith Road. The watercourse makes its way through private lands prior to traversing the subject lands.

Drainage in subwatershed 9 within the subject property is generally by way of overland sheet flow in a northeast direction. Watercourse 9 drainage is conveyed under Lakeshore Road, Georgian Trail and Highway 26 by a series of existing culverts as depicted on **Figure 6**. An existing pond is located on-site as shown on **Figure 6**, which has a contributing drainage area of approximately 1.9 ha.

The original subwatershed delineations in the site area were developed as part of the Craigleith Camperdown Subwatershed Study. As shown on **Figure 7**, an existing residential development exists west of Grey Road 19 and south of Craigleith Road. This development is known as the "Orchards" development and was designed by Higgins Engineering, which included the construction of a SWM facility.

Crozier obtained a copy of the final Function Servicing and Stormwater Management Report (Higgins Engineering, January 2005) for the "Orchards" development. The 116.6 ha external drainage area west of Grey Road 19 was studied and modeled in the aforementioned report, of which 101.8 ha was considered external drainage and 14.8 ha was considered the "Orchards" development site area. Accordingly, this external drainage area and modeling has been implemented for the Parkbridge Craigleith study area in both pre and post-development conditions, which accounts for the existing SWM facility that services the "Orchards" development.

8.1.1. Hydrologic Evaluation

Pre-development hydrologic parameters and soils mapping is included in **Appendix B**. Pre-development hydrologic modeling was completed using the latest version of the Stormwater Management Hydrologic Model (SWMHYMO) and is included in **Appendix C**. A summary and comparison of pre and post-development peak flows is provided later in this report.

For both pre and post-development modeling and consistent with the Craigleith Camperdown Subwatershed Study, rainfall distributions for the array of design storms (i.e. 2 to 100-Year) were simulated using a 6 hour Kiefer-Chu distribution.

Additionally, the 4 Hour Chicago, and 24 Hour SCS Type II Storms were modelling using rainfall data retrieved from the MTO online IDF curve lookup tool. The Timmins 12-hour rainfall event was used as the Regional storm for the study area.

8.1.2. Hydraulic Model

Given the lack of a confined valley feature on the lower terrace lands of Watercourse 9, spill flow escapes over historic berming along the channel overbanks on the east and west side of Watercourse 9. The south side of Lakeshore Road is generally low in relief and broad areas of ponding from snow melt and runoff have been observed. Spill flow drains to the south roadside ditches of Lakeshore Road.In high flow events it is anticipated that flows exceed the Lakeshore Road culvert capacities and some of this spill flow to the east is believed to be conveyed to Watercourse 8.

Existing residential dwellings exist in proximity of Watercourse 9 downstream of Highway 26. Accordingly, an assessment of pre and post-development flood conditions was deemed necessary in support of the proposed development to ensure flood levels were not increased. Further hydraulic analysis of the downstream flow conveyance infrastructure was completed in the Regional Stormwater Management Report (Crozier, Draft April 2018).

Pre-development hydraulic flooding conditions of Watercourse 9 were assessed to

establish baseline conditions of the watercourse. Hydraulic flood modeling was completed using the latest version of the U.S. Army Corps of Engineers Hydrologic Engineering Center software HEC-RAS and is included in Appendix D. The HEC-RAS cross-section location plan and tabular output including pre-development flood water surface elevations is also included in **Appendix D**. A summary and comparison of pre and post-development flood water surface elevations is provided later in this report.

8.2 Post-Development Drainage

Proposed post-development drainage conditions are depicted on **Figures 8 & 9**, which include proposed storm catchments, sub-watershed delineations, preliminary grading, swales, existing and proposed culvert locations and sizes.

The development has been designed to respect Watercourse 9 by implementing a 15m undisturbed / 30m average structure setback from both sides of the watercourse.

8.2.1. Major / Minor Drainage Systems

The development will incorporate an urban cross section consisting of a 12m road servicing corridor containing a paved asphalt platform, storm sewer system, sanitary sewers, watermain, utilities and streetlights. The roadway will be privately owned and maintained.

Following the requirements of the TOBM, the development will incorporate a "dual" drainage system. Minor system flows will be collected by a series of catchbasins and lot drainage swales and conveyed to the SWM facilities through a storm sewer system sized to convey up to the 5 year return rainfall event. Major system flows will be conveyed overland via the internal roadway network to a low point in the roadway and into the proposed SWM Facilities. The preliminary site drainage and stormwater management concept has been illustrated on **Figure 8**.

8.2.2. Stormwater Management Facilities

Runoff generated from the proposed development will be collected, attenuated and treated by two (2) stormwater management (SWM) "end-of-pipe" facilities. The location of the SWM facilities is shown on **Figure 8**.

The existing constructed pond located at the base of the Nipissing Ridge is proposed to be converted to a wetland SWM facility, herein referred to as SWM Facility #1. To construct SWM Facility #1, half of the existing pond area will be used as the SWM facility and the remaining half to be left as-is as recommended by Azimuth Environmental. This configuration will involve constructing a berm as shown on **Figure 8** to split the existing pond into two half cells.

The second pond, SWM Facility #2 is proposed to be constructed to the east of Watercourse 9 and to the south of Lakeshore Road. A large portion of the lower terrace lands situated west of Watercourse 9 will be serviced by SWM Facility #2, with approximately 2.3 ha being eastward piped under Watercourse 9 to SWM Facility #2.

There is approximately 1.8 ha of development land to the west of Watercourse 9 that will be discharged to Watercourse 9 following quality control treatment.

8.2.3. Flood Proofing & Grading

The proposed development grading design has been developed to account for 100-year and Regional storm event flood water levels and to ensure all developed lands (i.e. roads, residential lots) will be graded to be above the post-development 100-year and Regional water levels with 0.3m of freeboard provided at a minimum, as per previously submitted flood modeling by Crozier.

8.3 Stormwater Quality Control

The facilities will all feature permanent pools and extended detention capabilities, meeting the water quality and erosion control criteria. MOECC "Enhanced Protection" 80% long-term S.S. removal will be provided in all SWM facilities treating all developed areas of the proposed development, prior to discharge to Watercourse 9 as shown on **Figure 8**.

Integrating the wet pond and wetland SWM facilities into the site plan layout is an attractive and very practical way of addressing the stormwater quality control requirements. SWM facility design sheets and calculations are included in **Appendix C** for each facility, which include quality control and stage-storage-discharge design calculations.

In addition to the required extended detention component, the runoff volume from a short duration 25 mm storm event was also used to determine the minimum required extended detention volumes for each SWM facility. An extended detention orifice will be designed to provide between 24 and 48 hours of drawdown time for the runoff produced from a short duration 25 mm storm event. Preliminary SWM facility designs were completed as part of this report and are illustrated on **Figure 8**. The SWM facility designs have been confirmed to meet the required water quality volumes as detailed on the design sheets in **Appendix C**.

A summary of the proposed SWM facilities operating characteristics is provided below in **Table 1**

Table 1: SWM Facility Operating Characteristics Summary

SWM Facility Number, Type & Drainage Area	Operating Characteristics				
	Pond Bottom Elev. (masl)	**Pond Top** Elev. (masl)	**Provided Permanent Pool** Volume (m^3) / Elev. (masl)	**Provided Extended Detention** Volume (m^3) / Elev. (masl)	**Regional / 100-year Storm Event High Water Level** Volume (m^3) / Elev. (masl)
#1 Upper Existing Pond converted to Proposed Wetland Facility	187.70 - Forebay 188.70 – Main Cell	191.40	1400 m^3 / 189.00 (465 m^3 required)	583 m^3 / 189.30 (364 m^3 required)	12,120 m^3 / 191.32 (Regional)
#2 Lower East Wet Pond (5.39 ha)	180.00	182.80	1560 m^3 / 181.00 (1148 m^3 required)	738 m^3 / 181.50 (674 m^3 required)	2662 m^3 / 182.63 (Regional)

It is noted that all design details with respect to the operation of the SWM facilities including specific inverts, detailed grading, sediment forebays, control structures and maintenance access roads will be specified during detailed engineering design. Likewise, permits/instruments such as an MOECC Environmental Compliance Approval and Fill Permit (GSCA) will be secured.

8.4 Stormwater Quantity Control

The proposed SWM facilities have been designed to provide the amount of peak flow quantity control needed in order to maintain or reduce peak flows based on pre-development conditions, with evaluation and results discussed below.

8.4.1. Hydrologic Evaluation

Post-development hydrologic parameters and soils mapping is included in **Appendix B**. Post-development hydrologic modeling was completed using the latest version of the Stormwater Management Hydrologic Model (SWMHYMO), consistent with industry standard, and is included in **Appendix C**. A summary and comparison of pre and post-development peak flows is provided below in **Table 2**.

Table 2: Summary of Peak Flows for Pre and Post-Development Conditions

Location	Return Period	Peak Flow (m^3/s)		% Difference
		Pre-Development	Post-Development	
Lakeshore Road	2-Year	1.37	1.31	-4.5%
	5-Year	2.62	2.46	-5.9%
	10-Year	4.01	3.73	-6.9%
	25-Year	5.26	5.04	-4.1%
	50-Year	5.92	5.68	-4.0%
	100-Year	7.31	6.98	-4.6%
	Regional	9.07	8.67	-4.4%

As shown above in **Table 2**, post-development peak flows at the Watercourse 9 crossing (and downstream) will be reduced from pre-development levels thereby improving the existing flood conditions downstream of the subject site, between Lakeshore Road and Georgian Bay.

Comparing the pre and post-development drainage plans (**Figures 6 & 7 and 8 & 9**) confirms that the total drainage areas to Watercourses 7, 8 and 10 will also be reduced in the post-development conditions, due to proposed on-site re-grading and the resulting drainage patterns. Therefore the existing flood conditions of Watercourses 7, 8 and 10 will also be improved by the proposed Craigleith Ridge development.

8.4.2. Hydraulic Flood Model

Post-development hydraulic flooding conditions of Watercourse 9 were assessed to compare pre and post-development flooding conditions of the watercourse downstream of the site between Lakeshore Road and Georgian Bay.

As a result of the proposed SWM facilities attenuating the peak flow of all storm events, the water surface elevations will be lowered at the downstream channel in under post development conditions. The resulting outflow hydrograph obtained from the hydrologic assessment was assessed to ensure that the duration of flooding was not increased due to the implementation of the SWM facilities.

It was found that the Watercourse 9 outlet channel has a minimum capacity of approximately 3.5 m^3/s adjacent the existing residences. The post-development peak flow hydrographs indicate that the total duration or magnitude of flows exceeding 3.5 m^3/s will not be increased in relation to the pre-development hydrographs. The pre- and post-development outflow hydrographs are included in **Appendix E**.

Hydraulic flood modeling was completed using the latest version of the U.S. Army Corps of Engineers Hydrologic Engineering Center software HEC-RAS and is included in **Appendix E**. The HEC-RAS cross-section location plan and tabular output including post-development flood water surface elevations is also included in **Appendix D**. A summary and comparison of pre and post-development flood water surface elevations is provided below in **Table 3**.

Table 3: Summary of Flood Water Levels for Pre and Post-Development Conditions

Regional Water Surface Elevation *(masl)*				
Site Condition & Total Drainage Area	**HEC-RAS Hydraulic Flood Model Cross-Sections (XS)**			
	XS 162 (Downstream of Lakeshore Road)	**XS 104.5** (Downstream of Hwy-26)	**XS 98** (Downstream of Hwy-26)	**XS 38.5** (D/S of Hwy-26 – 38m U/S of Bay)
Pre-Development	181.47	179.27	179.32	178.69
Post-Development	181.46	179.24	179.31	178.66

As a result of the proposed stormwater management facilities implemented as part of the Craigleith Ridge development, the post-development water surface elevations downstream of the subject site and Lakeshore Road will be reduced as shown in **Table 3**.

9.0 CONCLUSIONS

Based on the foregoing we conclude that the proposed Parkbridge Craigleith development can be adequately serviced.

1. The servicing and stormwater management strategy presented herein is consistent with the design criteria of the Town, GSCA, NEC, MTO and MOECC.

2. Access to the site will be provided from Lakeshore Road and Grey Road 19 into the proposed development.

3. The development will be serviced by a private sanitary sewer system. Connection to the existing municipal sewer system in the Lakeshore Road right-of-way will be made, into the existing 525mm dia. sewer upstream of the Craigleith sanitary sewage pumping station.

4. Domestic water supply is available through connections to the existing municipal system at Grey Road 19 and Lakeshore Road. The internal watermain will be municipally owned and located within a blanket easement for operation and maintenance to be completed by the Town of the Blue Mountains. Confirmation of required pressures and flows will be confirmed with the Town as detailed design proceeds.

5. Stormwater Management will be accomplished via the use of two SWM Facilities which will reduce peak flows at the Lakeshore Road site outlet from pre-development conditions. The SWM Facilities will provide the required quantity and quality control of storm runoff. The development will be serviced by a private storm sewer system which will route minor storm flows (i.e. up to 5-year event) into the SWM Facilities. Major storm flows will be routed to the SWM Facilities via the proposed road corridors which provide positive drainage to each SWM Facility.

6. All major utilities are available to the development, located in the boundary roadways.

Based on the foregoing, we recommend approval of the Planning Applications for the subject lands from the perspective of engineering service requirements.

Respectfully submitted,

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APPENDIX A

Water and Sanitary Design Flow Servicing Calculations

CROZIER
CONSULTING ENGINEERS

File: 1046-4031
Date: December 8, 2016
Updated: April 25, 2018
By: JM
Check By: BD

Parkbridge Craigleith - Sanitary Design Criteria

Developed Site Area		13.00	ha
Number of Residential Units		211	units
Person Per Residential Unit	(as per Town Standards)	2.30	persons/unit
Residential Population		485	persons

Unit Sewage flows

Residential	(as per Town Standards)	450	L/C-day
Infiltration (typical)		0.2	L/s/ha

Total Design Sewage Flows

Infiltration/Inflow Residential		2.60	L/sec
Average Daily Residential Flow		2.53	L/sec
Residential Peak Factor	(Harmon Formula)	4.0	
Total Peak Daily Flow		**12.66**	**L/sec**

CROZIER
CONSULTING ENGINEERS

File: 1046-4031
Date: 8-Dec-16
Updated: 25-Apr-18
By: JM
Check By: BD

Parkbridge Craigleith - Water Design Criteria

Developed Site Area		13.00	ha
Number of Residential Units		211	units
Person Per Residential Unit	(as per Town Standards)	2.3	persons/unit
Residential Population		485	persons

Domestic Water Design Flows

Residential (per MOE Design Guidelines 2008 and Town Standards)	450	L/C-day

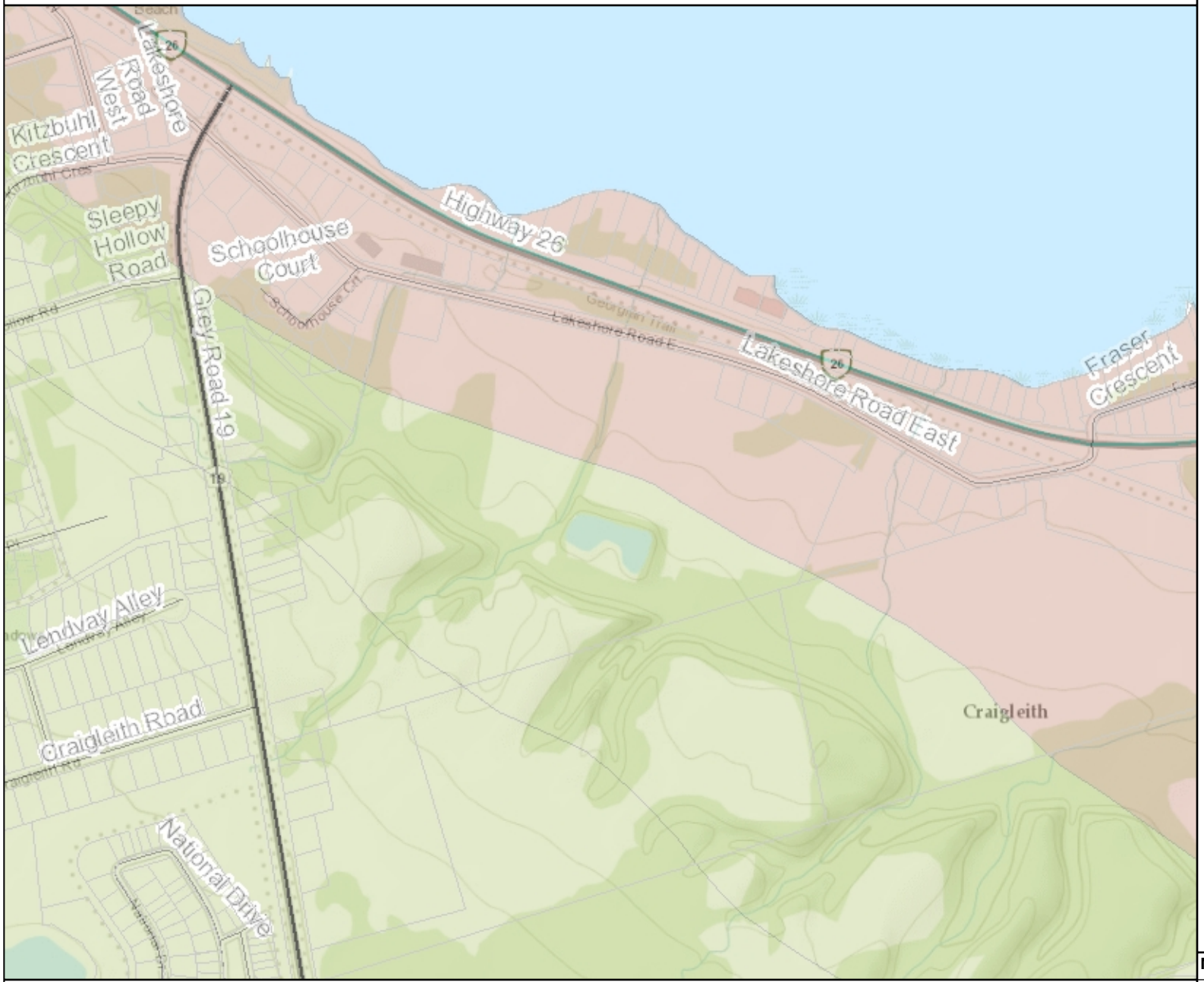
Total Domestic Water Design Flows

Average Residential Daily Flow (per MOE Design Guidelines 2008 and Town Standards	2.53	L/sec
Max Day Peak Factor (per Town Standards)	2.00	
Max Day Demand Flow	5.06	L/sec
Peak Hour Factor (per Town Standards)	4.50	
Peak Hour Flow	11.37	L/sec

APPENDIX B

Hydrologic Parameters and Soils Map

Craigleith Ridge - Soil Classes



Legend

- Parcels
- Large Scale Roads
  - Provincial Highway
  - County Road
  - Township Road
  - Seasonal Road
- SOIL (OMAFRA / MNRF)
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7

Notes

0.36 0 0.18 0.36 Kilometers

WGS_1984_Web_Mercator_Auxiliary_Sphere

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Printed: April 30, 2018

THIS MAP IS NOT TO BE USED FOR NAVIGATION

CF CROZIER & ASSOCIATES INC
LAND DEVELOPMENT ENGINEERS

Project:	Parkbridge Craigleith	**D.A.**	**PRE-9A**
Project No.:	1046-4031	**Area**	**2.58 ha**
Design by:	DT / OD		
Date:	30-Apr-18		

HYDROLOGIC PARAMETERS

Pre-9A

CURVE NUMBER

Soil Series	Hydrologic Soil Group	Soil Texture	Soil Area Composition		Woodland			Meadow		
			Area(ha)	*Percent*	*Area*	*CN*	*CN*A*	*Area*	*CN*	*CN*A*
Vincent	C	silty clay loam		0.0		73			76	0
Dunedin	D	clay		0.0		79			81	0
Kemble	C	silty clay	0.8	30.0	0.156	73	11.4	0.62	76	47.424
Waterloo	A	sandy loam	1.82	70.0	0.36	32	11.6	1.5	38	55.328
Granby	B	sand		0.0		60	0.0	0	65	0
Totals			2.6	100.0	0.52		23.036	2.1		102.752

Wetlands			Lawn			Cultivated			Impervious	
Area	*CN*	*CN*A*	*Area*	*CN*	*CN*A*	*Area*	*CN*	*CN*A*	*Land Use*	*Area (ha)*
	50			79			82		Roadway	
	50			84	0		86		Sidewalk	
	50			79	0		82		Driveway	0.00
	50			49	0		62		Building	0.00
	50			69			74		rip-rap chan	0
		0	0.0		0.0					

Ximp **0** %

Timp **0** %

Composite Curve Number

48.8

Land Use	*Intial Abstraction (mm)*	*Area (ha)*	*IA*A*
Woodland	10	0.52	5.2
Meadow	8	2.08	16.6
Lawn	5	0.00	0.0
Cultivated	7		0.0
Impervious	2	0.00	0.0
		2.60	

8.4 **mm - Composite IA**

Total Property Area **2.58** **ha**

TIME OF CONCENTRATION

UPLANDS METHOD

Area Description	Area	Travel Length	Slope	Inlet time	Land Cover	Velocity(m/s	Travel Time (	Tc(hr)	Tp (hr)
Pre-9A		150	4	0.25	meadow	0.15	0.273	0.52	**0.35**
		100	9.0		Forest	0.23	0.122	0.12	**0.08**
		150	8.00		Grassed Waterwa	1.14	0.036	0.04	**0.02**

Total Tp (hr) : 0.46

CF CROZIER & ASSOCIATES INC
LAND DEVELOPMENT ENGINEERS

Project:	Parkbridge Craigleith	**D.A.**	**PRE-9B**
Project No.:	1046-4031	**Area**	**11.60 ha**
Design by:	DT / OD		
Date:	30-Apr-18		

HYDROLOGIC PARAMETERS

Pre-9B

CURVE NUMBER

Soil Series	Hydrologic Soil Group	Soil Texture	Soil Area Composition		Woodland			Meadow		
			Area(ha)	*Percent*	*Area*	*CN*	*CN*A*	*Area*	*CN*	*CN*A*
Vincent	C	silty clay loam		0.0		73			76	0
Dunedin	D	clay		0.0		79			81	0
Kemble	C	silty clay	9.3	80.0		73	0.0	9.00	76	684.253996
Waterloo	A	sandy loam	2.32	20.0	0.23	32	7.4	2.3	38	85.5317495
Granby	B	sand		0.0		60	0.0	0.00	65	0
Totals			11.6	100.0	0.23		7.424	11.3		769.785746

Wetlands			Lawn			Cultivated			Impervious	
Area	*CN*	*CN*A*	*Area*	*CN*	*CN*A*	*Area*	*CN*	*CN*A*	*Land Use*	*Area (ha)*
	50			79			82		Roadway	0.03
	50			84	0		86		Sidewalk	
	50			79	0		82		Driveway	0.01
	50			49	0		62		Building	0.07
	50			69			74			0
		0	0.0		0.0					0.11

Ximp **0** %

Timp **1** %

Composite Curve Number

68.0

Land Use	*Intial Abstraction (mm)*	*Area (ha)*	*IA*A*
Woodland	10	0.23	2.3
Meadow	8	11.25	90.0
Lawn	5	0.00	0.0
Cultivated	7		0.0
Impervious	2	0.11	0.2
		11.60	

7.98112633 **mm - Composite IA**

Total Property Area **11.60** **ha**

TIME OF CONCENTRATION

UPLANDS METHOD

Area Description	Area	Travel Length	Slope	Inlet time	Land Cover	Velocity(m/s	Travel Time (	Tc(hr)	Tp (hr)
Pre-9B		725	2	0.25	meadow	0.11	1.888	2.14	**1.43**

CF CROZIER & ASSOCIATES INC
LAND DEVELOPMENT ENGINEERS

Project:	Parkbridge Craigleith	**D.A.**	**PRE-9C**
Project No.:	1046-4031	**Area**	**0.96 ha**
Design by:	DT / OD		
Date:	30-Apr-18		

HYDROLOGIC PARAMETERS

Pre-9C

CURVE NUMBER

Soil Series	Hydrologic Soil Group	Soil Texture	Soil Area Composition		Woodland			Meadow		
			Area(ha)	*Percent*	*Area*	*CN*	*CN*A*	*Area*	*CN*	*CN*A*
Vincent	C	silty clay loam		0.0		73			76	0
Dunedin	D	clay		0.0		79			81	0
Kemble	C	silty clay		0.0		73			76	0
Waterloo	A	sandy loam	0.96	100.0	0.77	32	24.6	0.2	38	7.296
Granby	B	sand		0.0		60	0.0	0	65	0
Totals			1.0	100.0	0.77		24.576	0.2		7.296

Wetlands			Lawn			Cultivated			Impervious	
Area	*CN*	*CN*A*	*Area*	*CN*	*CN*A*	*Area*	*CN*	*CN*A*	*Land Use*	*Area (ha)*
	50			79			82		Roadway	
	50			84	0		86		Sidewalk	
	50			79	0		82		Driveway	
	50			49	0		62		Building	
	50			69			74		rip-rap channel	
		0	0.0		0.0					

Ximp **0** %

Timp **0** %

Composite Curve Number

33.2

Land Use	*Intial Abstraction (mm)*	*Area (ha)*	*IA*A*
Woodland	10	0.77	7.7
Meadow	8	0.19	1.5
Lawn	5	0.00	0.0
Cultivated	7		0.0
Impervious	2	0.00	0.0
		0.96	9.6 **mm - Composite IA**

Total Property Area **0.96** **ha**

TIME OF CONCENTRATION

UPLANDS METHOD

Area Description	Area	Travel Length	Slope	Inlet time	Land Cover	Velocity(m/s	Travel Time (	Tc(hr)	Tp (hr)
Pre-9C		70	30	0.25	Woodland	0.46	0.043	0.29	**0.20**

CF CROZIER & ASSOCIATES INC
LAND DEVELOPMENT ENGINEERS

Project:	Parkbridge Craigleith	**D.A.**	**PRE-9D**
Project No.:	1046-4031	**Area**	**1.87 ha**
Design by:	DT / OD		
Date:	30-Apr-18		

HYDROLOGIC PARAMETERS

Pre-9D

CURVE NUMBER

Soil Series	Hydrologic Soil Group	Soil Texture	Soil Area Composition		Woodland			Meadow		
			Area(ha)	*Percent*	*Area*	*CN*	*CN*A*	*Area*	*CN*	*CN*A*
Vincent	C	silty clay loam		0.0		73			76	0
Dunedin	D	clay		0.0		79			81	0
Kemble	C	silty clay		0.0		73			76	0
Waterloo	A	sandy loam	1.87	100.0	1.26	32	40.2	0.3	38	11.932
Granby	B	sand		0.0		60	0.0	0	65	0
Totals			1.9	100.0	1.26		40.192	0.3		11.932

Wetlands			Lawn			Cultivated			Impervious	
Area	*CN*	*CN*A*	*Area*	*CN*	*CN*A*	*Area*	*CN*	*CN*A*	*Land Use*	*Area (ha)*
	50			79			82		Roadway	
	50			84	0		86		Sidewalk	
	50			79	0		82		Driveway	
	50			49	0		62		Building	
	50			69			74		pond	0.3
		0	0.0		0.0					0.30

Ximp **16** %

Timp **16** %

Composite Curve Number

43.6

Land Use	*Intial Abstraction (mm)*	*Area (ha)*	*IA*A*
Woodland	10	1.26	12.6
Meadow	8	0.31	2.5
Lawn	5	0.00	0.0
Cultivated	7		0.0
Impervious	2	0.30	0.6
		1.87	8.4 **mm - Composite IA**

Total Property Area **1.87** **ha**

TIME OF CONCENTRATION

UPLANDS METHOD

Area Description	Area	Travel Length	Slope	Inlet time	Land Cover	Velocity(m/s	Travel Time (	Tc(hr)	Tp (hr)
Pre-9D		70	2.9	0.25	meadow	0.12	0.159	0.41	**0.27**
		60	30.0		Forest	0.46	0.036	0.04	**0.02**

Total Tp (hr) : 0.30

CF CROZIER & ASSOCIATES INC
LAND DEVELOPMENT ENGINEERS

Project:	Parkbridge Craigleith	**D.A.**	**PRE-9E**
Project No.:	1046-4031	**Area**	**7.73 ha**
Design by:	DT / OD		
Date:	30-Apr-18		

HYDROLOGIC PARAMETERS

Pre-9E

CURVE NUMBER

Soil Series	Hydrologic Soil Group	Soil Texture	Soil Area Composition		Woodland			Meadow		
			Area(ha)	*Percent*	*Area*	*CN*	*CN*A*	*Area*	*CN*	*CN*A*
Vincent	C	silty clay loam		0.0		73			76	0
Dunedin	D	clay		0.0		79			81	0
Kemble	C	silty clay		0.0		73			76	0
Waterloo	A	sandy loam		0.0		32	0.0		38	0
Granby	B	sand	7.73	100.0	3.09	60	185.5	4.638	65	301.47
Totals			7.7	100.0	3.09		185.52	4.6		301.47

Wetlands			Lawn			Cultivated			Impervious	
Area	*CN*	*CN*A*	*Area*	*CN*	*CN*A*	*Area*	*CN*	*CN*A*	*Land Use*	*Area (ha)*
	50			79			82		Roadway	
	50			84	0		86		Sidewalk	
	50			79	0		82		Driveway	0.00
	50		0.00	49	0		62		Building	0.00
	50			69			74		rip-rap chan	0
		0	0.0		0.0					

Ximp **0** %

Timp **0** %

Composite Curve Number (for previous areas) **63.0**

Land Use	*Intial Abstraction (mm)*	*Area (ha)*	*IA*A*
Woodland	10	3.09	30.9
Meadow	8	4.64	37.1
Lawn	5	0.00	0.0
Cultivated	7		0.0
Impervious	2	0.00	0.0
		7.73	8.8 **mm - Composite IA**

Total Property Area **7.73** **ha**

TIME OF CONCENTRATION

UPLANDS METHOD

Area Description	Area	Travel Length	Slope	Inlet time	Land Cover	Velocity(m/s	Travel Time (	Tc(hr)	Tp (hr)
Pre-9E		100	8	0.25	Forest	0.23	0.122	0.37	**0.25**
		130	8.0		meadow	0.23	0.158	0.16	**0.11**
		270	1.50		Grassed Ditch	0.61	0.123	0.12	**0.08**

Total Tp (hr) : 0.44

CF CROZIER & ASSOCIATES INC
LAND DEVELOPMENT ENGINEERS

Project:	Parkbridge Craigleith	**D.A.**	**PRE-9F**
Project No.:	1046-4031	**Area**	**3.44 ha**
Design by:	DT / OD		
Date:	30-Apr-18		

HYDROLOGIC PARAMETERS

Pre-9F

CURVE NUMBER

Soil Series	Hydrologic Soil Group	Soil Texture	Soil Area Composition		Woodland			Meadow		
			Area(ha)	*Percent*	*Area*	*CN*	*CN*A*	*Area*	*CN*	*CN*A*
Vincent	C	silty clay loam		0.0		73			76	0
Dunedin	D	clay		0.0		79			81	0
Kemble	C	silty clay		0.0		73			76	0
Waterloo	A	sandy loam		0.0		32	0.0		38	0
Granby	B	sand	3.44	100.0	0.69	60	41.3	2.752	65	178.88
Totals			3.4	100.0	0.69		41.28	2.8		178.88

Wetlands			Lawn			Cultivated			Impervious	
Area	*CN*	*CN*A*	*Area*	*CN*	*CN*A*	*Area*	*CN*	*CN*A*	*Land Use*	*Area (ha)*
	50			79			82		Roadway	
	50			84	0		86		Sidewalk	
	50			79	0		82		Driveway	0.00
	50		0.00	49	0		62		Building	0.00
	50			69			74		rip-rap chan	0
		0	0.0		0.0					

Ximp **0** %

Timp **0** %

Composite Curve Number (for previous areas) **64.0**

Land Use	*Intial Abstraction (mm)*	*Area (ha)*	*IA*A*
Woodland	10	0.69	6.9
Meadow	8	2.75	22.0
Lawn	5	0.00	0.0
Cultivated	7		0.0
Impervious	2	0.00	0.0
		3.44	8.4 **mm - Composite IA**

Total Property Area **3.44** **ha**

TIME OF CONCENTRATION

UPLANDS METHOD

Area Description	Area	Travel Length	Slope	Inlet time	Land Cover	Velocity(m/s	Travel Time (	Tc(hr)	Tp (hr)
Pre-9F									
		200	4.0	0.25	meadow	0.15	0.365	0.61	**0.41**
		270	0.50		Grassed Ditch	0.34	0.224	0.22	**0.15**
								Total Tp (hr) :	0.56

Existing Pond (Upper Lands) Stage - Storage - Discharge (Used in Pre-Development SWMHYMO Model)

Elevation	Area	Volume (m3)	Cumm. Volume (m3)	Discharge (m3/s)*	
189	2912	0		0	
190	6670	4791		0	
191	8726	12489		0	dead storage

* Note: As shown in Pre-Dev. SWMHYMO model, 100-year (344 m3) and Regional (1242 m3) event volumes are significantly below existing top of berm elevations. Therefore, no flow spills overtop of the existing berms and pond outflow discharge is 0 m3/s.

CROZIER & ASSOCIATES Consulting Engineers

Project Name: PARKBRIDGE CRAIGLEITH
Project Number: 1046-4031
Date: 7/11/2016
By: OD

D.A. NAME **POST 9B**
D.A. AREA (ha) **3.10**
Update: 1/24/2018
Update: BD

Hydrologic Parameters: STANDHYD Command
Post Development Drainage Area

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Silty Clay	Ksc	C	100	3.10
				0.00
				0.00
				0.00
Total Area Check				3.10

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
	0.522	98		98	0.408	98	0.699	98		98	1.6285	159.593
		98		98		98		98		98	0	0
		98		98		98		98		98	0	0
		98		98		98		98		98	0	0
Subtotal Area	0.5215		0		0.408		0.699		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
C	0		0		0		1.472	79	0		1.4715	116.25
0	0		0		0		0.000		0		0	0.00
0	0		0		0		0		0		0	0.00
0	0		0		0		0		0		0	0.00
Subtotal Area	0		0		0		1.472		0			

Pervious Area Calculations	Total Pervious Area	1.47
	Composite Pervious Curve Number	**79.0**
Impervious Area Calculations	Total Directly Connected Area	0.930
	Total Indirectly Connected Area	0.699
	Total Impervious Area	1.63
	% X imp	**30.0**
	% T imp	**52.5**
	Total Area Check	3.10

Initial Abstraction and Hydraulics Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	1.4715	7.3575
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	**5.0**	**3.0**	**30**	**0.250**
Impervious	**2.0**	**6.0**	**45**	**0.013**

CROZIER & ASSOCIATES Consulting Engineers

Project Name: PARKBRIDGE CRAIGLEITH
Project Number: 1046-4031
Date: 7/11/2016
By: OD

D.A. NAME **POST 9C & 9D**
D.A. AREA (ha) **2.47**
Update: 3/29/2018
Update: BD

Hydrologic Parameters: NASHYD Command
Post Development Drainage Area

Curve Number Calculation

Note: 9C & 9D catchments lumped.

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Waterloo Sandy Loam	Wsl	A	100	2.47
				0
				0
				0
Total Area				2.47

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
A		98		98		98	0.36	98		98	0.36	35.28
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.00		0.00		0.00		0.36		0.00			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
A	1.11	32	1.36	38	0.00		0.00		0.00		2.47	87.19
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal Area	1.11		1.36		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	2.47
	Total Impervious Area	0.36
	% Impervious	0.15
	Composite Curve Number	**49.6**
	Total Area Check	2.83

Initial Abstraction and Hydraulics Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Waterloo Sandy		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	1.11	11.12	0.12	1.11		0		0		0	0.13
Meadow	8	1.36	10.87	0.15	1.36		0		0		0	0.20
Wetland	12	0.00	0.00	0.05	0.00		0		41		0	0.00
Lawn	5	0.00	0.00		0.00		0		0		0	0.00
Cultivated	7	0.00	0.00		0.00		0		0		0	0.00
Impervious	2	0.36	0.72	0.95	0.36		0		0		0	0.34
Composite IA		2.83	**8.02**	Composite Runoff Coefficient								0.27

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
	155	**15**	9.68%						0.09	0.06	0.26	0.18

Appropriate calculated time to peak:	**0.18**	Appropriate Method:	Airport

CROZIER & ASSOCIATES Consulting Engineers

Project Name: PARKBRIDGE CRAIGLEITH
Project Number: 1046-4031
Date: 7/11/2016
By: OD

D.A. NAME **POST 9E**
D.A. AREA (ha) **2.10**
Update: 1/24/2018
Update: BD

Hydrologic Parameters: NASHYD Command
Post Development Drainage Area

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Waterloo Sandy Loam	Wsl	A	100	2.1
				0
				0
				0
Total Area				2.1

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
A		98		98		98	0.08	98	0.2	98	0.28	27.69
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.00		0.00		0.00		0.08		0.20			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland/SWMF		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
A	1.05	32	0.00	38	0.84	50	0.21	49	0.00		2.10	85.89
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal Area	1.05		0.00		0.84		0.21		0.00			

Composite Area Calculations		
	Total Pervious Area	2.10
	Total Impervious Area	0.28
	% Impervious	0.13
	Composite Curve Number	**54.1**
	Total Area Check	2.38

Initial Abstraction and Hydraulics Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Waterloo Sandy		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	1.05	10.50	0.12	1.05		0		0		0	0.13
Meadow	8	0.00	0.00		0.00		0		0		0	0.00
Wetland/SWMF	12	0.84	10.08	0.05	0.84		0		37		0	0.04
Lawn	5	0.21	1.05	0.25	0.21		0		0		0	0.05
Cultivated	7	0.00	0.00		0.00		0		0		0	0.00
Impervious	2	0.28	0.57	0.95	0.28		0		0		0	0.27
Composite IA		2.38	**9.32**	Composite Runoff Coefficient								0.23

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
	95	**19.8**	20.84%						0.05	0.03	0.17	0.11

Appropriate calculated time to peak:	**0.11**	Appropriate Method:	Airport

CROZIER & ASSOCIATES Consulting Engineers

Project Name: PARKBRIDGE CRAIGLEITH
Project Number: 1046-4031
Date: 7/11/2016
By: OD

D.A. NAME **POST 9G**
D.A. AREA (ha) **1.16**
Update: 1/24/2018
Update: BD

Hydrologic Parameters: NASHYD Command
Post Development Drainage Area

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Waterloo Sandy Loam	Wsl	A	100	1.16
				0
				0
				0
Total Area				1.16

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
A		98		98		98		98		98	0.00	0.00
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.00		0.00		0.00		0.00		0.00			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
A	0.93	32	0.23	38	0.00		0.00		0.00		1.16	38.51
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal Area	0.93		0.23		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	1.16
	Total Impervious Area	0.00
	% Impervious	0.0
	Composite Curve Number	**33.2**
	Total Area Check	1.16

Initial Abstraction and Hydraulics Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Waterloo Sandy		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.93	9.28	0.12	0.93		0		0		0	0.11
Meadow	8	0.23	1.86	0.10	0.23		0		0		0	0.02
Wetland	12	0.00	0.00	0.05	0.00		0		28		0	0.00
Lawn	5	0.00	0.00		0.00		0		0		0	0.00
Cultivated	7	0.00	0.00		0.00		0		0		0	0.00
Impervious	2	0.00	0.00	0.95	0.00		0		0		0	0.00
Composite IA		1.16	**9.60**	Composite Runoff Coefficient								0.12

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
	101	**18.9**	18.71%						0.05	0.04	0.20	0.14

Appropriate calculated time to peak:	**0.14**	Appropriate Method:	Airport

CROZIER & ASSOCIATES Consulting Engineers

Project Name: PARKBRIDGE CRAIGLEITH
Project Number: 1046-4031
Date: 7/11/2016
By: OD

D.A. NAME **POST 9H**
D.A. AREA (ha) **1.67**
Update: 1/24/2018
Update: BD

Hydrologic Parameters: NASHYD Command
Post Development Drainage Area

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Waterloo Sandy Loam	Wsl	A	100	1.67
				0
				0
				0
Total Area				1.67

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
A		98		98		98		98		98	0.00	0.00
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.00		0.00		0.00		0.00		0.00			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
A	0.92	32	0.75	38	0.00		0.00		0.00		1.67	57.95
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal Area	0.92		0.75		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	1.67
	Total Impervious Area	0.00
	% Impervious	0.0
	Composite Curve Number	**34.7**
	Total Area Check	1.67

Initial Abstraction and Hydraulics Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Waterloo Sandy		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.92	9.19	0.12	0.92		0		0		0	0.11
Meadow	8	0.75	6.01	0.10	0.75		0		0		0	0.08
Wetland	12	0.00	0.00	0.05	0.00		0		33		0	0.00
Lawn	5	0.00	0.00		0.00		0		0		0	0.00
Cultivated	7	0.00	0.00		0.00		0		0		0	0.00
Impervious	2	0.00	0.00	0.95	0.00		0		0		0	0.00
Composite IA		1.67	**9.10**	Composite Runoff Coefficient								0.11

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
	117	**3.6**	3.08%						0.08	0.06	0.40	0.27

Appropriate calculated time to peak:	**0.27**	Appropriate Method:	Airport

CROZIER & ASSOCIATES Consulting Engineers

Project Name: PARKBRIDGE CRAIGLEITH
Project Number: 1046-4031
Date: 7/11/2016
By: OD

D.A. NAME **POST 9P**
D.A. AREA (ha) **1.75**
Update: 1/24/2018
Update: BD

Hydrologic Parameters: STANDHYD Command
Post Development Drainage Area

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Kemble Silty Clay	Ksc	C	60	1.05
Waterloo sandy loam	Wsl	A	40	0.70
				0.00
				0.00
Total Area Check				1.75

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
	0.210	98		98	0.120	98	0.510	98		98	0.84	82.32
		98		98		98		98		98	0	0
		98		98		98		98		98	0	0
		98		98		98		98		98	0	0
Subtotal Area	0.21		0		0.120		0.510		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
C	0		0		0		0.546	69	0		0.546	37.67
A	0		0		0		0.364	49	0		0.364	17.84
0	0		0		0		0		0		0	0.00
0	0		0		0		0		0		0	0.00
Subtotal Area	0		0		0		0.910		0			

Pervious Area Calculations	Total Pervious Area	0.91
	Composite Pervious Curve Number	**61.0**
Impervious Area Calculations	Total Directly Connected Area	0.33
	Total Indirectly Connected Area	0.510
	Total Impervious Area	0.84
	% X imp	**18.9**
	% T imp	**48.0**
	Total Area Check	1.75

Initial Abstraction and Hydraulics Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	0.91	4.55
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	**5.0**	**2.0**	**30**	**0.250**
Impervious	**2.0**	**2.0**	**108**	**0.013**

Project Name: PARKBRIDGE CRAIGLEITH
Project Number: 1046-4031
Date: 7/11/2016
By: OD

D.A. NAME **POST 9J**
D.A. AREA (ha) **0.81**
Update: 1/24/2018
Update: BD

Hydrologic Parameters: NASHYD Command
Post Development Drainage Area

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Granby Sand	Gs	B	100	0.81
				0
				0
				0
Total Area				0.81

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
B		98		98	0.12	98		98		98	0.12	11.91
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.00		0.00		0.12		0.00		0.00			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland/SWMF		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
B	0.20	60	0.49	65	0.00	50	0.00		0.00		0.69	43.74
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal Area	0.20		0.49		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	0.69
	Total Impervious Area	0.12
	% Impervious	0.2
	Composite Curve Number	**68.7**
	Total Area Check	0.81

Initial Abstraction and Hydraulics Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Granby Sand		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.20	2.03	0.25	0.20		0		0		0	0.05
Meadow	8	0.49	3.89	0.28	0.49		0		0		0	0.14
Wetland/SWMF	12	0.00	0.00	0.05	0.00		0		23		0	0.00
Lawn	5	0.00	0.00		0.00		0		0		0	0.00
Cultivated	7	0.00	0.00		0.00		0		0		0	0.00
Impervious	2	0.12	0.24	0.95	0.12		0		0		0	0.12
Composite IA		0.81	**7.60**	Composite Runoff Coefficient								0.37

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
	124	**4.7**	3.79%						0.09	0.06	0.28	0.19

Appropriate calculated time to peak:	**0.19**	Appropriate Method:	Airport

CROZIER & ASSOCIATES Consulting Engineers

Project Name: PARKBRIDGE CRAIGLEITH
Project Number: 1046-4031
Date: 7/11/2016
By: OD

D.A. NAME **POST 9K & 9L**
D.A. AREA (ha) **1.32**
Update: 1/24/2018
Update: BD

Hydrologic Parameters: NASHYD Command
Post Development Drainage Area

Curve Number Calculation

Note: 9K & 9L catchments lumped.

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Waterloo Sandy Loam	Wsl	A	40	0.528
Granby Sand	Gs	B	60	0.792
				0
				0
Total Area				1.32

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
A		98		98		98		98		98	0.00	0.00
B		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.00		0.00		0.00		0.00		0.00			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland/SWMF		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
A	0.37	32	0.16	38	0.00	50	0.00	49	0.00		0.53	17.85
B	0.55	60	0.24	65	0.00		0.00		0.00		0.79	48.71
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal Area	0.92		0.40		0.00		0.00		0.00			

	Composite Area Calculations	Total Pervious Area	1.32
		Total Impervious Area	0.00
		% Impervious	0.0
		Composite Curve Number	**50.4**
		Total Area Check	1.32

Initial Abstraction and Hydraulics Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Waterloo Sandy		Granby Sand		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.92	9.24	0.08	0.37	0.25	0.55		0		0	0.17
Meadow	8	0.40	3.17	0.10	0.16	0.28	0.24		0		0	0.08
Wetland/SWMF	12	0.00	0.00	0.05	0.00		0.00		30		0	0.00
Lawn	5	0.00	0.00		0.00		0.00		0		0	0.00
Cultivated	7	0.00	0.00		0.00		0.00		0		0	0.00
Impervious	2	0.00	0.00	0.95	0.00		0.00		0		0	0.00
Composite IA		1.32	**9.40**	Composite Runoff Coefficient								0.19

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
	279	**10.8**	3.87%						0.20	0.13	0.53	0.35

Appropriate calculated time to peak:	**0.35**	Appropriate Method:	Airport

CROZIER & ASSOCIATES Consulting Engineers

Project Name: PARKBRIDGE CRAIGLEITH
Project Number: 1046-4031
Date: 7/11/2016
By: OD

D.A. NAME **POST 9M**
D.A. AREA (ha) **5.80**
Update: 1/24/2018
Update: BD

Hydrologic Parameters: STANDHYD Command
Post Development Drainage Area

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Granby sand	Gs	B	100	5.80
				0.00
				0.00
				0.00
Total Area Check				5.80

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
	0.767	98		98	0.562	98	1.919	98		98	3.2466	318.1668
		98		98		98		98		98	0	0
		98		98		98		98		98	0	0
		98		98		98		98		98	0	0
Subtotal Area	0.7665		0		0.562		1.919		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
B	0		0		0		2.553	69	0		2.5534	176.18
0	0		0		0		0.000		0		0	0.00
0	0		0		0		0		0		0	0.00
0	0		0		0		0		0		0	0.00
Subtotal Area	0		0		0		2.553		0			

Pervious Area Calculations	Total Pervious Area	2.55
	Composite Pervious Curve Number	**69.0**
Impervious Area Calculations	Total Directly Connected Area	1.3281
	Total Indirectly Connected Area	1.9185
	Total Impervious Area	3.25
	% X imp	**22.9**
	% T imp	**56.0**
	Total Area Check	5.80

Initial Abstraction and Hydraulics Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	2.5534	12.767
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	**5.0**	**2.0**	**30**	**0.250**
Impervious	**2.0**	**2.0**	**197**	**0.013**

CROZIER & ASSOCIATES
Consulting Engineers

Project Name: PARKBRIDGE CRAIGLEITH
Project Number: 1046-4031
Date: 7/11/2016
By: OD

D.A. NAME **POST 9N**
D.A. AREA (ha) **1.85**
Update: 1/24/2018
Update: BD

Hydrologic Parameters: STANDHYD Command
Post Development Drainage Area

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Granby Sand	Gs	B	100	1.85
				0.00
				0.00
				0.00
Total Area Check				1.85

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
B		98		98		98	0.142	98	0.35	98	0.4918	48.1915
		98		98		98		98		98	0	0
		98		98		98		98		98	0	0
		98		98		98		98		98	0	0
Subtotal Area	0		0		0.000		0.142		0.35			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
B	0		0		0		0.815	69	0		0.815	56.23
0	0		0		0		0.543	49	0		0.5433	26.62
0	0		0		0		0		0		0	0.00
0	0		0		0		0		0		0	0.00
Subtotal Area	0		0		0		1.358		0			

	Pervious Area Calculations	Total Pervious Area	1.36
		Composite Pervious Curve Number	**61.0**
	Impervious Area Calculations	Total Directly Connected Area	0.350
		Total Indirectly Connected Area	0.142
		Total Impervious Area	0.49
		% X imp	**18.9**
		% T imp	**26.6**
		Total Area Check	1.85

Initial Abstraction and Hydraulics Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	1.3583	6.79125
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	**5.0**	**2.0**	**30**	**0.250**
Impervious	**2.0**	**2.0**	**111**	**0.013**

CROZIER & ASSOCIATES Consulting Engineers

Project Name: PARKBRIDGE CRAIGLEITH
Project Number: 1046-4031
Date: 7/11/2016
By: OD

D.A. NAME **POST 9O**
D.A. AREA (ha) **0.35**
Update: 1/24/2018
Update: BD

Hydrologic Parameters: NASHYD Command
Post Development Drainage Area

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Granby Sand	Gs	B	100	0.35
				0
				0
				0
Total Area				0.35

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
B		98		98		98		98		98	0.00	0.00
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.00		0.00		0.00		0.00		0.00			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland/SWMF		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
B	0.00	60	0.35	65	0.00	50	0.00		0.00		0.35	22.75
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal Area	0.00		0.35		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	0.35
	Total Impervious Area	0.00
	% Impervious	0.0
	Composite Curve Number	**65.0**
	Total Area Check	0.35

Initial Abstraction and Hydraulics Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Granby Sand		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.00	0.00		0.00		0		0		0	0.00
Meadow	8	0.35	2.80	0.28	0.35		0		0		0	0.10
Wetland/SWMF	12	0.00	0.00	0.05	0.00		0		15		0	0.00
Lawn	5	0.00	0.00		0.00		0		0		0	0.00
Cultivated	7	0.00	0.00		0.00		0		0		0	0.00
Impervious	2	0.00	0.00	0.95	0.00		0		0		0	0.00
Composite IA		0.35	**8.00**	Composite Runoff Coefficient								0.28

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
	134	**3.3**	2.46%						0.12	0.08	0.38	0.26

Appropriate calculated time to peak:	**0.26**	Appropriate Method:	Airport

CROZIER & ASSOCIATES Consulting Engineers

Project Name: PARKBRIDGE CRAIGLEITH
Project Number: 1046-4031
Date: 7/11/2016
By: OD

D.A. NAME **POST EXT-8**
D.A. AREA (ha) **7.60**
Update: 1/24/2018
Update: BD

Hydrologic Parameters: NASHYD Command
Post Development Drainage Area

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Waterloo sandy loam	Wsl	A	30	2.28
Kemble silty clay	Ksc	C	70	5.32
				0
				0
Total Area				7.6

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
A		98		98		98		98		98	0.00	0.00
C		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.00		0.00		0.00		0.00		0.00			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland/SWMF		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
A	0.91	32	1.37	38	0.00	50	0.00		0.00		2.28	81.17
C	2.13	73	3.19	76	0.00		0.00		0.00		5.32	397.94
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal Area	3.04		4.56		0.00		0.00		0.00			

Composite Area Calculations	Total Pervious Area	7.60	
	Total Impervious Area	0.00	
	% Impervious	0.0	
	Composite Curve Number	**63.0**	
	Total Area Check	7.60	

Initial Abstraction and Hydraulics Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Waterloo sandy		Kemble silty clay		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	3.04	30.40	0.08	0.91	0.35	2.13		0		0	0.82
Meadow	8	4.56	36.48	0.10	1.37	0.40	3.19		0		0	1.41
Wetland/SWMF	12	0.00	0.00	0.05	0.00		0.00		71		0	0.00
Lawn	5	0.00	0.00		0.00		0.00		0		0	0.00
Cultivated	7	0.00	0.00		0.00		0.00		0		0	0.00
Impervious	2	0.00	0.00	0.95	0.00		0.00		0		0	0.00
Composite IA		7.60	**8.80**	Composite Runoff Coefficient								0.29

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
	648	**16**	2.47%						0.42	0.28	0.83	0.55

Appropriate calculated time to peak:	**0.55**	Appropriate Method:	Airport

CROZIER & ASSOCIATES Consulting Engineers

Project Name: PARKBRIDGE CRAIGLEITH
Project Number: 1046-4031
Date: 7/11/2016
By: OD

D.A. NAME **POST 8-i**
D.A. AREA (ha) **2.23**
Update: 4/30/2018
Update: BD

Hydrologic Parameters: NASHYD Command
Post Development Drainage Area

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Granby Sand	Gs	B	100	2.23
				0
				0
				0
Total Area				2.23

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
B		98		98		98		98		98	0.00	0.00
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.00		0.00		0.00		0.00		0.00			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland/SWMF		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
B	0.67	60	1.56	65	0.00	50	0.00		0.00		2.23	141.61
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal Area	0.67		1.56		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	2.23
	Total Impervious Area	0.00
	% Impervious	0.0
	Composite Curve Number	**63.5**
	Total Area Check	2.23

Initial Abstraction and Hydraulics Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Granby Sand		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.67	6.69	0.27	0.67		0		0		0	0.18
Meadow	8	1.56	12.49	0.30	1.56		0		0		0	0.47
Wetland/SWMF	12	0.00	0.00	0.05	0.00		0		39		0	0.00
Lawn	5	0.00	0.00		0.00		0		0		0	0.00
Cultivated	7	0.00	0.00		0.00		0		0		0	0.00
Impervious	2	0.00	0.00	0.95	0.00		0		0		0	0.00
Composite IA		2.23	**8.60**	Composite Runoff Coefficient								0.29

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
	219	**8.4**	3.84%						0.15	0.10	0.42	0.28

Appropriate calculated time to peak:	**0.28**	Appropriate Method:	Airport

APPENDIX C

SWMHYMO Modeling

```
00001> 2     Metric units
00002> *#*****************************************************************************
00003> *#  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
00004> *#  Date         : 2018-01-24
00005> *#  Modeller     : [OD,BD,BH - ADAPTED FROM NM 2009 MODEL]
00006> *#  Company      : C.F. Crozier & Associates Inc.
00007> *#  License #    : 3737016
00008> *#*****************************************************************************
00009> START              TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1]
00010> *%                   ["2yr.stm"] <--storm filename, one per line for NSTORM time
00011> *#*****************************************************************************
00012> *%-----------------|-------------------------------------------------------------|
00013> READ STORM         STORM_FILENAME=["STORM.001"]
00014> *%-----------------|-------------------------------------------------------------|
00015> *%-----------------|-------------------------------------------------------------|
00016> *#-----------------|-------------------------------------------------------------|
00017> *#-----------------|-PRE-DEVELOPMENT-----------------------------------------------|
00018> *#-----------------|-------------------------------------------------------------|
00019> *#-----------------|-------------------------------------------------------------|
00020> *#-----------------|-Subwatershed 9 External Drainage Area-------------------------|
00021> *#-----------------|-Per 'The Orchards' FSSWM Report-------------------------------|
00022> *#-----------------|-Prepared by Higgins Engineering (Jan. 2005)-------------------|
00023> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha--------|
00024> *#-----------------|-------------------------------------------------------------|
00025> *%-----------------|-------------------------------------------------------------|
00026> CALIB NASHYD       ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00027>                     DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00028>                     N=[3], TP=[1.00]hrs,
00029>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00030> *%-----------------|-------------------------------------------------------------|
00031> ROUTE CHANNEL      IDout=[2], NHYD=["Channel"], IDin=[1],
00032>                     RDT=[1](min),
00033>                     CHLGTH=[550](m),  CHSLOPE=[2](%),
00034>                                       FPSLOPE=[2](%),
00035>                     SECNUM=[1],       NSEG=[3]
00036>                     ( SEGROUGH, SEGDIST (m))=[0.035,8  -0.035,12  0.035,20]
00037>                     ( DISTANCE (m), ELEVATION (m))= [0,102]
00038>                                                     [8,100]
00039>                                                     [12,100]
00040>                                                     [20,102]
00041> *%-----------------|-------------------------------------------------------------|
00042> CALIB STANDHYD     ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00043>                     XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00044>                     Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00045>                             DCAY=[2](/hr), F=[0](mm),
00046>                     Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00047>                                LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00048>                     Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00049>                                LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00050>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00051> *%-----------------|-------------------------------------------------------------|
00052> ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00053>                     RDT=[1](min),
00054>                          TABLE of ( OUTFLOW-STORAGE ) values
00055>                                   (cms) - (ha-m)
00056>                                 [   0.0 ,  0.0 ]
00057>                                 [   0.0100 ,  0.0610 ]
00058>                                 [   0.0400 ,  0.1310 ]
00059>                                 [   0.0700 ,  0.2110 ]
00060>                                 [   0.2600 ,  0.3000 ]
00061>                                 [   0.6000 ,  0.3940 ]
00062>                                 [   1.0200 ,  0.4950 ]
00063>                                 [   1.5200 ,  0.6020 ]
00064>                                 [   2.0800 ,  0.7160 ]
00065>                                 [   2.6900 ,  0.8370 ]
00066>                                 [   -1  ,  -1  ]  (max twenty pts)
00067>                          IDovf=[   ], NHYDovf=[   ]
00068> *%-----------------|-------------------------------------------------------------|
00069> *#-----------------|-------------------------------------------------------------|
00070> *#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00071> *#-----------------|-------------------------------------------------------------|
00072> *%-----------------|-------------------------------------------------------------|
00073> ADD HYD            IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00074> *%-----------------|-------------------------------------------------------------|
00075> *#-----------------|-------------------------------------------------------------|
00076> *#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
00077> *#-----------------|-------------------------------------------------------------|
00078> *%-----------------|-------------------------------------------------------------|
00079> CALIB NASHYD       ID[1], NHYD=["9A"], DT=[1]min, AREA=[2.58](ha),
00080>                     DWF=[0](cms),  CN/C=[48.8], IA=[8.4](mm),
00081>                     N=[3], TP=[0.46]hrs,
00082>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00083> *%-----------------|-------------------------------------------------------------|
00084> CALIB NASHYD       ID=[2], NHYD=["9B"], DT=[1]min, AREA=[11.6](ha),
00085>                     DWF=[0](cms),  CN/C=[68.0], IA=[8.0](mm),
00086>                     N=[3], TP=[1.43]hrs,
00087>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00088> *%-----------------|-------------------------------------------------------------|
00089> ADD HYD            IDsum=[10], NHYD=["9A9B"], IDs to add=[1,2]
00090> *%-----------------|-------------------------------------------------------------|
00091> CALIB NASHYD       ID=[1], NHYD=["9C"], DT=[1]min, AREA=[0.96](ha),
00092>                     DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
00093>                     N=[3], TP=[0.2]hrs,
00094>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00095> *%-----------------|-------------------------------------------------------------|
00096> CALIB NASHYD       ID=[2], NHYD=["9D"], DT=[1]min, AREA=[1.87](ha),
00097>                     DWF=[0](cms),  CN/C=[43.6], IA=[8.4](mm),
00098>                     N=[3], TP=[0.30]hrs,
00099>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00100> *%-----------------|-------------------------------------------------------------|
00101> *#-----------------|-------------------------------------------------------------|
00102> *#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00103> *#-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00104> *#-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00105> *#-----------------|-------------------------------------------------------------|
00106> *%-----------------|-------------------------------------------------------------|
00107> ROUTE RESERVOIR     IDout=[4],   NHYD=["ExPond"],  IDin=[2],
00108>                     RDT=[1](min),
00109>                          TABLE of ( OUTFLOW-STORAGE ) values
00110>                                   (cms) - (ha-m)
00111>                                 [   0.0 ,  0.0 ]
00112>                                 [   0.00 ,  0.479 ]
00113>                                 [   0.00 ,  1.249 ]
00114>                                 [   -1  ,  -1  ]  (max twenty pts)
00115>                          IDovf=[   ], NHYDovf=[   ]
00116> *%-----------------|-------------------------------------------------------------|
00117> ADD HYD            IDsum=[9], NHYD=["9C9D"], IDs to add=[1,4]
00118> *%-----------------|-------------------------------------------------------------|
00119> *#-----------------|-------------------------------------------------------------|
00120> *#-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
00121> *#-----------------|-------------------------------------------------------------|
00122> *%-----------------|-------------------------------------------------------------|
00123> CALIB NASHYD       ID=[7], NHYD=["9E"], DT=[1]min, AREA=[7.7](ha),
00124>                     DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
00125>                     N=[3], TP=[0.44]hrs,
00126>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00127> *%-----------------|-------------------------------------------------------------|
00128> CALIB NASHYD       ID=[8], NHYD=["9F"], DT=[1]min, AREA=[3.44](ha),
00129>                     DWF=[0](cms),  CN/C=[64.0], IA=[8.4](mm),
00130>                     N=[3], TP=[0.56]hrs,
00131>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00132> *%-----------------|-------------------------------------------------------------|
00133> *#-----------------|-------------------------------------------------------------|
00134> *#-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD-------------|
00135> *#-----------------|-------------------------------------------------------------|
00136> *%-----------------|-------------------------------------------------------------|
00137> ADD HYD            IDsum=[1], NHYD=["WC9LS"], IDs to add=[5,10,9,7,8]
00138> *%-----------------|-------------------------------------------------------------|
00139> SAVE HYD           ID=[1],   # OF PCYCLES=[10],  ICASEsh=[1]
00140>                     HYD_COMMENT=["Lakeshore Road Hydrograph"]
00141> *%-----------------|-------------------------------------------------------------|
00142> *%-----------------|-------------------------------------------------------------|
00143> START              TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[2]
00144> *                  ["5yr.stm"] <--storm filename, one per line for NSTORM time
00145> *%-----------------|-------------------------------------------------------------|
00146> *%-----------------|-------------------------------------------------------------|
00147> START              TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[3]
00148> *                  ["10yr.stm"] <--storm filename, one per line for NSTORM time
00149> *%-----------------|-------------------------------------------------------------|
00150> *%-----------------|-------------------------------------------------------------|
00151> START              TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[4]
00152> *                  ["25yr.stm"] <--storm filename, one per line for NSTORM time
00153> *%-----------------|-------------------------------------------------------------|
00154> *%-----------------|-------------------------------------------------------------|
00155> START              TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[5]
00156> *                  ["50yr.stm"] <--storm filename, one per line for NSTORM time
00157> *%-----------------|-------------------------------------------------------------|
00158> *%-----------------|-------------------------------------------------------------|
00159> START              TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[6]
00160> *                  ["100yr.stm"] <--storm filename, one per line for NSTORM tim
00161> *%-----------------|-------------------------------------------------------------|
00162> *%-----------------|-------------------------------------------------------------|
00163> START              TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[7]
00164> *                  ["tim.stm"] <--storm filename, one per line for NSTORM time
00165> *%-----------------|-------------------------------------------------------------|
00166> FINISH
00167>
00168>
00169>
00170>
00171>
```

```
00001> ================================================================================
00002>
00003>   SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
00004>   S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>   SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>       S  W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>   SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9   =========
00008>                                                        9   9  9   9   # 3737016
00009>          StormWater Management HYdrologic Model         999    999    =========
00010>
00011>  ********************************************************************************
00012>  ***************************** SWMHYMO Ver/4.05  ********************************
00013>  *********  A single event and continuous hydrologic simulation model  *********
00014>  *********     based on the principles of HYMO and its successors      *********
00015>  *********                  OTTHYMO-83 and OTTHYMO-89.                  *********
00016>  ********************************************************************************
00017>  ******** Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018>  *********                  Ottawa,  Ontario: (613) 836-3884           *********
00019>  *********                  Gatineau, Quebec: (819) 243-6858           *********
00020>  *********                  E-Mail: swmhymo@jfsa.Com                   *********
00021>  ********************************************************************************
00022>
00023>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024>  +++++++++ Licensed user: C.F. Crozier & Associates Inc.                +++++++++
00025>  +++++++++                  Collingwood          SERIAL#:3737016       +++++++++
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>  ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
00036>  *****------------------------------------------------------------------------*****
00037>  *****    ID:  Hydrograph IDentification numbers, (1-10).                  *****
00038>  *****  NHYD:  Hydrograph reference numbers, (6 digits or characters).     *****
00039>  *****  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).   *****
00040>  ***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).     *****
00041>  ***** TpeakDate_hh:mm is the date and time of the peak flow.              *****
00042>  *****  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).       *****
00043>  *****  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).       *****
00044>  *****    *:  see WARNING or NOTE message printed at end of run.          *****
00045>  *****   **:  see  ERROR  message printed at end of run.                  *****
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  **********************   S U M M A R Y   O U T P U T   **********************
00054>  ********************************************************************************
00055>  *         DATE: 2018-04-30     TIME: 00:33:54     RUN COUNTER: 000890          *
00056>  ********************************************************************************
00057>  * Input   filename: C:\PLAYGR~1\PRE_KCHU.dat                                   *
00058>  * Output  filename: C:\PLAYGR~1\PRE_KCHU.out                                   *
00059>  * Summary filename: C:\PLAYGR~1\PRE_KCHU.sum                                   *
00060>  * User comments:                                                              *
00061>  * 1:_____________________________________________________________________     *
00062>  * 2:_____________________________________________________________________     *
00063>  * 3:_____________________________________________________________________     *
00064>  ********************************************************************************
00065>
00066>
00067> #*************************************************************************
00068> #  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
00069> #  Date        : 2018-01-24
00070> #  Modeller    : [OD,BD,BH - ADAPTED FROM NM 2009 MODEL]
00071> #  Company     : C.F. Crozier & Associates Inc.
00072> #  License #   : 3737016
00073> #*************************************************************************
00074>  RUN:COMMAND#
00075>  001:0001----------------------------------------------------------------------
00076>      START
00077>       [TZERO =    .00 hrs on        0]
00078>       [METOUT=   2    (1=imperial, 2=metric output)]
00079>       [NSTORM=   1 ]
00080>       [NRUN  =   1 ]
00081> #*************************************************************************
00082>  001:0002----------------------------------------------------------------------
00083>      READ STORM
00084>       Filename = STORM.001
00085>       Comment  =
00086>       [SDT=60.00:SDUR=   6.00:PTOT=  37.90]
00087> #-----------------|-------------------------------------------------------|
00088> #-----------------|-PRE-DEVELOPMENT---------------------------------------|
00089> #-----------------|-------------------------------------------------------|
00090> #-----------------|-------------------------------------------------------|
00091> #-----------------|-Subwatershed 9 External Drainage Area-----------------|
00092> #-----------------|-Per 'The Orchards' FSSWM Report-----------------------|
00093> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)-----------|
00094> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00095> #-----------------|-------------------------------------------------------|
00096>  001:0003---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00097>      CALIB NASHYD       01:EXT-9A       101.80    1.204 No_date    3:51   11.23
00098>        [CN= 80.0: N= 3.00]
00099>        [Tp= 1.00:DT= 1.00]
00100>  001:0004---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00101>      ROUTE CHANNEL   -> 01:EXT-9A       101.80    1.204 No_date    3:51   11.23
00102>        [RDT= 1.00] out<- 02:Channel      101.80    1.199 No_date    3:54   11.23
00103>        [L/S/n=  550./2.000/.035]
00104>        {Vmax= 1.227:Dmax=  .193}
00105>  001:0005---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00106>      CALIB STANDHYD     03:EXT-9B        14.80     .438 No_date    3:01   15.55
00107>        [XIMP=.35:TIMP=.35]
00108>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00109>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00110>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00111>  001:0006---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00112>      ROUTE RESERVOIR -> 03:EXT-9B        14.80     .438 No_date    3:01   15.55
00113>        [RDT= 1.00] out<- 04:Orchards     14.80     .059 No_date    4:13   15.55
00114>        {MxStoUsed=.1806E+00}
00115> #-----------------|-------------------------------------------------------|
00116> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing-----|
00117> #-----------------|-------------------------------------------------------|
00118>  001:0007---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00119>      ADD HYD            02:Channel      101.80    1.199 No_date    3:54   11.23
00120>                       + 04:Orchards     14.80     .059 No_date    4:13   15.55
00121>        [DT= 1.00]  SUM=  05:RD19         116.60    1.257 No_date    3:54   11.78
00122> #-----------------|-------------------------------------------------------|
00123> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands-----------|
00124> #-----------------|-------------------------------------------------------|
00125>  001:0008---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00126>      CALIB NASHYD       01:9A             2.58     .013 No_date    3:17    2.94
00127>        [CN= 48.8: N= 3.00]
00128>        [Tp=  .46:DT= 1.00]
00129>  001:0009---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00130>      CALIB NASHYD       02:9B            11.60     .055 No_date    4:29    5.98
00131>        [CN= 68.0: N= 3.00]
00132>        [Tp= 1.43:DT= 1.00]
00133>  001:0010---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00134>      ADD HYD            01:9A             2.58     .013 No_date    3:17    2.94
00135>                       + 02:9B            11.60     .055 No_date    4:29    5.98
00136>        [DT= 1.00]  SUM=  10:9A9B          14.18     .059 No_date    4:21    5.43
00137>  001:0011---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00138>      CALIB NASHYD       01:9C              .96     .004 No_date    3:04    1.48
00139>        [CN= 33.2: N= 3.00]
00140>        [Tp=  .20:DT= 1.00]
00141>  001:0012---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00142>      CALIB NASHYD       02:9D             1.87     .010 No_date    3:08    2.43
00143>        [CN= 43.6: N= 3.00]
00144>        [Tp=  .30:DT= 1.00]
00145> #-----------------|-------------------------------------------------------|
00146> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00147> #-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN-------|
00148> #-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00149> #-----------------|-------------------------------------------------------|
00150>  001:0013---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00151>      ROUTE RESERVOIR -> 02:9D           1.87     .010 No_date    3:08    2.43
00152>   *    [RDT= 1.00] out<- 04:ExPond       1.87     .000 No_date    0:00     .00
00153>        {MxStoUsed=.4544E-02}
00154>  001:0014---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00155>      ADD HYD            01:9C              .96     .004 No_date    3:04    1.48
00156>                       + 04:ExPond         1.87     .000 No_date    0:00     .00
00157>        [DT= 1.00]  SUM=  09:9C9D          2.83     .004 No_date    3:04     .50
00158> #-----------------|-------------------------------------------------------|
00159> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands-----------|
00160> #-----------------|-------------------------------------------------------|
00161>  001:0015---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00162>      CALIB NASHYD       07:9E             7.70     .066 No_date    3:15    4.75
00163>        [CN= 63.0: N= 3.00]
00164>        [Tp=  .44:DT= 1.00]
00165>  001:0016---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00166>      CALIB NASHYD       08:9F             3.44     .027 No_date    3:23    5.05
00167>        [CN= 64.0: N= 3.00]
00168>        [Tp=  .56:DT= 1.00]
00169> #-----------------|-------------------------------------------------------|
00170> #-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD--------|
00171> #-----------------|-------------------------------------------------------|
00172>  001:0017---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00173>      ADD HYD            05:RD19         116.60    1.257 No_date    3:54   11.78
00174>                       + 10:9A9B         14.18     .059 No_date    4:21    5.43
00175>                       + 09:9C9D          2.83     .004 No_date    3:04     .50
00176>                       + 07:9E            7.70     .066 No_date    3:15    4.75
00177>                       + 08:9F            3.44     .027 No_date    3:23    5.05
00178>        [DT= 1.00]  SUM=  01:WC9LS        144.75    1.369 No_date    3:52   10.40
00179>  001:0018---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00180>      SAVE HYD           01:WC9LS        144.75    1.369 No_date    3:52   10.40
00181>       fname :C:\PLAYGR~1\H-WC9LS.001
00182>       remark:Lakeshore Road Hydrograph
00183>   ** END OF RUN :   1
00184>
00185> ********************************************************************************
00186>
00187>
00188>
00189>
00190>
00191>  RUN:COMMAND#
00192>  002:0001----------------------------------------------------------------------
00193>      START
00194>       [TZERO =    .00 hrs on        0]
00195>       [METOUT=   2    (1=imperial, 2=metric output)]
00196>       [NSTORM=   1 ]
00197>       [NRUN  =   2 ]
00198> #*************************************************************************
00199> #  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
00200> #  Date        : 2018-01-24
00201> #  Modeller    : [OD,BD,BH - ADAPTED FROM NM 2009 MODEL]
00202> #  Company     : C.F. Crozier & Associates Inc.
00203> #  License #   : 3737016
00204> #*************************************************************************
00205> #*************************************************************************
00206>  002:0002----------------------------------------------------------------------
00207>      READ STORM
00208>       Filename = STORM.001
00209>       Comment  =
00210>       [SDT=60.00:SDUR=   6.00:PTOT=  52.70]
00211> #-----------------|-------------------------------------------------------|
00212> #-----------------|-PRE-DEVELOPMENT---------------------------------------|
00213> #-----------------|-------------------------------------------------------|
00214> #-----------------|-------------------------------------------------------|
00215> #-----------------|-Subwatershed 9 External Drainage Area-----------------|
00216> #-----------------|-Per 'The Orchards' FSSWM Report-----------------------|
00217> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)-----------|
00218> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00219> #-----------------|-------------------------------------------------------|
00220>  002:0003---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00221>      CALIB NASHYD       01:EXT-9A       101.80    2.176 No_date    3:49   20.46
00222>        [CN= 80.0: N= 3.00]
00223>        [Tp= 1.00:DT= 1.00]
00224>  002:0004---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00225>      ROUTE CHANNEL   -> 01:EXT-9A       101.80    2.176 No_date    3:49   20.46
00226>        [RDT= 1.00] out<- 02:Channel      101.80    2.167 No_date    3:53   20.46
00227>        [L/S/n=  550./2.000/.035]
00228>        {Vmax= 1.516:Dmax=  .269}
00229>  002:0005---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00230>      CALIB STANDHYD     03:EXT-9B        14.80     .866 No_date    3:01   26.69
00231>        [XIMP=.35:TIMP=.35]
00232>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00233>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00234>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00235>  002:0006---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00236>      ROUTE RESERVOIR -> 03:EXT-9B        14.80     .866 No_date    3:01   26.69
00237>        [RDT= 1.00] out<- 04:Orchards     14.80     .226 No_date    3:36   26.69
00238>        {MxStoUsed=.2842E+00}
00239> #-----------------|-------------------------------------------------------|
00240> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing-----|
00241> #-----------------|-------------------------------------------------------|
00242>  002:0007---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00243>      ADD HYD            02:Channel      101.80    2.167 No_date    3:53   20.46
00244>                       + 04:Orchards     14.80     .226 No_date    3:36   26.69
00245>        [DT= 1.00]  SUM=  05:RD19         116.60    2.384 No_date    3:51   21.25
00246> #-----------------|-------------------------------------------------------|
00247> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands-----------|
00248> #-----------------|-------------------------------------------------------|
00249>  002:0008---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00250>      CALIB NASHYD       01:9A             2.58     .028 No_date    3:16    6.31
00251>        [CN= 48.8: N= 3.00]
00252>        [Tp=  .46:DT= 1.00]
00253>  002:0009---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00254>      CALIB NASHYD       02:9B            11.60     .111 No_date    4:27   12.17
00255>        [CN= 68.0: N= 3.00]
00256>        [Tp= 1.43:DT= 1.00]
00257>  002:0010---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00258>      ADD HYD            01:9A             2.58     .028 No_date    3:16    6.31
00259>                       + 02:9B            11.60     .111 No_date    4:27   12.17
00260>        [DT= 1.00]  SUM=  10:9A9B          14.18     .121 No_date    4:18   11.10
00261>  002:0011---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00262>      CALIB NASHYD       01:9C              .96     .008 No_date    3:04    3.35
00263>        [CN= 33.2: N= 3.00]
00264>        [Tp=  .20:DT= 1.00]
00265>  002:0012---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00266>      CALIB NASHYD       02:9D             1.87     .021 No_date    3:07    5.26
00267>        [CN= 43.6: N= 3.00]
00268>        [Tp=  .30:DT= 1.00]
00269> #-----------------|-------------------------------------------------------|
00270> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
```

```
#-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
#-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
#-----------------|-----------------------------------------------------------|
 002:0013---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ROUTE RESERVOIR -> 02:9D              1.87    .021 No_date    3:07    5.26
 *   [RDT= 1.00] out<- 04:ExPond          1.87    .000 No_date    0:00     .00
     {MxStoUsed=.9842E-02}
 002:0014---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             01:9C              .96    .008 No_date    3:04    3.35
                      + 04:ExPond         1.87    .000 No_date    0:00     .00
      [DT= 1.00]  SUM=  09:9C9D           2.83    .008 No_date    3:04    1.14
#-----------------|-----------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
#-----------------|-----------------------------------------------------------|
 002:0015---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        07:9E             7.70    .136 No_date    3:14    9.98
      [CN= 63.0: N= 3.00]
      [Tp=  .44:DT= 1.00]
 002:0016---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        08:9F             3.44    .055 No_date    3:21   10.48
      [CN= 64.0: N= 3.00]
      [Tp=  .56:DT= 1.00]
#-----------------|-----------------------------------------------------------|
#-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD------------|
#-----------------|-----------------------------------------------------------|
 002:0017---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             05:RD19         116.60   2.384 No_date    3:51   21.25
                      + 10:9A9B          14.18    .121 No_date    4:18   11.10
                      + 09:9C9D           2.83    .008 No_date    3:04    1.14
                      + 07:9E             7.70    .136 No_date    3:14    9.98
                      + 08:9F             3.44    .055 No_date    3:21   10.48
      [DT= 1.00]  SUM=  01:WC9LS        144.75   2.617 No_date    3:49   19.01
 002:0018---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    SAVE HYD            01:WC9LS        144.75   2.617 No_date    3:49   19.01
      fname :C:\PLAYGR~1\H-WC9LS.002
      remark:Lakeshore Road Hydrograph
  ** END OF RUN :   2
 
*******************************************************************************
 
 
 
 
 
 RUN:COMMAND#
 003:0001-----------------------------------------------------------------------
    START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  =   3 ]
#******************************************************************************
#  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
#  Date        : 2018-01-24
#  Modeller    : [OD,BD,BH - ADAPTED FROM NM 2009 MODEL]
#  Company     : C.F. Crozier & Associates Inc.
#  License #   : 3737016
#******************************************************************************
#******************************************************************************
 003:0002-----------------------------------------------------------------------
    READ STORM
     Filename = STORM.001
     Comment  =
     [SDT=60.00:SDUR=   6.00:PTOT=  66.00]
#-----------------|-----------------------------------------------------------|
#-----------------|-PRE-DEVELOPMENT-------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-Subwatershed 9 External Drainage Area---------------------|
#-----------------|-Per 'The Orchards' FSSWM Report---------------------------|
#-----------------|-Prepared by Higgins Engineering (Jan. 2005)---------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
#-----------------|-----------------------------------------------------------|
 003:0003---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        01:EXT-9A       101.80   3.221 No_date    3:47   29.89
      [CN= 80.0: N= 3.00]
      [Tp= 1.00:DT= 1.00]
 003:0004---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ROUTE CHANNEL   -> 01:EXT-9A        101.80   3.221 No_date    3:47   29.89
      [RDT= 1.00] out<- 02:Channel      101.80   3.210 No_date    3:51   29.89
      [L/S/n=  550./2.000/.035]
      {Vmax= 1.755:Dmax=  .337}
 003:0005---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB STANDHYD      03:EXT-9B        14.80   1.268 No_date    3:01   37.69
      [XIMP=.35:TIMP=.35]
      [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
      [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 003:0006---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ROUTE RESERVOIR -> 03:EXT-9B         14.80   1.268 No_date    3:01   37.69
      [RDT= 1.00] out<- 04:Orchards      14.80    .515 No_date    3:22   37.69
     {MxStoUsed=.3704E+00}
#-----------------|-----------------------------------------------------------|
#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
#-----------------|-----------------------------------------------------------|
 003:0007---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             02:Channel      101.80   3.210 No_date    3:51   29.89
                      + 04:Orchards      14.80    .515 No_date    3:22   37.69
      [DT= 1.00]  SUM=  05:RD19         116.60   3.624 No_date    3:48   30.88
#-----------------|-----------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
#-----------------|-----------------------------------------------------------|
 003:0008---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        01:9A             2.58    .045 No_date    3:15   10.24
      [CN= 48.8: N= 3.00]
      [Tp=  .46:DT= 1.00]
 003:0009---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        02:9B            11.60    .175 No_date    4:24   18.95
      [CN= 68.0: N= 3.00]
      [Tp= 1.43:DT= 1.00]
 003:0010---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             01:9A             2.58    .045 No_date    3:15   10.24
                      + 02:9B            11.60    .175 No_date    4:24   18.95
      [DT= 1.00]  SUM=  10:9A9B          14.18    .191 No_date    4:14   17.36
 003:0011---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        01:9C              .96    .013 No_date    3:03    5.61
      [CN= 33.2: N= 3.00]
      [Tp=  .20:DT= 1.00]
 003:0012---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        02:9D             1.87    .034 No_date    3:07    8.59
      [CN= 43.6: N= 3.00]
      [Tp=  .30:DT= 1.00]
#-----------------|-----------------------------------------------------------|
#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
#-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
#-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
#-----------------|-----------------------------------------------------------|
 003:0013---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ROUTE RESERVOIR -> 02:9D              1.87    .034 No_date    3:07    8.59
 *   [RDT= 1.00] out<- 04:ExPond          1.87    .000 No_date    0:00     .00
     {MxStoUsed=.1607E-01}
 003:0014---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             01:9C              .96    .013 No_date    3:03    5.61
                      + 04:ExPond         1.87    .000 No_date    0:00     .00
      [DT= 1.00]  SUM=  09:9C9D           2.83    .013 No_date    3:03    1.90
#-----------------|-----------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
#-----------------|-----------------------------------------------------------|
 003:0015---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        07:9E             7.70    .219 No_date    3:13   15.85
      [CN= 63.0: N= 3.00]
      [Tp=  .44:DT= 1.00]
 003:0016---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        08:9F             3.44    .088 No_date    3:20   16.55
      [CN= 64.0: N= 3.00]
      [Tp=  .56:DT= 1.00]
#-----------------|-----------------------------------------------------------|
#-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD------------|
#-----------------|-----------------------------------------------------------|
 003:0017---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             05:RD19         116.60   3.624 No_date    3:48   30.88
                      + 10:9A9B          14.18    .191 No_date    4:14   17.36
                      + 09:9C9D           2.83    .013 No_date    3:03    1.90
                      + 07:9E             7.70    .219 No_date    3:13   15.85
                      + 08:9F             3.44    .088 No_date    3:20   16.55
      [DT= 1.00]  SUM=  01:WC9LS        144.75   4.007 No_date    3:44   27.85
 003:0018---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    SAVE HYD            01:WC9LS        144.75   4.007 No_date    3:44   27.85
      fname :C:\PLAYGR~1\H-WC9LS.003
      remark:Lakeshore Road Hydrograph
  ** END OF RUN :   3
 
*******************************************************************************
 
 
 
 
 
 RUN:COMMAND#
 004:0001-----------------------------------------------------------------------
    START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  =   4 ]
#******************************************************************************
#  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
#  Date        : 2018-01-24
#  Modeller    : [OD,BD,BH - ADAPTED FROM NM 2009 MODEL]
#  Company     : C.F. Crozier & Associates Inc.
#  License #   : 3737016
#******************************************************************************
#******************************************************************************
 004:0002-----------------------------------------------------------------------
    READ STORM
     Filename = STORM.001
     Comment  =
     [SDT=60.00:SDUR=   6.00:PTOT=  77.90]
#-----------------|-----------------------------------------------------------|
#-----------------|-PRE-DEVELOPMENT-------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-Subwatershed 9 External Drainage Area---------------------|
#-----------------|-Per 'The Orchards' FSSWM Report---------------------------|
#-----------------|-Prepared by Higgins Engineering (Jan. 2005)---------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
#-----------------|-----------------------------------------------------------|
 004:0003---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        01:EXT-9A       101.80   4.153 No_date    3:46   38.96
      [CN= 80.0: N= 3.00]
      [Tp= 1.00:DT= 1.00]
 004:0004---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ROUTE CHANNEL   -> 01:EXT-9A        101.80   4.153 No_date    3:46   38.96
      [RDT= 1.00] out<- 02:Channel      101.80   4.142 No_date    3:50   38.96
      [L/S/n=  550./2.000/.035]
      {Vmax= 1.897:Dmax=  .386}
 004:0005---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB STANDHYD      03:EXT-9B        14.80   1.607 No_date    3:00   47.92
      [XIMP=.35:TIMP=.35]
      [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
      [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 004:0006---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ROUTE RESERVOIR -> 03:EXT-9B         14.80   1.607 No_date    3:00   47.92
      [RDT= 1.00] out<- 04:Orchards      14.80    .796 No_date    3:17   47.91
     {MxStoUsed=.4411E+00}
#-----------------|-----------------------------------------------------------|
#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
#-----------------|-----------------------------------------------------------|
 004:0007---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             02:Channel      101.80   4.142 No_date    3:50   38.96
                      + 04:Orchards      14.80    .796 No_date    3:17   47.91
      [DT= 1.00]  SUM=  05:RD19         116.60   4.727 No_date    3:46   40.10
#-----------------|-----------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
#-----------------|-----------------------------------------------------------|
 004:0008---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        01:9A             2.58    .062 No_date    3:14   14.38
      [CN= 48.8: N= 3.00]
      [Tp=  .46:DT= 1.00]
 004:0009---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        02:9B            11.60    .237 No_date    4:23   25.79
      [CN= 68.0: N= 3.00]
      [Tp= 1.43:DT= 1.00]
 004:0010---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             01:9A             2.58    .062 No_date    3:14   14.38
                      + 02:9B            11.60    .237 No_date    4:23   25.79
      [DT= 1.00]  SUM=  10:9A9B          14.18    .259 No_date    4:14   23.72
 004:0011---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        01:9C              .96    .018 No_date    3:03    8.05
      [CN= 33.2: N= 3.00]
      [Tp=  .20:DT= 1.00]
 004:0012---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        02:9D             1.87    .047 No_date    3:07   12.13
      [CN= 43.6: N= 3.00]
      [Tp=  .30:DT= 1.00]
#-----------------|-----------------------------------------------------------|
#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
#-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
#-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
#-----------------|-----------------------------------------------------------|
 004:0013---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ROUTE RESERVOIR -> 02:9D              1.87    .047 No_date    3:07   12.13
 *   [RDT= 1.00] out<- 04:ExPond          1.87    .000 No_date    0:00     .00
     {MxStoUsed=.2269E-01}
 004:0014---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    ADD HYD             01:9C              .96    .018 No_date    3:03    8.05
                      + 04:ExPond         1.87    .000 No_date    0:00     .00
      [DT= 1.00]  SUM=  09:9C9D           2.83    .018 No_date    3:03    2.73
#-----------------|-----------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
#-----------------|-----------------------------------------------------------|
 004:0015---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        07:9E             7.70    .296 No_date    3:13   21.88
      [CN= 63.0: N= 3.00]
      [Tp=  .44:DT= 1.00]
 004:0016---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
    CALIB NASHYD        08:9F             3.44    .119 No_date    3:20   22.74
      [CN= 64.0: N= 3.00]
      [Tp=  .56:DT= 1.00]
```

```
#------------------|-------------------------------------------------------------|
#------------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD------------|
#------------------|-------------------------------------------------------------|
 004:0017----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            05:RD19         116.60    4.727 No_date    3:46   40.10
                      +  10:9A9B          14.18     .259 No_date    4:14   23.72
                      +  09:9C9D           2.83     .018 No_date    3:03    2.73
                      +  07:9E             7.70     .296 No_date    3:13   21.88
                      +  08:9F             3.44     .119 No_date    3:20   22.74
       [DT= 1.00]  SUM=  01:WC9LS        144.75    5.259 No_date    3:42   36.38
 004:0018----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     SAVE HYD           01:WC9LS        144.75    5.259 No_date    3:42   36.38
      fname :C:\PLAYGR~1\H-WC9LS.004
      remark:Lakeshore Road Hydrograph
  ** END OF RUN :   4

********************************************************************************




 RUN:COMMAND#
 005:0001----------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  =   5 ]
#*******************************************************************************
#  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
#  Date        : 2018-01-24
#  Modeller    : [OD,BD,BH - ADAPTED FROM NM 2009 MODEL]
#  Company     : C.F. Crozier & Associates Inc.
#  License #   : 3737016
#*******************************************************************************
#*******************************************************************************
 005:0002----------------------------------------------------------------------
     READ STORM
      Filename = STORM.001
      Comment  =
      [SDT=60.00:SDUR=   6.00:PTOT=  83.90]
#------------------|-------------------------------------------------------------|
#------------------|-PRE-DEVELOPMENT-------------------------------------------|
#------------------|-------------------------------------------------------------|
#------------------|-------------------------------------------------------------|
#------------------|-Subwatershed 9 External Drainage Area---------------------|
#------------------|-Per 'The Orchards' FSSWM Report---------------------------|
#------------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
#------------------|-------------------------------------------------------------|
 005:0003----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9A       101.80    4.646 No_date    3:46   43.72
      [CN= 80.0: N= 3.00]
      [Tp= 1.00:DT= 1.00]
 005:0004----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE CHANNEL    -> 01:EXT-9A       101.80    4.646 No_date    3:46   43.72
      [RDT= 1.00] out<- 02:Channel       101.80    4.637 No_date    3:49   43.72
      [L/S/n=  550./2.000/.035]
      {Vmax= 1.982:Dmax=  .412}
 005:0005----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:EXT-9B         14.80    1.769 No_date    3:00   52.72
      [XIMP=.35:TIMP=.35]
      [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
      [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 005:0006----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:EXT-9B         14.80    1.769 No_date    3:00   52.72
      [RDT= 1.00] out<- 04:Orchards      14.80     .927 No_date    3:16   52.72
     {MxStoUsed=.4726E+00}
#------------------|-------------------------------------------------------------|
#------------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
#------------------|-------------------------------------------------------------|
 005:0007----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:Channel      101.80    4.637 No_date    3:49   43.72
                      +  04:Orchards      14.80     .927 No_date    3:16   52.72
       [DT= 1.00]  SUM=  05:RD19         116.60    5.304 No_date    3:41   44.86
#------------------|-------------------------------------------------------------|
#------------------|-Parkbridge Craigleith - Upper Terrace Lands----------------|
#------------------|-------------------------------------------------------------|
 005:0008----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9A             2.58     .072 No_date    3:14   16.67
      [CN= 48.8: N= 3.00]
      [Tp=  .46:DT= 1.00]
 005:0009----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9B            11.60     .270 No_date    4:23   29.48
      [CN= 68.0: N= 3.00]
      [Tp= 1.43:DT= 1.00]
 005:0010----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9A             2.58     .072 No_date    3:14   16.67
                      +  02:9B            11.60     .270 No_date    4:23   29.48
       [DT= 1.00]  SUM=  10:9A9B          14.18     .296 No_date    4:13   27.15
 005:0011----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9C              .96     .021 No_date    3:03    9.43
      [CN= 33.2: N= 3.00]
      [Tp=  .20:DT= 1.00]
 005:0012----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9D             1.87     .054 No_date    3:07   14.11
      [CN= 43.6: N= 3.00]
      [Tp=  .30:DT= 1.00]
#------------------|-------------------------------------------------------------|
#------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
#------------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
#------------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
#------------------|-------------------------------------------------------------|
 005:0013----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:9D             1.87     .054 No_date    3:07   14.11
   *   [RDT= 1.00] out<- 04:ExPond        1.87     .000 No_date    0:00     .00
     {MxStoUsed=.2638E-01}
 005:0014----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9C              .96     .021 No_date    3:03    9.43
                      +  04:ExPond         1.87     .000 No_date    0:00     .00
       [DT= 1.00]  SUM=  09:9C9D          2.83     .021 No_date    3:03    3.20
#------------------|-------------------------------------------------------------|
#------------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
#------------------|-------------------------------------------------------------|
 005:0015----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       07:9E             7.70     .338 No_date    3:13   25.15
      [CN= 63.0: N= 3.00]
      [Tp=  .44:DT= 1.00]
 005:0016----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       08:9F             3.44     .136 No_date    3:19   26.10
      [CN= 64.0: N= 3.00]
      [Tp=  .56:DT= 1.00]
#------------------|-------------------------------------------------------------|
#------------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD------------|
#------------------|-------------------------------------------------------------|
 005:0017----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            05:RD19         116.60    5.304 No_date    3:41   44.86
                      +  10:9A9B          14.18     .296 No_date    4:13   27.15
                      +  09:9C9D           2.83     .021 No_date    3:03    3.20
                      +  07:9E             7.70     .338 No_date    3:13   25.15
                      +  08:9F             3.44     .136 No_date    3:19   26.10
       [DT= 1.00]  SUM=  01:WC9LS        144.75    5.917 No_date    3:41   40.81
 005:0018----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     SAVE HYD           01:WC9LS        144.75    5.917 No_date    3:41   40.81
      fname :C:\PLAYGR~1\H-WC9LS.005
      remark:Lakeshore Road Hydrograph
  ** END OF RUN :   5

********************************************************************************




 RUN:COMMAND#
 006:0001----------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  =   6 ]
#*******************************************************************************
#  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
#  Date        : 2018-01-24
#  Modeller    : [OD,BD,BH - ADAPTED FROM NM 2009 MODEL]
#  Company     : C.F. Crozier & Associates Inc.
#  License #   : 3737016
#*******************************************************************************
#*******************************************************************************
 006:0002----------------------------------------------------------------------
     READ STORM
      Filename = STORM.001
      Comment  =
      [SDT=60.00:SDUR=   6.00:PTOT=  96.00]
#------------------|-------------------------------------------------------------|
#------------------|-PRE-DEVELOPMENT-------------------------------------------|
#------------------|-------------------------------------------------------------|
#------------------|-------------------------------------------------------------|
#------------------|-Subwatershed 9 External Drainage Area---------------------|
#------------------|-Per 'The Orchards' FSSWM Report---------------------------|
#------------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
#------------------|-------------------------------------------------------------|
 006:0003----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9A       101.80    5.716 No_date    3:45   53.60
      [CN= 80.0: N= 3.00]
      [Tp= 1.00:DT= 1.00]
 006:0004----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE CHANNEL    -> 01:EXT-9A       101.80    5.716 No_date    3:45   53.60
      [RDT= 1.00] out<- 02:Channel       101.80    5.701 No_date    3:48   53.60
      [L/S/n=  550./2.000/.035]
      {Vmax= 2.102:Dmax=  .458}
 006:0005----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:EXT-9B         14.80    2.107 No_date    3:00   63.33
      [XIMP=.35:TIMP=.35]
      [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
      [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 006:0006----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:EXT-9B         14.80    2.107 No_date    3:00   63.33
      [RDT= 1.00] out<- 04:Orchards      14.80    1.213 No_date    3:13   63.33
     {MxStoUsed=.5363E+00}
#------------------|-------------------------------------------------------------|
#------------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
#------------------|-------------------------------------------------------------|
 006:0007----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:Channel      101.80    5.701 No_date    3:48   53.60
                      +  04:Orchards      14.80    1.213 No_date    3:13   63.33
       [DT= 1.00]  SUM=  05:RD19         116.60    6.526 No_date    3:43   54.83
#------------------|-------------------------------------------------------------|
#------------------|-Parkbridge Craigleith - Upper Terrace Lands----------------|
#------------------|-------------------------------------------------------------|
 006:0008----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9A             2.58     .094 No_date    3:14   21.67
      [CN= 48.8: N= 3.00]
      [Tp=  .46:DT= 1.00]
 006:0009----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9B            11.60     .343 No_date    4:21   37.32
      [CN= 68.0: N= 3.00]
      [Tp= 1.43:DT= 1.00]
 006:0010----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9A             2.58     .094 No_date    3:14   21.67
                      +  02:9B            11.60     .343 No_date    4:21   37.32
       [DT= 1.00]  SUM=  10:9A9B          14.18     .378 No_date    4:12   34.47
 006:0011----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9C              .96     .028 No_date    3:03   12.49
      [CN= 33.2: N= 3.00]
      [Tp=  .20:DT= 1.00]
 006:0012----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9D             1.87     .071 No_date    3:06   18.44
      [CN= 43.6: N= 3.00]
      [Tp=  .30:DT= 1.00]
#------------------|-------------------------------------------------------------|
#------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
#------------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
#------------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
#------------------|-------------------------------------------------------------|
 006:0013----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:9D             1.87     .071 No_date    3:06   18.44
   *   [RDT= 1.00] out<- 04:ExPond        1.87     .000 No_date    0:00     .00
     {MxStoUsed=.3448E-01}
 006:0014----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9C              .96     .028 No_date    3:03   12.49
                      +  04:ExPond         1.87     .000 No_date    0:00     .00
       [DT= 1.00]  SUM=  09:9C9D          2.83     .028 No_date    3:03    4.24
#------------------|-------------------------------------------------------------|
#------------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
#------------------|-------------------------------------------------------------|
 006:0015----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       07:9E             7.70     .432 No_date    3:12   32.17
      [CN= 63.0: N= 3.00]
      [Tp=  .44:DT= 1.00]
 006:0016----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       08:9F             3.44     .174 No_date    3:19   33.30
      [CN= 64.0: N= 3.00]
      [Tp=  .56:DT= 1.00]
#------------------|-------------------------------------------------------------|
#------------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD------------|
#------------------|-------------------------------------------------------------|
 006:0017----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            05:RD19         116.60    6.526 No_date    3:43   54.83
                      +  10:9A9B          14.18     .378 No_date    4:12   34.47
                      +  09:9C9D           2.83     .028 No_date    3:03    4.24
                      +  07:9E             7.70     .432 No_date    3:12   32.17
                      +  08:9F             3.44     .174 No_date    3:19   33.30
       [DT= 1.00]  SUM=  01:WC9LS        144.75    7.313 No_date    3:40   50.13
 006:0018----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     SAVE HYD           01:WC9LS        144.75    7.313 No_date    3:40   50.13
      fname :C:\PLAYGR~1\H-WC9LS.006
      remark:Lakeshore Road Hydrograph
  ** END OF RUN :   6

********************************************************************************
```

```
00811>  RUN:COMMAND#
00812>  007:0001----------------------------------------------------------------------
00813>       START
00814>        [TZERO =    .00 hrs on        0]
00815>        [METOUT=   2    (1=imperial, 2=metric output)]
00816>        [NSTORM=   1 ]
00817>        [NRUN  =   7 ]
00818> #*************************************************************************
00819> #  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
00820> #  Date        : 2018-01-24
00821> #  Modeller    : [OD,BD,BH - ADAPTED FROM NM 2009 MODEL]
00822> #  Company     : C.F. Crozier & Associates Inc.
00823> #  License #   : 3737016
00824> #*************************************************************************
00825> #*************************************************************************
00826>  007:0002----------------------------------------------------------------------
00827>       READ STORM
00828>        Filename = STORM.001
00829>        Comment  =
00830>        [SDT=60.00:SDUR=  12.00:PTOT= 193.00]
00831> #-----------------|----------------------------------------------------------|
00832> #-----------------|-PRE-DEVELOPMENT---------------------------------------|
00833> #-----------------|----------------------------------------------------------|
00834> #-----------------|----------------------------------------------------------|
00835> #-----------------|-Subwatershed 9 External Drainage Area-----------------|
00836> #-----------------|-Per 'The Orchards' FSSWM Report-----------------------|
00837> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)------------|
00838> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00839> #-----------------|----------------------------------------------------------|
00840>  007:0003---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00841>       CALIB NASHYD       01:EXT-9A       101.80    6.917 No_date    7:46  140.53
00842>        [CN= 80.0: N= 3.00]
00843>        [Tp= 1.00:DT= 1.00]
00844>  007:0004---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00845>       ROUTE CHANNEL   -> 01:EXT-9A       101.80    6.917 No_date    7:46  140.53
00846>        [RDT= 1.00] out<- 02:Channel      101.80    6.911 No_date    7:49  140.53
00847>        [L/S/n=  550./2.000/.035]
00848>        {Vmax= 2.235:Dmax=  .508}
00849>  007:0005---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00850>       CALIB STANDHYD     03:EXT-9B        14.80    1.529 No_date    7:00  127.41
00851>        [XIMP=.35:TIMP=.35]
00852>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00853>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00854>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00855>  007:0006---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00856>       ROUTE RESERVOIR -> 03:EXT-9B        14.80    1.529 No_date    7:00  127.41
00857>        [RDT= 1.00] out<- 04:Orchards     14.80    1.186 No_date    7:13  127.40
00858>       {MxStoUsed=.5306E+00}
00859> #-----------------|----------------------------------------------------------|
00860> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00861> #-----------------|----------------------------------------------------------|
00862>  007:0007---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00863>       ADD HYD            02:Channel      101.80    6.911 No_date    7:49  140.53
00864>                        +  04:Orchards     14.80    1.186 No_date    7:13  127.40
00865>        [DT= 1.00]  SUM=  05:RD19         116.60    7.896 No_date    7:44  138.86
00866> #-----------------|----------------------------------------------------------|
00867> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands-----------|
00868> #-----------------|----------------------------------------------------------|
00869>  007:0008---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00870>       CALIB NASHYD       01:9A             2.58     .122 No_date    7:11   75.54
00871>        [CN= 48.8: N= 3.00]
00872>        [Tp=  .46:DT= 1.00]
00873>  007:0009---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00874>       CALIB NASHYD       02:9B            11.60     .566 No_date    9:15  112.39
00875>        [CN= 68.0: N= 3.00]
00876>        [Tp= 1.43:DT= 1.00]
00877>  007:0010---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00878>       ADD HYD            01:9A             2.58     .122 No_date    7:11   75.54
00879>                        +  02:9B            11.60     .566 No_date    9:15  112.39
00880>        [DT= 1.00]  SUM=  10:9A9B           14.18     .656 No_date    9:09  105.68
00881>  007:0011---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00882>       CALIB NASHYD       01:9C              .96     .033 No_date    7:02   48.43
00883>        [CN= 33.2: N= 3.00]
00884>        [Tp=  .20:DT= 1.00]
00885>  007:0012---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00886>       CALIB NASHYD       02:9D             1.87     .085 No_date    7:05   66.41
00887>        [CN= 43.6: N= 3.00]
00888>        [Tp=  .30:DT= 1.00]
00889> #-----------------|----------------------------------------------------------|
00890> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00891> #-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00892> #-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00893> #-----------------|----------------------------------------------------------|
00894>  007:0013---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00895>       ROUTE RESERVOIR -> 02:9D             1.87     .085 No_date    7:05   66.41
00896>   *   [RDT= 1.00] out<- 04:ExPond          1.87     .000 No_date    0:00     .00
00897>       {MxStoUsed=.1242E+00}
00898>  007:0014---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00899>       ADD HYD            01:9C              .96     .033 No_date    7:02   48.43
00900>                        +  04:ExPond          1.87     .000 No_date    0:00     .00
00901>        [DT= 1.00]  SUM=  09:9C9D           2.83     .033 No_date    7:02   16.43
00902> #-----------------|----------------------------------------------------------|
00903> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands-----------|
00904> #-----------------|----------------------------------------------------------|
00905>  007:0015---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00906>       CALIB NASHYD       07:9E             7.70     .510 No_date    7:10  101.78
00907>        [CN= 63.0: N= 3.00]
00908>        [Tp=  .44:DT= 1.00]
00909>  007:0016---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00910>       CALIB NASHYD       08:9F             3.44     .216 No_date    7:16  104.06
00911>        [CN= 64.0: N= 3.00]
00912>        [Tp=  .56:DT= 1.00]
00913> #-----------------|----------------------------------------------------------|
00914> #-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD-----------|
00915> #-----------------|----------------------------------------------------------|
00916>  007:0017---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00917>       ADD HYD            05:RD19         116.60    7.896 No_date    7:44  138.86
00918>                        +  10:9A9B          14.18     .656 No_date    9:09  105.68
00919>                        +  09:9C9D           2.83     .033 No_date    7:02   16.43
00920>                        +  07:9E             7.70     .510 No_date    7:10  101.78
00921>                        +  08:9F             3.44     .216 No_date    7:16  104.06
00922>        [DT= 1.00]  SUM=  01:WC9LS        144.75    9.070 No_date    7:38  130.42
00923>  007:0018---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00924>       SAVE HYD           01:WC9LS        144.75    9.070 No_date    7:38  130.42
00925>        fname :C:\PLAYGR~1\H-WC9LS.007
00926>        remark:Lakeshore Road Hydrograph
00927>  007:0002----------------------------------------------------------------------
00928>       FINISH
00929> ----------------------------------------------------------------------------
00930> ****************************************************************************
00931>       WARNINGS / ERRORS / NOTES
00932>       -------------------------
00933>  001:0013 ROUTE RESERVOIR
00934>        *** WARNING: Outflow volume is less than inflow volume.
00935>        *** WARNING: Outflow volume is less than inflow volume.
00936>        *** WARNING: Outflow volume is less than inflow volume.
00937>        *** WARNING: Outflow volume is less than inflow volume.
00938>        *** WARNING: Outflow volume is less than inflow volume.
00939>        *** WARNING: Outflow volume is less than inflow volume.
00940>        *** WARNING: Outflow volume is less than inflow volume.
00941>    Simulation ended on 2018-04-30     at 00:33:59
00942> ============================================================================
00943>
00944>
```

```
00001> 2     Metric units
00002> *#*************************************************************************
00003> *#  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
00004> *#  Date         : 2018-01-24
00005> *#  Modeller     : [OD,BD,BH - ADAPTED FROM NM 2009 MODEL]
00006> *#  Company      : C.F. Crozier & Associates Inc.
00007> *#  License #    : 3737016
00008> *#*************************************************************************
00009> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1]
00010> *%                    ["25mm.stm"] <--storm filename, one per line for NSTORM tim
00011> *#*************************************************************************
00012>
00013> *#*************************************************************************
00014> *#*****************************25mm storm*********************************
00015> *#*************************************************************************
00016>
00017> *%------------------|-------------------------------------------------------|
00018> READ STORM           STORM_FILENAME=["25mm.stm"]
00019> *%------------------|-------------------------------------------------------|
00020>
00021> *#------------------|-------------------------------------------------------|
00022> *#-----------------|-PRE-DEVELOPMENT-----------------------------------------|
00023> *#------------------|-------------------------------------------------------|
00024> *#------------------|-------------------------------------------------------|
00025> *#-----------------|-Subwatershed 9 External Drainage Area-------------------|
00026> *#-----------------|-Per 'The Orchards' FSSWM Report-------------------------|
00027> *#-----------------|-Prepared by Higgins Engineering (Jan. 2005)-------------|
00028> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00029> *#------------------|-------------------------------------------------------|
00030> *%------------------|-------------------------------------------------------|
00031> CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00032>                     DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00033>                     N=[3], TP=[1.00]hrs,
00034>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00035> *%------------------|-------------------------------------------------------|
00036> ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
00037>                     RDT=[1](min),
00038>                     CHLGTH=[550](m),  CHSLOPE=[2](%),
00039>                                       FPSLOPE=[2](%),
00040>                     SECNUM=[1],       NSEG=[3]
00041>                     ( SEGROUGH, SEGDIST (m))=[0.035,8  -0.035,12  0.035,20]
00042>                     ( DISTANCE (m), ELEVATION (m))= [0,102]
00043>                                                     [8,100]
00044>                                                     [12,100]
00045>                                                     [20,102]
00046> *%------------------|-------------------------------------------------------|
00047> CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00048>                     XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00049>                     Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00050>                             DCAY=[2](/hr), F=[0](mm),
00051>                     Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00052>                                          LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00053>                     Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00054>                                          LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00055>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00056> *%------------------|-------------------------------------------------------|
00057> ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00058>                     RDT=[1](min),
00059>                           TABLE of ( OUTFLOW-STORAGE ) values
00060>                                      (cms) - (ha-m)
00061>                                    [   0.0 ,  0.0 ]
00062>                                    [   0.0100 ,  0.0610 ]
00063>                                    [   0.0400 ,  0.1310 ]
00064>                                    [   0.0700 ,  0.2110 ]
00065>                                    [   0.2600 ,  0.3000 ]
00066>                                    [   0.6000 ,  0.3940 ]
00067>                                    [   1.0200 ,  0.4950 ]
00068>                                    [   1.5200 ,  0.6020 ]
00069>                                    [   2.0800 ,  0.7160 ]
00070>                                    [   2.6900 ,  0.8370 ]
00071>                                    [   -1  ,  -1  ]  (max twenty pts)
00072>                           IDovf=[   ], NHYDovf=[   ]
00073> *%------------------|-------------------------------------------------------|
00074> *#------------------|-------------------------------------------------------|
00075> *#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing--------|
00076> *#------------------|-------------------------------------------------------|
00077> *%------------------|-------------------------------------------------------|
00078> ADD HYD             IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00079> *%------------------|-------------------------------------------------------|
00080> *#------------------|-------------------------------------------------------|
00081> *#-----------------|-Parkbridge Craigleith - Upper Terrace Lands--------------|
00082> *#------------------|-------------------------------------------------------|
00083> *%------------------|-------------------------------------------------------|
00084> CALIB NASHYD        ID[1], NHYD=["9A"], DT=[1]min, AREA=[2.58](ha),
00085>                     DWF=[0](cms),  CN/C=[48.8], IA=[8.4](mm),
00086>                     N=[3], TP=[0.46]hrs,
00087>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00088> *%------------------|-------------------------------------------------------|
00089> CALIB NASHYD        ID=[2], NHYD=["9B"], DT=[1]min, AREA=[11.6](ha),
00090>                     DWF=[0](cms),  CN/C=[68.0], IA=[8.0](mm),
00091>                     N=[3], TP=[1.43]hrs,
00092>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00093> *%------------------|-------------------------------------------------------|
00094> ADD HYD             IDsum=[10], NHYD=["9A9B"], IDs to add=[1,2]
00095> *%------------------|-------------------------------------------------------|
00096> CALIB NASHYD        ID=[1], NHYD=["9C"], DT=[1]min, AREA=[0.96](ha),
00097>                     DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
00098>                     N=[3], TP=[0.2]hrs,
00099>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00100> *%------------------|-------------------------------------------------------|
00101> CALIB NASHYD        ID=[2], NHYD=["9D"], DT=[1]min, AREA=[1.87](ha),
00102>                     DWF=[0](cms),  CN/C=[43.6], IA=[8.4](mm),
00103>                     N=[3], TP=[0.30]hrs,
00104>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00105> *%------------------|-------------------------------------------------------|
00106> *#------------------|-------------------------------------------------------|
00107> *#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00108> *#-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00109> *#-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00110> *#------------------|-------------------------------------------------------|
00111> *%------------------|-------------------------------------------------------|
00112> ROUTE RESERVOIR     IDout=[4],   NHYD=["ExPond"],  IDin=[2],
00113>                     RDT=[1](min),
00114>                           TABLE of ( OUTFLOW-STORAGE ) values
00115>                                      (cms) - (ha-m)
00116>                                    [   0.0 ,  0.0 ]
00117>                                    [   0.00 ,  0.479 ]
00118>                                    [   0.00 ,  1.249 ]
00119>                                    [   -1  ,  -1  ]  (max twenty pts)
00120>                           IDovf=[   ], NHYDovf=[   ]
00121> *%------------------|-------------------------------------------------------|
00122> ADD HYD             IDsum=[9], NHYD=["9C9D"], IDs to add=[1,4]
00123> *%------------------|-------------------------------------------------------|
00124> *#------------------|-------------------------------------------------------|
00125> *#-----------------|-Parkbridge Craigleith - Lower Terrace Lands--------------|
00126> *#------------------|-------------------------------------------------------|
00127> *%------------------|-------------------------------------------------------|
00128> CALIB NASHYD        ID=[7], NHYD=["9E"], DT=[1]min, AREA=[7.7](ha),
00129>                     DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
00130>                     N=[3], TP=[0.44]hrs,
00131>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00132> *%------------------|-------------------------------------------------------|
00133> CALIB NASHYD        ID=[8], NHYD=["9F"], DT=[1]min, AREA=[3.44](ha),
00134>                     DWF=[0](cms),  CN/C=[64.0], IA=[8.4](mm),
00135>                     N=[3], TP=[0.56]hrs,
00136>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00137> *%------------------|-------------------------------------------------------|
00138> *#------------------|-------------------------------------------------------|
00139> *#-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD-----------|
00140> *#------------------|-------------------------------------------------------|
00141> *%------------------|-------------------------------------------------------|
00142> ADD HYD             IDsum=[1], NHYD=["WC9LS"], IDs to add=[5,10,9,7,8]
00143> *%------------------|-------------------------------------------------------|
00144> SAVE HYD            ID=[1],   # OF PCYCLES=[10],  ICASEsh=[1]
00145>                     HYD_COMMENT=["Lakeshore Road Hydrograph"]
00146> *%------------------|-------------------------------------------------------|
00147>
00148>
00149> *#*************************************************************************
00150> *#***************************2yr 4hr Chicago Storm*************************
00151> *#*************************************************************************
00152> *%------------------|-------------------------------------------------------|
00153> CHICAGO STORM       IUNITS=[2],  TD=[4.0](hrs), TPRAT=[0.33],  CSDT=[5](min),
00154>                     ICASEcs=[2],
00155>                     Enter ordinates of IDF curve below, at least seven points
00156>                         TIME (min)    Intensity(mm/hr)
00157>                           [   5    ]       [  117.0  ]
00158>                           [   10   ]       [  72.1   ]
00159>                           [   15   ]       [  54.3   ]
00160>                           [   30   ]       [  33.4   ]
00161>                           [   60   ]       [  20.6   ]
00162>                           [   120  ]       [  12.7   ]
00163>                           [   360  ]       [  5.9    ]
00164>                           [   720  ]       [  3.6    ]
00165>                           [   1440 ]       [  2.2    ]
00166>                             -1               -1
00167> *#------------------|-------------------------------------------------------|
00168>
00169>
00170> *#------------------|-------------------------------------------------------|
00171> *#-----------------|-PRE-DEVELOPMENT-----------------------------------------|
00172> *#------------------|-------------------------------------------------------|
00173> *#------------------|-------------------------------------------------------|
00174> *#-----------------|-Subwatershed 9 External Drainage Area-------------------|
00175> *#-----------------|-Per 'The Orchards' FSSWM Report-------------------------|
00176> *#-----------------|-Prepared by Higgins Engineering (Jan. 2005)-------------|
00177> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00178> *#------------------|-------------------------------------------------------|
00179> *%------------------|-------------------------------------------------------|
00180> CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00181>                     DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00182>                     N=[3], TP=[1.00]hrs,
00183>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00184> *%------------------|-------------------------------------------------------|
00185> ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
00186>                     RDT=[1](min),
00187>                     CHLGTH=[550](m),  CHSLOPE=[2](%),
00188>                                       FPSLOPE=[2](%),
00189>                     SECNUM=[1],       NSEG=[3]
00190>                     ( SEGROUGH, SEGDIST (m))=[0.035,8  -0.035,12  0.035,20]
00191>                     ( DISTANCE (m), ELEVATION (m))= [0,102]
00192>                                                     [8,100]
00193>                                                     [12,100]
00194>                                                     [20,102]
00195> *%------------------|-------------------------------------------------------|
00196> CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00197>                     XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00198>                     Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00199>                             DCAY=[2](/hr), F=[0](mm),
00200>                     Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00201>                                          LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00202>                     Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00203>                                          LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00204>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00205> *%------------------|-------------------------------------------------------|
00206> ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00207>                     RDT=[1](min),
00208>                           TABLE of ( OUTFLOW-STORAGE ) values
00209>                                      (cms) - (ha-m)
00210>                                    [   0.0 ,  0.0 ]
00211>                                    [   0.0100 ,  0.0610 ]
00212>                                    [   0.0400 ,  0.1310 ]
00213>                                    [   0.0700 ,  0.2110 ]
00214>                                    [   0.2600 ,  0.3000 ]
00215>                                    [   0.6000 ,  0.3940 ]
00216>                                    [   1.0200 ,  0.4950 ]
00217>                                    [   1.5200 ,  0.6020 ]
00218>                                    [   2.0800 ,  0.7160 ]
00219>                                    [   2.6900 ,  0.8370 ]
00220>                                    [   -1  ,  -1  ]  (max twenty pts)
00221>                           IDovf=[   ], NHYDovf=[   ]
00222> *%------------------|-------------------------------------------------------|
00223> *#------------------|-------------------------------------------------------|
00224> *#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing--------|
00225> *#------------------|-------------------------------------------------------|
00226> *%------------------|-------------------------------------------------------|
00227> ADD HYD             IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00228> *%------------------|-------------------------------------------------------|
00229> *#------------------|-------------------------------------------------------|
00230> *#-----------------|-Parkbridge Craigleith - Upper Terrace Lands--------------|
00231> *#------------------|-------------------------------------------------------|
00232> *%------------------|-------------------------------------------------------|
00233> CALIB NASHYD        ID[1], NHYD=["9A"], DT=[1]min, AREA=[2.58](ha),
00234>                     DWF=[0](cms),  CN/C=[48.8], IA=[8.4](mm),
00235>                     N=[3], TP=[0.46]hrs,
00236>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00237> *%------------------|-------------------------------------------------------|
00238> CALIB NASHYD        ID=[2], NHYD=["9B"], DT=[1]min, AREA=[11.6](ha),
00239>                     DWF=[0](cms),  CN/C=[68.0], IA=[8.0](mm),
00240>                     N=[3], TP=[1.43]hrs,
00241>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00242> *%------------------|-------------------------------------------------------|
00243> ADD HYD             IDsum=[10], NHYD=["9A9B"], IDs to add=[1,2]
00244> *%------------------|-------------------------------------------------------|
00245> CALIB NASHYD        ID=[1], NHYD=["9C"], DT=[1]min, AREA=[0.96](ha),
00246>                     DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
00247>                     N=[3], TP=[0.2]hrs,
00248>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00249> *%------------------|-------------------------------------------------------|
00250> CALIB NASHYD        ID=[2], NHYD=["9D"], DT=[1]min, AREA=[1.87](ha),
00251>                     DWF=[0](cms),  CN/C=[43.6], IA=[8.4](mm),
00252>                     N=[3], TP=[0.30]hrs,
00253>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00254> *%------------------|-------------------------------------------------------|
00255> *#------------------|-------------------------------------------------------|
00256> *#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00257> *#-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00258> *#-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00259> *#------------------|-------------------------------------------------------|
00260> *%------------------|-------------------------------------------------------|
00261> ROUTE RESERVOIR     IDout=[4],   NHYD=["ExPond"],  IDin=[2],
00262>                     RDT=[1](min),
00263>                           TABLE of ( OUTFLOW-STORAGE ) values
00264>                                      (cms) - (ha-m)
00265>                                    [   0.0 ,  0.0 ]
00266>                                    [   0.00 ,  0.479 ]
00267>                                    [   0.00 ,  1.249 ]
00268>                                    [   -1  ,  -1  ]  (max twenty pts)
00269>                           IDovf=[   ], NHYDovf=[   ]
00270> *%------------------|-------------------------------------------------------|
```

```
00271> ADD HYD             IDsum=[9], NHYD=["9C9D"], IDs to add=[1,4]
00272> *%------------------|-------------------------------------------------------------|
00273> *#------------------|-------------------------------------------------------------|
00274> *#------------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
00275> *#------------------|-------------------------------------------------------------|
00276> *%------------------|-------------------------------------------------------------|
00277> CALIB NASHYD        ID=[7], NHYD=["9E"], DT=[1]min, AREA=[7.7](ha),
00278>                     DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
00279>                     N=[3], TP=[0.44]hrs,
00280>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00281> *%------------------|-------------------------------------------------------------|
00282> CALIB NASHYD        ID=[8], NHYD=["9F"], DT=[1]min, AREA=[3.44](ha),
00283>                     DWF=[0](cms),  CN/C=[64.0], IA=[8.4](mm),
00284>                     N=[3], TP=[0.56]hrs,
00285>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00286> *%------------------|-------------------------------------------------------------|
00287> *#------------------|-------------------------------------------------------------|
00288> *#------------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD-------------|
00289> *#------------------|-------------------------------------------------------------|
00290> *%------------------|-------------------------------------------------------------|
00291> ADD HYD             IDsum=[1], NHYD=["WC9LS"], IDs to add=[5,10,9,7,8]
00292> *%------------------|-------------------------------------------------------------|
00293> SAVE HYD            ID=[1],   # OF PCYCLES=[10],  ICASEsh=[1]
00294>                     HYD_COMMENT=["Lakeshore Road Hydrograph"]
00295> *%------------------|-------------------------------------------------------------|
00296>
00297>
00298> *#*****************************************************************************
00299> *#****************************5yr 4hr Chicago Storm****************************
00300> *#*****************************************************************************
00301> *%------------------|-------------------------------------------------------------|
00302> CHICAGO STORM       IUNITS=[2],  TD=[4.0](hrs), TPRAT=[0.33],  CSDT=[5](min),
00303>                     ICASEcs=[2],
00304>                     Enter ordinates of IDF curve below, at least seven points
00305>                         TIME (min)    Intensity(mm/hr)
00306>                           [   5    ]       [  156.2  ]
00307>                           [   10   ]       [  96.2   ]
00308>                           [   15   ]       [  72.5   ]
00309>                           [   30   ]       [  44.6   ]
00310>                           [   60   ]       [  27.5   ]
00311>                           [   120  ]       [  16.9   ]
00312>                           [   360  ]       [  7.9    ]
00313>                           [   720  ]       [  4.8    ]
00314>                           [   1440 ]       [  3.0    ]
00315>                             -1               -1
00316> *#------------------|-------------------------------------------------------------|
00317>
00318>
00319> *#------------------|-------------------------------------------------------------|
00320> *#------------------|-PRE-DEVELOPMENT--------------------------------------------|
00321> *#------------------|-------------------------------------------------------------|
00322> *#------------------|-------------------------------------------------------------|
00323> *#------------------|-Subwatershed 9 External Drainage Area----------------------|
00324> *#------------------|-Per 'The Orchards' FSSWM Report----------------------------|
00325> *#------------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
00326> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha--------|
00327> *#------------------|-------------------------------------------------------------|
00328> *%------------------|-------------------------------------------------------------|
00329> CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00330>                     DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00331>                     N=[3], TP=[1.00]hrs,
00332>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00333> *%------------------|-------------------------------------------------------------|
00334> ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
00335>                     RDT=[1](min),
00336>                     CHLGTH=[550](m),  CHSLOPE=[2](%),
00337>                                       FPSLOPE=[2](%),
00338>                     SECNUM=[1],       NSEG=[3]
00339>                     ( SEGROUGH, SEGDIST (m))=[0.035,8  -0.035,12  0.035,20]
00340>                     ( DISTANCE (m), ELEVATION (m))= [0,102]
00341>                                                     [8,100]
00342>                                                     [12,100]
00343>                                                     [20,102]
00344> *%------------------|-------------------------------------------------------------|
00345> CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00346>                     XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00347>                     Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00348>                           DCAY=[2](/hr), F=[0](mm),
00349>                     Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00350>                                          LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00351>                     Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00352>                                          LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00353>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00354> *%------------------|-------------------------------------------------------------|
00355> ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00356>                     RDT=[1](min),
00357>                           TABLE of ( OUTFLOW-STORAGE ) values
00358>                                      (cms) - (ha-m)
00359>                                    [   0.0 ,  0.0 ]
00360>                                    [   0.0100 ,  0.0610 ]
00361>                                    [   0.0400 ,  0.1310 ]
00362>                                    [   0.0700 ,  0.2110 ]
00363>                                    [   0.2600 ,  0.3000 ]
00364>                                    [   0.6000 ,  0.3940 ]
00365>                                    [   1.0200 ,  0.4950 ]
00366>                                    [   1.5200 ,  0.6020 ]
00367>                                    [   2.0800 ,  0.7160 ]
00368>                                    [   2.6900 ,  0.8370 ]
00369>                                    [   -1  ,  -1  ]  (max twenty pts)
00370>                           IDovf=[   ], NHYDovf=[   ]
00371> *%------------------|-------------------------------------------------------------|
00372> *#------------------|-------------------------------------------------------------|
00373> *#------------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing----------|
00374> *#------------------|-------------------------------------------------------------|
00375> *%------------------|-------------------------------------------------------------|
00376> ADD HYD             IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00377> *%------------------|-------------------------------------------------------------|
00378> *#------------------|-------------------------------------------------------------|
00379> *#------------------|-Parkbridge Craigleith - Upper Terrace Lands----------------|
00380> *#------------------|-------------------------------------------------------------|
00381> *%------------------|-------------------------------------------------------------|
00382> CALIB NASHYD        ID[1], NHYD=["9A"], DT=[1]min, AREA=[2.58](ha),
00383>                     DWF=[0](cms),  CN/C=[48.8], IA=[8.4](mm),
00384>                     N=[3], TP=[0.46]hrs,
00385>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00386> *%------------------|-------------------------------------------------------------|
00387> CALIB NASHYD        ID=[2], NHYD=["9B"], DT=[1]min, AREA=[11.6](ha),
00388>                     DWF=[0](cms),  CN/C=[68.0], IA=[8.0](mm),
00389>                     N=[3], TP=[1.43]hrs,
00390>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00391> *%------------------|-------------------------------------------------------------|
00392> ADD HYD             IDsum=[10], NHYD=["9A9B"], IDs to add=[1,2]
00393> *%------------------|-------------------------------------------------------------|
00394> CALIB NASHYD        ID=[1], NHYD=["9C"], DT=[1]min, AREA=[0.96](ha),
00395>                     DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
00396>                     N=[3], TP=[0.2]hrs,
00397>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00398> *%------------------|-------------------------------------------------------------|
00399> CALIB NASHYD        ID=[2], NHYD=["9D"], DT=[1]min, AREA=[1.87](ha),
00400>                     DWF=[0](cms),  CN/C=[43.6], IA=[8.4](mm),
00401>                     N=[3], TP=[0.30]hrs,
00402>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00403> *%------------------|-------------------------------------------------------------|
00404> *#------------------|-------------------------------------------------------------|
00405> *#------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00406> *#------------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00407> *#------------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00408> *#------------------|-------------------------------------------------------------|
00409> *%------------------|-------------------------------------------------------------|
00410> ROUTE RESERVOIR     IDout=[4],   NHYD=["ExPond"],  IDin=[2],
00411>                     RDT=[1](min),
00412>                           TABLE of ( OUTFLOW-STORAGE ) values
00413>                                      (cms) - (ha-m)
00414>                                    [   0.0 ,  0.0 ]
00415>                                    [   0.00 ,  0.479 ]
00416>                                    [   0.00 ,  1.249 ]
00417>                                    [   -1  ,  -1  ]  (max twenty pts)
00418>                           IDovf=[   ], NHYDovf=[   ]
00419> *%------------------|-------------------------------------------------------------|
00420> ADD HYD             IDsum=[9], NHYD=["9C9D"], IDs to add=[1,4]
00421> *%------------------|-------------------------------------------------------------|
00422> *#------------------|-------------------------------------------------------------|
00423> *#------------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
00424> *#------------------|-------------------------------------------------------------|
00425> *%------------------|-------------------------------------------------------------|
00426> CALIB NASHYD        ID=[7], NHYD=["9E"], DT=[1]min, AREA=[7.7](ha),
00427>                     DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
00428>                     N=[3], TP=[0.44]hrs,
00429>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00430> *%------------------|-------------------------------------------------------------|
00431> CALIB NASHYD        ID=[8], NHYD=["9F"], DT=[1]min, AREA=[3.44](ha),
00432>                     DWF=[0](cms),  CN/C=[64.0], IA=[8.4](mm),
00433>                     N=[3], TP=[0.56]hrs,
00434>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00435> *%------------------|-------------------------------------------------------------|
00436> *#------------------|-------------------------------------------------------------|
00437> *#------------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD-------------|
00438> *#------------------|-------------------------------------------------------------|
00439> *%------------------|-------------------------------------------------------------|
00440> ADD HYD             IDsum=[1], NHYD=["WC9LS"], IDs to add=[5,10,9,7,8]
00441> *%------------------|-------------------------------------------------------------|
00442> SAVE HYD            ID=[1],   # OF PCYCLES=[10],  ICASEsh=[1]
00443>                     HYD_COMMENT=["Lakeshore Road Hydrograph"]
00444> *%------------------|-------------------------------------------------------------|
00445>
00446>
00447> *#*****************************************************************************
00448> *#****************************10yr 4hr Chicago Storm****************************
00449> *#*****************************************************************************
00450> *%------------------|-------------------------------------------------------------|
00451> CHICAGO STORM       IUNITS=[2],  TD=[4.0](hrs), TPRAT=[0.33],  CSDT=[5](min),
00452>                     ICASEcs=[2],
00453>                     Enter ordinates of IDF curve below, at least seven points
00454>                         TIME (min)    Intensity(mm/hr)
00455>                           [   5    ]       [  182.3  ]
00456>                           [   10   ]       [  112.3  ]
00457>                           [   15   ]       [  84.6   ]
00458>                           [   30   ]       [  52.1   ]
00459>                           [   60   ]       [  32.1   ]
00460>                           [   120  ]       [  19.8   ]
00461>                           [   360  ]       [  9.2    ]
00462>                           [   720  ]       [  5.7    ]
00463>                           [   1440 ]       [  3.5    ]
00464>                             -1               -1
00465> *#------------------|-------------------------------------------------------------|
00466>
00467>
00468> *#------------------|-------------------------------------------------------------|
00469> *#------------------|-PRE-DEVELOPMENT--------------------------------------------|
00470> *#------------------|-------------------------------------------------------------|
00471> *#------------------|-------------------------------------------------------------|
00472> *#------------------|-Subwatershed 9 External Drainage Area----------------------|
00473> *#------------------|-Per 'The Orchards' FSSWM Report----------------------------|
00474> *#------------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
00475> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha--------|
00476> *#------------------|-------------------------------------------------------------|
00477> *%------------------|-------------------------------------------------------------|
00478> CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00479>                     DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00480>                     N=[3], TP=[1.00]hrs,
00481>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00482> *%------------------|-------------------------------------------------------------|
00483> ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
00484>                     RDT=[1](min),
00485>                     CHLGTH=[550](m),  CHSLOPE=[2](%),
00486>                                       FPSLOPE=[2](%),
00487>                     SECNUM=[1],       NSEG=[3]
00488>                     ( SEGROUGH, SEGDIST (m))=[0.035,8  -0.035,12  0.035,20]
00489>                     ( DISTANCE (m), ELEVATION (m))= [0,102]
00490>                                                     [8,100]
00491>                                                     [12,100]
00492>                                                     [20,102]
00493> *%------------------|-------------------------------------------------------------|
00494> CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00495>                     XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00496>                     Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00497>                           DCAY=[2](/hr), F=[0](mm),
00498>                     Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00499>                                          LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00500>                     Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00501>                                          LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00502>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00503> *%------------------|-------------------------------------------------------------|
00504> ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00505>                     RDT=[1](min),
00506>                           TABLE of ( OUTFLOW-STORAGE ) values
00507>                                      (cms) - (ha-m)
00508>                                    [   0.0 ,  0.0 ]
00509>                                    [   0.0100 ,  0.0610 ]
00510>                                    [   0.0400 ,  0.1310 ]
00511>                                    [   0.0700 ,  0.2110 ]
00512>                                    [   0.2600 ,  0.3000 ]
00513>                                    [   0.6000 ,  0.3940 ]
00514>                                    [   1.0200 ,  0.4950 ]
00515>                                    [   1.5200 ,  0.6020 ]
00516>                                    [   2.0800 ,  0.7160 ]
00517>                                    [   2.6900 ,  0.8370 ]
00518>                                    [   -1  ,  -1  ]  (max twenty pts)
00519>                           IDovf=[   ], NHYDovf=[   ]
00520> *%------------------|-------------------------------------------------------------|
00521> *#------------------|-------------------------------------------------------------|
00522> *#------------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing----------|
00523> *#------------------|-------------------------------------------------------------|
00524> *%------------------|-------------------------------------------------------------|
00525> ADD HYD             IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00526> *%------------------|-------------------------------------------------------------|
00527> *#------------------|-------------------------------------------------------------|
00528> *#------------------|-Parkbridge Craigleith - Upper Terrace Lands----------------|
00529> *#------------------|-------------------------------------------------------------|
00530> *%------------------|-------------------------------------------------------------|
00531> CALIB NASHYD        ID[1], NHYD=["9A"], DT=[1]min, AREA=[2.58](ha),
00532>                     DWF=[0](cms),  CN/C=[48.8], IA=[8.4](mm),
00533>                     N=[3], TP=[0.46]hrs,
00534>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00535> *%------------------|-------------------------------------------------------------|
00536> CALIB NASHYD        ID=[2], NHYD=["9B"], DT=[1]min, AREA=[11.6](ha),
00537>                     DWF=[0](cms),  CN/C=[68.0], IA=[8.0](mm),
00538>                     N=[3], TP=[1.43]hrs,
00539>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00540> *%------------------|-------------------------------------------------------------|
```

```
ADD HYD             IDsum=[10], NHYD=["9A9B"], IDs to add=[1,2]
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["9C"], DT=[1]min, AREA=[0.96](ha),
                    DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
                    N=[3], TP=[0.2]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["9D"], DT=[1]min, AREA=[1.87](ha),
                    DWF=[0](cms),  CN/C=[43.6], IA=[8.4](mm),
                    N=[3], TP=[0.30]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
*#------------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
*#------------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["ExPond"],  IDin=[2],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.00 ,  0.479 ]
                                [   0.00 ,  1.249 ]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[   ], NHYDovf=[   ]
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[9], NHYD=["9C9D"], IDs to add=[1,4]
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[7], NHYD=["9E"], DT=[1]min, AREA=[7.7](ha),
                    DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
                    N=[3], TP=[0.44]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[8], NHYD=["9F"], DT=[1]min, AREA=[3.44](ha),
                    DWF=[0](cms),  CN/C=[64.0], IA=[8.4](mm),
                    N=[3], TP=[0.56]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD-------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["WC9LS"], IDs to add=[5,10,9,7,8]
*%------------------|-------------------------------------------------------------|
SAVE HYD            ID=[1],   # OF PCYCLES=[10],  ICASEsh=[1]
                    HYD_COMMENT=["Lakeshore Road Hydrograph"]
*%------------------|-------------------------------------------------------------|


*#*****************************************************************************
*#*****************************25yr 4hr Chicago Storm**************************
*#*****************************************************************************
*%------------------|-------------------------------------------------------------|
CHICAGO STORM       IUNITS=[2],  TD=[4.0](hrs), TPRAT=[0.33],  CSDT=[5](min),
                    ICASEcs=[2],
                    Enter ordinates of IDF curve below, at least seven points
                        TIME (min)    Intensity(mm/hr)
                          [   5    ]       [  215.3  ]
                          [   10   ]       [  132.6  ]
                          [   15   ]       [  99.9   ]
                          [   30   ]       [  61.5   ]
                          [   60   ]       [  37.9   ]
                          [   120  ]       [  23.3   ]
                          [   360  ]       [  10.8   ]
                          [   720  ]       [  6.7    ]
                          [   1440 ]       [  4.1    ]
                            -1               -1
*#------------------|-------------------------------------------------------------|


*#------------------|-------------------------------------------------------------|
*#------------------|-PRE-DEVELOPMENT--------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-Subwatershed 9 External Drainage Area----------------------|
*#------------------|-Per 'The Orchards' FSSWM Report----------------------------|
*#------------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
*#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
                    DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
                    N=[3], TP=[1.00]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
                    RDT=[1](min),
                    CHLGTH[550](m),  CHSLOPE=[2](%),
                                       FPSLOPE=[2](%),
                    SECNUM=[1],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.035,8  -0.035,12  0.035,20]
                    ( DISTANCE (m), ELEVATION (m))= [0,102]
                                                    [8,100]
                                                    [12,100]
                                                    [20,102]
*%------------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
                    XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
                    Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
                            DCAY=[2](/hr), F=[0](mm),
                    Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
                                         LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
                    Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
                                         LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%------------------|-------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.0100 ,  0.0610 ]
                                [   0.0400 ,  0.1310 ]
                                [   0.0700 ,  0.2110 ]
                                [   0.2600 ,  0.3000 ]
                                [   0.6000 ,  0.3940 ]
                                [   1.0200 ,  0.4950 ]
                                [   1.5200 ,  0.6020 ]
                                [   2.0800 ,  0.7160 ]
                                [   2.6900 ,  0.8370 ]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[   ], NHYDovf=[   ]
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
*%------------------|-------------------------------------------------------------|
```

```
*#------------------|-------------------------------------------------------------|
*#------------------|-Parkbridge Craigleith - Upper Terrace Lands----------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID[1], NHYD=["9A"], DT=[1]min, AREA=[2.58](ha),
                    DWF=[0](cms),  CN/C=[48.8], IA=[8.4](mm),
                    N=[3], TP=[0.46]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["9B"], DT=[1]min, AREA=[11.6](ha),
                    DWF=[0](cms),  CN/C=[68.0], IA=[8.0](mm),
                    N=[3], TP=[1.43]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[10], NHYD=["9A9B"], IDs to add=[1,2]
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["9C"], DT=[1]min, AREA=[0.96](ha),
                    DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
                    N=[3], TP=[0.2]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["9D"], DT=[1]min, AREA=[1.87](ha),
                    DWF=[0](cms),  CN/C=[43.6], IA=[8.4](mm),
                    N=[3], TP=[0.30]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
*#------------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
*#------------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["ExPond"],  IDin=[2],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.00 ,  0.479 ]
                                [   0.00 ,  1.249 ]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[   ], NHYDovf=[   ]
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[9], NHYD=["9C9D"], IDs to add=[1,4]
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[7], NHYD=["9E"], DT=[1]min, AREA=[7.7](ha),
                    DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
                    N=[3], TP=[0.44]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[8], NHYD=["9F"], DT=[1]min, AREA=[3.44](ha),
                    DWF=[0](cms),  CN/C=[64.0], IA=[8.4](mm),
                    N=[3], TP=[0.56]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD-------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["WC9LS"], IDs to add=[5,10,9,7,8]
*%------------------|-------------------------------------------------------------|
SAVE HYD            ID=[1],   # OF PCYCLES=[10],  ICASEsh=[1]
                    HYD_COMMENT=["Lakeshore Road Hydrograph"]
*%------------------|-------------------------------------------------------------|


*#*****************************************************************************
*#*****************************50yr 4hr Chicago Storm**************************
*#*****************************************************************************
*%------------------|-------------------------------------------------------------|
CHICAGO STORM       IUNITS=[2],  TD=[4.0](hrs), TPRAT=[0.33],  CSDT=[5](min),
                    ICASEcs=[2],
                    Enter ordinates of IDF curve below, at least seven points
                        TIME (min)    Intensity(mm/hr)
                          [   5    ]       [  239.7  ]
                          [   10   ]       [  147.7  ]
                          [   15   ]       [  111.2  ]
                          [   30   ]       [  68.5   ]
                          [   60   ]       [  42.2   ]
                          [   120  ]       [  26.0   ]
                          [   360  ]       [  12.1   ]
                          [   720  ]       [  7.4    ]
                          [   1440 ]       [  4.6    ]
                            -1               -1
*#------------------|-------------------------------------------------------------|


*#------------------|-------------------------------------------------------------|
*#------------------|-PRE-DEVELOPMENT--------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-Subwatershed 9 External Drainage Area----------------------|
*#------------------|-Per 'The Orchards' FSSWM Report----------------------------|
*#------------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
*#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
                    DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
                    N=[3], TP=[1.00]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
                    RDT=[1](min),
                    CHLGTH=[550](m),  CHSLOPE=[2](%),
                                        FPSLOPE=[2](%),
                    SECNUM=[1],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.035,8  -0.035,12  0.035,20]
                    ( DISTANCE (m), ELEVATION (m))= [0,102]
                                                    [8,100]
                                                    [12,100]
                                                    [20,102]
*%------------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
                    XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
                    Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
                            DCAY=[2](/hr), F=[0](mm),
                    Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
                                         LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
                    Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
                                         LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%------------------|-------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.0100 ,  0.0610 ]
                                [   0.0400 ,  0.1310 ]
                                [   0.0700 ,  0.2110 ]
                                [   0.2600 ,  0.3000 ]
```

```
00811>                                  [   0.6000 ,  0.3940 ]
00812>                                  [   1.0200 ,  0.4950 ]
00813>                                  [   1.5200 ,  0.6020 ]
00814>                                  [   2.0800 ,  0.7160 ]
00815>                                  [   2.6900 ,  0.8370 ]
00816>                                  [   -1  ,  -1  ]  (max twenty pts)
00817>                          IDovf=[   ], NHYDovf=[   ]
00818> *%-----------------|---------------------------------------------------------|
00819> *#-----------------|---------------------------------------------------------|
00820> *#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00821> *#-----------------|---------------------------------------------------------|
00822> *%-----------------|---------------------------------------------------------|
00823> ADD HYD            IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00824> *%-----------------|---------------------------------------------------------|
00825> *#-----------------|---------------------------------------------------------|
00826> *#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
00827> *#-----------------|---------------------------------------------------------|
00828> *%-----------------|---------------------------------------------------------|
00829> CALIB NASHYD       ID[1], NHYD=["9A"], DT=[1]min, AREA=[2.58](ha),
00830>                     DWF=[0](cms),  CN/C=[48.8], IA=[8.4](mm),
00831>                     N=[3], TP=[0.46]hrs,
00832>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00833> *%-----------------|---------------------------------------------------------|
00834> CALIB NASHYD       ID=[2], NHYD=["9B"], DT=[1]min, AREA=[11.6](ha),
00835>                     DWF=[0](cms),  CN/C=[68.0], IA=[8.0](mm),
00836>                     N=[3], TP=[1.43]hrs,
00837>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00838> *%-----------------|---------------------------------------------------------|
00839> ADD HYD            IDsum=[10], NHYD=["9A9B"], IDs to add=[1,2]
00840> *%-----------------|---------------------------------------------------------|
00841> CALIB NASHYD       ID=[1], NHYD=["9C"], DT=[1]min, AREA=[0.96](ha),
00842>                     DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
00843>                     N=[3], TP=[0.2]hrs,
00844>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00845> *%-----------------|---------------------------------------------------------|
00846> CALIB NASHYD       ID=[2], NHYD=["9D"], DT=[1]min, AREA=[1.87](ha),
00847>                     DWF=[0](cms),  CN/C=[43.6], IA=[8.4](mm),
00848>                     N=[3], TP=[0.30]hrs,
00849>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00850> *%-----------------|---------------------------------------------------------|
00851> *#-----------------|---------------------------------------------------------|
00852> *#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00853> *#-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00854> *#-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00855> *#-----------------|---------------------------------------------------------|
00856> *%-----------------|---------------------------------------------------------|
00857> ROUTE RESERVOIR     IDout=[4],   NHYD=["ExPond"],  IDin=[2],
00858>                     RDT=[1](min),
00859>                           TABLE of ( OUTFLOW-STORAGE ) values
00860>                                      (cms) - (ha-m)
00861>                                   [   0.0 ,  0.0 ]
00862>                                   [   0.00 ,  0.479 ]
00863>                                   [   0.00 ,  1.249 ]
00864>                                   [   -1  ,  -1  ]  (max twenty pts)
00865>                           IDovf=[   ], NHYDovf=[   ]
00866> *%-----------------|---------------------------------------------------------|
00867> ADD HYD            IDsum=[9], NHYD=["9C9D"], IDs to add=[1,4]
00868> *%-----------------|---------------------------------------------------------|
00869> *#-----------------|---------------------------------------------------------|
00870> *#-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
00871> *#-----------------|---------------------------------------------------------|
00872> *%-----------------|---------------------------------------------------------|
00873> CALIB NASHYD       ID=[7], NHYD=["9E"], DT=[1]min, AREA=[7.7](ha),
00874>                     DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
00875>                     N=[3], TP=[0.44]hrs,
00876>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00877> *%-----------------|---------------------------------------------------------|
00878> CALIB NASHYD       ID=[8], NHYD=["9F"], DT=[1]min, AREA=[3.44](ha),
00879>                     DWF=[0](cms),  CN/C=[64.0], IA=[8.4](mm),
00880>                     N=[3], TP=[0.56]hrs,
00881>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00882> *%-----------------|---------------------------------------------------------|
00883> *#-----------------|---------------------------------------------------------|
00884> *#-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD------------|
00885> *#-----------------|---------------------------------------------------------|
00886> *%-----------------|---------------------------------------------------------|
00887> ADD HYD            IDsum=[1], NHYD=["WC9LS"], IDs to add=[5,10,9,7,8]
00888> *%-----------------|---------------------------------------------------------|
00889> SAVE HYD           ID=[1],   # OF PCYCLES=[10],  ICASEsh=[1]
00890>                     HYD_COMMENT=["Lakeshore Road Hydrograph"]
00891> *%-----------------|---------------------------------------------------------|
00892>
00893>
00894> *#*************************************************************************
00895> *#****************************100yr 4hr Chicago Storm************************
00896> *#*************************************************************************
00897> *%-----------------|---------------------------------------------------------|
00898> CHICAGO STORM      IUNITS=[2],  TD=[4.0](hrs), TPRAT=[0.33],  CSDT=[5](min),
00899>                     ICASEcs=[2],
00900>                     Enter ordinates of IDF curve below, at least seven points
00901>                         TIME (min)    Intensity(mm/hr)
00902>                            [   5   ]       [  263.6  ]
00903>                            [   10  ]       [  162.2  ]
00904>                            [   15  ]       [  122.3  ]
00905>                            [   30  ]       [  75.3   ]
00906>                            [   60  ]       [  46.4   ]
00907>                            [   120 ]       [  28.6   ]
00908>                            [   360 ]       [  13.3   ]
00909>                            [   720 ]       [  8.2    ]
00910>                            [   1440 ]      [  5.0    ]
00911>                              -1              -1
00912> *#-----------------|---------------------------------------------------------|
00913>
00914>
00915> *#-----------------|---------------------------------------------------------|
00916> *#-----------------|-PRE-DEVELOPMENT-------------------------------------------|
00917> *#-----------------|---------------------------------------------------------|
00918> *#-----------------|---------------------------------------------------------|
00919> *#-----------------|-Subwatershed 9 External Drainage Area---------------------|
00920> *#-----------------|-Per 'The Orchards' FSSWM Report---------------------------|
00921> *#-----------------|-Prepared by Higgins Engineering (Jan. 2005)---------------|
00922> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00923> *#-----------------|---------------------------------------------------------|
00924> *%-----------------|---------------------------------------------------------|
00925> CALIB NASHYD       ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00926>                     DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00927>                     N=[3], TP=[1.00]hrs,
00928>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00929> *%-----------------|---------------------------------------------------------|
00930> ROUTE CHANNEL      IDout=[2], NHYD=["Channel"], IDin=[1],
00931>                     RDT=[1](min),
00932>                     CHLGTH=[550](m),  CHSLOPE=[2](%),
00933>                                       FPSLOPE=[2](%),
00934>                     SECNUM=[1],       NSEG=[3]
00935>                     ( SEGROUGH, SEGDIST (m))=[0.035,8  -0.035,12  0.035,20]
00936>                     ( DISTANCE (m), ELEVATION (m))= [0,102]
00937>                                                     [8,100]
00938>                                                     [12,100]
00939>                                                     [20,102]
00940> *%-----------------|---------------------------------------------------------|
00941> CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00942>                     XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00943>                     Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00944>                             DCAY=[2](/hr), F=[0](mm),
00945>                     Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00946>                                          LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00947>                     Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00948>                                          LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00949>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00950> *%-----------------|---------------------------------------------------------|
00951> ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00952>                     RDT=[1](min),
00953>                           TABLE of ( OUTFLOW-STORAGE ) values
00954>                                      (cms) - (ha-m)
00955>                                   [   0.0 ,  0.0 ]
00956>                                   [   0.0100 ,  0.0610 ]
00957>                                   [   0.0400 ,  0.1310 ]
00958>                                   [   0.0700 ,  0.2110 ]
00959>                                   [   0.2600 ,  0.3000 ]
00960>                                   [   0.6000 ,  0.3940 ]
00961>                                   [   1.0200 ,  0.4950 ]
00962>                                   [   1.5200 ,  0.6020 ]
00963>                                   [   2.0800 ,  0.7160 ]
00964>                                   [   2.6900 ,  0.8370 ]
00965>                                   [   -1  ,  -1  ]  (max twenty pts)
00966>                           IDovf=[   ], NHYDovf=[   ]
00967> *%-----------------|---------------------------------------------------------|
00968> *#-----------------|---------------------------------------------------------|
00969> *#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00970> *#-----------------|---------------------------------------------------------|
00971> *%-----------------|---------------------------------------------------------|
00972> ADD HYD            IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00973> *%-----------------|---------------------------------------------------------|
00974> *#-----------------|---------------------------------------------------------|
00975> *#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
00976> *#-----------------|---------------------------------------------------------|
00977> *%-----------------|---------------------------------------------------------|
00978> CALIB NASHYD       ID[1], NHYD=["9A"], DT=[1]min, AREA=[2.58](ha),
00979>                     DWF=[0](cms),  CN/C=[48.8], IA=[8.4](mm),
00980>                     N=[3], TP=[0.46]hrs,
00981>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00982> *%-----------------|---------------------------------------------------------|
00983> CALIB NASHYD       ID=[2], NHYD=["9B"], DT=[1]min, AREA=[11.6](ha),
00984>                     DWF=[0](cms),  CN/C=[68.0], IA=[8.0](mm),
00985>                     N=[3], TP=[1.43]hrs,
00986>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00987> *%-----------------|---------------------------------------------------------|
00988> ADD HYD            IDsum=[10], NHYD=["9A9B"], IDs to add=[1,2]
00989> *%-----------------|---------------------------------------------------------|
00990> CALIB NASHYD       ID=[1], NHYD=["9C"], DT=[1]min, AREA=[0.96](ha),
00991>                     DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
00992>                     N=[3], TP=[0.2]hrs,
00993>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00994> *%-----------------|---------------------------------------------------------|
00995> CALIB NASHYD       ID=[2], NHYD=["9D"], DT=[1]min, AREA=[1.87](ha),
00996>                     DWF=[0](cms),  CN/C=[43.6], IA=[8.4](mm),
00997>                     N=[3], TP=[0.30]hrs,
00998>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00999> *%-----------------|---------------------------------------------------------|
01000> *#-----------------|---------------------------------------------------------|
01001> *#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
01002> *#-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
01003> *#-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
01004> *#-----------------|---------------------------------------------------------|
01005> *%-----------------|---------------------------------------------------------|
01006> ROUTE RESERVOIR     IDout=[4],   NHYD=["ExPond"],  IDin=[2],
01007>                     RDT=[1](min),
01008>                           TABLE of ( OUTFLOW-STORAGE ) values
01009>                                      (cms) - (ha-m)
01010>                                   [   0.0 ,  0.0 ]
01011>                                   [   0.00 ,  0.479 ]
01012>                                   [   0.00 ,  1.249 ]
01013>                                   [   -1  ,  -1  ]  (max twenty pts)
01014>                           IDovf=[   ], NHYDovf=[   ]
01015> *%-----------------|---------------------------------------------------------|
01016> ADD HYD            IDsum=[9], NHYD=["9C9D"], IDs to add=[1,4]
01017> *%-----------------|---------------------------------------------------------|
01018> *#-----------------|---------------------------------------------------------|
01019> *#-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
01020> *#-----------------|---------------------------------------------------------|
01021> *%-----------------|---------------------------------------------------------|
01022> CALIB NASHYD       ID=[7], NHYD=["9E"], DT=[1]min, AREA=[7.7](ha),
01023>                     DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
01024>                     N=[3], TP=[0.44]hrs,
01025>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01026> *%-----------------|---------------------------------------------------------|
01027> CALIB NASHYD       ID=[8], NHYD=["9F"], DT=[1]min, AREA=[3.44](ha),
01028>                     DWF=[0](cms),  CN/C=[64.0], IA=[8.4](mm),
01029>                     N=[3], TP=[0.56]hrs,
01030>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01031> *%-----------------|---------------------------------------------------------|
01032> *#-----------------|---------------------------------------------------------|
01033> *#-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD------------|
01034> *#-----------------|---------------------------------------------------------|
01035> *%-----------------|---------------------------------------------------------|
01036> ADD HYD            IDsum=[1], NHYD=["WC9LS"], IDs to add=[5,10,9,7,8]
01037> *%-----------------|---------------------------------------------------------|
01038> SAVE HYD           ID=[1],   # OF PCYCLES=[10],  ICASEsh=[1]
01039>                     HYD_COMMENT=["Lakeshore Road Hydrograph"]
01040> *%-----------------|---------------------------------------------------------|
01041>
01042>
01043> FINISH
01044>
01045>
01046>
01047>
01048>
01049>
01050>
01051>
```

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO         999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O       9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##   9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O        9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9    =========
00008>                                                          9   9  9   9   # 3737016
00009>          StormWater Management HYdrologic Model           999    999    =========
00010>
00011>  ********************************************************************************
00012>  ***************************** SWMHYMO Ver/4.05  ********************************
00013>  *********  A single event and continuous hydrologic simulation model  *********
00014>  *********     based on the principles of HYMO and its successors      *********
00015>  *********                  OTTHYMO-83 and OTTHYMO-89.                  *********
00016>  ********************************************************************************
00017>  ******** Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018>  *********                  Ottawa,  Ontario: (613) 836-3884           *********
00019>  *********                  Gatineau, Quebec: (819) 243-6858           *********
00020>  *********                  E-Mail: swmhymo@jfsa.Com                   *********
00021>  ********************************************************************************
00022>
00023>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024>  +++++++++ Licensed user: C.F. Crozier & Associates Inc.                +++++++++
00025>  +++++++++                  Collingwood          SERIAL#:3737016       +++++++++
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>  ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
00036>  *****------------------------------------------------------------------------*****
00037>  *****    ID:  Hydrograph IDentification numbers, (1-10).                  *****
00038>  *****  NHYD:  Hydrograph reference numbers, (6 digits or characters).     *****
00039>  *****  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).   *****
00040>  ***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).     *****
00041>  ***** TpeakDate_hh:mm is the date and time of the peak flow.              *****
00042>  *****  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).       *****
00043>  *****  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).       *****
00044>  *****     *:  see WARNING or NOTE message printed at end of run.         *****
00045>  *****    **:  see  ERROR  message printed at end of run.                 *****
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  **********************   S U M M A R Y   O U T P U T   **********************
00054>  ********************************************************************************
00055>  *         DATE: 2018-04-30     TIME: 01:07:33     RUN COUNTER: 000891         *
00056>  ********************************************************************************
00057>  * Input   filename: C:\PLAYGR~1\PRE_CHI.DAT                                    *
00058>  * Output  filename: C:\PLAYGR~1\PRE_CHI.out                                    *
00059>  * Summary filename: C:\PLAYGR~1\PRE_CHI.sum                                    *
00060>  * User comments:                                                              *
00061>  * 1:_____________________________________________________________________     *
00062>  * 2:_____________________________________________________________________     *
00063>  * 3:_____________________________________________________________________     *
00064>  ********************************************************************************
00065>
00066>
00067> #*************************************************************************
00068> #  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
00069> #  Date        : 2018-01-24
00070> #  Modeller    : [OD,BD,BH - ADAPTED FROM NM 2009 MODEL]
00071> #  Company     : C.F. Crozier & Associates Inc.
00072> #  License #   : 3737016
00073> #*************************************************************************
00074>  RUN:COMMAND#
00075>  001:0001----------------------------------------------------------------------
00076>      START
00077>       [TZERO =    .00 hrs on        0]
00078>       [METOUT=   2    (1=imperial, 2=metric output)]
00079>       [NSTORM=   1 ]
00080>       [NRUN  =   1 ]
00081> #*************************************************************************
00082> #*************************************************************************
00083> #*****************************25mm storm**********************************
00084> #*************************************************************************
00085>  001:0002----------------------------------------------------------------------
00086>      READ STORM
00087>       Filename = 25mm.stm
00088>       Comment  =
00089>       [SDT= 5.00:SDUR=   4.00:PTOT=  24.99]
00090> #-----------------|-------------------------------------------------------|
00091> #-----------------|-PRE-DEVELOPMENT---------------------------------------|
00092> #-----------------|-------------------------------------------------------|
00093> #-----------------|-------------------------------------------------------|
00094> #-----------------|-Subwatershed 9 External Drainage Area-----------------|
00095> #-----------------|-Per 'The Orchards' FSSWM Report-----------------------|
00096> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)-----------|
00097> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00098> #-----------------|-------------------------------------------------------|
00099>  001:0003---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00100>      CALIB NASHYD       01:EXT-9A       101.80     .509 No_date    2:46    4.79
00101>        [CN= 80.0: N= 3.00]
00102>        [Tp= 1.00:DT= 1.00]
00103>  001:0004---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00104>      ROUTE CHANNEL   -> 01:EXT-9A       101.80     .509 No_date    2:46    4.79
00105>        [RDT= 1.00] out<- 02:Channel      101.80     .502 No_date    2:56    4.79
00106>        [L/S/n=  550./2.000/.035]
00107>        {Vmax=  .903:Dmax=  .117}
00108>  001:0005---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00109>      CALIB STANDHYD     03:EXT-9B        14.80     .713 No_date    1:24   10.39
00110>        [XIMP=.35:TIMP=.35]
00111>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00112>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00113>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00114>  001:0006---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00115>      ROUTE RESERVOIR -> 03:EXT-9B        14.80     .713 No_date    1:24   10.39
00116>        [RDT= 1.00] out<- 04:Orchards     14.80     .038 No_date    2:58   10.39
00117>       {MxStoUsed=.1254E+00}
00118> #-----------------|-------------------------------------------------------|
00119> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing-----|
00120> #-----------------|-------------------------------------------------------|
00121>  001:0007---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00122>      ADD HYD            02:Channel      101.80     .502 No_date    2:56    4.79
00123>                       + 04:Orchards     14.80     .038 No_date    2:58   10.39
00124>        [DT= 1.00]  SUM=  05:RD19         116.60     .539 No_date    2:56    5.50
00125> #-----------------|-------------------------------------------------------|
00126> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands-----------|
00127> #-----------------|-------------------------------------------------------|
00128>  001:0008---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00129>      CALIB NASHYD       01:9A             2.58     .004 No_date    2:08     .97
00130>        [CN= 48.8: N= 3.00]
00131>        [Tp=  .46:DT= 1.00]
00132>  001:0009---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00133>      CALIB NASHYD       02:9B            11.60     .020 No_date    3:34    2.11
00134>        [CN= 68.0: N= 3.00]
00135>        [Tp= 1.43:DT= 1.00]
00136>  001:0010---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00137>      ADD HYD            01:9A             2.58     .004 No_date    2:08     .97
00138>                       + 02:9B            11.60     .020 No_date    3:34    2.11
00139>        [DT= 1.00]  SUM=  10:9A9B          14.18     .021 No_date    3:27    1.91
00140>  001:0011---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00141>      CALIB NASHYD       01:9C              .96     .001 No_date    1:45     .45
00142>        [CN= 33.2: N= 3.00]
00143>        [Tp=  .20:DT= 1.00]
00144>  001:0012---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00145>      CALIB NASHYD       02:9D             1.87     .003 No_date    1:53     .80
00146>        [CN= 43.6: N= 3.00]
00147>        [Tp=  .30:DT= 1.00]
00148> #-----------------|-------------------------------------------------------|
00149> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00150> #-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00151> #-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00152> #-----------------|-------------------------------------------------------|
00153>  001:0013---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00154>      ROUTE RESERVOIR -> 02:9D           1.87     .003 No_date    1:53     .80
00155>   *  [RDT= 1.00] out<- 04:ExPond        1.87     .000 No_date    0:00     .00
00156>       {MxStoUsed=.1491E-02}
00157>  001:0014---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00158>      ADD HYD            01:9C              .96     .001 No_date    1:45     .45
00159>                       + 04:ExPond        1.87     .000 No_date    0:00     .00
00160>        [DT= 1.00]  SUM=  09:9C9D          2.83     .001 No_date    1:45     .15
00161> #-----------------|-------------------------------------------------------|
00162> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands-----------|
00163> #-----------------|-------------------------------------------------------|
00164>  001:0015---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00165>      CALIB NASHYD       07:9E             7.70     .019 No_date    2:07    1.59
00166>        [CN= 63.0: N= 3.00]
00167>        [Tp=  .44:DT= 1.00]
00168>  001:0016---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00169>      CALIB NASHYD       08:9F             3.44     .008 No_date    2:17    1.73
00170>        [CN= 64.0: N= 3.00]
00171>        [Tp=  .56:DT= 1.00]
00172> #-----------------|-------------------------------------------------------|
00173> #-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD--------|
00174> #-----------------|-------------------------------------------------------|
00175>  001:0017---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00176>      ADD HYD            05:RD19         116.60     .539 No_date    2:56    5.50
00177>                       + 10:9A9B          14.18     .021 No_date    3:27    1.91
00178>                       + 09:9C9D          2.83     .001 No_date    1:45     .15
00179>                       + 07:9E            7.70     .019 No_date    2:07    1.59
00180>                       + 08:9F            3.44     .008 No_date    2:17    1.73
00181>        [DT= 1.00]  SUM=  01:WC9LS        144.75     .577 No_date    2:55    4.74
00182>  001:0018---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00183>      SAVE HYD           01:WC9LS        144.75     .577 No_date    2:55    4.74
00184>       fname :C:\PLAYGR~1\H-WC9LS.001
00185>       remark:Lakeshore Road Hydrograph
00186> #*************************************************************************
00187> #*****************************2yr 4hr Chicago Storm***********************
00188> #*************************************************************************
00189>  001:0019----------------------------------------------------------------------
00190>      CHICAGO STORM
00191>       [SDT= 5.00:SDUR=   4.00:PTOT=  31.55]
00192>       (A/B/C= 425.976/   1.500/    .727: R=.9997)
00193> #-----------------|-------------------------------------------------------|
00194> #-----------------|-------------------------------------------------------|
00195> #-----------------|-PRE-DEVELOPMENT---------------------------------------|
00196> #-----------------|-------------------------------------------------------|
00197> #-----------------|-------------------------------------------------------|
00198> #-----------------|-Subwatershed 9 External Drainage Area-----------------|
00199> #-----------------|-Per 'The Orchards' FSSWM Report-----------------------|
00200> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)-----------|
00201> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00202> #-----------------|-------------------------------------------------------|
00203>  001:0020---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00204>      CALIB NASHYD       01:EXT-9A       101.80     .782 No_date    2:48    7.83
00205>        [CN= 80.0: N= 3.00]
00206>        [Tp= 1.00:DT= 1.00]
00207>  001:0021---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00208>      ROUTE CHANNEL   -> 01:EXT-9A       101.80     .782 No_date    2:48    7.83
00209>        [RDT= 1.00] out<- 02:Channel      101.80     .776 No_date    2:55    7.83
00210>        [L/S/n=  550./2.000/.035]
00211>        {Vmax= 1.007:Dmax=  .147}
00212>  001:0022---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00213>      CALIB STANDHYD     03:EXT-9B        14.80     1.089 No_date    1:23   14.58
00214>        [XIMP=.35:TIMP=.35]
00215>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00216>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00217>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00218>  001:0023---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00219>      ROUTE RESERVOIR -> 03:EXT-9B        14.80     1.089 No_date    1:23   14.58
00220>        [RDT= 1.00] out<- 04:Orchards     14.80     .055 No_date    2:51   14.58
00221>       {MxStoUsed=.1723E+00}
00222> #-----------------|-------------------------------------------------------|
00223> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing-----|
00224> #-----------------|-------------------------------------------------------|
00225>  001:0024---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00226>      ADD HYD            02:Channel      101.80     .776 No_date    2:55    7.83
00227>                       + 04:Orchards     14.80     .055 No_date    2:51   14.58
00228>        [DT= 1.00]  SUM=  05:RD19         116.60     .831 No_date    2:55    8.69
00229> #-----------------|-------------------------------------------------------|
00230> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands-----------|
00231> #-----------------|-------------------------------------------------------|
00232>  001:0025---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00233>      CALIB NASHYD       01:9A             2.58     .007 No_date    2:05    1.85
00234>        [CN= 48.8: N= 3.00]
00235>        [Tp=  .46:DT= 1.00]
00236>  001:0026---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00237>      CALIB NASHYD       02:9B            11.60     .035 No_date    3:41    3.88
00238>        [CN= 68.0: N= 3.00]
00239>        [Tp= 1.43:DT= 1.00]
00240>  001:0027---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00241>      ADD HYD            01:9A             2.58     .007 No_date    2:05    1.85
00242>                       + 02:9B            11.60     .035 No_date    3:41    3.88
00243>        [DT= 1.00]  SUM=  10:9A9B          14.18     .038 No_date    3:35    3.51
00244>  001:0028---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00245>      CALIB NASHYD       01:9C              .96     .002 No_date    1:40     .90
00246>        [CN= 33.2: N= 3.00]
00247>        [Tp=  .20:DT= 1.00]
00248>  001:0029---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00249>      CALIB NASHYD       02:9D             1.87     .005 No_date    1:49    1.52
00250>        [CN= 43.6: N= 3.00]
00251>        [Tp=  .30:DT= 1.00]
00252> #-----------------|-------------------------------------------------------|
00253> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00254> #-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00255> #-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00256> #-----------------|-------------------------------------------------------|
00257>  001:0030---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00258>      ROUTE RESERVOIR -> 02:9D           1.87     .005 No_date    1:49    1.52
00259>   *  [RDT= 1.00] out<- 04:ExPond        1.87     .000 No_date    0:00     .00
00260>       {MxStoUsed=.2850E-02}
00261>  001:0031---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00262>      ADD HYD            01:9C              .96     .002 No_date    1:40     .90
00263>                       + 04:ExPond        1.87     .000 No_date    0:00     .00
00264>        [DT= 1.00]  SUM=  09:9C9D          2.83     .002 No_date    1:40     .31
00265> #-----------------|-------------------------------------------------------|
00266> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands-----------|
00267> #-----------------|-------------------------------------------------------|
00268>  001:0032---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00269>      CALIB NASHYD       07:9E             7.70     .033 No_date    2:03    3.01
00270>        [CN= 63.0: N= 3.00]
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```
      [Tp=  .44:DT= 1.00]
 001:0033----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       08:9F            3.44     .014 No_date    2:15    3.23
       [CN= 64.0: N= 3.00]
       [Tp=  .56:DT= 1.00]
#-----------------|-------------------------------------------------------------|
#-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD-------------|
#-----------------|-------------------------------------------------------------|
 001:0034----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            05:RD19          116.60     .831 No_date    2:55    8.69
                      + 10:9A9B           14.18     .038 No_date    3:35    3.51
                      + 09:9C9D            2.83     .002 No_date    1:40     .31
                      + 07:9E              7.70     .033 No_date    2:03    3.01
                      + 08:9F              3.44     .014 No_date    2:15    3.23
      [DT= 1.00]  SUM=  01:WC9LS         144.75     .899 No_date    2:54    7.58
 001:0035----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     SAVE HYD           01:WC9LS         144.75     .899 No_date    2:54    7.58
       fname :C:\PLAYGR~1\H-WC9LS.001
       remark:Lakeshore Road Hydrograph
#*******************************************************************************
#*****************************5yr 4hr Chicago Storm*****************************
#*******************************************************************************
 001:0036-------------------------------------------------------------------------
     CHICAGO STORM
      [SDT= 5.00:SDUR=   4.00:PTOT=  42.28]
      {A/B/C= 564.587/   1.500/    .725: R=.9997}
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-PRE-DEVELOPMENT-----------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-Subwatershed 9 External Drainage Area-------------------------|
#-----------------|-Per 'The Orchards' FSSWM Report-------------------------------|
#-----------------|-Prepared by Higgins Engineering (Jan. 2005)-------------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
#-----------------|-------------------------------------------------------------|
 001:0037----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9A        101.80    1.407 No_date    2:44   13.79
       [CN= 80.0: N= 3.00]
       [Tp= 1.00:DT= 1.00]
 001:0038----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE CHANNEL   -> 01:EXT-9A        101.80    1.407 No_date    2:44   13.79
       [RDT= 1.00] out<- 02:Channel      101.80    1.402 No_date    2:49   13.79
       [L/S/n=  550./2.000/.035]
       {Vmax= 1.344:Dmax=  .214}
 001:0039----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:EXT-9B         14.80    1.648 No_date    1:22   21.16
       [XIMP=.35:TIMP=.35]
       [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
       [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 001:0040----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:EXT-9B        14.80    1.648 No_date    1:22   21.16
       [RDT= 1.00] out<- 04:Orchards     14.80     .133 No_date    2:16   21.16
      {MxStoUsed=.2403E+00}
#-----------------|-------------------------------------------------------------|
#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
#-----------------|-------------------------------------------------------------|
 001:0041----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:Channel       101.80    1.402 No_date    2:49   13.79
                      + 04:Orchards      14.80     .133 No_date    2:16   21.16
      [DT= 1.00]  SUM=  05:RD19          116.60    1.521 No_date    2:47   14.73
#-----------------|-------------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Upper Terrace Lands-----------------|
#-----------------|-------------------------------------------------------------|
 001:0042----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9A             2.58     .014 No_date    2:02    3.82
       [CN= 48.8: N= 3.00]
       [Tp=  .46:DT= 1.00]
 001:0043----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9B            11.60     .069 No_date    3:32    7.64
       [CN= 68.0: N= 3.00]
       [Tp= 1.43:DT= 1.00]
 001:0044----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9A             2.58     .014 No_date    2:02    3.82
                      + 02:9B            11.60     .069 No_date    3:32    7.64
      [DT= 1.00]  SUM=  10:9A9B           14.18     .075 No_date    3:26    6.95
 001:0045----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9C              .96     .004 No_date    1:37    1.96
       [CN= 33.2: N= 3.00]
       [Tp=  .20:DT= 1.00]
 001:0046----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9D             1.87     .011 No_date    1:46    3.17
       [CN= 43.6: N= 3.00]
       [Tp=  .30:DT= 1.00]
#-----------------|-------------------------------------------------------------|
#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
#-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
#-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
#-----------------|-------------------------------------------------------------|
 001:0047----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:9D            1.87     .011 No_date    1:46    3.17
  *  [RDT= 1.00] out<- 04:ExPond         1.87     .000 No_date    0:00     .00
      {MxStoUsed=.5922E-02}
 001:0048----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9C              .96     .004 No_date    1:37    1.96
                      + 04:ExPond          1.87     .000 No_date    0:00     .00
      [DT= 1.00]  SUM=  09:9C9D            2.83     .004 No_date    1:37     .67
#-----------------|-------------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
#-----------------|-------------------------------------------------------------|
 001:0049----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       07:9E             7.70     .072 No_date    2:00    6.14
       [CN= 63.0: N= 3.00]
       [Tp=  .44:DT= 1.00]
 001:0050----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       08:9F             3.44     .030 No_date    2:11    6.49
       [CN= 64.0: N= 3.00]
       [Tp=  .56:DT= 1.00]
#-----------------|-------------------------------------------------------------|
#-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD-------------|
#-----------------|-------------------------------------------------------------|
 001:0051----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            05:RD19          116.60    1.521 No_date    2:47   14.73
                      + 10:9A9B           14.18     .075 No_date    3:26    6.95
                      + 09:9C9D            2.83     .004 No_date    1:37     .67
                      + 07:9E              7.70     .072 No_date    2:00    6.14
                      + 08:9F              3.44     .030 No_date    2:11    6.49
      [DT= 1.00]  SUM=  01:WC9LS         144.75    1.660 No_date    2:45   13.04
 001:0052----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     SAVE HYD           01:WC9LS         144.75    1.660 No_date    2:45   13.04
       fname :C:\PLAYGR~1\H-WC9LS.001
       remark:Lakeshore Road Hydrograph
#*******************************************************************************
#*****************************10yr 4hr Chicago Storm*****************************
#*******************************************************************************
 001:0053-------------------------------------------------------------------------
     CHICAGO STORM
      [SDT= 5.00:SDUR=   4.00:PTOT=  49.47]
      {A/B/C= 656.948/   1.500/    .724: R=.9997}
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-PRE-DEVELOPMENT-----------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-Subwatershed 9 External Drainage Area-------------------------|
#-----------------|-Per 'The Orchards' FSSWM Report-------------------------------|
#-----------------|-Prepared by Higgins Engineering (Jan. 2005)-------------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
#-----------------|-------------------------------------------------------------|
 001:0054----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9A        101.80    1.889 No_date    2:42   18.32
       [CN= 80.0: N= 3.00]
       [Tp= 1.00:DT= 1.00]
 001:0055----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE CHANNEL   -> 01:EXT-9A        101.80    1.889 No_date    2:42   18.32
       [RDT= 1.00] out<- 02:Channel      101.80    1.881 No_date    2:47   18.32
       [L/S/n=  550./2.000/.035]
       {Vmax= 1.447:Dmax=  .248}
 001:0056----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:EXT-9B         14.80    2.042 No_date    1:22   25.78
       [XIMP=.35:TIMP=.35]
       [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
       [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 001:0057----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:EXT-9B        14.80    2.042 No_date    1:22   25.78
       [RDT= 1.00] out<- 04:Orchards     14.80     .221 No_date    2:04   25.78
      {MxStoUsed=.2816E+00}
#-----------------|-------------------------------------------------------------|
#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
#-----------------|-------------------------------------------------------------|
 001:0058----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:Channel       101.80    1.881 No_date    2:47   18.32
                      + 04:Orchards      14.80     .221 No_date    2:04   25.78
      [DT= 1.00]  SUM=  05:RD19          116.60    2.062 No_date    2:44   19.26
#-----------------|-------------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Upper Terrace Lands-----------------|
#-----------------|-------------------------------------------------------------|
 001:0059----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9A             2.58     .021 No_date    2:00    5.48
       [CN= 48.8: N= 3.00]
       [Tp=  .46:DT= 1.00]
 001:0060----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9B            11.60     .097 No_date    3:29   10.68
       [CN= 68.0: N= 3.00]
       [Tp= 1.43:DT= 1.00]
 001:0061----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9A             2.58     .021 No_date    2:00    5.48
                      + 02:9B            11.60     .097 No_date    3:29   10.68
      [DT= 1.00]  SUM=  10:9A9B           14.18     .106 No_date    3:22    9.74
 001:0062----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9C              .96     .006 No_date    1:37    2.88
       [CN= 33.2: N= 3.00]
       [Tp=  .20:DT= 1.00]
 001:0063----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9D             1.87     .016 No_date    1:45    4.56
       [CN= 43.6: N= 3.00]
       [Tp=  .30:DT= 1.00]
#-----------------|-------------------------------------------------------------|
#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
#-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
#-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
#-----------------|-------------------------------------------------------------|
 001:0064----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:9D            1.87     .016 No_date    1:45    4.56
  *  [RDT= 1.00] out<- 04:ExPond         1.87     .000 No_date    0:00     .00
      {MxStoUsed=.8533E-02}
 001:0065----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9C              .96     .006 No_date    1:37    2.88
                      + 04:ExPond          1.87     .000 No_date    0:00     .00
      [DT= 1.00]  SUM=  09:9C9D            2.83     .006 No_date    1:37     .98
#-----------------|-------------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
#-----------------|-------------------------------------------------------------|
 001:0066----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       07:9E             7.70     .105 No_date    1:58    8.71
       [CN= 63.0: N= 3.00]
       [Tp=  .44:DT= 1.00]
 001:0067----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       08:9F             3.44     .043 No_date    2:09    9.17
       [CN= 64.0: N= 3.00]
       [Tp=  .56:DT= 1.00]
#-----------------|-------------------------------------------------------------|
#-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD-------------|
#-----------------|-------------------------------------------------------------|
 001:0068----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            05:RD19          116.60    2.062 No_date    2:44   19.26
                      + 10:9A9B           14.18     .106 No_date    3:22    9.74
                      + 09:9C9D            2.83     .006 No_date    1:37     .98
                      + 07:9E              7.70     .105 No_date    1:58    8.71
                      + 08:9F              3.44     .043 No_date    2:09    9.17
      [DT= 1.00]  SUM=  01:WC9LS         144.75    2.260 No_date    2:44   17.17
 001:0069----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     SAVE HYD           01:WC9LS         144.75    2.260 No_date    2:44   17.17
       fname :C:\PLAYGR~1\H-WC9LS.001
       remark:Lakeshore Road Hydrograph
#*******************************************************************************
#*****************************25yr 4hr Chicago Storm*****************************
#*******************************************************************************
 001:0070-------------------------------------------------------------------------
     CHICAGO STORM
      [SDT= 5.00:SDUR=   4.00:PTOT=  58.02]
      {A/B/C= 778.937/   1.500/    .726: R=.9997}
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-PRE-DEVELOPMENT-----------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-------------------------------------------------------------|
#-----------------|-Subwatershed 9 External Drainage Area-------------------------|
#-----------------|-Per 'The Orchards' FSSWM Report-------------------------------|
#-----------------|-Prepared by Higgins Engineering (Jan. 2005)-------------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
#-----------------|-------------------------------------------------------------|
 001:0071----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9A        101.80    2.520 No_date    2:41   24.12
       [CN= 80.0: N= 3.00]
       [Tp= 1.00:DT= 1.00]
 001:0072----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE CHANNEL   -> 01:EXT-9A        101.80    2.520 No_date    2:41   24.12
       [RDT= 1.00] out<- 02:Channel      101.80    2.517 No_date    2:44   24.12
       [L/S/n=  550./2.000/.035]
       {Vmax= 1.609:Dmax=  .294}
 001:0073----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:EXT-9B         14.80    2.731 No_date    1:23   32.10
       [XIMP=.35:TIMP=.35]
       [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
       [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 001:0074----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:EXT-9B        14.80    2.731 No_date    1:23   32.10
       [RDT= 1.00] out<- 04:Orchards     14.80     .395 No_date    1:54   32.10
      {MxStoUsed=.3373E+00}
#-----------------|-------------------------------------------------------------|
#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
#-----------------|-------------------------------------------------------------|
 001:0075----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:Channel       101.80    2.517 No_date    2:44   24.12
                      + 04:Orchards      14.80     .395 No_date    1:54   32.10
      [DT= 1.00]  SUM=  05:RD19          116.60    2.763 No_date    2:44   25.13
```

```
#------------------|-------------------------------------------------------------|
#------------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
#------------------|-------------------------------------------------------------|
 001:0076----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9A             2.58     .031 No_date    1:59    7.79
       [CN= 48.8: N= 3.00]
       [Tp=  .46:DT= 1.00]
 001:0077----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9B            11.60     .135 No_date    3:25   14.75
       [CN= 68.0: N= 3.00]
       [Tp= 1.43:DT= 1.00]
 001:0078----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9A             2.58     .031 No_date    1:59    7.79
                      +  02:9B            11.60     .135 No_date    3:25   14.75
       [DT= 1.00]  SUM=  10:9A9B          14.18     .148 No_date    3:18   13.49
 001:0079----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9C              .96     .010 No_date    1:36    4.19
       [CN= 33.2: N= 3.00]
       [Tp=  .20:DT= 1.00]
 001:0080----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9D             1.87     .024 No_date    1:45    6.51
       [CN= 43.6: N= 3.00]
       [Tp=  .30:DT= 1.00]
#------------------|-------------------------------------------------------------|
#------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
#------------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
#------------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
#------------------|-------------------------------------------------------------|
 001:0081----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:9D           1.87     .024 No_date    1:45    6.51
   *   [RDT= 1.00] out<- 04:ExPond      1.87     .000 No_date    0:00     .00
       {MxStoUsed=.1217E-01}
 001:0082----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9C              .96     .010 No_date    1:36    4.19
                      +  04:ExPond        1.87     .000 No_date    0:00     .00
       [DT= 1.00]  SUM=  09:9C9D          2.83     .010 No_date    1:36    1.42
#------------------|-------------------------------------------------------------|
#------------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
#------------------|-------------------------------------------------------------|
 001:0083----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       07:9E             7.70     .152 No_date    1:57   12.21
       [CN= 63.0: N= 3.00]
       [Tp=  .44:DT= 1.00]
 001:0084----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       08:9F             3.44     .062 No_date    2:07   12.79
       [CN= 64.0: N= 3.00]
       [Tp=  .56:DT= 1.00]
#------------------|-------------------------------------------------------------|
#------------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD------------|
#------------------|-------------------------------------------------------------|
 001:0085----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            05:RD19          116.60    2.763 No_date    2:44   25.13
                      +  10:9A9B          14.18     .148 No_date    3:18   13.49
                      +  09:9C9D           2.83     .010 No_date    1:36    1.42
                      +  07:9E             7.70     .152 No_date    1:57   12.21
                      +  08:9F             3.44     .062 No_date    2:07   12.79
       [DT= 1.00]  SUM=  01:WC9LS         144.75    3.041 No_date    2:39   22.55
 001:0086----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     SAVE HYD           01:WC9LS         144.75    3.041 No_date    2:39   22.55
       fname :C:\PLAYGR~1\H-WC9LS.001
       remark:Lakeshore Road Hydrograph
#*****************************************************************************
#****************************50yr 4hr Chicago Storm***************************
#*****************************************************************************
 001:0087-----------------------------------------------------------------------
     CHICAGO STORM
       [SDT= 5.00:SDUR=   4.00:PTOT=  64.88]
       {A/B/C= 866.281/   1.500/    .725: R=.9997}
#------------------|-------------------------------------------------------------|
#------------------|-------------------------------------------------------------|
#------------------|-PRE-DEVELOPMENT-------------------------------------------|
#------------------|-------------------------------------------------------------|
#------------------|-------------------------------------------------------------|
#------------------|-Subwatershed 9 External Drainage Area----------------------|
#------------------|-Per 'The Orchards' FSSWM Report----------------------------|
#------------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha--------|
#------------------|-------------------------------------------------------------|
 001:0088----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9A        101.80    3.055 No_date    2:40   29.06
       [CN= 80.0: N= 3.00]
       [Tp= 1.00:DT= 1.00]
 001:0089----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE CHANNEL   -> 01:EXT-9A        101.80    3.055 No_date    2:40   29.06
       [RDT= 1.00] out<- 02:Channel     101.80    3.046 No_date    2:44   29.06
       [L/S/n=  550./2.000/.035]
       {Vmax= 1.732:Dmax=  .328}
 001:0090----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:EXT-9B         14.80    3.311 No_date    1:23   37.37
       [XIMP=.35:TIMP=.35]
       [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
       [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 001:0091----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:EXT-9B        14.80    3.311 No_date    1:23   37.37
       [RDT= 1.00] out<- 04:Orchards     14.80     .553 No_date    1:51   37.37
       {MxStoUsed=.3809E+00}
#------------------|-------------------------------------------------------------|
#------------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing----------|
#------------------|-------------------------------------------------------------|
 001:0092----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:Channel       101.80    3.046 No_date    2:44   29.06
                      +  04:Orchards      14.80     .553 No_date    1:51   37.37
       [DT= 1.00]  SUM=  05:RD19          116.60    3.359 No_date    2:40   30.11
#------------------|-------------------------------------------------------------|
#------------------|-Parkbridge Craigleith - Upper Terrace Lands----------------|
#------------------|-------------------------------------------------------------|
 001:0093----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9A             2.58     .040 No_date    1:59    9.88
       [CN= 48.8: N= 3.00]
       [Tp=  .46:DT= 1.00]
 001:0094----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9B            11.60     .168 No_date    3:24   18.34
       [CN= 68.0: N= 3.00]
       [Tp= 1.43:DT= 1.00]
 001:0095----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9A             2.58     .040 No_date    1:59    9.88
                      +  02:9B            11.60     .168 No_date    3:24   18.34
       [DT= 1.00]  SUM=  10:9A9B          14.18     .184 No_date    3:16   16.80
 001:0096----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9C              .96     .013 No_date    1:36    5.39
       [CN= 33.2: N= 3.00]
       [Tp=  .20:DT= 1.00]
 001:0097----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9D             1.87     .031 No_date    1:44    8.28
       [CN= 43.6: N= 3.00]
       [Tp=  .30:DT= 1.00]
#------------------|-------------------------------------------------------------|
#------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
#------------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
#------------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
#------------------|-------------------------------------------------------------|
 001:0098----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:9D           1.87     .031 No_date    1:44    8.28
   *   [RDT= 1.00] out<- 04:ExPond      1.87     .000 No_date    0:00     .00
       {MxStoUsed=.1549E-01}
 001:0099----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9C              .96     .013 No_date    1:36    5.39
                      +  04:ExPond        1.87     .000 No_date    0:00     .00
       [DT= 1.00]  SUM=  09:9C9D          2.83     .013 No_date    1:36    1.83
#------------------|-------------------------------------------------------------|
#------------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
#------------------|-------------------------------------------------------------|
 001:0100----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       07:9E             7.70     .194 No_date    1:56   15.32
       [CN= 63.0: N= 3.00]
       [Tp=  .44:DT= 1.00]
 001:0101----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       08:9F             3.44     .078 No_date    2:07   16.00
       [CN= 64.0: N= 3.00]
       [Tp=  .56:DT= 1.00]
#------------------|-------------------------------------------------------------|
#------------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD------------|
#------------------|-------------------------------------------------------------|
 001:0102----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            05:RD19          116.60    3.359 No_date    2:40   30.11
                      +  10:9A9B          14.18     .184 No_date    3:16   16.80
                      +  09:9C9D           2.83     .013 No_date    1:36    1.83
                      +  07:9E             7.70     .194 No_date    1:56   15.32
                      +  08:9F             3.44     .078 No_date    2:07   16.00
       [DT= 1.00]  SUM=  01:WC9LS         144.75    3.712 No_date    2:36   27.13
 001:0103----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     SAVE HYD           01:WC9LS         144.75    3.712 No_date    2:36   27.13
       fname :C:\PLAYGR~1\H-WC9LS.001
       remark:Lakeshore Road Hydrograph
#*****************************************************************************
#****************************100yr 4hr Chicago Storm**************************
#*****************************************************************************
 001:0104-----------------------------------------------------------------------
     CHICAGO STORM
       [SDT= 5.00:SDUR=   4.00:PTOT=  71.06]
       {A/B/C= 954.085/   1.500/    .726: R=.9997}
#------------------|-------------------------------------------------------------|
#------------------|-------------------------------------------------------------|
#------------------|-PRE-DEVELOPMENT-------------------------------------------|
#------------------|-------------------------------------------------------------|
#------------------|-------------------------------------------------------------|
#------------------|-Subwatershed 9 External Drainage Area----------------------|
#------------------|-Per 'The Orchards' FSSWM Report----------------------------|
#------------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha--------|
#------------------|-------------------------------------------------------------|
 001:0105----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9A        101.80    3.565 No_date    2:39   33.68
       [CN= 80.0: N= 3.00]
       [Tp= 1.00:DT= 1.00]
 001:0106----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE CHANNEL   -> 01:EXT-9A        101.80    3.565 No_date    2:39   33.68
       [RDT= 1.00] out<- 02:Channel     101.80    3.554 No_date    2:43   33.68
       [L/S/n=  550./2.000/.035]
       {Vmax= 1.805:Dmax=  .355}
 001:0107----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:EXT-9B         14.80    3.752 No_date    1:23   42.42
       [XIMP=.35:TIMP=.35]
       [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
       [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 001:0108----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:EXT-9B        14.80    3.752 No_date    1:23   42.42
       [RDT= 1.00] out<- 04:Orchards     14.80     .707 No_date    1:50   42.42
       {MxStoUsed=.4197E+00}
#------------------|-------------------------------------------------------------|
#------------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing----------|
#------------------|-------------------------------------------------------------|
 001:0109----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:Channel       101.80    3.554 No_date    2:43   33.68
                      +  04:Orchards      14.80     .707 No_date    1:50   42.42
       [DT= 1.00]  SUM=  05:RD19          116.60    3.944 No_date    2:37   34.79
#------------------|-------------------------------------------------------------|
#------------------|-Parkbridge Craigleith - Upper Terrace Lands----------------|
#------------------|-------------------------------------------------------------|
 001:0110----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9A             2.58     .049 No_date    1:58   11.93
       [CN= 48.8: N= 3.00]
       [Tp=  .46:DT= 1.00]
 001:0111----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9B            11.60     .200 No_date    3:22   21.78
       [CN= 68.0: N= 3.00]
       [Tp= 1.43:DT= 1.00]
 001:0112----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9A             2.58     .049 No_date    1:58   11.93
                      +  02:9B            11.60     .200 No_date    3:22   21.78
       [DT= 1.00]  SUM=  10:9A9B          14.18     .220 No_date    3:14   19.99
 001:0113----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9C              .96     .016 No_date    1:35    6.60
       [CN= 33.2: N= 3.00]
       [Tp=  .20:DT= 1.00]
 001:0114----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9D             1.87     .039 No_date    1:44   10.04
       [CN= 43.6: N= 3.00]
       [Tp=  .30:DT= 1.00]
#------------------|-------------------------------------------------------------|
#------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
#------------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
#------------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
#------------------|-------------------------------------------------------------|
 001:0115----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 02:9D           1.87     .039 No_date    1:44   10.04
   *   [RDT= 1.00] out<- 04:ExPond      1.87     .000 No_date    0:00     .00
       {MxStoUsed=.1877E-01}
 001:0116----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9C              .96     .016 No_date    1:35    6.60
                      +  04:ExPond        1.87     .000 No_date    0:00     .00
       [DT= 1.00]  SUM=  09:9C9D          2.83     .016 No_date    1:35    2.24
#------------------|-------------------------------------------------------------|
#------------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
#------------------|-------------------------------------------------------------|
 001:0117----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       07:9E             7.70     .237 No_date    1:56   18.33
       [CN= 63.0: N= 3.00]
       [Tp=  .44:DT= 1.00]
 001:0118----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       08:9F             3.44     .095 No_date    2:06   19.10
       [CN= 64.0: N= 3.00]
       [Tp=  .56:DT= 1.00]
#------------------|-------------------------------------------------------------|
#------------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD------------|
#------------------|-------------------------------------------------------------|
 001:0119----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            05:RD19          116.60    3.944 No_date    2:37   34.79
                      +  10:9A9B          14.18     .220 No_date    3:14   19.99
                      +  09:9C9D           2.83     .016 No_date    1:35    2.24
                      +  07:9E             7.70     .237 No_date    1:56   18.33
                      +  08:9F             3.44     .095 No_date    2:06   19.10
       [DT= 1.00]  SUM=  01:WC9LS         144.75    4.370 No_date    2:37   31.46
 001:0120----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     SAVE HYD           01:WC9LS         144.75    4.370 No_date    2:37   31.46
       fname :C:\PLAYGR~1\H-WC9LS.001
       remark:Lakeshore Road Hydrograph
 001:0121-----------------------------------------------------------------------
```

```
00811>       FINISH
00812> -------------------------------------------------------------------------------
00813> *******************************************************************************
00814>      WARNINGS / ERRORS / NOTES
00815>      -------------------------
00816>  001:0013 ROUTE RESERVOIR
00817>       *** WARNING: Outflow volume is less than inflow volume.
00818>  001:0030 ROUTE RESERVOIR
00819>       *** WARNING: Outflow volume is less than inflow volume.
00820>  001:0047 ROUTE RESERVOIR
00821>       *** WARNING: Outflow volume is less than inflow volume.
00822>  001:0064 ROUTE RESERVOIR
00823>       *** WARNING: Outflow volume is less than inflow volume.
00824>  001:0081 ROUTE RESERVOIR
00825>       *** WARNING: Outflow volume is less than inflow volume.
00826>  001:0098 ROUTE RESERVOIR
00827>       *** WARNING: Outflow volume is less than inflow volume.
00828>  001:0115 ROUTE RESERVOIR
00829>       *** WARNING: Outflow volume is less than inflow volume.
00830>    Simulation ended on 2018-04-30     at 01:07:38
00831> ===============================================================================
00832>
00833>
```

```
2     Metric units
*#**************************************************************************
*#  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
*#  Date        : 2018-01-24
*#  Modeller    : [OD,BD,BH - ADAPTED FROM NM 2009 MODEL]
*#  Company     : C.F. Crozier & Associates Inc.
*#  License #   : 3737016
*#**************************************************************************
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[0],  NRUN=[0]
*%                    [ ] <--storm filename, one per line for NSTORM time
*#**************************************************************************
*%-------------------|-------------------------------------------------------|
*#-------------------|---------------- FINAL MODEL ---------------------------|
*%-------------------|-------------------------------------------------------|
*#**************************************************************************
*#                              2-YEAR, 24 HOUR SCS(II)
*#**************************************************************************
*#-------------------|-------------------------------------------------------|
MASS STORM          PTOTAL=[53.6](mm), CSDT=[1](min),
                    CURVE_FILENAME=["SCS24HII.mst"]

*#-------------------|-------------------------------------------------------|
*#-------------------|-PRE-DEVELOPMENT-------------------------------------|
*#-------------------|-------------------------------------------------------|
*#-------------------|-------------------------------------------------------|
*#-------------------|-Subwatershed 9 External Drainage Area---------------|
*#-------------------|-Per 'The Orchards' FSSWM Report---------------------|
*#-------------------|-Prepared by Higgins Engineering (Jan. 2005)---------|
*#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
*#-------------------|-------------------------------------------------------|
*%-------------------|-------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
                    DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
                    N=[3], TP=[1.00]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-------------------|-------------------------------------------------------|
ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
                    RDT=[1](min),
                    CHLGTH=[550](m),  CHSLOPE=[2](%),
                                        FPSLOPE=[2](%),
                    SECNUM=[1],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.035,8  -0.035,12  0.035,20]
                    ( DISTANCE (m), ELEVATION (m))= [0,102]
                                                    [8,100]
                                                    [12,100]
                                                    [20,102]
*%-------------------|-------------------------------------------------------|
CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
                    XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
                    Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
                            DCAY=[2](/hr), F=[0](mm),
                    Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
                                         LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
                    Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
                                         LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-------------------|-------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.0100 ,  0.0610 ]
                                [   0.0400 ,  0.1310 ]
                                [   0.0700 ,  0.2110 ]
                                [   0.2600 ,  0.3000 ]
                                [   0.6000 ,  0.3940 ]
                                [   1.0200 ,  0.4950 ]
                                [   1.5200 ,  0.6020 ]
                                [   2.0800 ,  0.7160 ]
                                [   2.6900 ,  0.8370 ]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[   ], NHYDovf=[   ]
*%-------------------|-------------------------------------------------------|
*#-------------------|-------------------------------------------------------|
*#-------------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
*#-------------------|-------------------------------------------------------|
*%-------------------|-------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
*%-------------------|-------------------------------------------------------|
*#-------------------|-------------------------------------------------------|
*#-------------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
*#-------------------|-------------------------------------------------------|
*%-------------------|-------------------------------------------------------|
CALIB NASHYD        ID[1], NHYD=["9A"], DT=[1]min, AREA=[2.58](ha),
                    DWF=[0](cms),  CN/C=[48.8], IA=[8.4](mm),
                    N=[3], TP=[0.46]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-------------------|-------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["9B"], DT=[1]min, AREA=[11.6](ha),
                    DWF=[0](cms),  CN/C=[68.0], IA=[8.0](mm),
                    N=[3], TP=[1.43]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-------------------|-------------------------------------------------------|
ADD HYD             IDsum=[10], NHYD=["9A9B"], IDs to add=[1,2]
*%-------------------|-------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["9C"], DT=[1]min, AREA=[0.96](ha),
                    DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
                    N=[3], TP=[0.2]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-------------------|-------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["9D"], DT=[1]min, AREA=[1.87](ha),
                    DWF=[0](cms),  CN/C=[43.6], IA=[8.4](mm),
                    N=[3], TP=[0.30]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-------------------|-------------------------------------------------------|
*#-------------------|-------------------------------------------------------|
*#-------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
*#-------------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
*#-------------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
*#-------------------|-------------------------------------------------------|
*%-------------------|-------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["ExPond"],  IDin=[2],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.00 ,  0.479 ]
                                [   0.00 ,  1.249 ]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[   ], NHYDovf=[   ]
*%-------------------|-------------------------------------------------------|
ADD HYD             IDsum=[9], NHYD=["9C9D"], IDs to add=[1,4]
*%-------------------|-------------------------------------------------------|
*#-------------------|-------------------------------------------------------|
*#-------------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
*#-------------------|-------------------------------------------------------|
*%-------------------|-------------------------------------------------------|
CALIB NASHYD        ID=[7], NHYD=["9E"], DT=[1]min, AREA=[7.7](ha),
                    DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
                    N=[3], TP=[0.44]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-------------------|-------------------------------------------------------|
CALIB NASHYD        ID=[8], NHYD=["9F"], DT=[1]min, AREA=[3.44](ha),
                    DWF=[0](cms),  CN/C=[64.0], IA=[8.4](mm),
                    N=[3], TP=[0.56]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-------------------|-------------------------------------------------------|
*#-------------------|-------------------------------------------------------|
*#-------------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD------------|
*#-------------------|-------------------------------------------------------|
*%-------------------|-------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["WC9LS"], IDs to add=[5,10,9,7,8]
*%-------------------|-------------------------------------------------------|
SAVE HYD            ID=[1],   # OF PCYCLES=[10],  ICASEsh=[1]
                    HYD_COMMENT=["Lakeshore Road Hydrograph"]
*%-------------------|-------------------------------------------------------|


*%-------------------|-------------------------------------------------------|
*#**************************************************************************
*#*********************************5yr 24hr SCS storm*************************
*#**************************************************************************
*%-------------------|-------------------------------------------------------|
MASS STORM          PTOTAL=[71.6](mm), CSDT=[5](min),
                    CURVE_FILENAME={"SCS24hII.mst"]

*#-------------------|-------------------------------------------------------|
*#-------------------|-PRE-DEVELOPMENT-------------------------------------|
*#-------------------|-------------------------------------------------------|
*#-------------------|-------------------------------------------------------|
*#-------------------|-Subwatershed 9 External Drainage Area---------------|
*#-------------------|-Per 'The Orchards' FSSWM Report---------------------|
*#-------------------|-Prepared by Higgins Engineering (Jan. 2005)---------|
*#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
*#-------------------|-------------------------------------------------------|
*%-------------------|-------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
                    DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
                    N=[3], TP=[1.00]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-------------------|-------------------------------------------------------|
ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
                    RDT=[1](min),
                    CHLGTH=[550](m),  CHSLOPE=[2](%),
                                        FPSLOPE=[2](%),
                    SECNUM=[1],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.035,8  -0.035,12  0.035,20]
                    ( DISTANCE (m), ELEVATION (m))= [0,102]
                                                    [8,100]
                                                    [12,100]
                                                    [20,102]
*%-------------------|-------------------------------------------------------|
CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
                    XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
                    Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
                            DCAY=[2](/hr), F=[0](mm),
                    Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
                                         LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
                    Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
                                         LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-------------------|-------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.0100 ,  0.0610 ]
                                [   0.0400 ,  0.1310 ]
                                [   0.0700 ,  0.2110 ]
                                [   0.2600 ,  0.3000 ]
                                [   0.6000 ,  0.3940 ]
                                [   1.0200 ,  0.4950 ]
                                [   1.5200 ,  0.6020 ]
                                [   2.0800 ,  0.7160 ]
                                [   2.6900 ,  0.8370 ]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[   ], NHYDovf=[   ]
*%-------------------|-------------------------------------------------------|
*#-------------------|-------------------------------------------------------|
*#-------------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
*#-------------------|-------------------------------------------------------|
*%-------------------|-------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
*%-------------------|-------------------------------------------------------|
*#-------------------|-------------------------------------------------------|
*#-------------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
*#-------------------|-------------------------------------------------------|
*%-------------------|-------------------------------------------------------|
CALIB NASHYD        ID[1], NHYD=["9A"], DT=[1]min, AREA=[2.58](ha),
                    DWF=[0](cms),  CN/C=[48.8], IA=[8.4](mm),
                    N=[3], TP=[0.46]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-------------------|-------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["9B"], DT=[1]min, AREA=[11.6](ha),
                    DWF=[0](cms),  CN/C=[68.0], IA=[8.0](mm),
                    N=[3], TP=[1.43]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-------------------|-------------------------------------------------------|
ADD HYD             IDsum=[10], NHYD=["9A9B"], IDs to add=[1,2]
*%-------------------|-------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["9C"], DT=[1]min, AREA=[0.96](ha),
                    DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
                    N=[3], TP=[0.2]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-------------------|-------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["9D"], DT=[1]min, AREA=[1.87](ha),
                    DWF=[0](cms),  CN/C=[43.6], IA=[8.4](mm),
                    N=[3], TP=[0.30]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-------------------|-------------------------------------------------------|
*#-------------------|-------------------------------------------------------|
*#-------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
*#-------------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
*#-------------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
*#-------------------|-------------------------------------------------------|
*%-------------------|-------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["ExPond"],  IDin=[2],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.00 ,  0.479 ]
                                [   0.00 ,  1.249 ]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[   ], NHYDovf=[   ]
*%-------------------|-------------------------------------------------------|
ADD HYD             IDsum=[9], NHYD=["9C9D"], IDs to add=[1,4]
*%-------------------|-------------------------------------------------------|
*#-------------------|-------------------------------------------------------|
*#-------------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
*#-------------------|-------------------------------------------------------|
*%-------------------|-------------------------------------------------------|
CALIB NASHYD        ID=[7], NHYD=["9E"], DT=[1]min, AREA=[7.7](ha),
                    DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
                    N=[3], TP=[0.44]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-------------------|-------------------------------------------------------|
CALIB NASHYD        ID=[8], NHYD=["9F"], DT=[1]min, AREA=[3.44](ha),
```

```
00271>                    DWF=[0](cms),  CN/C=[64.0], IA=[8.4](mm),
00272>                    N=[3], TP=[0.56]hrs,
00273>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00274> *%-----------------|-------------------------------------------------------------|
00275> *#-----------------|-------------------------------------------------------------|
00276> *#-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD--------------|
00277> *#-----------------|-------------------------------------------------------------|
00278> *%-----------------|-------------------------------------------------------------|
00279> ADD HYD            IDsum=[1], NHYD=["WC9LS"], IDs to add=[5,10,9,7,8]
00280> *%-----------------|-------------------------------------------------------------|
00281> SAVE HYD           ID=[1],   # OF PCYCLES=[10],  ICASESh=[1]
00282>                    HYD_COMMENT=["Lakeshore Road Hydrograph"]
00283> *%-----------------|-------------------------------------------------------------|
00284>
00285> *%-----------------|-------------------------------------------------------------|
00286> *#*****************************************************************************
00287> *#*********************************10yr 24hr SCS storm*************************
00288> *#*****************************************************************************
00289> *%-----------------|-------------------------------------------------------------|
00290> MASS STORM         PTOTAL=[83.6](mm), CSDT=[5](min),
00291>                    CURVE_FILENAME=["SCS24hII.mst"]
00292>
00293> *#-----------------|-------------------------------------------------------------|
00294> *#-----------------|-PRE-DEVELOPMENT-----------------------------------------------|
00295> *#-----------------|-------------------------------------------------------------|
00296> *#-----------------|-------------------------------------------------------------|
00297> *#-----------------|-Subwatershed 9 External Drainage Area-------------------------|
00298> *#-----------------|-Per 'The Orchards' FSSWM Report-------------------------------|
00299> *#-----------------|-Prepared by Higgins Engineering (Jan. 2005)-------------------|
00300> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00301> *#-----------------|-------------------------------------------------------------|
00302> *%-----------------|-------------------------------------------------------------|
00303> CALIB NASHYD       ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00304>                    DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00305>                    N=[3], TP=[1.00]hrs,
00306>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00307> *%-----------------|-------------------------------------------------------------|
00308> ROUTE CHANNEL      IDout=[2], NHYD=["Channel"], IDin=[1],
00309>                    RDT=[1](min),
00310>                    CHLGTH=[550](m),  CHSLOPE=[2](%),
00311>                                      FPSLOPE=[2](%),
00312>                    SECNUM=[1],       NSEG=[3]
00313>                    ( SEGROUGH, SEGDIST (m))=[0.035,8  -0.035,12  0.035,20]
00314>                    ( DISTANCE (m), ELEVATION (m))= [0,102]
00315>                                                    [8,100]
00316>                                                    [12,100]
00317>                                                    [20,102]
00318> *%-----------------|-------------------------------------------------------------|
00319> CALIB STANDHYD     ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00320>                    XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00321>                    Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00322>                            DCAY=[2](/hr), F=[0](mm),
00323>                    Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00324>                                         LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00325>                    Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00326>                                         LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00327>                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00328> *%-----------------|-------------------------------------------------------------|
00329> ROUTE RESERVOIR    IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00330>                    RDT=[1](min),
00331>                         TABLE of ( OUTFLOW-STORAGE ) values
00332>                                    (cms) - (ha-m)
00333>                                  [   0.0 ,  0.0 ]
00334>                                  [   0.0100 ,  0.0610 ]
00335>                                  [   0.0400 ,  0.1310 ]
00336>                                  [   0.0700 ,  0.2110 ]
00337>                                  [   0.2600 ,  0.3000 ]
00338>                                  [   0.6000 ,  0.3940 ]
00339>                                  [   1.0200 ,  0.4950 ]
00340>                                  [   1.5200 ,  0.6020 ]
00341>                                  [   2.0800 ,  0.7160 ]
00342>                                  [   2.6900 ,  0.8370 ]
00343>                                  [   -1  ,  -1  ]  (max twenty pts)
00344>                         IDovf=[   ], NHYDovf=[   ]
00345> *%-----------------|-------------------------------------------------------------|
00346> *#-----------------|-------------------------------------------------------------|
00347> *#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing-------------|
00348> *#-----------------|-------------------------------------------------------------|
00349> *%-----------------|-------------------------------------------------------------|
00350> ADD HYD            IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00351> *%-----------------|-------------------------------------------------------------|
00352> *#-----------------|-------------------------------------------------------------|
00353> *#-----------------|-Parkbridge Craigleith - Upper Terrace Lands-------------------|
00354> *#-----------------|-------------------------------------------------------------|
00355> *%-----------------|-------------------------------------------------------------|
00356> CALIB NASHYD       ID[1], NHYD=["9A"], DT=[1]min, AREA=[2.58](ha),
00357>                    DWF=[0](cms),  CN/C=[48.8], IA=[8.4](mm),
00358>                    N=[3], TP=[0.46]hrs,
00359>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00360> *%-----------------|-------------------------------------------------------------|
00361> CALIB NASHYD       ID=[2], NHYD=["9B"], DT=[1]min, AREA=[11.6](ha),
00362>                    DWF=[0](cms),  CN/C=[68.0], IA=[8.0](mm),
00363>                    N=[3], TP=[1.43]hrs,
00364>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00365> *%-----------------|-------------------------------------------------------------|
00366> ADD HYD            IDsum=[10], NHYD=["9A9B"], IDs to add=[1,2]
00367> *%-----------------|-------------------------------------------------------------|
00368> CALIB NASHYD       ID=[1], NHYD=["9C"], DT=[1]min, AREA=[0.96](ha),
00369>                    DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
00370>                    N=[3], TP=[0.2]hrs,
00371>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00372> *%-----------------|-------------------------------------------------------------|
00373> CALIB NASHYD       ID=[2], NHYD=["9D"], DT=[1]min, AREA=[1.87](ha),
00374>                    DWF=[0](cms),  CN/C=[43.6], IA=[8.4](mm),
00375>                    N=[3], TP=[0.30]hrs,
00376>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00377> *%-----------------|-------------------------------------------------------------|
00378> *#-----------------|-------------------------------------------------------------|
00379> *#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00380> *#-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00381> *#-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00382> *#-----------------|-------------------------------------------------------------|
00383> *%-----------------|-------------------------------------------------------------|
00384> ROUTE RESERVOIR    IDout=[4],   NHYD=["ExPond"],  IDin=[2],
00385>                    RDT=[1](min),
00386>                         TABLE of ( OUTFLOW-STORAGE ) values
00387>                                    (cms) - (ha-m)
00388>                                  [   0.0 ,  0.0 ]
00389>                                  [   0.00 ,  0.479 ]
00390>                                  [   0.00 ,  1.249 ]
00391>                                  [   -1  ,  -1  ]  (max twenty pts)
00392>                         IDovf=[   ], NHYDovf=[   ]
00393> *%-----------------|-------------------------------------------------------------|
00394> ADD HYD            IDsum=[9], NHYD=["9C9D"], IDs to add=[1,4]
00395> *%-----------------|-------------------------------------------------------------|
00396> *#-----------------|-------------------------------------------------------------|
00397> *#-----------------|-Parkbridge Craigleith - Lower Terrace Lands-------------------|
00398> *#-----------------|-------------------------------------------------------------|
00399> *%-----------------|-------------------------------------------------------------|
00400> CALIB NASHYD       ID=[7], NHYD=["9E"], DT=[1]min, AREA=[7.7](ha),
00401>                    DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
00402>                    N=[3], TP=[0.44]hrs,
00403>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00404> *%-----------------|-------------------------------------------------------------|
00405> CALIB NASHYD       ID=[8], NHYD=["9F"], DT=[1]min, AREA=[3.44](ha),
00406>                    DWF=[0](cms),  CN/C=[64.0], IA=[8.4](mm),
00407>                    N=[3], TP=[0.56]hrs,
00408>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00409> *%-----------------|-------------------------------------------------------------|
00410> *#-----------------|-------------------------------------------------------------|
00411> *#-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD--------------|
00412> *#-----------------|-------------------------------------------------------------|
00413> *%-----------------|-------------------------------------------------------------|
00414> ADD HYD            IDsum=[1], NHYD=["WC9LS"], IDs to add=[5,10,9,7,8]
00415> *%-----------------|-------------------------------------------------------------|
00416> SAVE HYD           ID=[1],   # OF PCYCLES=[10],  ICASESh=[1]
00417>                    HYD_COMMENT=["Lakeshore Road Hydrograph"]
00418> *%-----------------|-------------------------------------------------------------|
00419>
00420> *%-----------------|-------------------------------------------------------------|
00421> *#*****************************************************************************
00422> *#*********************************25yr 24hr SCS storm*************************
00423> *#*****************************************************************************
00424> *%-----------------|-------------------------------------------------------------|
00425> MASS STORM         PTOTAL=[98.6](mm), CSDT=[5](min),
00426>                    CURVE_FILENAME=["SCS24hII.mst"]
00427> *#-----------------|-------------------------------------------------------------|
00428> *#-----------------|-PRE-DEVELOPMENT-----------------------------------------------|
00429> *#-----------------|-------------------------------------------------------------|
00430> *#-----------------|-------------------------------------------------------------|
00431> *#-----------------|-Subwatershed 9 External Drainage Area-------------------------|
00432> *#-----------------|-Per 'The Orchards' FSSWM Report-------------------------------|
00433> *#-----------------|-Prepared by Higgins Engineering (Jan. 2005)-------------------|
00434> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00435> *#-----------------|-------------------------------------------------------------|
00436> *%-----------------|-------------------------------------------------------------|
00437> CALIB NASHYD       ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00438>                    DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00439>                    N=[3], TP=[1.00]hrs,
00440>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00441> *%-----------------|-------------------------------------------------------------|
00442> ROUTE CHANNEL      IDout=[2], NHYD=["Channel"], IDin=[1],
00443>                    RDT=[1](min),
00444>                    CHLGTH=[550](m),  CHSLOPE=[2](%),
00445>                                      FPSLOPE=[2](%),
00446>                    SECNUM=[1],       NSEG=[3]
00447>                    ( SEGROUGH, SEGDIST (m))=[0.035,8  -0.035,12  0.035,20]
00448>                    ( DISTANCE (m), ELEVATION (m))= [0,102]
00449>                                                    [8,100]
00450>                                                    [12,100]
00451>                                                    [20,102]
00452> *%-----------------|-------------------------------------------------------------|
00453> CALIB STANDHYD     ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00454>                    XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00455>                    Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00456>                            DCAY=[2](/hr), F=[0](mm),
00457>                    Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00458>                                         LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00459>                    Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00460>                                         LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00461>                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00462> *%-----------------|-------------------------------------------------------------|
00463> ROUTE RESERVOIR    IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00464>                    RDT=[1](min),
00465>                         TABLE of ( OUTFLOW-STORAGE ) values
00466>                                    (cms) - (ha-m)
00467>                                  [   0.0 ,  0.0 ]
00468>                                  [   0.0100 ,  0.0610 ]
00469>                                  [   0.0400 ,  0.1310 ]
00470>                                  [   0.0700 ,  0.2110 ]
00471>                                  [   0.2600 ,  0.3000 ]
00472>                                  [   0.6000 ,  0.3940 ]
00473>                                  [   1.0200 ,  0.4950 ]
00474>                                  [   1.5200 ,  0.6020 ]
00475>                                  [   2.0800 ,  0.7160 ]
00476>                                  [   2.6900 ,  0.8370 ]
00477>                                  [   -1  ,  -1  ]  (max twenty pts)
00478>                         IDovf=[   ], NHYDovf=[   ]
00479> *%-----------------|-------------------------------------------------------------|
00480> *#-----------------|-------------------------------------------------------------|
00481> *#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing-------------|
00482> *#-----------------|-------------------------------------------------------------|
00483> *%-----------------|-------------------------------------------------------------|
00484> ADD HYD            IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00485> *%-----------------|-------------------------------------------------------------|
00486> *#-----------------|-------------------------------------------------------------|
00487> *#-----------------|-Parkbridge Craigleith - Upper Terrace Lands-------------------|
00488> *#-----------------|-------------------------------------------------------------|
00489> *%-----------------|-------------------------------------------------------------|
00490> CALIB NASHYD       ID[1], NHYD=["9A"], DT=[1]min, AREA=[2.58](ha),
00491>                    DWF=[0](cms),  CN/C=[48.8], IA=[8.4](mm),
00492>                    N=[3], TP=[0.46]hrs,
00493>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00494> *%-----------------|-------------------------------------------------------------|
00495> CALIB NASHYD       ID=[2], NHYD=["9B"], DT=[1]min, AREA=[11.6](ha),
00496>                    DWF=[0](cms),  CN/C=[68.0], IA=[8.0](mm),
00497>                    N=[3], TP=[1.43]hrs,
00498>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00499> *%-----------------|-------------------------------------------------------------|
00500> ADD HYD            IDsum=[10], NHYD=["9A9B"], IDs to add=[1,2]
00501> *%-----------------|-------------------------------------------------------------|
00502> CALIB NASHYD       ID=[1], NHYD=["9C"], DT=[1]min, AREA=[0.96](ha),
00503>                    DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
00504>                    N=[3], TP=[0.2]hrs,
00505>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00506> *%-----------------|-------------------------------------------------------------|
00507> CALIB NASHYD       ID=[2], NHYD=["9D"], DT=[1]min, AREA=[1.87](ha),
00508>                    DWF=[0](cms),  CN/C=[43.6], IA=[8.4](mm),
00509>                    N=[3], TP=[0.30]hrs,
00510>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00511> *%-----------------|-------------------------------------------------------------|
00512> *#-----------------|-------------------------------------------------------------|
00513> *#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00514> *#-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00515> *#-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00516> *#-----------------|-------------------------------------------------------------|
00517> *%-----------------|-------------------------------------------------------------|
00518> ROUTE RESERVOIR    IDout=[4],   NHYD=["ExPond"],  IDin=[2],
00519>                    RDT=[1](min),
00520>                         TABLE of ( OUTFLOW-STORAGE ) values
00521>                                    (cms) - (ha-m)
00522>                                  [   0.0 ,  0.0 ]
00523>                                  [   0.00 ,  0.479 ]
00524>                                  [   0.00 ,  1.249 ]
00525>                                  [   -1  ,  -1  ]  (max twenty pts)
00526>                         IDovf=[   ], NHYDovf=[   ]
00527> *%-----------------|-------------------------------------------------------------|
00528> ADD HYD            IDsum=[9], NHYD=["9C9D"], IDs to add=[1,4]
00529> *%-----------------|-------------------------------------------------------------|
00530> *#-----------------|-------------------------------------------------------------|
00531> *#-----------------|-Parkbridge Craigleith - Lower Terrace Lands-------------------|
00532> *#-----------------|-------------------------------------------------------------|
00533> *%-----------------|-------------------------------------------------------------|
00534> CALIB NASHYD       ID=[7], NHYD=["9E"], DT=[1]min, AREA=[7.7](ha),
00535>                    DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
00536>                    N=[3], TP=[0.44]hrs,
00537>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00538> *%-----------------|-------------------------------------------------------------|
00539> CALIB NASHYD       ID=[8], NHYD=["9F"], DT=[1]min, AREA=[3.44](ha),
00540>                    DWF=[0](cms),  CN/C=[64.0], IA=[8.4](mm),
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00541>                    N=[3], TP=[0.56]hrs,
00542>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00543> *%-----------------|---------------------------------------------------------|
00544> *#-----------------|---------------------------------------------------------|
00545> *#-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD------------|
00546> *#-----------------|---------------------------------------------------------|
00547> *%-----------------|---------------------------------------------------------|
00548> ADD HYD            IDsum=[1], NHYD=["WC9LS"], IDs to add=[5,10,9,7,8]
00549> *%-----------------|---------------------------------------------------------|
00550> SAVE HYD           ID=[1],   # OF PCYCLES=[10],  ICASEsh=[1]
00551>                    HYD_COMMENT=["Lakeshore Road Hydrograph"]
00552> *%-----------------|---------------------------------------------------------|
00553>
00554> *%-----------------|---------------------------------------------------------|
00555> *#*****************************************************************************
00556> *#*****************************50yr 24hr SCS storm*****************************
00557> *#*****************************************************************************
00558> *%-----------------|---------------------------------------------------------|
00559> MASS STORM         PTOTAL=[109.8](mm), CSDT=[5](min),
00560>                    CURVE_FILENAME=["SCS24hII.mst"]
00561>
00562> *#-----------------|---------------------------------------------------------|
00563> *#-----------------|-PRE-DEVELOPMENT-------------------------------------------|
00564> *#-----------------|---------------------------------------------------------|
00565> *#-----------------|---------------------------------------------------------|
00566> *#-----------------|-Subwatershed 9 External Drainage Area---------------------|
00567> *#-----------------|-Per 'The Orchards' FSSWM Report---------------------------|
00568> *#-----------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
00569> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00570> *#-----------------|---------------------------------------------------------|
00571> *%-----------------|---------------------------------------------------------|
00572> CALIB NASHYD       ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00573>                    DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00574>                    N=[3], TP=[1.00]hrs,
00575>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00576> *%-----------------|---------------------------------------------------------|
00577> ROUTE CHANNEL      IDout=[2], NHYD=["Channel"], IDin=[1],
00578>                    RDT=[1](min),
00579>                    CHLGTH=[550](m),  CHSLOPE=[2](%),
00580>                                        FPSLOPE=[2](%),
00581>                    SECNUM=[1],       NSEG=[3]
00582>                    ( SEGROUGH, SEGDIST (m))=[0.035,8  -0.035,12  0.035,20]
00583>                    ( DISTANCE (m), ELEVATION (m))= [0,102]
00584>                                                    [8,100]
00585>                                                    [12,100]
00586>                                                    [20,102]
00587> *%-----------------|---------------------------------------------------------|
00588> CALIB STANDHYD     ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00589>                    XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00590>                    Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00591>                            DCAY=[2](/hr), F=[0](mm),
00592>                    Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00593>                                         LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00594>                    Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00595>                                         LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00596>                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00597> *%-----------------|---------------------------------------------------------|
00598> ROUTE RESERVOIR    IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00599>                    RDT=[1](min),
00600>                          TABLE of ( OUTFLOW-STORAGE ) values
00601>                                     (cms) - (ha-m)
00602>                                [   0.0 ,  0.0 ]
00603>                                [   0.0100 ,  0.0610 ]
00604>                                [   0.0400 ,  0.1310 ]
00605>                                [   0.0700 ,  0.2110 ]
00606>                                [   0.2600 ,  0.3000 ]
00607>                                [   0.6000 ,  0.3940 ]
00608>                                [   1.0200 ,  0.4950 ]
00609>                                [   1.5200 ,  0.6020 ]
00610>                                [   2.0800 ,  0.7160 ]
00611>                                [   2.6900 ,  0.8370 ]
00612>                                [   -1  ,  -1  ]  (max twenty pts)
00613>                          IDovf=[   ], NHYDovf=[   ]
00614> *%-----------------|---------------------------------------------------------|
00615> *#-----------------|---------------------------------------------------------|
00616> *#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00617> *#-----------------|---------------------------------------------------------|
00618> *%-----------------|---------------------------------------------------------|
00619> ADD HYD            IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00620> *%-----------------|---------------------------------------------------------|
00621> *#-----------------|---------------------------------------------------------|
00622> *#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
00623> *#-----------------|---------------------------------------------------------|
00624> *%-----------------|---------------------------------------------------------|
00625> CALIB NASHYD       ID[1], NHYD=["9A"], DT=[1]min, AREA=[2.58](ha),
00626>                    DWF=[0](cms),  CN/C=[48.8], IA=[8.4](mm),
00627>                    N=[3], TP=[0.46]hrs,
00628>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00629> *%-----------------|---------------------------------------------------------|
00630> CALIB NASHYD       ID=[2], NHYD=["9B"], DT=[1]min, AREA=[11.6](ha),
00631>                    DWF=[0](cms),  CN/C=[68.0], IA=[8.0](mm),
00632>                    N=[3], TP=[1.43]hrs,
00633>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00634> *%-----------------|---------------------------------------------------------|
00635> ADD HYD            IDsum=[10], NHYD=["9A9B"], IDs to add=[1,2]
00636> *%-----------------|---------------------------------------------------------|
00637> CALIB NASHYD       ID=[1], NHYD=["9C"], DT=[1]min, AREA=[0.96](ha),
00638>                    DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
00639>                    N=[3], TP=[0.2]hrs,
00640>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00641> *%-----------------|---------------------------------------------------------|
00642> CALIB NASHYD       ID=[2], NHYD=["9D"], DT=[1]min, AREA=[1.87](ha),
00643>                    DWF=[0](cms),  CN/C=[43.6], IA=[8.4](mm),
00644>                    N=[3], TP=[0.30]hrs,
00645>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00646> *%-----------------|---------------------------------------------------------|
00647> *#-----------------|---------------------------------------------------------|
00648> *#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00649> *#-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00650> *#-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00651> *#-----------------|---------------------------------------------------------|
00652> *%-----------------|---------------------------------------------------------|
00653> ROUTE RESERVOIR    IDout=[4],   NHYD=["ExPond"],  IDin=[2],
00654>                    RDT=[1](min),
00655>                          TABLE of ( OUTFLOW-STORAGE ) values
00656>                                     (cms) - (ha-m)
00657>                                [   0.0 ,  0.0 ]
00658>                                [   0.00 ,  0.479 ]
00659>                                [   0.00 ,  1.249 ]
00660>                                [   -1  ,  -1  ]  (max twenty pts)
00661>                          IDovf=[   ], NHYDovf=[   ]
00662> *%-----------------|---------------------------------------------------------|
00663> ADD HYD            IDsum=[9], NHYD=["9C9D"], IDs to add=[1,4]
00664> *%-----------------|---------------------------------------------------------|
00665> *#-----------------|---------------------------------------------------------|
00666> *#-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
00667> *#-----------------|---------------------------------------------------------|
00668> *%-----------------|---------------------------------------------------------|
00669> CALIB NASHYD       ID=[7], NHYD=["9E"], DT=[1]min, AREA=[7.7](ha),
00670>                    DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
00671>                    N=[3], TP=[0.44]hrs,
00672>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00673> *%-----------------|---------------------------------------------------------|
00674> CALIB NASHYD       ID=[8], NHYD=["9F"], DT=[1]min, AREA=[3.44](ha),
00675>                    DWF=[0](cms),  CN/C=[64.0], IA=[8.4](mm),
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00676>                    N=[3], TP=[0.56]hrs,
00677>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00678> *%-----------------|---------------------------------------------------------|
00679> *#-----------------|---------------------------------------------------------|
00680> *#-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD------------|
00681> *#-----------------|---------------------------------------------------------|
00682> *%-----------------|---------------------------------------------------------|
00683> ADD HYD            IDsum=[1], NHYD=["WC9LS"], IDs to add=[5,10,9,7,8]
00684> *%-----------------|---------------------------------------------------------|
00685> SAVE HYD           ID=[1],   # OF PCYCLES=[10],  ICASEsh=[1]
00686>                    HYD_COMMENT=["Lakeshore Road Hydrograph"]
00687> *%-----------------|---------------------------------------------------------|
00688>
00689> *%-----------------|---------------------------------------------------------|
00690> *#*****************************************************************************
00691> *#*****************************100yr 24hr SCS storm*****************************
00692> *#*****************************************************************************
00693> *%-----------------|---------------------------------------------------------|
00694> MASS STORM         PTOTAL=[120.8](mm), CSDT=[5](min),
00695>                    CURVE_FILENAME=["SCS24hII.mst"]
00696>
00697> *#-----------------|---------------------------------------------------------|
00698> *#-----------------|-PRE-DEVELOPMENT-------------------------------------------|
00699> *#-----------------|---------------------------------------------------------|
00700> *#-----------------|---------------------------------------------------------|
00701> *#-----------------|-Subwatershed 9 External Drainage Area---------------------|
00702> *#-----------------|-Per 'The Orchards' FSSWM Report---------------------------|
00703> *#-----------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
00704> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00705> *#-----------------|---------------------------------------------------------|
00706> *%-----------------|---------------------------------------------------------|
00707> CALIB NASHYD       ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00708>                    DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00709>                    N=[3], TP=[1.00]hrs,
00710>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00711> *%-----------------|---------------------------------------------------------|
00712> ROUTE CHANNEL      IDout=[2], NHYD=["Channel"], IDin=[1],
00713>                    RDT=[1](min),
00714>                    CHLGTH=[550](m),  CHSLOPE=[2](%),
00715>                                        FPSLOPE=[2](%),
00716>                    SECNUM=[1],       NSEG=[3]
00717>                    ( SEGROUGH, SEGDIST (m))=[0.035,8  -0.035,12  0.035,20]
00718>                    ( DISTANCE (m), ELEVATION (m))= [0,102]
00719>                                                    [8,100]
00720>                                                    [12,100]
00721>                                                    [20,102]
00722> *%-----------------|---------------------------------------------------------|
00723> CALIB STANDHYD     ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00724>                    XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00725>                    Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00726>                            DCAY=[2](/hr), F=[0](mm),
00727>                    Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00728>                                         LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00729>                    Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00730>                                         LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00731>                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00732> *%-----------------|---------------------------------------------------------|
00733> ROUTE RESERVOIR    IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00734>                    RDT=[1](min),
00735>                          TABLE of ( OUTFLOW-STORAGE ) values
00736>                                     (cms) - (ha-m)
00737>                                [   0.0 ,  0.0 ]
00738>                                [   0.0100 ,  0.0610 ]
00739>                                [   0.0400 ,  0.1310 ]
00740>                                [   0.0700 ,  0.2110 ]
00741>                                [   0.2600 ,  0.3000 ]
00742>                                [   0.6000 ,  0.3940 ]
00743>                                [   1.0200 ,  0.4950 ]
00744>                                [   1.5200 ,  0.6020 ]
00745>                                [   2.0800 ,  0.7160 ]
00746>                                [   2.6900 ,  0.8370 ]
00747>                                [   -1  ,  -1  ]  (max twenty pts)
00748>                          IDovf=[   ], NHYDovf=[   ]
00749> *%-----------------|---------------------------------------------------------|
00750> *#-----------------|---------------------------------------------------------|
00751> *#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00752> *#-----------------|---------------------------------------------------------|
00753> *%-----------------|---------------------------------------------------------|
00754> ADD HYD            IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00755> *%-----------------|---------------------------------------------------------|
00756> *#-----------------|---------------------------------------------------------|
00757> *#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
00758> *#-----------------|---------------------------------------------------------|
00759> *%-----------------|---------------------------------------------------------|
00760> CALIB NASHYD       ID[1], NHYD=["9A"], DT=[1]min, AREA=[2.58](ha),
00761>                    DWF=[0](cms),  CN/C=[48.8], IA=[8.4](mm),
00762>                    N=[3], TP=[0.46]hrs,
00763>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00764> *%-----------------|---------------------------------------------------------|
00765> CALIB NASHYD       ID=[2], NHYD=["9B"], DT=[1]min, AREA=[11.6](ha),
00766>                    DWF=[0](cms),  CN/C=[68.0], IA=[8.0](mm),
00767>                    N=[3], TP=[1.43]hrs,
00768>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00769> *%-----------------|---------------------------------------------------------|
00770> ADD HYD            IDsum=[10], NHYD=["9A9B"], IDs to add=[1,2]
00771> *%-----------------|---------------------------------------------------------|
00772> CALIB NASHYD       ID=[1], NHYD=["9C"], DT=[1]min, AREA=[0.96](ha),
00773>                    DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
00774>                    N=[3], TP=[0.2]hrs,
00775>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00776> *%-----------------|---------------------------------------------------------|
00777> CALIB NASHYD       ID=[2], NHYD=["9D"], DT=[1]min, AREA=[1.87](ha),
00778>                    DWF=[0](cms),  CN/C=[43.6], IA=[8.4](mm),
00779>                    N=[3], TP=[0.30]hrs,
00780>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00781> *%-----------------|---------------------------------------------------------|
00782> *#-----------------|---------------------------------------------------------|
00783> *#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00784> *#-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00785> *#-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00786> *#-----------------|---------------------------------------------------------|
00787> *%-----------------|---------------------------------------------------------|
00788> ROUTE RESERVOIR    IDout=[4],   NHYD=["ExPond"],  IDin=[2],
00789>                    RDT=[1](min),
00790>                          TABLE of ( OUTFLOW-STORAGE ) values
00791>                                     (cms) - (ha-m)
00792>                                [   0.0 ,  0.0 ]
00793>                                [   0.00 ,  0.479 ]
00794>                                [   0.00 ,  1.249 ]
00795>                                [   -1  ,  -1  ]  (max twenty pts)
00796>                          IDovf=[   ], NHYDovf=[   ]
00797> *%-----------------|---------------------------------------------------------|
00798> ADD HYD            IDsum=[9], NHYD=["9C9D"], IDs to add=[1,4]
00799> *%-----------------|---------------------------------------------------------|
00800> *#-----------------|---------------------------------------------------------|
00801> *#-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
00802> *#-----------------|---------------------------------------------------------|
00803> *%-----------------|---------------------------------------------------------|
00804> CALIB NASHYD       ID=[7], NHYD=["9E"], DT=[1]min, AREA=[7.7](ha),
00805>                    DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
00806>                    N=[3], TP=[0.44]hrs,
00807>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00808> *%-----------------|---------------------------------------------------------|
00809> CALIB NASHYD       ID=[8], NHYD=["9F"], DT=[1]min, AREA=[3.44](ha),
00810>                    DWF=[0](cms),  CN/C=[64.0], IA=[8.4](mm),
```

```
00811>                    N=[3], TP=[0.56]hrs,
00812>                    RAINFALL=[ , , , , ](mm/hr),  END=-1
00813> *%-----------------|-------------------------------------------------------|
00814> *#-----------------|-------------------------------------------------------|
00815> *#-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD---------|
00816> *#-----------------|-------------------------------------------------------|
00817> *%-----------------|-------------------------------------------------------|
00818> ADD HYD            IDsum=[1], NHYD=["WC9LS"], IDs to add=[5,10,9,7,8]
00819> *%-----------------|-------------------------------------------------------|
00820> SAVE HYD           ID=[1],   # OF PCYCLES=[10],  ICASEsh=[1]
00821>                    HYD_COMMENT=["Lakeshore Road Hydrograph"]
00822> *%-----------------|-------------------------------------------------------|
00823>
00824> FINISH
00825>
00826>
00827>
00828>
00829>
00830>
00831>
00832>
00833>
00834>
00835>
```

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O      9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9   =========
00008>                                                          9   9  9   9   # 3737016
00009>          StormWater Management HYdrologic Model          999    999    =========
00010>
00011>  ********************************************************************************
00012>  ************************** SWMHYMO Ver/4.05  ***************************
00013>  *********  A single event and continuous hydrologic simulation model  *********
00014>  *********     based on the principles of HYMO and its successors      *********
00015>  *********                  OTTHYMO-83 and OTTHYMO-89.                  *********
00016>  ********************************************************************************
00017>  ********* Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018>  *********                  Ottawa,  Ontario: (613) 836-3884            *********
00019>  *********                  Gatineau, Quebec: (819) 243-6858            *********
00020>  *********                  E-Mail: swmhymo@jfsa.Com                    *********
00021>  ********************************************************************************
00022>
00023>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024>  +++++++++ Licensed user: C.F. Crozier & Associates Inc.                +++++++++
00025>  +++++++++                Collingwood          SERIAL#:3737016        +++++++++
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>  ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
00036>  *****------------------------------------------------------------------------*****
00037>  *****    ID:  Hydrograph IDentification numbers, (1-10).                  *****
00038>  *****  NHYD:  Hydrograph reference numbers, (6 digits or characters).     *****
00039>  *****  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).   *****
00040>  ***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).     *****
00041>  ***** TpeakDate_hh:mm is the date and time of the peak flow.               *****
00042>  *****  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).       *****
00043>  *****  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).       *****
00044>  *****    *:  see WARNING or NOTE message printed at end of run.          *****
00045>  *****   **:  see  ERROR  message printed at end of run.                  *****
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049>  ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  **********************   S U M M A R Y   O U T P U T   **********************
00054>  ********************************************************************************
00055>  *         DATE: 2018-04-30     TIME: 01:09:51     RUN COUNTER: 000892          *
00056>  ********************************************************************************
00057>  * Input   filename: C:\PLAYGR~1\PRE_SCS.DAT                                    *
00058>  * Output  filename: C:\PLAYGR~1\PRE_SCS.out                                    *
00059>  * Summary filename: C:\PLAYGR~1\PRE_SCS.sum                                    *
00060>  * User comments:                                                              *
00061>  * 1:_____________________________________________________________________     *
00062>  * 2:_____________________________________________________________________     *
00063>  * 3:_____________________________________________________________________     *
00064>  ********************************************************************************
00065>
00066>
00067> #*******************************************************************************
00068> #  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
00069> #  Date        : 2018-01-24
00070> #  Modeller    : [OD,BD,BH - ADAPTED FROM NM 2009 MODEL]
00071> #  Company     : C.F. Crozier & Associates Inc.
00072> #  License #   : 3737016
00073> #*******************************************************************************
00074>  RUN:COMMAND#
00075>  001:0001----------------------------------------------------------------------
00076>      START
00077>       [TZERO =    .00 hrs on        0]
00078>       [METOUT=   2    (1=imperial, 2=metric output)]
00079>       [NSTORM=   0 ]
00080>       [NRUN  =   1 ]
00081> #*******************************************************************************
00082> #----------------|---------- FINAL MODEL ----------------------------------|
00083> #*******************************************************************************
00084> #                              2-YEAR, 24 HOUR SCS(II)
00085> #*******************************************************************************
00086> #----------------|-------------------------------------------------------------|
00087>  001:0002----------------------------------------------------------------------
00088>      MASS STORM
00089>       Filename = C:\PLAYGR~1\SCS24HII.mst
00090>       Comment  = SCS Type II 24 HR MASS CURVE
00091>       [SDT= 1.00:SDUR=  24.00:PTOT=  53.60]
00092> #----------------|-------------------------------------------------------------|
00093> #----------------|-PRE-DEVELOPMENT-----------------------------------------------|
00094> #----------------|-------------------------------------------------------------|
00095> #----------------|-------------------------------------------------------------|
00096> #----------------|-Subwatershed 9 External Drainage Area-----------------------|
00097> #----------------|-Per 'The Orchards' FSSWM Report------------------------------|
00098> #----------------|-Prepared by Higgins Engineering (Jan. 2005)------------------|
00099> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha--------|
00100> #----------------|-------------------------------------------------------------|
00101>  001:0003---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00102>      CALIB NASHYD       01:EXT-9A       101.80    1.716 No_date   13:01   21.07
00103>        [CN= 80.0: N= 3.00]
00104>        [Tp= 1.00:DT= 1.00]
00105>  001:0004---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00106>      ROUTE CHANNEL   -> 01:EXT-9A       101.80    1.716 No_date   13:01   21.07
00107>        [RDT= 1.00] out<- 02:Channel      101.80    1.707 No_date   13:06   21.07
00108>        [L/S/n=  550./2.000/.035]
00109>        {Vmax= 1.408:Dmax=  .236}
00110>  001:0005---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00111>      CALIB STANDHYD     03:EXT-9B        14.80    1.322 No_date   12:03   26.20
00112>        [XIMP=.35:TIMP=.35]
00113>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00114>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00115>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00116>  001:0006---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00117>      ROUTE RESERVOIR -> 03:EXT-9B        14.80    1.322 No_date   12:03   26.20
00118>        [RDT= 1.00] out<- 04:Orchards     14.80     .176 No_date   12:41   26.20
00119>       {MxStoUsed=.2607E+00}
00120> #----------------|-------------------------------------------------------------|
00121> #----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing-----------|
00122> #----------------|-------------------------------------------------------------|
00123>  001:0007---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00124>      ADD HYD            02:Channel      101.80    1.707 No_date   13:06   21.07
00125>                       + 04:Orchards      14.80     .176 No_date   12:41   26.20
00126>        [DT= 1.00]  SUM=  05:RD19         116.60    1.865 No_date   13:05   21.72
00127> #----------------|-------------------------------------------------------------|
00128> #----------------|-Parkbridge Craigleith - Upper Terrace Lands-------------------|
00129> #----------------|-------------------------------------------------------------|
00130>  001:0008---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00131>      CALIB NASHYD       01:9A             2.58     .022 No_date   12:25    6.55
00132>        [CN= 48.8: N= 3.00]
00133>        [Tp=  .46:DT= 1.00]
00134>  001:0009---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00135>      CALIB NASHYD       02:9B            11.60     .085 No_date   13:37   12.59
00136>        [CN= 68.0: N= 3.00]
00137>        [Tp= 1.43:DT= 1.00]
00138>  001:0010---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00139>      ADD HYD            01:9A             2.58     .022 No_date   12:25    6.55
00140>                       + 02:9B            11.60     .085 No_date   13:37   12.59
00141>        [DT= 1.00]  SUM=  10:9A9B         14.18     .092 No_date   13:28   11.49
00142>  001:0011---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00143>      CALIB NASHYD       01:9C              .96     .008 No_date   12:07    3.49
00144>        [CN= 33.2: N= 3.00]
00145>        [Tp=  .20:DT= 1.00]
00146>  001:0012---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00147>      CALIB NASHYD       02:9D             1.87     .018 No_date   12:13    5.47
00148>        [CN= 43.6: N= 3.00]
00149>        [Tp=  .30:DT= 1.00]
00150> #----------------|-------------------------------------------------------------|
00151> #----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00152> #----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00153> #----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00154> #----------------|-------------------------------------------------------------|
00155>  001:0013---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00156>      ROUTE RESERVOIR -> 02:9D           1.87     .018 No_date   12:13    5.47
00157>    *   [RDT= 1.00] out<- 04:ExPond      1.87     .000 No_date    0:00     .00
00158>        {MxStoUsed=.1022E-01}
00159>  001:0014---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00160>      ADD HYD            01:9C              .96     .008 No_date   12:07    3.49
00161>                       + 04:ExPond        1.87     .000 No_date    0:00     .00
00162>        [DT= 1.00]  SUM=  09:9C9D          2.83     .008 No_date   12:07    1.18
00163> #----------------|-------------------------------------------------------------|
00164> #----------------|-Parkbridge Craigleith - Lower Terrace Lands-----------------|
00165> #----------------|-------------------------------------------------------------|
00166>  001:0015---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00167>      CALIB NASHYD       07:9E             7.70     .108 No_date   12:23   10.35
00168>        [CN= 63.0: N= 3.00]
00169>        [Tp=  .44:DT= 1.00]
00170>  001:0016---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00171>      CALIB NASHYD       08:9F             3.44     .043 No_date   12:33   10.86
00172>        [CN= 64.0: N= 3.00]
00173>        [Tp=  .56:DT= 1.00]
00174> #----------------|-------------------------------------------------------------|
00175> #----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD--------------|
00176> #----------------|-------------------------------------------------------------|
00177>  001:0017---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00178>      ADD HYD            05:RD19         116.60    1.865 No_date   13:05   21.72
00179>                       + 10:9A9B          14.18     .092 No_date   13:28   11.49
00180>                       + 09:9C9D           2.83     .008 No_date   12:07    1.18
00181>                       + 07:9E             7.70     .108 No_date   12:23   10.35
00182>                       + 08:9F             3.44     .043 No_date   12:33   10.86
00183>        [DT= 1.00]  SUM=  01:WC9LS        144.75    2.040 No_date   13:04   19.45
00184>  001:0018---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00185>      SAVE HYD           01:WC9LS        144.75    2.040 No_date   13:04   19.45
00186>       fname :C:\PLAYGR~1\H-WC9LS.001
00187>       remark:Lakeshore Road Hydrograph
00188> #*******************************************************************************
00189> #*********************************5yr 24hr SCS storm*****************************
00190> #*******************************************************************************
00191>  001:0019----------------------------------------------------------------------
00192>      MASS STORM
00193>       Filename = C:\PLAYGR~1\SCS24hII.mst
00194>       Comment  = SCS Type II 24 HR MASS CURVE
00195>       [SDT= 5.00:SDUR=  24.00:PTOT=  71.60]
00196> #----------------|-------------------------------------------------------------|
00197> #----------------|-PRE-DEVELOPMENT-----------------------------------------------|
00198> #----------------|-------------------------------------------------------------|
00199> #----------------|-------------------------------------------------------------|
00200> #----------------|-Subwatershed 9 External Drainage Area-----------------------|
00201> #----------------|-Per 'The Orchards' FSSWM Report------------------------------|
00202> #----------------|-Prepared by Higgins Engineering (Jan. 2005)------------------|
00203> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha--------|
00204> #----------------|-------------------------------------------------------------|
00205>  001:0020---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00206>      CALIB NASHYD       01:EXT-9A       101.80    2.823 No_date   13:00   34.09
00207>        [CN= 80.0: N= 3.00]
00208>        [Tp= 1.00:DT= 1.00]
00209>  001:0021---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00210>      ROUTE CHANNEL   -> 01:EXT-9A       101.80    2.823 No_date   13:00   34.09
00211>        [RDT= 1.00] out<- 02:Channel      101.80    2.819 No_date   13:04   34.09
00212>        [L/S/n=  550./2.000/.035]
00213>        {Vmax= 1.700:Dmax=  .315}
00214>  001:0022---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00215>      CALIB STANDHYD     03:EXT-9B        14.80    2.149 No_date   12:02   37.35
00216>        [XIMP=.35:TIMP=.35]
00217>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00218>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00219>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00220>  001:0023---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00221>      ROUTE RESERVOIR -> 03:EXT-9B        14.80    2.149 No_date   12:02   37.35
00222>        [RDT= 1.00] out<- 04:Orchards     14.80     .435 No_date   12:28   37.35
00223>       {MxStoUsed=.3483E+00}
00224> #----------------|-------------------------------------------------------------|
00225> #----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing-----------|
00226> #----------------|-------------------------------------------------------------|
00227>  001:0024---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00228>      ADD HYD            02:Channel      101.80    2.819 No_date   13:04   34.09
00229>                       + 04:Orchards     14.80     .435 No_date   12:28   37.35
00230>        [DT= 1.00]  SUM=  05:RD19         116.60    3.126 No_date   12:57   34.51
00231> #----------------|-------------------------------------------------------------|
00232> #----------------|-Parkbridge Craigleith - Upper Terrace Lands-----------------|
00233> #----------------|-------------------------------------------------------------|
00234>  001:0025---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00235>      CALIB NASHYD       01:9A             2.58     .041 No_date   12:24   12.12
00236>        [CN= 48.8: N= 3.00]
00237>        [Tp=  .46:DT= 1.00]
00238>  001:0026---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00239>      CALIB NASHYD       02:9B            11.60     .153 No_date   13:34   22.09
00240>        [CN= 68.0: N= 3.00]
00241>        [Tp= 1.43:DT= 1.00]
00242>  001:0027---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00243>      ADD HYD            01:9A             2.58     .041 No_date   12:24   12.12
00244>                       + 02:9B            11.60     .153 No_date   13:34   22.09
00245>        [DT= 1.00]  SUM=  10:9A9B         14.18     .166 No_date   13:24   20.27
00246>  001:0028---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00247>      CALIB NASHYD       01:9C              .96     .015 No_date   12:07    6.71
00248>        [CN= 33.2: N= 3.00]
00249>        [Tp=  .20:DT= 1.00]
00250>  001:0029---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00251>      CALIB NASHYD       02:9D             1.87     .034 No_date   12:13   10.20
00252>        [CN= 43.6: N= 3.00]
00253>        [Tp=  .30:DT= 1.00]
00254> #----------------|-------------------------------------------------------------|
00255> #----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00256> #----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00257> #----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00258> #----------------|-------------------------------------------------------------|
00259>  001:0030---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00260>      ROUTE RESERVOIR -> 02:9D           1.87     .034 No_date   12:13   10.20
00261>    *   [RDT= 1.00] out<- 04:ExPond      1.87     .000 No_date    0:00     .00
00262>        {MxStoUsed=.1907E-01}
00263>  001:0031---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00264>      ADD HYD            01:9C              .96     .015 No_date   12:07    6.71
00265>                       + 04:ExPond        1.87     .000 No_date    0:00     .00
00266>        [DT= 1.00]  SUM=  09:9C9D          2.83     .015 No_date   12:07    2.28
00267> #----------------|-------------------------------------------------------------|
00268> #----------------|-Parkbridge Craigleith - Lower Terrace Lands-----------------|
00269> #----------------|-------------------------------------------------------------|
00270>  001:0032---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
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00271>      CALIB NASHYD       07:9E             7.70     .201 No_date   12:22   18.61
00272>        [CN= 63.0: N= 3.00]
00273>        [Tp=  .44:DT= 1.00]
00274>  001:0033----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00275>      CALIB NASHYD       08:9F             3.44     .079 No_date   12:32   19.38
00276>        [CN= 64.0: N= 3.00]
00277>        [Tp=  .56:DT= 1.00]
00278> #-----------------|-------------------------------------------------------|
00279> #-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD---------|
00280> #-----------------|-------------------------------------------------------|
00281>  001:0034----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00282>      ADD HYD            05:RD19         116.60    3.126 No_date   12:57   34.51
00283>                       +  10:9A9B          14.18     .166 No_date   13:24   20.27
00284>                       +  09:9C9D           2.83     .015 No_date   12:07    2.28
00285>                       +  07:9E             7.70     .201 No_date   12:22   18.61
00286>                       +  08:9F             3.44     .079 No_date   12:32   19.38
00287>        [DT= 1.00]  SUM=  01:WC9LS        144.75    3.464 No_date   12:57   31.28
00288>  001:0035----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00289>      SAVE HYD           01:WC9LS          144.75    3.464 No_date   12:57   31.28
00290>        fname :C:\PLAYGR~1\H-WC9LS.001
00291>        remark:Lakeshore Road Hydrograph
00292> ********************************************************************************
00293> ********************************10yr 24hr SCS storm*****************************
00294> ********************************************************************************
00295>  001:0036-------------------------------------------------------------------------
00296>      MASS STORM
00297>        Filename = C:\PLAYGR~1\SCS24hII.mst
00298>        Comment  = SCS Type II 24 HR MASS CURVE
00299>        [SDT= 5.00:SDUR=  24.00:PTOT=  83.60]
00300> #-----------------|-------------------------------------------------------|
00301> #-----------------|-PRE-DEVELOPMENT-----------------------------------------|
00302> #-----------------|-------------------------------------------------------|
00303> #-----------------|-------------------------------------------------------|
00304> #-----------------|-Subwatershed 9 External Drainage Area-------------------|
00305> #-----------------|-Per 'The Orchards' FSSWM Report-------------------------|
00306> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)--------------|
00307> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00308> #-----------------|-------------------------------------------------------|
00309>  001:0037----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00310>      CALIB NASHYD       01:EXT-9A       101.80    3.623 No_date   12:59   43.48
00311>        [CN= 80.0: N= 3.00]
00312>        [Tp= 1.00:DT= 1.00]
00313>  001:0038----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00314>      ROUTE CHANNEL   -> 01:EXT-9A       101.80    3.623 No_date   12:59   43.48
00315>        [RDT= 1.00] out<- 02:Channel      101.80    3.610 No_date   13:03   43.48
00316>        [L/S/n=  550./2.000/.035]
00317>        {Vmax= 1.814:Dmax=  .358}
00318>  001:0039----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00319>      CALIB STANDHYD     03:EXT-9B        14.80    2.732 No_date   12:02   46.06
00320>        [XIMP=.35:TIMP=.35]
00321>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00322>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00323>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00324>  001:0040----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00325>      ROUTE RESERVOIR -> 03:EXT-9B        14.80    2.732 No_date   12:02   46.06
00326>        [RDT= 1.00] out<- 04:Orchards     14.80     .669 No_date   12:24   46.06
00327>        {MxStoUsed=.4105E+00}
00328> #-----------------|-------------------------------------------------------|
00329> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing-------|
00330> #-----------------|-------------------------------------------------------|
00331>  001:0041----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00332>      ADD HYD            02:Channel      101.80    3.610 No_date   13:03   43.48
00333>                       +  04:Orchards     14.80     .669 No_date   12:24   46.06
00334>        [DT= 1.00]  SUM=  05:RD19         116.60    4.052 No_date   12:59   43.80
00335> #-----------------|-------------------------------------------------------|
00336> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands--------------|
00337> #-----------------|-------------------------------------------------------|
00338>  001:0042----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00339>      CALIB NASHYD       01:9A             2.58     .057 No_date   12:24   16.55
00340>        [CN= 48.8: N= 3.00]
00341>        [Tp=  .46:DT= 1.00]
00342>  001:0043----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00343>      CALIB NASHYD       02:9B            11.60     .205 No_date   13:33   29.29
00344>        [CN= 68.0: N= 3.00]
00345>        [Tp= 1.43:DT= 1.00]
00346>  001:0044----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00347>      ADD HYD            01:9A             2.58     .057 No_date   12:24   16.55
00348>                       +  02:9B            11.60     .205 No_date   13:33   29.29
00349>        [DT= 1.00]  SUM=  10:9A9B          14.18     .224 No_date   13:22   26.97
00350>  001:0045----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00351>      CALIB NASHYD       01:9C              .96     .021 No_date   12:07    9.36
00352>        [CN= 33.2: N= 3.00]
00353>        [Tp=  .20:DT= 1.00]
00354>  001:0046----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00355>      CALIB NASHYD       02:9D             1.87     .047 No_date   12:13   14.01
00356>        [CN= 43.6: N= 3.00]
00357>        [Tp=  .30:DT= 1.00]
00358> #-----------------|-------------------------------------------------------|
00359> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00360> #-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00361> #-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00362> #-----------------|-------------------------------------------------------|
00363>  001:0047----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00364>      ROUTE RESERVOIR -> 02:9D           1.87     .047 No_date   12:13   14.01
00365>   *  [RDT= 1.00] out<- 04:ExPond        1.87     .000 No_date    0:00     .00
00366>        {MxStoUsed=.2619E-01}
00367>  001:0048----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00368>      ADD HYD            01:9C              .96     .021 No_date   12:07    9.36
00369>                       +  04:ExPond        1.87     .000 No_date    0:00     .00
00370>        [DT= 1.00]  SUM=  09:9C9D          2.83     .021 No_date   12:07    3.17
00371> #-----------------|-------------------------------------------------------|
00372> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands--------------|
00373> #-----------------|-------------------------------------------------------|
00374>  001:0049----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00375>      CALIB NASHYD       07:9E             7.70     .274 No_date   12:22   24.98
00376>        [CN= 63.0: N= 3.00]
00377>        [Tp=  .44:DT= 1.00]
00378>  001:0050----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00379>      CALIB NASHYD       08:9F             3.44     .107 No_date   12:31   25.93
00380>        [CN= 64.0: N= 3.00]
00381>        [Tp=  .56:DT= 1.00]
00382> #-----------------|-------------------------------------------------------|
00383> #-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD----------|
00384> #-----------------|-------------------------------------------------------|
00385>  001:0051----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00386>      ADD HYD            05:RD19         116.60    4.052 No_date   12:59   43.80
00387>                       +  10:9A9B          14.18     .224 No_date   13:22   26.97
00388>                       +  09:9C9D           2.83     .021 No_date   12:07    3.17
00389>                       +  07:9E             7.70     .274 No_date   12:22   24.98
00390>                       +  08:9F             3.44     .107 No_date   12:31   25.93
00391>        [DT= 1.00]  SUM=  01:WC9LS        144.75    4.509 No_date   12:56   39.93
00392>  001:0052----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00393>      SAVE HYD           01:WC9LS          144.75    4.509 No_date   12:56   39.93
00394>        fname :C:\PLAYGR~1\H-WC9LS.001
00395>        remark:Lakeshore Road Hydrograph
00396> ********************************************************************************
00397> ********************************25yr 24hr SCS storm*****************************
00398> ********************************************************************************
00399>  001:0053-------------------------------------------------------------------------
00400>      MASS STORM
00401>        Filename = C:\PLAYGR~1\SCS24hII.mst
00402>        Comment  = SCS Type II 24 HR MASS CURVE
00403>        [SDT= 5.00:SDUR=  24.00:PTOT=  98.60]
00404> #-----------------|-------------------------------------------------------|
00405> #-----------------|-PRE-DEVELOPMENT-----------------------------------------|
00406> #-----------------|-------------------------------------------------------|
00407> #-----------------|-------------------------------------------------------|
00408> #-----------------|-Subwatershed 9 External Drainage Area-------------------|
00409> #-----------------|-Per 'The Orchards' FSSWM Report-------------------------|
00410> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)--------------|
00411> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00412> #-----------------|-------------------------------------------------------|
00413>  001:0054----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00414>      CALIB NASHYD       01:EXT-9A       101.80    4.672 No_date   12:59   55.77
00415>        [CN= 80.0: N= 3.00]
00416>        [Tp= 1.00:DT= 1.00]
00417>  001:0055----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00418>      ROUTE CHANNEL   -> 01:EXT-9A       101.80    4.672 No_date   12:59   55.77
00419>        [RDT= 1.00] out<- 02:Channel      101.80    4.664 No_date   13:01   55.77
00420>        [L/S/n=  550./2.000/.035]
00421>        {Vmax= 1.986:Dmax=  .413}
00422>  001:0056----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00423>      CALIB STANDHYD     03:EXT-9B        14.80    3.463 No_date   12:01   56.70
00424>        [XIMP=.35:TIMP=.35]
00425>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00426>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00427>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00428>  001:0057----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00429>      ROUTE RESERVOIR -> 03:EXT-9B        14.80    3.463 No_date   12:01   56.70
00430>        [RDT= 1.00] out<- 04:Orchards     14.80     .975 No_date   12:20   56.69
00431>      {MxStoUsed=.4842E+00}
00432> #-----------------|-------------------------------------------------------|
00433> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing-------|
00434> #-----------------|-------------------------------------------------------|
00435>  001:0058----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00436>      ADD HYD            02:Channel      101.80    4.664 No_date   13:01   55.77
00437>                       +  04:Orchards     14.80     .975 No_date   12:20   56.69
00438>        [DT= 1.00]  SUM=  05:RD19         116.60    5.261 No_date   12:55   55.88
00439> #-----------------|-------------------------------------------------------|
00440> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands--------------|
00441> #-----------------|-------------------------------------------------------|
00442>  001:0059----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00443>      CALIB NASHYD       01:9A             2.58     .079 No_date   12:24   22.81
00444>        [CN= 48.8: N= 3.00]
00445>        [Tp=  .46:DT= 1.00]
00446>  001:0060----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00447>      CALIB NASHYD       02:9B            11.60     .276 No_date   13:32   39.06
00448>        [CN= 68.0: N= 3.00]
00449>        [Tp= 1.43:DT= 1.00]
00450>  001:0061----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00451>      ADD HYD            01:9A             2.58     .079 No_date   12:24   22.81
00452>                       +  02:9B            11.60     .276 No_date   13:32   39.06
00453>        [DT= 1.00]  SUM=  10:9A9B          14.18     .302 No_date   13:20   36.11
00454>  001:0062----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00455>      CALIB NASHYD       01:9C              .96     .030 No_date   12:07   13.20
00456>        [CN= 33.2: N= 3.00]
00457>        [Tp=  .20:DT= 1.00]
00458>  001:0063----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00459>      CALIB NASHYD       02:9D             1.87     .066 No_date   12:13   19.43
00460>        [CN= 43.6: N= 3.00]
00461>        [Tp=  .30:DT= 1.00]
00462> #-----------------|-------------------------------------------------------|
00463> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00464> #-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00465> #-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00466> #-----------------|-------------------------------------------------------|
00467>  001:0064----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00468>      ROUTE RESERVOIR -> 02:9D           1.87     .066 No_date   12:13   19.43
00469>   *  [RDT= 1.00] out<- 04:ExPond        1.87     .000 No_date    0:00     .00
00470>      {MxStoUsed=.3633E-01}
00471>  001:0065----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00472>      ADD HYD            01:9C              .96     .030 No_date   12:07   13.20
00473>                       +  04:ExPond        1.87     .000 No_date    0:00     .00
00474>        [DT= 1.00]  SUM=  09:9C9D          2.83     .030 No_date   12:07    4.48
00475> #-----------------|-------------------------------------------------------|
00476> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands--------------|
00477> #-----------------|-------------------------------------------------------|
00478>  001:0066----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00479>      CALIB NASHYD       07:9E             7.70     .374 No_date   12:22   33.74
00480>        [CN= 63.0: N= 3.00]
00481>        [Tp=  .44:DT= 1.00]
00482>  001:0067----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00483>      CALIB NASHYD       08:9F             3.44     .146 No_date   12:31   34.91
00484>        [CN= 64.0: N= 3.00]
00485>        [Tp=  .56:DT= 1.00]
00486> #-----------------|-------------------------------------------------------|
00487> #-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD----------|
00488> #-----------------|-------------------------------------------------------|
00489>  001:0068----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00490>      ADD HYD            05:RD19         116.60    5.261 No_date   12:55   55.88
00491>                       +  10:9A9B          14.18     .302 No_date   13:20   36.11
00492>                       +  09:9C9D           2.83     .030 No_date   12:07    4.48
00493>                       +  07:9E             7.70     .374 No_date   12:22   33.74
00494>                       +  08:9F             3.44     .146 No_date   12:31   34.91
00495>        [DT= 1.00]  SUM=  01:WC9LS        144.75    5.895 No_date   12:52   51.26
00496>  001:0069----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00497>      SAVE HYD           01:WC9LS          144.75    5.895 No_date   12:52   51.26
00498>        fname :C:\PLAYGR~1\H-WC9LS.001
00499>        remark:Lakeshore Road Hydrograph
00500> ********************************************************************************
00501> ********************************50yr 24hr SCS storm*****************************
00502> ********************************************************************************
00503>  001:0070-------------------------------------------------------------------------
00504>      MASS STORM
00505>        Filename = C:\PLAYGR~1\SCS24hII.mst
00506>        Comment  = SCS Type II 24 HR MASS CURVE
00507>        [SDT= 5.00:SDUR=  24.00:PTOT= 109.80]
00508> #-----------------|-------------------------------------------------------|
00509> #-----------------|-PRE-DEVELOPMENT-----------------------------------------|
00510> #-----------------|-------------------------------------------------------|
00511> #-----------------|-------------------------------------------------------|
00512> #-----------------|-Subwatershed 9 External Drainage Area-------------------|
00513> #-----------------|-Per 'The Orchards' FSSWM Report-------------------------|
00514> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)--------------|
00515> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00516> #-----------------|-------------------------------------------------------|
00517>  001:0071----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00518>      CALIB NASHYD       01:EXT-9A       101.80    5.482 No_date   12:58   65.26
00519>        [CN= 80.0: N= 3.00]
00520>        [Tp= 1.00:DT= 1.00]
00521>  001:0072----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00522>      ROUTE CHANNEL   -> 01:EXT-9A       101.80    5.482 No_date   12:58   65.26
00523>        [RDT= 1.00] out<- 02:Channel      101.80    5.468 No_date   13:02   65.26
00524>        [L/S/n=  550./2.000/.035]
00525>        {Vmax= 2.078:Dmax=  .449}
00526>  001:0073----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00527>      CALIB STANDHYD     03:EXT-9B        14.80    3.965 No_date   12:01   64.45
00528>        [XIMP=.35:TIMP=.35]
00529>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00530>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00531>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00532>  001:0074----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00533>      ROUTE RESERVOIR -> 03:EXT-9B        14.80    3.965 No_date   12:01   64.45
00534>        [RDT= 1.00] out<- 04:Orchards     14.80    1.209 No_date   12:19   64.45
00535>      {MxStoUsed=.5356E+00}
00536> #-----------------|-------------------------------------------------------|
00537> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing-------|
00538> #-----------------|-------------------------------------------------------|
00539>  001:0075----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00540>      ADD HYD            02:Channel      101.80    5.468 No_date   13:02   65.26
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00541>                    +  04:Orchards      14.80    1.209 No_date   12:19   64.45
00542>       [DT= 1.00]  SUM=  05:RD19        116.60    6.176 No_date   12:55   65.15
00543> #-----------------|-------------------------------------------------------------|
00544> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
00545> #-----------------|-------------------------------------------------------------|
00546>  001:0076---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00547>      CALIB NASHYD       01:9A             2.58     .098 No_date   12:23   27.95
00548>        [CN= 48.8: N= 3.00]
00549>        [Tp=  .46:DT= 1.00]
00550>  001:0077---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00551>      CALIB NASHYD       02:9B            11.60     .333 No_date   13:31   46.82
00552>        [CN= 68.0: N= 3.00]
00553>        [Tp= 1.43:DT= 1.00]
00554>  001:0078---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00555>      ADD HYD            01:9A             2.58     .098 No_date   12:23   27.95
00556>                       +  02:9B            11.60     .333 No_date   13:31   46.82
00557>       [DT= 1.00]  SUM=  10:9A9B          14.18     .365 No_date   13:19   43.39
00558>  001:0079---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00559>      CALIB NASHYD       01:9C              .96     .038 No_date   12:07   16.42
00560>        [CN= 33.2: N= 3.00]
00561>        [Tp=  .20:DT= 1.00]
00562>  001:0080---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00563>      CALIB NASHYD       02:9D             1.87     .082 No_date   12:12   23.91
00564>        [CN= 43.6: N= 3.00]
00565>        [Tp=  .30:DT= 1.00]
00566> #-----------------|-------------------------------------------------------------|
00567> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00568> #-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00569> #-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00570> #-----------------|-------------------------------------------------------------|
00571>  001:0081---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00572>      ROUTE RESERVOIR -> 02:9D           1.87     .082 No_date   12:12   23.91
00573>  *   [RDT= 1.00] out<- 04:ExPond        1.87     .000 No_date    0:00     .00
00574>       {MxStoUsed=.4472E-01}
00575>  001:0082---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00576>      ADD HYD            01:9C              .96     .038 No_date   12:07   16.42
00577>                       +  04:ExPond         1.87     .000 No_date    0:00     .00
00578>       [DT= 1.00]  SUM=  09:9C9D           2.83     .038 No_date   12:07    5.57
00579> #-----------------|-------------------------------------------------------------|
00580> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
00581> #-----------------|-------------------------------------------------------------|
00582>  001:0083---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00583>      CALIB NASHYD       07:9E             7.70     .455 No_date   12:22   40.78
00584>        [CN= 63.0: N= 3.00]
00585>        [Tp=  .44:DT= 1.00]
00586>  001:0084---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00587>      CALIB NASHYD       08:9F             3.44     .177 No_date   12:30   42.09
00588>        [CN= 64.0: N= 3.00]
00589>        [Tp=  .56:DT= 1.00]
00590> #-----------------|-------------------------------------------------------------|
00591> #-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD------------|
00592> #-----------------|-------------------------------------------------------------|
00593>  001:0085---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00594>      ADD HYD            05:RD19          116.60    6.176 No_date   12:55   65.15
00595>                       +  10:9A9B          14.18     .365 No_date   13:19   43.39
00596>                       +  09:9C9D           2.83     .038 No_date   12:07    5.57
00597>                       +  07:9E             7.70     .455 No_date   12:22   40.78
00598>                       +  08:9F             3.44     .177 No_date   12:30   42.09
00599>       [DT= 1.00]  SUM=  01:WC9LS         144.75    6.945 No_date   12:52   60.01
00600>  001:0086---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00601>      SAVE HYD           01:WC9LS         144.75    6.945 No_date   12:52   60.01
00602>       fname :C:\PLAYGR~1\H-WC9LS.001
00603>       remark:Lakeshore Road Hydrograph
00604> ********************************************************************************
00605> ****************************100yr 24hr SCS storm****************************
00606> ********************************************************************************
00607>  001:0087---------------------------------------------------------------------------
00608>      MASS STORM
00609>       Filename = C:\PLAYGR~1\SCS24hII.mst
00610>       Comment  = SCS Type II 24 HR MASS CURVE
00611>       [SDT= 5.00:SDUR=  24.00:PTOT= 120.80]
00612> #-----------------|-------------------------------------------------------------|
00613> #-----------------|-PRE-DEVELOPMENT-------------------------------------------|
00614> #-----------------|-------------------------------------------------------------|
00615> #-----------------|-------------------------------------------------------------|
00616> #-----------------|-Subwatershed 9 External Drainage Area----------------------|
00617> #-----------------|-Per 'The Orchards' FSSWM Report----------------------------|
00618> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
00619> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00620> #-----------------|-------------------------------------------------------------|
00621>  001:0088---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00622>      CALIB NASHYD       01:EXT-9A       101.80    6.294 No_date   12:58   74.79
00623>        [CN= 80.0: N= 3.00]
00624>        [Tp= 1.00:DT= 1.00]
00625>  001:0089---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00626>      ROUTE CHANNEL   -> 01:EXT-9A       101.80    6.294 No_date   12:58   74.79
00627>        [RDT= 1.00] out<- 02:Channel     101.80    6.280 No_date   13:01   74.79
00628>        [L/S/n=  550./2.000/.035]
00629>        {Vmax= 2.164:Dmax=  .482}
00630>  001:0090---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00631>      CALIB STANDHYD     03:EXT-9B        14.80    4.460 No_date   12:01   72.57
00632>        [XIMP=.35:TIMP=.35]
00633>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00634>        [Pervious    area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00635>        [Impervious  area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00636>  001:0091---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00637>      ROUTE RESERVOIR -> 03:EXT-9B       14.80    4.460 No_date   12:01   72.57
00638>        [RDT= 1.00] out<- 04:Orchards    14.80    1.448 No_date   12:18   72.57
00639>       {MxStoUsed=.5866E+00}
00640> #-----------------|-------------------------------------------------------------|
00641> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00642> #-----------------|-------------------------------------------------------------|
00643>  001:0092---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00644>      ADD HYD            02:Channel      101.80    6.280 No_date   13:01   74.79
00645>                       +  04:Orchards     14.80    1.448 No_date   12:18   72.57
00646>       [DT= 1.00]  SUM=  05:RD19         116.60    7.105 No_date   12:54   74.51
00647> #-----------------|-------------------------------------------------------------|
00648> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands----------------|
00649> #-----------------|-------------------------------------------------------------|
00650>  001:0093---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00651>      CALIB NASHYD       01:9A             2.58     .117 No_date   12:23   33.34
00652>        [CN= 48.8: N= 3.00]
00653>        [Tp=  .46:DT= 1.00]
00654>  001:0094---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00655>      CALIB NASHYD       02:9B            11.60     .392 No_date   13:30   54.77
00656>        [CN= 68.0: N= 3.00]
00657>        [Tp= 1.43:DT= 1.00]
00658>  001:0095---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00659>      ADD HYD            01:9A             2.58     .117 No_date   12:23   33.34
00660>                       +  02:9B            11.60     .392 No_date   13:30   54.77
00661>       [DT= 1.00]  SUM=  10:9A9B          14.18     .430 No_date   13:18   50.87
00662>  001:0096---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00663>      CALIB NASHYD       01:9C              .96     .046 No_date   12:06   19.87
00664>        [CN= 33.2: N= 3.00]
00665>        [Tp=  .20:DT= 1.00]
00666>  001:0097---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00667>      CALIB NASHYD       02:9D             1.87     .099 No_date   12:12   28.65
00668>        [CN= 43.6: N= 3.00]
00669>        [Tp=  .30:DT= 1.00]
00670> #-----------------|-------------------------------------------------------------|
00671> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SITE UPPER LANDS---|
00672> #-----------------|-REFER TO STAGE-STORAGE-DISCHARGE SHEET PROVIDED IN--------|
00673> #-----------------|-PARKBRIDGE CRAIGLEITH FSSWM REPORT FOR EXISTING POND------|
00674> #-----------------|-------------------------------------------------------------|
00675>  001:0098---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00676>      ROUTE RESERVOIR -> 02:9D           1.87     .099 No_date   12:12   28.65
00677>  *   [RDT= 1.00] out<- 04:ExPond        1.87     .000 No_date    0:00     .00
00678>       {MxStoUsed=.5358E-01}
00679>  001:0099---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00680>      ADD HYD            01:9C              .96     .046 No_date   12:06   19.87
00681>                       +  04:ExPond         1.87     .000 No_date    0:00     .00
00682>       [DT= 1.00]  SUM=  09:9C9D           2.83     .046 No_date   12:06    6.74
00683> #-----------------|-------------------------------------------------------------|
00684> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
00685> #-----------------|-------------------------------------------------------------|
00686>  001:0100---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00687>      CALIB NASHYD       07:9E             7.70     .539 No_date   12:21   48.03
00688>        [CN= 63.0: N= 3.00]
00689>        [Tp=  .44:DT= 1.00]
00690>  001:0101---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00691>      CALIB NASHYD       08:9F             3.44     .209 No_date   12:30   49.49
00692>        [CN= 64.0: N= 3.00]
00693>        [Tp=  .56:DT= 1.00]
00694> #-----------------|-------------------------------------------------------------|
00695> #-----------------|-WATERCOURSE 9 TOTAL FLOW AT OLD LAKESHORE ROAD------------|
00696> #-----------------|-------------------------------------------------------------|
00697>  001:0102---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00698>      ADD HYD            05:RD19          116.60    7.105 No_date   12:54   74.51
00699>                       +  10:9A9B          14.18     .430 No_date   13:18   50.87
00700>                       +  09:9C9D           2.83     .046 No_date   12:06    6.74
00701>                       +  07:9E             7.70     .539 No_date   12:21   48.03
00702>                       +  08:9F             3.44     .209 No_date   12:30   49.49
00703>       [DT= 1.00]  SUM=  01:WC9LS         144.75    8.017 No_date   12:51   68.86
00704>  001:0103---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00705>      SAVE HYD           01:WC9LS         144.75    8.017 No_date   12:51   68.86
00706>       fname :C:\PLAYGR~1\H-WC9LS.001
00707>       remark:Lakeshore Road Hydrograph
00708>  001:0104---------------------------------------------------------------------------
00709>       FINISH
00710> ---------------------------------------------------------------------------
00711> ********************************************************************************
00712>      WARNINGS / ERRORS / NOTES
00713>      -------------------------
00714>  001:0013 ROUTE RESERVOIR
00715>       *** WARNING: Outflow volume is less than inflow volume.
00716>  001:0030 ROUTE RESERVOIR
00717>       *** WARNING: Outflow volume is less than inflow volume.
00718>  001:0047 ROUTE RESERVOIR
00719>       *** WARNING: Outflow volume is less than inflow volume.
00720>  001:0064 ROUTE RESERVOIR
00721>       *** WARNING: Outflow volume is less than inflow volume.
00722>  001:0081 ROUTE RESERVOIR
00723>       *** WARNING: Outflow volume is less than inflow volume.
00724>  001:0098 ROUTE RESERVOIR
00725>       *** WARNING: Outflow volume is less than inflow volume.
00726>    Simulation ended on 2018-04-30     at 01:09:55
00727> ================================================================================
00728>
00729>
```

```
00001> 2     Metric units
00002> *#************************************************************************
00003> *#  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
00004> *#  Date         : 2018-01-24
00005> *#  Modeller     : [OD - UPDATED BY BD/BH]
00006> *#  Company      : C.F. Crozier & Associates Inc.
00007> *#  License #    : 3737016
00008> *#************************************************************************
00009> START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1]
00010> *%                      ["25mm.stm"] <--storm filename, one per line for NSTORM tim
00011> *#************************************************************************
00012> *%------------------|-----------------------------------------------------|
00013> READ STORM          STORM_FILENAME=["STORM.001"]
00014> *%------------------|-----------------------------------------------------|
00015> *%------------------|-----------------------------------------------------|
00016> *#------------------|-----------------------------------------------------|
00017> *#------------------|-POST-DEVELOPMENT----------------------------------|
00018> *#------------------|-----------------------------------------------------|
00019> *#------------------|-----------------------------------------------------|
00020> *#------------------|-Subwatershed 9 External Drainage Area-------------|
00021> *#------------------|-Per 'The Orchards' FSSWM Report-------------------|
00022> *#------------------|-Prepared by Higgins Engineering (Jan. 2005)-------|
00023> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00024> *#------------------|-----------------------------------------------------|
00025> *%------------------|-----------------------------------------------------|
00026> CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00027>                     DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00028>                     N=[3], TP=[1.00]hrs,
00029>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00030> *%------------------|-----------------------------------------------------|
00031> ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
00032>                     RDT=[1](min),
00033>                     CHLGTH=[550](m),  CHSLOPE=[2](%),
00034>                                       FPSLOPE=[2](%),
00035>                     SECNUM=[1],       NSEG=[3]
00036>                     ( SEGROUGH, SEGDIST (m))=[0.035,8,-0.035,12,0.035,20] NSEG t
00037>                     ( DISTANCE (m), ELEVATION (m))=[0,102]
00038>                                                   [8,100]
00039>                                                   [12,100]
00040>                                                   [20,102]
00041> *%------------------|-----------------------------------------------------|
00042> CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00043>                     XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00044>                     Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00045>                             DCAY=[2](/hr), F=[0](mm),
00046>                     Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00047>                                          LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00048>                     Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00049>                                          LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00050>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00051> *%------------------|-----------------------------------------------------|
00052> ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00053>                     RDT=[1](min),
00054>                           TABLE of ( OUTFLOW-STORAGE ) values
00055>                                      (cms) - (ha-m)
00056>                                    [   0.0 ,   0.0 ]
00057>                                    [   0.0100 ,  0.0610 ]
00058>                                    [   0.0400 ,  0.1310 ]
00059>                                    [   0.0700 ,  0.2110 ]
00060>                                    [   0.2600 ,  0.3000 ]
00061>                                    [   0.6000 ,  0.3940 ]
00062>                                    [   1.0200 ,  0.4950 ]
00063>                                    [   1.5200 ,  0.6020 ]
00064>                                    [   2.0800 ,  0.7160 ]
00065>                                    [   2.6900 ,  0.8370 ]
00066>                           IDovf=[ ], NHYDovf=[  ]
00067> *%------------------|-----------------------------------------------------|
00068> *#------------------|-----------------------------------------------------|
00069> *#------------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing-----|
00070> *#------------------|-----------------------------------------------------|
00071> *%------------------|-----------------------------------------------------|
00072> ADD HYD             IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00073> *%------------------|-----------------------------------------------------|
00074> CALIB NASHYD        ID=[1], NHYD=["EXT-9D"], DT=[1]min, AREA=[0.63](ha),
00075>                     DWF=[0](cms),  CN/C=[73.0], IA=[10.0](mm),
00076>                     N=[3], TP=[0.2]hrs,
00077>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00078> *%------------------|-----------------------------------------------------|
00079> *#------------------|-----------------------------------------------------|
00080> *#------------------|-Parkbridge Craigleith - Upper Terrace Lands---------|
00081> *#------------------|-----------------------------------------------------|
00082> *%------------------|-----------------------------------------------------|
00083> CALIB NASHYD        ID=[2], NHYD=["9C9D"], DT=[1]min, AREA=[2.47](ha),
00084>                     DWF=[0](cms),  CN/C=[49.6], IA=[8.0](mm),
00085>                     N=[3], TP=[0.18]hrs,
00086>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00087> *%------------------|-----------------------------------------------------|
00088> ADD HYD             IDsum=[4], NHYD=["WC9a"], IDs to add=[1,2,5]
00089> *%------------------|-----------------------------------------------------|
00090> *#------------------|-----------------------------------------------------|
00091> *#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT-----------|
00092> *#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1---------------------|
00093> *#------------------|-----------------------------------------------------|
00094> *%------------------|-----------------------------------------------------|
00095> CALIB NASHYD        ID=[1], NHYD=["EXT-9C"], DT=[1]min, AREA=[8.4](ha),
00096>                     DWF=[0](cms),  CN/C=[74.9], IA=[8.4](mm),
00097>                     N=[3], TP=[0.47]hrs,
00098>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00099> *%------------------|-----------------------------------------------------|
00100> CALIB STANDHYD      ID=[3], NHYD=["9B"], DT=[1](min), AREA=[3.10](ha),
00101>                     XIMP=[0.30], TIMP=[0.525], DWF=[0](cms), LOSS=[2],
00102>                     SCS curve number CN=[79.0],
00103>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[3.0](%),
00104>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00105>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00106>                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
00107>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00108> *%------------------|-----------------------------------------------------|
00109> CALIB NASHYD        ID=[5], NHYD=["9E"], DT=[1]min, AREA=[2.1](ha),
00110>                     DWF=[0](cms),  CN/C=[54.1], IA=[9.32](mm),
00111>                     N=[3], TP=[0.11]hrs,
00112>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00113> *%------------------|-----------------------------------------------------|
00114> ADD HYD             IDsum=[6], NHYD=["SWMF1"], IDs to add=[1,3,5]
00115> *%------------------|-----------------------------------------------------|
00116> *#------------------|-----------------------------------------------------|
00117> *#------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
00118> *#------------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT-------------|
00119> *#------------------|-----------------------------------------------------|
00120> *%------------------|-----------------------------------------------------|
00121> ROUTE RESERVOIR     IDout=[1],   NHYD=["SWMF-1"],  IDin=[6],
00122>                     RDT=[1](min),
00123>                           TABLE of ( OUTFLOW-STORAGE ) values
00124>                                      (cms) - (ha-m)
00125>                                    [   0.0 ,  0.0 ]
00126>                                    [   0.005 ,  0.018 ]
00127>                                    [   0.011 ,  0.058 ]
00128>                                    [   0.015 ,  0.104 ]
00129>                                    [   0.017 ,  0.141 ]
00130>                                    [   0.019 ,  0.182 ]
00131>                                    [   0.024 ,  0.303 ]
00132>                                    [   0.028 ,  0.443 ]
00133>                                    [   0.031 ,  0.601 ]
00134>                                    [   0.032 ,  1.119 ]
00135>                                    [   0.033 ,  1.163 ]
00136>                                    [   0.359 ,  1.207 ]
00137>                                    [   1.054 ,  1.253 ]
00138>                                    [   -1  ,  -1  ]  (max twenty pts)
00139>                           IDovf=[   ], NHYDovf=[   ]
00140> *%------------------|-----------------------------------------------------|
00141> ADD HYD             IDsum=[7], NHYD=["WC9b"], IDs to add=[1,4]
00142> *%------------------|-----------------------------------------------------|
00143> *#------------------|-----------------------------------------------------|
00144> *#------------------|-Parkbridge Craigleith - Lower Terrace Lands---------|
00145> *#------------------|-----------------------------------------------------|
00146> *#------------------|-----------------------------------------------------|
00147> *#------------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------|
00148> *#------------------|-----------------------------------------------------|
00149> CALIB STANDHYD      ID=[10], NHYD=["9P"], DT=[1](min), AREA=[1.75](ha),
00150>                     XIMP=[0.184], TIMP=[0.480], DWF=[0](cms), LOSS=[2],
00151>                     SCS curve number CN=[61.0],
00152>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00153>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00154>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00155>                                          LGI=[108](m), MNI=[0.013], SCI=[0](min)
00156>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00157> *%------------------|-----------------------------------------------------|
00158> *#------------------|-----------------------------------------------------|
00159> *#------------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------|
00160> *#------------------|-----------------------------------------------------|
00161> *%------------------|-----------------------------------------------------|
00162> *%------------------|-----------------------------------------------------|
00163> CALIB NASHYD        ID=[1], NHYD=["9J"], DT=[1]min, AREA=[0.81](ha),
00164>                     DWF=[0](cms),  CN/C=[68.7], IA=[7.6](mm),
00165>                     N=[3], TP=[0.19]hrs,
00166>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00167> *%------------------|-----------------------------------------------------|
00168> CALIB NASHYD        ID=[2], NHYD=["9O"], DT=[1]min, AREA=[0.35](ha),
00169>                     DWF=[0](cms),  CN/C=[65.0], IA=[8.0](mm),
00170>                     N=[3], TP=[0.26]hrs,
00171>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00172> *%------------------|-----------------------------------------------------|
00173> CALIB NASHYD        ID=[3], NHYD=["9K9L"], DT=[1]min, AREA=[1.32](ha),
00174>                     DWF=[0](cms),  CN/C=[50.4], IA=[9.4](mm),
00175>                     N=[3], TP=[0.35]hrs,
00176>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00177> *%------------------|-----------------------------------------------------|
00178> ADD HYD             IDsum=[5], NHYD=["WC9LOWER"], IDs to add=[1,2,3,7]
00179> *%------------------|-----------------------------------------------------|
00180> *#------------------|-----------------------------------------------------|
00181> *#------------------|-LANDS DRAINING TO SWM FACILITY 2--------------------|
00182> *#------------------|-----------------------------------------------------|
00183> CALIB NASHYD        ID=[1], NHYD=["9G"], DT=[1]min, AREA=[1.16](ha),
00184>                     DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
00185>                     N=[3], TP=[0.14]hrs,
00186>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00187> *%------------------|-----------------------------------------------------|
00188> CALIB NASHYD        ID=[2], NHYD=["9H"], DT=[1]min, AREA=[1.67](ha),
00189>                     DWF=[0](cms),  CN/C=[34.7], IA=[9.1](mm),
00190>                     N=[3], TP=[0.27]hrs,
00191>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00192> *%------------------|-----------------------------------------------------|
00193> CALIB STANDHYD      ID=[3], NHYD=["9M"], DT=[1](min), AREA=[5.80](ha),
00194>                     XIMP=[0.229], TIMP=[0.56], DWF=[0](cms), LOSS=[2],
00195>                     SCS curve number CN=[69],
00196>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00197>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00198>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00199>                                          LGI=[197](m), MNI=[0.013], SCI=[0](min)
00200>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00201> *%------------------|-----------------------------------------------------|
00202> CALIB STANDHYD      ID=[4], NHYD=["9N"], DT=[1](min), AREA=[1.85](ha),
00203>                     XIMP=[0.189], TIMP=[0.266], DWF=[0](cms), LOSS=[2],
00204>                     SCS curve number CN=[61],
00205>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00206>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00207>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00208>                                          LGI=[111](m), MNI=[0.013], SCI=[0](min)
00209>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00210> *%------------------|-----------------------------------------------------|
00211> ADD HYD             IDsum=[6], NHYD=["SWMF2"], IDs to add=[1,2,3,4]
00212> *%------------------|-----------------------------------------------------|
00213> *#------------------|-----------------------------------------------------|
00214> *#------------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)----|
00215> *#------------------|-----------------------------------------------------|
00216> *%------------------|-----------------------------------------------------|
00217> ROUTE RESERVOIR     IDout=[9],   NHYD=["SWMF-2"],  IDin=[6],
00218>                     RDT=[1](min),
00219>                           TABLE of ( OUTFLOW-STORAGE ) values
00220>                                      (cms) - (ha-m)
00221>                                    [   0.0 ,  0.0 ]
00222>                                    [   0.004 ,  0.016 ]
00223>                                    [   0.009 ,  0.053 ]
00224>                                    [   0.011 ,  0.074 ]
00225>                                    [   0.013 ,  0.119 ]
00226>                                    [   0.014 ,  0.132 ]
00227>                                    [   0.016 ,  0.171 ]
00228>                                    [   0.017 ,  0.199 ]
00229>                                    [   0.018 ,  0.228 ]
00230>                                    [   0.344 ,  0.259 ]
00231>                                    [   1.040 ,  0.291 ]
00232>                                    [   2.076 ,  0.325 ]
00233>                                    [   -1  ,  -1  ]  (max twenty pts)
00234>                           IDovf=[   ], NHYDovf=[   ]
00235> *%------------------|-----------------------------------------------------|
00236> *#------------------|-----------------------------------------------------|
00237> *#------------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD------------|
00238> *#------------------|-----------------------------------------------------|
00239> *%------------------|-----------------------------------------------------|
00240> ADD HYD             IDsum=[1], NHYD=["WC9c"], IDs to add=[9,5,10]
00241> *%------------------|-----------------------------------------------------|
00242> SAVE HYD            ID=[1],   # OF PCYCLES=[50],  ICASEsh=[1]
00243>                     HYD_COMMENT=["POST-DEV LAKESHORE"]
00244> *%------------------|-----------------------------------------------------|
00245> *#------------------|-----------------------------------------------------|
00246> *#------------------|--WATERCOURSE 8 CATCHMENTS---------------------------|
00247> *#------------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------|
00248> *#------------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------|
00249> *#------------------|-----------------------------------------------------|
00250> *%------------------|-----------------------------------------------------|
00251> CALIB NASHYD        ID=[1], NHYD=["8i"], DT=[1]min, AREA=[2.23](ha),
00252>                     DWF=[0](cms),  CN/C=[63.5], IA=[8.6](mm),
00253>                     N=[3], TP=[0.28]hrs,
00254>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00255> *%------------------|-----------------------------------------------------|
00256> CALIB NASHYD        ID=[2], NHYD=["EXT-8"], DT=[1]min, AREA=[7.60](ha),
00257>                     DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
00258>                     N=[3], TP=[0.55]hrs,
00259>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00260> *%------------------|-----------------------------------------------------|
00261> *#------------------|-----------------------------------------------------|
00262> *#------------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
00263> *#------------------|-----------------------------------------------------|
00264> *%------------------|-----------------------------------------------------|
00265> ADD HYD             IDsum=[3], NHYD=["WC8"], IDs to add=[1,2]
00266> *%------------------|-----------------------------------------------------|
00267> *%------------------|-----------------------------------------------------|
00268> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[2]
00269> *                   ["2yr.stm"] <--storm filename, one per line for NSTORM time
00270> *%------------------|-----------------------------------------------------|
```

```
00271> *%-----------------|-------------------------------------------------------|
00272> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[3]
00273> *                   ["5yr.stm"] <--storm filename, one per line for NSTORM time
00274> *%-----------------|-------------------------------------------------------|
00275> *%-----------------|-------------------------------------------------------|
00276> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[4]
00277> *                   ["10yr.stm"] <--storm filename, one per line for NSTORM time
00278> *%-----------------|-------------------------------------------------------|
00279> *%-----------------|-------------------------------------------------------|
00280> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[5]
00281> *                   ["25yr.stm"] <--storm filename, one per line for NSTORM time
00282> *%-----------------|-------------------------------------------------------|
00283> *%-----------------|-------------------------------------------------------|
00284> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[6]
00285> *                   ["50yr.stm"] <--storm filename, one per line for NSTORM time
00286> *%-----------------|-------------------------------------------------------|
00287> *%-----------------|-------------------------------------------------------|
00288> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[7]
00289> *                   ["100yr.stm"] <--storm filename, one per line for NSTORM tim
00290> *%-----------------|-------------------------------------------------------|
00291> *%-----------------|-------------------------------------------------------|
00292> START               TZERO=[0.0]hrs or date,  METOUT=[2],  NSTORM=[1],  NRUN=[8]
00293> *                   ["tim.stm"] <--storm filename, one per line for NSTORM time
00294> *%-----------------|-------------------------------------------------------|
00295> FINISH
00296>
00297>
00298>
00299>
00300>
00301>
00302>
00303>
00304>
00305>
00306>
00307>
00308>
00309>
```

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M    OOO        999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM   O   O      9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M   O   O  ##  9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M   O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M    OOO           9      9   =========
00008>                                                           9   9  9   9   # 3737016
00009>          StormWater Management HYdrologic Model            999    999    =========
00010>
00011>  ********************************************************************************
00012>  ***************************** SWMHYMO Ver/4.05  ********************************
00013>  *********  A single event and continuous hydrologic simulation model  *********
00014>  *********     based on the principles of HYMO and its successors      *********
00015>  *********                  OTTHYMO-83 and OTTHYMO-89.                  *********
00016>  ********************************************************************************
00017>  ******** Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018>  *********                  Ottawa,  Ontario: (613) 836-3884           *********
00019>  *********                  Gatineau, Quebec: (819) 243-6858           *********
00020>  *********                  E-Mail: swmhymo@jfsa.Com                   *********
00021>  ********************************************************************************
00022>
00023>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024>  +++++++++ Licensed user: C.F. Crozier & Associates Inc.                +++++++++
00025>  +++++++++                 Collingwood          SERIAL#:3737016        +++++++++
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>  ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
00036>  *****------------------------------------------------------------------------*****
00037>  *****    ID:  Hydrograph IDentification numbers, (1-10).                  *****
00038>  *****  NHYD:  Hydrograph reference numbers, (6 digits or characters).     *****
00039>  *****  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).   *****
00040>  ***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).     *****
00041>  ***** TpeakDate_hh:mm is the date and time of the peak flow.               *****
00042>  *****  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).       *****
00043>  *****  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).       *****
00044>  *****    *:  see WARNING or NOTE message printed at end of run.          *****
00045>  *****   **:  see  ERROR  message printed at end of run.                  *****
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  **********************   S U M M A R Y   O U T P U T   **********************
00054>  ********************************************************************************
00055>  *         DATE: 2018-04-30     TIME: 00:25:22     RUN COUNTER: 000889          *
00056>  ********************************************************************************
00057>  * Input   filename: C:\PLAYGR~1\POST_K~1.DAT                                   *
00058>  * Output  filename: C:\PLAYGR~1\POST_K~1.out                                   *
00059>  * Summary filename: C:\PLAYGR~1\POST_K~1.sum                                   *
00060>  * User comments:                                                              *
00061>  * 1:_____________________________________________________________________     *
00062>  * 2:_____________________________________________________________________     *
00063>  * 3:_____________________________________________________________________     *
00064>  ********************************************************************************
00065>
00066>
00067> #*******************************************************************************
00068> #  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
00069> #  Date        : 2018-01-24
00070> #  Modeller    : [OD - UPDATED BY BD/BH]
00071> #  Company     : C.F. Crozier & Associates Inc.
00072> #  License #   : 3737016
00073> #*******************************************************************************
00074>  RUN:COMMAND#
00075>  001:0001--------------------------------------------------------------------------
00076>      START
00077>       [TZERO =    .00 hrs on        0]
00078>       [METOUT=   2    (1=imperial, 2=metric output)]
00079>       [NSTORM=   1 ]
00080>       [NRUN  =   1 ]
00081> #*******************************************************************************
00082>  001:0002--------------------------------------------------------------------------
00083>      READ STORM
00084>       Filename = STORM.001
00085>       Comment  =
00086>       [SDT=60.00:SDUR=   6.00:PTOT=  25.00]
00087> #-----------------|-----------------------------------------------------------|
00088> #-----------------|-POST-DEVELOPMENT--------------------------------------------|
00089> #-----------------|-----------------------------------------------------------|
00090> #-----------------|-----------------------------------------------------------|
00091> #-----------------|-Subwatershed 9 External Drainage Area-----------------------|
00092> #-----------------|-Per 'The Orchards' FSSWM Report-----------------------------|
00093> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)-----------------|
00094> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00095> #-----------------|-----------------------------------------------------------|
00096>  001:0003---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00097>      CALIB NASHYD       01:EXT-9A       101.80     .497 No_date    3:55    4.79
00098>        [CN= 80.0: N= 3.00]
00099>        [Tp= 1.00:DT= 1.00]
00100>  001:0004---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00101>      ROUTE CHANNEL   -> 01:EXT-9A       101.80     .497 No_date    3:55    4.79
00102>        [RDT= 1.00] out<- 02:Channel      101.80     .489 No_date    4:05    4.79
00103>        [L/S/n=  550./2.000/.035]
00104>        [Vmax=   .899:Dmax=   .116]
00105>  001:0005---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00106>   *  CALIB STANDHYD     03:EXT-9B        14.80     .241 No_date    3:00    8.40
00107>        [XIMP=.35:TIMP=.35]
00108>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00109>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00110>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00111>  001:0006---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00112>      ROUTE RESERVOIR -> 03:EXT-9B        14.80     .241 No_date    3:00    8.40
00113>        [RDT= 1.00] out<- 04:Orchards     14.80     .026 No_date    4:13    8.40
00114>        (MxStoUsed=.9899E-01)
00115> #-----------------|-----------------------------------------------------------|
00116> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00117> #-----------------|-----------------------------------------------------------|
00118>  001:0007---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00119>      ADD HYD            02:Channel      101.80     .489 No_date    4:05    4.79
00120>                       + 04:Orchards     14.80     .026 No_date    4:13    8.40
00121>        [DT= 1.00]  SUM=  05:RD19         116.60     .516 No_date    4:05    5.25
00122>  001:0008---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00123>      CALIB NASHYD       01:EXT-9D         .63     .004 No_date    3:05    2.06
00124>        [CN= 73.0: N= 3.00]
00125>        [Tp=  .20:DT= 1.00]
00126> #-----------------|-----------------------------------------------------------|
00127> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
00128> #-----------------|-----------------------------------------------------------|
00129>  001:0009---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00130>      CALIB NASHYD       02:9C9D          2.47     .007 No_date    3:04    1.05
00131>        [CN= 49.6: N= 3.00]
00132>        [Tp=  .18:DT= 1.00]
00133>  001:0010---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00134>      ADD HYD            01:EXT-9D         .63     .004 No_date    3:05    2.06
00135>                       + 02:9C9D          2.47     .007 No_date    3:04    1.05
00136>                       + 05:RD19         116.60     .516 No_date    4:05    5.25
00137>        [DT= 1.00]  SUM=  04:WC9a         119.70     .518 No_date    4:05    5.15
00138> #-----------------|-----------------------------------------------------------|
00139> #--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00140> #--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-----------------------|
00141> #-----------------|-----------------------------------------------------------|
00142>  001:0011---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00143>      CALIB NASHYD       01:EXT-9C         8.40     .038 No_date    3:20    2.71
00144>        [CN= 74.9: N= 3.00]
00145>        [Tp=  .47:DT= 1.00]
00146>  001:0012---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00147>      CALIB STANDHYD     03:9B            3.10     .073 No_date    3:00   11.75
00148>        [XIMP=.30:TIMP=.52]
00149>        [LOSS= 2 :CN= 79.0]
00150>        [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
00151>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
00152>  001:0013---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00153>      CALIB NASHYD       05:9E            2.10     .007 No_date    3:01    1.06
00154>        [CN= 54.1: N= 3.00]
00155>        [Tp=  .11:DT= 1.00]
00156>  001:0014---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00157>      ADD HYD            01:EXT-9C         8.40     .038 No_date    3:20    2.71
00158>                       + 03:9B            3.10     .073 No_date    3:00   11.75
00159>                       + 05:9E            2.10     .007 No_date    3:01    1.06
00160>        [DT= 1.00]  SUM=  06:SWMF1        13.60     .106 No_date    3:02    4.52
00161> #-----------------|-----------------------------------------------------------|
00162> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
00163> #-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00164> #-----------------|-----------------------------------------------------------|
00165>  001:0015---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00166>      ROUTE RESERVOIR -> 06:SWMF1        13.60     .106 No_date    3:02    4.52
00167>        [RDT= 1.00] out<- 01:SWMF-1      13.60     .010 No_date    6:11    4.51
00168>        (MxStoUsed=.4910E-01)
00169>  001:0016---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00170>      ADD HYD            01:SWMF-1        13.60     .010 No_date    6:11    4.51
00171>                       + 04:WC9a         119.70     .518 No_date    4:05    5.15
00172>        [DT= 1.00]  SUM=  07:WC9b         133.30     .527 No_date    4:05    5.08
00173> #-----------------|-----------------------------------------------------------|
00174> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
00175> #-----------------|-----------------------------------------------------------|
00176> #-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
00177> #-----------------|-----------------------------------------------------------|
00178>  001:0017---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00179>      CALIB STANDHYD     10:9P            1.75     .024 No_date    3:00    7.33
00180>        [XIMP=.18:TIMP=.48]
00181>        [LOSS= 2 :CN= 61.0]
00182>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00183>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
00184> #-----------------|-----------------------------------------------------------|
00185> #-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
00186> #-----------------|-----------------------------------------------------------|
00187>  001:0018---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00188>      CALIB NASHYD       01:9J             .81     .005 No_date    3:04    2.27
00189>        [CN= 68.7: N= 3.00]
00190>        [Tp=  .19:DT= 1.00]
00191>  001:0019---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00192>      CALIB NASHYD       02:9O             .35     .002 No_date    3:07    1.88
00193>        [CN= 65.0: N= 3.00]
00194>        [Tp=  .26:DT= 1.00]
00195>  001:0020---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00196>      CALIB NASHYD       03:9K9L          1.32     .002 No_date    3:13     .92
00197>        [CN= 50.4: N= 3.00]
00198>        [Tp=  .35:DT= 1.00]
00199>  001:0021---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00200>      ADD HYD            01:9J             .81     .005 No_date    3:04    2.27
00201>                       + 02:9O             .35     .002 No_date    3:07    1.88
00202>                       + 03:9K9L          1.32     .002 No_date    3:13     .92
00203>                       + 07:WC9b         133.30     .527 No_date    4:05    5.08
00204>        [DT= 1.00]  SUM=  05:WC9LOWER     135.78     .529 No_date    4:05    5.02
00205> #-----------------|-----------------------------------------------------------|
00206> #-----------------|-LANDS DRAINING TO SWM FACILITY 2---------------------------|
00207> #-----------------|-----------------------------------------------------------|
00208>  001:0022---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00209>      CALIB NASHYD       01:9G            1.16     .002 No_date    3:02     .45
00210>        [CN= 33.2: N= 3.00]
00211>        [Tp=  .14:DT= 1.00]
00212>  001:0023---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00213>      CALIB NASHYD       02:9H            1.67     .002 No_date    3:08     .51
00214>        [CN= 34.7: N= 3.00]
00215>        [Tp=  .27:DT= 1.00]
00216>  001:0024---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00217>      CALIB STANDHYD     03:9M            5.80     .105 No_date    3:01    9.60
00218>        [XIMP=.23:TIMP=.56]
00219>        [LOSS= 2 :CN= 69.0]
00220>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00221>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
00222>  001:0025---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00223>      CALIB STANDHYD     04:9N            1.85     .021 No_date    3:00    6.38
00224>        [XIMP=.19:TIMP=.27]
00225>        [LOSS= 2 :CN= 61.0]
00226>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00227>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
00228>  001:0026---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00229>      ADD HYD            01:9G            1.16     .002 No_date    3:02     .45
00230>                       + 02:9H            1.67     .002 No_date    3:08     .51
00231>                       + 03:9M            5.80     .105 No_date    3:01    9.60
00232>                       + 04:9N            1.85     .021 No_date    3:00    6.38
00233>        [DT= 1.00]  SUM=  06:SWMF2        10.48     .129 No_date    3:01    6.57
00234> #-----------------|-----------------------------------------------------------|
00235> #-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)---------|
00236> #-----------------|-----------------------------------------------------------|
00237>  001:0027---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00238>      ROUTE RESERVOIR -> 06:SWMF2        10.48     .129 No_date    3:01    6.57
00239>        [RDT= 1.00] out<- 09:SWMF-2      10.48     .009 No_date    6:06    6.57
00240>        (MxStoUsed=.5668E-01)
00241> #-----------------|-----------------------------------------------------------|
00242> #-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD------------------|
00243> #-----------------|-----------------------------------------------------------|
00244>  001:0028---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00245>      ADD HYD            09:SWMF-2        10.48     .009 No_date    6:06    6.57
00246>                       + 05:WC9LOWER     135.78     .529 No_date    4:05    5.02
00247>                       + 10:9P            1.75     .024 No_date    3:00    7.33
00248>        [DT= 1.00]  SUM=  01:WC9c         148.01     .544 No_date    4:04    5.15
00249>  001:0029---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00250>      SAVE HYD           01:WC9c          148.01     .544 No_date    4:04    5.15
00251>       fname :C:\PLAYGR~1\H-WC9c.001
00252>       remark:POST-DEV LAKESHORE
00253> #-----------------|-----------------------------------------------------------|
00254> #-----------------|--WATERCOURSE 8 CATCHMENTS----------------------------------|
00255> #-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------------|
00256> #-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
00257> #-----------------|-----------------------------------------------------------|
00258>  001:0030---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00259>      CALIB NASHYD       01:8i            2.23     .008 No_date    3:08    1.66
00260>        [CN= 63.5: N= 3.00]
00261>        [Tp=  .28:DT= 1.00]
00262>  001:0031---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00263>      CALIB NASHYD       02:EXT-8         7.60     .017 No_date    3:26    1.59
00264>        [CN= 63.0: N= 3.00]
00265>        [Tp=  .55:DT= 1.00]
00266> #-----------------|-----------------------------------------------------------|
00267> #-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
00268> #-----------------|-----------------------------------------------------------|
00269>  001:0032---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00270>      ADD HYD            01:8i            2.23     .008 No_date    3:08    1.66
```

```
                    +  02:EXT-8          7.60     .017 No_date    3:26    1.59
      [DT= 1.00]  SUM=  03:WC8           9.83     .024 No_date    3:17    1.60
  ** END OF RUN :   1


**********************************************************************************




 RUN:COMMAND#
 002:0001----------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  =   2 ]
#*********************************************************************************
#  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
#  Date        : 2018-01-24
#  Modeller    : [OD - UPDATED BY BD/BH]
#  Company     : C.F. Crozier & Associates Inc.
#  License #   : 3737016
#*********************************************************************************
#*********************************************************************************
 002:0002----------------------------------------------------------------------------
     READ STORM
      Filename = STORM.001
      Comment  =
      [SDT=60.00:SDUR=   6.00:PTOT=  37.90]
#-----------------|---------------------------------------------------------------|
#-----------------|-POST-DEVELOPMENT------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|-Subwatershed 9 External Drainage Area---------------------------|
#-----------------|-Per 'The Orchards' FSSWM Report---------------------------------|
#-----------------|-Prepared by Higgins Engineering (Jan. 2005)---------------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
#-----------------|---------------------------------------------------------------|
 002:0003----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9A       101.80    1.204 No_date    3:51   11.23
      [CN= 80.0: N= 3.00]
      [Tp= 1.00:DT= 1.00]
 002:0004----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE CHANNEL   -> 01:EXT-9A       101.80    1.204 No_date    3:51   11.23
      [RDT= 1.00] out<- 02:Channel      101.80    1.199 No_date    3:54   11.23
      [L/S/n=  550./2.000/.035]
      {Vmax= 1.227:Dmax=  .193}
 002:0005----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:EXT-9B        14.80     .438 No_date    3:01   15.55
      [XIMP=.35:TIMP=.35]
      [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
      [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 002:0006----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:EXT-9B        14.80     .438 No_date    3:01   15.55
      [RDT= 1.00] out<- 04:Orchards     14.80     .059 No_date    4:13   15.55
     {MxStoUsed=.1806E+00}
#-----------------|---------------------------------------------------------------|
#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
#-----------------|---------------------------------------------------------------|
 002:0007----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:Channel      101.80    1.199 No_date    3:54   11.23
                    +  04:Orchards      14.80     .059 No_date    4:13   15.55
      [DT= 1.00]  SUM=  05:RD19         116.60    1.257 No_date    3:54   11.78
 002:0008----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9D         .63     .011 No_date    3:04    6.39
      [CN= 73.0: N= 3.00]
      [Tp=  .20:DT= 1.00]
#-----------------|---------------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
#-----------------|---------------------------------------------------------------|
 002:0009----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9C9D           2.47     .021 No_date    3:03    3.10
      [CN= 49.6: N= 3.00]
      [Tp=  .18:DT= 1.00]
 002:0010----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT-9D         .63     .011 No_date    3:04    6.39
                    +  02:9C9D           2.47     .021 No_date    3:03    3.10
                    +  05:RD19         116.60    1.257 No_date    3:54   11.78
      [DT= 1.00]  SUM=  04:WC9a         119.70    1.264 No_date    3:54   11.57
#-----------------|---------------------------------------------------------------|
#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1------------------------|
#-----------------|---------------------------------------------------------------|
 002:0011----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9C         8.40     .112 No_date    3:17    7.59
      [CN= 74.9: N= 3.00]
      [Tp=  .47:DT= 1.00]
 002:0012----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:9B             3.10     .139 No_date    3:00   21.15
      [XIMP=.30:TIMP=.52]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
 002:0013----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       05:9E             2.10     .022 No_date    3:01    3.35
      [CN= 54.1: N= 3.00]
      [Tp=  .11:DT= 1.00]
 002:0014----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT-9C         8.40     .112 No_date    3:17    7.59
                    +  03:9B             3.10     .139 No_date    3:00   21.15
                    +  05:9E             2.10     .022 No_date    3:01    3.35
      [DT= 1.00]  SUM=  06:SWMF1        13.60     .246 No_date    3:02   10.03
#-----------------|---------------------------------------------------------------|
#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
#-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT--------------|
#-----------------|---------------------------------------------------------------|
 002:0015----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 06:SWMF1       13.60     .246 No_date    3:02   10.03
      [RDT= 1.00] out<- 01:SWMF-1       13.60     .016 No_date    6:16   10.03
     {MxStoUsed=.1153E+00}
 002:0016----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:SWMF-1         13.60     .016 No_date    6:16   10.03
                    +  04:WC9a         119.70    1.264 No_date    3:54   11.57
      [DT= 1.00]  SUM=  07:WC9b         133.30    1.278 No_date    3:54   11.41
#-----------------|---------------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
#-----------------|---------------------------------------------------------------|
#-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
#-----------------|---------------------------------------------------------------|
 002:0017----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     10:9P             1.75     .048 No_date    3:00   13.72
      [XIMP=.18:TIMP=.48]
      [LOSS= 2 :CN= 61.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
#-----------------|---------------------------------------------------------------|
#-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
#-----------------|---------------------------------------------------------------|
 002:0018----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9J              .81     .014 No_date    3:03    6.29
      [CN= 68.7: N= 3.00]
      [Tp=  .19:DT= 1.00]
 002:0019----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9O              .35     .005 No_date    3:06    5.36
      [CN= 65.0: N= 3.00]
      [Tp=  .26:DT= 1.00]
 002:0020----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       03:9K9L           1.32     .008 No_date    3:11    2.92
      [CN= 50.4: N= 3.00]
      [Tp=  .35:DT= 1.00]
 002:0021----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9J              .81     .014 No_date    3:03    6.29
                    +  02:9O              .35     .005 No_date    3:06    5.36
                    +  03:9K9L           1.32     .008 No_date    3:11    2.92
                    +  07:WC9b         133.30    1.278 No_date    3:54   11.41
      [DT= 1.00]  SUM=  05:WC9LOWER     135.78    1.285 No_date    3:54   11.28
#-----------------|---------------------------------------------------------------|
#-----------------|-LANDS DRAINING TO SWM FACILITY 2--------------------------|
#-----------------|---------------------------------------------------------------|
 002:0022----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9G             1.16     .005 No_date    3:02    1.48
      [CN= 33.2: N= 3.00]
      [Tp=  .14:DT= 1.00]
 002:0023----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9H             1.67     .006 No_date    3:07    1.64
      [CN= 34.7: N= 3.00]
      [Tp=  .27:DT= 1.00]
 002:0024----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:9M             5.80     .207 No_date    3:01   17.67
      [XIMP=.23:TIMP=.56]
      [LOSS= 2 :CN= 69.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
 002:0025----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     04:9N             1.85     .041 No_date    3:00   11.79
      [XIMP=.19:TIMP=.27]
      [LOSS= 2 :CN= 61.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
 002:0026----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9G             1.16     .005 No_date    3:02    1.48
                    +  02:9H             1.67     .006 No_date    3:07    1.64
                    +  03:9M             5.80     .207 No_date    3:01   17.67
                    +  04:9N             1.85     .041 No_date    3:00   11.79
      [DT= 1.00]  SUM=  06:SWMF2        10.48     .259 No_date    3:01   12.29
#-----------------|---------------------------------------------------------------|
#-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)----------|
#-----------------|---------------------------------------------------------------|
 002:0027----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 06:SWMF2       10.48     .259 No_date    3:01   12.29
      [RDT= 1.00] out<- 09:SWMF-2       10.48     .013 No_date    6:11   12.29
     {MxStoUsed=.1115E+00}
#-----------------|---------------------------------------------------------------|
#-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-----------------|
#-----------------|---------------------------------------------------------------|
 002:0028----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            09:SWMF-2         10.48     .013 No_date    6:11   12.29
                    +  05:WC9LOWER     135.78    1.285 No_date    3:54   11.28
                    +  10:9P             1.75     .048 No_date    3:00   13.72
      [DT= 1.00]  SUM=  01:WC9c         148.01    1.308 No_date    3:54   11.38
 002:0029----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     SAVE HYD           01:WC9c         148.01    1.308 No_date    3:54   11.38
      fname :C:\PLAYGR~1\H-WC9c.002
      remark:POST-DEV LAKESHORE
#-----------------|---------------------------------------------------------------|
#-----------------|--WATERCOURSE 8 CATCHMENTS---------------------------------|
#-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8--------------------|
#-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
#-----------------|---------------------------------------------------------------|
 002:0030----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:8i             2.23     .025 No_date    3:07    4.90
      [CN= 63.5: N= 3.00]
      [Tp=  .28:DT= 1.00]
 002:0031----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:EXT-8          7.60     .056 No_date    3:22    4.75
      [CN= 63.0: N= 3.00]
      [Tp=  .55:DT= 1.00]
#-----------------|---------------------------------------------------------------|
#-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
#-----------------|---------------------------------------------------------------|
 002:0032----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:8i             2.23     .025 No_date    3:07    4.90
                    +  02:EXT-8          7.60     .056 No_date    3:22    4.75
      [DT= 1.00]  SUM=  03:WC8           9.83     .076 No_date    3:15    4.78
  ** END OF RUN :   2


**********************************************************************************




 RUN:COMMAND#
 003:0001----------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  =   3 ]
#*********************************************************************************
#  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
#  Date        : 2018-01-24
#  Modeller    : [OD - UPDATED BY BD/BH]
#  Company     : C.F. Crozier & Associates Inc.
#  License #   : 3737016
#*********************************************************************************
#*********************************************************************************
 003:0002----------------------------------------------------------------------------
     READ STORM
      Filename = STORM.001
      Comment  =
      [SDT=60.00:SDUR=   6.00:PTOT=  52.70]
#-----------------|---------------------------------------------------------------|
#-----------------|-POST-DEVELOPMENT------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|---------------------------------------------------------------|
#-----------------|-Subwatershed 9 External Drainage Area---------------------------|
#-----------------|-Per 'The Orchards' FSSWM Report---------------------------------|
#-----------------|-Prepared by Higgins Engineering (Jan. 2005)---------------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
#-----------------|---------------------------------------------------------------|
 003:0003----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9A       101.80    2.176 No_date    3:49   20.46
      [CN= 80.0: N= 3.00]
      [Tp= 1.00:DT= 1.00]
 003:0004----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE CHANNEL   -> 01:EXT-9A       101.80    2.176 No_date    3:49   20.46
      [RDT= 1.00] out<- 02:Channel      101.80    2.167 No_date    3:53   20.46
      [L/S/n=  550./2.000/.035]
      {Vmax= 1.516:Dmax=  .269}
 003:0005----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:EXT-9B        14.80     .866 No_date    3:01   26.69
      [XIMP=.35:TIMP=.35]
      [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
      [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 003:0006----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:EXT-9B        14.80     .866 No_date    3:01   26.69
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00541>       [RDT= 1.00] out<- 04:Orchards      14.80     .226 No_date    3:36   26.69
00542>      (MxStoUsed=.2842E+00)
00543> #-----------------|-------------------------------------------------------------|
00544> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00545> #-----------------|-------------------------------------------------------------|
00546>  003:0007----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00547>      ADD HYD            02:Channel      101.80    2.167 No_date    3:53   20.46
00548>                       +  04:Orchards      14.80     .226 No_date    3:36   26.69
00549>       [DT= 1.00]  SUM=  05:RD19         116.60    2.384 No_date    3:51   21.25
00550>  003:0008----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00551>      CALIB NASHYD       01:EXT-9D          .63     .021 No_date    3:03   13.34
00552>       [CN= 73.0: N= 3.00]
00553>       [Tp=  .20:DT= 1.00]
00554> #-----------------|-------------------------------------------------------------|
00555> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
00556> #-----------------|-------------------------------------------------------------|
00557>  003:0009----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00558>      CALIB NASHYD       02:9C9D           2.47     .042 No_date    3:03    6.60
00559>       [CN= 49.6: N= 3.00]
00560>       [Tp=  .18:DT= 1.00]
00561>  003:0010----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00562>      ADD HYD            01:EXT-9D          .63     .021 No_date    3:03   13.34
00563>                       +  02:9C9D           2.47     .042 No_date    3:03    6.60
00564>                       +  05:RD19         116.60    2.384 No_date    3:51   21.25
00565>       [DT= 1.00]  SUM=  04:WC9a         119.70    2.398 No_date    3:51   20.91
00566> #-----------------|-------------------------------------------------------------|
00567> #--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00568> #--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-----------------------|
00569> #-----------------|-------------------------------------------------------------|
00570>  003:0011----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00571>      CALIB NASHYD       01:EXT-9C          8.40     .220 No_date    3:15   15.16
00572>       [CN= 74.9: N= 3.00]
00573>       [Tp=  .47:DT= 1.00]
00574>  003:0012----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00575>      CALIB STANDHYD     03:9B              3.10     .216 No_date    3:00   33.10
00576>       [XIMP=.30:TIMP=.52]
00577>       [LOSS= 2 :CN= 79.0]
00578>       [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
00579>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
00580>  003:0013----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00581>      CALIB NASHYD       05:9E              2.10     .044 No_date    3:01    7.27
00582>       [CN= 54.1: N= 3.00]
00583>       [Tp=  .11:DT= 1.00]
00584>  003:0014----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00585>      ADD HYD            01:EXT-9C          8.40     .220 No_date    3:15   15.16
00586>                       +  03:9B              3.10     .216 No_date    3:00   33.10
00587>                       +  05:9E              2.10     .044 No_date    3:01    7.27
00588>       [DT= 1.00]  SUM=  06:SWMF1          13.60     .438 No_date    3:01   18.03
00589> #-----------------|-------------------------------------------------------------|
00590> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
00591> #-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT--------------|
00592> #-----------------|-------------------------------------------------------------|
00593>  003:0015----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00594>      ROUTE RESERVOIR -> 06:SWMF1        13.60     .438 No_date    3:01   18.03
00595>       [RDT= 1.00] out<- 01:SWMF-1       13.60     .020 No_date    6:27   18.03
00596>      (MxStoUsed=.2162E+00)
00597>  003:0016----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00598>      ADD HYD            01:SWMF-1         13.60     .020 No_date    6:27   18.03
00599>                       +  04:WC9a         119.70    2.398 No_date    3:51   20.91
00600>       [DT= 1.00]  SUM=  07:WC9b         133.30    2.416 No_date    3:51   20.61
00601> #-----------------|-------------------------------------------------------------|
00602> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
00603> #-----------------|-------------------------------------------------------------|
00604> #-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
00605> #-----------------|-------------------------------------------------------------|
00606>  003:0017----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00607>      CALIB STANDHYD     10:9P              1.75     .080 No_date    3:00   22.40
00608>       [XIMP=.18:TIMP=.48]
00609>       [LOSS= 2 :CN= 61.0]
00610>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00611>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
00612> #-----------------|-------------------------------------------------------------|
00613> #-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
00614> #-----------------|-------------------------------------------------------------|
00615>  003:0018----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00616>      CALIB NASHYD       01:9J              .81     .026 No_date    3:03   12.65
00617>       [CN= 68.7: N= 3.00]
00618>       [Tp=  .19:DT= 1.00]
00619>  003:0019----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00620>      CALIB NASHYD       02:9O              .35     .009 No_date    3:05   11.01
00621>       [CN= 65.0: N= 3.00]
00622>       [Tp=  .26:DT= 1.00]
00623>  003:0020----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00624>      CALIB NASHYD       03:9K9L            1.32     .017 No_date    3:10    6.39
00625>       [CN= 50.4: N= 3.00]
00626>       [Tp=  .35:DT= 1.00]
00627>  003:0021----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00628>      ADD HYD            01:9J              .81     .026 No_date    3:03   12.65
00629>                       +  02:9O              .35     .009 No_date    3:05   11.01
00630>                       +  03:9K9L            1.32     .017 No_date    3:10    6.39
00631>                       +  07:WC9b         133.30    2.416 No_date    3:51   20.61
00632>       [DT= 1.00]  SUM=  05:WC9LOWER      135.78    2.430 No_date    3:51   20.40
00633> #-----------------|-------------------------------------------------------------|
00634> #-----------------|-LANDS DRAINING TO SWM FACILITY 2---------------------------|
00635> #-----------------|-------------------------------------------------------------|
00636>  003:0022----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00637>      CALIB NASHYD       01:9G              1.16     .011 No_date    3:02    3.35
00638>       [CN= 33.2: N= 3.00]
00639>       [Tp=  .14:DT= 1.00]
00640>  003:0023----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00641>      CALIB NASHYD       02:9H              1.67     .014 No_date    3:06    3.64
00642>       [CN= 34.7: N= 3.00]
00643>       [Tp=  .27:DT= 1.00]
00644>  003:0024----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00645>      CALIB STANDHYD     03:9M              5.80     .334 No_date    3:01   28.27
00646>       [XIMP=.23:TIMP=.56]
00647>       [LOSS= 2 :CN= 69.0]
00648>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00649>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
00650>  003:0025----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00651>      CALIB STANDHYD     04:9N              1.85     .069 No_date    3:00   19.23
00652>       [XIMP=.19:TIMP=.27]
00653>       [LOSS= 2 :CN= 61.0]
00654>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00655>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
00656>  003:0026----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00657>      ADD HYD            01:9G              1.16     .011 No_date    3:02    3.35
00658>                       +  02:9H              1.67     .014 No_date    3:06    3.64
00659>                       +  03:9M              5.80     .334 No_date    3:01   28.27
00660>                       +  04:9N              1.85     .069 No_date    3:00   19.23
00661>       [DT= 1.00]  SUM=  06:SWMF2          10.48     .426 No_date    3:00   19.99
00662> #-----------------|-------------------------------------------------------------|
00663> #-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)----------|
00664> #-----------------|-------------------------------------------------------------|
00665>  003:0027----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00666>      ROUTE RESERVOIR -> 06:SWMF2        10.48     .426 No_date    3:00   19.99
00667>       [RDT= 1.00] out<- 09:SWMF-2       10.48     .017 No_date    6:14   19.99
00668>      (MxStoUsed=.1868E+00)
00669> #-----------------|-------------------------------------------------------------|
00670> #-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD------------------|
00671> #-----------------|-------------------------------------------------------------|
00672>  003:0028----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00673>      ADD HYD            09:SWMF-2         10.48     .017 No_date    6:14   19.99
00674>                       +  05:WC9LOWER     135.78    2.430 No_date    3:51   20.40
00675>                       +  10:9P              1.75     .080 No_date    3:00   22.40
00676>       [DT= 1.00]  SUM=  01:WC9c          148.01    2.463 No_date    3:51   20.40
00677>  003:0029----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00678>      SAVE HYD           01:WC9c           148.01    2.463 No_date    3:51   20.40
00679>       fname :C:\PLAYGR~1\H-WC9c.003
00680>       remark:POST-DEV LAKESHORE
00681> #-----------------|-------------------------------------------------------------|
00682> #-----------------|--WATERCOURSE 8 CATCHMENTS----------------------------------|
00683> #-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------------|
00684> #-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
00685> #-----------------|-------------------------------------------------------------|
00686>  003:0030----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00687>      CALIB NASHYD       01:8i              2.23     .051 No_date    3:06   10.23
00688>       [CN= 63.5: N= 3.00]
00689>       [Tp=  .28:DT= 1.00]
00690>  003:0031----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00691>      CALIB NASHYD       02:EXT-8           7.60     .116 No_date    3:21    9.98
00692>       [CN= 63.0: N= 3.00]
00693>       [Tp=  .55:DT= 1.00]
00694> #-----------------|-------------------------------------------------------------|
00695> #-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i-------|
00696> #-----------------|-------------------------------------------------------------|
00697>  003:0032----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00698>      ADD HYD            01:8i              2.23     .051 No_date    3:06   10.23
00699>                       +  02:EXT-8           7.60     .116 No_date    3:21    9.98
00700>       [DT= 1.00]  SUM=  03:WC8             9.83     .158 No_date    3:14   10.04
00701>   ** END OF RUN :   3
00702>
00703> ********************************************************************************
00704>
00705>
00706>
00707>
00708>
00709>  RUN:COMMAND#
00710>  004:0001----------------------------------------------------------------------
00711>      START
00712>       [TZERO =    .00 hrs on        0]
00713>       [METOUT=   2    (1=imperial, 2=metric output)]
00714>       [NSTORM=   1 ]
00715>       [NRUN  =   4 ]
00716> #*******************************************************************************
00717> #  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
00718> #  Date        : 2018-01-24
00719> #  Modeller    : [OD - UPDATED BY BD/BH]
00720> #  Company     : C.F. Crozier & Associates Inc.
00721> #  License #   : 3737016
00722> #*******************************************************************************
00723> #*******************************************************************************
00724>  004:0002----------------------------------------------------------------------
00725>      READ STORM
00726>       Filename = STORM.001
00727>       Comment  =
00728>       [SDT=60.00:SDUR=   6.00:PTOT=  66.00]
00729> #-----------------|-------------------------------------------------------------|
00730> #-----------------|-POST-DEVELOPMENT-------------------------------------------|
00731> #-----------------|-------------------------------------------------------------|
00732> #-----------------|-------------------------------------------------------------|
00733> #-----------------|-Subwatershed 9 External Drainage Area----------------------|
00734> #-----------------|-Per 'The Orchards' FSSWM Report----------------------------|
00735> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
00736> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00737> #-----------------|-------------------------------------------------------------|
00738>  004:0003----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00739>      CALIB NASHYD       01:EXT-9A         101.80    3.221 No_date    3:47   29.89
00740>       [CN= 80.0: N= 3.00]
00741>       [Tp= 1.00:DT= 1.00]
00742>  004:0004----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00743>      ROUTE CHANNEL     -> 01:EXT-9A       101.80    3.221 No_date    3:47   29.89
00744>       [RDT= 1.00] out<- 02:Channel       101.80    3.210 No_date    3:51   29.89
00745>       [L/S/n=   550./2.000/.035]
00746>       (Vmax= 1.755:Dmax=  .337)
00747>  004:0005----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00748>      CALIB STANDHYD     03:EXT-9B          14.80    1.268 No_date    3:01   37.69
00749>       [XIMP=.35:TIMP=.35]
00750>       [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00751>       [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00752>       [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00753>  004:0006----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00754>      ROUTE RESERVOIR -> 03:EXT-9B       14.80    1.268 No_date    3:01   37.69
00755>       [RDT= 1.00] out<- 04:Orchards      14.80     .515 No_date    3:22   37.69
00756>      (MxStoUsed=.3704E+00)
00757> #-----------------|-------------------------------------------------------------|
00758> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00759> #-----------------|-------------------------------------------------------------|
00760>  004:0007----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00761>      ADD HYD            02:Channel      101.80    3.210 No_date    3:51   29.89
00762>                       +  04:Orchards      14.80     .515 No_date    3:22   37.69
00763>       [DT= 1.00]  SUM=  05:RD19         116.60    3.624 No_date    3:48   30.88
00764>  004:0008----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00765>      CALIB NASHYD       01:EXT-9D          .63     .033 No_date    3:03   20.91
00766>       [CN= 73.0: N= 3.00]
00767>       [Tp=  .20:DT= 1.00]
00768> #-----------------|-------------------------------------------------------------|
00769> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands----------------|
00770> #-----------------|-------------------------------------------------------------|
00771>  004:0009----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00772>      CALIB NASHYD       02:9C9D           2.47     .067 No_date    3:02   10.64
00773>       [CN= 49.6: N= 3.00]
00774>       [Tp=  .18:DT= 1.00]
00775>  004:0010----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00776>      ADD HYD            01:EXT-9D          .63     .033 No_date    3:03   20.91
00777>                       +  02:9C9D           2.47     .067 No_date    3:02   10.64
00778>                       +  05:RD19         116.60    3.624 No_date    3:48   30.88
00779>       [DT= 1.00]  SUM=  04:WC9a          119.70    3.644 No_date    3:48   30.41
00780> #-----------------|-------------------------------------------------------------|
00781> #--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00782> #--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-----------------------|
00783> #-----------------|-------------------------------------------------------------|
00784>  004:0011----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00785>      CALIB NASHYD       01:EXT-9C          8.40     .342 No_date    3:14   23.25
00786>       [CN= 74.9: N= 3.00]
00787>       [Tp=  .47:DT= 1.00]
00788>  004:0012----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00789>      CALIB STANDHYD     03:9B              3.10     .293 No_date    3:00   44.51
00790>       [XIMP=.30:TIMP=.52]
00791>       [LOSS= 2 :CN= 79.0]
00792>       [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
00793>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
00794>  004:0013----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00795>      CALIB NASHYD       05:9E              2.10     .069 No_date    3:01   11.80
00796>       [CN= 54.1: N= 3.00]
00797>       [Tp=  .11:DT= 1.00]
00798>  004:0014----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00799>      ADD HYD            01:EXT-9C          8.40     .342 No_date    3:14   23.25
00800>                       +  03:9B              3.10     .293 No_date    3:00   44.51
00801>                       +  05:9E              2.10     .069 No_date    3:01   11.80
00802>       [DT= 1.00]  SUM=  06:SWMF1          13.60     .648 No_date    3:01   26.33
00803> #-----------------|-------------------------------------------------------------|
00804> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
00805> #-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT--------------|
00806> #-----------------|-------------------------------------------------------------|
00807>  004:0015----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00808>      ROUTE RESERVOIR -> 06:SWMF1        13.60     .648 No_date    3:01   26.33
00809>       [RDT= 1.00] out<- 01:SWMF-1       13.60     .025 No_date    6:31   26.32
00810>      (MxStoUsed=.3223E+00)
```

```
00811>  004:0016----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00812>      ADD HYD            01:SWMF-1        13.60     .025 No_date    6:31   26.32
00813>                       +  04:WC9a         119.70    3.644 No_date    3:48   30.41
00814>       [DT= 1.00]  SUM=  07:WC9b          133.30    3.666 No_date    3:48   29.99
00815> #-----------------|-------------------------------------------------------------|
00816> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
00817> #-----------------|-------------------------------------------------------------|
00818> #-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
00819> #-----------------|-------------------------------------------------------------|
00820>  004:0017----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00821>      CALIB STANDHYD     10:9P              1.75     .115 No_date    3:00   31.14
00822>       [XIMP=.18:TIMP=.48]
00823>       [LOSS= 2 :CN= 61.0]
00824>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00825>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
00826> #-----------------|-------------------------------------------------------------|
00827> #-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
00828> #-----------------|-------------------------------------------------------------|
00829>  004:0018----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00830>      CALIB NASHYD       01:9J               .81     .039 No_date    3:02   19.59
00831>       [CN= 68.7: N= 3.00]
00832>       [Tp=  .19:DT= 1.00]
00833>  004:0019----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00834>      CALIB NASHYD       02:9O               .35     .014 No_date    3:05   17.27
00835>       [CN= 65.0: N= 3.00]
00836>       [Tp=  .26:DT= 1.00]
00837>  004:0020----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00838>      CALIB NASHYD       03:9K9L            1.32     .028 No_date    3:09   10.45
00839>       [CN= 50.4: N= 3.00]
00840>       [Tp=  .35:DT= 1.00]
00841>  004:0021----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00842>      ADD HYD            01:9J               .81     .039 No_date    3:02   19.59
00843>                       +  02:9O               .35     .014 No_date    3:05   17.27
00844>                       +  03:9K9L            1.32     .028 No_date    3:09   10.45
00845>                       +  07:WC9b          133.30    3.666 No_date    3:48   29.99
00846>       [DT= 1.00]  SUM=  05:WC9LOWER       135.78    3.689 No_date    3:46   29.71
00847> #-----------------|-------------------------------------------------------------|
00848> #-----------------|-LANDS DRAINING TO SWM FACILITY 2---------------------------|
00849> #-----------------|-------------------------------------------------------------|
00850>  004:0022----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00851>      CALIB NASHYD       01:9G              1.16     .018 No_date    3:02    5.61
00852>       [CN= 33.2: N= 3.00]
00853>       [Tp=  .14:DT= 1.00]
00854>  004:0023----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00855>      CALIB NASHYD       02:9H              1.67     .023 No_date    3:06    6.05
00856>       [CN= 34.7: N= 3.00]
00857>       [Tp=  .27:DT= 1.00]
00858>  004:0024----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00859>      CALIB STANDHYD     03:9M              5.80     .469 No_date    3:00   38.62
00860>       [XIMP=.23:TIMP=.56]
00861>       [LOSS= 2 :CN= 69.0]
00862>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00863>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
00864>  004:0025----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00865>      CALIB STANDHYD     04:9N              1.85     .100 No_date    3:00   26.80
00866>       [XIMP=.19:TIMP=.27]
00867>       [LOSS= 2 :CN= 61.0]
00868>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00869>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
00870>  004:0026----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00871>      ADD HYD            01:9G              1.16     .018 No_date    3:02    5.61
00872>                       +  02:9H              1.67     .023 No_date    3:06    6.05
00873>                       +  03:9M              5.80     .469 No_date    3:00   38.62
00874>                       +  04:9N              1.85     .100 No_date    3:00   26.80
00875>       [DT= 1.00]  SUM=  06:SWMF2           10.48     .607 No_date    3:00   27.69
00876> #-----------------|-------------------------------------------------------------|
00877> #-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)----------|
00878> #-----------------|-------------------------------------------------------------|
00879>  004:0027----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00880>      ROUTE RESERVOIR -> 06:SWMF2          10.48     .607 No_date    3:00   27.69
00881>       [RDT= 1.00] out<- 09:SWMF-2         10.48     .079 No_date    4:18   27.69
00882>      (MxStoUsed=.2338E+00)
00883> #-----------------|-------------------------------------------------------------|
00884> #-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD------------------|
00885> #-----------------|-------------------------------------------------------------|
00886>  004:0028----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00887>      ADD HYD            09:SWMF-2         10.48     .079 No_date    4:18   27.69
00888>                       +  05:WC9LOWER      135.78    3.689 No_date    3:46   29.71
00889>                       +  10:9P            1.75      .115 No_date    3:00   31.14
00890>       [DT= 1.00]  SUM=  01:WC9c           148.01    3.731 No_date    3:46   29.58
00891>  004:0029----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00892>      SAVE HYD           01:WC9c           148.01    3.731 No_date    3:46   29.58
00893>       fname :C:\PLAYGR~1\H-WC9c.004
00894>       remark:POST-DEV LAKESHORE
00895> #-----------------|-------------------------------------------------------------|
00896> #-----------------|--WATERCOURSE 8 CATCHMENTS----------------------------------|
00897> #-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------------|
00898> #-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
00899> #-----------------|-------------------------------------------------------------|
00900>  004:0030----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00901>      CALIB NASHYD       01:8i              2.23     .081 No_date    3:06   16.20
00902>       [CN= 63.5: N= 3.00]
00903>       [Tp=  .28:DT= 1.00]
00904>  004:0031----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00905>      CALIB NASHYD       02:EXT-8           7.60     .188 No_date    3:20   15.85
00906>       [CN= 63.0: N= 3.00]
00907>       [Tp=  .55:DT= 1.00]
00908> #-----------------|-------------------------------------------------------------|
00909> #-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i-------|
00910> #-----------------|-------------------------------------------------------------|
00911>  004:0032----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00912>      ADD HYD            01:8i              2.23     .081 No_date    3:06   16.20
00913>                       +  02:EXT-8           7.60     .188 No_date    3:20   15.85
00914>       [DT= 1.00]  SUM=  03:WC8             9.83     .256 No_date    3:13   15.93
00915>   ** END OF RUN :   4
00916>
00917> ****************************************************************************
00918>
00919>
00920>
00921>
00922>
00923>  RUN:COMMAND#
00924>  005:0001----------------------------------------------------------------------
00925>      START
00926>       [TZERO =    .00 hrs on        0]
00927>       [METOUT=   2     (1=imperial, 2=metric output)]
00928>       [NSTORM=   1 ]
00929>       [NRUN  =   5 ]
00930> ****************************************************************************
00931> #  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
00932> #  Date        : 2018-01-24
00933> #  Modeller    : [OD - UPDATED BY BD/BH]
00934> #  Company     : C.F. Crozier & Associates Inc.
00935> #  License #   : 3737016
00936> ****************************************************************************
00937> ****************************************************************************
00938>  005:0002----------------------------------------------------------------------
00939>      READ STORM
00940>       Filename = STORM.001
00941>       Comment  =
00942>       [SDT=60.00:SDUR=   6.00:PTOT=  77.90]
00943> #-----------------|-------------------------------------------------------------|
00944> #-----------------|-POST-DEVELOPMENT-------------------------------------------|
00945> #-----------------|-------------------------------------------------------------|
00946> #-----------------|-------------------------------------------------------------|
00947> #-----------------|-Subwatershed 9 External Drainage Area----------------------|
00948> #-----------------|-Per 'The Orchards' FSSWM Report----------------------------|
00949> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
00950> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00951> #-----------------|-------------------------------------------------------------|
00952>  005:0003----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00953>      CALIB NASHYD       01:EXT-9A        101.80    4.153 No_date    3:46   38.96
00954>       [CN= 80.0: N= 3.00]
00955>       [Tp= 1.00:DT= 1.00]
00956>  005:0004----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00957>      ROUTE CHANNEL   -> 01:EXT-9A        101.80    4.153 No_date    3:46   38.96
00958>       [RDT= 1.00] out<- 02:Channel       101.80    4.142 No_date    3:50   38.96
00959>       [L/S/n=  550./2.000/.035]
00960>       {Vmax= 1.897:Dmax=  .386}
00961>  005:0005----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00962>      CALIB STANDHYD     03:EXT-9B         14.80    1.607 No_date    3:00   47.92
00963>       [XIMP=.35:TIMP=.35]
00964>       [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00965>       [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00966>       [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00967>  005:0006----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00968>      ROUTE RESERVOIR -> 03:EXT-9B         14.80    1.607 No_date    3:00   47.92
00969>       [RDT= 1.00] out<- 04:Orchards      14.80     .796 No_date    3:17   47.91
00970>      {MxStoUsed=.4411E+00}
00971> #-----------------|-------------------------------------------------------------|
00972> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing----------|
00973> #-----------------|-------------------------------------------------------------|
00974>  005:0007----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00975>      ADD HYD            02:Channel       101.80    4.142 No_date    3:50   38.96
00976>                       +  04:Orchards      14.80     .796 No_date    3:17   47.91
00977>       [DT= 1.00]  SUM=  05:RD19           116.60    4.727 No_date    3:46   40.10
00978>  005:0008----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00979>      CALIB NASHYD       01:EXT-9D           .63     .043 No_date    3:03   28.49
00980>       [CN= 73.0: N= 3.00]
00981>       [Tp=  .20:DT= 1.00]
00982> #-----------------|-------------------------------------------------------------|
00983> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands----------------|
00984> #-----------------|-------------------------------------------------------------|
00985>  005:0009----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00986>      CALIB NASHYD       02:9C9D            2.47     .090 No_date    3:02   14.90
00987>       [CN= 49.6: N= 3.00]
00988>       [Tp=  .18:DT= 1.00]
00989>  005:0010----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00990>      ADD HYD            01:EXT-9D           .63     .043 No_date    3:03   28.49
00991>                       +  02:9C9D            2.47     .090 No_date    3:02   14.90
00992>                       +  05:RD19          116.60    4.727 No_date    3:46   40.10
00993>       [DT= 1.00]  SUM=  04:WC9a           119.70    4.756 No_date    3:42   39.52
00994> #-----------------|-------------------------------------------------------------|
00995> #--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT----------------|
00996> #--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-----------------------|
00997> #-----------------|-------------------------------------------------------------|
00998>  005:0011----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00999>      CALIB NASHYD       01:EXT-9C          8.40     .451 No_date    3:14   31.24
01000>       [CN= 74.9: N= 3.00]
01001>       [Tp=  .47:DT= 1.00]
01002>  005:0012----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01003>      CALIB STANDHYD     03:9B              3.10     .354 No_date    3:00   55.07
01004>       [XIMP=.30:TIMP=.52]
01005>       [LOSS= 2 :CN= 79.0]
01006>       [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
01007>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
01008>  005:0013----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01009>      CALIB NASHYD       05:9E              2.10     .093 No_date    3:01   16.56
01010>       [CN= 54.1: N= 3.00]
01011>       [Tp=  .11:DT= 1.00]
01012>  005:0014----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01013>      ADD HYD            01:EXT-9C          8.40     .451 No_date    3:14   31.24
01014>                       +  03:9B              3.10     .354 No_date    3:00   55.07
01015>                       +  05:9E              2.10     .093 No_date    3:01   16.56
01016>       [DT= 1.00]  SUM=  06:SWMF1           13.60     .832 No_date    3:01   34.40
01017> #-----------------|-------------------------------------------------------------|
01018> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE--------|
01019> #-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
01020> #-----------------|-------------------------------------------------------------|
01021>  005:0015----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01022>      ROUTE RESERVOIR -> 06:SWMF1          13.60     .832 No_date    3:01   34.40
01023>       [RDT= 1.00] out<- 01:SWMF-1         13.60     .028 No_date    6:36   34.40
01024>      {MxStoUsed=.4269E+00}
01025>  005:0016----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01026>      ADD HYD            01:SWMF-1         13.60     .028 No_date    6:36   34.40
01027>                       +  04:WC9a          119.70    4.756 No_date    3:42   39.52
01028>       [DT= 1.00]  SUM=  07:WC9b           133.30    4.780 No_date    3:42   39.00
01029> #-----------------|-------------------------------------------------------------|
01030> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
01031> #-----------------|-------------------------------------------------------------|
01032> #-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
01033> #-----------------|-------------------------------------------------------------|
01034>  005:0017----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01035>      CALIB STANDHYD     10:9P              1.75     .145 No_date    3:00   39.53
01036>       [XIMP=.18:TIMP=.48]
01037>       [LOSS= 2 :CN= 61.0]
01038>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01039>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
01040> #-----------------|-------------------------------------------------------------|
01041> #-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
01042> #-----------------|-------------------------------------------------------------|
01043>  005:0018----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01044>      CALIB NASHYD       01:9J               .81     .052 No_date    3:02   26.57
01045>       [CN= 68.7: N= 3.00]
01046>       [Tp=  .19:DT= 1.00]
01047>  005:0019----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01048>      CALIB NASHYD       02:9O               .35     .018 No_date    3:05   23.64
01049>       [CN= 65.0: N= 3.00]
01050>       [Tp=  .26:DT= 1.00]
01051>  005:0020----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01052>      CALIB NASHYD       03:9K9L            1.32     .038 No_date    3:09   14.73
01053>       [CN= 50.4: N= 3.00]
01054>       [Tp=  .35:DT= 1.00]
01055>  005:0021----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01056>      ADD HYD            01:9J               .81     .052 No_date    3:02   26.57
01057>                       +  02:9O               .35     .018 No_date    3:05   23.64
01058>                       +  03:9K9L            1.32     .038 No_date    3:09   14.73
01059>                       +  07:WC9b          133.30    4.780 No_date    3:42   39.00
01060>       [DT= 1.00]  SUM=  05:WC9LOWER       135.78    4.815 No_date    3:42   38.65
01061> #-----------------|-------------------------------------------------------------|
01062> #-----------------|-LANDS DRAINING TO SWM FACILITY 2---------------------------|
01063> #-----------------|-------------------------------------------------------------|
01064>  005:0022----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01065>      CALIB NASHYD       01:9G              1.16     .024 No_date    3:02    8.05
01066>       [CN= 33.2: N= 3.00]
01067>       [Tp=  .14:DT= 1.00]
01068>  005:0023----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01069>      CALIB NASHYD       02:9H              1.67     .031 No_date    3:06    8.66
01070>       [CN= 34.7: N= 3.00]
01071>       [Tp=  .27:DT= 1.00]
01072>  005:0024----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01073>      CALIB STANDHYD     03:9M              5.80     .579 No_date    3:00   48.36
01074>       [XIMP=.23:TIMP=.56]
01075>       [LOSS= 2 :CN= 69.0]
01076>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01077>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
01078>  005:0025----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01079>      CALIB STANDHYD     04:9N              1.85     .127 No_date    3:00   34.16
01080>       [XIMP=.19:TIMP=.27]
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01081>       [LOSS= 2 :CN= 61.0]
01082>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01083>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
01084>  005:0026----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01085>      ADD HYD             01:9G            1.16     .024 No_date    3:02    8.05
01086>                        +  02:9H            1.67     .031 No_date    3:06    8.66
01087>                        +  03:9M            5.80     .579 No_date    3:00   48.36
01088>                        +  04:9N            1.85     .127 No_date    3:00   34.16
01089>       [DT= 1.00]  SUM=  06:SWMF2         10.48     .759 No_date    3:00   35.06
01090> #-----------------|-------------------------------------------------------|
01091> #-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)-----|
01092> #-----------------|-------------------------------------------------------|
01093>  005:0027----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01094>      ROUTE RESERVOIR -> 06:SWMF2         10.48     .759 No_date    3:00   35.06
01095>       [RDT= 1.00] out<- 09:SWMF-2        10.48     .221 No_date    3:29   35.06
01096>      {MxStoUsed=.2473E+00}
01097> #-----------------|-------------------------------------------------------|
01098> #-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-------------|
01099> #-----------------|-------------------------------------------------------|
01100>  005:0028----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01101>      ADD HYD             09:SWMF-2        10.48     .221 No_date    3:29   35.06
01102>                        +  05:WC9LOWER     135.78    4.815 No_date    3:42   38.65
01103>                        +  10:9P            1.75     .145 No_date    3:00   39.53
01104>       [DT= 1.00]  SUM=  01:WC9c          148.01    5.049 No_date    3:42   38.40
01105>  005:0029----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01106>      SAVE HYD            01:WC9c          148.01    5.049 No_date    3:42   38.40
01107>       fname :C:\PLAYGR~1\H-WC9c.005
01108>       remark:POST-DEV LAKESHORE
01109> #-----------------|-------------------------------------------------------|
01110> #-----------------|--WATERCOURSE 8 CATCHMENTS-----------------------------|
01111> #-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8-----------------|
01112> #-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-------------|
01113> #-----------------|-------------------------------------------------------|
01114>  005:0030----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01115>      CALIB NASHYD        01:8i            2.23     .108 No_date    3:05   22.31
01116>       [CN= 63.5: N= 3.00]
01117>       [Tp=  .28:DT= 1.00]
01118>  005:0031----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01119>      CALIB NASHYD        02:EXT-8         7.60     .255 No_date    3:19   21.88
01120>       [CN= 63.0: N= 3.00]
01121>       [Tp=  .55:DT= 1.00]
01122> #-----------------|-------------------------------------------------------|
01123> #-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i--|
01124> #-----------------|-------------------------------------------------------|
01125>  005:0032----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01126>      ADD HYD             01:8i            2.23     .108 No_date    3:05   22.31
01127>                        +  02:EXT-8         7.60     .255 No_date    3:19   21.88
01128>       [DT= 1.00]  SUM=  03:WC8           9.83     .346 No_date    3:12   21.97
01129>    ** END OF RUN :   5
01130>
01131> ********************************************************************************
01132>
01133>
01134>
01135>
01136>
01137>  RUN:COMMAND#
01138>  006:0001----------------------------------------------------------------------
01139>       START
01140>       [TZERO =    .00 hrs on        0]
01141>       [METOUT=   2    (1=imperial, 2=metric output)]
01142>       [NSTORM=   1 ]
01143>       [NRUN  =   6 ]
01144> #*******************************************************************************
01145> #  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
01146> #  Date        : 2018-01-24
01147> #  Modeller    : [OD - UPDATED BY BD/BH]
01148> #  Company     : C.F. Crozier & Associates Inc.
01149> #  License #   : 3737016
01150> #*******************************************************************************
01151> #*******************************************************************************
01152>  006:0002----------------------------------------------------------------------
01153>      READ STORM
01154>       Filename = STORM.001
01155>       Comment  =
01156>       [SDT=60.00:SDUR=   6.00:PTOT=  83.90]
01157> #-----------------|-------------------------------------------------------|
01158> #-----------------|-POST-DEVELOPMENT---------------------------------------|
01159> #-----------------|-------------------------------------------------------|
01160> #-----------------|-------------------------------------------------------|
01161> #-----------------|-Subwatershed 9 External Drainage Area------------------|
01162> #-----------------|-Per 'The Orchards' FSSWM Report------------------------|
01163> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)------------|
01164> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
01165> #-----------------|-------------------------------------------------------|
01166>  006:0003----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01167>      CALIB NASHYD        01:EXT-9A       101.80    4.646 No_date    3:46   43.72
01168>       [CN= 80.0: N= 3.00]
01169>       [Tp= 1.00:DT= 1.00]
01170>  006:0004----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01171>      ROUTE CHANNEL   -> 01:EXT-9A       101.80    4.646 No_date    3:46   43.72
01172>       [RDT= 1.00] out<- 02:Channel      101.80    4.637 No_date    3:49   43.72
01173>       [L/S/n=  550./2.000/.035]
01174>       {Vmax= 1.982:Dmax=  .412}
01175>  006:0005----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01176>      CALIB STANDHYD      03:EXT-9B        14.80    1.769 No_date    3:00   52.72
01177>       [XIMP=.35:TIMP=.35]
01178>       [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
01179>       [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01180>       [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
01181>  006:0006----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01182>      ROUTE RESERVOIR -> 03:EXT-9B        14.80    1.769 No_date    3:00   52.72
01183>       [RDT= 1.00] out<- 04:Orchards     14.80     .927 No_date    3:16   52.72
01184>      {MxStoUsed=.4726E+00}
01185> #-----------------|-------------------------------------------------------|
01186> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing------|
01187> #-----------------|-------------------------------------------------------|
01188>  006:0007----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01189>      ADD HYD             02:Channel      101.80    4.637 No_date    3:49   43.72
01190>                        +  04:Orchards     14.80     .927 No_date    3:16   52.72
01191>       [DT= 1.00]  SUM=  05:RD19          116.60    5.304 No_date    3:41   44.86
01192>  006:0008----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01193>      CALIB NASHYD        01:EXT-9D         .63     .049 No_date    3:02   32.54
01194>       [CN= 73.0: N= 3.00]
01195>       [Tp=  .20:DT= 1.00]
01196> #-----------------|-------------------------------------------------------|
01197> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands------------|
01198> #-----------------|-------------------------------------------------------|
01199>  006:0009----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01200>      CALIB NASHYD        02:9C9D          2.47     .103 No_date    3:02   17.25
01201>       [CN= 49.6: N= 3.00]
01202>       [Tp=  .18:DT= 1.00]
01203>  006:0010----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01204>      ADD HYD             01:EXT-9D         .63     .049 No_date    3:02   32.54
01205>                        +  02:9C9D          2.47     .103 No_date    3:02   17.25
01206>                        +  05:RD19          116.60    5.304 No_date    3:41   44.86
01207>       [DT= 1.00]  SUM=  04:WC9a          119.70    5.338 No_date    3:41   44.22
01208> #-----------------|-------------------------------------------------------|
01209> #--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT-------------|
01210> #--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1----------------------|
01211> #-----------------|-------------------------------------------------------|
01212>  006:0011----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01213>      CALIB NASHYD        01:EXT-9C         8.40     .510 No_date    3:13   35.49
01214>       [CN= 74.9: N= 3.00]
01215>       [Tp=  .47:DT= 1.00]
01216>  006:0012----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01217>      CALIB STANDHYD      03:9B            3.10     .387 No_date    3:00   60.49
01218>       [XIMP=.30:TIMP=.52]
01219>       [LOSS= 2 :CN= 79.0]
01220>       [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
01221>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
01222>  006:0013----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01223>      CALIB NASHYD        05:9E            2.10     .106 No_date    3:01   19.17
01224>       [CN= 54.1: N= 3.00]
01225>       [Tp=  .11:DT= 1.00]
01226>  006:0014----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01227>      ADD HYD             01:EXT-9C         8.40     .510 No_date    3:13   35.49
01228>                        +  03:9B            3.10     .387 No_date    3:00   60.49
01229>                        +  05:9E            2.10     .106 No_date    3:01   19.17
01230>       [DT= 1.00]  SUM=  06:SWMF1         13.60     .928 No_date    3:01   38.67
01231> #-----------------|-------------------------------------------------------|
01232> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE----|
01233> #-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT-----------|
01234> #-----------------|-------------------------------------------------------|
01235>  006:0015----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01236>      ROUTE RESERVOIR -> 06:SWMF1         13.60     .928 No_date    3:01   38.67
01237>       [RDT= 1.00] out<- 01:SWMF-1        13.60     .029 No_date    6:39   38.67
01238>      {MxStoUsed=.4823E+00}
01239>  006:0016----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01240>      ADD HYD             01:SWMF-1        13.60     .029 No_date    6:39   38.67
01241>                        +  04:WC9a         119.70    5.338 No_date    3:41   44.22
01242>       [DT= 1.00]  SUM=  07:WC9b          133.30    5.363 No_date    3:41   43.66
01243> #-----------------|-------------------------------------------------------|
01244> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands------------|
01245> #-----------------|-------------------------------------------------------|
01246> #-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9--------------|
01247> #-----------------|-------------------------------------------------------|
01248>  006:0017----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01249>      CALIB STANDHYD      10:9P            1.75     .161 No_date    3:00   43.93
01250>       [XIMP=.18:TIMP=.48]
01251>       [LOSS= 2 :CN= 61.0]
01252>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01253>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
01254> #-----------------|-------------------------------------------------------|
01255> #-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED --------------------|
01256> #-----------------|-------------------------------------------------------|
01257>  006:0018----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01258>      CALIB NASHYD        01:9J             .81     .058 No_date    3:02   30.32
01259>       [CN= 68.7: N= 3.00]
01260>       [Tp=  .19:DT= 1.00]
01261>  006:0019----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01262>      CALIB NASHYD        02:9O             .35     .021 No_date    3:04   27.09
01263>       [CN= 65.0: N= 3.00]
01264>       [Tp=  .26:DT= 1.00]
01265>  006:0020----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01266>      CALIB NASHYD        03:9K9L          1.32     .044 No_date    3:09   17.11
01267>       [CN= 50.4: N= 3.00]
01268>       [Tp=  .35:DT= 1.00]
01269>  006:0021----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01270>      ADD HYD             01:9J             .81     .058 No_date    3:02   30.32
01271>                        +  02:9O             .35     .021 No_date    3:04   27.09
01272>                        +  03:9K9L          1.32     .044 No_date    3:09   17.11
01273>                        +  07:WC9b        133.30    5.363 No_date    3:41   43.66
01274>       [DT= 1.00]  SUM=  05:WC9LOWER     135.78    5.403 No_date    3:41   43.28
01275> #-----------------|-------------------------------------------------------|
01276> #-----------------|-LANDS DRAINING TO SWM FACILITY 2-----------------------|
01277> #-----------------|-------------------------------------------------------|
01278>  006:0022----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01279>      CALIB NASHYD        01:9G            1.16     .028 No_date    3:01    9.43
01280>       [CN= 33.2: N= 3.00]
01281>       [Tp=  .14:DT= 1.00]
01282>  006:0023----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01283>      CALIB NASHYD        02:9H            1.67     .036 No_date    3:06   10.12
01284>       [CN= 34.7: N= 3.00]
01285>       [Tp=  .27:DT= 1.00]
01286>  006:0024----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01287>      CALIB STANDHYD      03:9M            5.80     .636 No_date    3:00   53.40
01288>       [XIMP=.23:TIMP=.56]
01289>       [LOSS= 2 :CN= 69.0]
01290>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01291>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
01292>  006:0025----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01293>      CALIB STANDHYD      04:9N            1.85     .143 No_date    3:00   38.05
01294>       [XIMP=.19:TIMP=.27]
01295>       [LOSS= 2 :CN= 61.0]
01296>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01297>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
01298>  006:0026----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01299>      ADD HYD             01:9G            1.16     .028 No_date    3:01    9.43
01300>                        +  02:9H            1.67     .036 No_date    3:06   10.12
01301>                        +  03:9M            5.80     .636 No_date    3:00   53.40
01302>                        +  04:9N            1.85     .143 No_date    3:00   38.05
01303>       [DT= 1.00]  SUM=  06:SWMF2         10.48     .841 No_date    3:00   38.93
01304> #-----------------|-------------------------------------------------------|
01305> #-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)------|
01306> #-----------------|-------------------------------------------------------|
01307>  006:0027----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01308>      ROUTE RESERVOIR -> 07:SWMF2         10.48     .841 No_date    3:00   38.93
01309>       [RDT= 1.00] out<- 09:SWMF-2        10.48     .330 No_date    3:20   38.93
01310>      {MxStoUsed=.2577E+00}
01311> #-----------------|-------------------------------------------------------|
01312> #-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD--------------|
01313> #-----------------|-------------------------------------------------------|
01314>  006:0028----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01315>      ADD HYD             09:SWMF-2        10.48     .330 No_date    3:20   38.93
01316>                        +  05:WC9LOWER     135.78    5.403 No_date    3:41   43.28
01317>                        +  10:9P            1.75     .161 No_date    3:00   43.93
01318>       [DT= 1.00]  SUM=  01:WC9c          148.01    5.690 No_date    3:41   42.98
01319>  006:0029----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01320>      SAVE HYD            01:WC9c          148.01    5.690 No_date    3:41   42.98
01321>       fname :C:\PLAYGR~1\H-WC9c.006
01322>       remark:POST-DEV LAKESHORE
01323> #-----------------|-------------------------------------------------------|
01324> #-----------------|--WATERCOURSE 8 CATCHMENTS-----------------------------|
01325> #-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8-----------------|
01326> #-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-------------|
01327> #-----------------|-------------------------------------------------------|
01328>  006:0030----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01329>      CALIB NASHYD        01:8i            2.23     .122 No_date    3:05   25.62
01330>       [CN= 63.5: N= 3.00]
01331>       [Tp=  .28:DT= 1.00]
01332>  006:0031----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01333>      CALIB NASHYD        02:EXT-8         7.60     .292 No_date    3:19   25.15
01334>       [CN= 63.0: N= 3.00]
01335>       [Tp=  .55:DT= 1.00]
01336> #-----------------|-------------------------------------------------------|
01337> #-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
01338> #-----------------|-------------------------------------------------------|
01339>  006:0032----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01340>      ADD HYD             01:8i            2.23     .122 No_date    3:05   25.62
01341>                        +  02:EXT-8         7.60     .292 No_date    3:19   25.15
01342>       [DT= 1.00]  SUM=  03:WC8           9.83     .396 No_date    3:12   25.26
01343>    ** END OF RUN :   6
01344>
01345> ********************************************************************************
01346>
01347>
01348>
01349>
01350>
```

```
01351>  RUN:COMMAND#
01352>  007:0001----------------------------------------------------------------------
01353>      START
01354>       [TZERO =    .00 hrs on        0]
01355>       [METOUT=   2    (1=imperial, 2=metric output)]
01356>       [NSTORM=   1 ]
01357>       [NRUN  =   7 ]
01358> #*****************************************************************************
01359> #  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
01360> #  Date        : 2018-01-24
01361> #  Modeller    : [OD - UPDATED BY BD/BH]
01362> #  Company     : C.F. Crozier & Associates Inc.
01363> #  License #   : 3737016
01364> #*****************************************************************************
01365> #*****************************************************************************
01366>  007:0002----------------------------------------------------------------------
01367>      READ STORM
01368>       Filename = STORM.001
01369>       Comment  =
01370>       [SDT=60.00:SDUR=   6.00:PTOT=  96.00]
01371> #-----------------|-------------------------------------------------------|
01372> #-----------------|-POST-DEVELOPMENT------------------------------------|
01373> #-----------------|-------------------------------------------------------|
01374> #-----------------|-------------------------------------------------------|
01375> #-----------------|-Subwatershed 9 External Drainage Area---------------|
01376> #-----------------|-Per 'The Orchards' FSSWM Report---------------------|
01377> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)----------|
01378> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
01379> #-----------------|-------------------------------------------------------|
01380>  007:0003---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01381>      CALIB NASHYD       01:EXT-9A       101.80    5.716 No_date    3:45   53.60
01382>       [CN= 80.0: N= 3.00]
01383>       [Tp= 1.00:DT= 1.00]
01384>  007:0004---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01385>      ROUTE CHANNEL   -> 01:EXT-9A       101.80    5.716 No_date    3:45   53.60
01386>       [RDT= 1.00] out<- 02:Channel      101.80    5.701 No_date    3:48   53.60
01387>       [L/S/n=  550./2.000/.035]
01388>       {Vmax= 2.102:Dmax=  .458}
01389>  007:0005---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01390>      CALIB STANDHYD     03:EXT-9B        14.80    2.107 No_date    3:00   63.33
01391>       [XIMP=.35:TIMP=.35]
01392>       [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
01393>       [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01394>       [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
01395>  007:0006---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01396>      ROUTE RESERVOIR -> 03:EXT-9B        14.80    2.107 No_date    3:00   63.33
01397>       [RDT= 1.00] out<- 04:Orchards      14.80    1.213 No_date    3:13   63.33
01398>      {MxStoUsed=.5363E+00}
01399> #-----------------|-------------------------------------------------------|
01400> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
01401> #-----------------|-------------------------------------------------------|
01402>  007:0007---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01403>      ADD HYD            02:Channel      101.80    5.701 No_date    3:48   53.60
01404>                       +  04:Orchards     14.80    1.213 No_date    3:13   63.33
01405>       [DT= 1.00]  SUM=  05:RD19         116.60    6.526 No_date    3:43   54.83
01406>  007:0008---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01407>      CALIB NASHYD       01:EXT-9D         .63     .061 No_date    3:02   41.10
01408>       [CN= 73.0: N= 3.00]
01409>       [Tp=  .20:DT= 1.00]
01410> #-----------------|-------------------------------------------------------|
01411> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands----------|
01412> #-----------------|-------------------------------------------------------|
01413>  007:0009---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01414>      CALIB NASHYD       02:9C9D          2.47     .132 No_date    3:02   22.38
01415>       [CN= 49.6: N= 3.00]
01416>       [Tp=  .18:DT= 1.00]
01417>  007:0010---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01418>      ADD HYD            01:EXT-9D         .63     .061 No_date    3:02   41.10
01419>                       +  02:9C9D         2.47     .132 No_date    3:02   22.38
01420>                       +  05:RD19       116.60    6.526 No_date    3:43   54.83
01421>       [DT= 1.00]  SUM=  04:WC9a         119.70    6.568 No_date    3:43   54.09
01422> #-----------------|-------------------------------------------------------|
01423> #--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT--------------|
01424> #--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-------------------------|
01425> #-----------------|-------------------------------------------------------|
01426>  007:0011---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01427>      CALIB NASHYD       01:EXT-9C         8.40     .639 No_date    3:13   44.43
01428>       [CN= 74.9: N= 3.00]
01429>       [Tp=  .47:DT= 1.00]
01430>  007:0012---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01431>      CALIB STANDHYD     03:9B            3.10     .455 No_date    3:00   71.57
01432>       [XIMP=.30:TIMP=.52]
01433>       [LOSS= 2 :CN= 79.0]
01434>       [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
01435>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
01436>  007:0013---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01437>      CALIB NASHYD       05:9E            2.10     .135 No_date    3:01   24.86
01438>       [CN= 54.1: N= 3.00]
01439>       [Tp=  .11:DT= 1.00]
01440>  007:0014---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01441>      ADD HYD            01:EXT-9C         8.40     .639 No_date    3:13   44.43
01442>                       +  03:9B          3.10     .455 No_date    3:00   71.57
01443>                       +  05:9E          2.10     .135 No_date    3:01   24.86
01444>       [DT= 1.00]  SUM=  06:SWMF1        13.60    1.143 No_date    3:01   47.59
01445> #-----------------|-------------------------------------------------------|
01446> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
01447> #-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT--------------|
01448> #-----------------|-------------------------------------------------------|
01449>  007:0015---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01450>      ROUTE RESERVOIR -> 06:SWMF1        13.60    1.143 No_date    3:01   47.59
01451>       [RDT= 1.00] out<- 01:SWMF-1       13.60     .031 No_date    6:41   47.59
01452>      {MxStoUsed=.5994E+00}
01453>  007:0016---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01454>      ADD HYD            01:SWMF-1        13.60     .031 No_date    6:41   47.59
01455>                       +  04:WC9a        119.70    6.568 No_date    3:43   54.09
01456>       [DT= 1.00]  SUM=  07:WC9b         133.30    6.596 No_date    3:43   53.43
01457> #-----------------|-------------------------------------------------------|
01458> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------|
01459> #-----------------|-------------------------------------------------------|
01460> #-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9-------------|
01461> #-----------------|-------------------------------------------------------|
01462>  007:0017---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01463>      CALIB STANDHYD     10:9P            1.75     .196 No_date    3:00   53.11
01464>       [XIMP=.18:TIMP=.48]
01465>       [LOSS= 2 :CN= 61.0]
01466>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01467>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
01468> #-----------------|-------------------------------------------------------|
01469> #-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
01470> #-----------------|-------------------------------------------------------|
01471>  007:0018---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01472>      CALIB NASHYD       01:9J             .81     .072 No_date    3:02   38.28
01473>       [CN= 68.7: N= 3.00]
01474>       [Tp=  .19:DT= 1.00]
01475>  007:0019---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01476>      CALIB NASHYD       02:9O             .35     .026 No_date    3:04   34.45
01477>       [CN= 65.0: N= 3.00]
01478>       [Tp=  .26:DT= 1.00]
01479>  007:0020---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01480>      CALIB NASHYD       03:9K9L          1.32     .057 No_date    3:08   22.28
01481>       [CN= 50.4: N= 3.00]
01482>       [Tp=  .35:DT= 1.00]
01483>  007:0021---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01484>      ADD HYD            01:9J             .81     .072 No_date    3:02   38.28
01485>                       +  02:9O             .35     .026 No_date    3:04   34.45
01486>                       +  03:9K9L          1.32     .057 No_date    3:08   22.28
01487>                       +  07:WC9b        133.30    6.596 No_date    3:43   53.43
01488>       [DT= 1.00]  SUM=  05:WC9LOWER     135.78    6.647 No_date    3:40   52.99
01489> #-----------------|-------------------------------------------------------|
01490> #-----------------|-LANDS DRAINING TO SWM FACILITY 2---------------------|
01491> #-----------------|-------------------------------------------------------|
01492>  007:0022---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01493>      CALIB NASHYD       01:9G            1.16     .037 No_date    3:01   12.49
01494>       [CN= 33.2: N= 3.00]
01495>       [Tp=  .14:DT= 1.00]
01496>  007:0023---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01497>      CALIB NASHYD       02:9H            1.67     .048 No_date    3:05   13.37
01498>       [CN= 34.7: N= 3.00]
01499>       [Tp=  .27:DT= 1.00]
01500>  007:0024---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01501>      CALIB STANDHYD     03:9M            5.80     .761 No_date    3:00   63.79
01502>       [XIMP=.23:TIMP=.56]
01503>       [LOSS= 2 :CN= 69.0]
01504>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01505>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
01506>  007:0025---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01507>      CALIB STANDHYD     04:9N            1.85     .175 No_date    3:00   46.23
01508>       [XIMP=.19:TIMP=.27]
01509>       [LOSS= 2 :CN= 61.0]
01510>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01511>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
01512>  007:0026---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01513>      ADD HYD            01:9G            1.16     .037 No_date    3:01   12.49
01514>                       +  02:9H            1.67     .048 No_date    3:05   13.37
01515>                       +  03:9M            5.80     .761 No_date    3:00   63.79
01516>                       +  04:9N            1.85     .175 No_date    3:00   46.23
01517>       [DT= 1.00]  SUM=  06:SWMF2         10.48    1.017 No_date    3:00   46.98
01518> #-----------------|-------------------------------------------------------|
01519> #-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)-------|
01520> #-----------------|-------------------------------------------------------|
01521>  007:0027---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01522>      ROUTE RESERVOIR -> 06:SWMF2        10.48    1.017 No_date    3:00   46.98
01523>       [RDT= 1.00] out<- 09:SWMF-2       10.48     .688 No_date    3:10   46.98
01524>      {MxStoUsed=.2749E+00}
01525> #-----------------|-------------------------------------------------------|
01526> #-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-----------------|
01527> #-----------------|-------------------------------------------------------|
01528>  007:0028---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01529>      ADD HYD            09:SWMF-2         10.48     .688 No_date    3:10   46.98
01530>                       +  05:WC9LOWER     135.78    6.647 No_date    3:40   52.99
01531>                       +  10:9P             1.75     .196 No_date    3:00   53.11
01532>       [DT= 1.00]  SUM=  01:WC9c          148.01    6.989 No_date    3:40   52.56
01533>  007:0029---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01534>      SAVE HYD           01:WC9c          148.01    6.989 No_date    3:40   52.56
01535>       fname :C:\PLAYGR~1\H-WC9c.007
01536>       remark:POST-DEV LAKESHORE
01537> #-----------------|-------------------------------------------------------|
01538> #-----------------|--WATERCOURSE 8 CATCHMENTS----------------------------|
01539> #-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------|
01540> #-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------|
01541> #-----------------|-------------------------------------------------------|
01542>  007:0030---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01543>      CALIB NASHYD       01:8i            2.23     .155 No_date    3:05   32.73
01544>       [CN= 63.5: N= 3.00]
01545>       [Tp=  .28:DT= 1.00]
01546>  007:0031---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01547>      CALIB NASHYD       02:EXT-8         7.60     .375 No_date    3:18   32.17
01548>       [CN= 63.0: N= 3.00]
01549>       [Tp=  .55:DT= 1.00]
01550> #-----------------|-------------------------------------------------------|
01551> #-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
01552> #-----------------|-------------------------------------------------------|
01553>  007:0032---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01554>      ADD HYD            01:8i            2.23     .155 No_date    3:05   32.73
01555>                       +  02:EXT-8         7.60     .375 No_date    3:18   32.17
01556>       [DT= 1.00]  SUM=  03:WC8           9.83     .508 No_date    3:12   32.30
01557>   ** END OF RUN :   7
01558>
01559> ******************************************************************************
01560>
01561>
01562>
01563>
01564>
01565>  RUN:COMMAND#
01566>  008:0001----------------------------------------------------------------------
01567>      START
01568>       [TZERO =    .00 hrs on        0]
01569>       [METOUT=   2    (1=imperial, 2=metric output)]
01570>       [NSTORM=   1 ]
01571>       [NRUN  =   8 ]
01572> #*****************************************************************************
01573> #  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
01574> #  Date        : 2018-01-24
01575> #  Modeller    : [OD - UPDATED BY BD/BH]
01576> #  Company     : C.F. Crozier & Associates Inc.
01577> #  License #   : 3737016
01578> #*****************************************************************************
01579> #*****************************************************************************
01580>  008:0002----------------------------------------------------------------------
01581>      READ STORM
01582>       Filename = STORM.001
01583>       Comment  =
01584>       [SDT=60.00:SDUR=  12.00:PTOT= 193.00]
01585> #-----------------|-------------------------------------------------------|
01586> #-----------------|-POST-DEVELOPMENT------------------------------------|
01587> #-----------------|-------------------------------------------------------|
01588> #-----------------|-------------------------------------------------------|
01589> #-----------------|-Subwatershed 9 External Drainage Area---------------|
01590> #-----------------|-Per 'The Orchards' FSSWM Report---------------------|
01591> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)----------|
01592> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
01593> #-----------------|-------------------------------------------------------|
01594>  008:0003---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01595>      CALIB NASHYD       01:EXT-9A       101.80    6.917 No_date    7:46  140.53
01596>       [CN= 80.0: N= 3.00]
01597>       [Tp= 1.00:DT= 1.00]
01598>  008:0004---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01599>      ROUTE CHANNEL   -> 01:EXT-9A       101.80    6.917 No_date    7:46  140.53
01600>       [RDT= 1.00] out<- 02:Channel      101.80    6.911 No_date    7:49  140.53
01601>       [L/S/n=  550./2.000/.035]
01602>       {Vmax= 2.235:Dmax=  .508}
01603>  008:0005---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01604>      CALIB STANDHYD     03:EXT-9B        14.80    1.529 No_date    7:00  127.41
01605>       [XIMP=.35:TIMP=.35]
01606>       [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
01607>       [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01608>       [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
01609>  008:0006---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01610>      ROUTE RESERVOIR -> 03:EXT-9B        14.80    1.529 No_date    7:00  127.41
01611>       [RDT= 1.00] out<- 04:Orchards      14.80    1.186 No_date    7:13  127.40
01612>      {MxStoUsed=.5306E+00}
01613> #-----------------|-------------------------------------------------------|
01614> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
01615> #-----------------|-------------------------------------------------------|
01616>  008:0007---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01617>      ADD HYD            02:Channel      101.80    6.911 No_date    7:49  140.53
01618>                       +  04:Orchards     14.80    1.186 No_date    7:13  127.40
01619>       [DT= 1.00]  SUM=  05:RD19         116.60    7.896 No_date    7:44  138.86
01620>  008:0008---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
```

```
01621>      CALIB NASHYD       01:EXT-9D          .63     .056 No_date    7:01  120.92
01622>       [CN= 73.0: N= 3.00]
01623>       [Tp=  .20:DT= 1.00]
01624> #-----------------|-------------------------------------------------------|
01625> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands-----------|
01626> #-----------------|-------------------------------------------------------|
01627>  008:0009---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01628>      CALIB NASHYD       02:9C9D           2.47     .139 No_date    7:01   77.24
01629>       [CN= 49.6: N= 3.00]
01630>       [Tp=  .18:DT= 1.00]
01631>  008:0010---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01632>      ADD HYD            01:EXT-9D          .63     .056 No_date    7:01  120.92
01633>                       +  02:9C9D           2.47     .139 No_date    7:01   77.24
01634>                       +  05:RD19         116.60    7.896 No_date    7:44  138.86
01635>       [DT= 1.00]  SUM=  04:WC9a         119.70    7.998 No_date    7:44  137.50
01636> #-----------------|-------------------------------------------------------|
01637> #--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT--------------|
01638> #--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-------------------------|
01639> #-----------------|-------------------------------------------------------|
01640>  008:0011---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01641>      CALIB NASHYD       01:EXT-9C          8.40     .687 No_date    7:10  126.34
01642>       [CN= 74.9: N= 3.00]
01643>       [Tp=  .47:DT= 1.00]
01644>  008:0012---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01645>      CALIB STANDHYD     03:9B              3.10     .344 No_date    7:00  164.19
01646>       [XIMP=.30:TIMP=.52]
01647>       [LOSS= 2 :CN= 79.0]
01648>       [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
01649>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
01650>  008:0013---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01651>      CALIB NASHYD       05:9E              2.10     .134 No_date    7:00   84.52
01652>       [CN= 54.1: N= 3.00]
01653>       [Tp=  .11:DT= 1.00]
01654>  008:0014---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01655>      ADD HYD            01:EXT-9C          8.40     .687 No_date    7:10  126.34
01656>                       +  03:9B             3.10     .344 No_date    7:00  164.19
01657>                       +  05:9E             2.10     .134 No_date    7:00   84.52
01658>       [DT= 1.00]  SUM=  06:SWMF1         13.60    1.138 No_date    7:01  128.51
01659> #-----------------|-------------------------------------------------------|
01660> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE------|
01661> #-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT--------------|
01662> #-----------------|-------------------------------------------------------|
01663>  008:0015---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01664>      ROUTE RESERVOIR -> 06:SWMF1        13.60    1.138 No_date    7:01  128.51
01665>       [RDT= 1.00] out<- 01:SWMF-1       13.60     .507 No_date    9:42  128.51
01666>       (MxStoUsed=.1217E+01)
01667>  008:0016---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01668>      ADD HYD            01:SWMF-1         13.60     .507 No_date    9:42  128.51
01669>                       +  04:WC9a         119.70    7.998 No_date    7:44  137.50
01670>       [DT= 1.00]  SUM=  07:WC9b         133.30    8.029 No_date    7:44  136.58
01671> #-----------------|-------------------------------------------------------|
01672> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
01673> #-----------------|-------------------------------------------------------|
01674> #-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9-----------------|
01675> #-----------------|-------------------------------------------------------|
01676>  008:0017---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01677>      CALIB STANDHYD     10:9P              1.75     .164 No_date    7:00  135.38
01678>       [XIMP=.18:TIMP=.48]
01679>       [LOSS= 2 :CN= 61.0]
01680>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01681>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
01682> #-----------------|-------------------------------------------------------|
01683> #-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
01684> #-----------------|-------------------------------------------------------|
01685>  008:0018---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01686>      CALIB NASHYD       01:9J               .81     .068 No_date    7:01  114.15
01687>       [CN= 68.7: N= 3.00]
01688>       [Tp=  .19:DT= 1.00]
01689>  008:0019---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01690>      CALIB NASHYD       02:9O               .35     .027 No_date    7:03  106.36
01691>       [CN= 65.0: N= 3.00]
01692>       [Tp=  .26:DT= 1.00]
01693>  008:0020---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01694>      CALIB NASHYD       03:9K9L            1.32     .069 No_date    7:06   77.75
01695>       [CN= 50.4: N= 3.00]
01696>       [Tp=  .35:DT= 1.00]
01697>  008:0021---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01698>      ADD HYD            01:9J               .81     .068 No_date    7:01  114.15
01699>                       +  02:9O             .35     .027 No_date    7:03  106.36
01700>                       +  03:9K9L          1.32     .069 No_date    7:06   77.75
01701>                       +  07:WC9b         133.30    8.029 No_date    7:44  136.58
01702>       [DT= 1.00]  SUM=  05:WC9LOWER      135.78    8.125 No_date    7:44  135.80
01703> #-----------------|-------------------------------------------------------|
01704> #-----------------|-LANDS DRAINING TO SWM FACILITY 2-------------------------|
01705> #-----------------|-------------------------------------------------------|
01706>  008:0022---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01707>      CALIB NASHYD       01:9G              1.16     .041 No_date    7:01   48.43
01708>       [CN= 33.2: N= 3.00]
01709>       [Tp=  .14:DT= 1.00]
01710>  008:0023---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01711>      CALIB NASHYD       02:9H              1.67     .058 No_date    7:04   51.10
01712>       [CN= 34.7: N= 3.00]
01713>       [Tp=  .27:DT= 1.00]
01714>  008:0024---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01715>      CALIB STANDHYD     03:9M              5.80     .606 No_date    7:00  152.94
01716>       [XIMP=.23:TIMP=.56]
01717>       [LOSS= 2 :CN= 69.0]
01718>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01719>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
01720>  008:0025---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01721>      CALIB STANDHYD     04:9N              1.85     .155 No_date    7:00  121.98
01722>       [XIMP=.19:TIMP=.27]
01723>       [LOSS= 2 :CN= 61.0]
01724>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01725>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
01726>  008:0026---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01727>      ADD HYD            01:9G              1.16     .041 No_date    7:01   48.43
01728>                       +  02:9H             1.67     .058 No_date    7:04   51.10
01729>                       +  03:9M             5.80     .606 No_date    7:00  152.94
01730>                       +  04:9N             1.85     .155 No_date    7:00  121.98
01731>       [DT= 1.00]  SUM=  06:SWMF2         10.48     .859 No_date    7:00  119.68
01732> #-----------------|-------------------------------------------------------|
01733> #-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)---------|
01734> #-----------------|-------------------------------------------------------|
01735>  008:0027---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01736>      ROUTE RESERVOIR -> 06:SWMF2        10.48     .859 No_date    7:00  119.68
01737>       [RDT= 1.00] out<- 09:SWMF-2       10.48     .843 No_date    7:03  119.68
01738>       (MxStoUsed=.2819E+00)
01739> #-----------------|-------------------------------------------------------|
01740> #-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-----------------|
01741> #-----------------|-------------------------------------------------------|
01742>  008:0028---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01743>      ADD HYD            09:SWMF-2         10.48     .843 No_date    7:03  119.68
01744>                       +  05:WC9LOWER     135.78    8.125 No_date    7:44  135.80
01745>                       +  10:9P             1.75     .164 No_date    7:00  135.38
01746>       [DT= 1.00]  SUM=  01:WC9c          148.01    8.686 No_date    7:38  134.65
01747>  008:0029---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01748>      SAVE HYD           01:WC9c          148.01    8.686 No_date    7:38  134.65
01749>       fname :C:\PLAYGR~1\H-WC9c.008
01750>       remark:POST-DEV LAKESHORE
01751> #-----------------|-------------------------------------------------------|
01752> #-----------------|--WATERCOURSE 8 CATCHMENTS---------------------------------|
01753> #-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------------|
01754> #-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
01755> #-----------------|-------------------------------------------------------|
01756>  008:0030---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01757>      CALIB NASHYD       01:8i              2.23     .163 No_date    7:03  102.92
01758>       [CN= 63.5: N= 3.00]
01759>       [Tp=  .28:DT= 1.00]
01760>  008:0031---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01761>      CALIB NASHYD       02:EXT-8           7.60     .470 No_date    7:16  101.78
01762>       [CN= 63.0: N= 3.00]
01763>       [Tp=  .55:DT= 1.00]
01764> #-----------------|-------------------------------------------------------|
01765> #-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
01766> #-----------------|-------------------------------------------------------|
01767>  008:0032---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01768>      ADD HYD            01:8i              2.23     .163 No_date    7:03  102.92
01769>                       +  02:EXT-8           7.60     .470 No_date    7:16  101.78
01770>       [DT= 1.00]  SUM=  03:WC8             9.83     .621 No_date    7:10  102.04
01771>  008:0002---------------------------------------------------------------------
01772>       FINISH
01773> ---------------------------------------------------------------------------
01774> ***************************************************************************
01775>      WARNINGS / ERRORS / NOTES
01776>      -------------------------
01777>  001:0005 CALIB STANDHYD
01778>       *** NOTE: The pervious area has no runoff.
01779>    Simulation ended on 2018-04-30     at 00:25:30
01780> ===========================================================================
01781>
01782>
```

```
2     Metric units
*#****************************************************************************
*#  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
*#  Date         : 2018-01-24
*#  Modeller     : [OD - UPDATED BY JM/BD]
*#  Company      : C.F. Crozier & Associates Inc.
*#  License #    : 3737016
*#****************************************************************************
START                TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[1]
*%                    ["25mm.stm"] <--storm filename, one per line for NSTORM tim
*%-----------------|------------------------------------------------------------|
*#****************************************************************************
*#****************************25mm storm**************************************
*#****************************************************************************
READ STORM           STORM_FILENAME=["25mm.stm"]
*%-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-POST-DEVELOPMENT-------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-Subwatershed 9 External Drainage Area----------------------|
*#-----------------|-Per 'The Orchards' FSSWM Report----------------------------|
*#-----------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
*#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
*#-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
CALIB NASHYD         ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
                     DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
                     N=[3], TP=[1.00]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------------|
ROUTE CHANNEL        IDout=[2], NHYD=["Channel"], IDin=[1],
                     RDT=[1](min),
                     CHLGTH=[550](m),  CHSLOPE=[2](%),
                                         FPSLOPE=[2](%),
                     SECNUM=[1],       NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=[0.035,8,-0.035,12,0.035,20] NSEG t
                     ( DISTANCE (m), ELEVATION (m))=[0,102]
                                                    [8,100]
                                                    [12,100]
                                                    [20,102]
*%-----------------|------------------------------------------------------------|
CALIB STANDHYD       ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
                     XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
                     Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
                             DCAY=[2](/hr), F=[0](mm),
                     Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
                                          LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
                     Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
                                          LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-----------------|------------------------------------------------------------|
ROUTE RESERVOIR      IDout=[4],   NHYD=["Orchards"],  IDin=[3],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                     [   0.0 ,   0.0 ]
                                     [   0.0100 ,  0.0610 ]
                                     [   0.0400 ,  0.1310 ]
                                     [   0.0700 ,  0.2110 ]
                                     [   0.2600 ,  0.3000 ]
                                     [   0.6000 ,  0.3940 ]
                                     [   1.0200 ,  0.4950 ]
                                     [   1.5200 ,  0.6020 ]
                                     [   2.0800 ,  0.7160 ]
                                     [   2.6900 ,  0.8370 ]
                           IDovf=[ ], NHYDovf=[  ]
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
*#-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
*%-----------------|------------------------------------------------------------|
CALIB NASHYD         ID=[1], NHYD=["EXT-9D"], DT=[1]min, AREA=[0.63](ha),
                     DWF=[0](cms),  CN/C=[73.0], IA=[10.0](mm),
                     N=[3], TP=[0.2]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
*#-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
CALIB NASHYD         ID=[2], NHYD=["9C9D"], DT=[1]min, AREA=[2.47](ha),
                     DWF=[0](cms),  CN/C=[49.6], IA=[8.0](mm),
                     N=[3], TP=[0.18]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------------|
ADD HYD              IDsum=[4], NHYD=["WC9a"], IDs to add=[1,2,5]
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
*#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1------------------------|
*#-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
CALIB NASHYD         ID=[1], NHYD=["EXT-9C"], DT=[1]min, AREA=[8.4](ha),
                     DWF=[0](cms),  CN/C=[74.9], IA=[8.4](mm),
                     N=[3], TP=[0.47]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------------|
CALIB STANDHYD       ID=[3], NHYD=["9B"], DT=[1](min), AREA=[3.10](ha),
                     XIMP=[0.30], TIMP=[0.525], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79.0],
                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[3.0](%),
                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-----------------|------------------------------------------------------------|
CALIB NASHYD         ID=[5], NHYD=["9E"], DT=[1]min, AREA=[2.1](ha),
                     DWF=[0](cms),  CN/C=[54.1], IA=[9.32](mm),
                     N=[3], TP=[0.11]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------------|
ADD HYD              IDsum=[6], NHYD=["SWMF1"], IDs to add=[1,3,5]
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
*#-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT--------------|
*#-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
ROUTE RESERVOIR      IDout=[1],   NHYD=["SWMF-1"],  IDin=[6],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                     [   0.0 ,   0.0 ]
                                     [   0.005 ,  0.018 ]
                                     [   0.011 ,  0.058 ]
                                     [   0.015 ,  0.104 ]
                                     [   0.017 ,  0.141 ]
                                     [   0.019 ,  0.182 ]
                                     [   0.024 ,  0.303 ]
                                     [   0.028 ,  0.443 ]
                                     [   0.031 ,  0.601 ]
                                     [   0.032 ,  1.119 ]
                                     [   0.033 ,  1.163 ]
                                     [   0.359 ,  1.207 ]
                                     [   1.054 ,  1.253 ]
                                     [   -1   ,  -1   ]  (max twenty pts)
                           IDovf=[   ], NHYDovf=[   ]
*%-----------------|------------------------------------------------------------|
ADD HYD              IDsum=[7], NHYD=["WC9b"], IDs to add=[1,4]
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
*#-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
*#-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9-----------------|
*#-----------------|------------------------------------------------------------|
CALIB STANDHYD       ID=[10], NHYD=["9P"], DT=[1](min), AREA=[1.75](ha),
                     XIMP=[0.184], TIMP=[0.480], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[61.0],
                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                          LGI=[108](m), MNI=[0.013], SCI=[0](min)
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
*#-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
CALIB NASHYD         ID=[1], NHYD=["9J"], DT=[1]min, AREA=[0.81](ha),
                     DWF=[0](cms),  CN/C=[68.7], IA=[7.6](mm),
                     N=[3], TP=[0.19]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------------|
CALIB NASHYD         ID=[2], NHYD=["9O"], DT=[1]min, AREA=[0.35](ha),
                     DWF=[0](cms),  CN/C=[65.0], IA=[8.0](mm),
                     N=[3], TP=[0.26]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------------|
CALIB NASHYD         ID=[3], NHYD=["9K9L"], DT=[1]min, AREA=[1.32](ha),
                     DWF=[0](cms),  CN/C=[50.4], IA=[9.4](mm),
                     N=[3], TP=[0.35]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["WC9LOWER"], IDs to add=[1,2,3,7]
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-LANDS DRAINING TO SWM FACILITY 2--------------------------|
*#-----------------|------------------------------------------------------------|
CALIB NASHYD         ID=[1], NHYD=["9G"], DT=[1]min, AREA=[1.16](ha),
                     DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
                     N=[3], TP=[0.14]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------------|
CALIB NASHYD         ID=[2], NHYD=["9H"], DT=[1]min, AREA=[1.67](ha),
                     DWF=[0](cms),  CN/C=[34.7], IA=[9.1](mm),
                     N=[3], TP=[0.27]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------------|
CALIB STANDHYD       ID=[3], NHYD=["9M"], DT=[1](min), AREA=[5.80](ha),
                     XIMP=[0.229], TIMP=[0.56], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[69],
                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                          LGI=[197](m), MNI=[0.013], SCI=[0](min)
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-----------------|------------------------------------------------------------|
CALIB STANDHYD       ID=[4], NHYD=["9N"], DT=[1](min), AREA=[1.85](ha),
                     XIMP=[0.189], TIMP=[0.266], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[61],
                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                          LGI=[111](m), MNI=[0.013], SCI=[0](min)
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-----------------|------------------------------------------------------------|
ADD HYD              IDsum=[6], NHYD=["SWMF2"], IDs to add=[1,2,3,4]
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)---------|
*#-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
ROUTE RESERVOIR      IDout=[9],   NHYD=["SWMF-2"],  IDin=[6],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                     [   0.0 ,   0.0 ]
                                     [   0.004 ,  0.016 ]
                                     [   0.009 ,  0.053 ]
                                     [   0.011 ,  0.074 ]
                                     [   0.013 ,  0.119 ]
                                     [   0.014 ,  0.132 ]
                                     [   0.016 ,  0.171 ]
                                     [   0.017 ,  0.199 ]
                                     [   0.018 ,  0.228 ]
                                     [   0.344 ,  0.259 ]
                                     [   1.040 ,  0.291 ]
                                     [   2.076 ,  0.325 ]
                                     [   -1   ,  -1   ]  (max twenty pts)
                           IDovf=[   ], NHYDovf=[   ]
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-----------------|
*#-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
ADD HYD              IDsum=[1], NHYD=["WC9c"], IDs to add=[9,5,10]
*%-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|--WATERCOURSE 8 CATCHMENTS---------------------------------|
*#-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8--------------------|
*#-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8----------------|
*#-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
CALIB NASHYD         ID=[1], NHYD=["8i"], DT=[1]min, AREA=[2.23](ha),
                     DWF=[0](cms),  CN/C=[63.5], IA=[8.6](mm),
                     N=[3], TP=[0.28]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------------|
CALIB NASHYD         ID=[2], NHYD=["EXT-8"], DT=[1]min, AREA=[7.60](ha),
                     DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
                     N=[3], TP=[0.55]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------------|
*#-----------------|------------------------------------------------------------|
*#-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
*#-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["WC8"], IDs to add=[1,2]
*%-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
```

```
00271> *#*****************************************************************************
00272> *#**************************Chicago 2yr 4-hr storm*****************************
00273> *#*****************************************************************************
00274> *%-----------------|-------------------------------------------------------------|
00275>
00276> CHICAGO STORM       IUNITS=[2],  TD=[4.0](hrs), TPRAT=[0.33],  CSDT=[5](min),
00277>                     ICASEcs=[2],
00278>                     Enter ordinates of IDF curve below, at least seven points
00279>                         TIME (min)    Intensity(mm/hr)
00280>                           [   5    ]       [  117.0  ]
00281>                           [   10   ]       [  72.1   ]
00282>                           [   15   ]       [  54.3   ]
00283>                           [   30   ]       [  33.4   ]
00284>                           [   60   ]       [  20.6   ]
00285>                           [   120  ]       [  12.7   ]
00286>                           [   360  ]       [  5.9    ]
00287>                           [   720  ]       [  3.6    ]
00288>                           [   1440 ]       [  2.2    ]
00289>                              -1               -1
00290> *%-----------------|-------------------------------------------------------------|
00291>
00292> *%-----------------|-------------------------------------------------------------|
00293> *%-----------------|-------------------------------------------------------------|
00294> *#-----------------|-------------------------------------------------------------|
00295> *#-----------------|-POST-DEVELOPMENT----------------------------------------------|
00296> *#-----------------|-------------------------------------------------------------|
00297> *#-----------------|-------------------------------------------------------------|
00298> *#-----------------|-Subwatershed 9 External Drainage Area-------------------------|
00299> *#-----------------|-Per 'The Orchards' FSSWM Report-------------------------------|
00300> *#-----------------|-Prepared by Higgins Engineering (Jan. 2005)--------------------|
00301> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00302> *#-----------------|-------------------------------------------------------------|
00303> *%-----------------|-------------------------------------------------------------|
00304> CALIB NASHYD       ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00305>                     DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00306>                     N=[3], TP=[1.00]hrs,
00307>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00308> *%-----------------|-------------------------------------------------------------|
00309> ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
00310>                     RDT=[1](min),
00311>                     CHLGTH=[550](m),  CHSLOPE=[2](%),
00312>                                         FPSLOPE=[2](%),
00313>                     SECNUM=[1],       NSEG=[3]
00314>                     ( SEGROUGH, SEGDIST (m))=[0.035,8,-0.035,12,0.035,20] NSEG t
00315>                     ( DISTANCE (m), ELEVATION (m))=[0,102]
00316>                                                   [8,100]
00317>                                                   [12,100]
00318>                                                   [20,102]
00319> *%-----------------|-------------------------------------------------------------|
00320> CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00321>                     XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00322>                     Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00323>                             DCAY=[2](/hr), F=[0](mm),
00324>                     Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00325>                                          LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00326>                     Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00327>                                          LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00328>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00329> *%-----------------|-------------------------------------------------------------|
00330> ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00331>                     RDT=[1](min),
00332>                           TABLE of ( OUTFLOW-STORAGE ) values
00333>                                      (cms) - (ha-m)
00334>                                    [   0.0 ,  0.0 ]
00335>                                    [   0.0100 ,  0.0610 ]
00336>                                    [   0.0400 ,  0.1310 ]
00337>                                    [   0.0700 ,  0.2110 ]
00338>                                    [   0.2600 ,  0.3000 ]
00339>                                    [   0.6000 ,  0.3940 ]
00340>                                    [   1.0200 ,  0.4950 ]
00341>                                    [   1.5200 ,  0.6020 ]
00342>                                    [   2.0800 ,  0.7160 ]
00343>                                    [   2.6900 ,  0.8370 ]
00344>                           IDovf=[ ], NHYDovf=[  ]
00345> *%-----------------|-------------------------------------------------------------|
00346> *#-----------------|-------------------------------------------------------------|
00347> *#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00348> *#-----------------|-------------------------------------------------------------|
00349> *%-----------------|-------------------------------------------------------------|
00350> ADD HYD            IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00351> *%-----------------|-------------------------------------------------------------|
00352> CALIB NASHYD       ID=[1], NHYD=["EXT-9D"], DT=[1]min, AREA=[0.63](ha),
00353>                     DWF=[0](cms),  CN/C=[73.0], IA=[10.0](mm),
00354>                     N=[3], TP=[0.2]hrs,
00355>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00356> *%-----------------|-------------------------------------------------------------|
00357> *#-----------------|-------------------------------------------------------------|
00358> *#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
00359> *#-----------------|-------------------------------------------------------------|
00360> *%-----------------|-------------------------------------------------------------|
00361> CALIB NASHYD       ID=[2], NHYD=["9C9D"], DT=[1]min, AREA=[2.47](ha),
00362>                     DWF=[0](cms),  CN/C=[49.6], IA=[8.0](mm),
00363>                     N=[3], TP=[0.18]hrs,
00364>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00365> *%-----------------|-------------------------------------------------------------|
00366> ADD HYD            IDsum=[4], NHYD=["WC9a"], IDs to add=[1,2,5]
00367> *%-----------------|-------------------------------------------------------------|
00368> *#-----------------|-------------------------------------------------------------|
00369> *#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00370> *#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-------------------------|
00371> *#-----------------|-------------------------------------------------------------|
00372> *%-----------------|-------------------------------------------------------------|
00373> CALIB NASHYD       ID=[1], NHYD=["EXT-9C"], DT=[1]min, AREA=[8.4](ha),
00374>                     DWF=[0](cms),  CN/C=[74.9], IA=[8.4](mm),
00375>                     N=[3], TP=[0.47]hrs,
00376>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00377> *%-----------------|-------------------------------------------------------------|
00378> CALIB STANDHYD      ID=[3], NHYD=["9B"], DT=[1](min), AREA=[3.10](ha),
00379>                     XIMP=[0.30], TIMP=[0.525], DWF=[0](cms), LOSS=[2],
00380>                     SCS curve number CN=[79.0],
00381>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[3.0](%),
00382>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00383>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00384>                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
00385>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00386> *%-----------------|-------------------------------------------------------------|
00387> CALIB NASHYD       ID=[5], NHYD=["9E"], DT=[1]min, AREA=[2.1](ha),
00388>                     DWF=[0](cms),  CN/C=[54.1], IA=[9.32](mm),
00389>                     N=[3], TP=[0.11]hrs,
00390>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00391> *%-----------------|-------------------------------------------------------------|
00392> ADD HYD            IDsum=[6], NHYD=["SWMF1"], IDs to add=[1,3,5]
00393> *%-----------------|-------------------------------------------------------------|
00394> *#-----------------|-------------------------------------------------------------|
00395> *#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE--------|
00396> *#-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00397> *#-----------------|-------------------------------------------------------------|
00398> *%-----------------|-------------------------------------------------------------|
00399> ROUTE RESERVOIR     IDout=[1],   NHYD=["SWMF-1"],  IDin=[6],
00400>                     RDT=[1](min),
00401>                           TABLE of ( OUTFLOW-STORAGE ) values
00402>                                      (cms) - (ha-m)
00403>                                    [   0.0 ,  0.0 ]
00404>                                    [   0.005 ,  0.018 ]
00405>                                    [   0.011 ,  0.058 ]
00406>                                    [   0.015 ,  0.104 ]
00407>                                    [   0.017 ,  0.141 ]
00408>                                    [   0.019 ,  0.182 ]
00409>                                    [   0.024 ,  0.303 ]
00410>                                    [   0.028 ,  0.443 ]
00411>                                    [   0.031 ,  0.601 ]
00412>                                    [   0.032 ,  1.119 ]
00413>                                    [   0.033 ,  1.163 ]
00414>                                    [   0.359 ,  1.207 ]
00415>                                    [   1.054 ,  1.253 ]
00416>                                    [   -1    ,  -1  ]  (max twenty pts)
00417>                           IDovf=[   ], NHYDovf=[   ]
00418> *%-----------------|-------------------------------------------------------------|
00419> ADD HYD            IDsum=[7], NHYD=["WC9b"], IDs to add=[1,4]
00420> *%-----------------|-------------------------------------------------------------|
00421> *#-----------------|-------------------------------------------------------------|
00422> *#-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
00423> *#-----------------|-------------------------------------------------------------|
00424> *%-----------------|-------------------------------------------------------------|
00425> *#-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9-------------------|
00426> *#-----------------|-------------------------------------------------------------|
00427> CALIB STANDHYD      ID=[10], NHYD=["9P"], DT=[1](min), AREA=[1.75](ha),
00428>                     XIMP=[0.184], TIMP=[0.480], DWF=[0](cms), LOSS=[2],
00429>                     SCS curve number CN=[61.0],
00430>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00431>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00432>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00433>                                          LGI=[108](m), MNI=[0.013], SCI=[0](min)
00434>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00435> *%-----------------|-------------------------------------------------------------|
00436> *#-----------------|-------------------------------------------------------------|
00437> *#-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ------------------------|
00438> *#-----------------|-------------------------------------------------------------|
00439> *%-----------------|-------------------------------------------------------------|
00440> *%-----------------|-------------------------------------------------------------|
00441> CALIB NASHYD       ID=[1], NHYD=["9J"], DT=[1]min, AREA=[0.81](ha),
00442>                     DWF=[0](cms),  CN/C=[68.7], IA=[7.6](mm),
00443>                     N=[3], TP=[0.19]hrs,
00444>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00445> *%-----------------|-------------------------------------------------------------|
00446> CALIB NASHYD       ID=[2], NHYD=["9O"], DT=[1]min, AREA=[0.35](ha),
00447>                     DWF=[0](cms),  CN/C=[65.0], IA=[8.0](mm),
00448>                     N=[3], TP=[0.26]hrs,
00449>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00450> *%-----------------|-------------------------------------------------------------|
00451> CALIB NASHYD       ID=[3], NHYD=["9K9L"], DT=[1]min, AREA=[1.32](ha),
00452>                     DWF=[0](cms),  CN/C=[50.4], IA=[9.4](mm),
00453>                     N=[3], TP=[0.35]hrs,
00454>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00455> *%-----------------|-------------------------------------------------------------|
00456> ADD HYD            IDsum=[5], NHYD=["WC9LOWER"], IDs to add=[1,2,3,7]
00457> *%-----------------|-------------------------------------------------------------|
00458> *#-----------------|-------------------------------------------------------------|
00459> *#-----------------|-LANDS DRAINING TO SWM FACILITY 2----------------------------|
00460> *#-----------------|-------------------------------------------------------------|
00461> CALIB NASHYD       ID=[1], NHYD=["9G"], DT=[1]min, AREA=[1.16](ha),
00462>                     DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
00463>                     N=[3], TP=[0.14]hrs,
00464>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00465> *%-----------------|-------------------------------------------------------------|
00466> CALIB NASHYD       ID=[2], NHYD=["9H"], DT=[1]min, AREA=[1.67](ha),
00467>                     DWF=[0](cms),  CN/C=[34.7], IA=[9.1](mm),
00468>                     N=[3], TP=[0.27]hrs,
00469>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00470> *%-----------------|-------------------------------------------------------------|
00471> CALIB STANDHYD      ID=[3], NHYD=["9M"], DT=[1](min), AREA=[5.80](ha),
00472>                     XIMP=[0.229], TIMP=[0.56], DWF=[0](cms), LOSS=[2],
00473>                     SCS curve number CN=[69],
00474>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00475>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00476>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00477>                                          LGI=[197](m), MNI=[0.013], SCI=[0](min)
00478>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00479> *%-----------------|-------------------------------------------------------------|
00480> CALIB STANDHYD      ID=[4], NHYD=["9N"], DT=[1](min), AREA=[1.85](ha),
00481>                     XIMP=[0.189], TIMP=[0.266], DWF=[0](cms), LOSS=[2],
00482>                     SCS curve number CN=[61],
00483>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00484>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00485>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00486>                                          LGI=[111](m), MNI=[0.013], SCI=[0](min)
00487>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00488> *%-----------------|-------------------------------------------------------------|
00489> ADD HYD            IDsum=[6], NHYD=["SWMF2"], IDs to add=[1,2,3,4]
00490> *%-----------------|-------------------------------------------------------------|
00491> *#-----------------|-------------------------------------------------------------|
00492> *#-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)-----------|
00493> *#-----------------|-------------------------------------------------------------|
00494> *%-----------------|-------------------------------------------------------------|
00495> ROUTE RESERVOIR     IDout=[9],   NHYD=["SWMF-2"],  IDin=[6],
00496>                     RDT=[1](min),
00497>                           TABLE of ( OUTFLOW-STORAGE ) values
00498>                                      (cms) - (ha-m)
00499>                                    [   0.0 ,  0.0 ]
00500>                                    [   0.004 ,  0.016 ]
00501>                                    [   0.009 ,  0.053 ]
00502>                                    [   0.011 ,  0.074 ]
00503>                                    [   0.013 ,  0.119 ]
00504>                                    [   0.014 ,  0.132 ]
00505>                                    [   0.016 ,  0.171 ]
00506>                                    [   0.017 ,  0.199 ]
00507>                                    [   0.018 ,  0.228 ]
00508>                                    [   0.344 ,  0.259 ]
00509>                                    [   1.040 ,  0.291 ]
00510>                                    [   2.076 ,  0.325 ]
00511>                                    [   -1    ,  -1  ]  (max twenty pts)
00512>                           IDovf=[   ], NHYDovf=[   ]
00513> *%-----------------|-------------------------------------------------------------|
00514> *#-----------------|-------------------------------------------------------------|
00515> *#-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-------------------|
00516> *#-----------------|-------------------------------------------------------------|
00517> *%-----------------|-------------------------------------------------------------|
00518> ADD HYD            IDsum=[1], NHYD=["WC9c"], IDs to add=[9,5,10]
00519> *%-----------------|-------------------------------------------------------------|
00520> *%-----------------|-------------------------------------------------------------|
00521> *#-----------------|-------------------------------------------------------------|
00522> *#-----------------|--WATERCOURSE 8 CATCHMENTS-----------------------------------|
00523> *#-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8----------------------|
00524> *#-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8------------------|
00525> *#-----------------|-------------------------------------------------------------|
00526> *%-----------------|-------------------------------------------------------------|
00527> CALIB NASHYD       ID=[1], NHYD=["8i"], DT=[1]min, AREA=[2.23](ha),
00528>                     DWF=[0](cms),  CN/C=[63.5], IA=[8.6](mm),
00529>                     N=[3], TP=[0.28]hrs,
00530>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00531> *%-----------------|-------------------------------------------------------------|
00532> CALIB NASHYD       ID=[2], NHYD=["EXT-8"], DT=[1]min, AREA=[7.60](ha),
00533>                     DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
00534>                     N=[3], TP=[0.55]hrs,
00535>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00536> *%-----------------|-------------------------------------------------------------|
00537> *#-----------------|-------------------------------------------------------------|
00538> *#-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i--------|
00539> *#-----------------|-------------------------------------------------------------|
00540> *%-----------------|-------------------------------------------------------------|
```

```
00541> ADD HYD             IDsum=[3], NHYD=["WC8"], IDs to add=[1,2]
00542> *%------------------|---------------------------------------------------------------------|
00543> *#*********************************************************************************
00544> *#***************************Chicago 5yr 4-hr storm**************************
00545> *#*********************************************************************************
00546> *%------------------|---------------------------------------------------------------------|
00547>
00548> CHICAGO STORM       IUNITS=[2],  TD=[4.0](hrs), TPRAT=[0.33],  CSDT=[5](min),
00549>                     ICASEcs=[2],
00550>                     Enter ordinates of IDF curve below, at least seven points
00551>                         TIME (min)     Intensity(mm/hr)
00552>                           [   5   ]       [  156.2  ]
00553>                           [   10  ]       [  96.2   ]
00554>                           [   15  ]       [  72.5   ]
00555>                           [   30  ]       [  44.6   ]
00556>                           [   60  ]       [  27.5   ]
00557>                           [   120 ]       [  16.9   ]
00558>                           [   360 ]       [  7.9    ]
00559>                           [   720 ]       [  4.8    ]
00560>                           [   1440 ]      [  3.0    ]
00561>                             -1              -1
00562> *%------------------|---------------------------------------------------------------------|
00563>
00564> *%------------------|---------------------------------------------------------------------|
00565> *%------------------|---------------------------------------------------------------------|
00566> *#------------------|---------------------------------------------------------------------|
00567> *#------------------|-POST-DEVELOPMENT-----------------------------------------------------|
00568> *#------------------|---------------------------------------------------------------------|
00569> *#------------------|---------------------------------------------------------------------|
00570> *#------------------|-Subwatershed 9 External Drainage Area--------------------------------|
00571> *#------------------|-Per 'The Orchards' FSSWM Report--------------------------------------|
00572> *#------------------|-Prepared by Higgins Engineering (Jan. 2005)--------------------------|
00573> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00574> *#------------------|---------------------------------------------------------------------|
00575> *%------------------|---------------------------------------------------------------------|
00576> CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00577>                     DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00578>                     N=[3], TP=[1.00]hrs,
00579>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00580> *%------------------|---------------------------------------------------------------------|
00581> ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
00582>                     RDT=[1](min),
00583>                     CHLGTH=[550](m),  CHSLOPE=[2](%),
00584>                                         FPSLOPE=[2](%),
00585>                     SECNUM=[1],      NSEG=[3]
00586>                     ( SEGROUGH, SEGDIST (m))=[0.035,8,-0.035,12,0.035,20] NSEG t
00587>                     ( DISTANCE (m), ELEVATION (m))=[0,102]
00588>                                                   [8,100]
00589>                                                   [12,100]
00590>                                                   [20,102]
00591> *%------------------|---------------------------------------------------------------------|
00592> CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00593>                     XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00594>                     Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00595>                             DCAY=[2](/hr), F=[0](mm),
00596>                     Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00597>                                          LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00598>                     Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00599>                                          LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00600>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00601> *%------------------|---------------------------------------------------------------------|
00602> ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00603>                     RDT=[1](min),
00604>                           TABLE of ( OUTFLOW-STORAGE ) values
00605>                                     (cms) - (ha-m)
00606>                                   [   0.0 ,  0.0 ]
00607>                                   [   0.0100 ,  0.0610 ]
00608>                                   [   0.0400 ,  0.1310 ]
00609>                                   [   0.0700 ,  0.2110 ]
00610>                                   [   0.2600 ,  0.3000 ]
00611>                                   [   0.6000 ,  0.3940 ]
00612>                                   [   1.0200 ,  0.4950 ]
00613>                                   [   1.5200 ,  0.6020 ]
00614>                                   [   2.0800 ,  0.7160 ]
00615>                                   [   2.6900 ,  0.8370 ]
00616>                           IDovf=[ ], NHYDovf=[  ]
00617> *%------------------|---------------------------------------------------------------------|
00618> *#------------------|---------------------------------------------------------------------|
00619> *#------------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00620> *#------------------|---------------------------------------------------------------------|
00621> *%------------------|---------------------------------------------------------------------|
00622> ADD HYD             IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00623> *%------------------|---------------------------------------------------------------------|
00624> CALIB NASHYD        ID=[1], NHYD=["EXT-9D"], DT=[1]min, AREA=[0.63](ha),
00625>                     DWF=[0](cms),  CN/C=[73.0], IA=[10.0](mm),
00626>                     N=[3], TP=[0.2]hrs,
00627>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00628> *%------------------|---------------------------------------------------------------------|
00629> *#------------------|---------------------------------------------------------------------|
00630> *#------------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
00631> *#------------------|---------------------------------------------------------------------|
00632> *%------------------|---------------------------------------------------------------------|
00633> CALIB NASHYD        ID=[2], NHYD=["9C9D"], DT=[1]min, AREA=[2.47](ha),
00634>                     DWF=[0](cms),  CN/C=[49.6], IA=[8.0](mm),
00635>                     N=[3], TP=[0.18]hrs,
00636>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00637> *%------------------|---------------------------------------------------------------------|
00638> ADD HYD             IDsum=[4], NHYD=["WC9a"], IDs to add=[1,2,5]
00639> *%------------------|---------------------------------------------------------------------|
00640> *#------------------|---------------------------------------------------------------------|
00641> *#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00642> *#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1----------------------|
00643> *#------------------|---------------------------------------------------------------------|
00644> *%------------------|---------------------------------------------------------------------|
00645> CALIB NASHYD        ID=[1], NHYD=["EXT-9C"], DT=[1]min, AREA=[8.4](ha),
00646>                     DWF=[0](cms),  CN/C=[74.9], IA=[8.4](mm),
00647>                     N=[3], TP=[0.47]hrs,
00648>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00649> *%------------------|---------------------------------------------------------------------|
00650> CALIB STANDHYD      ID=[3], NHYD=["9B"], DT=[1](min), AREA=[3.10](ha),
00651>                     XIMP=[0.30], TIMP=[0.525], DWF=[0](cms), LOSS=[2],
00652>                     SCS curve number CN=[79.0],
00653>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[3.0](%),
00654>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00655>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00656>                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
00657>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00658> *%------------------|---------------------------------------------------------------------|
00659> CALIB NASHYD        ID=[5], NHYD=["9E"], DT=[1]min, AREA=[2.1](ha),
00660>                     DWF=[0](cms),  CN/C=[54.1], IA=[9.32](mm),
00661>                     N=[3], TP=[0.11]hrs,
00662>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00663> *%------------------|---------------------------------------------------------------------|
00664> ADD HYD             IDsum=[6], NHYD=["SWMF1"], IDs to add=[1,3,5]
00665> *%------------------|---------------------------------------------------------------------|
00666> *#------------------|---------------------------------------------------------------------|
00667> *#------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
00668> *#------------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00669> *#------------------|---------------------------------------------------------------------|
00670> *%------------------|---------------------------------------------------------------------|
00671> ROUTE RESERVOIR     IDout=[1],   NHYD=["SWMF-1"],  IDin=[6],
00672>                     RDT=[1](min),
00673>                           TABLE of ( OUTFLOW-STORAGE ) values
00674>                                     (cms) - (ha-m)
00675>                                   [   0.0 ,  0.0 ]
00676>                                   [   0.005 ,  0.018 ]
00677>                                   [   0.011 ,  0.058 ]
00678>                                   [   0.015 ,  0.104 ]
00679>                                   [   0.017 ,  0.141 ]
00680>                                   [   0.019 ,  0.182 ]
00681>                                   [   0.024 ,  0.303 ]
00682>                                   [   0.028 ,  0.443 ]
00683>                                   [   0.031 ,  0.601 ]
00684>                                   [   0.032 ,  1.119 ]
00685>                                   [   0.033 ,  1.163 ]
00686>                                   [   0.359 ,  1.207 ]
00687>                                   [   1.054 ,  1.253 ]
00688>                                   [   -1  ,  -1  ]  (max twenty pts)
00689>                           IDovf=[   ], NHYDovf=[   ]
00690> *%------------------|---------------------------------------------------------------------|
00691> ADD HYD             IDsum=[7], NHYD=["WC9b"], IDs to add=[1,4]
00692> *%------------------|---------------------------------------------------------------------|
00693> *#------------------|---------------------------------------------------------------------|
00694> *#------------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
00695> *#------------------|---------------------------------------------------------------------|
00696> *%------------------|---------------------------------------------------------------------|
00697> *#------------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9-----------------|
00698> *#------------------|---------------------------------------------------------------------|
00699> CALIB STANDHYD      ID=[10], NHYD=["9P"], DT=[1](min), AREA=[1.75](ha),
00700>                     XIMP=[0.184], TIMP=[0.480], DWF=[0](cms), LOSS=[2],
00701>                     SCS curve number CN=[61.0],
00702>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00703>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00704>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00705>                                          LGI=[108](m), MNI=[0.013], SCI=[0](min)
00706>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00707> *%------------------|---------------------------------------------------------------------|
00708> *#------------------|---------------------------------------------------------------------|
00709> *#------------------|-LANDS DRAINING TO WC 9 UNCONTROLLED -----------------------|
00710> *#------------------|---------------------------------------------------------------------|
00711> *%------------------|---------------------------------------------------------------------|
00712> *%------------------|---------------------------------------------------------------------|
00713> CALIB NASHYD        ID=[1], NHYD=["9J"], DT=[1]min, AREA=[0.81](ha),
00714>                     DWF=[0](cms),  CN/C=[68.7], IA=[7.6](mm),
00715>                     N=[3], TP=[0.19]hrs,
00716>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00717> *%------------------|---------------------------------------------------------------------|
00718> CALIB NASHYD        ID=[2], NHYD=["9O"], DT=[1]min, AREA=[0.35](ha),
00719>                     DWF=[0](cms),  CN/C=[65.0], IA=[8.0](mm),
00720>                     N=[3], TP=[0.26]hrs,
00721>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00722> *%------------------|---------------------------------------------------------------------|
00723> CALIB NASHYD        ID=[3], NHYD=["9K9L"], DT=[1]min, AREA=[1.32](ha),
00724>                     DWF=[0](cms),  CN/C=[50.4], IA=[9.4](mm),
00725>                     N=[3], TP=[0.35]hrs,
00726>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00727> *%------------------|---------------------------------------------------------------------|
00728> ADD HYD             IDsum=[5], NHYD=["WC9LOWER"], IDs to add=[1,2,3,7]
00729> *%------------------|---------------------------------------------------------------------|
00730> *#------------------|---------------------------------------------------------------------|
00731> *#------------------|-LANDS DRAINING TO SWM FACILITY 2--------------------------|
00732> *#------------------|---------------------------------------------------------------------|
00733> CALIB NASHYD        ID=[1], NHYD=["9G"], DT=[1]min, AREA=[1.16](ha),
00734>                     DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
00735>                     N=[3], TP=[0.14]hrs,
00736>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00737> *%------------------|---------------------------------------------------------------------|
00738> CALIB NASHYD        ID=[2], NHYD=["9H"], DT=[1]min, AREA=[1.67](ha),
00739>                     DWF=[0](cms),  CN/C=[34.7], IA=[9.1](mm),
00740>                     N=[3], TP=[0.27]hrs,
00741>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00742> *%------------------|---------------------------------------------------------------------|
00743> CALIB STANDHYD      ID=[3], NHYD=["9M"], DT=[1](min), AREA=[5.80](ha),
00744>                     XIMP=[0.229], TIMP=[0.56], DWF=[0](cms), LOSS=[2],
00745>                     SCS curve number CN=[69],
00746>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00747>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00748>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00749>                                          LGI=[197](m), MNI=[0.013], SCI=[0](min)
00750>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00751> *%------------------|---------------------------------------------------------------------|
00752> CALIB STANDHYD      ID=[4], NHYD=["9N"], DT=[1](min), AREA=[1.85](ha),
00753>                     XIMP=[0.189], TIMP=[0.266], DWF=[0](cms), LOSS=[2],
00754>                     SCS curve number CN=[61],
00755>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00756>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00757>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00758>                                          LGI=[111](m), MNI=[0.013], SCI=[0](min)
00759>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00760> *%------------------|---------------------------------------------------------------------|
00761> ADD HYD             IDsum=[6], NHYD=["SWMF2"], IDs to add=[1,2,3,4]
00762> *%------------------|---------------------------------------------------------------------|
00763> *#------------------|---------------------------------------------------------------------|
00764> *#------------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)---------|
00765> *#------------------|---------------------------------------------------------------------|
00766> *%------------------|---------------------------------------------------------------------|
00767> ROUTE RESERVOIR     IDout=[9],   NHYD=["SWMF-2"],  IDin=[6],
00768>                     RDT=[1](min),
00769>                           TABLE of ( OUTFLOW-STORAGE ) values
00770>                                     (cms) - (ha-m)
00771>                                   [   0.0 ,  0.0 ]
00772>                                   [   0.004 ,  0.016 ]
00773>                                   [   0.009 ,  0.053 ]
00774>                                   [   0.011 ,  0.074 ]
00775>                                   [   0.013 ,  0.119 ]
00776>                                   [   0.014 ,  0.132 ]
00777>                                   [   0.016 ,  0.171 ]
00778>                                   [   0.017 ,  0.199 ]
00779>                                   [   0.018 ,  0.228 ]
00780>                                   [   0.344 ,  0.259 ]
00781>                                   [   1.040 ,  0.291 ]
00782>                                   [   2.076 ,  0.325 ]
00783>                                   [   -1  ,  -1  ]  (max twenty pts)
00784>                           IDovf=[   ], NHYDovf=[   ]
00785> *%------------------|---------------------------------------------------------------------|
00786> *#------------------|---------------------------------------------------------------------|
00787> *#------------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-----------------|
00788> *#------------------|---------------------------------------------------------------------|
00789> *%------------------|---------------------------------------------------------------------|
00790> ADD HYD             IDsum=[1], NHYD=["WC9c"], IDs to add=[9,5,10]
00791> *%------------------|---------------------------------------------------------------------|
00792> *%------------------|---------------------------------------------------------------------|
00793> *#------------------|---------------------------------------------------------------------|
00794> *#------------------|--WATERCOURSE 8 CATCHMENTS---------------------------------|
00795> *#------------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8--------------------|
00796> *#------------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
00797> *#------------------|---------------------------------------------------------------------|
00798> *%------------------|---------------------------------------------------------------------|
00799> CALIB NASHYD        ID=[1], NHYD=["8i"], DT=[1]min, AREA=[2.23](ha),
00800>                     DWF=[0](cms),  CN/C=[63.5], IA=[8.6](mm),
00801>                     N=[3], TP=[0.28]hrs,
00802>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00803> *%------------------|---------------------------------------------------------------------|
00804> CALIB NASHYD        ID=[2], NHYD=["EXT-8"], DT=[1]min, AREA=[7.60](ha),
00805>                     DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
00806>                     N=[3], TP=[0.55]hrs,
00807>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00808> *%------------------|---------------------------------------------------------------------|
00809> *#------------------|---------------------------------------------------------------------|
00810> *#------------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
```

```
00811> *#------------------|-------------------------------------------------------------|
00812> *%------------------|-------------------------------------------------------------|
00813> ADD HYD             IDsum=[3], NHYD=["WC8"], IDs to add=[1,2]
00814> *%------------------|-------------------------------------------------------------|
00815> *#*****************************************************************************
00816> *#***************************Chicago 10yr 4-hr storm**************************
00817> *#*****************************************************************************
00818> *%------------------|-------------------------------------------------------------|
00819>
00820> CHICAGO STORM       IUNITS=[2],  TD=[4.0](hrs), TPRAT=[0.33],  CSDT=[5](min),
00821>                     ICASEcs=[2],
00822>                     Enter ordinates of IDF curve below, at least seven points
00823>                         TIME (min)    Intensity(mm/hr)
00824>                           [   5    ]       [  182.3  ]
00825>                           [   10   ]       [  112.3   ]
00826>                           [   15   ]       [  84.6   ]
00827>                           [   30   ]       [  52.1   ]
00828>                           [   60   ]       [  32.1   ]
00829>                           [   120  ]       [  19.8   ]
00830>                           [   360  ]       [  9.2    ]
00831>                           [   720  ]       [  5.7    ]
00832>                           [   1440 ]       [  3.5    ]
00833>                             -1               -1
00834> *%------------------|-------------------------------------------------------------|
00835>
00836> *%------------------|-------------------------------------------------------------|
00837> *%------------------|-------------------------------------------------------------|
00838> *#------------------|-------------------------------------------------------------|
00839> *#------------------|-POST-DEVELOPMENT-----------------------------------------|
00840> *#------------------|-------------------------------------------------------------|
00841> *#------------------|-------------------------------------------------------------|
00842> *#------------------|-Subwatershed 9 External Drainage Area--------------------|
00843> *#------------------|-Per 'The Orchards' FSSWM Report--------------------------|
00844> *#------------------|-Prepared by Higgins Engineering (Jan. 2005)--------------|
00845> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00846> *#------------------|-------------------------------------------------------------|
00847> *%------------------|-------------------------------------------------------------|
00848> CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00849>                     DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00850>                     N=[3], TP=[1.00]hrs,
00851>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00852> *%------------------|-------------------------------------------------------------|
00853> ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
00854>                     RDT=[1](min),
00855>                     CHLGTH=[550](m),  CHSLOPE=[2](%),
00856>                                       FPSLOPE=[2](%),
00857>                     SECNUM=[1],       NSEG=[3]
00858>                     ( SEGROUGH, SEGDIST (m))=[0.035,8,-0.035,12,0.035,20] NSEG t
00859>                     ( DISTANCE (m), ELEVATION (m))=[0,102]
00860>                                                   [8,100]
00861>                                                   [12,100]
00862>                                                   [20,102]
00863> *%------------------|-------------------------------------------------------------|
00864> CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00865>                     XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00866>                     Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00867>                             DCAY=[2](/hr), F=[0](mm),
00868>                     Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00869>                                          LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00870>                     Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00871>                                          LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00872>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00873> *%------------------|-------------------------------------------------------------|
00874> ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00875>                     RDT=[1](min),
00876>                           TABLE of ( OUTFLOW-STORAGE ) values
00877>                                      (cms) - (ha-m)
00878>                                    [   0.0 ,  0.0 ]
00879>                                    [   0.0100 ,  0.0610 ]
00880>                                    [   0.0400 ,  0.1310 ]
00881>                                    [   0.0700 ,  0.2110 ]
00882>                                    [   0.2600 ,  0.3000 ]
00883>                                    [   0.6000 ,  0.3940 ]
00884>                                    [   1.0200 ,  0.4950 ]
00885>                                    [   1.5200 ,  0.6020 ]
00886>                                    [   2.0800 ,  0.7160 ]
00887>                                    [   2.6900 ,  0.8370 ]
00888>                           IDovf=[ ], NHYDovf=[  ]
00889> *%------------------|-------------------------------------------------------------|
00890> *#------------------|-------------------------------------------------------------|
00891> *#------------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00892> *#------------------|-------------------------------------------------------------|
00893> *%------------------|-------------------------------------------------------------|
00894> ADD HYD             IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00895> *%------------------|-------------------------------------------------------------|
00896> CALIB NASHYD        ID=[1], NHYD=["EXT-9D"], DT=[1]min, AREA=[0.63](ha),
00897>                     DWF=[0](cms),  CN/C=[73.0], IA=[10.0](mm),
00898>                     N=[3], TP=[0.2]hrs,
00899>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00900> *%------------------|-------------------------------------------------------------|
00901> *#------------------|-------------------------------------------------------------|
00902> *#------------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
00903> *#------------------|-------------------------------------------------------------|
00904> *%------------------|-------------------------------------------------------------|
00905> CALIB NASHYD        ID=[2], NHYD=["9C9D"], DT=[1]min, AREA=[2.47](ha),
00906>                     DWF=[0](cms),  CN/C=[49.6], IA=[8.0](mm),
00907>                     N=[3], TP=[0.18]hrs,
00908>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00909> *%------------------|-------------------------------------------------------------|
00910> ADD HYD             IDsum=[4], NHYD=["WC9a"], IDs to add=[1,2,5]
00911> *%------------------|-------------------------------------------------------------|
00912> *#------------------|-------------------------------------------------------------|
00913> *#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT-----------------|
00914> *#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-----------------------|
00915> *#------------------|-------------------------------------------------------------|
00916> *%------------------|-------------------------------------------------------------|
00917> CALIB NASHYD        ID=[1], NHYD=["EXT-9C"], DT=[1]min, AREA=[8.4](ha),
00918>                     DWF=[0](cms),  CN/C=[74.9], IA=[8.4](mm),
00919>                     N=[3], TP=[0.47]hrs,
00920>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00921> *%------------------|-------------------------------------------------------------|
00922> CALIB STANDHYD      ID=[3], NHYD=["9B"], DT=[1](min), AREA=[3.10](ha),
00923>                     XIMP=[0.30], TIMP=[0.525], DWF=[0](cms), LOSS=[2],
00924>                     SCS curve number CN=[79.0],
00925>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[3.0](%),
00926>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00927>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00928>                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
00929>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00930> *%------------------|-------------------------------------------------------------|
00931> CALIB NASHYD        ID=[5], NHYD=["9E"], DT=[1]min, AREA=[2.1](ha),
00932>                     DWF=[0](cms),  CN/C=[54.1], IA=[9.32](mm),
00933>                     N=[3], TP=[0.11]hrs,
00934>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00935> *%------------------|-------------------------------------------------------------|
00936> ADD HYD             IDsum=[6], NHYD=["SWMF1"], IDs to add=[1,3,5]
00937> *%------------------|-------------------------------------------------------------|
00938> *#------------------|-------------------------------------------------------------|
00939> *#------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
00940> *#------------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT--------------|
00941> *#------------------|-------------------------------------------------------------|
00942> *%------------------|-------------------------------------------------------------|
00943> ROUTE RESERVOIR     IDout=[1],   NHYD=["SWMF-1"],  IDin=[6],
00944>                     RDT=[1](min),
00945>                           TABLE of ( OUTFLOW-STORAGE ) values
00946>                                      (cms) - (ha-m)
00947>                                    [   0.0 ,  0.0 ]
00948>                                    [   0.005 ,  0.018 ]
00949>                                    [   0.011 ,  0.058 ]
00950>                                    [   0.015 ,  0.104 ]
00951>                                    [   0.017 ,  0.141 ]
00952>                                    [   0.019 ,  0.182 ]
00953>                                    [   0.024 ,  0.303 ]
00954>                                    [   0.028 ,  0.443 ]
00955>                                    [   0.031 ,  0.601 ]
00956>                                    [   0.032 ,  1.119 ]
00957>                                    [   0.033 ,  1.163 ]
00958>                                    [   0.359 ,  1.207 ]
00959>                                    [   1.054 ,  1.253 ]
00960>                                    [   -1  ,  -1  ]  (max twenty pts)
00961>                           IDovf=[   ], NHYDovf=[   ]
00962> *%------------------|-------------------------------------------------------------|
00963> ADD HYD             IDsum=[7], NHYD=["WC9b"], IDs to add=[1,4]
00964> *%------------------|-------------------------------------------------------------|
00965> *#------------------|-------------------------------------------------------------|
00966> *#------------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
00967> *#------------------|-------------------------------------------------------------|
00968> *%------------------|-------------------------------------------------------------|
00969> *#------------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
00970> *#------------------|-------------------------------------------------------------|
00971> CALIB STANDHYD      ID=[10], NHYD=["9P"], DT=[1](min), AREA=[1.75](ha),
00972>                     XIMP=[0.184], TIMP=[0.480], DWF=[0](cms), LOSS=[2],
00973>                     SCS curve number CN=[61.0],
00974>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00975>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00976>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00977>                                          LGI=[108](m), MNI=[0.013], SCI=[0](min)
00978>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00979> *%------------------|-------------------------------------------------------------|
00980> *#------------------|-------------------------------------------------------------|
00981> *#------------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
00982> *#------------------|-------------------------------------------------------------|
00983> *%------------------|-------------------------------------------------------------|
00984> *%------------------|-------------------------------------------------------------|
00985> CALIB NASHYD        ID=[1], NHYD=["9J"], DT=[1]min, AREA=[0.81](ha),
00986>                     DWF=[0](cms),  CN/C=[68.7], IA=[7.6](mm),
00987>                     N=[3], TP=[0.19]hrs,
00988>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00989> *%------------------|-------------------------------------------------------------|
00990> CALIB NASHYD        ID=[2], NHYD=["9O"], DT=[1]min, AREA=[0.35](ha),
00991>                     DWF=[0](cms),  CN/C=[65.0], IA=[8.0](mm),
00992>                     N=[3], TP=[0.26]hrs,
00993>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00994> *%------------------|-------------------------------------------------------------|
00995> CALIB NASHYD        ID=[3], NHYD=["9K9L"], DT=[1]min, AREA=[1.32](ha),
00996>                     DWF=[0](cms),  CN/C=[50.4], IA=[9.4](mm),
00997>                     N=[3], TP=[0.35]hrs,
00998>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00999> *%------------------|-------------------------------------------------------------|
01000> ADD HYD             IDsum=[5], NHYD=["WC9LOWER"], IDs to add=[1,2,3,7]
01001> *%------------------|-------------------------------------------------------------|
01002> *#------------------|-------------------------------------------------------------|
01003> *#------------------|-LANDS DRAINING TO SWM FACILITY 2--------------------------|
01004> *#------------------|-------------------------------------------------------------|
01005> CALIB NASHYD        ID=[1], NHYD=["9G"], DT=[1]min, AREA=[1.16](ha),
01006>                     DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
01007>                     N=[3], TP=[0.14]hrs,
01008>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01009> *%------------------|-------------------------------------------------------------|
01010> CALIB NASHYD        ID=[2], NHYD=["9H"], DT=[1]min, AREA=[1.67](ha),
01011>                     DWF=[0](cms),  CN/C=[34.7], IA=[9.1](mm),
01012>                     N=[3], TP=[0.27]hrs,
01013>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01014> *%------------------|-------------------------------------------------------------|
01015> CALIB STANDHYD      ID=[3], NHYD=["9M"], DT=[1](min), AREA=[5.80](ha),
01016>                     XIMP=[0.229], TIMP=[0.56], DWF=[0](cms), LOSS=[2],
01017>                     SCS curve number CN=[69],
01018>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
01019>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
01020>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
01021>                                          LGI=[197](m), MNI=[0.013], SCI=[0](min)
01022>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
01023> *%------------------|-------------------------------------------------------------|
01024> CALIB STANDHYD      ID=[4], NHYD=["9N"], DT=[1](min), AREA=[1.85](ha),
01025>                     XIMP=[0.189], TIMP=[0.266], DWF=[0](cms), LOSS=[2],
01026>                     SCS curve number CN=[61],
01027>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
01028>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
01029>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
01030>                                          LGI=[111](m), MNI=[0.013], SCI=[0](min)
01031>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
01032> *%------------------|-------------------------------------------------------------|
01033> ADD HYD             IDsum=[6], NHYD=["SWMF2"], IDs to add=[1,2,3,4]
01034> *%------------------|-------------------------------------------------------------|
01035> *#------------------|-------------------------------------------------------------|
01036> *#------------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)----------|
01037> *#------------------|-------------------------------------------------------------|
01038> *%------------------|-------------------------------------------------------------|
01039> ROUTE RESERVOIR     IDout=[9],   NHYD=["SWMF-2"],  IDin=[6],
01040>                     RDT=[1](min),
01041>                           TABLE of ( OUTFLOW-STORAGE ) values
01042>                                      (cms) - (ha-m)
01043>                                    [   0.0 ,  0.0 ]
01044>                                    [   0.004 ,  0.016 ]
01045>                                    [   0.009 ,  0.053 ]
01046>                                    [   0.011 ,  0.074 ]
01047>                                    [   0.013 ,  0.119 ]
01048>                                    [   0.014 ,  0.132 ]
01049>                                    [   0.016 ,  0.171 ]
01050>                                    [   0.017 ,  0.199 ]
01051>                                    [   0.018 ,  0.228 ]
01052>                                    [   0.344 ,  0.259 ]
01053>                                    [   1.040 ,  0.291 ]
01054>                                    [   2.076 ,  0.325 ]
01055>                                    [   -1  ,  -1  ]  (max twenty pts)
01056>                           IDovf=[   ], NHYDovf=[   ]
01057> *%------------------|-------------------------------------------------------------|
01058> *#------------------|-------------------------------------------------------------|
01059> *#------------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-------------------|
01060> *#------------------|-------------------------------------------------------------|
01061> *%------------------|-------------------------------------------------------------|
01062> ADD HYD             IDsum=[1], NHYD=["WC9c"], IDs to add=[9,5,10]
01063> *%------------------|-------------------------------------------------------------|
01064> *%------------------|-------------------------------------------------------------|
01065> *#------------------|-------------------------------------------------------------|
01066> *#------------------|--WATERCOURSE 8 CATCHMENTS----------------------------------|
01067> *#------------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------------|
01068> *#------------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
01069> *#------------------|-------------------------------------------------------------|
01070> *%------------------|-------------------------------------------------------------|
01071> CALIB NASHYD        ID=[1], NHYD=["8i"], DT=[1]min, AREA=[2.23](ha),
01072>                     DWF=[0](cms),  CN/C=[63.5], IA=[8.6](mm),
01073>                     N=[3], TP=[0.28]hrs,
01074>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01075> *%------------------|-------------------------------------------------------------|
01076> CALIB NASHYD        ID=[2], NHYD=["EXT-8"], DT=[1]min, AREA=[7.60](ha),
01077>                     DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
01078>                     N=[3], TP=[0.55]hrs,
01079>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01080> *%------------------|-------------------------------------------------------------|
```

```
*#------------------|-------------------------------------------------------------|
*#------------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i--------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["WC8"], IDs to add=[1,2]
*%------------------|-------------------------------------------------------------|
*#*****************************************************************************
*#**************************Chicago 25yr 4-hr storm****************************
*#*****************************************************************************
*%------------------|-------------------------------------------------------------|

CHICAGO STORM       IUNITS=[2],  TD=[4.0](hrs), TPRAT=[0.33],  CSDT=[5](min),
                    ICASEcs=[2],
                    Enter ordinates of IDF curve below, at least seven points
                        TIME (min)    Intensity(mm/hr)
                          [   5    ]       [  215.3  ]
                          [   10   ]       [  132.6  ]
                          [   15   ]       [  99.9   ]
                          [   30   ]       [  61.5   ]
                          [   60   ]       [  37.9   ]
                          [   120  ]       [  23.3   ]
                          [   360  ]       [  10.8   ]
                          [   720  ]       [  6.7    ]
                          [   1440 ]       [  4.1    ]
                            -1               -1
*%------------------|-------------------------------------------------------------|

*%------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-POST-DEVELOPMENT----------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-Subwatershed 9 External Drainage Area-------------------------|
*#------------------|-Per 'The Orchards' FSSWM Report-------------------------------|
*#------------------|-Prepared by Higgins Engineering (Jan. 2005)-------------------|
*#---'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha---------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
                    DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
                    N=[3], TP=[1.00]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|

ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
                    RDT=[1](min),
                    CHLGTH=[550](m),  CHSLOPE=[2](%),
                                      FPSLOPE=[2](%),
                    SECNUM=[1],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.035,8,-0.035,12,0.035,20] NSEG t
                    ( DISTANCE (m), ELEVATION (m))=[0,102]
                                                   [8,100]
                                                   [12,100]
                                                   [20,102]
*%------------------|-------------------------------------------------------------|

CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
                    XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
                    Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
                            DCAY=[2](/hr), F=[0](mm),
                    Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
                                         LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
                    Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
                                         LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%------------------|-------------------------------------------------------------|

ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,   0.0 ]
                                   [   0.0100 ,  0.0610 ]
                                   [   0.0400 ,  0.1310 ]
                                   [   0.0700 ,  0.2110 ]
                                   [   0.2600 ,  0.3000 ]
                                   [   0.6000 ,  0.3940 ]
                                   [   1.0200 ,  0.4950 ]
                                   [   1.5200 ,  0.6020 ]
                                   [   2.0800 ,  0.7160 ]
                                   [   2.6900 ,  0.8370 ]
                          IDovf=[ ], NHYDovf=[  ]
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing-------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|

ADD HYD             IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[1], NHYD=["EXT-9D"], DT=[1]min, AREA=[0.63](ha),
                    DWF=[0](cms),  CN/C=[73.0], IA=[10.0](mm),
                    N=[3], TP=[0.2]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-Parkbridge Craigleith - Upper Terrace Lands-------------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[2], NHYD=["9C9D"], DT=[1]min, AREA=[2.47](ha),
                    DWF=[0](cms),  CN/C=[49.6], IA=[8.0](mm),
                    N=[3], TP=[0.18]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|

ADD HYD             IDsum=[4], NHYD=["WC9a"], IDs to add=[1,2,5]
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT-----------------|
*#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-------------------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[1], NHYD=["EXT-9C"], DT=[1]min, AREA=[8.4](ha),
                    DWF=[0](cms),  CN/C=[74.9], IA=[8.4](mm),
                    N=[3], TP=[0.47]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|

CALIB STANDHYD      ID=[3], NHYD=["9B"], DT=[1](min), AREA=[3.10](ha),
                    XIMP=[0.30], TIMP=[0.525], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[3.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[110](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[5], NHYD=["9E"], DT=[1]min, AREA=[2.1](ha),
                    DWF=[0](cms),  CN/C=[54.1], IA=[9.32](mm),
                    N=[3], TP=[0.11]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|

ADD HYD             IDsum=[6], NHYD=["SWMF1"], IDs to add=[1,3,5]
*%------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE----------|
*#------------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT-----------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|

ROUTE RESERVOIR     IDout=[1],   NHYD=["SWMF-1"],  IDin=[6],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,   0.0 ]
                                   [   0.005 ,  0.018 ]
                                   [   0.011 ,  0.058 ]
                                   [   0.015 ,  0.104 ]
                                   [   0.017 ,  0.141 ]
                                   [   0.019 ,  0.182 ]
                                   [   0.024 ,  0.303 ]
                                   [   0.028 ,  0.443 ]
                                   [   0.031 ,  0.601 ]
                                   [   0.032 ,  1.119 ]
                                   [   0.033 ,  1.163 ]
                                   [   0.359 ,  1.207 ]
                                   [   1.054 ,  1.253 ]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[   ], NHYDovf=[   ]
*%------------------|-------------------------------------------------------------|

ADD HYD             IDsum=[7], NHYD=["WC9b"], IDs to add=[1,4]
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-Parkbridge Craigleith - Lower Terrace Lands-------------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
*#------------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9---------------------|
*#------------------|-------------------------------------------------------------|

CALIB STANDHYD      ID=[10], NHYD=["9P"], DT=[1](min), AREA=[1.75](ha),
                    XIMP=[0.184], TIMP=[0.480], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[61.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[108](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-LANDS DRAINING TO WC 9 UNCONTROLLED --------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[1], NHYD=["9J"], DT=[1]min, AREA=[0.81](ha),
                    DWF=[0](cms),  CN/C=[68.7], IA=[7.6](mm),
                    N=[3], TP=[0.19]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[2], NHYD=["9O"], DT=[1]min, AREA=[0.35](ha),
                    DWF=[0](cms),  CN/C=[65.0], IA=[8.0](mm),
                    N=[3], TP=[0.26]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[3], NHYD=["9K9L"], DT=[1]min, AREA=[1.32](ha),
                    DWF=[0](cms),  CN/C=[50.4], IA=[9.4](mm),
                    N=[3], TP=[0.35]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|

ADD HYD             IDsum=[5], NHYD=["WC9LOWER"], IDs to add=[1,2,3,7]
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-LANDS DRAINING TO SWM FACILITY 2------------------------------|
*#------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[1], NHYD=["9G"], DT=[1]min, AREA=[1.16](ha),
                    DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
                    N=[3], TP=[0.14]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[2], NHYD=["9H"], DT=[1]min, AREA=[1.67](ha),
                    DWF=[0](cms),  CN/C=[34.7], IA=[9.1](mm),
                    N=[3], TP=[0.27]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|

CALIB STANDHYD      ID=[3], NHYD=["9M"], DT=[1](min), AREA=[5.80](ha),
                    XIMP=[0.229], TIMP=[0.56], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[69],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[197](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%------------------|-------------------------------------------------------------|

CALIB STANDHYD      ID=[4], NHYD=["9N"], DT=[1](min), AREA=[1.85](ha),
                    XIMP=[0.189], TIMP=[0.266], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[61],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[111](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%------------------|-------------------------------------------------------------|

ADD HYD             IDsum=[6], NHYD=["SWMF2"], IDs to add=[1,2,3,4]
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)-------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|

ROUTE RESERVOIR     IDout=[9],   NHYD=["SWMF-2"],  IDin=[6],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,   0.0 ]
                                   [   0.004 ,  0.016 ]
                                   [   0.009 ,  0.053 ]
                                   [   0.011 ,  0.074 ]
                                   [   0.013 ,  0.119 ]
                                   [   0.014 ,  0.132 ]
                                   [   0.016 ,  0.171 ]
                                   [   0.017 ,  0.199 ]
                                   [   0.018 ,  0.228 ]
                                   [   0.344 ,  0.259 ]
                                   [   1.040 ,  0.291 ]
                                   [   2.076 ,  0.325 ]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[   ], NHYDovf=[   ]
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD---------------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|

ADD HYD             IDsum=[1], NHYD=["WC9c"], IDs to add=[9,5,10]
*%------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|--WATERCOURSE 8 CATCHMENTS-------------------------------------|
*#------------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8------------------------|
*#------------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8--------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[1], NHYD=["8i"], DT=[1]min, AREA=[2.23](ha),
                    DWF=[0](cms),  CN/C=[63.5], IA=[8.6](mm),
                    N=[3], TP=[0.28]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[2], NHYD=["EXT-8"], DT=[1]min, AREA=[7.60](ha),
                    DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
                    N=[3], TP=[0.55]hrs,
```

```
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
*#-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
ADD HYD              IDsum=[3], NHYD=["WC8"], IDs to add=[1,2]
*%-----------------|---------------------------------------------------------|
*#*******************************************************************************
*#**********************************Chicago 50yr 4-hr storm**********************
*#*******************************************************************************
*%-----------------|---------------------------------------------------------|

CHICAGO STORM        IUNITS=[2],  TD=[4.0](hrs), TPRAT=[0.33],  CSDT=[5](min),
                     ICASEcs=[2],
                     Enter ordinates of IDF curve below, at least seven points
                         TIME (min)    Intensity(mm/hr)
                           [   5    ]       [  239.7  ]
                           [   10   ]       [  147.7  ]
                           [   15   ]       [  111.2  ]
                           [   30   ]       [  68.5   ]
                           [   60   ]       [  42.2   ]
                           [   120  ]       [  26.0   ]
                           [   360  ]       [  12.1   ]
                           [   720  ]       [  7.4    ]
                           [   1440 ]       [  4.6    ]
                             -1               -1

*%-----------------|---------------------------------------------------------|

*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-POST-DEVELOPMENT------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-Subwatershed 9 External Drainage Area---------------------|
*#-----------------|-Per 'The Orchards' FSSWM Report---------------------------|
*#-----------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
*#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
*#-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|

CALIB NASHYD         ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
                     DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
                     N=[3], TP=[1.00]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|

ROUTE CHANNEL        IDout=[2], NHYD=["Channel"], IDin=[1],
                     RDT=[1](min),
                     CHLGTH=[550](m),  CHSLOPE=[2](%),
                                       FPSLOPE=[2](%),
                     SECNUM=[1],       NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=[0.035,8,-0.035,12,0.035,20] NSEG t
                     ( DISTANCE (m), ELEVATION (m))=[0,102]
                                                   [8,100]
                                                   [12,100]
                                                   [20,102]
*%-----------------|---------------------------------------------------------|

CALIB STANDHYD       ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
                     XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
                     Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
                             DCAY=[2](/hr), F=[0](mm),
                     Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
                                          LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
                     Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
                                          LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-----------------|---------------------------------------------------------|

ROUTE RESERVOIR      IDout=[4],   NHYD=["Orchards"],  IDin=[3],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0 ]
                                    [   0.0100 ,  0.0610 ]
                                    [   0.0400 ,  0.1310 ]
                                    [   0.0700 ,  0.2110 ]
                                    [   0.2600 ,  0.3000 ]
                                    [   0.6000 ,  0.3940 ]
                                    [   1.0200 ,  0.4950 ]
                                    [   1.5200 ,  0.6020 ]
                                    [   2.0800 ,  0.7160 ]
                                    [   2.6900 ,  0.8370 ]
                           IDovf=[ ], NHYDovf=[  ]
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
*#-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
ADD HYD              IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
*%-----------------|---------------------------------------------------------|

CALIB NASHYD         ID=[1], NHYD=["EXT-9D"], DT=[1]min, AREA=[0.63](ha),
                     DWF=[0](cms),  CN/C=[73.0], IA=[10.0](mm),
                     N=[3], TP=[0.2]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
*#-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|

CALIB NASHYD         ID=[2], NHYD=["9C9D"], DT=[1]min, AREA=[2.47](ha),
                     DWF=[0](cms),  CN/C=[49.6], IA=[8.0](mm),
                     N=[3], TP=[0.18]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|

ADD HYD              IDsum=[4], NHYD=["WC9a"], IDs to add=[1,2,5]
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
*#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-----------------------|
*#-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|

CALIB NASHYD         ID=[1], NHYD=["EXT-9C"], DT=[1]min, AREA=[8.4](ha),
                     DWF=[0](cms),  CN/C=[74.9], IA=[8.4](mm),
                     N=[3], TP=[0.47]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|

CALIB STANDHYD       ID=[3], NHYD=["9B"], DT=[1](min), AREA=[3.10](ha),
                     XIMP=[0.30], TIMP=[0.525], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[79.0],
                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[3.0](%),
                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-----------------|---------------------------------------------------------|

CALIB NASHYD         ID=[5], NHYD=["9E"], DT=[1]min, AREA=[2.1](ha),
                     DWF=[0](cms),  CN/C=[54.1], IA=[9.32](mm),
                     N=[3], TP=[0.11]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|

ADD HYD              IDsum=[6], NHYD=["SWMF1"], IDs to add=[1,3,5]
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
*#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
*#-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT--------------|
*#-----------------|---------------------------------------------------------|

*%-----------------|---------------------------------------------------------|
ROUTE RESERVOIR      IDout=[1],   NHYD=["SWMF-1"],  IDin=[6],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0 ]
                                    [   0.005 ,  0.018 ]
                                    [   0.011 ,  0.058 ]
                                    [   0.015 ,  0.104 ]
                                    [   0.017 ,  0.141 ]
                                    [   0.019 ,  0.182 ]
                                    [   0.024 ,  0.303 ]
                                    [   0.028 ,  0.443 ]
                                    [   0.031 ,  0.601 ]
                                    [   0.032 ,  1.119 ]
                                    [   0.033 ,  1.163 ]
                                    [   0.359 ,  1.207 ]
                                    [   1.054 ,  1.253 ]
                                    [   -1  ,  -1  ]  (max twenty pts)
                           IDovf=[   ], NHYDovf=[   ]
*%-----------------|---------------------------------------------------------|

ADD HYD              IDsum=[7], NHYD=["WC9b"], IDs to add=[1,4]
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
*#-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
*#-----------------|---------------------------------------------------------|

CALIB STANDHYD       ID=[10], NHYD=["9P"], DT=[1](min), AREA=[1.75](ha),
                     XIMP=[0.184], TIMP=[0.480], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[61.0],
                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                          LGI=[108](m), MNI=[0.013], SCI=[0](min)
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED -----------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|

CALIB NASHYD         ID=[1], NHYD=["9J"], DT=[1]min, AREA=[0.81](ha),
                     DWF=[0](cms),  CN/C=[68.7], IA=[7.6](mm),
                     N=[3], TP=[0.19]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|

CALIB NASHYD         ID=[2], NHYD=["9O"], DT=[1]min, AREA=[0.35](ha),
                     DWF=[0](cms),  CN/C=[65.0], IA=[8.0](mm),
                     N=[3], TP=[0.26]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|

CALIB NASHYD         ID=[3], NHYD=["9K9L"], DT=[1]min, AREA=[1.32](ha),
                     DWF=[0](cms),  CN/C=[50.4], IA=[9.4](mm),
                     N=[3], TP=[0.35]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|

ADD HYD              IDsum=[5], NHYD=["WC9LOWER"], IDs to add=[1,2,3,7]
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-LANDS DRAINING TO SWM FACILITY 2---------------------------|
*#-----------------|---------------------------------------------------------|

CALIB NASHYD         ID=[1], NHYD=["9G"], DT=[1]min, AREA=[1.16](ha),
                     DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
                     N=[3], TP=[0.14]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|

CALIB NASHYD         ID=[2], NHYD=["9H"], DT=[1]min, AREA=[1.67](ha),
                     DWF=[0](cms),  CN/C=[34.7], IA=[9.1](mm),
                     N=[3], TP=[0.27]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|

CALIB STANDHYD       ID=[3], NHYD=["9M"], DT=[1](min), AREA=[5.80](ha),
                     XIMP=[0.229], TIMP=[0.56], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[69],
                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                          LGI=[197](m), MNI=[0.013], SCI=[0](min)
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-----------------|---------------------------------------------------------|

CALIB STANDHYD       ID=[4], NHYD=["9N"], DT=[1](min), AREA=[1.85](ha),
                     XIMP=[0.189], TIMP=[0.266], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[61],
                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                          LGI=[111](m), MNI=[0.013], SCI=[0](min)
                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-----------------|---------------------------------------------------------|

ADD HYD              IDsum=[6], NHYD=["SWMF2"], IDs to add=[1,2,3,4]
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)---------|
*#-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|

ROUTE RESERVOIR      IDout=[9],   NHYD=["SWMF-2"],  IDin=[6],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0 ]
                                    [   0.004 ,  0.016 ]
                                    [   0.009 ,  0.053 ]
                                    [   0.011 ,  0.074 ]
                                    [   0.013 ,  0.119 ]
                                    [   0.014 ,  0.132 ]
                                    [   0.016 ,  0.171 ]
                                    [   0.017 ,  0.199 ]
                                    [   0.018 ,  0.228 ]
                                    [   0.344 ,  0.259 ]
                                    [   1.040 ,  0.291 ]
                                    [   2.076 ,  0.325 ]
                                    [   -1  ,  -1  ]  (max twenty pts)
                           IDovf=[   ], NHYDovf=[   ]
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD------------------|
*#-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|

ADD HYD              IDsum=[1], NHYD=["WC9c"], IDs to add=[9,5,10]
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|--WATERCOURSE 8 CATCHMENTS----------------------------------|
*#-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------------|
*#-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
*#-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|

CALIB NASHYD         ID=[1], NHYD=["8i"], DT=[1]min, AREA=[2.23](ha),
                     DWF=[0](cms),  CN/C=[63.5], IA=[8.6](mm),
                     N=[3], TP=[0.28]hrs,
                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|

CALIB NASHYD         ID=[2], NHYD=["EXT-8"], DT=[1]min, AREA=[7.60](ha),
```

```
                    DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
                    N=[3], TP=[0.55]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i--------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["WC8"], IDs to add=[1,2]
*%------------------|-------------------------------------------------------------|
*#*****************************************************************************
*#************************Chicago 100yr 4-hr storm*****************************
*#*****************************************************************************
*%------------------|-------------------------------------------------------------|

CHICAGO STORM       IUNITS=[2],  TD=[4.0](hrs), TPRAT=[0.33],  CSDT=[5](min),
                    ICASEcs=[2],
                    Enter ordinates of IDF curve below, at least seven points
                        TIME (min)    Intensity(mm/hr)
                          [   5    ]       [  263.3  ]
                          [   10   ]       [  162.3  ]
                          [   15   ]       [  122.3  ]
                          [   30   ]       [  75.3   ]
                          [   60   ]       [  46.4   ]
                          [   120  ]       [  28.6   ]
                          [   360  ]       [  13.3   ]
                          [   720  ]       [  8.2    ]
                          [   1440 ]       [  5.0    ]
                             -1                -1
*%------------------|-------------------------------------------------------------|

*%------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-POST-DEVELOPMENT----------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-Subwatershed 9 External Drainage Area-------------------|
*#------------------|-Per 'The Orchards' FSSWM Report-------------------------|
*#------------------|-Prepared by Higgins Engineering (Jan. 2005)-------------|
*#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
                    DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
                    N=[3], TP=[1.00]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|

ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
                    RDT=[1](min),
                    CHLGTH=[550](m),  CHSLOPE=[2](%),
                                      FPSLOPE=[2](%),
                    SECNUM=[1],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.035,8,-0.035,12,0.035,20] NSEG t
                    ( DISTANCE (m), ELEVATION (m))=[0,102]
                                                  [8,100]
                                                  [12,100]
                                                  [20,102]
*%------------------|-------------------------------------------------------------|

CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
                    XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
                    Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
                            DCAY=[2](/hr), F=[0](mm),
                    Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
                                         LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
                    Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
                                         LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%------------------|-------------------------------------------------------------|

ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
                    RDT=[1](min),
                                TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                    [   0.0 ,  0.0 ]
                                    [   0.0100 ,  0.0610 ]
                                    [   0.0400 ,  0.1310 ]
                                    [   0.0700 ,  0.2110 ]
                                    [   0.2600 ,  0.3000 ]
                                    [   0.6000 ,  0.3940 ]
                                    [   1.0200 ,  0.4950 ]
                                    [   1.5200 ,  0.6020 ]
                                    [   2.0800 ,  0.7160 ]
                                    [   2.6900 ,  0.8370 ]
                                IDovf=[ ], NHYDovf=[  ]
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[1], NHYD=["EXT-9D"], DT=[1]min, AREA=[0.63](ha),
                    DWF=[0](cms),  CN/C=[73.0], IA=[10.0](mm),
                    N=[3], TP=[0.2]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-Parkbridge Craigleith - Upper Terrace Lands-------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[2], NHYD=["9C9D"], DT=[1]min, AREA=[2.47](ha),
                    DWF=[0](cms),  CN/C=[49.6], IA=[8.0](mm),
                    N=[3], TP=[0.18]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["WC9a"], IDs to add=[1,2,5]
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT----------------|
*#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-----------------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[1], NHYD=["EXT-9C"], DT=[1]min, AREA=[8.4](ha),
                    DWF=[0](cms),  CN/C=[74.9], IA=[8.4](mm),
                    N=[3], TP=[0.47]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|

CALIB STANDHYD      ID=[3], NHYD=["9B"], DT=[1](min), AREA=[3.10](ha),
                    XIMP=[0.30], TIMP=[0.525], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[3.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[110](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[5], NHYD=["9E"], DT=[1]min, AREA=[2.1](ha),
                    DWF=[0](cms),  CN/C=[54.1], IA=[9.32](mm),
                    N=[3], TP=[0.11]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[6], NHYD=["SWMF1"], IDs to add=[1,3,5]
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE---------|
*#------------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT----------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|

ROUTE RESERVOIR     IDout=[1],   NHYD=["SWMF-1"],  IDin=[6],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                               [   0.0 ,  0.0 ]
                               [   0.005 ,  0.018 ]
                               [   0.011 ,  0.058 ]
                               [   0.015 ,  0.104 ]
                               [   0.017 ,  0.141 ]
                               [   0.019 ,  0.182 ]
                               [   0.024 ,  0.303 ]
                               [   0.028 ,  0.443 ]
                               [   0.031 ,  0.601 ]
                               [   0.032 ,  1.119 ]
                               [   0.033 ,  1.163 ]
                               [   0.359 ,  1.207 ]
                               [   1.054 ,  1.253 ]
                               [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[   ], NHYDovf=[   ]
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[7], NHYD=["WC9b"], IDs to add=[1,4]
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-Parkbridge Craigleith - Lower Terrace Lands-------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
*#------------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9---------------|
*#------------------|-------------------------------------------------------------|

CALIB STANDHYD      ID=[10], NHYD=["9P"], DT=[1](min), AREA=[1.75](ha),
                    XIMP=[0.184], TIMP=[0.480], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[61.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[108](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-LANDS DRAINING TO WC 9 UNCONTROLLED --------------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[1], NHYD=["9J"], DT=[1]min, AREA=[0.81](ha),
                    DWF=[0](cms),  CN/C=[68.7], IA=[7.6](mm),
                    N=[3], TP=[0.19]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[2], NHYD=["9O"], DT=[1]min, AREA=[0.35](ha),
                    DWF=[0](cms),  CN/C=[65.0], IA=[8.0](mm),
                    N=[3], TP=[0.26]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[3], NHYD=["9K9L"], DT=[1]min, AREA=[1.32](ha),
                    DWF=[0](cms),  CN/C=[50.4], IA=[9.4](mm),
                    N=[3], TP=[0.35]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["WC9LOWER"], IDs to add=[1,2,3,7]
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-LANDS DRAINING TO SWM FACILITY 2------------------------|
*#------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[1], NHYD=["9G"], DT=[1]min, AREA=[1.16](ha),
                    DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
                    N=[3], TP=[0.14]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[2], NHYD=["9H"], DT=[1]min, AREA=[1.67](ha),
                    DWF=[0](cms),  CN/C=[34.7], IA=[9.1](mm),
                    N=[3], TP=[0.27]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|

CALIB STANDHYD      ID=[3], NHYD=["9M"], DT=[1](min), AREA=[5.80](ha),
                    XIMP=[0.229], TIMP=[0.56], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[69],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[197](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%------------------|-------------------------------------------------------------|

CALIB STANDHYD      ID=[4], NHYD=["9N"], DT=[1](min), AREA=[1.85](ha),
                    XIMP=[0.189], TIMP=[0.266], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[61],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[111](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[6], NHYD=["SWMF2"], IDs to add=[1,2,3,4]
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)---------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|

ROUTE RESERVOIR     IDout=[9],   NHYD=["SWMF-2"],  IDin=[6],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                               [   0.0 ,  0.0 ]
                               [   0.004 ,  0.016 ]
                               [   0.009 ,  0.053 ]
                               [   0.011 ,  0.074 ]
                               [   0.013 ,  0.119 ]
                               [   0.014 ,  0.132 ]
                               [   0.016 ,  0.171 ]
                               [   0.017 ,  0.199 ]
                               [   0.018 ,  0.228 ]
                               [   0.344 ,  0.259 ]
                               [   1.040 ,  0.291 ]
                               [   2.076 ,  0.325 ]
                               [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[   ], NHYDovf=[   ]
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD--------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["WC9c"], IDs to add=[9,5,10]
*%------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|--WATERCOURSE 8 CATCHMENTS-------------------------------|
*#------------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8-----------------|
*#------------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8--------------|
*#------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|

CALIB NASHYD        ID=[1], NHYD=["8i"], DT=[1]min, AREA=[2.23](ha),
                    DWF=[0](cms),  CN/C=[63.5], IA=[8.6](mm),
                    N=[3], TP=[0.28]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
```

```
01891> *%-----------------|-------------------------------------------------------------|
01892> CALIB NASHYD        ID=[2], NHYD=["EXT-8"], DT=[1]min, AREA=[7.60](ha),
01893>                     DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
01894>                     N=[3], TP=[0.55]hrs,
01895>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01896> *%-----------------|-------------------------------------------------------------|
01897> *#-----------------|-------------------------------------------------------------|
01898> *#-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i--------|
01899> *#-----------------|-------------------------------------------------------------|
01900> *%-----------------|-------------------------------------------------------------|
01901> ADD HYD            IDsum=[3], NHYD=["WC8"], IDs to add=[1,2]
01902> *%-----------------|-------------------------------------------------------------|
01903> FINISH
01904>
01905>
01906>
01907>
01908>
01909>
01910>
01911>
01912>
01913>
01914>
01915>
01916>
01917>
01918>
01919>
01920>
01921>
01922>
```

```
00001> ================================================================================
00002>
00003>    SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
00004>    S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>    SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>        S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>    SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9   =========
00008>                                                          9   9  9   9   # 3737016
00009>          StormWater Management HYdrologic Model           999    999    =========
00010>
00011>  ********************************************************************************
00012>  ***************************** SWMHYMO Ver/4.05  ********************************
00013>  *********  A single event and continuous hydrologic simulation model  *********
00014>  *********     based on the principles of HYMO and its successors      *********
00015>  *********                  OTTHYMO-83 and OTTHYMO-89.                  *********
00016>  ********************************************************************************
00017>  ******** Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018>  *********                  Ottawa,  Ontario: (613) 836-3884           *********
00019>  *********                  Gatineau, Quebec: (819) 243-6858           *********
00020>  *********                  E-Mail: swmhymo@jfsa.Com                   *********
00021>  ********************************************************************************
00022>
00023>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024>  +++++++++ Licensed user: C.F. Crozier & Associates Inc.                +++++++++
00025>  +++++++++                  Collingwood          SERIAL#:3737016       +++++++++
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>  ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
00036>  *****------------------------------------------------------------------------*****
00037>  *****    ID:  Hydrograph IDentification numbers, (1-10).                  *****
00038>  *****  NHYD:  Hydrograph reference numbers, (6 digits or characters).     *****
00039>  *****  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).   *****
00040>  ***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).     *****
00041>  ***** TpeakDate_hh:mm is the date and time of the peak flow.              *****
00042>  *****  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).       *****
00043>  *****  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).       *****
00044>  *****    *:  see WARNING or NOTE message printed at end of run.          *****
00045>  *****   **:  see  ERROR  message printed at end of run.                  *****
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  **********************   S U M M A R Y   O U T P U T   **********************
00054>  ********************************************************************************
00055>  *         DATE: 2018-04-29     TIME: 23:59:41     RUN COUNTER: 000887          *
00056>  ********************************************************************************
00057>  * Input   filename: C:\PLAYGR~1\POST_CHI.DAT                                   *
00058>  * Output  filename: C:\PLAYGR~1\POST_CHI.out                                   *
00059>  * Summary filename: C:\PLAYGR~1\POST_CHI.sum                                   *
00060>  * User comments:                                                              *
00061>  * 1:_____________________________________________________________________     *
00062>  * 2:_____________________________________________________________________     *
00063>  * 3:_____________________________________________________________________     *
00064>  ********************************************************************************
00065>
00066>
00067> #*******************************************************************************
00068> #  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
00069> #  Date        : 2018-01-24
00070> #  Modeller    : [OD - UPDATED BY JM/BD]
00071> #  Company     : C.F. Crozier & Associates Inc.
00072> #  License #   : 3737016
00073> #*******************************************************************************
00074>  RUN:COMMAND#
00075>  001:0001----------------------------------------------------------------------
00076>      START
00077>       [TZERO =    .00 hrs on        0]
00078>       [METOUT=   2    (1=imperial, 2=metric output)]
00079>       [NSTORM=   1 ]
00080>       [NRUN  =   1 ]
00081> #*******************************************************************************
00082> #*****************************25mm storm*****************************************
00083> #*******************************************************************************
00084>  001:0002----------------------------------------------------------------------
00085>      READ STORM
00086>       Filename = 25mm.stm
00087>       Comment  =
00088>       [SDT= 5.00:SDUR=   4.00:PTOT=  24.99]
00089> #-----------------|-------------------------------------------------------------|
00090> #-----------------|-POST-DEVELOPMENT----------------------------------------------|
00091> #-----------------|-------------------------------------------------------------|
00092> #-----------------|-------------------------------------------------------------|
00093> #-----------------|-Subwatershed 9 External Drainage Area-------------------------|
00094> #-----------------|-Per 'The Orchards' FSSWM Report-------------------------------|
00095> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)--------------------|
00096> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00097> #-----------------|-------------------------------------------------------------|
00098>  001:0003----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00099>      CALIB NASHYD       01:EXT-9A       101.80     .509 No_date    2:46    4.79
00100>       [CN= 80.0: N= 3.00]
00101>       [Tp= 1.00:DT= 1.00]
00102>  001:0004----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00103>      ROUTE CHANNEL   -> 01:EXT-9A       101.80     .509 No_date    2:46    4.79
00104>       [RDT= 1.00] out<- 02:Channel      101.80     .502 No_date    2:56    4.79
00105>       [L/S/n=  550./2.000/.035]
00106>       {Vmax=  .903:Dmax=  .117}
00107>  001:0005----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00108>      CALIB STANDHYD     03:EXT-9B        14.80     .713 No_date    1:24   10.39
00109>       [XIMP=.35:TIMP=.35]
00110>       [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00111>       [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00112>       [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00113>  001:0006----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00114>      ROUTE RESERVOIR -> 03:EXT-9B        14.80     .713 No_date    1:24   10.39
00115>       [RDT= 1.00] out<- 04:Orchards      14.80     .038 No_date    2:58   10.39
00116>       {MxStoUsed=.1254E+00}
00117> #-----------------|-------------------------------------------------------------|
00118> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00119> #-----------------|-------------------------------------------------------------|
00120>  001:0007----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00121>      ADD HYD            02:Channel      101.80     .502 No_date    2:56    4.79
00122>                       + 04:Orchards     14.80     .038 No_date    2:58   10.39
00123>       [DT= 1.00]  SUM=  05:RD19         116.60     .539 No_date    2:56    5.50
00124>  001:0008----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00125>      CALIB NASHYD       01:EXT-9D         .63     .003 No_date    1:45    2.06
00126>       [CN= 73.0: N= 3.00]
00127>       [Tp=  .20:DT= 1.00]
00128> #-----------------|-------------------------------------------------------------|
00129> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
00130> #-----------------|-------------------------------------------------------------|
00131>  001:0009----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00132>      CALIB NASHYD       02:9C9D          2.47     .006 No_date    1:40    1.05
00133>       [CN= 49.6: N= 3.00]
00134>       [Tp=  .18:DT= 1.00]
00135>  001:0010----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00136>      ADD HYD            01:EXT-9D         .63     .003 No_date    1:45    2.06
00137>                       + 02:9C9D          2.47     .006 No_date    1:40    1.05
00138>                       + 05:RD19        116.60     .539 No_date    2:56    5.50
00139>       [DT= 1.00]  SUM=  04:WC9a         119.70     .542 No_date    2:56    5.39
00140> #-----------------|-------------------------------------------------------------|
00141> #--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00142> #--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1----------------------|
00143> #-----------------|-------------------------------------------------------------|
00144>  001:0011----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00145>      CALIB NASHYD       01:EXT-9C         8.40     .035 No_date    2:08    2.71
00146>       [CN= 74.9: N= 3.00]
00147>       [Tp=  .47:DT= 1.00]
00148>  001:0012----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00149>      CALIB STANDHYD     03:9B             3.10     .168 No_date    1:21   11.74
00150>       [XIMP=.30:TIMP=.52]
00151>       [LOSS= 2 :CN= 79.0]
00152>       [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
00153>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
00154>  001:0013----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00155>      CALIB NASHYD       05:9E             2.10     .006 No_date    1:34    1.06
00156>       [CN= 54.1: N= 3.00]
00157>       [Tp=  .11:DT= 1.00]
00158>  001:0014----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00159>      ADD HYD            01:EXT-9C         8.40     .035 No_date    2:08    2.71
00160>                       + 03:9B             3.10     .168 No_date    1:21   11.74
00161>                       + 05:9E             2.10     .006 No_date    1:34    1.06
00162>       [DT= 1.00]  SUM=  06:SWMF1         13.60     .169 No_date    1:21    4.51
00163> #-----------------|-------------------------------------------------------------|
00164> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE--------|
00165> #-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00166> #-----------------|-------------------------------------------------------------|
00167>  001:0015----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00168>      ROUTE RESERVOIR -> 06:SWMF1         13.60     .169 No_date    1:21    4.51
00169>       [RDT= 1.00] out<- 01:SWMF-1        13.60     .010 No_date    4:21    4.51
00170>       {MxStoUsed=.5116E-01}
00171>  001:0016----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00172>      ADD HYD            01:SWMF-1         13.60     .010 No_date    4:21    4.51
00173>                       + 04:WC9a         119.70     .542 No_date    2:56    5.39
00174>       [DT= 1.00]  SUM=  07:WC9b         133.30     .551 No_date    2:56    5.30
00175> #-----------------|-------------------------------------------------------------|
00176> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
00177> #-----------------|-------------------------------------------------------------|
00178> #-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
00179> #-----------------|-------------------------------------------------------------|
00180>  001:0017----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00181>      CALIB STANDHYD     10:9P             1.75     .057 No_date    1:21    7.33
00182>       [XIMP=.18:TIMP=.48]
00183>       [LOSS= 2 :CN= 61.0]
00184>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00185>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
00186> #-----------------|-------------------------------------------------------------|
00187> #-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
00188> #-----------------|-------------------------------------------------------------|
00189>  001:0018----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00190>      CALIB NASHYD       01:9J             .81     .005 No_date    1:40    2.27
00191>       [CN= 68.7: N= 3.00]
00192>       [Tp=  .19:DT= 1.00]
00193>  001:0019----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00194>      CALIB NASHYD       02:9O             .35     .001 No_date    1:48    1.88
00195>       [CN= 65.0: N= 3.00]
00196>       [Tp=  .26:DT= 1.00]
00197>  001:0020----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00198>      CALIB NASHYD       03:9K9L           1.32     .002 No_date    1:59     .91
00199>       [CN= 50.4: N= 3.00]
00200>       [Tp=  .35:DT= 1.00]
00201>  001:0021----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00202>      ADD HYD            01:9J             .81     .005 No_date    1:40    2.27
00203>                       + 02:9O             .35     .001 No_date    1:48    1.88
00204>                       + 03:9K9L          1.32     .002 No_date    1:59     .91
00205>                       + 07:WC9b        133.30     .551 No_date    2:56    5.30
00206>       [DT= 1.00]  SUM=  05:WC9LOWER     135.78     .554 No_date    2:56    5.23
00207> #-----------------|-------------------------------------------------------------|
00208> #-----------------|-LANDS DRAINING TO SWM FACILITY 2---------------------------|
00209> #-----------------|-------------------------------------------------------------|
00210>  001:0022----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00211>      CALIB NASHYD       01:9G             1.16     .001 No_date    1:38     .45
00212>       [CN= 33.2: N= 3.00]
00213>       [Tp=  .14:DT= 1.00]
00214>  001:0023----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00215>      CALIB NASHYD       02:9H             1.67     .002 No_date    1:51     .51
00216>       [CN= 34.7: N= 3.00]
00217>       [Tp=  .27:DT= 1.00]
00218>  001:0024----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00219>      CALIB STANDHYD     03:9M             5.80     .213 No_date    1:22    9.59
00220>       [XIMP=.23:TIMP=.56]
00221>       [LOSS= 2 :CN= 69.0]
00222>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00223>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
00224>  001:0025----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00225>      CALIB STANDHYD     04:9N             1.85     .060 No_date    1:21    6.37
00226>       [XIMP=.19:TIMP=.27]
00227>       [LOSS= 2 :CN= 61.0]
00228>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00229>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
00230>  001:0026----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00231>      ADD HYD            01:9G             1.16     .001 No_date    1:38     .45
00232>                       + 02:9H             1.67     .002 No_date    1:51     .51
00233>                       + 03:9M             5.80     .213 No_date    1:22    9.59
00234>                       + 04:9N             1.85     .060 No_date    1:21    6.37
00235>       [DT= 1.00]  SUM=  06:SWMF2         10.48     .271 No_date    1:22    6.57
00236> #-----------------|-------------------------------------------------------------|
00237> #-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)----------|
00238> #-----------------|-------------------------------------------------------------|
00239>  001:0027----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00240>      ROUTE RESERVOIR -> 06:SWMF2         10.48     .271 No_date    1:22    6.57
00241>       [RDT= 1.00] out<- 09:SWMF-2        10.48     .010 No_date    4:10    6.57
00242>       {MxStoUsed=.5924E-01}
00243> #-----------------|-------------------------------------------------------------|
00244> #-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD------------------|
00245> #-----------------|-------------------------------------------------------------|
00246>  001:0028----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00247>      ADD HYD            09:SWMF-2         10.48     .010 No_date    4:10    6.57
00248>                       + 05:WC9LOWER     135.78     .554 No_date    2:56    5.23
00249>                       + 10:9P             1.75     .057 No_date    1:21    7.33
00250>       [DT= 1.00]  SUM=  01:WC9c         148.01     .568 No_date    2:55    5.35
00251> #-----------------|-------------------------------------------------------------|
00252> #-----------------|--WATERCOURSE 8 CATCHMENTS----------------------------------|
00253> #-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------------|
00254> #-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
00255> #-----------------|-------------------------------------------------------------|
00256>  001:0029----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00257>      CALIB NASHYD       01:8i             2.23     .007 No_date    1:51    1.65
00258>       [CN= 63.5: N= 3.00]
00259>       [Tp=  .28:DT= 1.00]
00260>  001:0030----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00261>      CALIB NASHYD       02:EXT-8          7.60     .017 No_date    2:17    1.59
00262>       [CN= 63.0: N= 3.00]
00263>       [Tp=  .55:DT= 1.00]
00264> #-----------------|-------------------------------------------------------------|
00265> #-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i-------|
00266> #-----------------|-------------------------------------------------------------|
00267>  001:0031----------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00268>      ADD HYD            01:8i             2.23     .007 No_date    1:51    1.65
00269>                       + 02:EXT-8          7.60     .017 No_date    2:17    1.59
00270>       [DT= 1.00]  SUM=  03:WC8            9.83     .022 No_date    2:09    1.60
```

```
00271> #******************************************************************************
00272> #**************************Chicago 2yr 4-hr storm*****************************
00273> #******************************************************************************
00274>  001:0032----------------------------------------------------------------------
00275>      CHICAGO STORM
00276>       [SDT= 5.00:SDUR=   4.00:PTOT=  31.55]
00277>       {A/B/C= 425.976/   1.500/    .727: R=.9997}
00278> #-----------------|----------------------------------------------------------|
00279> #-----------------|-POST-DEVELOPMENT-----------------------------------------|
00280> #-----------------|----------------------------------------------------------|
00281> #-----------------|----------------------------------------------------------|
00282> #-----------------|-Subwatershed 9 External Drainage Area--------------------|
00283> #-----------------|-Per 'The Orchards' FSSWM Report--------------------------|
00284> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)--------------|
00285> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00286> #-----------------|----------------------------------------------------------|
00287>  001:0033---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00288>      CALIB NASHYD       01:EXT-9A       101.80     .782 No_date    2:48    7.83
00289>        [CN= 80.0: N= 3.00]
00290>        [Tp= 1.00:DT= 1.00]
00291>  001:0034---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00292>      ROUTE CHANNEL   -> 01:EXT-9A       101.80     .782 No_date    2:48    7.83
00293>        [RDT= 1.00] out<- 02:Channel      101.80     .776 No_date    2:55    7.83
00294>        [L/S/n=  550./2.000/.035]
00295>        {Vmax= 1.007:Dmax=  .147}
00296>  001:0035---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00297>      CALIB STANDHYD     03:EXT-9B        14.80    1.089 No_date    1:23   14.58
00298>        [XIMP=.35:TIMP=.35]
00299>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00300>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00301>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00302>  001:0036---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00303>      ROUTE RESERVOIR -> 03:EXT-9B        14.80    1.089 No_date    1:23   14.58
00304>        [RDT= 1.00] out<- 04:Orchards     14.80     .055 No_date    2:51   14.58
00305>       {MxStoUsed=.1723E+00}
00306> #-----------------|----------------------------------------------------------|
00307> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing--------|
00308> #-----------------|----------------------------------------------------------|
00309>  001:0037---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00310>      ADD HYD            02:Channel      101.80     .776 No_date    2:55    7.83
00311>                       +  04:Orchards     14.80     .055 No_date    2:51   14.58
00312>        [DT= 1.00]  SUM=  05:RD19         116.60     .831 No_date    2:55    8.69
00313>  001:0038---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00314>      CALIB NASHYD       01:EXT-9D         .63     .005 No_date    1:40    4.02
00315>        [CN= 73.0: N= 3.00]
00316>        [Tp=  .20:DT= 1.00]
00317> #-----------------|----------------------------------------------------------|
00318> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
00319> #-----------------|----------------------------------------------------------|
00320>  001:0039---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00321>      CALIB NASHYD       02:9C9D           2.47     .011 No_date    1:36    1.97
00322>        [CN= 49.6: N= 3.00]
00323>        [Tp=  .18:DT= 1.00]
00324>  001:0040---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00325>      ADD HYD            01:EXT-9D          .63     .005 No_date    1:40    4.02
00326>                       +  02:9C9D           2.47     .011 No_date    1:36    1.97
00327>                       +  05:RD19         116.60     .831 No_date    2:55    8.69
00328>        [DT= 1.00]  SUM=  04:WC9a         119.70     .837 No_date    2:54    8.52
00329> #-----------------|----------------------------------------------------------|
00330> #--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00331> #--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-----------------------|
00332> #-----------------|----------------------------------------------------------|
00333>  001:0041---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00334>      CALIB NASHYD       01:EXT-9C         8.40     .059 No_date    2:05    4.95
00335>        [CN= 74.9: N= 3.00]
00336>        [Tp=  .47:DT= 1.00]
00337>  001:0042---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00338>      CALIB STANDHYD     03:9B             3.10     .254 No_date    1:21   16.37
00339>        [XIMP=.30:TIMP=.52]
00340>        [LOSS= 2 :CN= 79.0]
00341>        [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
00342>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
00343>  001:0043---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00344>      CALIB NASHYD       05:9E             2.10     .012 No_date    1:30    2.08
00345>        [CN= 54.1: N= 3.00]
00346>        [Tp=  .11:DT= 1.00]
00347>  001:0044---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00348>      ADD HYD            01:EXT-9C         8.40     .059 No_date    2:05    4.95
00349>                       +  03:9B           3.10     .254 No_date    1:21   16.37
00350>                       +  05:9E           2.10     .012 No_date    1:30    2.08
00351>        [DT= 1.00]  SUM=  06:SWMF1        13.60     .259 No_date    1:21    7.11
00352> #-----------------|----------------------------------------------------------|
00353> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE------|
00354> #-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT-------------|
00355> #-----------------|----------------------------------------------------------|
00356>  001:0045---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00357>      ROUTE RESERVOIR -> 06:SWMF1        13.60     .259 No_date    1:21    7.11
00358>        [RDT= 1.00] out<- 01:SWMF-1      13.60     .013 No_date    4:33    7.11
00359>       {MxStoUsed=.8245E-01}
00360>  001:0046---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00361>      ADD HYD            01:SWMF-1        13.60     .013 No_date    4:33    7.11
00362>                       +  04:WC9a         119.70     .837 No_date    2:54    8.52
00363>        [DT= 1.00]  SUM=  07:WC9b         133.30     .848 No_date    2:54    8.38
00364> #-----------------|----------------------------------------------------------|
00365> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands--------------|
00366> #-----------------|----------------------------------------------------------|
00367> #-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9-----------------|
00368> #-----------------|----------------------------------------------------------|
00369>  001:0047---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00370>      CALIB STANDHYD     10:9P             1.75     .084 No_date    1:21   10.42
00371>        [XIMP=.18:TIMP=.48]
00372>        [LOSS= 2 :CN= 61.0]
00373>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00374>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
00375> #-----------------|----------------------------------------------------------|
00376> #-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ---------------------|
00377> #-----------------|----------------------------------------------------------|
00378>  001:0048---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00379>      CALIB NASHYD       01:9J             .81     .008 No_date    1:36    4.11
00380>        [CN= 68.7: N= 3.00]
00381>        [Tp=  .19:DT= 1.00]
00382>  001:0049---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00383>      CALIB NASHYD       02:9O             .35     .002 No_date    1:44    3.46
00384>        [CN= 65.0: N= 3.00]
00385>        [Tp=  .26:DT= 1.00]
00386>  001:0050---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00387>      CALIB NASHYD       03:9K9L           1.32     .004 No_date    1:56    1.80
00388>        [CN= 50.4: N= 3.00]
00389>        [Tp=  .35:DT= 1.00]
00390>  001:0051---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00391>      ADD HYD            01:9J             .81     .008 No_date    1:36    4.11
00392>                       +  02:9O             .35     .002 No_date    1:44    3.46
00393>                       +  03:9K9L          1.32     .004 No_date    1:56    1.80
00394>                       +  07:WC9b         133.30     .848 No_date    2:54    8.38
00395>        [DT= 1.00]  SUM=  05:WC9LOWER     135.78     .854 No_date    2:54    8.28
00396> #-----------------|----------------------------------------------------------|
00397> #-----------------|-LANDS DRAINING TO SWM FACILITY 2-------------------------|
00398> #-----------------|----------------------------------------------------------|
00399>  001:0052---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00400>      CALIB NASHYD       01:9G             1.16     .002 No_date    1:33     .90
00401>        [CN= 33.2: N= 3.00]
00402>        [Tp=  .14:DT= 1.00]
00403>  001:0053---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00404>      CALIB NASHYD       02:9H             1.67     .003 No_date    1:47    1.01
00405>        [CN= 34.7: N= 3.00]
00406>        [Tp=  .27:DT= 1.00]
00407>  001:0054---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00408>      CALIB STANDHYD     03:9M             5.80     .317 No_date    1:22   13.54
00409>        [XIMP=.23:TIMP=.56]
00410>        [LOSS= 2 :CN= 69.0]
00411>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00412>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
00413>  001:0055---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00414>      CALIB STANDHYD     04:9N             1.85     .087 No_date    1:21    8.99
00415>        [XIMP=.19:TIMP=.27]
00416>        [LOSS= 2 :CN= 61.0]
00417>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00418>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
00419>  001:0056---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00420>      ADD HYD            01:9G             1.16     .002 No_date    1:33     .90
00421>                       +  02:9H           1.67     .003 No_date    1:47    1.01
00422>                       +  03:9M           5.80     .317 No_date    1:22   13.54
00423>                       +  04:9N           1.85     .087 No_date    1:21    8.99
00424>        [DT= 1.00]  SUM=  06:SWMF2        10.48     .398 No_date    1:21    9.34
00425> #-----------------|----------------------------------------------------------|
00426> #-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)--------|
00427> #-----------------|----------------------------------------------------------|
00428>  001:0057---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00429>      ROUTE RESERVOIR -> 06:SWMF2        10.48     .398 No_date    1:21    9.34
00430>        [RDT= 1.00] out<- 09:SWMF-2      10.48     .012 No_date    4:16    9.34
00431>       {MxStoUsed=.8595E-01}
00432> #-----------------|----------------------------------------------------------|
00433> #-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-----------------|
00434> #-----------------|----------------------------------------------------------|
00435>  001:0058---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00436>      ADD HYD            09:SWMF-2        10.48     .012 No_date    4:16    9.34
00437>                       +  05:WC9LOWER    135.78     .854 No_date    2:54    8.28
00438>                       +  10:9P            1.75     .084 No_date    1:21   10.42
00439>        [DT= 1.00]  SUM=  01:WC9c         148.01     .873 No_date    2:54    8.38
00440> #-----------------|----------------------------------------------------------|
00441> #-----------------|--WATERCOURSE 8 CATCHMENTS---------------------------------|
00442> #-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8--------------------|
00443> #-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8----------------|
00444> #-----------------|----------------------------------------------------------|
00445>  001:0059---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00446>      CALIB NASHYD       01:8i             2.23     .012 No_date    1:47    3.12
00447>        [CN= 63.5: N= 3.00]
00448>        [Tp=  .28:DT= 1.00]
00449>  001:0060---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00450>      CALIB NASHYD       02:EXT-8          7.60     .029 No_date    2:15    3.01
00451>        [CN= 63.0: N= 3.00]
00452>        [Tp=  .55:DT= 1.00]
00453> #-----------------|----------------------------------------------------------|
00454> #-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
00455> #-----------------|----------------------------------------------------------|
00456>  001:0061---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00457>      ADD HYD            01:8i             2.23     .012 No_date    1:47    3.12
00458>                       +  02:EXT-8          7.60     .029 No_date    2:15    3.01
00459>        [DT= 1.00]  SUM=  03:WC8            9.83     .038 No_date    2:06    3.04
00460> #******************************************************************************
00461> #**************************Chicago 5yr 4-hr storm*****************************
00462> #******************************************************************************
00463>  001:0062----------------------------------------------------------------------
00464>      CHICAGO STORM
00465>       [SDT= 5.00:SDUR=   4.00:PTOT=  42.28]
00466>       {A/B/C= 564.587/   1.500/    .725: R=.9997}
00467> #-----------------|----------------------------------------------------------|
00468> #-----------------|-POST-DEVELOPMENT-----------------------------------------|
00469> #-----------------|----------------------------------------------------------|
00470> #-----------------|----------------------------------------------------------|
00471> #-----------------|-Subwatershed 9 External Drainage Area--------------------|
00472> #-----------------|-Per 'The Orchards' FSSWM Report--------------------------|
00473> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)--------------|
00474> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00475> #-----------------|----------------------------------------------------------|
00476>  001:0063---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00477>      CALIB NASHYD       01:EXT-9A       101.80    1.407 No_date    2:44   13.79
00478>        [CN= 80.0: N= 3.00]
00479>        [Tp= 1.00:DT= 1.00]
00480>  001:0064---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00481>      ROUTE CHANNEL   -> 01:EXT-9A       101.80    1.407 No_date    2:44   13.79
00482>        [RDT= 1.00] out<- 02:Channel      101.80    1.402 No_date    2:49   13.79
00483>        [L/S/n=  550./2.000/.035]
00484>        {Vmax= 1.344:Dmax=  .214}
00485>  001:0065---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00486>      CALIB STANDHYD     03:EXT-9B        14.80    1.648 No_date    1:22   21.16
00487>        [XIMP=.35:TIMP=.35]
00488>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00489>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00490>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00491>  001:0066---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00492>      ROUTE RESERVOIR -> 03:EXT-9B        14.80    1.648 No_date    1:22   21.16
00493>        [RDT= 1.00] out<- 04:Orchards     14.80     .133 No_date    2:16   21.16
00494>       {MxStoUsed=.2403E+00}
00495> #-----------------|----------------------------------------------------------|
00496> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00497> #-----------------|----------------------------------------------------------|
00498>  001:0067---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00499>      ADD HYD            02:Channel      101.80    1.402 No_date    2:49   13.79
00500>                       +  04:Orchards     14.80     .133 No_date    2:16   21.16
00501>        [DT= 1.00]  SUM=  05:RD19         116.60    1.521 No_date    2:47   14.73
00502>  001:0068---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00503>      CALIB NASHYD       01:EXT-9D         .63     .012 No_date    1:37    8.26
00504>        [CN= 73.0: N= 3.00]
00505>        [Tp=  .20:DT= 1.00]
00506> #-----------------|----------------------------------------------------------|
00507> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
00508> #-----------------|----------------------------------------------------------|
00509>  001:0069---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00510>      CALIB NASHYD       02:9C9D           2.47     .025 No_date    1:34    4.02
00511>        [CN= 49.6: N= 3.00]
00512>        [Tp=  .18:DT= 1.00]
00513>  001:0070---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00514>      ADD HYD            01:EXT-9D         .63     .012 No_date    1:37    8.26
00515>                       +  02:9C9D           2.47     .025 No_date    1:34    4.02
00516>                       +  05:RD19         116.60    1.521 No_date    2:47   14.73
00517>        [DT= 1.00]  SUM=  04:WC9a         119.70    1.532 No_date    2:46   14.47
00518> #-----------------|----------------------------------------------------------|
00519> #--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00520> #--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-----------------------|
00521> #-----------------|----------------------------------------------------------|
00522>  001:0071---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00523>      CALIB NASHYD       01:EXT-9C         8.40     .123 No_date    2:01    9.65
00524>        [CN= 74.9: N= 3.00]
00525>        [Tp=  .47:DT= 1.00]
00526>  001:0072---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00527>      CALIB STANDHYD     03:9B             3.10     .383 No_date    1:20   24.58
00528>        [XIMP=.30:TIMP=.52]
00529>        [LOSS= 2 :CN= 79.0]
00530>        [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
00531>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
00532>  001:0073---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00533>      CALIB NASHYD       05:9E             2.10     .029 No_date    1:28    4.37
00534>        [CN= 54.1: N= 3.00]
00535>        [Tp=  .11:DT= 1.00]
00536>  001:0074---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00537>      ADD HYD            01:EXT-9C         8.40     .123 No_date    2:01    9.65
00538>                       +  03:9B           3.10     .383 No_date    1:20   24.58
00539>                       +  05:9E           2.10     .029 No_date    1:28    4.37
00540>        [DT= 1.00]  SUM=  06:SWMF1        13.60     .394 No_date    1:20   12.24
```

```
#------------------|-------------------------------------------------------------|
#------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE---------|
#------------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT-----------------|
#------------------|-------------------------------------------------------------|
 001:0075----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 06:SWMF1          13.60     .394 No_date    1:20   12.24
       [RDT= 1.00] out<- 01:SWMF-1        13.60     .017 No_date    4:39   12.24
     {MxStoUsed=.1466E+00}
 001:0076----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:SWMF-1        13.60     .017 No_date    4:39   12.24
                        +  04:WC9a         119.70    1.532 No_date    2:46   14.47
       [DT= 1.00]  SUM=  07:WC9b          133.30    1.547 No_date    2:47   14.24
#------------------|-------------------------------------------------------------|
#------------------|-Parkbridge Craigleith - Lower Terrace Lands-----------------|
#------------------|-------------------------------------------------------------|
#------------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9--------------------|
#------------------|-------------------------------------------------------------|
 001:0077----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     10:9P             1.75     .126 No_date    1:20   16.16
       [XIMP=.18:TIMP=.48]
       [LOSS= 2 :CN= 61.0]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
#------------------|-------------------------------------------------------------|
#------------------|-LANDS DRAINING TO WC 9 UNCONTROLLED --------------------------|
#------------------|-------------------------------------------------------------|
 001:0078----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9J              .81     .017 No_date    1:35    8.00
       [CN= 68.7: N= 3.00]
       [Tp=  .19:DT= 1.00]
 001:0079----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9O              .35     .005 No_date    1:42    6.87
       [CN= 65.0: N= 3.00]
       [Tp=  .26:DT= 1.00]
 001:0080----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       03:9K9L           1.32     .008 No_date    1:52    3.82
       [CN= 50.4: N= 3.00]
       [Tp=  .35:DT= 1.00]
 001:0081----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:9J              .81     .017 No_date    1:35    8.00
                        +  02:9O              .35     .005 No_date    1:42    6.87
                        +  03:9K9L           1.32     .008 No_date    1:52    3.82
                        +  07:WC9b          133.30   1.547 No_date    2:47   14.24
       [DT= 1.00]  SUM=  05:WC9LOWER       135.78   1.558 No_date    2:46   14.09
#------------------|-------------------------------------------------------------|
#------------------|-LANDS DRAINING TO SWM FACILITY 2-----------------------------|
#------------------|-------------------------------------------------------------|
 001:0082----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9G             1.16     .006 No_date    1:32    1.96
       [CN= 33.2: N= 3.00]
       [Tp=  .14:DT= 1.00]
 001:0083----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9H             1.67     .007 No_date    1:44    2.15
       [CN= 34.7: N= 3.00]
       [Tp=  .27:DT= 1.00]
 001:0084----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:9M             5.80     .487 No_date    1:21   20.69
       [XIMP=.23:TIMP=.56]
       [LOSS= 2 :CN= 69.0]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
 001:0085----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     04:9N             1.85     .128 No_date    1:20   13.87
       [XIMP=.19:TIMP=.27]
       [LOSS= 2 :CN= 61.0]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
 001:0086----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:9G             1.16     .006 No_date    1:32    1.96
                        +  02:9H             1.67     .007 No_date    1:44    2.15
                        +  03:9M             5.80     .487 No_date    1:21   20.69
                        +  04:9N             1.85     .128 No_date    1:20   13.87
       [DT= 1.00]  SUM=  06:SWMF2          10.48     .609 No_date    1:21   14.46
#------------------|-------------------------------------------------------------|
#------------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)------------|
#------------------|-------------------------------------------------------------|
 001:0087----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 06:SWMF2          10.48     .609 No_date    1:21   14.46
       [RDT= 1.00] out<- 09:SWMF-2        10.48     .014 No_date    4:16   14.46
     {MxStoUsed=.1370E+00}
#------------------|-------------------------------------------------------------|
#------------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD--------------------|
#------------------|-------------------------------------------------------------|
 001:0088----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              09:SWMF-2        10.48     .014 No_date    4:16   14.46
                        +  05:WC9LOWER     135.78   1.558 No_date    2:46   14.09
                        +  10:9P             1.75     .126 No_date    1:20   16.16
       [DT= 1.00]  SUM=  01:WC9c          148.01   1.584 No_date    2:46   14.14
#------------------|-------------------------------------------------------------|
#------------------|--WATERCOURSE 8 CATCHMENTS------------------------------------|
#------------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8-----------------------|
#------------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-------------------|
#------------------|-------------------------------------------------------------|
 001:0089----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:8i             2.23     .028 No_date    1:44    6.31
       [CN= 63.5: N= 3.00]
       [Tp=  .28:DT= 1.00]
 001:0090----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:EXT-8          7.60     .062 No_date    2:10    6.14
       [CN= 63.0: N= 3.00]
       [Tp=  .55:DT= 1.00]
#------------------|-------------------------------------------------------------|
#------------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i---------|
#------------------|-------------------------------------------------------------|
 001:0091----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:8i             2.23     .028 No_date    1:44    6.31
                        +  02:EXT-8          7.60     .062 No_date    2:10    6.14
       [DT= 1.00]  SUM=  03:WC8            9.83     .083 No_date    2:02    6.18
#*********************************************************************************
#************************Chicago 10yr 4-hr storm**********************************
#*********************************************************************************
 001:0092---------------------------------------------------------------------------
     CHICAGO STORM
       [SDT= 5.00:SDUR=   4.00:PTOT=  49.47]
       {A/B/C= 656.948/   1.500/    .724: R=.9997}
#------------------|-------------------------------------------------------------|
#------------------|-POST-DEVELOPMENT---------------------------------------------|
#------------------|-------------------------------------------------------------|
#------------------|-------------------------------------------------------------|
#------------------|-Subwatershed 9 External Drainage Area------------------------|
#------------------|-Per 'The Orchards' FSSWM Report------------------------------|
#------------------|-Prepared by Higgins Engineering (Jan. 2005)------------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-----------|
#------------------|-------------------------------------------------------------|
 001:0093----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9A        101.80    1.889 No_date    2:42   18.32
       [CN= 80.0: N= 3.00]
       [Tp= 1.00:DT= 1.00]
 001:0094----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE CHANNEL   -> 01:EXT-9A        101.80    1.889 No_date    2:42   18.32
       [RDT= 1.00] out<- 02:Channel     101.80    1.881 No_date    2:47   18.32
       [L/S/n=  550./2.000/.035]
       {Vmax= 1.447:Dmax=  .248}
 001:0095----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:EXT-9B         14.80    2.042 No_date    1:22   25.78
       [XIMP=.35:TIMP=.35]
       [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
       [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 001:0096----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:EXT-9B         14.80    2.042 No_date    1:22   25.78
       [RDT= 1.00] out<- 04:Orchards      14.80     .221 No_date    2:04   25.78
     {MxStoUsed=.2816E+00}
#------------------|-------------------------------------------------------------|
#------------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing------------|
#------------------|-------------------------------------------------------------|
 001:0097----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              02:Channel      101.80    1.881 No_date    2:47   18.32
                        +  04:Orchards      14.80     .221 No_date    2:04   25.78
       [DT= 1.00]  SUM=  05:RD19          116.60    2.062 No_date    2:44   19.26
 001:0098----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9D           .63     .019 No_date    1:36   11.68
       [CN= 73.0: N= 3.00]
       [Tp=  .20:DT= 1.00]
#------------------|-------------------------------------------------------------|
#------------------|-Parkbridge Craigleith - Upper Terrace Lands------------------|
#------------------|-------------------------------------------------------------|
 001:0099----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9C9D           2.47     .037 No_date    1:34    5.74
       [CN= 49.6: N= 3.00]
       [Tp=  .18:DT= 1.00]
 001:0100----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:EXT-9D           .63     .019 No_date    1:36   11.68
                        +  02:9C9D           2.47     .037 No_date    1:34    5.74
                        +  05:RD19         116.60    2.062 No_date    2:44   19.26
       [DT= 1.00]  SUM=  04:WC9a          119.70    2.077 No_date    2:44   18.94
#------------------|-------------------------------------------------------------|
#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT-------------------|
#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1--------------------------|
#------------------|-------------------------------------------------------------|
 001:0101----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9C         8.40     .176 No_date    2:00   13.37
       [CN= 74.9: N= 3.00]
       [Tp=  .47:DT= 1.00]
 001:0102----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:9B             3.10     .479 No_date    1:20   30.41
       [XIMP=.30:TIMP=.52]
       [LOSS= 2 :CN= 79.0]
       [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
 001:0103----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       05:9E             2.10     .045 No_date    1:28    6.31
       [CN= 54.1: N= 3.00]
       [Tp=  .11:DT= 1.00]
 001:0104----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:EXT-9C         8.40     .176 No_date    2:00   13.37
                        +  03:9B             3.10     .479 No_date    1:20   30.41
                        +  05:9E             2.10     .045 No_date    1:28    6.31
       [DT= 1.00]  SUM=  06:SWMF1          13.60     .503 No_date    1:21   16.16
#------------------|-------------------------------------------------------------|
#------------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE---------|
#------------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT-----------------|
#------------------|-------------------------------------------------------------|
 001:0105----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 06:SWMF1          13.60     .503 No_date    1:21   16.16
       [RDT= 1.00] out<- 01:SWMF-1        13.60     .020 No_date    4:43   16.16
     {MxStoUsed=.1968E+00}
 001:0106----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:SWMF-1        13.60     .020 No_date    4:43   16.16
                        +  04:WC9a         119.70    2.077 No_date    2:44   18.94
       [DT= 1.00]  SUM=  07:WC9b          133.30    2.094 No_date    2:44   18.66
#------------------|-------------------------------------------------------------|
#------------------|-Parkbridge Craigleith - Lower Terrace Lands------------------|
#------------------|-------------------------------------------------------------|
#------------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9--------------------|
#------------------|-------------------------------------------------------------|
 001:0107----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     10:9P             1.75     .157 No_date    1:20   20.41
       [XIMP=.18:TIMP=.48]
       [LOSS= 2 :CN= 61.0]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
#------------------|-------------------------------------------------------------|
#------------------|-LANDS DRAINING TO WC 9 UNCONTROLLED --------------------------|
#------------------|-------------------------------------------------------------|
 001:0108----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9J              .81     .024 No_date    1:34   11.12
       [CN= 68.7: N= 3.00]
       [Tp=  .19:DT= 1.00]
 001:0109----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9O              .35     .007 No_date    1:41    9.65
       [CN= 65.0: N= 3.00]
       [Tp=  .26:DT= 1.00]
 001:0110----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       03:9K9L           1.32     .013 No_date    1:51    5.54
       [CN= 50.4: N= 3.00]
       [Tp=  .35:DT= 1.00]
 001:0111----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:9J              .81     .024 No_date    1:34   11.12
                        +  02:9O              .35     .007 No_date    1:41    9.65
                        +  03:9K9L           1.32     .013 No_date    1:51    5.54
                        +  07:WC9b          133.30   2.094 No_date    2:44   18.66
       [DT= 1.00]  SUM=  05:WC9LOWER       135.78   2.109 No_date    2:44   18.46
#------------------|-------------------------------------------------------------|
#------------------|-LANDS DRAINING TO SWM FACILITY 2-----------------------------|
#------------------|-------------------------------------------------------------|
 001:0112----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9G             1.16     .009 No_date    1:31    2.89
       [CN= 33.2: N= 3.00]
       [Tp=  .14:DT= 1.00]
 001:0113----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9H             1.67     .010 No_date    1:43    3.14
       [CN= 34.7: N= 3.00]
       [Tp=  .27:DT= 1.00]
 001:0114----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:9M             5.80     .614 No_date    1:21   25.86
       [XIMP=.23:TIMP=.56]
       [LOSS= 2 :CN= 69.0]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
 001:0115----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     04:9N             1.85     .154 No_date    1:20   17.51
       [XIMP=.19:TIMP=.27]
       [LOSS= 2 :CN= 61.0]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
 001:0116----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:9G             1.16     .009 No_date    1:31    2.89
                        +  02:9H             1.67     .010 No_date    1:43    3.14
                        +  03:9M             5.80     .614 No_date    1:21   25.86
                        +  04:9N             1.85     .154 No_date    1:20   17.51
       [DT= 1.00]  SUM=  06:SWMF2          10.48     .763 No_date    1:21   18.23
#------------------|-------------------------------------------------------------|
#------------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)------------|
#------------------|-------------------------------------------------------------|
 001:0117----------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 06:SWMF2          10.48     .763 No_date    1:21   18.23
       [RDT= 1.00] out<- 09:SWMF-2        10.48     .016 No_date    4:16   18.22
     {MxStoUsed=.1746E+00}
#------------------|-------------------------------------------------------------|
```

```
00811> #-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-----------------|
00812> #-----------------|-------------------------------------------------------------|
00813>  001:0118---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00814>      ADD HYD            09:SWMF-2        10.48     .016 No_date    4:16   18.22
00815>                       +  05:WC9LOWER     135.78    2.109 No_date    2:44   18.46
00816>                       +  10:9P            1.75     .157 No_date    1:20   20.41
00817>       [DT= 1.00]  SUM=  01:WC9c          148.01    2.141 No_date    2:44   18.47
00818> #-----------------|-------------------------------------------------------------|
00819> #-----------------|--WATERCOURSE 8 CATCHMENTS---------------------------------|
00820> #-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8--------------------|
00821> #-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
00822> #-----------------|-------------------------------------------------------------|
00823>  001:0119---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00824>      CALIB NASHYD       01:8i            2.23     .041 No_date    1:43    8.94
00825>        [CN= 63.5: N= 3.00]
00826>        [Tp=  .28:DT= 1.00]
00827>  001:0120---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00828>      CALIB NASHYD       02:EXT-8         7.60     .091 No_date    2:08    8.71
00829>        [CN= 63.0: N= 3.00]
00830>        [Tp=  .55:DT= 1.00]
00831> #-----------------|-------------------------------------------------------------|
00832> #-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
00833> #-----------------|-------------------------------------------------------------|
00834>  001:0121---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00835>      ADD HYD            01:8i            2.23     .041 No_date    1:43    8.94
00836>                       +  02:EXT-8         7.60     .091 No_date    2:08    8.71
00837>       [DT= 1.00]  SUM=  03:WC8           9.83     .121 No_date    2:00    8.76
00838> #*************************************************************************
00839> #*************************Chicago 25yr 4-hr storm*************************
00840> #*************************************************************************
00841>  001:0122---------------------------------------------------------------------
00842>      CHICAGO STORM
00843>        [SDT= 5.00:SDUR=   4.00:PTOT=  58.02]
00844>        {A/B/C= 778.937/   1.500/    .726: R=.9997}
00845> #-----------------|-------------------------------------------------------------|
00846> #-----------------|-POST-DEVELOPMENT-------------------------------------------|
00847> #-----------------|-------------------------------------------------------------|
00848> #-----------------|-------------------------------------------------------------|
00849> #-----------------|-Subwatershed 9 External Drainage Area----------------------|
00850> #-----------------|-Per 'The Orchards' FSSWM Report----------------------------|
00851> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
00852> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00853> #-----------------|-------------------------------------------------------------|
00854>  001:0123---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00855>      CALIB NASHYD       01:EXT-9A       101.80    2.520 No_date    2:41   24.12
00856>        [CN= 80.0: N= 3.00]
00857>        [Tp= 1.00:DT= 1.00]
00858>  001:0124---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00859>      ROUTE CHANNEL   -> 01:EXT-9A       101.80    2.520 No_date    2:41   24.12
00860>        [RDT= 1.00] out<- 02:Channel      101.80    2.517 No_date    2:44   24.12
00861>        [L/S/n=  550./2.000/.035]
00862>        {Vmax= 1.609:Dmax=  .294}
00863>  001:0125---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00864>      CALIB STANDHYD     03:EXT-9B        14.80    2.731 No_date    1:23   32.10
00865>        [XIMP=.35:TIMP=.35]
00866>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00867>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00868>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00869>  001:0126---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00870>      ROUTE RESERVOIR -> 03:EXT-9B       14.80    2.731 No_date    1:23   32.10
00871>        [RDT= 1.00] out<- 04:Orchards     14.80     .395 No_date    1:54   32.10
00872>       {MxStoUsed=.3373E+00}
00873> #-----------------|-------------------------------------------------------------|
00874> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing----------|
00875> #-----------------|-------------------------------------------------------------|
00876>  001:0127---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00877>      ADD HYD            02:Channel      101.80    2.517 No_date    2:44   24.12
00878>                       +  04:Orchards     14.80     .395 No_date    1:54   32.10
00879>       [DT= 1.00]  SUM=  05:RD19         116.60    2.763 No_date    2:44   25.13
00880>  001:0128---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00881>      CALIB NASHYD       01:EXT-9D         .63     .027 No_date    1:35   16.24
00882>        [CN= 73.0: N= 3.00]
00883>        [Tp=  .20:DT= 1.00]
00884> #-----------------|-------------------------------------------------------------|
00885> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands----------------|
00886> #-----------------|-------------------------------------------------------------|
00887>  001:0129---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00888>      CALIB NASHYD       02:9C9D           2.47     .055 No_date    1:33    8.12
00889>        [CN= 49.6: N= 3.00]
00890>        [Tp=  .18:DT= 1.00]
00891>  001:0130---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00892>      ADD HYD            01:EXT-9D         .63     .027 No_date    1:35   16.24
00893>                       +  02:9C9D          2.47     .055 No_date    1:33    8.12
00894>                       +  05:RD19         116.60    2.763 No_date    2:44   25.13
00895>       [DT= 1.00]  SUM=  04:WC9a          119.70    2.783 No_date    2:44   24.74
00896> #-----------------|-------------------------------------------------------------|
00897> #--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT----------------|
00898> #--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1------------------------|
00899> #-----------------|-------------------------------------------------------------|
00900>  001:0131---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00901>      CALIB NASHYD       01:EXT-9C         8.40     .249 No_date    1:58   18.27
00902>        [CN= 74.9: N= 3.00]
00903>        [Tp=  .47:DT= 1.00]
00904>  001:0132---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00905>      CALIB STANDHYD     03:9B            3.10     .616 No_date    1:20   37.60
00906>        [XIMP=.30:TIMP=.52]
00907>        [LOSS= 2 :CN= 79.0]
00908>        [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
00909>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
00910>  001:0133---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00911>      CALIB NASHYD       05:9E            2.10     .068 No_date    1:27    8.98
00912>        [CN= 54.1: N= 3.00]
00913>        [Tp=  .11:DT= 1.00]
00914>  001:0134---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00915>      ADD HYD            01:EXT-9C         8.40     .249 No_date    1:58   18.27
00916>                       +  03:9B           3.10     .616 No_date    1:20   37.60
00917>                       +  05:9E           2.10     .068 No_date    1:27    8.98
00918>       [DT= 1.00]  SUM=  06:SWMF1         13.60     .665 No_date    1:21   21.24
00919> #-----------------|-------------------------------------------------------------|
00920> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE--------|
00921> #-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00922> #-----------------|-------------------------------------------------------------|
00923>  001:0135---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00924>      ROUTE RESERVOIR -> 06:SWMF1        13.60     .665 No_date    1:21   21.24
00925>        [RDT= 1.00] out<- 01:SWMF-1      13.60     .022 No_date    4:46   21.24
00926>       {MxStoUsed=.2622E+00}
00927>  001:0136---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00928>      ADD HYD            01:SWMF-1        13.60     .022 No_date    4:46   21.24
00929>                       +  04:WC9a         119.70    2.783 No_date    2:44   24.74
00930>       [DT= 1.00]  SUM=  07:WC9b          133.30    2.803 No_date    2:44   24.38
00931> #-----------------|-------------------------------------------------------------|
00932> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
00933> #-----------------|-------------------------------------------------------------|
00934> #-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
00935> #-----------------|-------------------------------------------------------------|
00936>  001:0137---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00937>      CALIB STANDHYD     10:9P            1.75     .198 No_date    1:20   25.80
00938>        [XIMP=.18:TIMP=.48]
00939>        [LOSS= 2 :CN= 61.0]
00940>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00941>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
00942> #-----------------|-------------------------------------------------------------|
00943> #-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
00944> #-----------------|-------------------------------------------------------------|
00945>  001:0138---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00946>      CALIB NASHYD       01:9J             .81     .035 No_date    1:34   15.30
00947>        [CN= 68.7: N= 3.00]
00948>        [Tp=  .19:DT= 1.00]
00949>  001:0139---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00950>      CALIB NASHYD       02:9O             .35     .011 No_date    1:40   13.39
00951>        [CN= 65.0: N= 3.00]
00952>        [Tp=  .26:DT= 1.00]
00953>  001:0140---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00954>      CALIB NASHYD       03:9K9L          1.32     .019 No_date    1:49    7.92
00955>        [CN= 50.4: N= 3.00]
00956>        [Tp=  .35:DT= 1.00]
00957>  001:0141---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00958>      ADD HYD            01:9J             .81     .035 No_date    1:34   15.30
00959>                       +  02:9O             .35     .011 No_date    1:40   13.39
00960>                       +  03:9K9L          1.32     .019 No_date    1:49    7.92
00961>                       +  07:WC9b        133.30    2.803 No_date    2:44   24.38
00962>       [DT= 1.00]  SUM=  05:WC9LOWER     135.78    2.823 No_date    2:44   24.14
00963> #-----------------|-------------------------------------------------------------|
00964> #-----------------|-LANDS DRAINING TO SWM FACILITY 2---------------------------|
00965> #-----------------|-------------------------------------------------------------|
00966>  001:0142---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00967>      CALIB NASHYD       01:9G            1.16     .014 No_date    1:30    4.19
00968>        [CN= 33.2: N= 3.00]
00969>        [Tp=  .14:DT= 1.00]
00970>  001:0143---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00971>      CALIB NASHYD       02:9H            1.67     .016 No_date    1:42    4.54
00972>        [CN= 34.7: N= 3.00]
00973>        [Tp=  .27:DT= 1.00]
00974>  001:0144---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00975>      CALIB STANDHYD     03:9M            5.80     .794 No_date    1:21   32.33
00976>        [XIMP=.23:TIMP=.56]
00977>        [LOSS= 2 :CN= 69.0]
00978>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00979>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
00980>  001:0145---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00981>      CALIB STANDHYD     04:9N            1.85     .191 No_date    1:20   22.16
00982>        [XIMP=.19:TIMP=.27]
00983>        [LOSS= 2 :CN= 61.0]
00984>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00985>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
00986>  001:0146---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00987>      ADD HYD            01:9G            1.16     .014 No_date    1:30    4.19
00988>                       +  02:9H           1.67     .016 No_date    1:42    4.54
00989>                       +  03:9M           5.80     .794 No_date    1:21   32.33
00990>                       +  04:9N           1.85     .191 No_date    1:20   22.16
00991>       [DT= 1.00]  SUM=  06:SWMF2         10.48     .982 No_date    1:21   22.99
00992> #-----------------|-------------------------------------------------------------|
00993> #-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)----------|
00994> #-----------------|-------------------------------------------------------------|
00995>  001:0147---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00996>      ROUTE RESERVOIR -> 06:SWMF2        10.48     .982 No_date    1:21   22.99
00997>        [RDT= 1.00] out<- 09:SWMF-2      10.48     .018 No_date    4:16   22.99
00998>       {MxStoUsed=.2226E+00}
00999> #-----------------|-------------------------------------------------------------|
01000> #-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-----------------|
01001> #-----------------|-------------------------------------------------------------|
01002>  001:0148---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01003>      ADD HYD            09:SWMF-2        10.48     .018 No_date    4:16   22.99
01004>                       +  05:WC9LOWER     135.78    2.823 No_date    2:44   24.14
01005>                       +  10:9P            1.75     .198 No_date    1:20   25.80
01006>       [DT= 1.00]  SUM=  01:WC9c          148.01    2.860 No_date    2:44   24.08
01007> #-----------------|-------------------------------------------------------------|
01008> #-----------------|--WATERCOURSE 8 CATCHMENTS---------------------------------|
01009> #-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8--------------------|
01010> #-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
01011> #-----------------|-------------------------------------------------------------|
01012>  001:0149---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01013>      CALIB NASHYD       01:8i            2.23     .060 No_date    1:42   12.50
01014>        [CN= 63.5: N= 3.00]
01015>        [Tp=  .28:DT= 1.00]
01016>  001:0150---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01017>      CALIB NASHYD       02:EXT-8         7.60     .131 No_date    2:07   12.21
01018>        [CN= 63.0: N= 3.00]
01019>        [Tp=  .55:DT= 1.00]
01020> #-----------------|-------------------------------------------------------------|
01021> #-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
01022> #-----------------|-------------------------------------------------------------|
01023>  001:0151---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01024>      ADD HYD            01:8i            2.23     .060 No_date    1:42   12.50
01025>                       +  02:EXT-8         7.60     .131 No_date    2:07   12.21
01026>       [DT= 1.00]  SUM=  03:WC8           9.83     .175 No_date    1:58   12.27
01027> #*************************************************************************
01028> #*************************Chicago 50yr 4-hr storm*************************
01029> #*************************************************************************
01030>  001:0152---------------------------------------------------------------------
01031>      CHICAGO STORM
01032>        [SDT= 5.00:SDUR=   4.00:PTOT=  64.88]
01033>        {A/B/C= 866.281/   1.500/    .725: R=.9997}
01034> #-----------------|-------------------------------------------------------------|
01035> #-----------------|-POST-DEVELOPMENT-------------------------------------------|
01036> #-----------------|-------------------------------------------------------------|
01037> #-----------------|-------------------------------------------------------------|
01038> #-----------------|-Subwatershed 9 External Drainage Area----------------------|
01039> #-----------------|-Per 'The Orchards' FSSWM Report----------------------------|
01040> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
01041> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
01042> #-----------------|-------------------------------------------------------------|
01043>  001:0153---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01044>      CALIB NASHYD       01:EXT-9A       101.80    3.055 No_date    2:40   29.06
01045>        [CN= 80.0: N= 3.00]
01046>        [Tp= 1.00:DT= 1.00]
01047>  001:0154---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01048>      ROUTE CHANNEL   -> 01:EXT-9A       101.80    3.055 No_date    2:40   29.06
01049>        [RDT= 1.00] out<- 02:Channel      101.80    3.046 No_date    2:44   29.06
01050>        [L/S/n=  550./2.000/.035]
01051>        {Vmax= 1.732:Dmax=  .328}
01052>  001:0155---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01053>      CALIB STANDHYD     03:EXT-9B        14.80    3.311 No_date    1:23   37.37
01054>        [XIMP=.35:TIMP=.35]
01055>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
01056>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01057>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
01058>  001:0156---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01059>      ROUTE RESERVOIR -> 03:EXT-9B       14.80    3.311 No_date    1:23   37.37
01060>        [RDT= 1.00] out<- 04:Orchards     14.80     .553 No_date    1:51   37.37
01061>       {MxStoUsed=.3809E+00}
01062> #-----------------|-------------------------------------------------------------|
01063> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing----------|
01064> #-----------------|-------------------------------------------------------------|
01065>  001:0157---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01066>      ADD HYD            02:Channel      101.80    3.046 No_date    2:44   29.06
01067>                       +  04:Orchards     14.80     .553 No_date    1:51   37.37
01068>       [DT= 1.00]  SUM=  05:RD19         116.60    3.359 No_date    2:40   30.11
01069>  001:0158---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01070>      CALIB NASHYD       01:EXT-9D         .63     .035 No_date    1:35   20.23
01071>        [CN= 73.0: N= 3.00]
01072>        [Tp=  .20:DT= 1.00]
01073> #-----------------|-------------------------------------------------------------|
01074> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands----------------|
01075> #-----------------|-------------------------------------------------------------|
01076>  001:0159---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01077>      CALIB NASHYD       02:9C9D           2.47     .071 No_date    1:33   10.27
01078>        [CN= 49.6: N= 3.00]
01079>        [Tp=  .18:DT= 1.00]
01080>  001:0160---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
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01081>      ADD HYD            01:EXT-9D          .63     .035 No_date    1:35   20.23
01082>                     +  02:9C9D           2.47     .071 No_date    1:33   10.27
01083>                     +  05:RD19         116.60    3.359 No_date    2:40   30.11
01084>       [DT= 1.00]  SUM=  04:WC9a         119.70    3.385 No_date    2:40   29.65
01085> #-----------------|-------------------------------------------------------------|
01086> #--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
01087> #--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-------------------------|
01088> #-----------------|-------------------------------------------------------------|
01089>  001:0161---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01090>      CALIB NASHYD       01:EXT-9C          8.40     .312 No_date    1:58   22.53
01091>        [CN= 74.9: N= 3.00]
01092>        [Tp=  .47:DT= 1.00]
01093>  001:0162---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01094>      CALIB STANDHYD     03:9B              3.10     .758 No_date    1:21   43.52
01095>        [XIMP=.30:TIMP=.52]
01096>        [LOSS= 2 :CN= 79.0]
01097>        [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
01098>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
01099>  001:0163---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01100>      CALIB NASHYD       05:9E              2.10     .088 No_date    1:27   11.39
01101>        [CN= 54.1: N= 3.00]
01102>        [Tp=  .11:DT= 1.00]
01103>  001:0164---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01104>      ADD HYD            01:EXT-9C          8.40     .312 No_date    1:58   22.53
01105>                     +  03:9B              3.10     .758 No_date    1:21   43.52
01106>                     +  05:9E              2.10     .088 No_date    1:27   11.39
01107>       [DT= 1.00]  SUM=  06:SWMF1         13.60     .828 No_date    1:21   25.59
01108> #-----------------|-------------------------------------------------------------|
01109> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
01110> #-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
01111> #-----------------|-------------------------------------------------------------|
01112>  001:0165---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01113>      ROUTE RESERVOIR -> 06:SWMF1        13.60     .828 No_date    1:21   25.59
01114>        [RDT= 1.00] out<- 01:SWMF-1      13.60     .024 No_date    4:48   25.59
01115>       {MxStoUsed=.3186E+00}
01116>  001:0166---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01117>      ADD HYD            01:SWMF-1          13.60     .024 No_date    4:48   25.59
01118>                     +  04:WC9a          119.70    3.385 No_date    2:40   29.65
01119>       [DT= 1.00]  SUM=  07:WC9b          133.30    3.406 No_date    2:40   29.24
01120> #-----------------|-------------------------------------------------------------|
01121> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
01122> #-----------------|-------------------------------------------------------------|
01123> #-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
01124> #-----------------|-------------------------------------------------------------|
01125>  001:0167---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01126>      CALIB STANDHYD     10:9P              1.75     .236 No_date    1:20   30.37
01127>        [XIMP=.18:TIMP=.48]
01128>        [LOSS= 2 :CN= 61.0]
01129>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01130>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
01131> #-----------------|-------------------------------------------------------------|
01132> #-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
01133> #-----------------|-------------------------------------------------------------|
01134>  001:0168---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01135>      CALIB NASHYD       01:9J               .81     .045 No_date    1:33   18.96
01136>        [CN= 68.7: N= 3.00]
01137>        [Tp=  .19:DT= 1.00]
01138>  001:0169---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01139>      CALIB NASHYD       02:9O               .35     .014 No_date    1:40   16.70
01140>        [CN= 65.0: N= 3.00]
01141>        [Tp=  .26:DT= 1.00]
01142>  001:0170---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01143>      CALIB NASHYD       03:9K9L            1.32     .024 No_date    1:49   10.08
01144>        [CN= 50.4: N= 3.00]
01145>        [Tp=  .35:DT= 1.00]
01146>  001:0171---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01147>      ADD HYD            01:9J               .81     .045 No_date    1:33   18.96
01148>                     +  02:9O               .35     .014 No_date    1:40   16.70
01149>                     +  03:9K9L            1.32     .024 No_date    1:49   10.08
01150>                     +  07:WC9b          133.30    3.406 No_date    2:40   29.24
01151>       [DT= 1.00]  SUM=  05:WC9LOWER      135.78    3.432 No_date    2:40   28.96
01152> #-----------------|-------------------------------------------------------------|
01153> #-----------------|-LANDS DRAINING TO SWM FACILITY 2---------------------------|
01154> #-----------------|-------------------------------------------------------------|
01155>  001:0172---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01156>      CALIB NASHYD       01:9G              1.16     .019 No_date    1:30    5.39
01157>        [CN= 33.2: N= 3.00]
01158>        [Tp=  .14:DT= 1.00]
01159>  001:0173---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01160>      CALIB NASHYD       02:9H              1.67     .020 No_date    1:42    5.83
01161>        [CN= 34.7: N= 3.00]
01162>        [Tp=  .27:DT= 1.00]
01163>  001:0174---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01164>      CALIB STANDHYD     03:9M              5.80     .974 No_date    1:22   37.72
01165>        [XIMP=.23:TIMP=.56]
01166>        [LOSS= 2 :CN= 69.0]
01167>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01168>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
01169>  001:0175---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01170>      CALIB STANDHYD     04:9N              1.85     .221 No_date    1:20   26.13
01171>        [XIMP=.19:TIMP=.27]
01172>        [LOSS= 2 :CN= 61.0]
01173>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01174>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
01175>  001:0176---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01176>      ADD HYD            01:9G              1.16     .019 No_date    1:30    5.39
01177>                     +  02:9H              1.67     .020 No_date    1:42    5.83
01178>                     +  03:9M              5.80     .974 No_date    1:22   37.72
01179>                     +  04:9N              1.85     .221 No_date    1:20   26.13
01180>       [DT= 1.00]  SUM=  06:SWMF2         10.48    1.183 No_date    1:21   27.02
01181> #-----------------|-------------------------------------------------------------|
01182> #-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)----------|
01183> #-----------------|-------------------------------------------------------------|
01184>  001:0177---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01185>      ROUTE RESERVOIR -> 06:SWMF2        10.48     .095 No_date    3:30   27.02
01186>        [RDT= 1.00] out<- 09:SWMF-2      10.48     .095 No_date    3:30   27.02
01187>       {MxStoUsed=.2353E+00}
01188> #-----------------|-------------------------------------------------------------|
01189> #-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD------------------|
01190> #-----------------|-------------------------------------------------------------|
01191>  001:0178---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01192>      ADD HYD            09:SWMF-2          10.48     .095 No_date    3:30   27.02
01193>                     +  05:WC9LOWER      135.78    3.432 No_date    2:40   28.96
01194>                     +  10:9P              1.75     .236 No_date    1:20   30.37
01195>       [DT= 1.00]  SUM=  01:WC9c          148.01    3.475 No_date    2:40   28.84
01196> #-----------------|-------------------------------------------------------------|
01197> #-----------------|--WATERCOURSE 8 CATCHMENTS----------------------------------|
01198> #-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------------|
01199> #-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
01200> #-----------------|-------------------------------------------------------------|
01201>  001:0179---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01202>      CALIB NASHYD       01:8i              2.23     .077 No_date    1:42   15.66
01203>        [CN= 63.5: N= 3.00]
01204>        [Tp=  .28:DT= 1.00]
01205>  001:0180---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01206>      CALIB NASHYD       02:EXT-8           7.60     .167 No_date    2:06   15.32
01207>        [CN= 63.0: N= 3.00]
01208>        [Tp=  .55:DT= 1.00]
01209> #-----------------|-------------------------------------------------------------|
01210> #-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i-------|
01211> #-----------------|-------------------------------------------------------------|
01212>  001:0181---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01213>      ADD HYD            01:8i              2.23     .077 No_date    1:42   15.66
01214>                     +  02:EXT-8           7.60     .167 No_date    2:06   15.32
01215>       [DT= 1.00]  SUM=  03:WC8             9.83     .222 No_date    1:57   15.40
01216> #*************************************************************************
01217> #**************************Chicago 100yr 4-hr storm**************************
01218> #*************************************************************************
01219>  001:0182---------------------------------------------------------------------
01220>      CHICAGO STORM
01221>        [SDT= 5.00:SDUR=   4.00:PTOT=  71.43]
01222>        {A/B/C= 953.793/   1.500/    .725: R=.9997}
01223> #-----------------|-------------------------------------------------------------|
01224> #-----------------|-POST-DEVELOPMENT-------------------------------------------|
01225> #-----------------|-------------------------------------------------------------|
01226> #-----------------|-------------------------------------------------------------|
01227> #-----------------|-Subwatershed 9 External Drainage Area----------------------|
01228> #-----------------|-Per 'The Orchards' FSSWM Report----------------------------|
01229> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
01230> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
01231> #-----------------|-------------------------------------------------------------|
01232>  001:0183---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01233>      CALIB NASHYD       01:EXT-9A        101.80    3.592 No_date    2:39   33.96
01234>        [CN= 80.0: N= 3.00]
01235>        [Tp= 1.00:DT= 1.00]
01236>  001:0184---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01237>      ROUTE CHANNEL   -> 01:EXT-9A        101.80    3.592 No_date    2:39   33.96
01238>        [RDT= 1.00] out<- 02:Channel     101.80    3.582 No_date    2:43   33.96
01239>        [L/S/n=  550./2.000/.035]
01240>        {Vmax= 1.809:Dmax=  .356}
01241>  001:0185---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01242>      CALIB STANDHYD     03:EXT-9B          14.80    3.763 No_date    1:23   42.71
01243>        [XIMP=.35:TIMP=.35]
01244>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
01245>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01246>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
01247>  001:0186---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01248>      ROUTE RESERVOIR -> 03:EXT-9B        14.80    3.763 No_date    1:23   42.71
01249>        [RDT= 1.00] out<- 04:Orchards      14.80     .713 No_date    1:50   42.70
01250>       {MxStoUsed=.4213E+00}
01251> #-----------------|-------------------------------------------------------------|
01252> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing----------|
01253> #-----------------|-------------------------------------------------------------|
01254>  001:0187---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01255>      ADD HYD            02:Channel       101.80    3.582 No_date    2:43   33.96
01256>                     +  04:Orchards      14.80     .713 No_date    1:50   42.70
01257>       [DT= 1.00]  SUM=  05:RD19          116.60    3.975 No_date    2:37   35.07
01258>  001:0188---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01259>      CALIB NASHYD       01:EXT-9D           .63     .043 No_date    1:34   24.29
01260>        [CN= 73.0: N= 3.00]
01261>        [Tp=  .20:DT= 1.00]
01262> #-----------------|-------------------------------------------------------------|
01263> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands----------------|
01264> #-----------------|-------------------------------------------------------------|
01265>  001:0189---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01266>      CALIB NASHYD       02:9C9D            2.47     .088 No_date    1:33   12.51
01267>        [CN= 49.6: N= 3.00]
01268>        [Tp=  .18:DT= 1.00]
01269>  001:0190---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01270>      ADD HYD            01:EXT-9D           .63     .043 No_date    1:34   24.29
01271>                     +  02:9C9D            2.47     .088 No_date    1:33   12.51
01272>                     +  05:RD19          116.60    3.975 No_date    2:37   35.07
01273>       [DT= 1.00]  SUM=  04:WC9a          119.70    4.007 No_date    2:37   34.55
01274> #-----------------|-------------------------------------------------------------|
01275> #--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
01276> #--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-------------------------|
01277> #-----------------|-------------------------------------------------------------|
01278>  001:0191---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01279>      CALIB NASHYD       01:EXT-9C          8.40     .377 No_date    1:57   26.82
01280>        [CN= 74.9: N= 3.00]
01281>        [Tp=  .47:DT= 1.00]
01282>  001:0192---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01283>      CALIB STANDHYD     03:9B              3.10     .869 No_date    1:21   49.29
01284>        [XIMP=.30:TIMP=.52]
01285>        [LOSS= 2 :CN= 79.0]
01286>        [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
01287>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
01288>  001:0193---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01289>      CALIB NASHYD       05:9E              2.10     .111 No_date    1:27   13.90
01290>        [CN= 54.1: N= 3.00]
01291>        [Tp=  .11:DT= 1.00]
01292>  001:0194---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01293>      ADD HYD            01:EXT-9C          8.40     .377 No_date    1:57   26.82
01294>                     +  03:9B              3.10     .869 No_date    1:21   49.29
01295>                     +  05:9E              2.10     .111 No_date    1:27   13.90
01296>       [DT= 1.00]  SUM=  06:SWMF1         13.60     .959 No_date    1:21   29.94
01297> #-----------------|-------------------------------------------------------------|
01298> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE--------|
01299> #-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
01300> #-----------------|-------------------------------------------------------------|
01301>  001:0195---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01302>      ROUTE RESERVOIR -> 06:SWMF1        13.60     .959 No_date    1:21   29.94
01303>        [RDT= 1.00] out<- 01:SWMF-1      13.60     .026 No_date    4:50   29.94
01304>       {MxStoUsed=.3753E+00}
01305>  001:0196---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01306>      ADD HYD            01:SWMF-1          13.60     .026 No_date    4:50   29.94
01307>                     +  04:WC9a          119.70    4.007 No_date    2:37   34.55
01308>       [DT= 1.00]  SUM=  07:WC9b          133.30    4.029 No_date    2:37   34.08
01309> #-----------------|-------------------------------------------------------------|
01310> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
01311> #-----------------|-------------------------------------------------------------|
01312> #-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
01313> #-----------------|-------------------------------------------------------------|
01314>  001:0197---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01315>      CALIB STANDHYD     10:9P              1.75     .269 No_date    1:20   34.90
01316>        [XIMP=.18:TIMP=.48]
01317>        [LOSS= 2 :CN= 61.0]
01318>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01319>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
01320> #-----------------|-------------------------------------------------------------|
01321> #-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
01322> #-----------------|-------------------------------------------------------------|
01323>  001:0198---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01324>      CALIB NASHYD       01:9J               .81     .054 No_date    1:33   22.69
01325>        [CN= 68.7: N= 3.00]
01326>        [Tp=  .19:DT= 1.00]
01327>  001:0199---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01328>      CALIB NASHYD       02:9O               .35     .017 No_date    1:40   20.10
01329>        [CN= 65.0: N= 3.00]
01330>        [Tp=  .26:DT= 1.00]
01331>  001:0200---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01332>      CALIB NASHYD       03:9K9L            1.32     .030 No_date    1:48   12.33
01333>        [CN= 50.4: N= 3.00]
01334>        [Tp=  .35:DT= 1.00]
01335>  001:0201---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01336>      ADD HYD            01:9J               .81     .054 No_date    1:33   22.69
01337>                     +  02:9O               .35     .017 No_date    1:40   20.10
01338>                     +  03:9K9L            1.32     .030 No_date    1:48   12.33
01339>                     +  07:WC9b          133.30    4.029 No_date    2:37   34.08
01340>       [DT= 1.00]  SUM=  05:WC9LOWER      135.78    4.061 No_date    2:37   33.76
01341> #-----------------|-------------------------------------------------------------|
01342> #-----------------|-LANDS DRAINING TO SWM FACILITY 2---------------------------|
01343> #-----------------|-------------------------------------------------------------|
01344>  001:0202---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01345>      CALIB NASHYD       01:9G              1.16     .024 No_date    1:30    6.67
01346>        [CN= 33.2: N= 3.00]
01347>        [Tp=  .14:DT= 1.00]
01348>  001:0203---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01349>      CALIB NASHYD       02:9H              1.67     .026 No_date    1:42    7.19
01350>        [CN= 34.7: N= 3.00]
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01351>       [Tp=  .27:DT= 1.00]
01352>  001:0204---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01353>      CALIB STANDHYD     03:9M             5.80    1.123 No_date    1:22   43.02
01354>       [XIMP=.23:TIMP=.56]
01355>       [LOSS= 2 :CN= 69.0]
01356>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01357>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
01358>  001:0205---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01359>      CALIB STANDHYD     04:9N             1.85     .253 No_date    1:20   30.10
01360>       [XIMP=.19:TIMP=.27]
01361>       [LOSS= 2 :CN= 61.0]
01362>       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01363>       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
01364>  001:0206---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01365>      ADD HYD            01:9G             1.16     .024 No_date    1:30    6.67
01366>                       +  02:9H             1.67     .026 No_date    1:42    7.19
01367>                       +  03:9M             5.80    1.123 No_date    1:22   43.02
01368>                       +  04:9N             1.85     .253 No_date    1:20   30.10
01369>       [DT= 1.00]  SUM=  06:SWMF2          10.48    1.362 No_date    1:21   31.00
01370> #-----------------|-------------------------------------------------------------|
01371> #-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)---------|
01372> #-----------------|-------------------------------------------------------------|
01373>  001:0207---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01374>      ROUTE RESERVOIR -> 06:SWMF2          10.48    1.362 No_date    1:21   31.00
01375>       [RDT= 1.00] out<- 09:SWMF-2         10.48     .147 No_date    2:46   31.00
01376>      {MxStoUsed=.2402E+00}
01377> #-----------------|-------------------------------------------------------------|
01378> #-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-----------------|
01379> #-----------------|-------------------------------------------------------------|
01380>  001:0208---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01381>      ADD HYD            09:SWMF-2         10.48     .147 No_date    2:46   31.00
01382>                       +  05:WC9LOWER      135.78    4.061 No_date    2:37   33.76
01383>                       +  10:9P              1.75     .269 No_date    1:20   34.90
01384>       [DT= 1.00]  SUM=  01:WC9c           148.01    4.233 No_date    2:37   33.58
01385> #-----------------|-------------------------------------------------------------|
01386> #-----------------|--WATERCOURSE 8 CATCHMENTS----------------------------------|
01387> #-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------------|
01388> #-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
01389> #-----------------|-------------------------------------------------------------|
01390>  001:0209---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01391>      CALIB NASHYD       01:8i             2.23     .094 No_date    1:41   18.90
01392>       [CN= 63.5: N= 3.00]
01393>       [Tp=  .28:DT= 1.00]
01394>  001:0210---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01395>      CALIB NASHYD       02:EXT-8          7.60     .204 No_date    2:05   18.52
01396>       [CN= 63.0: N= 3.00]
01397>       [Tp=  .55:DT= 1.00]
01398> #-----------------|-------------------------------------------------------------|
01399> #-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
01400> #-----------------|-------------------------------------------------------------|
01401>  001:0211---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01402>      ADD HYD            01:8i             2.23     .094 No_date    1:41   18.90
01403>                       +  02:EXT-8          7.60     .204 No_date    2:05   18.52
01404>       [DT= 1.00]  SUM=  03:WC8            9.83     .273 No_date    1:57   18.61
01405>  001:0212---------------------------------------------------------------------
01406>       FINISH
01407> ---------------------------------------------------------------------------------
01408> *********************************************************************************
01409>      WARNINGS / ERRORS / NOTES
01410>      ------------------------
01411>    Simulation ended on 2018-04-29     at 23:59:47
01412> =================================================================================
01413>
01414>
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```
00001> 2     Metric units
00002> *#*****************************************************************************
00003> *#  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
00004> *#  Date        : 2018-01-24
00005> *#  Modeller    : [OD - UPDATED BY JM]
00006> *#  Company     : C.F. Crozier & Associates Inc.
00007> *#  License #   : 3737016
00008> START              TZERO=[0.0],  METOUT=[2],  NSTORM=[0],  NRUN=[0]
00009> *%                  [  ] <--storm filename, one per line for NSTORM time
00010> *%-----------------|-----------------------------------------------------------|
00011> *#-----------------|------------- FINAL MODEL -------------------------------|
00012> *%-----------------|-----------------------------------------------------------|
00013> *#*****************************************************************************
00014> *#                              2-YEAR, 24 HOUR SCS(II)
00015> *#*****************************************************************************
00016> *#-----------------|-----------------------------------------------------------|
00017> MASS STORM         PTOTAL=[53.6](mm), CSDT=[1](min),
00018>                    CURVE_FILENAME=["SCS24HII.mst"]
00019> *%-----------------|-----------------------------------------------------------|
00020> *%-----------------|-----------------------------------------------------------|
00021> *#-----------------|-----------------------------------------------------------|
00022> *#-----------------|-POST-DEVELOPMENT--------------------------------------------|
00023> *#-----------------|-----------------------------------------------------------|
00024> *#-----------------|-----------------------------------------------------------|
00025> *#-----------------|-Subwatershed 9 External Drainage Area-----------------------|
00026> *#-----------------|-Per 'The Orchards' FSSWM Report-----------------------------|
00027> *#-----------------|-Prepared by Higgins Engineering (Jan. 2005)------------------|
00028> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha--------|
00029> *#-----------------|-----------------------------------------------------------|
00030> *%-----------------|-----------------------------------------------------------|
00031> CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00032>                    DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00033>                    N=[3], TP=[1.00]hrs,
00034>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00035> *%-----------------|-----------------------------------------------------------|
00036> ROUTE CHANNEL      IDout=[2], NHYD=["Channel"], IDin=[1],
00037>                    RDT=[1](min),
00038>                    CHLGTH=[550](m),  CHSLOPE=[2](%),
00039>                                      FPSLOPE=[2](%),
00040>                    SECNUM=[1],       NSEG=[3]
00041>                    ( SEGROUGH, SEGDIST (m))=[0.035,8,-0.035,12,0.035,20] NSEG t
00042>                    ( DISTANCE (m), ELEVATION (m))=[0,102]
00043>                                                  [8,100]
00044>                                                  [12,100]
00045>                                                  [20,102]
00046> *%-----------------|-----------------------------------------------------------|
00047> CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00048>                    XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00049>                    Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00050>                            DCAY=[2](/hr), F=[0](mm),
00051>                    Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00052>                                         LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00053>                    Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00054>                                         LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00055>                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00056> *%-----------------|-----------------------------------------------------------|
00057> ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00058>                    RDT=[1](min),
00059>                          TABLE of ( OUTFLOW-STORAGE ) values
00060>                                     (cms) - (ha-m)
00061>                                   [   0.0 ,  0.0 ]
00062>                                   [   0.0100 ,  0.0610 ]
00063>                                   [   0.0400 ,  0.1310 ]
00064>                                   [   0.0700 ,  0.2110 ]
00065>                                   [   0.2600 ,  0.3000 ]
00066>                                   [   0.6000 ,  0.3940 ]
00067>                                   [   1.0200 ,  0.4950 ]
00068>                                   [   1.5200 ,  0.6020 ]
00069>                                   [   2.0800 ,  0.7160 ]
00070>                                   [   2.6900 ,  0.8370 ]
00071>                          IDovf=[ ], NHYDovf=[  ]
00072> *%-----------------|-----------------------------------------------------------|
00073> *#-----------------|-----------------------------------------------------------|
00074> *#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00075> *#-----------------|-----------------------------------------------------------|
00076> *%-----------------|-----------------------------------------------------------|
00077> ADD HYD            IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00078> *%-----------------|-----------------------------------------------------------|
00079> CALIB NASHYD        ID=[1], NHYD=["EXT-9D"], DT=[1]min, AREA=[0.63](ha),
00080>                    DWF=[0](cms),  CN/C=[73.0], IA=[10.0](mm),
00081>                    N=[3], TP=[0.2]hrs,
00082>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00083> *%-----------------|-----------------------------------------------------------|
00084> *#-----------------|-----------------------------------------------------------|
00085> *#-----------------|-Parkbridge Craigleith - Upper Terrace Lands----------------|
00086> *#-----------------|-----------------------------------------------------------|
00087> *%-----------------|-----------------------------------------------------------|
00088> CALIB NASHYD        ID=[2], NHYD=["9C9D"], DT=[1]min, AREA=[2.47](ha),
00089>                    DWF=[0](cms),  CN/C=[49.6], IA=[8.0](mm),
00090>                    N=[3], TP=[0.18]hrs,
00091>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00092> *%-----------------|-----------------------------------------------------------|
00093> ADD HYD            IDsum=[4], NHYD=["WC9a"], IDs to add=[1,2,5]
00094> *%-----------------|-----------------------------------------------------------|
00095> *#-----------------|-----------------------------------------------------------|
00096> *#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT----------------|
00097> *#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-------------------------|
00098> *#-----------------|-----------------------------------------------------------|
00099> *%-----------------|-----------------------------------------------------------|
00100> CALIB NASHYD        ID=[1], NHYD=["EXT-9C"], DT=[1]min, AREA=[8.4](ha),
00101>                    DWF=[0](cms),  CN/C=[74.9], IA=[8.4](mm),
00102>                    N=[3], TP=[0.47]hrs,
00103>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00104> *%-----------------|-----------------------------------------------------------|
00105> CALIB STANDHYD      ID=[3], NHYD=["9B"], DT=[1](min), AREA=[3.10](ha),
00106>                    XIMP=[0.30], TIMP=[0.525], DWF=[0](cms), LOSS=[2],
00107>                    SCS curve number CN=[79.0],
00108>                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[3.0](%),
00109>                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
00110>                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00111>                                         LGI=[110](m), MNI=[0.013], SCI=[0](min)
00112>                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00113> *%-----------------|-----------------------------------------------------------|
00114> CALIB NASHYD        ID=[5], NHYD=["9E"], DT=[1]min, AREA=[2.1](ha),
00115>                    DWF=[0](cms),  CN/C=[54.1], IA=[9.32](mm),
00116>                    N=[3], TP=[0.11]hrs,
00117>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00118> *%-----------------|-----------------------------------------------------------|
00119> ADD HYD            IDsum=[6], NHYD=["SWMF1"], IDs to add=[1,3,5]
00120> *%-----------------|-----------------------------------------------------------|
00121> *#-----------------|-----------------------------------------------------------|
00122> *#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
00123> *#-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00124> *#-----------------|-----------------------------------------------------------|
00125> *%-----------------|-----------------------------------------------------------|
00126> ROUTE RESERVOIR     IDout=[1],   NHYD=["SWMF-1"],  IDin=[6],
00127>                    RDT=[1](min),
00128>                          TABLE of ( OUTFLOW-STORAGE ) values
00129>                                     (cms) - (ha-m)
00130>                                   [   0.0 ,  0.0 ]
00131>                                   [   0.005 ,  0.018 ]
00132>                                   [   0.011 ,  0.058 ]
00133>                                   [   0.015 ,  0.104 ]
00134>                                   [   0.017 ,  0.141 ]
00135>                                   [   0.019 ,  0.182 ]
00136>                                   [   0.024 ,  0.303 ]
00137>                                   [   0.028 ,  0.443 ]
00138>                                   [   0.031 ,  0.601 ]
00139>                                   [   0.032 ,  1.119 ]
00140>                                   [   0.033 ,  1.163 ]
00141>                                   [   0.359 ,  1.207 ]
00142>                                   [   1.054 ,  1.253 ]
00143>                                   [   -1  ,  -1  ]  (max twenty pts)
00144>                          IDovf=[   ], NHYDovf=[   ]
00145> *%-----------------|-----------------------------------------------------------|
00146> ADD HYD            IDsum=[7], NHYD=["WC9b"], IDs to add=[1,4]
00147> *%-----------------|-----------------------------------------------------------|
00148> *#-----------------|-----------------------------------------------------------|
00149> *#-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
00150> *#-----------------|-----------------------------------------------------------|
00151> *%-----------------|-----------------------------------------------------------|
00152> *#-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
00153> *#-----------------|-----------------------------------------------------------|
00154> CALIB STANDHYD      ID=[10], NHYD=["9P"], DT=[1](min), AREA=[1.75](ha),
00155>                    XIMP=[0.184], TIMP=[0.480], DWF=[0](cms), LOSS=[2],
00156>                    SCS curve number CN=[61.0],
00157>                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00158>                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
00159>                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00160>                                         LGI=[108](m), MNI=[0.013], SCI=[0](min)
00161>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00162> *%-----------------|-----------------------------------------------------------|
00163> *#-----------------|-----------------------------------------------------------|
00164> *#-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ------------------------|
00165> *#-----------------|-----------------------------------------------------------|
00166> *%-----------------|-----------------------------------------------------------|
00167> *%-----------------|-----------------------------------------------------------|
00168> CALIB NASHYD        ID=[1], NHYD=["9J"], DT=[1]min, AREA=[0.81](ha),
00169>                    DWF=[0](cms),  CN/C=[68.7], IA=[7.6](mm),
00170>                    N=[3], TP=[0.19]hrs,
00171>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00172> *%-----------------|-----------------------------------------------------------|
00173> CALIB NASHYD        ID=[2], NHYD=["9O"], DT=[1]min, AREA=[0.35](ha),
00174>                    DWF=[0](cms),  CN/C=[65.0], IA=[8.0](mm),
00175>                    N=[3], TP=[0.26]hrs,
00176>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00177> *%-----------------|-----------------------------------------------------------|
00178> CALIB NASHYD        ID=[3], NHYD=["9K9L"], DT=[1]min, AREA=[1.32](ha),
00179>                    DWF=[0](cms),  CN/C=[50.4], IA=[9.4](mm),
00180>                    N=[3], TP=[0.35]hrs,
00181>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00182> *%-----------------|-----------------------------------------------------------|
00183> ADD HYD            IDsum=[5], NHYD=["WC9LOWER"], IDs to add=[1,2,3,7]
00184> *%-----------------|-----------------------------------------------------------|
00185> *#-----------------|-----------------------------------------------------------|
00186> *#-----------------|-LANDS DRAINING TO SWM FACILITY 2----------------------------|
00187> *#-----------------|-----------------------------------------------------------|
00188> CALIB NASHYD        ID=[1], NHYD=["9G"], DT=[1]min, AREA=[1.16](ha),
00189>                    DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
00190>                    N=[3], TP=[0.14]hrs,
00191>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00192> *%-----------------|-----------------------------------------------------------|
00193> CALIB NASHYD        ID=[2], NHYD=["9H"], DT=[1]min, AREA=[1.67](ha),
00194>                    DWF=[0](cms),  CN/C=[34.7], IA=[9.1](mm),
00195>                    N=[3], TP=[0.27]hrs,
00196>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00197> *%-----------------|-----------------------------------------------------------|
00198> CALIB STANDHYD      ID=[3], NHYD=["9M"], DT=[1](min), AREA=[5.80](ha),
00199>                    XIMP=[0.229], TIMP=[0.56], DWF=[0](cms), LOSS=[2],
00200>                    SCS curve number CN=[69],
00201>                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00202>                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
00203>                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00204>                                         LGI=[197](m), MNI=[0.013], SCI=[0](min)
00205>                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00206> *%-----------------|-----------------------------------------------------------|
00207> CALIB STANDHYD      ID=[4], NHYD=["9N"], DT=[1](min), AREA=[1.85](ha),
00208>                    XIMP=[0.189], TIMP=[0.266], DWF=[0](cms), LOSS=[2],
00209>                    SCS curve number CN=[61],
00210>                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00211>                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
00212>                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00213>                                         LGI=[111](m), MNI=[0.013], SCI=[0](min)
00214>                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00215> *%-----------------|-----------------------------------------------------------|
00216> ADD HYD            IDsum=[6], NHYD=["SWMF2"], IDs to add=[1,2,3,4]
00217> *%-----------------|-----------------------------------------------------------|
00218> *#-----------------|-----------------------------------------------------------|
00219> *#-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)----------|
00220> *#-----------------|-----------------------------------------------------------|
00221> *%-----------------|-----------------------------------------------------------|
00222> ROUTE RESERVOIR     IDout=[9],   NHYD=["SWMF-2"],  IDin=[6],
00223>                    RDT=[1](min),
00224>                          TABLE of ( OUTFLOW-STORAGE ) values
00225>                                     (cms) - (ha-m)
00226>                                   [   0.0 ,  0.0 ]
00227>                                   [   0.004 ,  0.016 ]
00228>                                   [   0.009 ,  0.053 ]
00229>                                   [   0.011 ,  0.074 ]
00230>                                   [   0.013 ,  0.119 ]
00231>                                   [   0.014 ,  0.132 ]
00232>                                   [   0.016 ,  0.171 ]
00233>                                   [   0.017 ,  0.199 ]
00234>                                   [   0.018 ,  0.228 ]
00235>                                   [   0.344 ,  0.259 ]
00236>                                   [   1.040 ,  0.291 ]
00237>                                   [   2.076 ,  0.325 ]
00238>                                   [   -1  ,  -1  ]  (max twenty pts)
00239>                          IDovf=[   ], NHYDovf=[   ]
00240> *%-----------------|-----------------------------------------------------------|
00241> *#-----------------|-----------------------------------------------------------|
00242> *#-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD------------------|
00243> *#-----------------|-----------------------------------------------------------|
00244> *%-----------------|-----------------------------------------------------------|
00245> ADD HYD            IDsum=[1], NHYD=["WC9c"], IDs to add=[9,5,10]
00246> *%-----------------|-----------------------------------------------------------|
00247> *%-----------------|-----------------------------------------------------------|
00248> *#-----------------|-----------------------------------------------------------|
00249> *#-----------------|--WATERCOURSE 8 CATCHMENTS----------------------------------|
00250> *#-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------------|
00251> *#-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
00252> *#-----------------|-----------------------------------------------------------|
00253> *%-----------------|-----------------------------------------------------------|
00254> CALIB NASHYD        ID=[1], NHYD=["8i"], DT=[1]min, AREA=[2.23](ha),
00255>                    DWF=[0](cms),  CN/C=[63.5], IA=[8.6](mm),
00256>                    N=[3], TP=[0.28]hrs,
00257>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00258> *%-----------------|-----------------------------------------------------------|
00259> CALIB NASHYD        ID=[2], NHYD=["EXT-8"], DT=[1]min, AREA=[7.60](ha),
00260>                    DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
00261>                    N=[3], TP=[0.55]hrs,
00262>                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00263> *%-----------------|-----------------------------------------------------------|
00264> *#-----------------|-----------------------------------------------------------|
00265> *#-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
00266> *#-----------------|-----------------------------------------------------------|
00267> *%-----------------|-----------------------------------------------------------|
00268> ADD HYD            IDsum=[3], NHYD=["WC8"], IDs to add=[1,2]
00269> *%-----------------|-----------------------------------------------------------|
00270> *%-----------------|-----------------------------------------------------------|
```

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00271> *%-----------------|-------------------------------------------------------------|
00272> *#*****************************************************************************
00273> *#*****************************5yr 24hr SCS storm*****************************
00274> *#*****************************************************************************
00275> *%-----------------|-------------------------------------------------------------|
00276> MASS STORM          PTOTAL=[71.6](mm), CSDT=[5](min),
00277>                     CURVE_FILENAME=["SCS24hII.mst"]
00278>
00279> *%-----------------|-------------------------------------------------------------|
00280> *%-----------------|-------------------------------------------------------------|
00281> *#-----------------|-------------------------------------------------------------|
00282> *#-----------------|-POST-DEVELOPMENT----------------------------------------------|
00283> *#-----------------|-------------------------------------------------------------|
00284> *#-----------------|-------------------------------------------------------------|
00285> *#-----------------|-Subwatershed 9 External Drainage Area-------------------------|
00286> *#-----------------|-Per 'The Orchards' FSSWM Report-------------------------------|
00287> *#-----------------|-Prepared by Higgins Engineering (Jan. 2005)-------------------|
00288> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00289> *#-----------------|-------------------------------------------------------------|
00290> *%-----------------|-------------------------------------------------------------|
00291> CALIB NASHYD       ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00292>                     DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00293>                     N=[3], TP=[1.00]hrs,
00294>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00295> *%-----------------|-------------------------------------------------------------|
00296> ROUTE CHANNEL      IDout=[2], NHYD=["Channel"], IDin=[1],
00297>                     RDT=[1](min),
00298>                     CHLGTH=[550](m),  CHSLOPE=[2](%),
00299>                                       FPSLOPE=[2](%),
00300>                     SECNUM=[1],       NSEG=[3]
00301>                     ( SEGROUGH, SEGDIST (m))=[0.035,8,-0.035,12,0.035,20] NSEG t
00302>                     ( DISTANCE (m), ELEVATION (m))=[0,102]
00303>                                                   [8,100]
00304>                                                   [12,100]
00305>                                                   [20,102]
00306> *%-----------------|-------------------------------------------------------------|
00307> CALIB STANDHYD     ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00308>                     XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00309>                     Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00310>                             DCAY=[2](/hr), F=[0](mm),
00311>                     Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00312>                                          LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00313>                     Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00314>                                          LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00315>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00316> *%-----------------|-------------------------------------------------------------|
00317> ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00318>                     RDT=[1](min),
00319>                           TABLE of ( OUTFLOW-STORAGE ) values
00320>                                      (cms) - (ha-m)
00321>                                    [   0.0 ,  0.0 ]
00322>                                    [   0.0100 ,  0.0610 ]
00323>                                    [   0.0400 ,  0.1310 ]
00324>                                    [   0.0700 ,  0.2110 ]
00325>                                    [   0.2600 ,  0.3000 ]
00326>                                    [   0.6000 ,  0.3940 ]
00327>                                    [   1.0200 ,  0.4950 ]
00328>                                    [   1.5200 ,  0.6020 ]
00329>                                    [   2.0800 ,  0.7160 ]
00330>                                    [   2.6900 ,  0.8370 ]
00331>                           IDovf=[ ], NHYDovf=[  ]
00332> *%-----------------|-------------------------------------------------------------|
00333> *#-----------------|-------------------------------------------------------------|
00334> *#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00335> *#-----------------|-------------------------------------------------------------|
00336> *%-----------------|-------------------------------------------------------------|
00337> ADD HYD            IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00338> *%-----------------|-------------------------------------------------------------|
00339> CALIB NASHYD       ID=[1], NHYD=["EXT-9D"], DT=[1]min, AREA=[0.63](ha),
00340>                     DWF=[0](cms),  CN/C=[73.0], IA=[10.0](mm),
00341>                     N=[3], TP=[0.2]hrs,
00342>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00343> *%-----------------|-------------------------------------------------------------|
00344> *#-----------------|-------------------------------------------------------------|
00345> *#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
00346> *#-----------------|-------------------------------------------------------------|
00347> *%-----------------|-------------------------------------------------------------|
00348> CALIB NASHYD       ID=[2], NHYD=["9C9D"], DT=[1]min, AREA=[2.47](ha),
00349>                     DWF=[0](cms),  CN/C=[49.6], IA=[8.0](mm),
00350>                     N=[3], TP=[0.18]hrs,
00351>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00352> *%-----------------|-------------------------------------------------------------|
00353> ADD HYD            IDsum=[4], NHYD=["WC9a"], IDs to add=[1,2,5]
00354> *%-----------------|-------------------------------------------------------------|
00355> *#-----------------|-------------------------------------------------------------|
00356> *#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00357> *#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-----------------------|
00358> *#-----------------|-------------------------------------------------------------|
00359> *%-----------------|-------------------------------------------------------------|
00360> CALIB NASHYD       ID=[1], NHYD=["EXT-9C"], DT=[1]min, AREA=[8.4](ha),
00361>                     DWF=[0](cms),  CN/C=[74.9], IA=[8.4](mm),
00362>                     N=[3], TP=[0.47]hrs,
00363>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00364> *%-----------------|-------------------------------------------------------------|
00365> CALIB STANDHYD     ID=[3], NHYD=["9B"], DT=[1](min), AREA=[3.10](ha),
00366>                     XIMP=[0.30], TIMP=[0.525], DWF=[0](cms), LOSS=[2],
00367>                     SCS curve number CN=[79.0],
00368>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[3.0](%),
00369>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00370>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00371>                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
00372>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00373> *%-----------------|-------------------------------------------------------------|
00374> CALIB NASHYD       ID=[5], NHYD=["9E"], DT=[1]min, AREA=[2.1](ha),
00375>                     DWF=[0](cms),  CN/C=[54.1], IA=[9.32](mm),
00376>                     N=[3], TP=[0.11]hrs,
00377>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00378> *%-----------------|-------------------------------------------------------------|
00379> ADD HYD            IDsum=[6], NHYD=["SWMF1"], IDs to add=[1,3,5]
00380> *%-----------------|-------------------------------------------------------------|
00381> *#-----------------|-------------------------------------------------------------|
00382> *#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
00383> *#-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00384> *#-----------------|-------------------------------------------------------------|
00385> *%-----------------|-------------------------------------------------------------|
00386> ROUTE RESERVOIR     IDout=[1],   NHYD=["SWMF-1"],  IDin=[6],
00387>                     RDT=[1](min),
00388>                           TABLE of ( OUTFLOW-STORAGE ) values
00389>                                      (cms) - (ha-m)
00390>                                    [   0.0 ,  0.0 ]
00391>                                    [   0.005 ,  0.018 ]
00392>                                    [   0.011 ,  0.058 ]
00393>                                    [   0.015 ,  0.104 ]
00394>                                    [   0.017 ,  0.141 ]
00395>                                    [   0.019 ,  0.182 ]
00396>                                    [   0.024 ,  0.303 ]
00397>                                    [   0.028 ,  0.443 ]
00398>                                    [   0.031 ,  0.601 ]
00399>                                    [   0.032 ,  1.119 ]
00400>                                    [   0.033 ,  1.163 ]
00401>                                    [   0.359 ,  1.207 ]
00402>                                    [   1.054 ,  1.253 ]
00403>                                    [   -1  ,  -1  ]  (max twenty pts)
00404>                           IDovf=[   ], NHYDovf=[   ]
00405> *%-----------------|-------------------------------------------------------------|
00406> ADD HYD            IDsum=[7], NHYD=["WC9b"], IDs to add=[1,4]
00407> *%-----------------|-------------------------------------------------------------|
00408> *#-----------------|-------------------------------------------------------------|
00409> *#-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
00410> *#-----------------|-------------------------------------------------------------|
00411> *%-----------------|-------------------------------------------------------------|
00412> *#-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
00413> *#-----------------|-------------------------------------------------------------|
00414> CALIB STANDHYD     ID=[10], NHYD=["9P"], DT=[1](min), AREA=[1.75](ha),
00415>                     XIMP=[0.184], TIMP=[0.480], DWF=[0](cms), LOSS=[2],
00416>                     SCS curve number CN=[61.0],
00417>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00418>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00419>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00420>                                          LGI=[108](m), MNI=[0.013], SCI=[0](min)
00421>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00422> *%-----------------|-------------------------------------------------------------|
00423> *#-----------------|-------------------------------------------------------------|
00424> *#-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED -----------------------|
00425> *#-----------------|-------------------------------------------------------------|
00426> *%-----------------|-------------------------------------------------------------|
00427> *%-----------------|-------------------------------------------------------------|
00428> CALIB NASHYD       ID=[1], NHYD=["9J"], DT=[1]min, AREA=[0.81](ha),
00429>                     DWF=[0](cms),  CN/C=[68.7], IA=[7.6](mm),
00430>                     N=[3], TP=[0.19]hrs,
00431>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00432> *%-----------------|-------------------------------------------------------------|
00433> CALIB NASHYD       ID=[2], NHYD=["9O"], DT=[1]min, AREA=[0.35](ha),
00434>                     DWF=[0](cms),  CN/C=[65.0], IA=[8.0](mm),
00435>                     N=[3], TP=[0.26]hrs,
00436>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00437> *%-----------------|-------------------------------------------------------------|
00438> CALIB NASHYD       ID=[3], NHYD=["9K9L"], DT=[1]min, AREA=[1.32](ha),
00439>                     DWF=[0](cms),  CN/C=[50.4], IA=[9.4](mm),
00440>                     N=[3], TP=[0.35]hrs,
00441>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00442> *%-----------------|-------------------------------------------------------------|
00443> ADD HYD            IDsum=[5], NHYD=["WC9LOWER"], IDs to add=[1,2,3,7]
00444> *%-----------------|-------------------------------------------------------------|
00445> *#-----------------|-------------------------------------------------------------|
00446> *#-----------------|-LANDS DRAINING TO SWM FACILITY 2---------------------------|
00447> *#-----------------|-------------------------------------------------------------|
00448> CALIB NASHYD       ID=[1], NHYD=["9G"], DT=[1]min, AREA=[1.16](ha),
00449>                     DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
00450>                     N=[3], TP=[0.14]hrs,
00451>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00452> *%-----------------|-------------------------------------------------------------|
00453> CALIB NASHYD       ID=[2], NHYD=["9H"], DT=[1]min, AREA=[1.67](ha),
00454>                     DWF=[0](cms),  CN/C=[34.7], IA=[9.1](mm),
00455>                     N=[3], TP=[0.27]hrs,
00456>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00457> *%-----------------|-------------------------------------------------------------|
00458> CALIB STANDHYD     ID=[3], NHYD=["9M"], DT=[1](min), AREA=[5.80](ha),
00459>                     XIMP=[0.229], TIMP=[0.56], DWF=[0](cms), LOSS=[2],
00460>                     SCS curve number CN=[69],
00461>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00462>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00463>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00464>                                          LGI=[197](m), MNI=[0.013], SCI=[0](min)
00465>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00466> *%-----------------|-------------------------------------------------------------|
00467> CALIB STANDHYD     ID=[4], NHYD=["9N"], DT=[1](min), AREA=[1.85](ha),
00468>                     XIMP=[0.189], TIMP=[0.266], DWF=[0](cms), LOSS=[2],
00469>                     SCS curve number CN=[61],
00470>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00471>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00472>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00473>                                          LGI=[111](m), MNI=[0.013], SCI=[0](min)
00474>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00475> *%-----------------|-------------------------------------------------------------|
00476> ADD HYD            IDsum=[6], NHYD=["SWMF2"], IDs to add=[1,2,3,4]
00477> *%-----------------|-------------------------------------------------------------|
00478> *#-----------------|-------------------------------------------------------------|
00479> *#-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)----------|
00480> *#-----------------|-------------------------------------------------------------|
00481> *%-----------------|-------------------------------------------------------------|
00482> ROUTE RESERVOIR     IDout=[9],   NHYD=["SWMF-2"],  IDin=[6],
00483>                     RDT=[1](min),
00484>                           TABLE of ( OUTFLOW-STORAGE ) values
00485>                                      (cms) - (ha-m)
00486>                                    [   0.0 ,  0.0 ]
00487>                                    [   0.004 ,  0.016 ]
00488>                                    [   0.009 ,  0.053 ]
00489>                                    [   0.011 ,  0.074 ]
00490>                                    [   0.013 ,  0.119 ]
00491>                                    [   0.014 ,  0.132 ]
00492>                                    [   0.016 ,  0.171 ]
00493>                                    [   0.017 ,  0.199 ]
00494>                                    [   0.018 ,  0.228 ]
00495>                                    [   0.344 ,  0.259 ]
00496>                                    [   1.040 ,  0.291 ]
00497>                                    [   2.076 ,  0.325 ]
00498>                                    [   -1  ,  -1  ]  (max twenty pts)
00499>                           IDovf=[   ], NHYDovf=[   ]
00500> *%-----------------|-------------------------------------------------------------|
00501> *#-----------------|-------------------------------------------------------------|
00502> *#-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD------------------|
00503> *#-----------------|-------------------------------------------------------------|
00504> *%-----------------|-------------------------------------------------------------|
00505> ADD HYD            IDsum=[1], NHYD=["WC9c"], IDs to add=[9,5,10]
00506> *%-----------------|-------------------------------------------------------------|
00507> *%-----------------|-------------------------------------------------------------|
00508> *#-----------------|-------------------------------------------------------------|
00509> *#-----------------|--WATERCOURSE 8 CATCHMENTS----------------------------------|
00510> *#-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------------|
00511> *#-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
00512> *#-----------------|-------------------------------------------------------------|
00513> *%-----------------|-------------------------------------------------------------|
00514> CALIB NASHYD       ID=[1], NHYD=["8i"], DT=[1]min, AREA=[2.23](ha),
00515>                     DWF=[0](cms),  CN/C=[63.5], IA=[8.6](mm),
00516>                     N=[3], TP=[0.28]hrs,
00517>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00518> *%-----------------|-------------------------------------------------------------|
00519> CALIB NASHYD       ID=[2], NHYD=["EXT-8"], DT=[1]min, AREA=[7.60](ha),
00520>                     DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
00521>                     N=[3], TP=[0.55]hrs,
00522>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00523> *%-----------------|-------------------------------------------------------------|
00524> *#-----------------|-------------------------------------------------------------|
00525> *#-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i-------|
00526> *#-----------------|-------------------------------------------------------------|
00527> *%-----------------|-------------------------------------------------------------|
00528> ADD HYD            IDsum=[3], NHYD=["WC8"], IDs to add=[1,2]
00529> *%-----------------|-------------------------------------------------------------|
00530> *#*****************************************************************************
00531> *#*****************************10yr 24hr SCS storm****************************
00532> *#*****************************************************************************
00533> *%-----------------|-------------------------------------------------------------|
00534> MASS STORM          PTOTAL=[83.6](mm), CSDT=[5](min),
00535>                     CURVE_FILENAME=["SCS24hII.mst"]
00536>
00537> *%-----------------|-------------------------------------------------------------|
00538> *%-----------------|-------------------------------------------------------------|
00539> *#-----------------|-------------------------------------------------------------|
00540> *#-----------------|-POST-DEVELOPMENT----------------------------------------------|
```

```
00541> *#-----------------|-------------------------------------------------------------|
00542> *#-----------------|-------------------------------------------------------------|
00543> *#-----------------|-Subwatershed 9 External Drainage Area-------------------------|
00544> *#-----------------|-Per 'The Orchards' FSSWM Report-------------------------------|
00545> *#-----------------|-Prepared by Higgins Engineering (Jan. 2005)-------------------|
00546> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00547> *#-----------------|-------------------------------------------------------------|
00548> *%-----------------|-------------------------------------------------------------|
00549> CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00550>                     DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00551>                     N=[3], TP=[1.00]hrs,
00552>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00553> *%-----------------|-------------------------------------------------------------|
00554> ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
00555>                     RDT=[1](min),
00556>                     CHLGTH=[550](m),  CHSLOPE=[2](%),
00557>                                       FPSLOPE=[2](%),
00558>                     SECNUM=[1],       NSEG=[3]
00559>                     ( SEGROUGH, SEGDIST (m))=[0.035,8,-0.035,12,0.035,20] NSEG t
00560>                     ( DISTANCE (m), ELEVATION (m))=[0,102]
00561>                                                   [8,100]
00562>                                                   [12,100]
00563>                                                   [20,102]
00564> *%-----------------|-------------------------------------------------------------|
00565> CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
00566>                     XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
00567>                     Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
00568>                             DCAY=[2](/hr), F=[0](mm),
00569>                     Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
00570>                                          LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
00571>                     Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
00572>                                          LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
00573>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00574> *%-----------------|-------------------------------------------------------------|
00575> ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
00576>                     RDT=[1](min),
00577>                           TABLE of ( OUTFLOW-STORAGE ) values
00578>                                    (cms) - (ha-m)
00579>                                  [   0.0 ,  0.0 ]
00580>                                  [   0.0100 ,  0.0610 ]
00581>                                  [   0.0400 ,  0.1310 ]
00582>                                  [   0.0700 ,  0.2110 ]
00583>                                  [   0.2600 ,  0.3000 ]
00584>                                  [   0.6000 ,  0.3940 ]
00585>                                  [   1.0200 ,  0.4950 ]
00586>                                  [   1.5200 ,  0.6020 ]
00587>                                  [   2.0800 ,  0.7160 ]
00588>                                  [   2.6900 ,  0.8370 ]
00589>                           IDovf=[ ], NHYDovf=[  ]
00590> *%-----------------|-------------------------------------------------------------|
00591> *#-----------------|-------------------------------------------------------------|
00592> *#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00593> *#-----------------|-------------------------------------------------------------|
00594> *%-----------------|-------------------------------------------------------------|
00595> ADD HYD            IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
00596> *%-----------------|-------------------------------------------------------------|
00597> CALIB NASHYD        ID=[1], NHYD=["EXT-9D"], DT=[1]min, AREA=[0.63](ha),
00598>                     DWF=[0](cms),  CN/C=[73.0], IA=[10.0](mm),
00599>                     N=[3], TP=[0.2]hrs,
00600>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00601> *%-----------------|-------------------------------------------------------------|
00602> *#-----------------|-------------------------------------------------------------|
00603> *#-----------------|-Parkbridge Craigleith - Upper Terrace Lands-----------------|
00604> *#-----------------|-------------------------------------------------------------|
00605> *%-----------------|-------------------------------------------------------------|
00606> CALIB NASHYD        ID=[2], NHYD=["9C9D"], DT=[1]min, AREA=[2.47](ha),
00607>                     DWF=[0](cms),  CN/C=[49.6], IA=[8.0](mm),
00608>                     N=[3], TP=[0.18]hrs,
00609>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00610> *%-----------------|-------------------------------------------------------------|
00611> ADD HYD            IDsum=[4], NHYD=["WC9a"], IDs to add=[1,2,5]
00612> *%-----------------|-------------------------------------------------------------|
00613> *#-----------------|-------------------------------------------------------------|
00614> *#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT----------------|
00615> *#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-----------------------|
00616> *#-----------------|-------------------------------------------------------------|
00617> *%-----------------|-------------------------------------------------------------|
00618> CALIB NASHYD        ID=[1], NHYD=["EXT-9C"], DT=[1]min, AREA=[8.4](ha),
00619>                     DWF=[0](cms),  CN/C=[74.9], IA=[8.4](mm),
00620>                     N=[3], TP=[0.47]hrs,
00621>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00622> *%-----------------|-------------------------------------------------------------|
00623> CALIB STANDHYD      ID=[3], NHYD=["9B"], DT=[1](min), AREA=[3.10](ha),
00624>                     XIMP=[0.30], TIMP=[0.525], DWF=[0](cms), LOSS=[2],
00625>                     SCS curve number CN=[79.0],
00626>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[3.0](%),
00627>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00628>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00629>                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
00630>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00631> *%-----------------|-------------------------------------------------------------|
00632> CALIB NASHYD        ID=[5], NHYD=["9E"], DT=[1]min, AREA=[2.1](ha),
00633>                     DWF=[0](cms),  CN/C=[54.1], IA=[9.32](mm),
00634>                     N=[3], TP=[0.11]hrs,
00635>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00636> *%-----------------|-------------------------------------------------------------|
00637> ADD HYD            IDsum=[6], NHYD=["SWMF1"], IDs to add=[1,3,5]
00638> *%-----------------|-------------------------------------------------------------|
00639> *#-----------------|-------------------------------------------------------------|
00640> *#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE---------|
00641> *#-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT----------------|
00642> *#-----------------|-------------------------------------------------------------|
00643> *%-----------------|-------------------------------------------------------------|
00644> ROUTE RESERVOIR     IDout=[1],   NHYD=["SWMF-1"],  IDin=[6],
00645>                     RDT=[1](min),
00646>                           TABLE of ( OUTFLOW-STORAGE ) values
00647>                                    (cms) - (ha-m)
00648>                                  [   0.0 ,  0.0 ]
00649>                                  [   0.005 ,  0.018 ]
00650>                                  [   0.011 ,  0.058 ]
00651>                                  [   0.015 ,  0.104 ]
00652>                                  [   0.017 ,  0.141 ]
00653>                                  [   0.019 ,  0.182 ]
00654>                                  [   0.024 ,  0.303 ]
00655>                                  [   0.028 ,  0.443 ]
00656>                                  [   0.031 ,  0.601 ]
00657>                                  [   0.032 ,  1.119 ]
00658>                                  [   0.033 ,  1.163 ]
00659>                                  [   0.359 ,  1.207 ]
00660>                                  [   1.054 ,  1.253 ]
00661>                                  [   -1  ,  -1  ]  (max twenty pts)
00662>                           IDovf=[   ], NHYDovf=[   ]
00663> *%-----------------|-------------------------------------------------------------|
00664> ADD HYD            IDsum=[7], NHYD=["WC9b"], IDs to add=[1,4]
00665> *%-----------------|-------------------------------------------------------------|
00666> *#-----------------|-------------------------------------------------------------|
00667> *#-----------------|-Parkbridge Craigleith - Lower Terrace Lands-----------------|
00668> *#-----------------|-------------------------------------------------------------|
00669> *%-----------------|-------------------------------------------------------------|
00670> *#-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9--------------------|
00671> *#-----------------|-------------------------------------------------------------|
00672> CALIB STANDHYD      ID=[10], NHYD=["9P"], DT=[1](min), AREA=[1.75](ha),
00673>                     XIMP=[0.184], TIMP=[0.480], DWF=[0](cms), LOSS=[2],
00674>                     SCS curve number CN=[61.0],
00675>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00676>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00677>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00678>                                          LGI=[108](m), MNI=[0.013], SCI=[0](min)
00679>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00680> *%-----------------|-------------------------------------------------------------|
00681> *#-----------------|-------------------------------------------------------------|
00682> *#-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED --------------------------|
00683> *#-----------------|-------------------------------------------------------------|
00684> *%-----------------|-------------------------------------------------------------|
00685> *%-----------------|-------------------------------------------------------------|
00686> CALIB NASHYD        ID=[1], NHYD=["9J"], DT=[1]min, AREA=[0.81](ha),
00687>                     DWF=[0](cms),  CN/C=[68.7], IA=[7.6](mm),
00688>                     N=[3], TP=[0.19]hrs,
00689>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00690> *%-----------------|-------------------------------------------------------------|
00691> CALIB NASHYD        ID=[2], NHYD=["9O"], DT=[1]min, AREA=[0.35](ha),
00692>                     DWF=[0](cms),  CN/C=[65.0], IA=[8.0](mm),
00693>                     N=[3], TP=[0.26]hrs,
00694>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00695> *%-----------------|-------------------------------------------------------------|
00696> CALIB NASHYD        ID=[3], NHYD=["9K9L"], DT=[1]min, AREA=[1.32](ha),
00697>                     DWF=[0](cms),  CN/C=[50.4], IA=[9.4](mm),
00698>                     N=[3], TP=[0.35]hrs,
00699>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00700> *%-----------------|-------------------------------------------------------------|
00701> ADD HYD            IDsum=[5], NHYD=["WC9LOWER"], IDs to add=[1,2,3,7]
00702> *%-----------------|-------------------------------------------------------------|
00703> *#-----------------|-------------------------------------------------------------|
00704> *#-----------------|-LANDS DRAINING TO SWM FACILITY 2-----------------------------|
00705> *#-----------------|-------------------------------------------------------------|
00706> CALIB NASHYD        ID=[1], NHYD=["9G"], DT=[1]min, AREA=[1.16](ha),
00707>                     DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
00708>                     N=[3], TP=[0.14]hrs,
00709>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00710> *%-----------------|-------------------------------------------------------------|
00711> CALIB NASHYD        ID=[2], NHYD=["9H"], DT=[1]min, AREA=[1.67](ha),
00712>                     DWF=[0](cms),  CN/C=[34.7], IA=[9.1](mm),
00713>                     N=[3], TP=[0.27]hrs,
00714>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00715> *%-----------------|-------------------------------------------------------------|
00716> CALIB STANDHYD      ID=[3], NHYD=["9M"], DT=[1](min), AREA=[5.80](ha),
00717>                     XIMP=[0.229], TIMP=[0.56], DWF=[0](cms), LOSS=[2],
00718>                     SCS curve number CN=[69],
00719>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00720>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00721>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00722>                                          LGI=[197](m), MNI=[0.013], SCI=[0](min)
00723>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00724> *%-----------------|-------------------------------------------------------------|
00725> CALIB STANDHYD      ID=[4], NHYD=["9N"], DT=[1](min), AREA=[1.85](ha),
00726>                     XIMP=[0.189], TIMP=[0.266], DWF=[0](cms), LOSS=[2],
00727>                     SCS curve number CN=[61],
00728>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
00729>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
00730>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
00731>                                          LGI=[111](m), MNI=[0.013], SCI=[0](min)
00732>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
00733> *%-----------------|-------------------------------------------------------------|
00734> ADD HYD            IDsum=[6], NHYD=["SWMF2"], IDs to add=[1,2,3,4]
00735> *%-----------------|-------------------------------------------------------------|
00736> *#-----------------|-------------------------------------------------------------|
00737> *#-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)------------|
00738> *#-----------------|-------------------------------------------------------------|
00739> *%-----------------|-------------------------------------------------------------|
00740> ROUTE RESERVOIR     IDout=[9],   NHYD=["SWMF-2"],  IDin=[6],
00741>                     RDT=[1](min),
00742>                           TABLE of ( OUTFLOW-STORAGE ) values
00743>                                    (cms) - (ha-m)
00744>                                  [   0.0 ,  0.0 ]
00745>                                  [   0.004 ,  0.016 ]
00746>                                  [   0.009 ,  0.053 ]
00747>                                  [   0.011 ,  0.074 ]
00748>                                  [   0.013 ,  0.119 ]
00749>                                  [   0.014 ,  0.132 ]
00750>                                  [   0.016 ,  0.171 ]
00751>                                  [   0.017 ,  0.199 ]
00752>                                  [   0.018 ,  0.228 ]
00753>                                  [   0.344 ,  0.259 ]
00754>                                  [   1.040 ,  0.291 ]
00755>                                  [   2.076 ,  0.325 ]
00756>                                  [   -1  ,  -1  ]  (max twenty pts)
00757>                           IDovf=[   ], NHYDovf=[   ]
00758> *%-----------------|-------------------------------------------------------------|
00759> *#-----------------|-------------------------------------------------------------|
00760> *#-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD---------------------|
00761> *#-----------------|-------------------------------------------------------------|
00762> *%-----------------|-------------------------------------------------------------|
00763> ADD HYD            IDsum=[1], NHYD=["WC9c"], IDs to add=[9,5,10]
00764> *%-----------------|-------------------------------------------------------------|
00765> *%-----------------|-------------------------------------------------------------|
00766> *#-----------------|-------------------------------------------------------------|
00767> *#-----------------|--WATERCOURSE 8 CATCHMENTS-------------------------------------|
00768> *#-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8------------------------|
00769> *#-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8--------------------|
00770> *#-----------------|-------------------------------------------------------------|
00771> *%-----------------|-------------------------------------------------------------|
00772> CALIB NASHYD        ID=[1], NHYD=["8i"], DT=[1]min, AREA=[2.23](ha),
00773>                     DWF=[0](cms),  CN/C=[63.5], IA=[8.6](mm),
00774>                     N=[3], TP=[0.28]hrs,
00775>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00776> *%-----------------|-------------------------------------------------------------|
00777> CALIB NASHYD        ID=[2], NHYD=["EXT-8"], DT=[1]min, AREA=[7.60](ha),
00778>                     DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
00779>                     N=[3], TP=[0.55]hrs,
00780>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
00781> *%-----------------|-------------------------------------------------------------|
00782> *#-----------------|-------------------------------------------------------------|
00783> *#-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i---------|
00784> *#-----------------|-------------------------------------------------------------|
00785> *%-----------------|-------------------------------------------------------------|
00786> ADD HYD            IDsum=[3], NHYD=["WC8"], IDs to add=[1,2]
00787> *%-----------------|-------------------------------------------------------------|
00788> *#################################################################################
00789> *#################################25yr 24hr SCS storm#############################
00790> *#################################################################################
00791> *%-----------------|-------------------------------------------------------------|
00792> MASS STORM         PTOTAL=[98.6](mm), CSDT=[5](min),
00793>                     CURVE_FILENAME=["SCS24hII.mst"]
00794>
00795> *%-----------------|-------------------------------------------------------------|
00796> *%-----------------|-------------------------------------------------------------|
00797> *#-----------------|-------------------------------------------------------------|
00798> *#-----------------|-POST-DEVELOPMENT----------------------------------------------|
00799> *#-----------------|-------------------------------------------------------------|
00800> *#-----------------|-------------------------------------------------------------|
00801> *#-----------------|-Subwatershed 9 External Drainage Area-------------------------|
00802> *#-----------------|-Per 'The Orchards' FSSWM Report-------------------------------|
00803> *#-----------------|-Prepared by Higgins Engineering (Jan. 2005)-------------------|
00804> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00805> *#-----------------|-------------------------------------------------------------|
00806> *%-----------------|-------------------------------------------------------------|
00807> CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
00808>                     DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
00809>                     N=[3], TP=[1.00]hrs,
00810>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
```

```
*%-----------------|---------------------------------------------------------------|
ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
                    RDT=[1](min),
                    CHLGTH=[550](m),  CHSLOPE=[2](%),
                                        FPSLOPE=[2](%),
                    SECNUM=[1],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.035,8,-0.035,12,0.035,20] NSEG t
                    ( DISTANCE (m), ELEVATION (m))=[0,102]
                                                   [8,100]
                                                   [12,100]
                                                   [20,102]
*%-----------------|---------------------------------------------------------------|
CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
                    XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
                    Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
                            DCAY=[2](/hr), F=[0](mm),
                    Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
                                         LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
                    Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
                                         LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-----------------|---------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0 ]
                                    [   0.0100 ,  0.0610 ]
                                    [   0.0400 ,  0.1310 ]
                                    [   0.0700 ,  0.2110 ]
                                    [   0.2600 ,  0.3000 ]
                                    [   0.6000 ,  0.3940 ]
                                    [   1.0200 ,  0.4950 ]
                                    [   1.5200 ,  0.6020 ]
                                    [   2.0800 ,  0.7160 ]
                                    [   2.6900 ,  0.8370 ]
                          IDovf=[ ], NHYDovf=[  ]
*%-----------------|---------------------------------------------------------------|
*#-----------------|---------------------------------------------------------------|
*#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
*#-----------------|---------------------------------------------------------------|
*%-----------------|---------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
*%-----------------|---------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["EXT-9D"], DT=[1]min, AREA=[0.63](ha),
                    DWF=[0](cms),  CN/C=[73.0], IA=[10.0](mm),
                    N=[3], TP=[0.2]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------------|
*#-----------------|---------------------------------------------------------------|
*#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
*#-----------------|---------------------------------------------------------------|
*%-----------------|---------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["9C9D"], DT=[1]min, AREA=[2.47](ha),
                    DWF=[0](cms),  CN/C=[49.6], IA=[8.0](mm),
                    N=[3], TP=[0.18]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["WC9a"], IDs to add=[1,2,5]
*%-----------------|---------------------------------------------------------------|
*#-----------------|---------------------------------------------------------------|
*#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
*#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1------------------------|
*#-----------------|---------------------------------------------------------------|
*%-----------------|---------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["EXT-9C"], DT=[1]min, AREA=[8.4](ha),
                    DWF=[0](cms),  CN/C=[74.9], IA=[8.4](mm),
                    N=[3], TP=[0.47]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------------|
CALIB STANDHYD      ID=[3], NHYD=["9B"], DT=[1](min), AREA=[3.10](ha),
                    XIMP=[0.30], TIMP=[0.525], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[3.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[110](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-----------------|---------------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["9E"], DT=[1]min, AREA=[2.1](ha),
                    DWF=[0](cms),  CN/C=[54.1], IA=[9.32](mm),
                    N=[3], TP=[0.11]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------------|
ADD HYD             IDsum=[6], NHYD=["SWMF1"], IDs to add=[1,3,5]
*%-----------------|---------------------------------------------------------------|
*#-----------------|---------------------------------------------------------------|
*#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
*#-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT--------------|
*#-----------------|---------------------------------------------------------------|
*%-----------------|---------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[1],   NHYD=["SWMF-1"],  IDin=[6],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0 ]
                                    [   0.005 ,  0.018 ]
                                    [   0.011 ,  0.058 ]
                                    [   0.015 ,  0.104 ]
                                    [   0.017 ,  0.141 ]
                                    [   0.019 ,  0.182 ]
                                    [   0.024 ,  0.303 ]
                                    [   0.028 ,  0.443 ]
                                    [   0.031 ,  0.601 ]
                                    [   0.032 ,  1.119 ]
                                    [   0.033 ,  1.163 ]
                                    [   0.359 ,  1.207 ]
                                    [   1.054 ,  1.253 ]
                                    [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[   ], NHYDovf=[   ]
*%-----------------|---------------------------------------------------------------|
ADD HYD             IDsum=[7], NHYD=["WC9b"], IDs to add=[1,4]
*%-----------------|---------------------------------------------------------------|
*#-----------------|---------------------------------------------------------------|
*#-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
*#-----------------|---------------------------------------------------------------|
*%-----------------|---------------------------------------------------------------|
*#-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9-----------------|
*#-----------------|---------------------------------------------------------------|
CALIB STANDHYD      ID=[10], NHYD=["9P"], DT=[1](min), AREA=[1.75](ha),
                    XIMP=[0.184], TIMP=[0.480], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[61.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[108](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------------|
*#-----------------|---------------------------------------------------------------|
*#-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
*#-----------------|---------------------------------------------------------------|
*%-----------------|---------------------------------------------------------------|
*%-----------------|---------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["9J"], DT=[1]min, AREA=[0.81](ha),
                    DWF=[0](cms),  CN/C=[68.7], IA=[7.6](mm),
                    N=[3], TP=[0.19]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["9O"], DT=[1]min, AREA=[0.35](ha),
                    DWF=[0](cms),  CN/C=[65.0], IA=[8.0](mm),
                    N=[3], TP=[0.26]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["9K9L"], DT=[1]min, AREA=[1.32](ha),
                    DWF=[0](cms),  CN/C=[50.4], IA=[9.4](mm),
                    N=[3], TP=[0.35]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["WC9LOWER"], IDs to add=[1,2,3,7]
*%-----------------|---------------------------------------------------------------|
*#-----------------|---------------------------------------------------------------|
*#-----------------|-LANDS DRAINING TO SWM FACILITY 2--------------------------|
*#-----------------|---------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["9G"], DT=[1]min, AREA=[1.16](ha),
                    DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
                    N=[3], TP=[0.14]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["9H"], DT=[1]min, AREA=[1.67](ha),
                    DWF=[0](cms),  CN/C=[34.7], IA=[9.1](mm),
                    N=[3], TP=[0.27]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------------|
CALIB STANDHYD      ID=[3], NHYD=["9M"], DT=[1](min), AREA=[5.80](ha),
                    XIMP=[0.229], TIMP=[0.56], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[69],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[197](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-----------------|---------------------------------------------------------------|
CALIB STANDHYD      ID=[4], NHYD=["9N"], DT=[1](min), AREA=[1.85](ha),
                    XIMP=[0.189], TIMP=[0.266], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[61],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[111](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-----------------|---------------------------------------------------------------|
ADD HYD             IDsum=[6], NHYD=["SWMF2"], IDs to add=[1,2,3,4]
*%-----------------|---------------------------------------------------------------|
*#-----------------|---------------------------------------------------------------|
*#-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)---------|
*#-----------------|---------------------------------------------------------------|
*%-----------------|---------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[9],   NHYD=["SWMF-2"],  IDin=[6],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0 ]
                                    [   0.004 ,  0.016 ]
                                    [   0.009 ,  0.053 ]
                                    [   0.011 ,  0.074 ]
                                    [   0.013 ,  0.119 ]
                                    [   0.014 ,  0.132 ]
                                    [   0.016 ,  0.171 ]
                                    [   0.017 ,  0.199 ]
                                    [   0.018 ,  0.228 ]
                                    [   0.344 ,  0.259 ]
                                    [   1.040 ,  0.291 ]
                                    [   2.076 ,  0.325 ]
                                    [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[   ], NHYDovf=[   ]
*%-----------------|---------------------------------------------------------------|
*#-----------------|---------------------------------------------------------------|
*#-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-----------------|
*#-----------------|---------------------------------------------------------------|
*%-----------------|---------------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["WC9c"], IDs to add=[9,5,10]
*%-----------------|---------------------------------------------------------------|
*%-----------------|---------------------------------------------------------------|
*#-----------------|---------------------------------------------------------------|
*#-----------------|--WATERCOURSE 8 CATCHMENTS---------------------------------|
*#-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8--------------------|
*#-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8----------------|
*#-----------------|---------------------------------------------------------------|
*%-----------------|---------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["8i"], DT=[1]min, AREA=[2.23](ha),
                    DWF=[0](cms),  CN/C=[63.5], IA=[8.6](mm),
                    N=[3], TP=[0.28]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["EXT-8"], DT=[1]min, AREA=[7.60](ha),
                    DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
                    N=[3], TP=[0.55]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------------|
*#-----------------|---------------------------------------------------------------|
*#-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
*#-----------------|---------------------------------------------------------------|
*%-----------------|---------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["WC8"], IDs to add=[1,2]
*%-----------------|---------------------------------------------------------------|
*#****************************************************************************
*#*******************************50yr 24hr SCS storm**************************
*#****************************************************************************
*%-----------------|---------------------------------------------------------------|
MASS STORM          PTOTAL=[109.8](mm), CSDT=[5](min),
                    CURVE_FILENAME=["SCS24hII.mst"]

*%-----------------|---------------------------------------------------------------|
*%-----------------|---------------------------------------------------------------|
*#-----------------|---------------------------------------------------------------|
*#-----------------|-POST-DEVELOPMENT------------------------------------------|
*#-----------------|---------------------------------------------------------------|
*#-----------------|---------------------------------------------------------------|
*#-----------------|-Subwatershed 9 External Drainage Area---------------------|
*#-----------------|-Per 'The Orchards' FSSWM Report---------------------------|
*#-----------------|-Prepared by Higgins Engineering (Jan. 2005)---------------|
*#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
*#-----------------|---------------------------------------------------------------|
*%-----------------|---------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
                    DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
                    N=[3], TP=[1.00]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------------|
ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
                    RDT=[1](min),
                    CHLGTH=[550](m),  CHSLOPE=[2](%),
                                        FPSLOPE=[2](%),
                    SECNUM=[1],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.035,8,-0.035,12,0.035,20] NSEG t
                    ( DISTANCE (m), ELEVATION (m))=[0,102]
                                                   [8,100]
                                                   [12,100]
                                                   [20,102]
*%-----------------|---------------------------------------------------------------|
```

```
01081> CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
01082>                     XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
01083>                     Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
01084>                             DCAY=[2](/hr), F=[0](mm),
01085>                     Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
01086>                                          LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
01087>                     Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
01088>                                          LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
01089>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
01090> *%-----------------|-------------------------------------------------------------|
01091> ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
01092>                     RDT=[1](min),
01093>                           TABLE of ( OUTFLOW-STORAGE ) values
01094>                                    (cms) - (ha-m)
01095>                                 [   0.0 ,  0.0 ]
01096>                                 [   0.0100 ,  0.0610 ]
01097>                                 [   0.0400 ,  0.1310 ]
01098>                                 [   0.0700 ,  0.2110 ]
01099>                                 [   0.2600 ,  0.3000 ]
01100>                                 [   0.6000 ,  0.3940 ]
01101>                                 [   1.0200 ,  0.4950 ]
01102>                                 [   1.5200 ,  0.6020 ]
01103>                                 [   2.0800 ,  0.7160 ]
01104>                                 [   2.6900 ,  0.8370 ]
01105>                           IDovf=[ ], NHYDovf=[  ]
01106> *%-----------------|-------------------------------------------------------------|
01107> *#-----------------|-------------------------------------------------------------|
01108> *#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
01109> *#-----------------|-------------------------------------------------------------|
01110> *%-----------------|-------------------------------------------------------------|
01111> ADD HYD            IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
01112> *%-----------------|-------------------------------------------------------------|
01113> CALIB NASHYD       ID=[1], NHYD=["EXT-9D"], DT=[1]min, AREA=[0.63](ha),
01114>                     DWF=[0](cms),  CN/C=[73.0], IA=[10.0](mm),
01115>                     N=[3], TP=[0.2]hrs,
01116>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01117> *%-----------------|-------------------------------------------------------------|
01118> *#-----------------|-------------------------------------------------------------|
01119> *#-----------------|-Parkbridge Craigleith - Upper Terrace Lands----------------|
01120> *#-----------------|-------------------------------------------------------------|
01121> *%-----------------|-------------------------------------------------------------|
01122> CALIB NASHYD       ID=[2], NHYD=["9C9D"], DT=[1]min, AREA=[2.47](ha),
01123>                     DWF=[0](cms),  CN/C=[49.6], IA=[8.0](mm),
01124>                     N=[3], TP=[0.18]hrs,
01125>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01126> *%-----------------|-------------------------------------------------------------|
01127> ADD HYD            IDsum=[4], NHYD=["WC9a"], IDs to add=[1,2,5]
01128> *%-----------------|-------------------------------------------------------------|
01129> *#-----------------|-------------------------------------------------------------|
01130> *#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT----------------|
01131> *#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-----------------------|
01132> *#-----------------|-------------------------------------------------------------|
01133> *%-----------------|-------------------------------------------------------------|
01134> CALIB NASHYD       ID=[1], NHYD=["EXT-9C"], DT=[1]min, AREA=[8.4](ha),
01135>                     DWF=[0](cms),  CN/C=[74.9], IA=[8.4](mm),
01136>                     N=[3], TP=[0.47]hrs,
01137>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01138> *%-----------------|-------------------------------------------------------------|
01139> CALIB STANDHYD      ID=[3], NHYD=["9B"], DT=[1](min), AREA=[3.10](ha),
01140>                     XIMP=[0.30], TIMP=[0.525], DWF=[0](cms), LOSS=[2],
01141>                     SCS curve number CN=[79.0],
01142>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[3.0](%),
01143>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
01144>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
01145>                                          LGI=[110](m), MNI=[0.013], SCI=[0](min)
01146>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
01147> *%-----------------|-------------------------------------------------------------|
01148> CALIB NASHYD       ID=[5], NHYD=["9E"], DT=[1]min, AREA=[2.1](ha),
01149>                     DWF=[0](cms),  CN/C=[54.1], IA=[9.32](mm),
01150>                     N=[3], TP=[0.11]hrs,
01151>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01152> *%-----------------|-------------------------------------------------------------|
01153> ADD HYD            IDsum=[6], NHYD=["SWMF1"], IDs to add=[1,3,5]
01154> *%-----------------|-------------------------------------------------------------|
01155> *#-----------------|-------------------------------------------------------------|
01156> *#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
01157> *#-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
01158> *#-----------------|-------------------------------------------------------------|
01159> *%-----------------|-------------------------------------------------------------|
01160> ROUTE RESERVOIR     IDout=[1],   NHYD=["SWMF-1"],  IDin=[6],
01161>                     RDT=[1](min),
01162>                           TABLE of ( OUTFLOW-STORAGE ) values
01163>                                    (cms) - (ha-m)
01164>                                 [   0.0 ,  0.0 ]
01165>                                 [   0.005 ,  0.018 ]
01166>                                 [   0.011 ,  0.058 ]
01167>                                 [   0.015 ,  0.104 ]
01168>                                 [   0.017 ,  0.141 ]
01169>                                 [   0.019 ,  0.182 ]
01170>                                 [   0.024 ,  0.303 ]
01171>                                 [   0.028 ,  0.443 ]
01172>                                 [   0.031 ,  0.601 ]
01173>                                 [   0.032 ,  1.119 ]
01174>                                 [   0.033 ,  1.163 ]
01175>                                 [   0.359 ,  1.207 ]
01176>                                 [   1.054 ,  1.253 ]
01177>                                 [   -1  ,  -1  ]  (max twenty pts)
01178>                           IDovf=[   ], NHYDovf=[   ]
01179> *%-----------------|-------------------------------------------------------------|
01180> ADD HYD            IDsum=[7], NHYD=["WC9b"], IDs to add=[1,4]
01181> *%-----------------|-------------------------------------------------------------|
01182> *#-----------------|-------------------------------------------------------------|
01183> *#-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
01184> *#-----------------|-------------------------------------------------------------|
01185> *%-----------------|-------------------------------------------------------------|
01186> *#-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
01187> *#-----------------|-------------------------------------------------------------|
01188> CALIB STANDHYD      ID=[10], NHYD=["9P"], DT=[1](min), AREA=[1.75](ha),
01189>                     XIMP=[0.184], TIMP=[0.480], DWF=[0](cms), LOSS=[2],
01190>                     SCS curve number CN=[61.0],
01191>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
01192>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
01193>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
01194>                                          LGI=[108](m), MNI=[0.013], SCI=[0](min)
01195>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01196> *%-----------------|-------------------------------------------------------------|
01197> *#-----------------|-------------------------------------------------------------|
01198> *#-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
01199> *#-----------------|-------------------------------------------------------------|
01200> *%-----------------|-------------------------------------------------------------|
01201> *%-----------------|-------------------------------------------------------------|
01202> CALIB NASHYD       ID=[1], NHYD=["9J"], DT=[1]min, AREA=[0.81](ha),
01203>                     DWF=[0](cms),  CN/C=[68.7], IA=[7.6](mm),
01204>                     N=[3], TP=[0.19]hrs,
01205>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01206> *%-----------------|-------------------------------------------------------------|
01207> CALIB NASHYD       ID=[2], NHYD=["9Q"], DT=[1]min, AREA=[0.35](ha),
01208>                     DWF=[0](cms),  CN/C=[65.0], IA=[8.0](mm),
01209>                     N=[3], TP=[0.26]hrs,
01210>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01211> *%-----------------|-------------------------------------------------------------|
01212> CALIB NASHYD       ID=[3], NHYD=["9K9L"], DT=[1]min, AREA=[1.32](ha),
01213>                     DWF=[0](cms),  CN/C=[50.4], IA=[9.4](mm),
01214>                     N=[3], TP=[0.35]hrs,
01215>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01216> *%-----------------|-------------------------------------------------------------|
01217> ADD HYD            IDsum=[5], NHYD=["WC9LOWER"], IDs to add=[1,2,3,7]
01218> *%-----------------|-------------------------------------------------------------|
01219> *#-----------------|-------------------------------------------------------------|
01220> *#-----------------|-LANDS DRAINING TO SWM FACILITY 2---------------------------|
01221> *#-----------------|-------------------------------------------------------------|
01222> CALIB NASHYD       ID=[1], NHYD=["9G"], DT=[1]min, AREA=[1.16](ha),
01223>                     DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
01224>                     N=[3], TP=[0.14]hrs,
01225>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01226> *%-----------------|-------------------------------------------------------------|
01227> CALIB NASHYD       ID=[2], NHYD=["9H"], DT=[1]min, AREA=[1.67](ha),
01228>                     DWF=[0](cms),  CN/C=[34.7], IA=[9.1](mm),
01229>                     N=[3], TP=[0.27]hrs,
01230>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01231> *%-----------------|-------------------------------------------------------------|
01232> CALIB STANDHYD      ID=[3], NHYD=["9M"], DT=[1](min), AREA=[5.80](ha),
01233>                     XIMP=[0.229], TIMP=[0.56], DWF=[0](cms), LOSS=[2],
01234>                     SCS curve number CN=[69],
01235>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
01236>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
01237>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
01238>                                          LGI=[197](m), MNI=[0.013], SCI=[0](min)
01239>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
01240> *%-----------------|-------------------------------------------------------------|
01241> CALIB STANDHYD      ID=[4], NHYD=["9N"], DT=[1](min), AREA=[1.85](ha),
01242>                     XIMP=[0.189], TIMP=[0.266], DWF=[0](cms), LOSS=[2],
01243>                     SCS curve number CN=[61],
01244>                     Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
01245>                                          LGP=[30](m), MNP=[0.25], SCP=[0](min),
01246>                     Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
01247>                                          LGI=[111](m), MNI=[0.013], SCI=[0](min)
01248>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
01249> *%-----------------|-------------------------------------------------------------|
01250> ADD HYD            IDsum=[6], NHYD=["SWMF2"], IDs to add=[1,2,3,4]
01251> *%-----------------|-------------------------------------------------------------|
01252> *#-----------------|-------------------------------------------------------------|
01253> *#-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)----------|
01254> *#-----------------|-------------------------------------------------------------|
01255> *%-----------------|-------------------------------------------------------------|
01256> ROUTE RESERVOIR     IDout=[9],   NHYD=["SWMF-2"],  IDin=[6],
01257>                     RDT=[1](min),
01258>                           TABLE of ( OUTFLOW-STORAGE ) values
01259>                                    (cms) - (ha-m)
01260>                                 [   0.0 ,  0.0 ]
01261>                                 [   0.004 ,  0.016 ]
01262>                                 [   0.009 ,  0.053 ]
01263>                                 [   0.011 ,  0.074 ]
01264>                                 [   0.013 ,  0.119 ]
01265>                                 [   0.014 ,  0.132 ]
01266>                                 [   0.016 ,  0.171 ]
01267>                                 [   0.017 ,  0.199 ]
01268>                                 [   0.018 ,  0.228 ]
01269>                                 [   0.344 ,  0.259 ]
01270>                                 [   1.040 ,  0.291 ]
01271>                                 [   2.076 ,  0.325 ]
01272>                                 [   -1  ,  -1  ]  (max twenty pts)
01273>                           IDovf=[   ], NHYDovf=[   ]
01274> *%-----------------|-------------------------------------------------------------|
01275> *#-----------------|-------------------------------------------------------------|
01276> *#-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD------------------|
01277> *#-----------------|-------------------------------------------------------------|
01278> *%-----------------|-------------------------------------------------------------|
01279> ADD HYD            IDsum=[1], NHYD=["WC9c"], IDs to add=[9,5,10]
01280> *%-----------------|-------------------------------------------------------------|
01281> *%-----------------|-------------------------------------------------------------|
01282> *#-----------------|-------------------------------------------------------------|
01283> *#-----------------|--WATERCOURSE 8 CATCHMENTS----------------------------------|
01284> *#-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------------|
01285> *#-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
01286> *#-----------------|-------------------------------------------------------------|
01287> *%-----------------|-------------------------------------------------------------|
01288> CALIB NASHYD       ID=[1], NHYD=["8i"], DT=[1]min, AREA=[2.23](ha),
01289>                     DWF=[0](cms),  CN/C=[63.5], IA=[8.6](mm),
01290>                     N=[3], TP=[0.28]hrs,
01291>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01292> *%-----------------|-------------------------------------------------------------|
01293> CALIB NASHYD       ID=[2], NHYD=["EXT-8"], DT=[1]min, AREA=[7.60](ha),
01294>                     DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
01295>                     N=[3], TP=[0.55]hrs,
01296>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01297> *%-----------------|-------------------------------------------------------------|
01298> *#-----------------|-------------------------------------------------------------|
01299> *#-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i-------|
01300> *#-----------------|-------------------------------------------------------------|
01301> *%-----------------|-------------------------------------------------------------|
01302> ADD HYD            IDsum=[3], NHYD=["WC8"], IDs to add=[1,2]
01303> *%-----------------|-------------------------------------------------------------|
01304> *#############################################################################
01305> *##############################100yr 24hr SCS storm#############################
01306> *#############################################################################
01307> *%-----------------|-------------------------------------------------------------|
01308> MASS STORM         PTOTAL=[120.8](mm), CSDT=[5](min),
01309>                     CURVE_FILENAME=["SCS24hII.mst"]
01310>
01311> *%-----------------|-------------------------------------------------------------|
01312> *%-----------------|-------------------------------------------------------------|
01313> *#-----------------|-------------------------------------------------------------|
01314> *#-----------------|-POST-DEVELOPMENT-------------------------------------------|
01315> *#-----------------|-------------------------------------------------------------|
01316> *#-----------------|-------------------------------------------------------------|
01317> *#-----------------|-Subwatershed 9 External Drainage Area----------------------|
01318> *#-----------------|-Per 'The Orchards' FSSWM Report----------------------------|
01319> *#-----------------|-Prepared by Higgins Engineering (Jan. 2005)----------------|
01320> *#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
01321> *#-----------------|-------------------------------------------------------------|
01322> *%-----------------|-------------------------------------------------------------|
01323> CALIB NASHYD       ID=[1], NHYD=["EXT-9A"], DT=[1]min, AREA=[101.8](ha),
01324>                     DWF=[0](cms),  CN/C=[80], IA=[5.0](mm),
01325>                     N=[3], TP=[1.00]hrs,
01326>                     RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
01327> *%-----------------|-------------------------------------------------------------|
01328> ROUTE CHANNEL       IDout=[2], NHYD=["Channel"], IDin=[1],
01329>                     RDT=[1](min),
01330>                     CHLGTH=[550](m),  CHSLOPE=[2](%),
01331>                                       FPSLOPE=[2](%),
01332>                     SECNUM=[1],       NSEG=[3]
01333>                     ( SEGROUGH, SEGDIST (m))=[0.035,8,-0.035,12,0.035,20] NSEG t
01334>                     ( DISTANCE (m), ELEVATION (m))=[0,102]
01335>                                                   [8,100]
01336>                                                   [12,100]
01337>                                                   [20,102]
01338> *%-----------------|-------------------------------------------------------------|
01339> CALIB STANDHYD      ID=[3], NHYD=["EXT-9B"], DT=[1](min), AREA=[14.8](ha),
01340>                     XIMP=[0.35], TIMP=[0.35], DWF=[0](cms), LOSS=[1],
01341>                     Horton: Fo=[50](mm/hr), Fc=[7.5](mm/hr),
01342>                             DCAY=[2](/hr), F=[0](mm),
01343>                     Pervious   surfaces: IAper=[1.5](mm), SLPP=[2](%),
01344>                                          LGP=[40.0](m), MNP=[0.25], SCP=[0](min)
01345>                     Impervious surfaces: IAimp=[1.0](mm), SLPI=[1](%),
01346>                                          LGI=[314.1](m), MNI=[0.013], SCI=[0](mi
01347>                     RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
01348> *%-----------------|-------------------------------------------------------------|
01349> ROUTE RESERVOIR     IDout=[4],   NHYD=["Orchards"],  IDin=[3],
01350>                     RDT=[1](min),
```

```
                              TABLE of ( OUTFLOW-STORAGE ) values
                                (cms) - (ha-m)
                             [   0.0 ,  0.0 ]
                             [   0.0100 ,  0.0610 ]
                             [   0.0400 ,  0.1310 ]
                             [   0.0700 ,  0.2110 ]
                             [   0.2600 ,  0.3000 ]
                             [   0.6000 ,  0.3940 ]
                             [   1.0200 ,  0.4950 ]
                             [   1.5200 ,  0.6020 ]
                             [   2.0800 ,  0.7160 ]
                             [   2.6900 ,  0.8370 ]
                        IDovf=[ ], NHYDovf=[  ]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing-----------|
*#-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["RD19"], IDs to add=[2,4]
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["EXT-9D"], DT=[1]min, AREA=[0.63](ha),
                    DWF=[0](cms),  CN/C=[73.0], IA=[10.0](mm),
                    N=[3], TP=[0.2]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-Parkbridge Craigleith - Upper Terrace Lands-----------------|
*#-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["9C9D"], DT=[1]min, AREA=[2.47](ha),
                    DWF=[0](cms),  CN/C=[49.6], IA=[8.0](mm),
                    N=[3], TP=[0.18]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["WC9a"], IDs to add=[1,2,5]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT----------------|
*#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1------------------------|
*#-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["EXT-9C"], DT=[1]min, AREA=[8.4](ha),
                    DWF=[0](cms),  CN/C=[74.9], IA=[8.4](mm),
                    N=[3], TP=[0.47]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[3], NHYD=["9B"], DT=[1](min), AREA=[3.10](ha),
                    XIMP=[0.30], TIMP=[0.525], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[3.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[110](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["9E"], DT=[1]min, AREA=[2.1](ha),
                    DWF=[0](cms),  CN/C=[54.1], IA=[9.32](mm),
                    N=[3], TP=[0.11]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[6], NHYD=["SWMF1"], IDs to add=[1,3,5]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE---------|
*#-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT----------------|
*#-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[1],   NHYD=["SWMF-1"],  IDin=[6],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                            (cms) - (ha-m)
                         [   0.0 ,  0.0 ]
                         [   0.005 ,  0.018 ]
                         [   0.011 ,  0.058 ]
                         [   0.015 ,  0.104 ]
                         [   0.017 ,  0.141 ]
                         [   0.019 ,  0.182 ]
                         [   0.024 ,  0.303 ]
                         [   0.028 ,  0.443 ]
                         [   0.031 ,  0.601 ]
                         [   0.032 ,  1.119 ]
                         [   0.033 ,  1.163 ]
                         [   0.359 ,  1.207 ]
                         [   1.054 ,  1.253 ]
                         [   -1  ,  -1  ]  (max twenty pts)
                    IDovf=[   ], NHYDovf=[   ]
*%-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[7], NHYD=["WC9b"], IDs to add=[1,4]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-Parkbridge Craigleith - Lower Terrace Lands-----------------|
*#-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*#-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9--------------------|
*#-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[10], NHYD=["9P"], DT=[1](min), AREA=[1.75](ha),
                    XIMP=[0.184], TIMP=[0.480], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[61.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[108](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED -------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["9J"], DT=[1]min, AREA=[0.81](ha),
                    DWF=[0](cms),  CN/C=[68.7], IA=[7.6](mm),
                    N=[3], TP=[0.19]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["9O"], DT=[1]min, AREA=[0.35](ha),
                    DWF=[0](cms),  CN/C=[65.0], IA=[8.0](mm),
                    N=[3], TP=[0.26]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["9K9L"], DT=[1]min, AREA=[1.32](ha),
                    DWF=[0](cms),  CN/C=[50.4], IA=[9.4](mm),
                    N=[3], TP=[0.35]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[5], NHYD=["WC9LOWER"], IDs to add=[1,2,3,7]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-LANDS DRAINING TO SWM FACILITY 2-----------------------------|
*#-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["9G"], DT=[1]min, AREA=[1.16](ha),
                    DWF=[0](cms),  CN/C=[33.2], IA=[9.6](mm),
                    N=[3], TP=[0.14]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["9H"], DT=[1]min, AREA=[1.67](ha),
                    DWF=[0](cms),  CN/C=[34.7], IA=[9.1](mm),
                    N=[3], TP=[0.27]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[3], NHYD=["9M"], DT=[1](min), AREA=[5.80](ha),
                    XIMP=[0.229], TIMP=[0.56], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[69],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[197](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[4], NHYD=["9N"], DT=[1](min), AREA=[1.85](ha),
                    XIMP=[0.189], TIMP=[0.266], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[61],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[1.0](%),
                                         LGI=[111](m), MNI=[0.013], SCI=[0](min)
                    RAINFALL=[ ,  ,  ,  , ](mm/hr) ,  END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[6], NHYD=["SWMF2"], IDs to add=[1,2,3,4]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)-----------|
*#-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[9],   NHYD=["SWMF-2"],  IDin=[6],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                            (cms) - (ha-m)
                         [   0.0 ,  0.0 ]
                         [   0.004 ,  0.016 ]
                         [   0.009 ,  0.053 ]
                         [   0.011 ,  0.074 ]
                         [   0.013 ,  0.119 ]
                         [   0.014 ,  0.132 ]
                         [   0.016 ,  0.171 ]
                         [   0.017 ,  0.199 ]
                         [   0.018 ,  0.228 ]
                         [   0.344 ,  0.259 ]
                         [   1.040 ,  0.291 ]
                         [   2.076 ,  0.325 ]
                         [   -1  ,  -1  ]  (max twenty pts)
                    IDovf=[   ], NHYDovf=[   ]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD--------------------|
*#-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[1], NHYD=["WC9c"], IDs to add=[9,5,10]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|--WATERCOURSE 8 CATCHMENTS------------------------------------|
*#-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8-----------------------|
*#-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-------------------|
*#-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["8i"], DT=[1]min, AREA=[2.23](ha),
                    DWF=[0](cms),  CN/C=[63.5], IA=[8.6](mm),
                    N=[3], TP=[0.28]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["EXT-8"], DT=[1]min, AREA=[7.60](ha),
                    DWF=[0](cms),  CN/C=[63.0], IA=[8.8](mm),
                    N=[3], TP=[0.55]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i--------|
*#-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[3], NHYD=["WC8"], IDs to add=[1,2]
*%-----------------|-------------------------------------------------------------|

FINISH
```

```
00001> ================================================================================
00002>
00003>   SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999    =========
00004>   S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>   SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9   Ver  4.05
00006>       S  W W  M   M  H   H    Y    M   M  O   O       9999   9999   Sept 2011
00007>   SSSSS   W W   M   M  H   H    Y    M   M   OOO          9      9   =========
00008>                                                        9   9  9   9   # 3737016
00009>         StormWater Management HYdrologic Model          999    999    =========
00010>
00011>  ********************************************************************************
00012>  ***************************** SWMHYMO Ver/4.05  ********************************
00013>  *********  A single event and continuous hydrologic simulation model  *********
00014>  *********     based on the principles of HYMO and its successors      *********
00015>  *********                  OTTHYMO-83 and OTTHYMO-89.                  *********
00016>  ********************************************************************************
00017>  ******** Distributed by:  J.F. Sabourin and Associates Inc.           *********
00018>  *********                  Ottawa,  Ontario: (613) 836-3884           *********
00019>  *********                  Gatineau, Quebec: (819) 243-6858           *********
00020>  *********                  E-Mail: swmhymo@jfsa.Com                   *********
00021>  ********************************************************************************
00022>
00023>  ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
00024>  +++++++++ Licensed user: C.F. Crozier & Associates Inc.                +++++++++
00025>  +++++++++                  Collingwood          SERIAL#:3737016       +++++++++
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>  ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
00036>  *****------------------------------------------------------------------------*****
00037>  *****    ID:  Hydrograph IDentification numbers, (1-10).                  *****
00038>  *****  NHYD:  Hydrograph reference numbers, (6 digits or characters).     *****
00039>  *****  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).   *****
00040>  ***** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).     *****
00041>  ***** TpeakDate_hh:mm is the date and time of the peak flow.              *****
00042>  *****  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).       *****
00043>  *****  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).       *****
00044>  *****    *:  see WARNING or NOTE message printed at end of run.          *****
00045>  *****   **:  see  ERROR  message printed at end of run.                  *****
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  **********************   S U M M A R Y   O U T P U T   **************************
00054>  ********************************************************************************
00055>  *         DATE: 2018-04-30     TIME: 00:04:11     RUN COUNTER: 000888          *
00056>  ********************************************************************************
00057>  * Input   filename: C:\PLAYGR~1\POST_SCS.DAT                                   *
00058>  * Output  filename: C:\PLAYGR~1\POST_SCS.out                                   *
00059>  * Summary filename: C:\PLAYGR~1\POST_SCS.sum                                   *
00060>  * User comments:                                                              *
00061>  * 1:_____________________________________________________________________     *
00062>  * 2:_____________________________________________________________________     *
00063>  * 3:_____________________________________________________________________     *
00064>  ********************************************************************************
00065>
00066>
00067> #*************************************************************************
00068> #  Project Name: [PARKBRIDGE CRAIGLEITH]    Project Number: [1046-4031]
00069> #  Date        : 2018-01-24
00070> #  Modeller    : [OD - UPDATED BY JM]
00071> #  Company     : C.F. Crozier & Associates Inc.
00072> #  License #   : 3737016
00073>  RUN:COMMAND#
00074>  001:0001----------------------------------------------------------------------
00075>      START
00076>       [TZERO =    .00 hrs on        0]
00077>       [METOUT=   2    (1=imperial, 2=metric output)]
00078>       [NSTORM=   0 ]
00079>       [NRUN  =   1 ]
00080> #-----------------|---------------- FINAL MODEL ----------------------------|
00081> #*************************************************************************
00082> #                              2-YEAR, 24 HOUR SCS(II)
00083> #*************************************************************************
00084> #-----------------|-------------------------------------------------------|
00085>  001:0002----------------------------------------------------------------------
00086>      MASS STORM
00087>       Filename = C:\PLAYGR~1\SCS24HII.mst
00088>       Comment  = SCS Type II 24 HR MASS CURVE
00089>       [SDT= 1.00:SDUR=  24.00:PTOT=  53.60]
00090> #-----------------|-------------------------------------------------------|
00091> #-----------------|-POST-DEVELOPMENT------------------------------------|
00092> #-----------------|-------------------------------------------------------|
00093> #-----------------|-------------------------------------------------------|
00094> #-----------------|-Subwatershed 9 External Drainage Area---------------------|
00095> #-----------------|-Per 'The Orchards' FSSWM Report---------------------------|
00096> #-----------------|-Prepared by Higgins Engineering (Jan. 2005)---------------|
00097> #--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
00098> #-----------------|-------------------------------------------------------|
00099>  001:0003---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00100>      CALIB NASHYD       01:EXT-9A       101.80    1.716 No_date   13:01   21.07
00101>        [CN= 80.0: N= 3.00]
00102>        [Tp= 1.00:DT= 1.00]
00103>  001:0004---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00104>      ROUTE CHANNEL   -> 01:EXT-9A       101.80    1.716 No_date   13:01   21.07
00105>        [RDT= 1.00] out<- 02:Channel      101.80    1.707 No_date   13:06   21.07
00106>        [L/S/n=  550./2.000/.035]
00107>        {Vmax= 1.408:Dmax=  .236}
00108>  001:0005---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00109>      CALIB STANDHYD     03:EXT-9B        14.80    1.322 No_date   12:03   26.20
00110>        [XIMP=.35:TIMP=.35]
00111>        [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
00112>        [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00113>        [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
00114>  001:0006---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00115>      ROUTE RESERVOIR -> 03:EXT-9B        14.80    1.322 No_date   12:03   26.20
00116>        [RDT= 1.00] out<- 04:Orchards     14.80     .176 No_date   12:41   26.20
00117>       {MxStoUsed=.2607E+00}
00118> #-----------------|-------------------------------------------------------|
00119> #-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
00120> #-----------------|-------------------------------------------------------|
00121>  001:0007---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00122>      ADD HYD            02:Channel      101.80    1.707 No_date   13:06   21.07
00123>                       + 04:Orchards      14.80     .176 No_date   12:41   26.20
00124>        [DT= 1.00]  SUM=  05:RD19         116.60    1.865 No_date   13:05   21.72
00125>  001:0008---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00126>      CALIB NASHYD       01:EXT-9D          .63     .021 No_date   12:07   13.82
00127>        [CN= 73.0: N= 3.00]
00128>        [Tp=  .20:DT= 1.00]
00129> #-----------------|-------------------------------------------------------|
00130> #-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
00131> #-----------------|-------------------------------------------------------|
00132>  001:0009---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00133>      CALIB NASHYD       02:9C9D            2.47     .042 No_date   12:06    6.85
00134>        [CN= 49.6: N= 3.00]
00135>        [Tp=  .18:DT= 1.00]
00136>  001:0010---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00137>      ADD HYD            01:EXT-9D          .63     .021 No_date   12:07   13.82
00138>                       + 02:9C9D           2.47     .042 No_date   12:06    6.85
00139>                       + 05:RD19         116.60    1.865 No_date   13:05   21.72
00140>        [DT= 1.00]  SUM=  04:WC9a         119.70    1.874 No_date   13:05   21.37
00141> #-----------------|-------------------------------------------------------|
00142> #--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
00143> #--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-----------------------|
00144> #-----------------|-------------------------------------------------------|
00145>  001:0011---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00146>      CALIB NASHYD       01:EXT-9C          8.40     .177 No_date   12:25   15.68
00147>        [CN= 74.9: N= 3.00]
00148>        [Tp=  .47:DT= 1.00]
00149>  001:0012---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00150>      CALIB STANDHYD     03:9B              3.10     .315 No_date   12:00   33.86
00151>        [XIMP=.30:TIMP=.52]
00152>        [LOSS= 2 :CN= 79.0]
00153>        [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
00154>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
00155>  001:0013---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00156>      CALIB NASHYD       05:9E              2.10     .053 No_date   12:02    7.55
00157>        [CN= 54.1: N= 3.00]
00158>        [Tp=  .11:DT= 1.00]
00159>  001:0014---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00160>      ADD HYD            01:EXT-9C          8.40     .177 No_date   12:25   15.68
00161>                       + 03:9B            3.10     .315 No_date   12:00   33.86
00162>                       + 05:9E            2.10     .053 No_date   12:02    7.55
00163>        [DT= 1.00]  SUM=  06:SWMF1        13.60     .439 No_date   12:01   18.57
00164> #-----------------|-------------------------------------------------------|
00165> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
00166> #-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT--------------|
00167> #-----------------|-------------------------------------------------------|
00168>  001:0015---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00169>      ROUTE RESERVOIR -> 06:SWMF1        13.60     .439 No_date   12:01   18.57
00170>        [RDT= 1.00] out<- 01:SWMF-1       13.60     .019 No_date   20:11   18.57
00171>       {MxStoUsed=.1734E+00}
00172>  001:0016---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00173>      ADD HYD            01:SWMF-1         13.60     .019 No_date   20:11   18.57
00174>                       + 04:WC9a         119.70    1.874 No_date   13:05   21.37
00175>        [DT= 1.00]  SUM=  07:WC9b         133.30    1.891 No_date   13:05   21.09
00176> #-----------------|-------------------------------------------------------|
00177> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
00178> #-----------------|-------------------------------------------------------|
00179> #-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
00180> #-----------------|-------------------------------------------------------|
00181>  001:0017---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00182>      CALIB STANDHYD     10:9P              1.75     .105 No_date   12:00   22.97
00183>        [XIMP=.18:TIMP=.48]
00184>        [LOSS= 2 :CN= 61.0]
00185>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00186>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
00187> #-----------------|-------------------------------------------------------|
00188> #-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
00189> #-----------------|-------------------------------------------------------|
00190>  001:0018---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00191>      CALIB NASHYD       01:9J              .81     .027 No_date   12:06   13.08
00192>        [CN= 68.7: N= 3.00]
00193>        [Tp=  .19:DT= 1.00]
00194>  001:0019---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00195>      CALIB NASHYD       02:9O              .35     .008 No_date   12:10   11.40
00196>        [CN= 65.0: N= 3.00]
00197>        [Tp=  .26:DT= 1.00]
00198>  001:0020---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00199>      CALIB NASHYD       03:9K9L            1.32     .014 No_date   12:17    6.64
00200>        [CN= 50.4: N= 3.00]
00201>        [Tp=  .35:DT= 1.00]
00202>  001:0021---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00203>      ADD HYD            01:9J              .81     .027 No_date   12:06   13.08
00204>                       + 02:9O              .35     .008 No_date   12:10   11.40
00205>                       + 03:9K9L           1.32     .014 No_date   12:17    6.64
00206>                       + 07:WC9b         133.30    1.891 No_date   13:05   21.09
00207>        [DT= 1.00]  SUM=  05:WC9LOWER     135.78    1.901 No_date   13:05   20.87
00208> #-----------------|-------------------------------------------------------|
00209> #-----------------|-LANDS DRAINING TO SWM FACILITY 2---------------------------|
00210> #-----------------|-------------------------------------------------------|
00211>  001:0022---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00212>      CALIB NASHYD       01:9G              1.16     .011 No_date   12:04    3.49
00213>        [CN= 33.2: N= 3.00]
00214>        [Tp=  .14:DT= 1.00]
00215>  001:0023---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00216>      CALIB NASHYD       02:9H              1.67     .012 No_date   12:11    3.79
00217>        [CN= 34.7: N= 3.00]
00218>        [Tp=  .27:DT= 1.00]
00219>  001:0024---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00220>      CALIB STANDHYD     03:9M              5.80     .448 No_date   12:02   28.95
00221>        [XIMP=.23:TIMP=.56]
00222>        [LOSS= 2 :CN= 69.0]
00223>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00224>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
00225>  001:0025---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00226>      CALIB STANDHYD     04:9N              1.85     .090 No_date   12:00   19.72
00227>        [XIMP=.19:TIMP=.27]
00228>        [LOSS= 2 :CN= 61.0]
00229>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
00230>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
00231>  001:0026---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00232>      ADD HYD            01:9G              1.16     .011 No_date   12:04    3.49
00233>                       + 02:9H              1.67     .012 No_date   12:11    3.79
00234>                       + 03:9M              5.80     .448 No_date   12:02   28.95
00235>                       + 04:9N              1.85     .090 No_date   12:00   19.72
00236>        [DT= 1.00]  SUM=  06:SWMF2         10.48     .554 No_date   12:01   20.49
00237> #-----------------|-------------------------------------------------------|
00238> #-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)---------|
00239> #-----------------|-------------------------------------------------------|
00240>  001:0027---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00241>      ROUTE RESERVOIR -> 06:SWMF2        10.48     .554 No_date   12:01   20.49
00242>        [RDT= 1.00] out<- 09:SWMF-2       10.48     .015 No_date   19:57   20.49
00243>       {MxStoUsed=.1505E+00}
00244> #-----------------|-------------------------------------------------------|
00245> #-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-----------------|
00246> #-----------------|-------------------------------------------------------|
00247>  001:0028---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00248>      ADD HYD            09:SWMF-2         10.48     .015 No_date   19:57   20.49
00249>                       + 05:WC9LOWER     135.78    1.901 No_date   13:05   20.87
00250>                       + 10:9P            1.75     .105 No_date   12:00   22.97
00251>        [DT= 1.00]  SUM=  01:WC9c         148.01    1.926 No_date   13:05   20.87
00252> #-----------------|-------------------------------------------------------|
00253> #-----------------|--WATERCOURSE 8 CATCHMENTS----------------------------------|
00254> #-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------------|
00255> #-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
00256> #-----------------|-------------------------------------------------------|
00257>  001:0029---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00258>      CALIB NASHYD       01:8i              2.23     .045 No_date   12:12   10.60
00259>        [CN= 63.5: N= 3.00]
00260>        [Tp=  .28:DT= 1.00]
00261>  001:0030---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00262>      CALIB NASHYD       02:EXT-8           7.60     .091 No_date   12:32   10.35
00263>        [CN= 63.0: N= 3.00]
00264>        [Tp=  .55:DT= 1.00]
00265> #-----------------|-------------------------------------------------------|
00266> #-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
00267> #-----------------|-------------------------------------------------------|
00268>  001:0031---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
00269>      ADD HYD            01:8i              2.23     .045 No_date   12:12   10.60
00270>                       + 02:EXT-8           7.60     .091 No_date   12:32   10.35
```

```
      [DT= 1.00]  SUM=  03:WC8            9.83     .123 No_date   12:23   10.40
#*******************************************************************************
#*****************************5yr 24hr SCS storm*********************************
#*******************************************************************************
 001:0032-------------------------------------------------------------------------
     MASS STORM
      Filename = C:\PLAYGR-1\SCS24hII.mst
      Comment  = SCS Type II 24 HR MASS CURVE
      [SDT= 5.00:SDUR=  24.00:PTOT=  71.60]
#-----------------|-----------------------------------------------------------|
#-----------------|-POST-DEVELOPMENT--------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-Subwatershed 9 External Drainage Area-----------------------|
#-----------------|-Per 'The Orchards' FSSWM Report-----------------------------|
#-----------------|-Prepared by Higgins Engineering (Jan. 2005)-----------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha--------|
#-----------------|-----------------------------------------------------------|
 001:0033---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9A       101.80    2.823 No_date   13:00   34.09
       [CN= 80.0: N= 3.00]
       [Tp= 1.00:DT= 1.00]
 001:0034---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE CHANNEL   -> 01:EXT-9A       101.80    2.823 No_date   13:00   34.09
       [RDT= 1.00] out<- 02:Channel      101.80    2.819 No_date   13:04   34.09
       [L/S/n=  550./2.000/.035]
       {Vmax= 1.700:Dmax=  .315}
 001:0035---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:EXT-9B        14.80    2.149 No_date   12:02   37.35
       [XIMP=.35:TIMP=.35]
       [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
       [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 001:0036---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:EXT-9B        14.80    2.149 No_date   12:02   37.35
       [RDT= 1.00] out<- 04:Orchards     14.80     .435 No_date   12:28   37.35
      {MxStoUsed=.3483E+00}
#-----------------|-----------------------------------------------------------|
#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
#-----------------|-----------------------------------------------------------|
 001:0037---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:Channel      101.80    2.819 No_date   13:04   34.09
                      + 04:Orchards      14.80     .435 No_date   12:28   37.35
       [DT= 1.00]  SUM=  05:RD19         116.60    3.126 No_date   12:57   34.51
 001:0038---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9D         .63     .039 No_date   12:06   24.39
       [CN= 73.0: N= 3.00]
       [Tp=  .20:DT= 1.00]
#-----------------|-----------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
#-----------------|-----------------------------------------------------------|
 001:0039---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9C9D          2.47     .080 No_date   12:05   12.57
       [CN= 49.6: N= 3.00]
       [Tp=  .18:DT= 1.00]
 001:0040---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT-9D         .63     .039 No_date   12:06   24.39
                      + 02:9C9D          2.47     .080 No_date   12:05   12.57
                      + 05:RD19         116.60    3.126 No_date   12:57   34.51
       [DT= 1.00]  SUM=  04:WC9a         119.70    3.143 No_date   12:57   34.00
#-----------------|-----------------------------------------------------------|
#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1------------------------|
#-----------------|-----------------------------------------------------------|
 001:0041---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9C         8.40     .315 No_date   12:24   26.93
       [CN= 74.9: N= 3.00]
       [Tp=  .47:DT= 1.00]
 001:0042---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:9B            3.10     .491 No_date   12:00   49.44
       [XIMP=.30:TIMP=.52]
       [LOSS= 2 :CN= 79.0]
       [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
 001:0043---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       05:9E            2.10     .099 No_date   12:02   13.96
       [CN= 54.1: N= 3.00]
       [Tp=  .11:DT= 1.00]
 001:0044---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT-9C         8.40     .315 No_date   12:24   26.93
                      + 03:9B            3.10     .491 No_date   12:00   49.44
                      + 05:9E            2.10     .099 No_date   12:02   13.96
       [DT= 1.00]  SUM=  06:SWMF1        13.60     .727 No_date   12:01   30.06
#-----------------|-----------------------------------------------------------|
#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
#-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT--------------|
#-----------------|-----------------------------------------------------------|
 001:0045---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 06:SWMF1        13.60     .727 No_date   12:01   30.06
       [RDT= 1.00] out<- 01:SWMF-1      13.60     .024 No_date   20:43   30.06
      {MxStoUsed=.3013E+00}
 001:0046---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:SWMF-1        13.60     .024 No_date   20:43   30.06
                      + 04:WC9a         119.70    3.143 No_date   12:57   34.00
       [DT= 1.00]  SUM=  07:WC9b         133.30    3.163 No_date   12:57   33.60
#-----------------|-----------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
#-----------------|-----------------------------------------------------------|
 001:0047---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     10:9P            1.75     .174 No_date   12:00   35.02
       [XIMP=.18:TIMP=.48]
       [LOSS= 2 :CN= 61.0]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
#-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
#-----------------|-----------------------------------------------------------|
 001:0048---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9J             .81     .048 No_date   12:06   22.79
       [CN= 68.7: N= 3.00]
       [Tp=  .19:DT= 1.00]
 001:0049---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9O             .35     .015 No_date   12:10   20.19
       [CN= 65.0: N= 3.00]
       [Tp=  .26:DT= 1.00]
 001:0050---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       03:9K9L          1.32     .026 No_date   12:16   12.39
       [CN= 50.4: N= 3.00]
       [Tp=  .35:DT= 1.00]
 001:0051---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9J             .81     .048 No_date   12:06   22.79
                      + 02:9O             .35     .015 No_date   12:10   20.19
                      + 03:9K9L          1.32     .026 No_date   12:16   12.39
                      + 07:WC9b         133.30    3.163 No_date   12:57   33.60
       [DT= 1.00]  SUM=  05:WC9LOWER     135.78    3.184 No_date   12:57   33.29
#-----------------|-----------------------------------------------------------|
#-----------------|-LANDS DRAINING TO SWM FACILITY 2---------------------------|
#-----------------|-----------------------------------------------------------|
 001:0052---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:9G            1.16     .022 No_date   12:04    6.71
       [CN= 33.2: N= 3.00]
       [Tp=  .14:DT= 1.00]
 001:0053---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9H            1.67     .023 No_date   12:11    7.23
       [CN= 34.7: N= 3.00]
       [Tp=  .27:DT= 1.00]
 001:0054---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:9M            5.80     .720 No_date   12:01   43.16
       [XIMP=.23:TIMP=.56]
       [LOSS= 2 :CN= 69.0]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
 001:0055---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     04:9N            1.85     .147 No_date   12:00   30.20
       [XIMP=.19:TIMP=.27]
       [LOSS= 2 :CN= 61.0]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
 001:0056---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:9G            1.16     .022 No_date   12:04    6.71
                      + 02:9H            1.67     .023 No_date   12:11    7.23
                      + 03:9M            5.80     .720 No_date   12:01   43.16
                      + 04:9N            1.85     .147 No_date   12:00   30.20
       [DT= 1.00]  SUM=  06:SWMF2        10.48     .903 No_date   12:01   31.11
#-----------------|-----------------------------------------------------------|
#-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)----------|
#-----------------|-----------------------------------------------------------|
 001:0057---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 06:SWMF2        10.48     .903 No_date   12:01   31.11
       [RDT= 1.00] out<- 09:SWMF-2      10.48     .036 No_date   15:56   31.11
      {MxStoUsed=.2297E+00}
#-----------------|-----------------------------------------------------------|
#-----------------|-WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-------------------|
#-----------------|-----------------------------------------------------------|
 001:0058---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            09:SWMF-2        10.48     .036 No_date   15:56   31.11
                      + 05:WC9LOWER     135.78    3.184 No_date   12:57   33.29
                      + 10:9P             1.75     .174 No_date   12:00   35.02
       [DT= 1.00]  SUM=  01:WC9c         148.01    3.219 No_date   12:57   33.16
#-----------------|-----------------------------------------------------------|
#-----------------|--WATERCOURSE 8 CATCHMENTS----------------------------------|
#-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------------|
#-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
#-----------------|-----------------------------------------------------------|
 001:0059---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:8i            2.23     .083 No_date   12:11   18.99
       [CN= 63.5: N= 3.00]
       [Tp=  .28:DT= 1.00]
 001:0060---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:EXT-8         7.60     .169 No_date   12:31   18.61
       [CN= 63.0: N= 3.00]
       [Tp=  .55:DT= 1.00]
#-----------------|-----------------------------------------------------------|
#-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i-------|
#-----------------|-----------------------------------------------------------|
 001:0061---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:8i            2.23     .083 No_date   12:11   18.99
                      + 02:EXT-8         7.60     .169 No_date   12:31   18.61
       [DT= 1.00]  SUM=  03:WC8           9.83     .229 No_date   12:22   18.69
#*******************************************************************************
#*****************************10yr 24hr SCS storm********************************
#*******************************************************************************
 001:0062-------------------------------------------------------------------------
     MASS STORM
      Filename = C:\PLAYGR-1\SCS24hII.mst
      Comment  = SCS Type II 24 HR MASS CURVE
      [SDT= 5.00:SDUR=  24.00:PTOT=  83.60]
#-----------------|-----------------------------------------------------------|
#-----------------|-POST-DEVELOPMENT--------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-Subwatershed 9 External Drainage Area-----------------------|
#-----------------|-Per 'The Orchards' FSSWM Report-----------------------------|
#-----------------|-Prepared by Higgins Engineering (Jan. 2005)-----------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha--------|
#-----------------|-----------------------------------------------------------|
 001:0063---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9A       101.80    3.623 No_date   12:59   43.48
       [CN= 80.0: N= 3.00]
       [Tp= 1.00:DT= 1.00]
 001:0064---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE CHANNEL   -> 01:EXT-9A       101.80    3.623 No_date   12:59   43.48
       [RDT= 1.00] out<- 02:Channel      101.80    3.610 No_date   13:03   43.48
       [L/S/n=  550./2.000/.035]
       {Vmax= 1.814:Dmax=  .358}
 001:0065---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:EXT-9B        14.80    2.732 No_date   12:02   46.06
       [XIMP=.35:TIMP=.35]
       [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
       [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 001:0066---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:EXT-9B        14.80    2.732 No_date   12:02   46.06
       [RDT= 1.00] out<- 04:Orchards     14.80     .669 No_date   12:24   46.06
      {MxStoUsed=.4105E+00}
#-----------------|-----------------------------------------------------------|
#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
#-----------------|-----------------------------------------------------------|
 001:0067---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            02:Channel      101.80    3.610 No_date   13:03   43.48
                      + 04:Orchards     14.80     .669 No_date   12:24   46.06
       [DT= 1.00]  SUM=  05:RD19         116.60    4.052 No_date   12:59   43.80
 001:0068---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9D         .63     .052 No_date   12:06   32.33
       [CN= 73.0: N= 3.00]
       [Tp=  .20:DT= 1.00]
#-----------------|-----------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
#-----------------|-----------------------------------------------------------|
 001:0069---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       02:9C9D          2.47     .110 No_date   12:05   17.13
       [CN= 49.6: N= 3.00]
       [Tp=  .18:DT= 1.00]
 001:0070---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT-9D         .63     .052 No_date   12:06   32.33
                      + 02:9C9D          2.47     .110 No_date   12:05   17.13
                      + 05:RD19         116.60    4.052 No_date   12:59   43.80
       [DT= 1.00]  SUM=  04:WC9a         119.70    4.074 No_date   12:59   43.19
#-----------------|-----------------------------------------------------------|
#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1------------------------|
#-----------------|-----------------------------------------------------------|
 001:0071---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       01:EXT-9C         8.40     .417 No_date   12:24   35.27
       [CN= 74.9: N= 3.00]
       [Tp=  .47:DT= 1.00]
 001:0072---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD     03:9B            3.10     .606 No_date   12:00   60.21
       [XIMP=.30:TIMP=.52]
       [LOSS= 2 :CN= 79.0]
       [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
 001:0073---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD       05:9E            2.10     .136 No_date   12:02   19.04
       [CN= 54.1: N= 3.00]
       [Tp=  .11:DT= 1.00]
 001:0074---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD            01:EXT-9C         8.40     .417 No_date   12:24   35.27
```

```
                      +  03:9B            3.10     .606 No_date   12:00   60.21
                      +  05:9E            2.10     .136 No_date   12:02   19.04
      [DT= 1.00]  SUM=  06:SWMF1         13.60     .930 No_date   12:01   38.45
#-----------------|-------------------------------------------------------|
#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE------|
#-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT--------------|
#-----------------|-------------------------------------------------------|
 001:0075---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 06:SWMF1         13.60     .930 No_date   12:01   38.45
      [RDT= 1.00] out<- 01:SWMF-1        13.60     .027 No_date   24:01   38.45
     {MxStoUsed=.3985E+00}
 001:0076---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:SWMF-1      13.60     .027 No_date   24:01   38.45
                      +  04:WC9a        119.70    4.074 No_date   12:59   43.19
      [DT= 1.00]  SUM=  07:WC9b         133.30    4.097 No_date   12:59   42.71
#-----------------|-------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
#-----------------|-------------------------------------------------------|
#-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9-----------------|
#-----------------|-------------------------------------------------------|
 001:0077---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      10:9P           1.75     .226 No_date   12:00   43.71
      [XIMP=.18:TIMP=.48]
      [LOSS= 2 :CN= 61.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
#-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
#-----------------|-------------------------------------------------------|
 001:0078---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:9J            .81     .064 No_date   12:06   30.13
      [CN= 68.7: N= 3.00]
      [Tp=  .19:DT= 1.00]
 001:0079---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        02:9O            .35     .020 No_date   12:10   26.91
      [CN= 65.0: N= 3.00]
      [Tp=  .26:DT= 1.00]
 001:0080---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        03:9K9L         1.32     .037 No_date   12:16   16.98
      [CN= 50.4: N= 3.00]
      [Tp=  .35:DT= 1.00]
 001:0081---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:9J            .81     .064 No_date   12:06   30.13
                      +  02:9O            .35     .020 No_date   12:10   26.91
                      +  03:9K9L         1.32     .037 No_date   12:16   16.98
                      +  07:WC9b       133.30    4.097 No_date   12:59   42.71
      [DT= 1.00]  SUM=  05:WC9LOWER    135.78    4.123 No_date   12:57   42.34
#-----------------|-------------------------------------------------------|
#-----------------|-LANDS DRAINING TO SWM FACILITY 2--------------------------|
#-----------------|-------------------------------------------------------|
 001:0082---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:9G            1.16     .032 No_date   12:03    9.36
      [CN= 33.2: N= 3.00]
      [Tp=  .14:DT= 1.00]
 001:0083---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        02:9H            1.67     .032 No_date   12:11   10.05
      [CN= 34.7: N= 3.00]
      [Tp=  .27:DT= 1.00]
 001:0084---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      03:9M           5.80     .924 No_date   12:01   53.15
      [XIMP=.23:TIMP=.56]
      [LOSS= 2 :CN= 69.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
 001:0085---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      04:9N           1.85     .191 No_date   12:00   37.86
      [XIMP=.19:TIMP=.27]
      [LOSS= 2 :CN= 61.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
 001:0086---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:9G            1.16     .032 No_date   12:03    9.36
                      +  02:9H            1.67     .032 No_date   12:11   10.05
                      +  03:9M            5.80     .924 No_date   12:01   53.15
                      +  04:9N            1.85     .191 No_date   12:00   37.86
      [DT= 1.00]  SUM=  06:SWMF2         10.48    1.165 No_date   12:01   38.73
#-----------------|-------------------------------------------------------|
#-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)---------|
#-----------------|-------------------------------------------------------|
 001:0087---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 06:SWMF2         10.48    1.165 No_date   12:01   38.73
      [RDT= 1.00] out<- 09:SWMF-2        10.48     .130 No_date   12:51   38.73
     {MxStoUsed=.2387E+00}
#-----------------|-------------------------------------------------------|
#-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-----------------|
#-----------------|-------------------------------------------------------|
 001:0088---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             09:SWMF-2       10.48     .130 No_date   12:51   38.73
                      +  05:WC9LOWER     135.78    4.123 No_date   12:57   42.34
                      +  10:9P            1.75     .226 No_date   12:00   43.71
      [DT= 1.00]  SUM=  01:WC9c         148.01    4.274 No_date   12:56   42.10
#-----------------|-------------------------------------------------------|
#-----------------|--WATERCOURSE 8 CATCHMENTS---------------------------------|
#-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8--------------------|
#-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8----------------|
#-----------------|-------------------------------------------------------|
 001:0089---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:8i            2.23     .112 No_date   12:11   25.45
      [CN= 63.5: N= 3.00]
      [Tp=  .28:DT= 1.00]
 001:0090---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        02:EXT-8         7.60     .230 No_date   12:30   24.98
      [CN= 63.0: N= 3.00]
      [Tp=  .55:DT= 1.00]
#-----------------|-------------------------------------------------------|
#-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
#-----------------|-------------------------------------------------------|
 001:0091---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:8i            2.23     .112 No_date   12:11   25.45
                      +  02:EXT-8         7.60     .230 No_date   12:30   24.98
      [DT= 1.00]  SUM=  03:WC8           9.83     .312 No_date   12:21   25.09
********************************************************************************
**********************************25yr 24hr SCS storm***************************
********************************************************************************
 001:0092---------------------------------------------------------------------
     MASS STORM
      Filename = C:\PLAYGR~1\SCS24hII.mst
      Comment  = SCS Type II 24 HR MASS CURVE
      [SDT= 5.00:SDUR=  24.00:PTOT=  98.60]
#-----------------|-------------------------------------------------------|
#-----------------|-POST-DEVELOPMENT------------------------------------------|
#-----------------|-------------------------------------------------------|
#-----------------|-------------------------------------------------------|
#-----------------|-Subwatershed 9 External Drainage Area---------------------|
#-----------------|-Per 'The Orchards' FSSWM Report---------------------------|
#-----------------|-Prepared by Higgins Engineering (Jan. 2005)---------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
#-----------------|-------------------------------------------------------|
 001:0093---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:EXT-9A       101.80    4.672 No_date   12:59   55.77
      [CN= 80.0: N= 3.00]
      [Tp= 1.00:DT= 1.00]
 001:0094---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE CHANNEL   -> 01:EXT-9A       101.80    4.672 No_date   12:59   55.77
      [RDT= 1.00] out<- 02:Channel      101.80    4.664 No_date   13:01   55.77
      [L/S/n=  550./2.000/.035]
      (Vmax= 1.986:Dmax=  .413)
 001:0095---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      03:EXT-9B       14.80    3.463 No_date   12:01   56.70
      [XIMP=.35:TIMP=.35]
      [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
      [Pervious    area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 001:0096---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:EXT-9B        14.80    3.463 No_date   12:01   56.70
      [RDT= 1.00] out<- 04:Orchards      14.80     .975 No_date   12:20   56.69
     {MxStoUsed=.4842E+00}
#-----------------|-------------------------------------------------------|
#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
#-----------------|-------------------------------------------------------|
 001:0097---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             02:Channel     101.80    4.664 No_date   13:01   55.77
                      +  04:Orchards     14.80     .975 No_date   12:20   56.69
      [DT= 1.00]  SUM=  05:RD19         116.60    5.261 No_date   12:55   55.88
 001:0098---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:EXT-9D         .63     .070 No_date   12:06   43.00
      [CN= 73.0: N= 3.00]
      [Tp=  .20:DT= 1.00]
#-----------------|-------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
#-----------------|-------------------------------------------------------|
 001:0099---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        02:9C9D         2.47     .152 No_date   12:05   23.54
      [CN= 49.6: N= 3.00]
      [Tp=  .18:DT= 1.00]
 001:0100---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT-9D         .63     .070 No_date   12:06   43.00
                      +  02:9C9D          2.47     .152 No_date   12:05   23.54
                      +  05:RD19        116.60    5.261 No_date   12:55   55.88
      [DT= 1.00]  SUM=  04:WC9a         119.70    5.293 No_date   12:55   55.15
#-----------------|-------------------------------------------------------|
#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-----------------------|
#-----------------|-------------------------------------------------------|
 001:0101---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:EXT-9C        8.40     .554 No_date   12:23   46.41
      [CN= 74.9: N= 3.00]
      [Tp=  .47:DT= 1.00]
 001:0102---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      03:9B           3.10     .767 No_date   12:00   73.97
      [XIMP=.30:TIMP=.52]
      [LOSS= 2 :CN= 79.0]
      [Pervious    area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
 001:0103---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        05:9E           2.10     .189 No_date   12:02   26.15
      [CN= 54.1: N= 3.00]
      [Tp=  .11:DT= 1.00]
 001:0104---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:EXT-9C        8.40     .554 No_date   12:23   46.41
                      +  03:9B            3.10     .767 No_date   12:00   73.97
                      +  05:9E            2.10     .189 No_date   12:02   26.15
      [DT= 1.00]  SUM=  06:SWMF1         13.60    1.209 No_date   12:01   49.56
#-----------------|-------------------------------------------------------|
#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE------|
#-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT--------------|
#-----------------|-------------------------------------------------------|
 001:0105---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 06:SWMF1         13.60    1.209 No_date   12:01   49.56
      [RDT= 1.00] out<- 01:SWMF-1        13.60     .030 No_date   24:05   49.56
     {MxStoUsed=.5335E+00}
 001:0106---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:SWMF-1       13.60     .030 No_date   24:05   49.56
                      +  04:WC9a         119.70    5.293 No_date   12:55   55.15
      [DT= 1.00]  SUM=  07:WC9b         133.30    5.318 No_date   12:55   54.58
#-----------------|-------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
#-----------------|-------------------------------------------------------|
#-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9-----------------|
#-----------------|-------------------------------------------------------|
 001:0107---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      10:9P           1.75     .299 No_date   12:00   55.12
      [XIMP=.18:TIMP=.48]
      [LOSS= 2 :CN= 61.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
#-----------------|-------------------------------------------------------|
#-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ----------------------|
#-----------------|-------------------------------------------------------|
 001:0108---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:9J            .81     .086 No_date   12:06   40.06
      [CN= 68.7: N= 3.00]
      [Tp=  .19:DT= 1.00]
 001:0109---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        02:9O            .35     .027 No_date   12:10   36.10
      [CN= 65.0: N= 3.00]
      [Tp=  .26:DT= 1.00]
 001:0110---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        03:9K9L         1.32     .051 No_date   12:16   23.46
      [CN= 50.4: N= 3.00]
      [Tp=  .35:DT= 1.00]
 001:0111---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:9J            .81     .086 No_date   12:06   40.06
                      +  02:9O            .35     .027 No_date   12:10   36.10
                      +  03:9K9L         1.32     .051 No_date   12:16   23.46
                      +  07:WC9b       133.30    5.318 No_date   12:55   54.58
      [DT= 1.00]  SUM=  05:WC9LOWER    135.78    5.357 No_date   12:55   54.14
#-----------------|-------------------------------------------------------|
#-----------------|-LANDS DRAINING TO SWM FACILITY 2--------------------------|
#-----------------|-------------------------------------------------------|
 001:0112---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        01:9G            1.16     .045 No_date   12:03   13.20
      [CN= 33.2: N= 3.00]
      [Tp=  .14:DT= 1.00]
 001:0113---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD        02:9H            1.67     .046 No_date   12:11   14.11
      [CN= 34.7: N= 3.00]
      [Tp=  .27:DT= 1.00]
 001:0114---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      03:9M           5.80    1.172 No_date   12:01   66.06
      [XIMP=.23:TIMP=.56]
      [LOSS= 2 :CN= 69.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
 001:0115---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD      04:9N           1.85     .253 No_date   12:00   48.03
      [XIMP=.19:TIMP=.27]
      [LOSS= 2 :CN= 61.0]
      [Pervious    area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
 001:0116---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD             01:9G            1.16     .045 No_date   12:03   13.20
                      +  02:9H            1.67     .046 No_date   12:11   14.11
                      +  03:9M            5.80    1.172 No_date   12:01   66.06
                      +  04:9N            1.85     .253 No_date   12:00   48.03
      [DT= 1.00]  SUM=  06:SWMF2         10.48    1.498 No_date   12:01   48.75
#-----------------|-------------------------------------------------------|
#-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)---------|
#-----------------|-------------------------------------------------------|
 001:0117---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
```

```
     ROUTE RESERVOIR -> 06:SWMF2          10.48    1.498 No_date   12:01   48.75
      [RDT= 1.00] out<- 09:SWMF-2         10.48     .353 No_date   12:26   48.75
     {MxStoUsed=.2594E+00}
#-----------------|-----------------------------------------------------------|
#-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-----------------|
#-----------------|-----------------------------------------------------------|
 001:0118---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              09:SWMF-2       10.48     .353 No_date   12:26   48.75
                     +    05:WC9LOWER    135.78    5.357 No_date   12:55   54.14
                     +    10:9P            1.75     .299 No_date   12:00   55.12
      [DT= 1.00]  SUM=    01:WC9c        148.01    5.613 No_date   12:52   53.77
#-----------------|-----------------------------------------------------------|
#-----------------|--WATERCOURSE 8 CATCHMENTS---------------------------------|
#-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8--------------------|
#-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8----------------|
#-----------------|-----------------------------------------------------------|
 001:0119---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         01:8i            2.23     .153 No_date   12:11   34.32
      [CN= 63.5: N= 3.00]
      [Tp=  .28:DT= 1.00]
 001:0120---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         02:EXT-8         7.60     .314 No_date   12:30   33.74
      [CN= 63.0: N= 3.00]
      [Tp=  .55:DT= 1.00]
#-----------------|-----------------------------------------------------------|
#-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
#-----------------|-----------------------------------------------------------|
 001:0121---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:8i            2.23     .153 No_date   12:11   34.32
                     +    02:EXT-8         7.60     .314 No_date   12:30   33.74
      [DT= 1.00]  SUM=    03:WC8           9.83     .427 No_date   12:21   33.88
#*****************************************************************************
#*******************************50yr 24hr SCS storm***************************
#*****************************************************************************
 001:0122-----------------------------------------------------------------------
     MASS STORM
      Filename = C:\PLAYGR~1\SCS24hII.mst
      Comment  = SCS Type II 24 HR MASS CURVE
      [SDT= 5.00:SDUR=  24.00:PTOT= 109.80]
#-----------------|-----------------------------------------------------------|
#-----------------|-POST-DEVELOPMENT------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-Subwatershed 9 External Drainage Area--------------------|
#-----------------|-Per 'The Orchards' FSSWM Report--------------------------|
#-----------------|-Prepared by Higgins Engineering (Jan. 2005)--------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
#-----------------|-----------------------------------------------------------|
 001:0123---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         01:EXT-9A      101.80    5.482 No_date   12:58   65.26
      [CN= 80.0: N= 3.00]
      [Tp= 1.00:DT= 1.00]
 001:0124---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE CHANNEL   -> 01:EXT-9A        101.80    5.482 No_date   12:58   65.26
      [RDT= 1.00] out<- 02:Channel       101.80    5.468 No_date   13:02   65.26
      [L/S/n=  550./2.000/.035]
      {Vmax= 2.078:Dmax=  .449}
 001:0125---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD       03:EXT-9B       14.80    3.965 No_date   12:01   64.45
      [XIMP=.35:TIMP=.35]
      [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
      [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 001:0126---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:EXT-9B         14.80    3.965 No_date   12:01   64.45
      [RDT= 1.00] out<- 04:Orchards       14.80    1.209 No_date   12:19   64.45
     {MxStoUsed=.5356E+00}
#-----------------|-----------------------------------------------------------|
#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
#-----------------|-----------------------------------------------------------|
 001:0127---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              02:Channel     101.80    5.468 No_date   13:02   65.26
                     +    04:Orchards     14.80    1.209 No_date   12:19   64.45
      [DT= 1.00]  SUM=    05:RD19        116.60    6.176 No_date   12:55   65.15
 001:0128---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         01:EXT-9D         .63     .085 No_date   12:06   51.41
      [CN= 73.0: N= 3.00]
      [Tp=  .20:DT= 1.00]
#-----------------|-----------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
#-----------------|-----------------------------------------------------------|
 001:0129---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         02:9C9D          2.47     .187 No_date   12:05   28.79
      [CN= 49.6: N= 3.00]
      [Tp=  .18:DT= 1.00]
 001:0130---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:EXT-9D         .63     .085 No_date   12:06   51.41
                     +    02:9C9D          2.47     .187 No_date   12:05   28.79
                     +    05:RD19        116.60    6.176 No_date   12:55   65.15
      [DT= 1.00]  SUM=    04:WC9a        119.70    6.213 No_date   12:55   64.33
#-----------------|-----------------------------------------------------------|
#--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
#--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1------------------------|
#-----------------|-----------------------------------------------------------|
 001:0131---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         01:EXT-9C        8.40     .662 No_date   12:23   55.13
      [CN= 74.9: N= 3.00]
      [Tp=  .47:DT= 1.00]
 001:0132---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD       03:9B            3.10     .883 No_date   12:00   84.41
      [XIMP=.30:TIMP=.52]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
 001:0133---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         05:9E            2.10     .231 No_date   12:02   31.95
      [CN= 54.1: N= 3.00]
      [Tp=  .11:DT= 1.00]
 001:0134---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:EXT-9C        8.40     .662 No_date   12:23   55.13
                     +    03:9B            3.10     .883 No_date   12:00   84.41
                     +    05:9E            2.10     .231 No_date   12:02   31.95
      [DT= 1.00]  SUM=    06:SWMF1        13.60    1.403 No_date   12:01   58.22
#-----------------|-----------------------------------------------------------|
#-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
#-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT-------------|
#-----------------|-----------------------------------------------------------|
 001:0135---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 06:SWMF1          13.60    1.403 No_date   12:01   58.22
      [RDT= 1.00] out<- 01:SWMF-1         13.60     .031 No_date   24:07   58.22
     {MxStoUsed=.6415E+00}
 001:0136---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:SWMF-1       13.60     .031 No_date   24:07   58.22
                     +    04:WC9a        119.70    6.213 No_date   12:55   64.33
      [DT= 1.00]  SUM=    07:WC9b        133.30    6.241 No_date   12:55   63.71
#-----------------|-----------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Lower Terrace Lands---------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9-----------------|
#-----------------|-----------------------------------------------------------|
 001:0137---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD       10:9P            1.75     .352 No_date   12:00   63.98
      [XIMP=.18:TIMP=.48]
      [LOSS= 2 :CN= 61.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
#-----------------|-----------------------------------------------------------|
#-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED ---------------------|
#-----------------|-----------------------------------------------------------|
 001:0138---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         01:9J             .81     .103 No_date   12:06   47.93
      [CN= 68.7: N= 3.00]
      [Tp=  .19:DT= 1.00]
 001:0139---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         02:9O             .35     .032 No_date   12:10   43.44
      [CN= 65.0: N= 3.00]
      [Tp=  .26:DT= 1.00]
 001:0140---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         03:9K9L          1.32     .063 No_date   12:16   28.77
      [CN= 50.4: N= 3.00]
      [Tp=  .35:DT= 1.00]
 001:0141---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:9J             .81     .103 No_date   12:06   47.93
                     +    02:9O             .35     .032 No_date   12:10   43.44
                     +    03:9K9L          1.32     .063 No_date   12:16   28.77
                     +    07:WC9b        133.30    6.241 No_date   12:55   63.71
      [DT= 1.00]  SUM=    05:WC9LOWER    135.78    6.288 No_date   12:55   63.22
#-----------------|-----------------------------------------------------------|
#-----------------|-LANDS DRAINING TO SWM FACILITY 2-------------------------|
#-----------------|-----------------------------------------------------------|
 001:0142---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         01:9G            1.16     .056 No_date   12:03   16.42
      [CN= 33.2: N= 3.00]
      [Tp=  .14:DT= 1.00]
 001:0143---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         02:9H            1.67     .057 No_date   12:11   17.52
      [CN= 34.7: N= 3.00]
      [Tp=  .27:DT= 1.00]
 001:0144---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD       03:9M            5.80    1.381 No_date   12:00   75.93
      [XIMP=.23:TIMP=.56]
      [LOSS= 2 :CN= 69.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
 001:0145---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD       04:9N            1.85     .306 No_date   12:00   56.01
      [XIMP=.19:TIMP=.27]
      [LOSS= 2 :CN= 61.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
 001:0146---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:9G            1.16     .056 No_date   12:03   16.42
                     +    02:9H            1.67     .057 No_date   12:11   17.52
                     +    03:9M            5.80    1.381 No_date   12:00   75.93
                     +    04:9N            1.85     .306 No_date   12:00   56.01
      [DT= 1.00]  SUM=    06:SWMF2        10.48    1.773 No_date   12:00   56.52
#-----------------|-----------------------------------------------------------|
#-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)---------|
#-----------------|-----------------------------------------------------------|
 001:0147---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 06:SWMF2          10.48    1.773 No_date   12:00   56.52
      [RDT= 1.00] out<- 09:SWMF-2         10.48     .657 No_date   12:15   56.52
     {MxStoUsed=.2734E+00}
#-----------------|-----------------------------------------------------------|
#-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD-----------------|
#-----------------|-----------------------------------------------------------|
 001:0148---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              09:SWMF-2       10.48     .657 No_date   12:15   56.52
                     +    05:WC9LOWER    135.78    6.288 No_date   12:55   63.22
                     +    10:9P            1.75     .352 No_date   12:00   63.98
      [DT= 1.00]  SUM=    01:WC9c        148.01    6.574 No_date   12:52   62.76
#-----------------|-----------------------------------------------------------|
#-----------------|--WATERCOURSE 8 CATCHMENTS---------------------------------|
#-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8--------------------|
#-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8----------------|
#-----------------|-----------------------------------------------------------|
 001:0149---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         01:8i            2.23     .186 No_date   12:11   41.43
      [CN= 63.5: N= 3.00]
      [Tp=  .28:DT= 1.00]
 001:0150---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         02:EXT-8         7.60     .382 No_date   12:30   40.78
      [CN= 63.0: N= 3.00]
      [Tp=  .55:DT= 1.00]
#-----------------|-----------------------------------------------------------|
#-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
#-----------------|-----------------------------------------------------------|
 001:0151---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              01:8i            2.23     .186 No_date   12:11   41.43
                     +    02:EXT-8         7.60     .382 No_date   12:30   40.78
      [DT= 1.00]  SUM=    03:WC8           9.83     .520 No_date   12:21   40.92
#*****************************************************************************
#*****************************100yr 24hr SCS storm***************************
#*****************************************************************************
 001:0152-----------------------------------------------------------------------
     MASS STORM
      Filename = C:\PLAYGR~1\SCS24hII.mst
      Comment  = SCS Type II 24 HR MASS CURVE
      [SDT= 5.00:SDUR=  24.00:PTOT= 120.80]
#-----------------|-----------------------------------------------------------|
#-----------------|-POST-DEVELOPMENT------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-----------------------------------------------------------|
#-----------------|-Subwatershed 9 External Drainage Area--------------------|
#-----------------|-Per 'The Orchards' FSSWM Report--------------------------|
#-----------------|-Prepared by Higgins Engineering (Jan. 2005)--------------|
#--'EXT-9A' Total Area 116.6 ha less 'Orchards' 14.8 ha equals 101.8 ha-------|
#-----------------|-----------------------------------------------------------|
 001:0153---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         01:EXT-9A      101.80    6.294 No_date   12:58   74.79
      [CN= 80.0: N= 3.00]
      [Tp= 1.00:DT= 1.00]
 001:0154---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE CHANNEL   -> 01:EXT-9A        101.80    6.294 No_date   12:58   74.79
      [RDT= 1.00] out<- 02:Channel       101.80    6.280 No_date   13:01   74.79
      [L/S/n=  550./2.000/.035]
      {Vmax= 2.164:Dmax=  .482}
 001:0155---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB STANDHYD       03:EXT-9B       14.80    4.460 No_date   12:01   72.57
      [XIMP=.35:TIMP=.35]
      [Horton parameters: Fo= 50.00:Fc=  7.50:DCAY=2.00:  F= .00]
      [Pervious     area: IAper= 1.50:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.00:SLPI=1.00:LGI= 314.:MNI=.013:SCI=   .0]
 001:0156---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ROUTE RESERVOIR -> 03:EXT-9B         14.80    4.460 No_date   12:01   72.57
      [RDT= 1.00] out<- 04:Orchards       14.80    1.448 No_date   12:18   72.57
     {MxStoUsed=.5866E+00}
#-----------------|-----------------------------------------------------------|
#-----------------|-TOTAL FLOW at Watercourse 9 Grey Road 19 Crossing---------|
#-----------------|-----------------------------------------------------------|
 001:0157---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     ADD HYD              02:Channel     101.80    6.280 No_date   13:01   74.79
                     +    04:Orchards     14.80    1.448 No_date   12:18   72.57
      [DT= 1.00]  SUM=    05:RD19        116.60    7.105 No_date   12:54   74.51
 001:0158---------------ID:NHYD-----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
     CALIB NASHYD         01:EXT-9D         .63     .099 No_date   12:06   59.96
      [CN= 73.0: N= 3.00]
      [Tp=  .20:DT= 1.00]
#-----------------|-----------------------------------------------------------|
#-----------------|-Parkbridge Craigleith - Upper Terrace Lands---------------|
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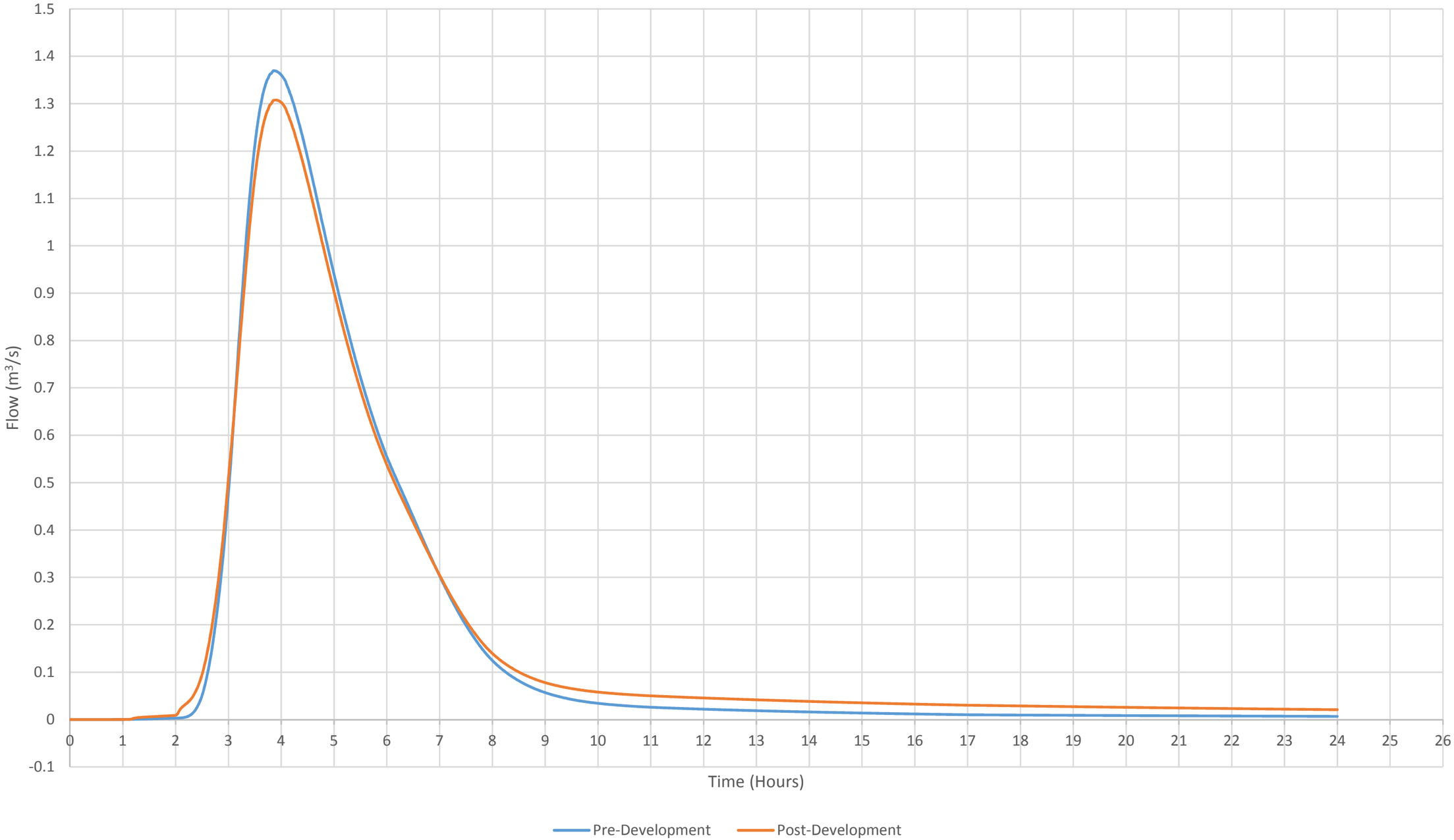
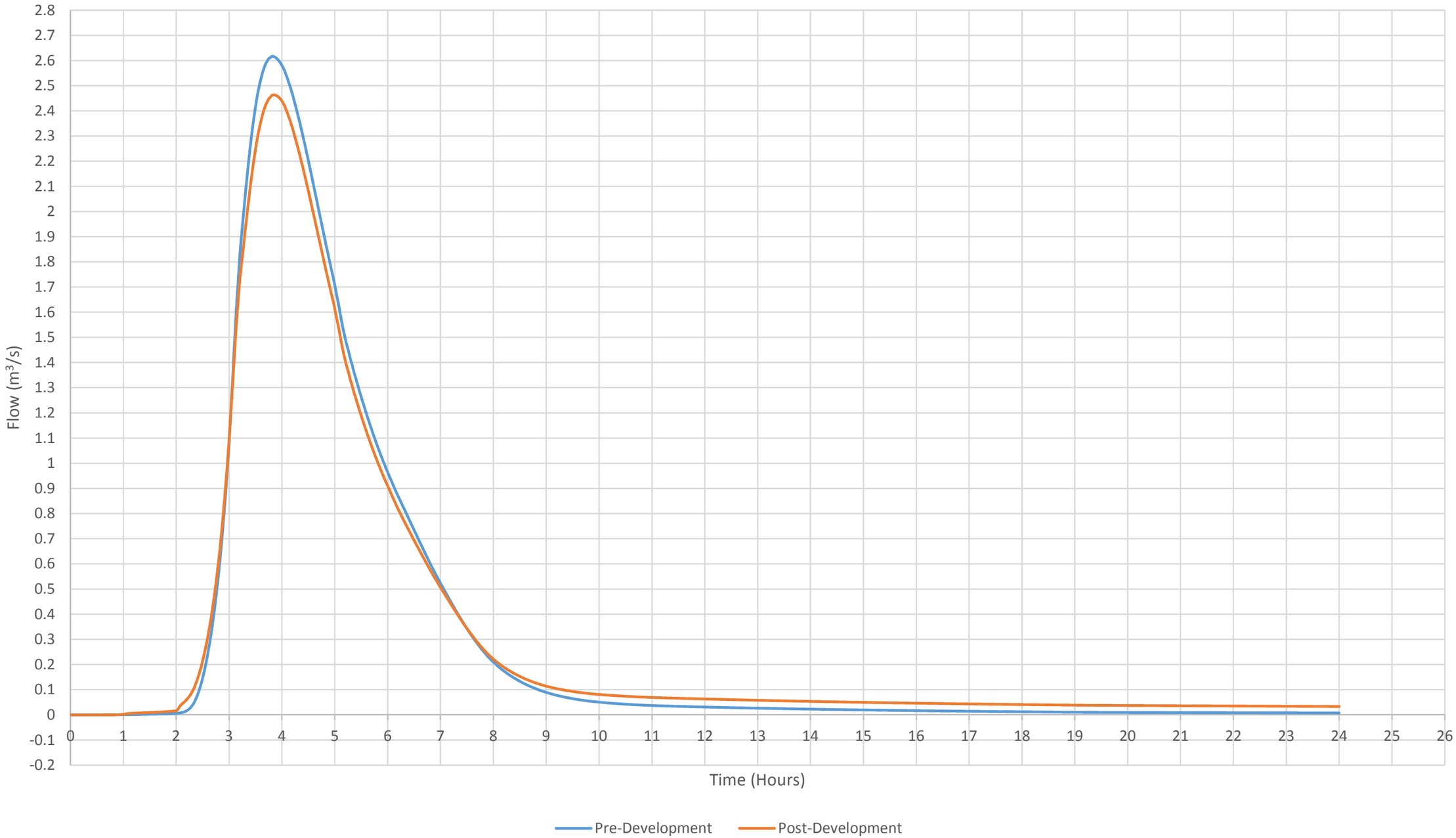
01081> #-----------------|-------------------------------------------------------------|
01082>  001:0159---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01083>      CALIB NASHYD       02:9C9D           2.47     .224 No_date   12:05   34.31
01084>        [CN= 49.6: N= 3.00]
01085>        [Tp=  .18:DT= 1.00]
01086>  001:0160---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01087>      ADD HYD            01:EXT-9D          .63     .099 No_date   12:06   59.96
01088>                       +  02:9C9D           2.47     .224 No_date   12:05   34.31
01089>                       +  05:RD19         116.60    7.105 No_date   12:54   74.51
01090>        [DT= 1.00]  SUM=  04:WC9a         119.70    7.150 No_date   12:54   73.60
01091> #-----------------|-------------------------------------------------------------|
01092> #--CATCHMENT EXT-9C DIRECTED TO SWM FACILITY 1 POST-DEVELOPMENT---------------|
01093> #--CATCHMENT EXT-9C TO BE CONTROLLED BY SWM FACILITY 1-------------------------|
01094> #-----------------|-------------------------------------------------------------|
01095>  001:0161---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01096>      CALIB NASHYD       01:EXT-9C          8.40     .771 No_date   12:23   63.96
01097>        [CN= 74.9: N= 3.00]
01098>        [Tp=  .47:DT= 1.00]
01099>  001:0162---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01100>      CALIB STANDHYD     03:9B             3.10    1.010 No_date   12:00   94.76
01101>        [XIMP=.30:TIMP=.52]
01102>        [LOSS= 2 :CN= 79.0]
01103>        [Pervious     area: IAper= 5.00:SLPP=3.00:LGP=  30.:MNP=.250:SCP=   .0]
01104>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 110.:MNI=.013:SCI=   .0]
01105>  001:0163---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01106>      CALIB NASHYD       05:9E             2.10     .276 No_date   12:02   38.01
01107>        [CN= 54.1: N= 3.00]
01108>        [Tp=  .11:DT= 1.00]
01109>  001:0164---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01110>      ADD HYD            01:EXT-9C          8.40     .771 No_date   12:23   63.96
01111>                       +  03:9B             3.10    1.010 No_date   12:00   94.76
01112>                       +  05:9E             2.10     .276 No_date   12:02   38.01
01113>        [DT= 1.00]  SUM=  06:SWMF1         13.60    1.627 No_date   12:00   66.97
01114> #-----------------|-------------------------------------------------------------|
01115> #-----------------|-EXISTING POND ON PARKBRIDGE CRAIGLEITH SUBJECT SITE-------|
01116> #-----------------|-CONVERTED TO SWM FACILITY 1 POST-DEVELOPMENT--------------|
01117> #-----------------|-------------------------------------------------------------|
01118>  001:0165---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01119>      ROUTE RESERVOIR -> 06:SWMF1        13.60    1.627 No_date   12:00   66.97
01120>        [RDT= 1.00] out<- 01:SWMF-1      13.60     .031 No_date   24:10   66.97
01121>       (MxStoUsed=.7556E+00)
01122>  001:0166---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01123>      ADD HYD            01:SWMF-1        13.60     .031 No_date   24:10   66.97
01124>                       +  04:WC9a         119.70    7.150 No_date   12:54   73.60
01125>        [DT= 1.00]  SUM=  07:WC9b         133.30    7.179 No_date   12:54   72.93
01126> #-----------------|-------------------------------------------------------------|
01127> #-----------------|-Parkbridge Craigleith - Lower Terrace Lands----------------|
01128> #-----------------|-------------------------------------------------------------|
01129> #-----------------|-CATCHMENT 9P DISCHARGING TO WATERCOURSE 9------------------|
01130> #-----------------|-------------------------------------------------------------|
01131>  001:0167---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01132>      CALIB STANDHYD     10:9P             1.75     .415 No_date   12:00   72.91
01133>        [XIMP=.18:TIMP=.48]
01134>        [LOSS= 2 :CN= 61.0]
01135>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01136>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 108.:MNI=.013:SCI=   .0]
01137> #-----------------|-------------------------------------------------------------|
01138> #-----------------|-LANDS DRAINING TO WC 9 UNCONTROLLED -----------------------|
01139> #-----------------|-------------------------------------------------------------|
01140>  001:0168---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01141>      CALIB NASHYD       01:9J              .81     .121 No_date   12:05   55.98
01142>        [CN= 68.7: N= 3.00]
01143>        [Tp=  .19:DT= 1.00]
01144>  001:0169---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01145>      CALIB NASHYD       02:9O              .35     .038 No_date   12:10   50.98
01146>        [CN= 65.0: N= 3.00]
01147>        [Tp=  .26:DT= 1.00]
01148>  001:0170---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01149>      CALIB NASHYD       03:9K9L           1.32     .076 No_date   12:16   34.34
01150>        [CN= 50.4: N= 3.00]
01151>        [Tp=  .35:DT= 1.00]
01152>  001:0171---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01153>      ADD HYD            01:9J              .81     .121 No_date   12:05   55.98
01154>                       +  02:9O              .35     .038 No_date   12:10   50.98
01155>                       +  03:9K9L           1.32     .076 No_date   12:16   34.34
01156>                       +  07:WC9b         133.30    7.179 No_date   12:54   72.93
01157>        [DT= 1.00]  SUM=  05:WC9LOWER      135.78    7.235 No_date   12:54   72.39
01158> #-----------------|-------------------------------------------------------------|
01159> #-----------------|-LANDS DRAINING TO SWM FACILITY 2---------------------------|
01160> #-----------------|-------------------------------------------------------------|
01161>  001:0172---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01162>      CALIB NASHYD       01:9G             1.16     .068 No_date   12:03   19.87
01163>        [CN= 33.2: N= 3.00]
01164>        [Tp=  .14:DT= 1.00]
01165>  001:0173---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01166>      CALIB NASHYD       02:9H             1.67     .069 No_date   12:11   21.16
01167>        [CN= 34.7: N= 3.00]
01168>        [Tp=  .27:DT= 1.00]
01169>  001:0174---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01170>      CALIB STANDHYD     03:9M             5.80    1.578 No_date   12:00   85.79
01171>        [XIMP=.23:TIMP=.56]
01172>        [LOSS= 2 :CN= 69.0]
01173>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01174>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 197.:MNI=.013:SCI=   .0]
01175>  001:0175---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01176>      CALIB STANDHYD     04:9N             1.85     .355 No_date   12:00   64.10
01177>        [XIMP=.19:TIMP=.27]
01178>        [LOSS= 2 :CN= 61.0]
01179>        [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
01180>        [Impervious   area: IAimp= 2.00:SLPI=1.00:LGI= 111.:MNI=.013:SCI=   .0]
01181>  001:0176---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01182>      ADD HYD            01:9G             1.16     .068 No_date   12:03   19.87
01183>                       +  02:9H             1.67     .069 No_date   12:11   21.16
01184>                       +  03:9M             5.80    1.578 No_date   12:00   85.79
01185>                       +  04:9N             1.85     .355 No_date   12:00   64.10
01186>        [DT= 1.00]  SUM=  06:SWMF2         10.48    2.038 No_date   12:00   64.37
01187> #-----------------|-------------------------------------------------------------|
01188> #-----------------|-POST-DEVELOPMENT SWM FACILITY 2 (LOWER EAST POND)----------|
01189> #-----------------|-------------------------------------------------------------|
01190>  001:0177---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01191>      ROUTE RESERVOIR -> 06:SWMF2        10.48    2.038 No_date   12:00   64.37
01192>        [RDT= 1.00] out<- 09:SWMF-2      10.48     .990 No_date   12:11   64.37
01193>       (MxStoUsed=.2887E+00)
01194> #-----------------|-------------------------------------------------------------|
01195> #-----------------|--WATERCOURSE 9 TOTAL FLOW AT LAKESHORE RD------------------|
01196> #-----------------|-------------------------------------------------------------|
01197>  001:0178---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01198>      ADD HYD            09:SWMF-2        10.48     .990 No_date   12:11   64.37
01199>                       +  05:WC9LOWER     135.78    7.235 No_date   12:54   72.39
01200>                       +  10:9P             1.75     .415 No_date   12:00   72.91
01201>        [DT= 1.00]  SUM=  01:WC9c         148.01    7.549 No_date   12:51   71.83
01202> #-----------------|-------------------------------------------------------------|
01203> #-----------------|--WATERCOURSE 8 CATCHMENTS----------------------------------|
01204> #-----------------|--WC 8 CATCHMENTS TO BE DIRECTED TO WC8---------------------|
01205> #-----------------|--EQUIVALENT TO EXISTING CONDITIONS OF WC 8-----------------|
01206> #-----------------|-------------------------------------------------------------|
01207>  001:0179---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01208>      CALIB NASHYD       01:8i             2.23     .220 No_date   12:11   48.76
01209>        [CN= 63.5: N= 3.00]
01210>        [Tp=  .28:DT= 1.00]
01211>  001:0180---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01212>      CALIB NASHYD       02:EXT-8          7.60     .453 No_date   12:30   48.03
01213>        [CN= 63.0: N= 3.00]
01214>        [Tp=  .55:DT= 1.00]
01215> #-----------------|-------------------------------------------------------------|
01216> #-----------------|--WATERCOURSE 8 TOTAL FLOW OF CATCHMENTS EXT-8 AND 8i------|
01217> #-----------------|-------------------------------------------------------------|
01218>  001:0181---------------ID:NHYD----------AREA----QPEAK-TpeakDate_hh:mm----R.V.-
01219>      ADD HYD            01:8i             2.23     .220 No_date   12:11   48.76
01220>                       +  02:EXT-8          7.60     .453 No_date   12:30   48.03
01221>        [DT= 1.00]  SUM=  03:WC8            9.83     .616 No_date   12:21   48.19
01222>  001:0182---------------------------------------------------------------------------
01223>       FINISH
01224> ---------------------------------------------------------------------------
01225> ***************************************************************************
01226>      WARNINGS / ERRORS / NOTES
01227>      -------------------------
01228>    Simulation ended on 2018-04-30     at 00:04:16
01229> ===========================================================================
01230>
01231>
```

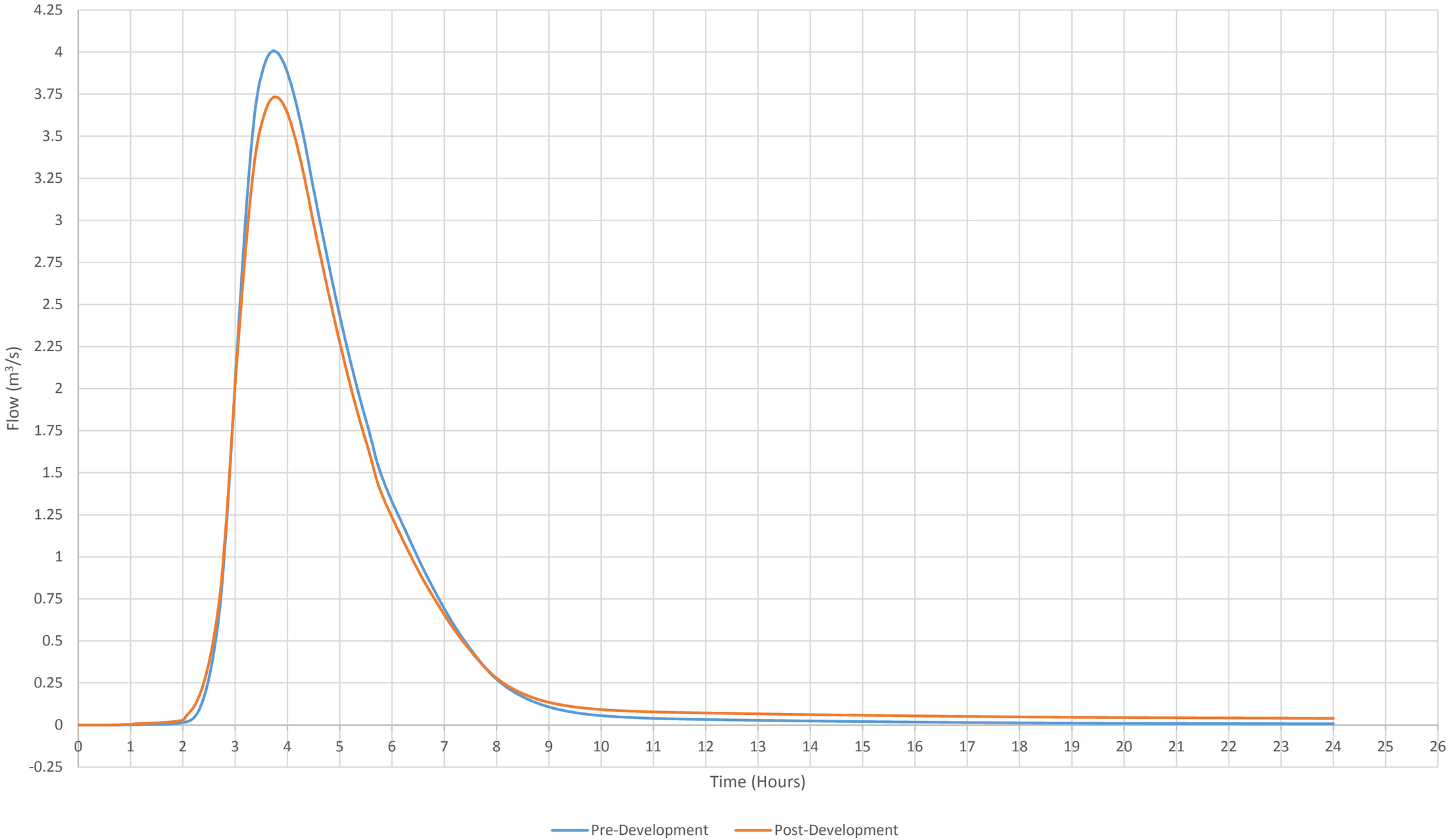
2-Year - Flow Hydrograph at Lakeshore Road
Pre-development & Post-development



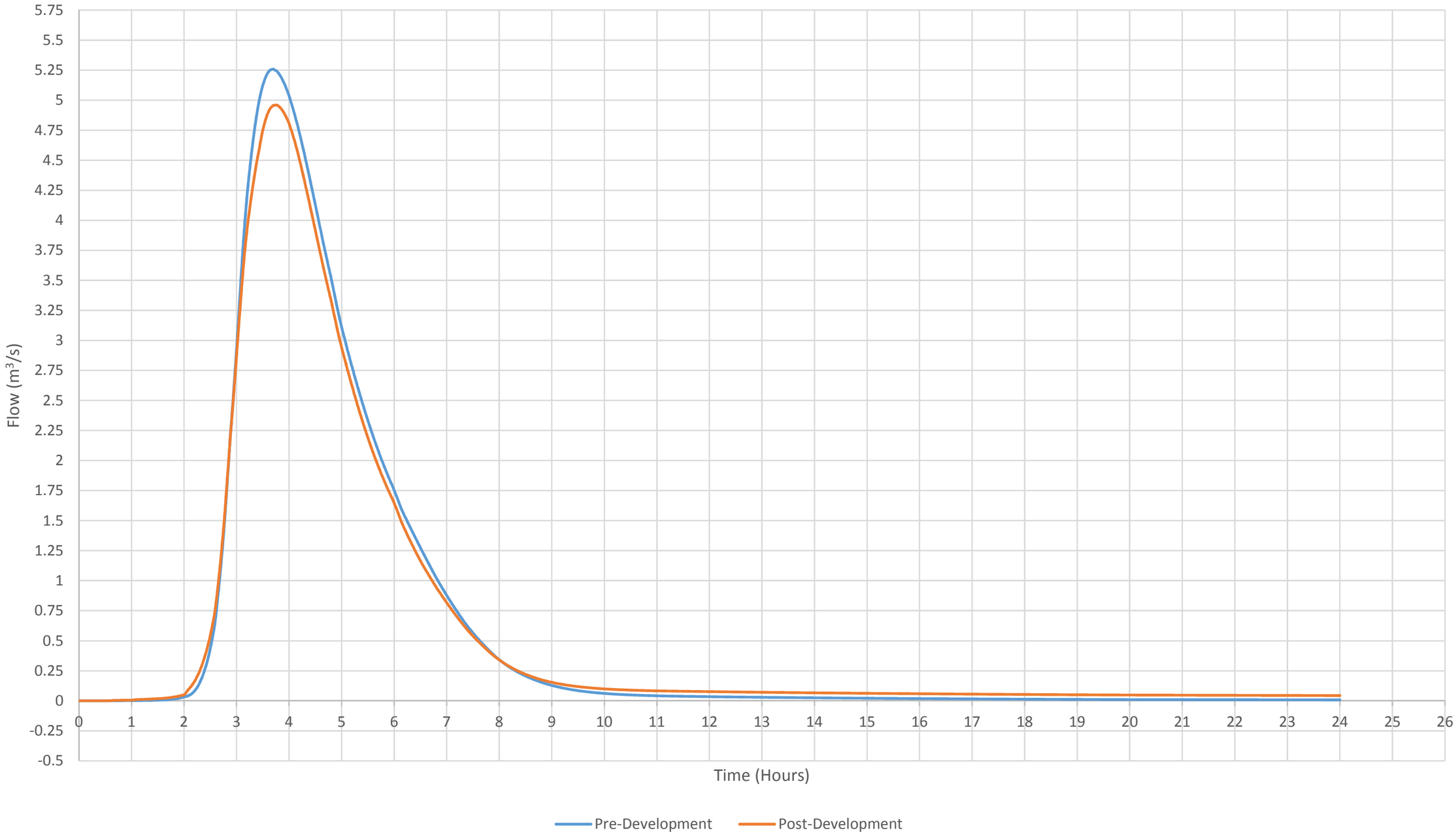
5-Year - Flow Hydrograph at Lakeshore Road
Pre-development & Post-development



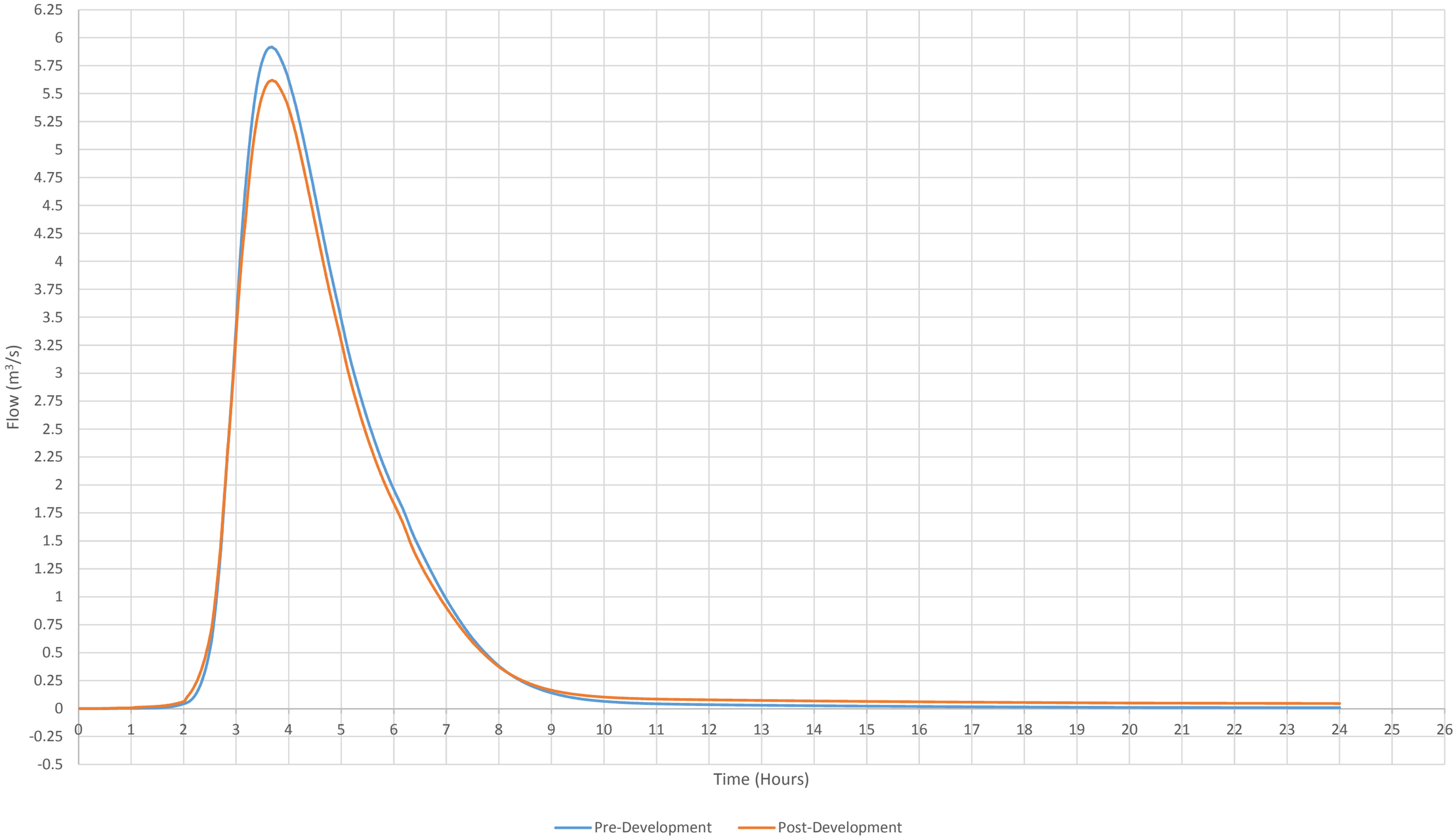
10-Year - Flow Hydrograph at Lakeshore Road
Pre-development & Post-development



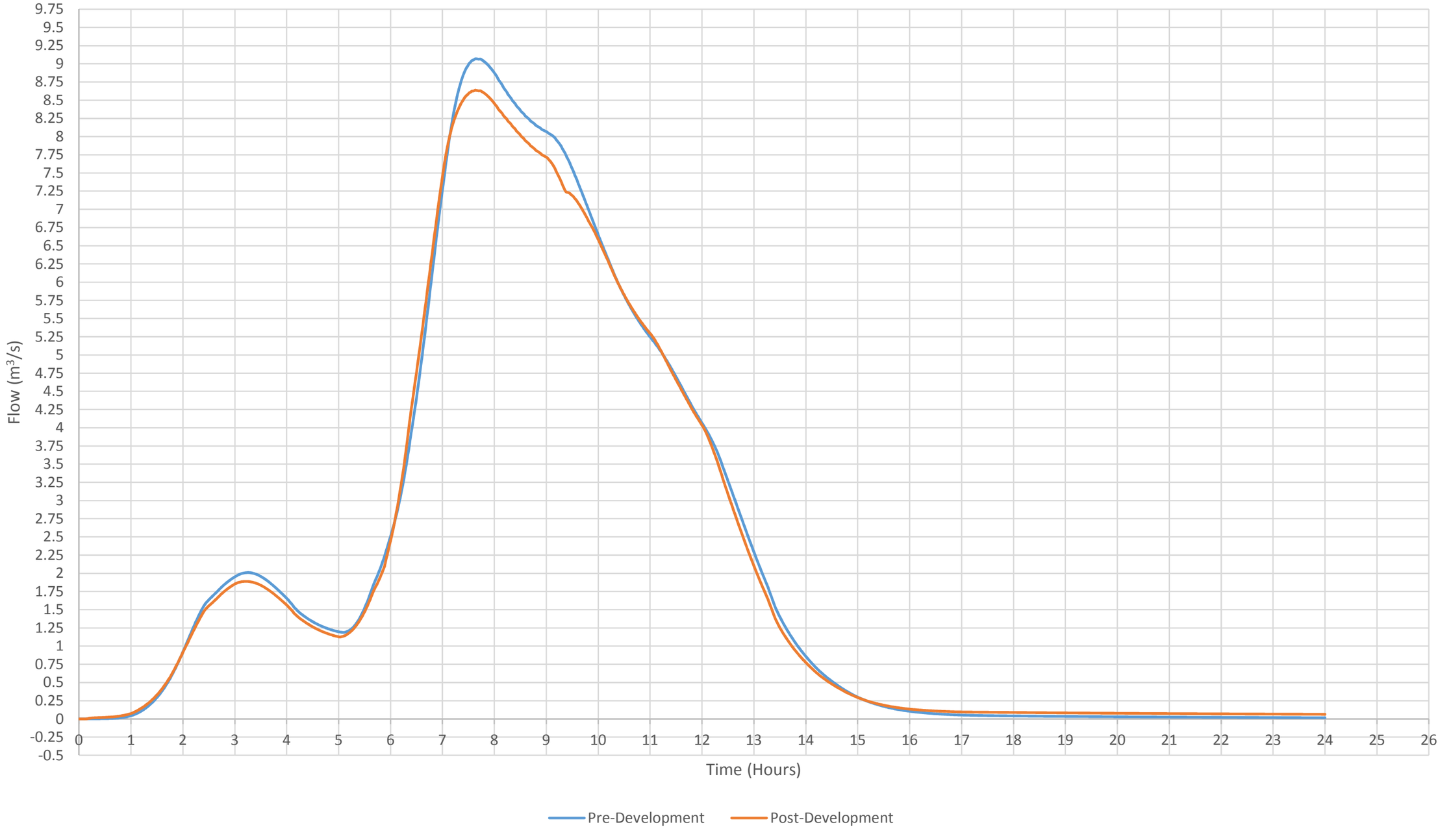
50-Year - Flow Hydrograph at Lakeshore Road
Pre-development & Post-development



100-Year - Flow Hydrograph at Lakeshore Road
Pre-development & Post-development



Regional (Timmins) - Flow Hydrograph at Lakeshore Road
Pre-development & Post-development



APPENDIX D

SWM Facility Design

SUMMARY OF PRE- AND POST-DEVELOPMENT FLOWS

6-Hour Keifer-Chu Distribution

Location	Return Period	Peak Flow (m^3/s)		% Difference
		Pre-Development	Post-Development	
Lakeshore Road	2-Year	1.369	1.308	-4.5%
	5-Year	2.617	2.463	-5.9%
	10-Year	4.007	3.730	-6.9%
	25-Year	5.259	5.042	-4.1%
	50-Year	5.917	5.680	-4.0%
	100-Year	7.313	6.976	-4.6%
	Regional	9.070	8.671	-4.4%

4-Hour Chicago

Location	Return Period	Peak Flow (m^3/s)		% Difference
		Pre-Development	Post-Development	
Lakeshore Road	2-Year	0.899	0.873	-2.9%
	5-Year	1.660	1.584	-4.6%
	10-Year	2.260	2.141	-5.3%
	25-Year	3.041	2.890	-5.0%
	50-Year	3.712	3.475	-6.4%
	100-Year	4.370	4.233	-3.1%

SCS-Hour SCS Type II

Location	Return Period	Peak Flow (m^3/s)		% Difference
		Pre-Development	Post-Development	
Lakeshore Road	2-Year	2.040	1.926	-5.6%
	5-Year	3.464	3.219	-7.1%
	10-Year	4.509	4.274	-5.2%
	25-Year	5.895	5.613	-4.8%
	50-Year	6.945	6.574	-5.3%
	100-Year	8.017	7.549	-5.8%

CROZIER & ASSOCIATES
Consulting Engineers

Water Quality Requirements

Project #:	1046-4031
Project:	Parkbridge Craigleith
Date:	April 30, 2018
By:	BD

Post-Development Scenario Water Quality Requirements

SWM Facility #1 - Existing Pond converted to Proposed Wetland

			25mm Runoff Volume (RV) per SWMHYMO Model	
Areas Contributing	***Area (ha)***	***% Imp***	***25mm RV (mm)***	***25mm RV (m^3)***
9B	3.10	52	11.74	364

MOE Total Water Quality (WQ) Volume (m^3/ha)	190
MOE Extended Detention (ED) Volume (m^3/ha)	40
MOE ED Volume (m^3)	124
MOE Permanent Pool (PP) Volume (m^3/ha)	150
MOE PP Volume (m^3)	465
Pond Required ED Volume (m^3) - 25mm RV governs	364
Pond Required PP Volume (m^3)	465
Pond Required Total WQ Volume - ED + PP (m3)	829

1720

CROZIER & ASSOCIATES
Consulting Engineers

Project: 1046-4031
Project No.: Parkbridge Craigleith
File: Stage Storage Discharge
Design by: BD
Date: April 30, 2018

Proposed SWM Facility #1 - Stage Storage Discharge Calculations & Extended Detention Calculations

Outlet Structure Dimensions

E.D. Orifice Diameter:	0.1 m
E.D. Orifice Invert Elevation:	189 m
Spillway Elev.	191.20 m
Spillway Bot. Width	5 m
Trap. Side Slopes	6:1

Pond Dimensions				Outlet Structure Discharge					Total			
Elev. (m)	Depth Above PP (m)	Area (sqm)	Storage Volume (cu.m)	ED Orifice Discharge (cu.m/s)	Rect. Weir Discharge (cu.m/s)	Spillway Ave. Weir Width (m)	Spillway Discharge (cu.m/s)	Total Discharge (cu.m/s)	ED Draw-down time (hrs)	Total Discharge (cu.m/s)	Storage (ha-m)	
189.00	0.00	*1750*	0	0.000		0.00	0.000	0.000	0.0	0.000	0.000	
189.10	0.10	1880	181	0.005		0.00	0.000	0.005	20.3	**0.005**	**0.018**	
189.20	0.20	2010	376	0.009		0.00	0.000	0.009	7.9	0.009	0.038	
189.30	*0.30*	2140	*583*	0.011		0.00	0.000	0.011	5.8	**0.011**	**0.058**	
189.40	*0.40*	2270	*804*	0.013		0.00	0.000	0.013		**0.013**	**0.080**	
189.50	*0.50*	2400	*1037*	0.015		0.00	0.000	0.015		**0.015**	**0.104**	
189.60	0.60	2530	1284	0.017		0.00	0.000	0.017		**0.017**	**0.128**	
189.65	0.65	2595	1412	0.017		0.00	0.000	0.017		**0.017**	**0.141**	
189.70	0.70	2660	1543	0.018		0.00	0.000	0.018		0.018	0.154	
189.80	0.80	2790	1816	0.019		0.00	0.000	0.019		**0.019**	**0.182**	
189.90	0.90	2920	2101	0.021		0.00	0.000	0.021		0.021	0.210	
190.00	*1.00*	*3050*	*2400*	0.022		0.00	0.000	0.022		**0.022**	**0.240**	
190.10	1.10	3162	2711	0.023		0.00	0.000	0.023		0.023	0.271	
190.20	1.20	3274	3032	0.024		0.00	0.000	0.024		**0.024**	**0.303**	
190.30	1.30	3386	3365	0.025		0.00	0.000	0.025		0.025	0.337	
190.40	1.40	3498	3710	0.026		0.00	0.000	0.026		**0.026**	**0.371**	
190.50	1.50	3610	4065	0.027		0.00	0.000	0.027		0.027	0.406	
190.60	1.60	3722	4431	0.028		0.00	0.000	0.028		**0.028**	**0.443**	
190.70	1.70	3833	4809	0.029		0.00	0.000	0.029		0.029	0.481	
190.80	1.80	3945	5198	0.029		0.00	0.000	0.029		**0.029**	**0.520**	
190.90	1.90	4057	5598	0.030		0.00	0.000	0.030		0.030	0.560	100y
191.00	2.00	4169	6010	0.031		0.00	0.000	0.031		**0.031**	**0.601**	
191.10	2.10	4281	6432	0.032		0.00	0.000	0.032		**0.032**	**1.119**	
191.20	2.20	4393	6866	0.033		5.00	0.000	0.033		**0.033**	**1.163**	
191.30	2.30	4505	7311	0.033		5.60	0.326	0.359		**0.359**	**1.207**	
191.40	2.40	4610	7767	0.034		6.20	1.020	1.054		**1.054**	**1.253**	

Total ED Draw Down Time (hrs) 34.0

Pond designed to spill into East pond half during Regional event. Additional 4760 m3 or 0.476 ha-m (other pond half) volume is available after berm elev. 191.00

CROZIER & ASSOCIATES
Consulting Engineers

Water Quality Requirements

Project #:	1046-4031
Project:	Parkbridge Craigleith
Date:	April 30, 2018
By:	BD

Post-Development Scenario Water Quality Requirements

SWM Facility #2 - Proposed Water Quality Wet Pond (Lower East Pond)

			25mm Runoff Volume (RV) per SWMHYMO Model	
Areas Contributing	***Area (ha)***	***% Imp***	***25mm RV (mm)***	***25mm RV (m^3)***
9M, 9N	7.65	49	8.81	674

MOE Total Water Quality (WQ) Volume (m^3/ha)	190
MOE Extended Detention (ED) Volume (m^3/ha)	40
MOE ED Volume (m^3)	306
MOE Permanent Pool (PP) Volume (m^3/ha)	150
MOE PP Volume (m^3)	1148
Pond Required ED Volume (m^3) - 25mm RV governs	674
Pond Required PP Volume (m^3)	1148
Pond Required Total WQ Volume - ED + PP (m3)	1821

1720

CROZIER & ASSOCIATES
Consulting Engineers

Project: 1046-4031
Project No.: Parkbridge Craigleith
File: Stage Storage Discharge
Design by: OD
Date: November 17, 2016

Proposed SWM Facility #2 - Stage Storage Discharge Calculations & Extended Detention Calculations

Outlet Structure Dimensions

E.D. Orifice Diameter:	0.09 m
E.D. Orifice Invert Elevation:	181.5 m
Spillway Elev.	182.50 m
Spillway Bot. Width	5 m
Trap. Side Slopes	6:1

Pond Dimensions				Outlet Structure Discharge					Total		
Elev. (m)	Depth Above PP (m)	Area (sqm)	Storage Volume (cu.m)	ED Orifice Discharge (cu.m/s)	Rect. Weir Discharge (cu.m/s)	Spillway Ave. Weir Width (m)	Spillway Discharge (cu.m/s)	Total Discharge (cu.m/s)	ED Draw-down time (hrs)	Total Discharge (cu.m/s)	Storage (ha-m)
181.50	0.00	*1554*	0	0.000		0.00	0.000	0.000	0.0	0.000	0.000
181.60	0.10	1700	163	0.004		0.00	0.000	0.004	21.4	**0.004**	**0.016**
181.70	0.20	1846	340	0.007		0.00	0.000	0.007	8.7	0.007	0.034
181.80	*0.30*	1992	*532*	0.009		0.00	0.000	0.009	6.6	**0.009**	**0.053**
181.90	*0.40*	2137	*738*	0.011		0.00	0.000	0.011		**0.011**	**0.074**
182.00	*0.50*	2283	*959*	0.012		0.00	0.000	0.012		0.012	0.096
182.10	0.60	2429	1195	0.013		0.00	0.000	0.013		**0.013**	**0.119**
182.15	0.65	2502	1318	0.014		0.00	0.000	0.014		**0.014**	**0.132**
182.20	0.70	2575	1445	0.015		0.00	0.000	0.015		0.015	0.145
182.30	0.80	2721	1710	0.016		0.00	0.000	0.016		**0.016**	**0.171**
182.40	0.90	2867	1989	0.017		0.00	0.000	0.017		**0.017**	**0.199**
182.50	*1.00*	3012	*2283*	0.018		0.00	0.000	0.018		**0.018**	**0.228**
182.60	1.10	3158	2592	0.019		5.60	0.326	0.344		**0.344**	**0.259**
182.70	1.20	3304	2915	0.019		6.20	1.020	1.040		**1.040**	**0.291**
182.80	1.30	3450	3253	0.020		6.80	2.056	2.076		**2.076**	**0.325**

Total ED Draw Down Time (hrs) 36.6

APPENDIX E

Hydraulic Models

Watercourse 9

LEGEND

280 — HEC–RAS SECTION I.D. No.

EXISTING "BANNERMAN" DEVELOPMENT

WATERCOURSE #10

WATERCOURSE #9 OUTLETS TO GEORGIAN BAY

EXISTING 2.45m BY 0.9m CONCRETE BOX CULVERT

EXISTING 1.5mø CSP CULVERT

EXISTING 1.55m × 1.05m CONCRETE BOX CULVERT

HWY 26

GEORGIAN TRAIL

LAKESHORE ROAD

WATERCOURSE #9

EXISTING POND

PROPERTY LINE

COUNTY ROAD 19

CRAIGLEITH ROAD

EXISTING 1.5mø CSP CULVERT

0, 38.5, 53.5, 98, 104.5, 126.5, 141.5, 162, 177, 192, 212, 230, 245, 260, 280, 296.7, 310, 326, 340.5, 352.5, 378.5, 413.5, 430.5, 463.5, 502.5, 538.5, 570, 608, 648, 700, 730, 756, 786, 895, 929, 960

NOTE:
LOCATIONS OF HEC–RAS SECTION ARE THE SAME FOR BOTH PRE AND POST DEVELOPMENT CONDITIONS

Project: PARKBRIDGE CRAIGLEITH
TOWN OF THE BLUE MOUNTAINS

Drawing: HEC–RAS SECTIONS

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
COLLINGWOOD, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
WWW.CFCROZIER.CA
INFO@CFCROZIER.CA

Drawn By	Design By	Project
C.W./R.C.G.	B.D.	1046–4031
Scale	Date	Check By	Drawing
11x17 1:2000	12/21/2016	J.P.	FIG. 10

J:\1000\1046-Parkbridge Lifestyle\4031-Craigleith Fogal Land Acq\CAD\CIVIL\1SHEET\4031_215-216.dwg, 210, 4/30/2018 11:40:22 AM, lwaters

HEC-RAS Plan: Plan 16 River: Watercourse 9 Reach: Watercourse 9

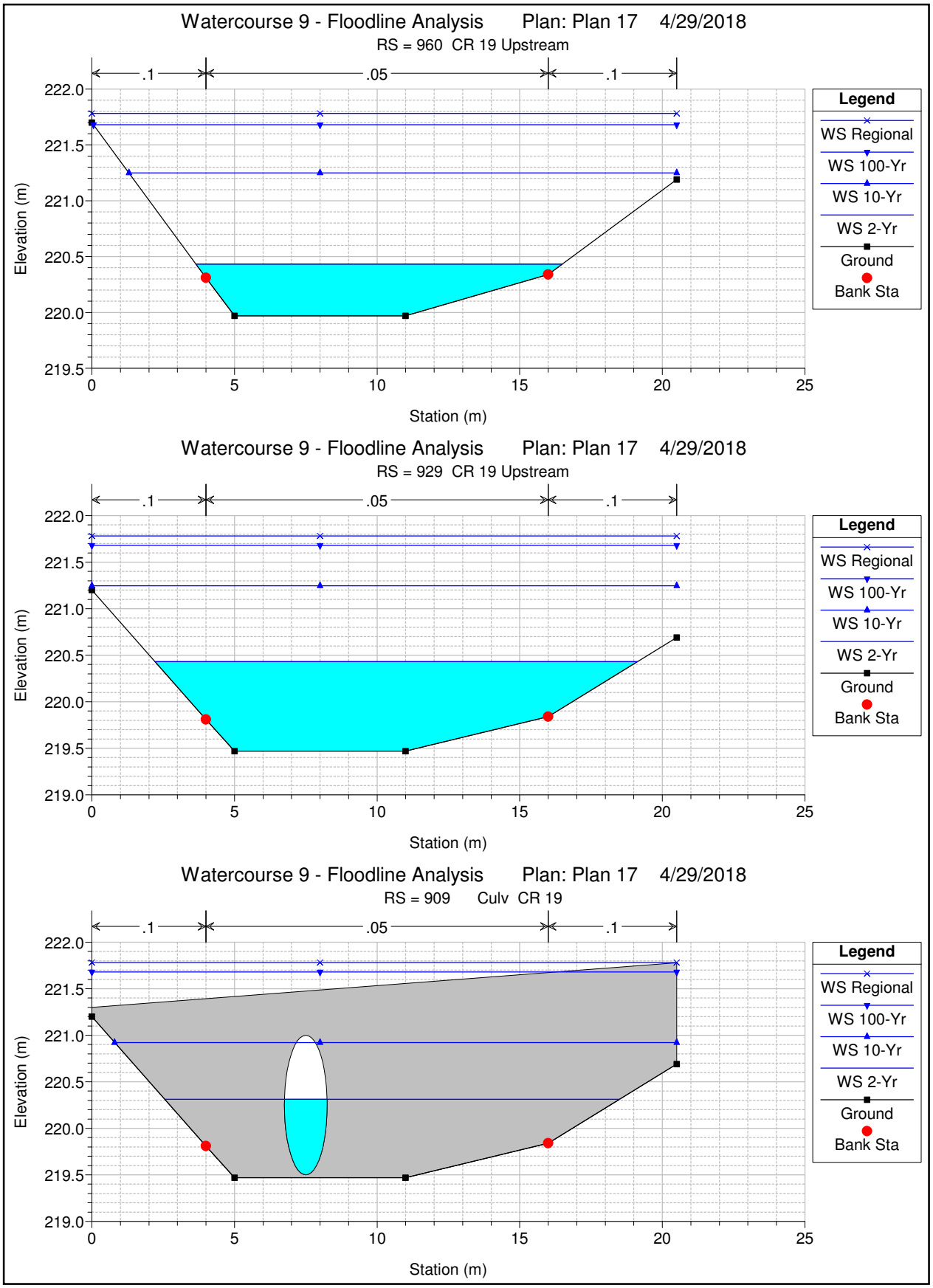
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Watercourse 9	960	2-Yr	1.37	219.97	220.43		220.44	0.000884	0.31	4.51	12.85	0.16
Watercourse 9	960	10-Yr	4.00	219.97	221.25		221.25	0.000140	0.26	17.69	19.20	0.08
Watercourse 9	960	100-Yr	7.30	219.97	221.68		221.69	0.000153	0.34	26.27	20.45	0.09
Watercourse 9	960	Regional	9.00	219.97	221.78		221.79	0.000187	0.39	28.34	20.50	0.10
Watercourse 9	929	2-Yr	1.37	219.47	220.43	219.63	220.43	0.000049	0.13	11.93	16.92	0.04
Watercourse 9	929	10-Yr	4.00	219.47	221.25	219.78	221.25	0.000040	0.18	27.62	20.50	0.04
Watercourse 9	929	100-Yr	7.30	219.47	221.68	219.90	221.68	0.000059	0.25	36.49	20.50	0.06
Watercourse 9	929	Regional	9.00	219.47	221.78	219.95	221.78	0.000076	0.30	38.56	20.50	0.06
Watercourse 9	909		Culvert									
Watercourse 9	895	2-Yr	1.37	219.32	219.48	219.48	219.55	0.048705	1.16	1.18	8.64	1.01
Watercourse 9	895	10-Yr	4.00	219.32	219.63	219.63	219.75	0.039823	1.52	2.62	11.06	1.00
Watercourse 9	895	100-Yr	7.30	219.32	219.75	219.75	219.91	0.035560	1.81	4.04	12.55	1.00
Watercourse 9	895	Regional	9.00	219.32	219.80	219.80	219.99	0.033418	1.93	4.70	12.97	0.99
Watercourse 9	786	2-Yr	1.37	211.97	212.12	212.12	212.18	0.050495	1.08	1.27	10.76	1.00
Watercourse 9	786	10-Yr	4.00	211.97	212.25	212.25	212.35	0.041512	1.43	2.80	13.32	1.00
Watercourse 9	786	100-Yr	7.30	211.97	212.36	212.35	212.50	0.033563	1.68	4.33	13.72	0.96
Watercourse 9	786	Regional	9.00	211.97	212.42	212.40	212.58	0.028009	1.72	5.23	13.95	0.90
Watercourse 9	756	2-Yr	1.37	211.02	211.40		211.43	0.009040	0.78	1.76	6.59	0.48
Watercourse 9	756	10-Yr	4.00	211.02	211.62		211.69	0.010751	1.17	3.43	7.96	0.57
Watercourse 9	756	100-Yr	7.30	211.02	211.80		211.91	0.012720	1.50	4.88	8.80	0.64
Watercourse 9	756	Regional	9.00	211.02	211.87		212.00	0.013587	1.63	5.51	9.14	0.67
Watercourse 9	730	2-Yr	1.37	210.56	210.89	210.89	210.98	0.044534	1.28	1.07	6.35	1.00
Watercourse 9	730	10-Yr	4.00	210.56	211.07	211.07	211.21	0.038492	1.63	2.46	9.14	1.00
Watercourse 9	730	100-Yr	7.30	210.56	211.21	211.21	211.39	0.034980	1.87	3.90	10.98	1.00
Watercourse 9	730	Regional	9.00	210.56	211.26	211.26	211.47	0.034604	2.02	4.47	11.24	1.01
Watercourse 9	700	2-Yr	1.37	207.00	207.30	207.30	207.40	0.042709	1.45	0.94	4.37	1.00
Watercourse 9	700	10-Yr	4.00	207.00	207.52	207.52	207.70	0.037445	1.86	2.15	6.20	1.01
Watercourse 9	700	100-Yr	7.30	207.00	207.71	207.71	207.94	0.034609	2.12	3.45	7.69	1.01
Watercourse 9	700	Regional	9.00	207.00	207.79	207.79	208.04	0.033673	2.21	4.07	8.31	1.01
Watercourse 9	648	2-Yr	1.37	203.22	203.72	203.72	203.83	0.042005	1.47	0.93	4.23	1.00
Watercourse 9	648	10-Yr	4.00	203.22	203.96	203.96	204.12	0.037102	1.82	2.20	6.56	1.00
Watercourse 9	648	100-Yr	7.30	203.22	204.12	204.12	204.36	0.033525	2.19	3.35	7.33	1.01
Watercourse 9	648	Regional	9.00	203.22	204.19	204.19	204.47	0.031738	2.34	3.89	7.54	1.01
Watercourse 9	608	2-Yr	1.37	200.82	201.17	201.17	201.27	0.046277	1.36	1.01	5.56	1.02
Watercourse 9	608	10-Yr	4.00	200.82	201.37	201.37	201.53	0.038434	1.79	2.24	7.06	1.01
Watercourse 9	608	100-Yr	7.30	200.82	201.54	201.54	201.75	0.034727	2.06	3.55	8.36	1.01
Watercourse 9	608	Regional	9.00	200.82	201.60	201.60	201.85	0.036103	2.21	4.07	8.83	1.04
Watercourse 9	570	2-Yr	1.37	198.18	198.48	198.48	198.59	0.042697	1.43	0.95	4.52	1.00
Watercourse 9	570	10-Yr	4.00	198.18	198.70	198.70	198.88	0.037743	1.88	2.13	6.01	1.01
Watercourse 9	570	100-Yr	7.30	198.18	198.89	198.89	199.13	0.034926	2.16	3.39	7.27	1.01
Watercourse 9	570	Regional	9.00	198.18	198.97	198.97	199.23	0.033995	2.26	3.99	7.81	1.01
Watercourse 9	538.5	2-Yr	1.37	195.78	196.14	196.14	196.26	0.041709	1.51	0.90	3.83	1.00
Watercourse 9	538.5	10-Yr	4.00	195.78	196.39	196.39	196.60	0.036079	2.03	1.97	4.73	1.00
Watercourse 9	538.5	100-Yr	7.30	195.78	196.61	196.61	196.89	0.033524	2.36	3.09	5.52	1.01
Watercourse 9	538.5	Regional	9.00	195.78	196.70	196.70	197.02	0.032649	2.48	3.62	5.86	1.01
Watercourse 9	502.5	2-Yr	1.37	193.77	194.20	194.20	194.32	0.040597	1.54	0.89	3.66	1.00
Watercourse 9	502.5	10-Yr	4.00	193.77	194.46	194.46	194.66	0.035079	2.00	2.00	4.91	1.00
Watercourse 9	502.5	100-Yr	7.30	193.77	194.67	194.67	194.95	0.032911	2.35	3.11	5.62	1.01
Watercourse 9	502.5	Regional	9.00	193.77	194.76	194.76	195.07	0.032210	2.48	3.63	5.92	1.01
Watercourse 9	463.5	2-Yr	1.37	191.52	191.86	191.81	191.89	0.033066	1.17	2.03	33.83	0.82
Watercourse 9	463.5	10-Yr	4.00	191.52	192.00	191.93	192.07	0.045613	1.84	3.56	34.37	1.04
Watercourse 9	463.5	100-Yr	7.30	191.52	192.15	192.06	192.27	0.040452	2.26	5.39	35.40	1.05
Watercourse 9	463.5	Regional	9.00	191.52	192.22	192.11	192.36	0.038180	2.41	6.29	35.87	1.04
Watercourse 9	430.50*	2-Yr	1.37	190.31	190.67	190.67	190.78	0.035163	1.43	1.05	40.46	0.93
Watercourse 9	430.50*	10-Yr	4.00	190.31	190.88	190.88	191.00	0.025363	1.69	3.59	47.97	0.85
Watercourse 9	430.50*	100-Yr	7.30	190.31	191.00	191.00	191.17	0.029241	2.11	5.33	48.15	0.95
Watercourse 9	430.50*	Regional	9.00	190.31	191.05	191.05	191.24	0.031147	2.29	6.04	48.22	0.99
Watercourse 9	413.5	2-Yr	1.37	189.69	190.04	189.98	190.10	0.019014	1.09	1.25	41.33	0.69
Watercourse 9	413.5	10-Yr	4.00	189.69	190.21	190.21	190.38	0.030589	1.80	2.44	49.88	0.93
Watercourse 9	413.5	100-Yr	7.30	189.69	190.40	190.40	190.56	0.022700	1.92	5.22	55.28	0.84
Watercourse 9	413.5	Regional	9.00	189.69	190.45	190.45	190.64	0.023816	2.07	6.07	55.36	0.87

HEC-RAS Plan: Plan 16 River: Watercourse 9 Reach: Watercourse 9 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Watercourse 9	378.5	2-Yr	1.37	188.51	188.91	188.91	189.05	0.046369	1.66	0.82	3.29	1.06
Watercourse 9	378.5	10-Yr	4.00	188.51	189.13	189.13	189.22	0.022919	1.61	5.25	33.07	0.80
Watercourse 9	378.5	100-Yr	7.30	188.51	189.21	189.21	189.33	0.029251	2.00	8.28	40.52	0.93
Watercourse 9	378.5	Regional	9.00	188.51	189.24	189.24	189.38	0.033944	2.22	9.61	47.04	1.01
Watercourse 9	352.5	2-Yr	1.37	187.44	187.90	187.87	187.99	0.022396	1.36	1.24	6.66	0.78
Watercourse 9	352.5	10-Yr	4.00	187.44	188.13	188.13	188.28	0.022964	1.97	3.26	11.61	0.86
Watercourse 9	352.5	100-Yr	7.30	187.44	188.35	188.35	188.51	0.016766	2.13	7.81	31.48	0.78
Watercourse 9	352.5	Regional	9.00	187.44	188.42	188.42	188.57	0.015996	2.20	10.15	38.40	0.77
Watercourse 9	340.5	2-Yr	1.37	187.10	187.59	187.56	187.68	0.030324	1.36	1.01	97.28	0.85
Watercourse 9	340.5	10-Yr	4.00	187.10	187.88	187.88	187.96	0.014981	1.35	5.51	149.00	0.65
Watercourse 9	340.5	100-Yr	7.30	187.10	187.96	187.96	188.06	0.019115	1.71	8.78	149.00	0.76
Watercourse 9	340.5	Regional	9.00	187.10	188.00	188.00	188.10	0.019270	1.80	10.40	149.00	0.77
Watercourse 9	326	2-Yr	1.37	186.68	187.00	187.00	187.09	0.046310	1.28	1.07	6.55	1.01
Watercourse 9	326	10-Yr	4.00	186.68	187.18	187.18	187.32	0.037261	1.65	2.42	36.08	0.99
Watercourse 9	326	100-Yr	7.30	186.68	187.33	187.33	187.52	0.034356	1.95	3.80	71.69	1.00
Watercourse 9	326	Regional	9.00	186.68	187.45	187.45	187.60	0.020289	1.76	6.47	106.40	0.80
Watercourse 9	296.76*	2-Yr	1.37	183.92	184.44	184.44	184.58	0.038986	1.65	0.83	2.90	0.98
Watercourse 9	296.76*	10-Yr	4.00	183.92	184.74	184.74	184.97	0.035771	2.15	1.86	4.00	1.01
Watercourse 9	296.76*	100-Yr	7.30	183.92	184.99	184.99	185.29	0.031778	2.43	3.02	16.66	0.99
Watercourse 9	296.76*	Regional	9.00	183.92	185.11	185.11	185.42	0.027449	2.47	3.92	21.97	0.94
Watercourse 9	280	2-Yr	1.37	182.88	183.42	183.42	183.57	0.040616	1.70	0.81	14.92	0.98
Watercourse 9	280	10-Yr	4.00	182.88	183.74	183.74	183.97	0.036039	2.13	1.88	23.26	0.99
Watercourse 9	280	100-Yr	7.30	182.88	184.05	184.05	184.29	0.024239	2.19	3.85	36.19	0.85
Watercourse 9	280	Regional	9.00	182.88	184.16	184.16	184.38	0.019999	2.17	5.70	40.92	0.79
Watercourse 9	260	2-Yr	1.37	182.36	182.70	182.68	182.79	0.035170	1.35	1.02	43.24	0.92
Watercourse 9	260	10-Yr	4.00	182.36	182.91	182.91	183.08	0.035257	1.83	2.19	60.75	0.99
Watercourse 9	260	100-Yr	7.30	182.36	183.12	183.12	183.29	0.021881	1.85	5.47	80.70	0.83
Watercourse 9	260	Regional	9.00	182.36	183.20	183.20	183.34	0.018529	1.82	7.66	84.30	0.78
Watercourse 9	245	2-Yr	1.37	181.79	182.09	182.09	182.22	0.041865	1.56	0.88	63.32	1.01
Watercourse 9	245	10-Yr	4.00	181.79	182.36	182.36	182.50	0.026404	1.78	3.01	98.98	0.87
Watercourse 9	245	100-Yr	7.30	181.79	182.52	182.52	182.70	0.027225	2.11	5.08	107.58	0.91
Watercourse 9	245	Regional	9.00	181.79	182.58	182.58	182.78	0.027072	2.24	6.07	110.51	0.92
Watercourse 9	230	2-Yr	1.37	181.30	181.68	181.56	181.70	0.008712	0.65	2.12	10.38	0.46
Watercourse 9	230	10-Yr	4.00	181.30	181.91	181.73	181.94	0.005030	0.74	6.89	73.57	0.38
Watercourse 9	230	100-Yr	7.30	181.30	182.04	181.86	182.08	0.005215	0.92	10.99	83.00	0.41
Watercourse 9	230	Regional	9.00	181.30	182.10	181.91	182.14	0.005120	0.98	12.88	83.00	0.41
Watercourse 9	212	2-Yr	1.37	180.88	181.37	181.34	181.47	0.029766	1.46	0.94	32.59	0.86
Watercourse 9	212	10-Yr	4.00	180.88	181.72	181.72	181.81	0.012929	1.46	5.03	99.35	0.62
Watercourse 9	212	100-Yr	7.30	180.88	181.91	181.82	181.97	0.008329	1.41	10.66	115.67	0.52
Watercourse 9	212	Regional	9.00	180.88	181.97	181.86	182.04	0.008254	1.48	12.53	121.06	0.53
Watercourse 9	192	2-Yr	1.37	180.52	181.19	180.86	181.22	0.003373	0.68	2.02	4.13	0.31
Watercourse 9	192	10-Yr	4.00	180.52	181.59	181.15	181.62	0.002842	0.84	7.79	88.03	0.31
Watercourse 9	192	100-Yr	7.30	180.52	181.77	181.51	181.81	0.003494	1.07	12.08	94.00	0.35
Watercourse 9	192	Regional	9.00	180.52	181.78	181.57	181.84	0.004829	1.27	12.54	94.00	0.41
Watercourse 9	177	2-Yr	1.37	180.47	181.14	180.74	181.16	0.002185	0.59	2.32	3.92	0.25
Watercourse 9	177	10-Yr	4.00	180.47	181.50	181.01	181.55	0.004371	1.03	5.04	58.10	0.36
Watercourse 9	177	100-Yr	7.30	180.47	181.26	181.26	181.61	0.035972	2.61	2.80	4.09	1.01
Watercourse 9	177	Regional	9.00	180.47	181.61	181.61	181.70	0.009230	1.58	14.39	97.34	0.52
Watercourse 9	172		Culvert									
Watercourse 9	162	2-Yr	1.37	180.33	180.60	180.60	180.73	0.042813	1.58	0.87	3.37	1.00
Watercourse 9	162	10-Yr	4.00	180.33	180.87	180.87	181.12	0.038075	2.20	1.82	3.74	1.01
Watercourse 9	162	100-Yr	7.30	180.33	181.12	181.12	181.47	0.035529	2.59	2.81	4.09	1.00
Watercourse 9	162	Regional	9.00	180.33	181.47	181.47	181.56	0.009185	1.58	14.44	97.42	0.52
Watercourse 9	141.5	2-Yr	1.37	178.81	179.76	179.34	179.76	0.001180	0.53	5.68	24.21	0.19
Watercourse 9	141.5	10-Yr	4.00	178.81	180.45	179.71	180.45	0.000280	0.39	22.17	67.00	0.10
Watercourse 9	141.5	100-Yr	7.30	178.81	180.59	179.83	180.60	0.000582	0.60	25.97	67.00	0.15
Watercourse 9	141.5	Regional	9.00	178.81	180.66	179.88	180.67	0.000726	0.69	27.72	67.00	0.17
Watercourse 9	134		Culvert									
Watercourse 9	126.5	2-Yr	1.37	178.02	178.78	178.26	178.78	0.000459	0.30	5.25	18.83	0.12
Watercourse 9	126.5	10-Yr	4.00	178.02	179.36	178.45	179.36	0.000144	0.26	38.10	96.49	0.08
Watercourse 9	126.5	100-Yr	7.30	178.02	179.77	178.63	179.77	0.000072	0.23	79.94	101.00	0.06

HEC-RAS Plan: Plan 16 River: Watercourse 9 Reach: Watercourse 9 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Watercourse 9	126.5	Regional	9.00	178.02	179.83	178.73	179.83	0.000089	0.26	85.62	101.00	0.06
Watercourse 9	115.5		Culvert									
Watercourse 9	104.5	2-Yr	1.37	178.18	178.62	178.51	178.70	0.006323	1.26	1.08	2.73	0.64
Watercourse 9	104.5	10-Yr	4.00	178.18	179.10	178.83	179.24	0.005062	1.64	2.45	2.93	0.57
Watercourse 9	104.5	100-Yr	7.30	178.18	179.18	179.13	179.56	0.013307	2.74	2.66	2.97	0.92
Watercourse 9	104.5	Regional	9.00	178.18	179.27	179.27	179.75	0.015351	3.07	2.95	3.88	0.99
Watercourse 9	98	2-Yr	1.37	177.81	178.45	178.43	178.63	0.017389	1.90	0.72	1.81	0.96
Watercourse 9	98	10-Yr	4.00	177.81	178.94	178.94	179.18	0.010413	2.25	2.44	9.00	0.78
Watercourse 9	98	100-Yr	7.30	177.81	179.27	179.27	179.44	0.006436	2.20	7.33	65.00	0.65
Watercourse 9	98	Regional	9.00	177.81	179.32	179.32	179.52	0.007154	2.40	8.49	65.00	0.69
Watercourse 9	53.5	2-Yr	1.37	177.30	177.89	177.81	178.03	0.010482	1.64	0.84	1.76	0.76
Watercourse 9	53.5	10-Yr	4.00	177.30	178.42	178.24	178.64	0.008872	2.11	2.27	8.92	0.70
Watercourse 9	53.5	100-Yr	7.30	177.30	179.03	178.69	179.09	0.001972	1.40	10.44	60.00	0.36
Watercourse 9	53.5	Regional	9.00	177.30	179.23	178.77	179.28	0.001604	1.36	13.13	60.00	0.33
Watercourse 9	38.5	2-Yr	1.37	177.10	177.61	177.61	177.82	0.018058	2.02	0.68	1.62	0.99
Watercourse 9	38.5	10-Yr	4.00	177.10	178.06	178.05	178.44	0.018647	2.72	1.47	1.88	0.98
Watercourse 9	38.5	100-Yr	7.30	177.10	178.49	178.49	178.98	0.016554	3.15	2.47	3.61	0.94
Watercourse 9	38.5	Regional	9.00	177.10	178.69	178.69	179.19	0.013680	3.19	3.30	7.50	0.88
Watercourse 9	8.5	2-Yr	1.37	176.73	177.38	177.19	177.45	0.004782	1.22	1.12	23.80	0.54
Watercourse 9	8.5	10-Yr	4.00	176.73	177.57	177.57	177.91	0.016231	2.56	1.56	39.61	1.00
Watercourse 9	8.5	100-Yr	7.30	176.73	178.00	178.00	178.24	0.007994	2.36	5.15	51.00	0.74
Watercourse 9	8.5	Regional	9.00	176.73	178.07	178.07	178.35	0.008590	2.57	6.10	51.00	0.77
Watercourse 9	0	2-Yr	1.37	176.74	177.40	177.07	177.42	0.000810	0.65	2.25	20.00	0.28
Watercourse 9	0	10-Yr	4.00	176.74	177.40	177.32	177.58	0.006905	1.91	2.25	20.00	0.80
Watercourse 9	0	100-Yr	7.30	176.74	177.56	177.56	177.92	0.010131	2.72	2.88	20.00	1.01
Watercourse 9	0	Regional	9.00	176.74	177.67	177.67	178.09	0.009684	2.92	3.32	20.00	1.02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Elevation (m)
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Station (m)
Legend
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WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 929 CR 19 Upstream
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Elevation (m)
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Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 909 Culv CR 19
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Elevation (m)
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Station (m)
Legend
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WS 10-Yr
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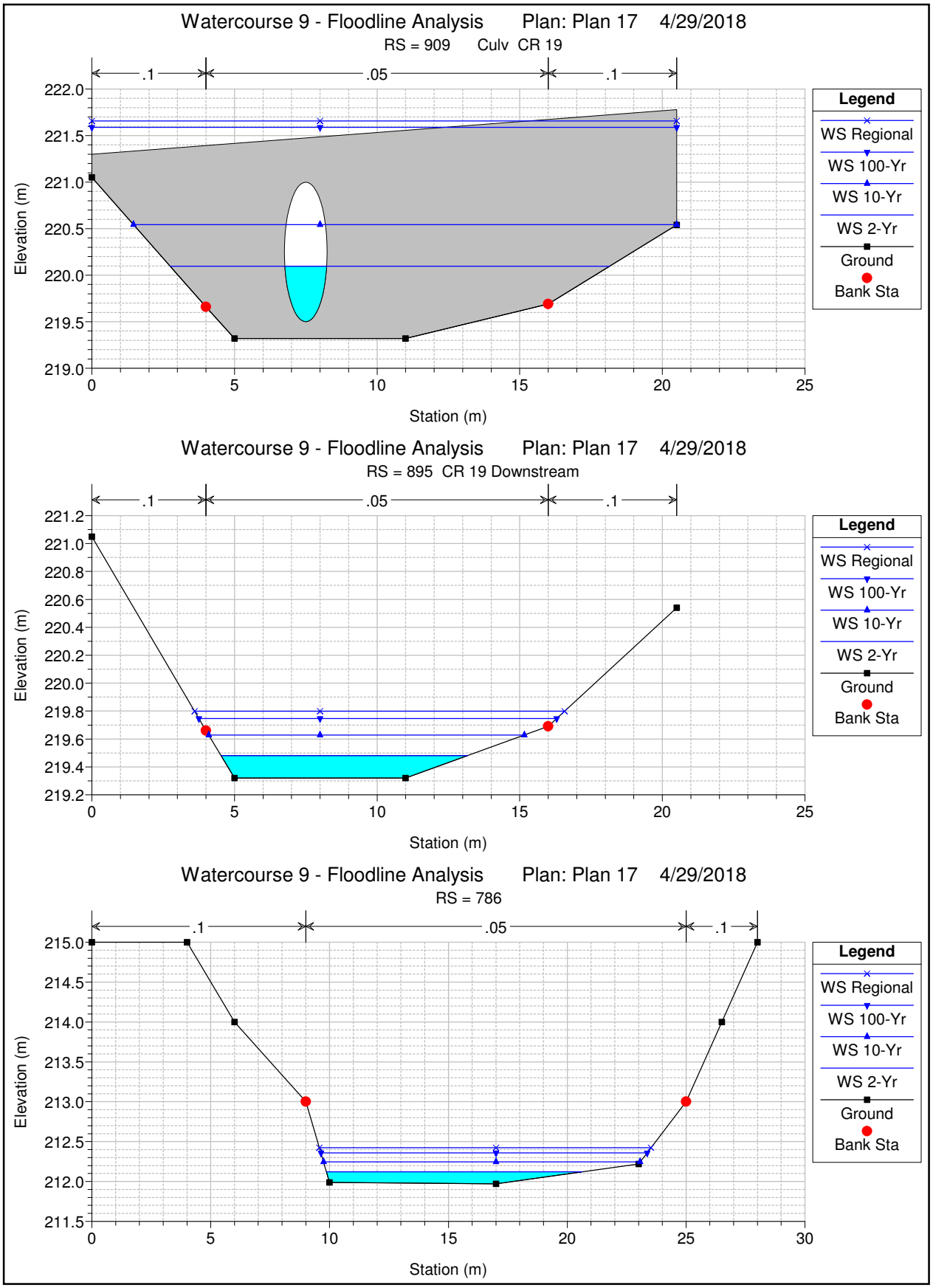
Ground
Bank Sta


Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 909 Culv CR 19
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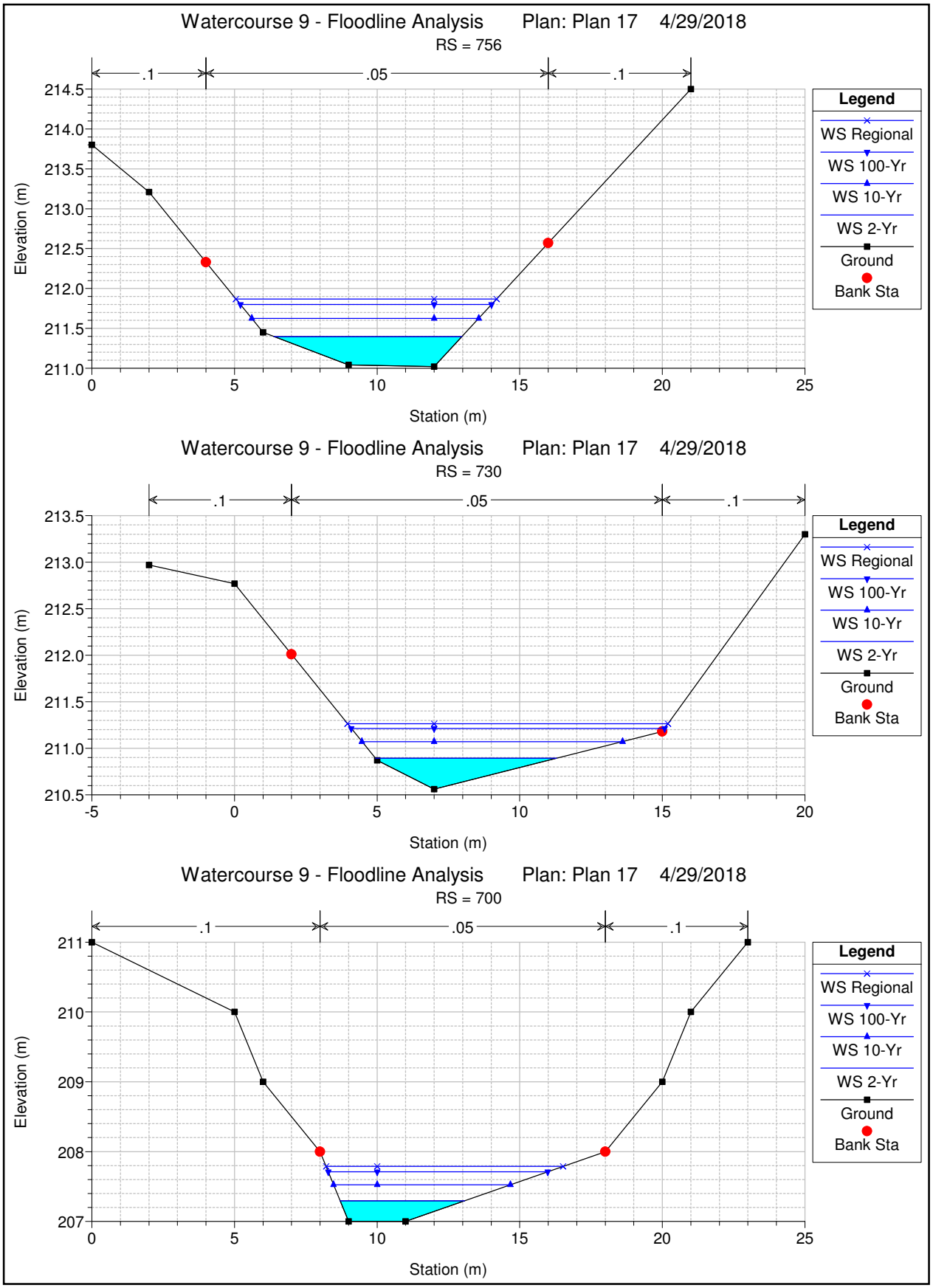
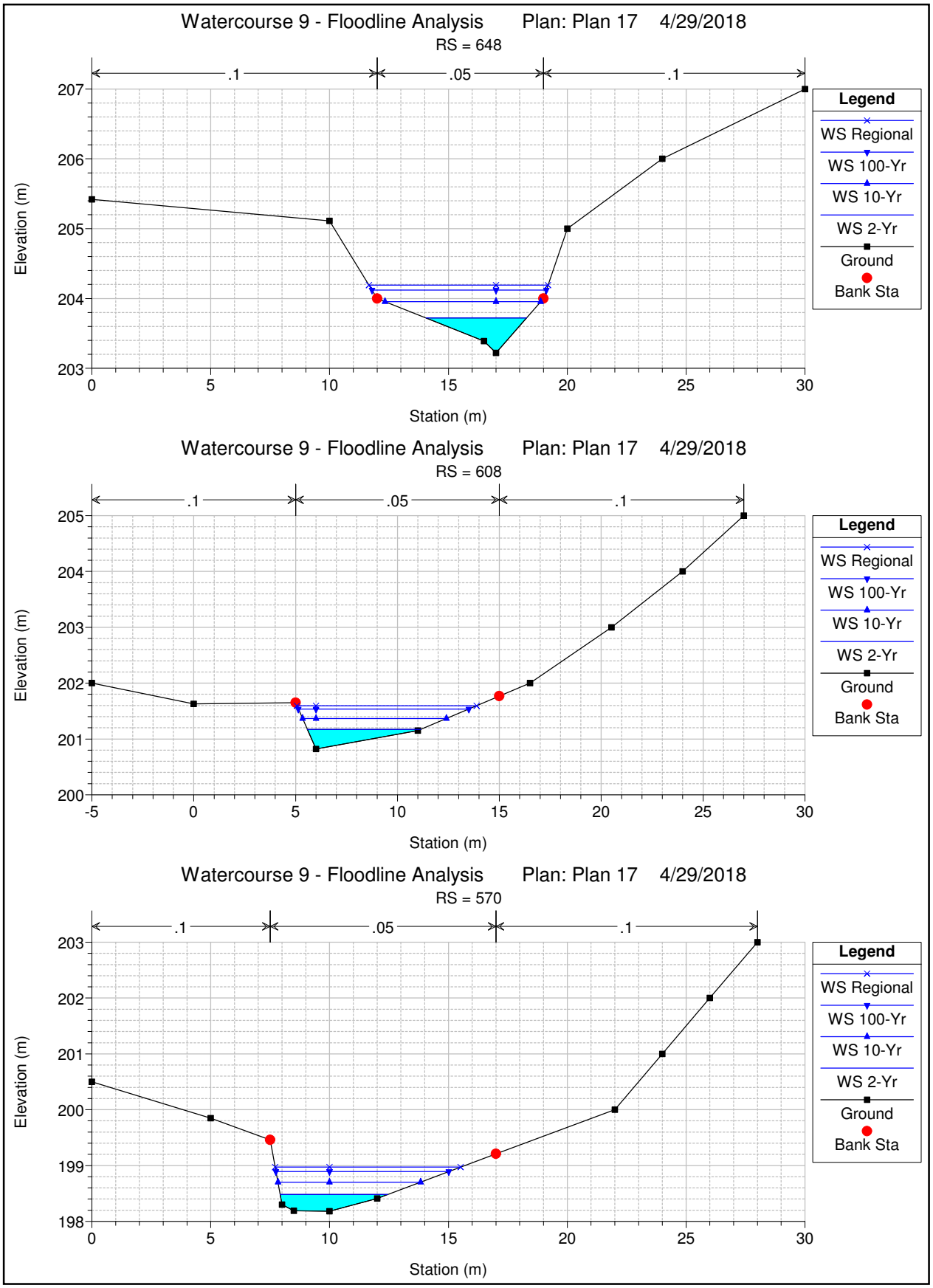
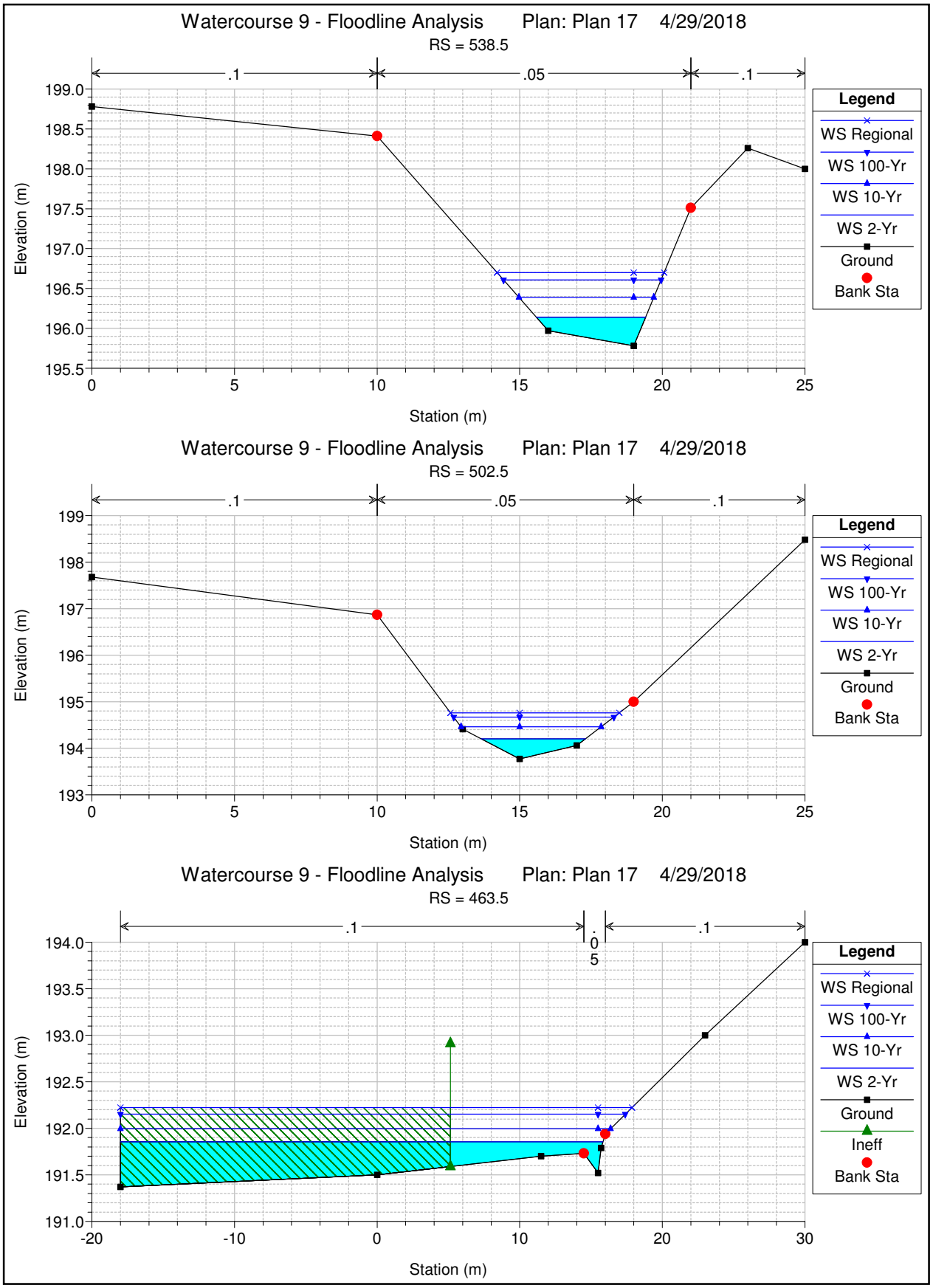
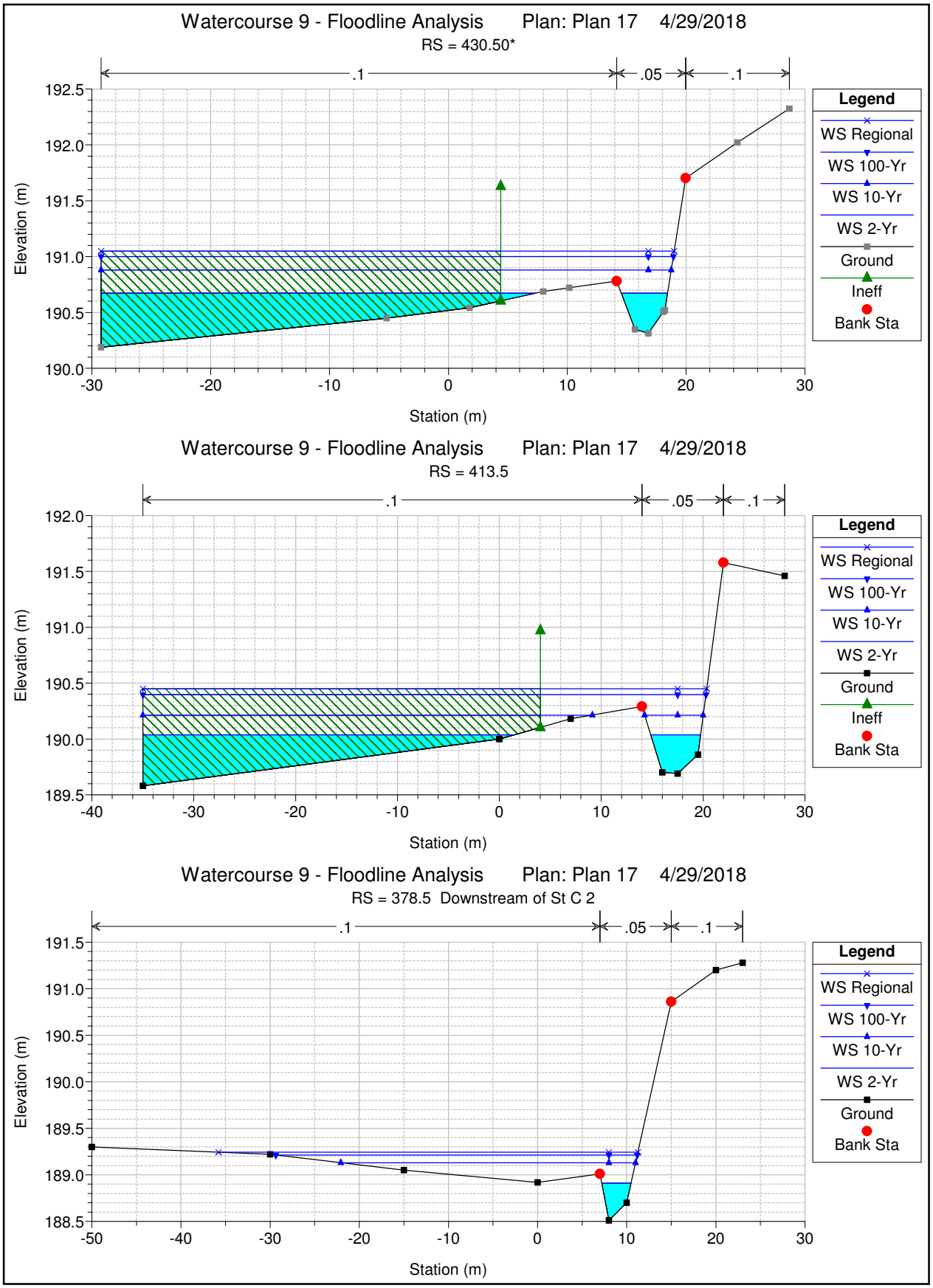
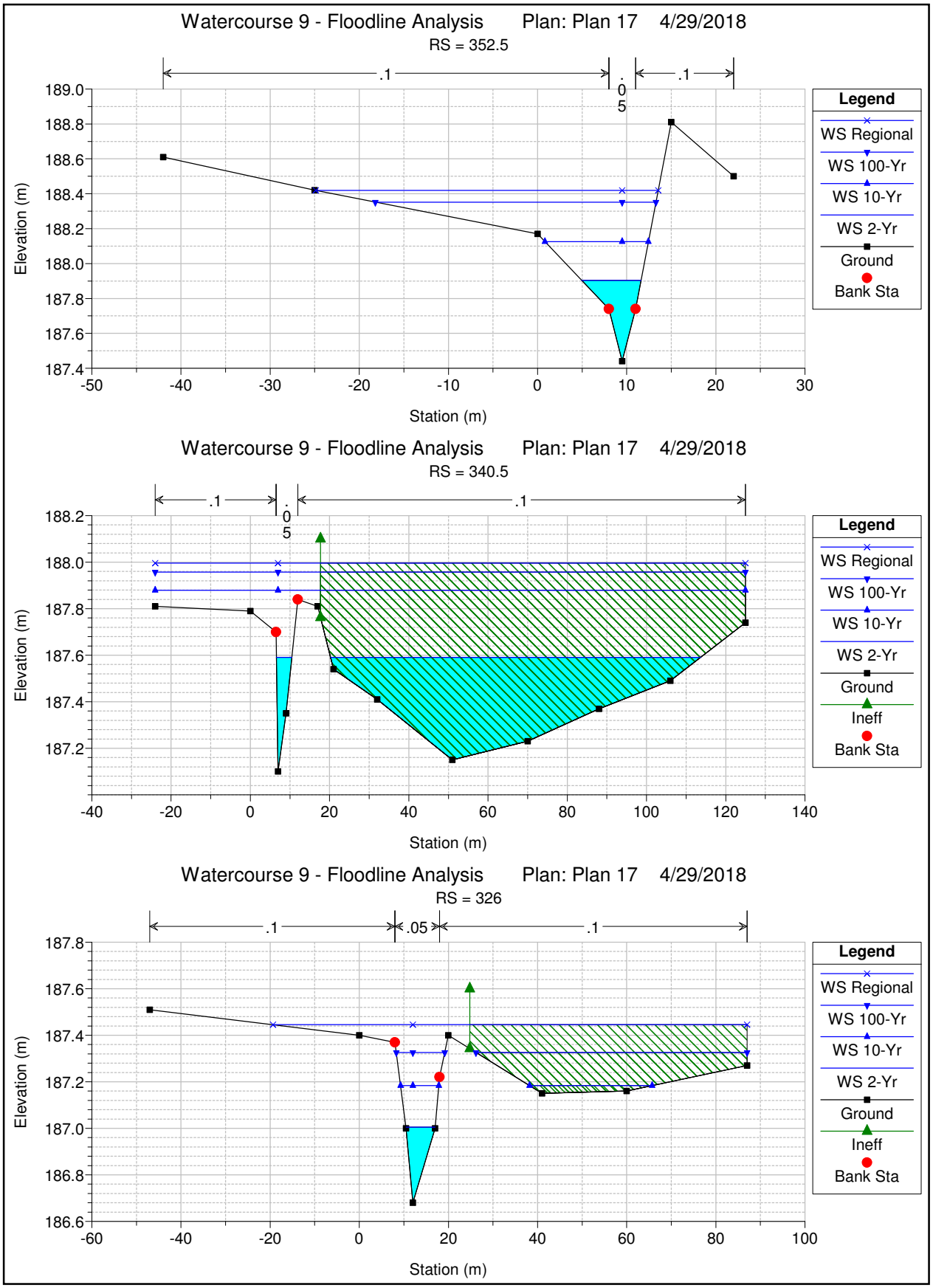
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 895 CR 19 Downstream
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 786

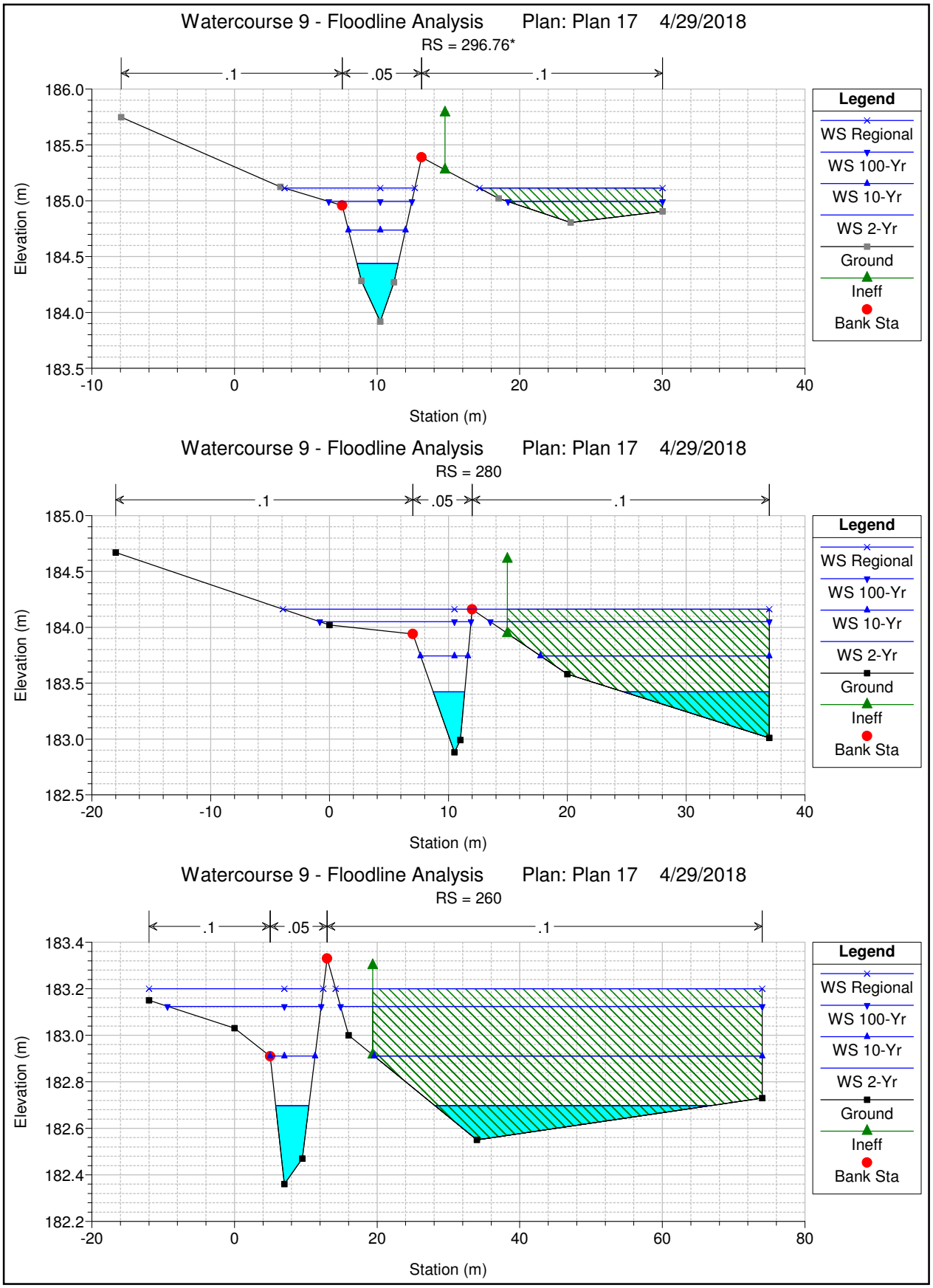

Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 756
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 730
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 700
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta

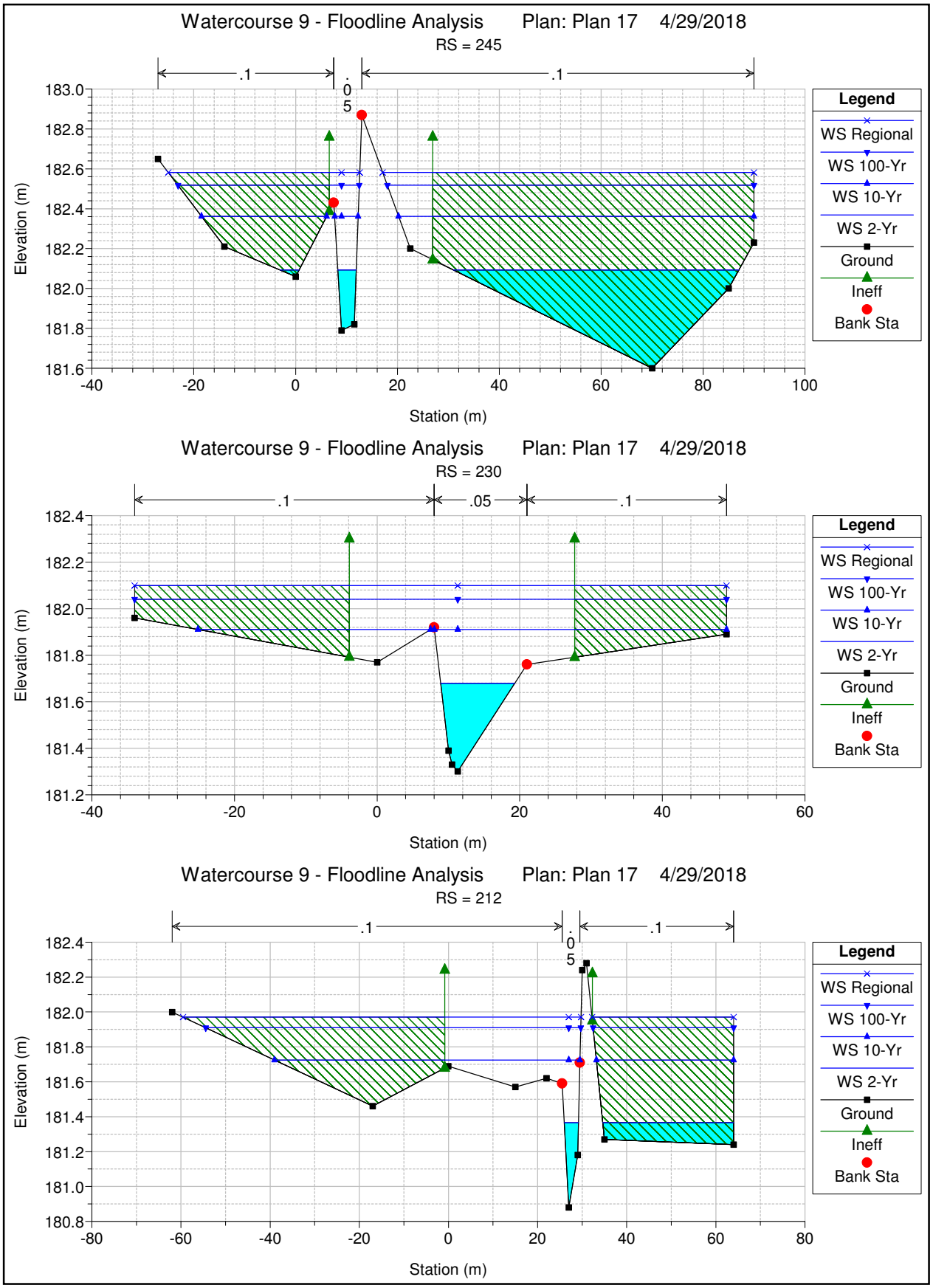

Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 648
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 608
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 570
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta

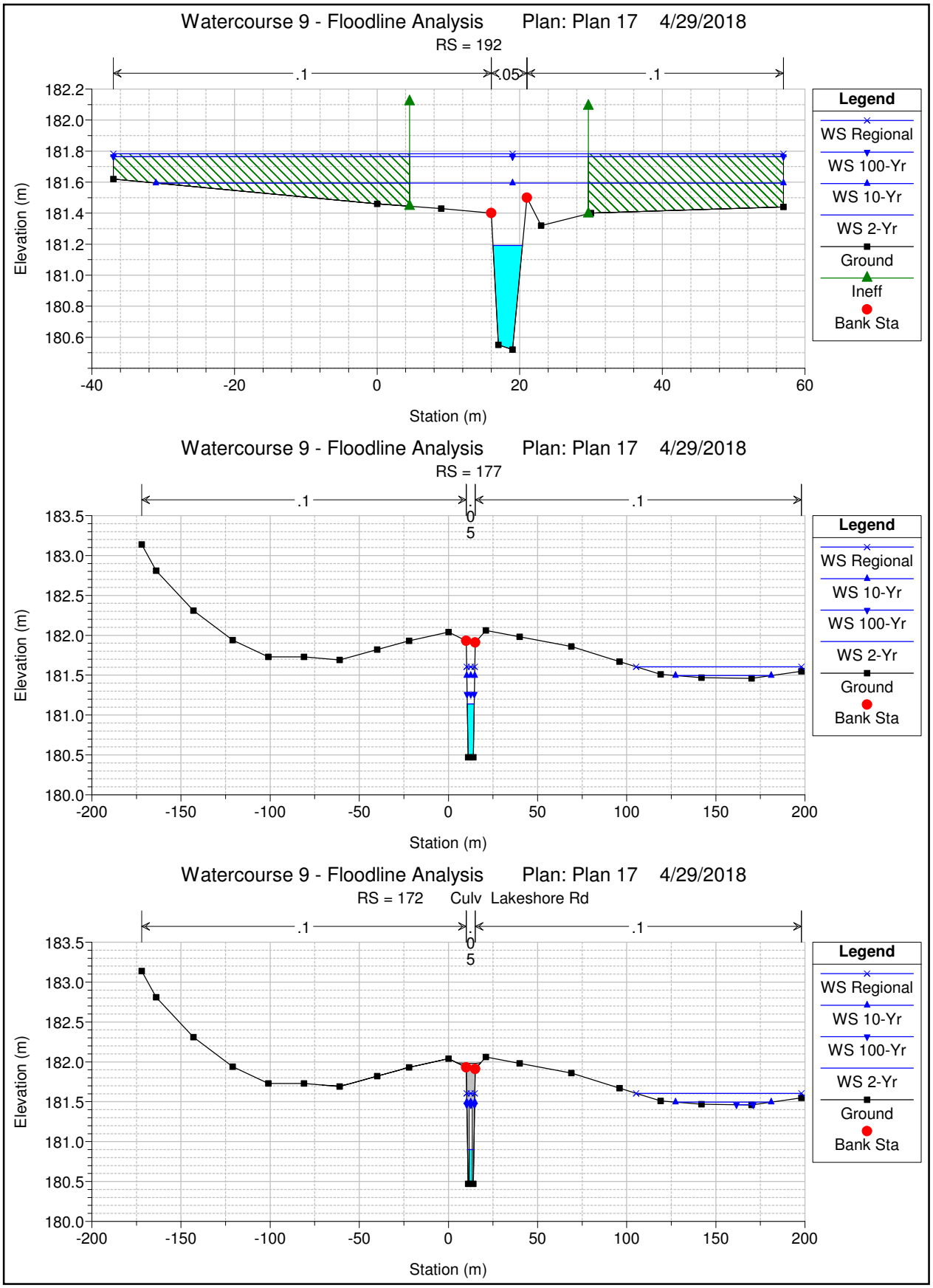

Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 538.5
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 502.5
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 463.5
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta

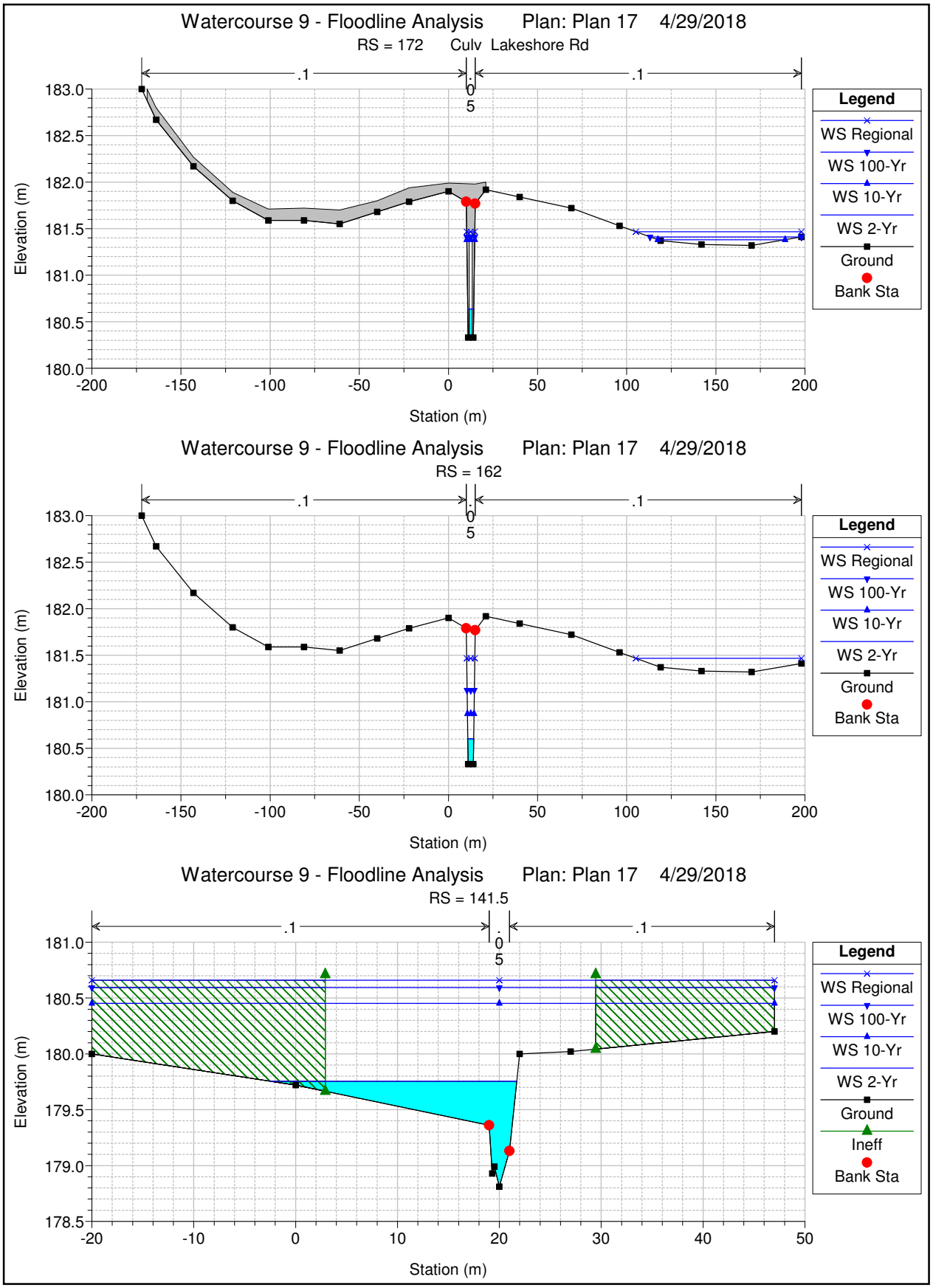

Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 430.50*
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 413.5
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 378.5 Downstream of St C 2
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta

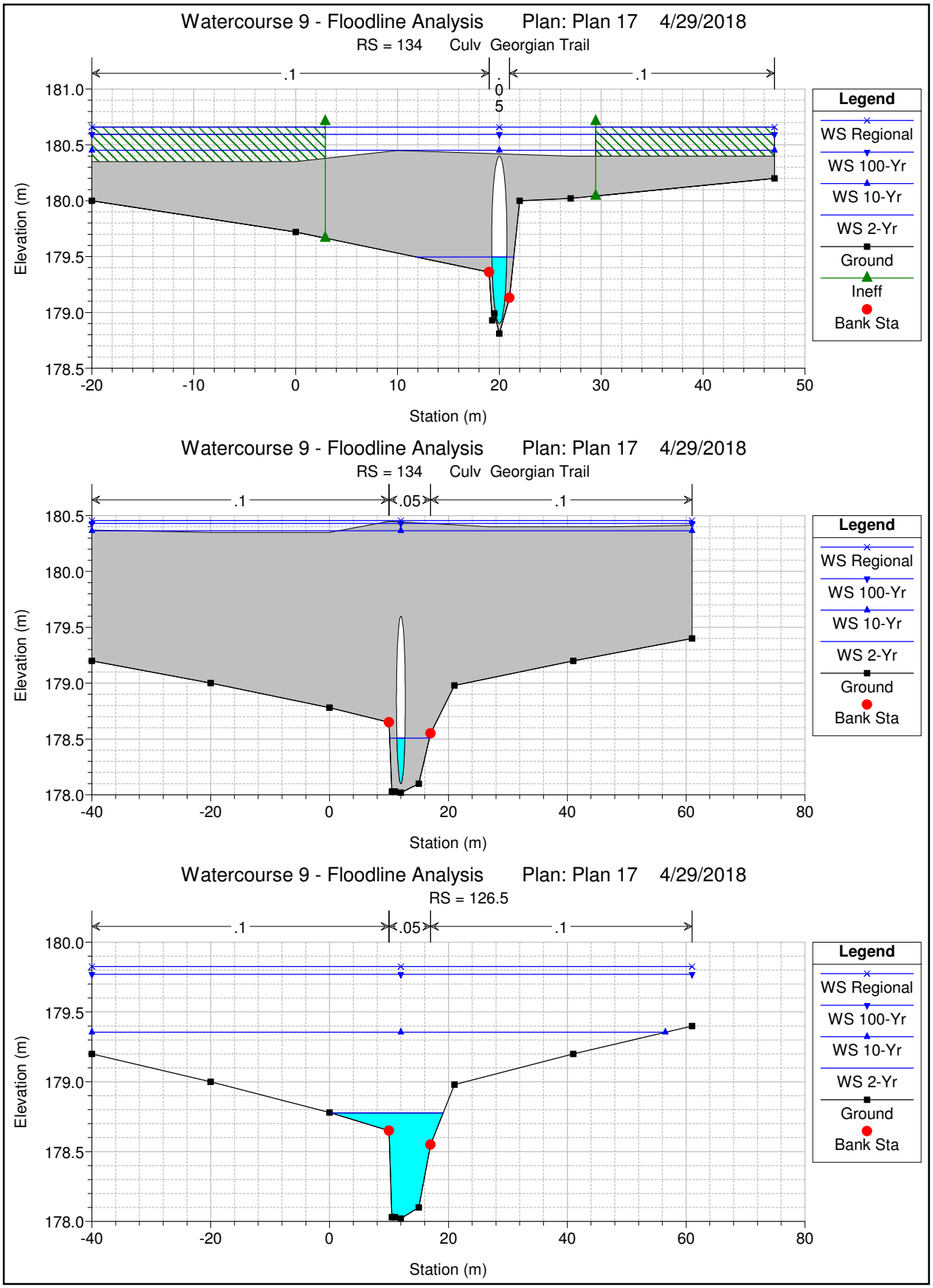

Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 352.5
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 340.5
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 326
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta

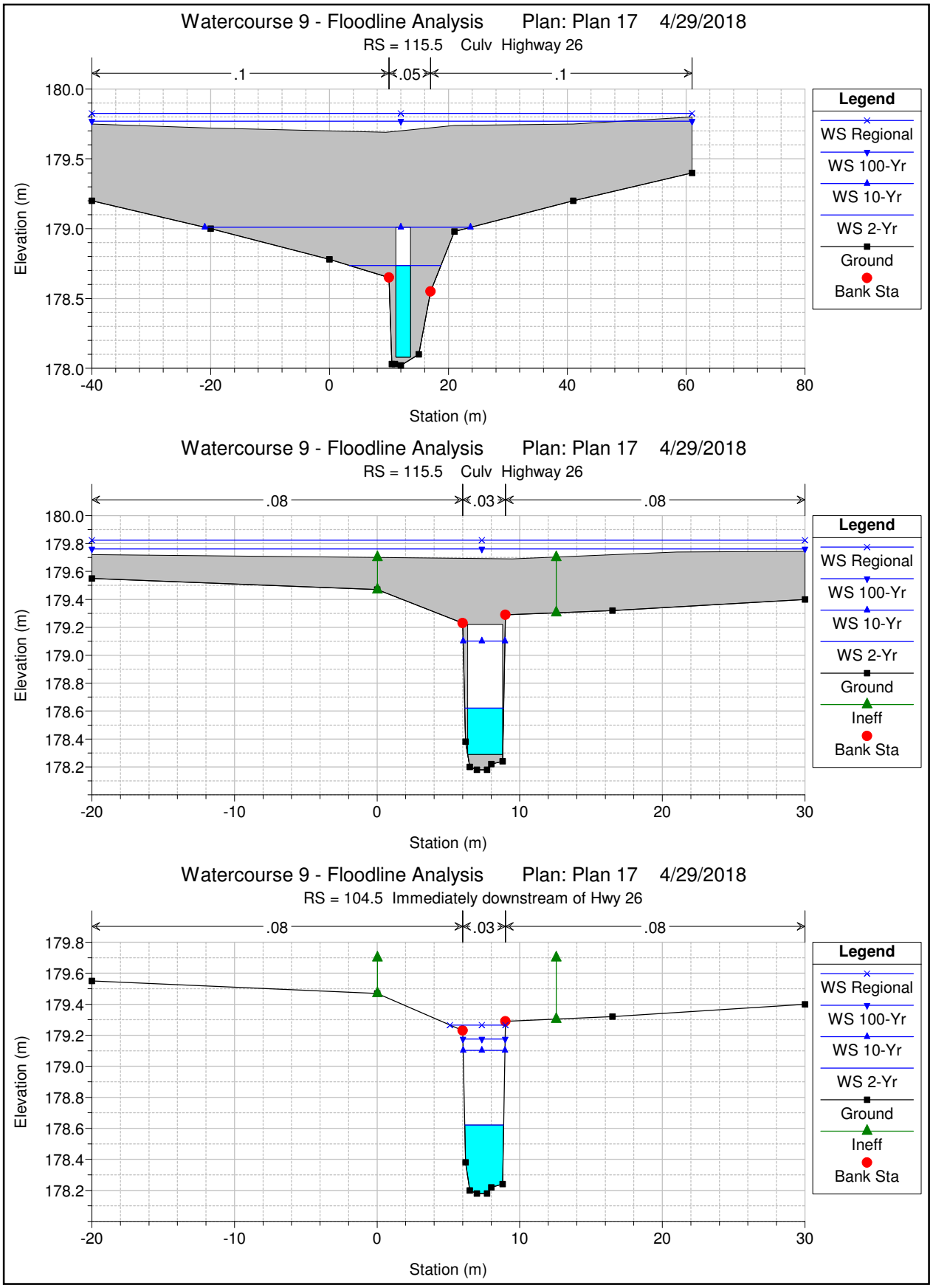

Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 296.76*
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 280
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 260
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta

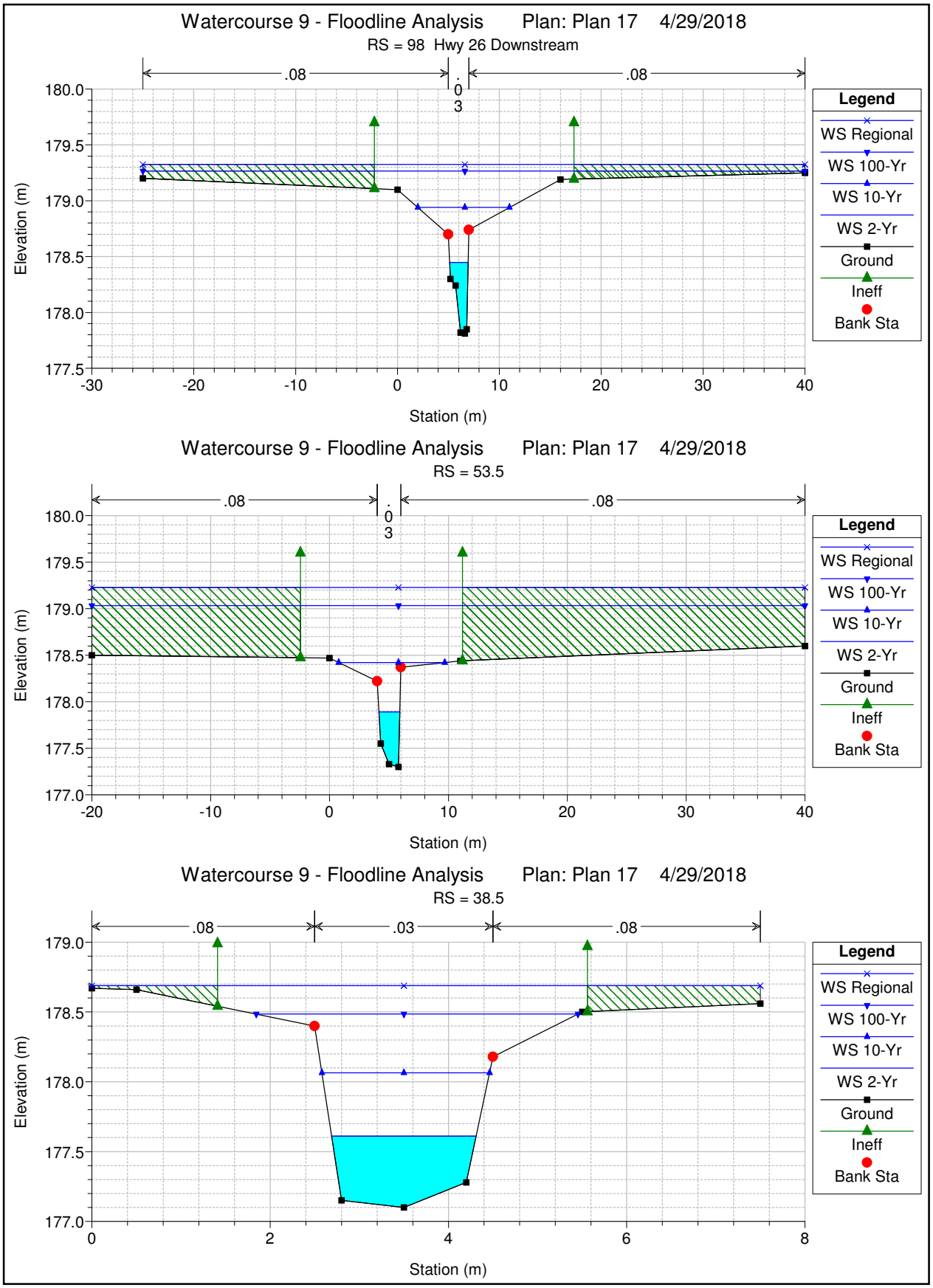

Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 245
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 230
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 212
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta

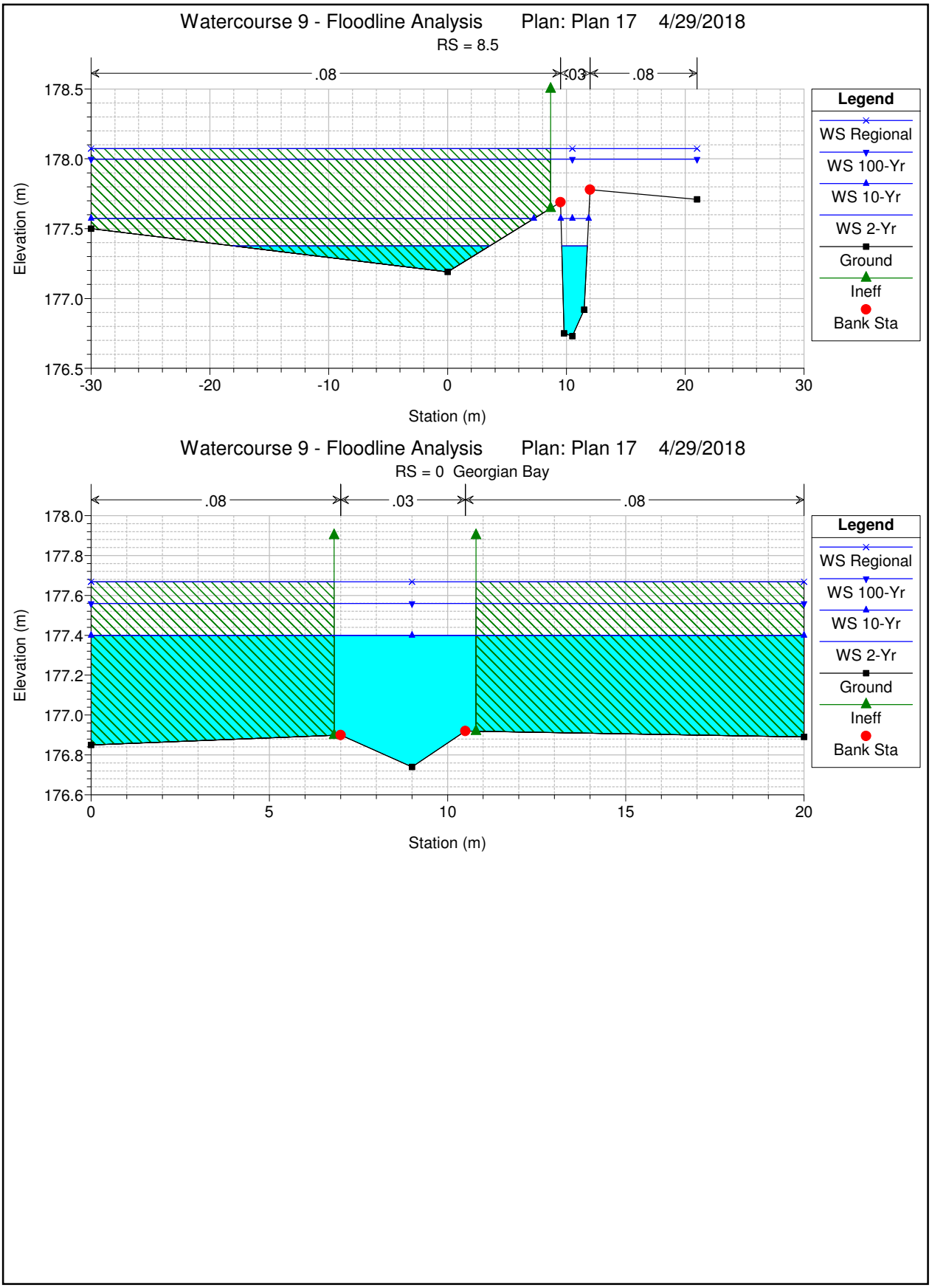

Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 192
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 177
.1
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 10-Yr
WS 100-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 172 Culv Lakeshore Rd
.1
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 10-Yr
WS 100-Yr
WS 2-Yr
Ground
Bank Sta


Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 172 Culv Lakeshore Rd
.1
.1
.05
Elevation (m)
183.0
182.5
182.0
181.5
181.0
180.5
180.0
-200
-150
-100
-50
0
50
100
150
200
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 162
.1
.1
.05
Elevation (m)
183.0
182.5
182.0
181.5
181.0
180.5
180.0
-200
-150
-100
-50
0
50
100
150
200
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 141.5
.1
.1
.05
Elevation (m)
181.0
180.5
180.0
179.5
179.0
178.5
-20
-10
0
10
20
30
40
50
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta


Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 134 Culv Georgian Trail
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 134 Culv Georgian Trail
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 126.5
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta


Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 115.5 Culv Highway 26
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 115.5 Culv Highway 26
.08
.03
.08
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 104.5 Immediately downstream of Hwy 26
.08
.03
.08
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta


Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 98 Hwy 26 Downstream
.08
.03
.08
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 53.5
.08
.03
.08
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 38.5
.08
.03
.08
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta


Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 8.5
.08
.03
.08
178.5
178.0
177.5
177.0
176.5
Elevation (m)
-30
-20
-10
0
10
20
30
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 17 4/29/2018
RS = 0 Georgian Bay
.08
.03
.08
178.0
177.8
177.6
177.4
177.2
177.0
176.8
176.6
Elevation (m)
0
5
10
15
20
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta

EXISTING "BANNERMAN" DEVELOPMENT

WATERCOURSE #10

WATERCOURSE #9

WATERCOURSE #9 OUTLETS TO GEORGIAN BAY

EXISTING 2.45m BY 0.9m CONCRETE BOX CULVERT

EXISTING 1.5mø CSP CULVERT

EXISTING 1.55m x 1.05m CONCRETE BOX CULVERT

HWY 26

GEORGIAN TRAIL

LAKESHORE ROAD

COUNTY ROAD 19

CRAIGLEITH ROAD

EXISTING 1.5mø CSP CULVERT

PROPOSED 3.6mx1.2m CONC BOX CULVERT S.INV 184.50 N.INV 102.88

PROPOSED 3.0mx1.2m CONC BOX CULVERT S.INV 190.03 N.INV 188.53

PROPOSED 3.0mx1.2m CONC BOX CULVERT S.INV 208.00 N.INV 207.00

162 181.50
177 181.64
212
260
296.7
326
340.5
538.5
502.5
413.5
310
352.5
378.5
463.5
430.5
570
608
648
700
786
756
730
960
929
895
280
230
245
192
126.5
141.5
104.5
98
53.5
38.5
0

Project
PARKBRIDGE CRAIGLEITH
TOWN OF THE BLUE MOUNTAINS

Drawing
POST-DEVELOPMENT HEC-RAS SECTIONS

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Collingwood, ON L9Y 4R3
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Drawn By	Design By	Project
R.C.G.	P.H. / N.M.	1046-4031
Scale	Date	Check By	Drawing
11x17 1:2000	12/21/2016	N.M.	216

HEC-RAS Plan: Plan 16 River: Watercourse 9 Reach: Watercourse 9

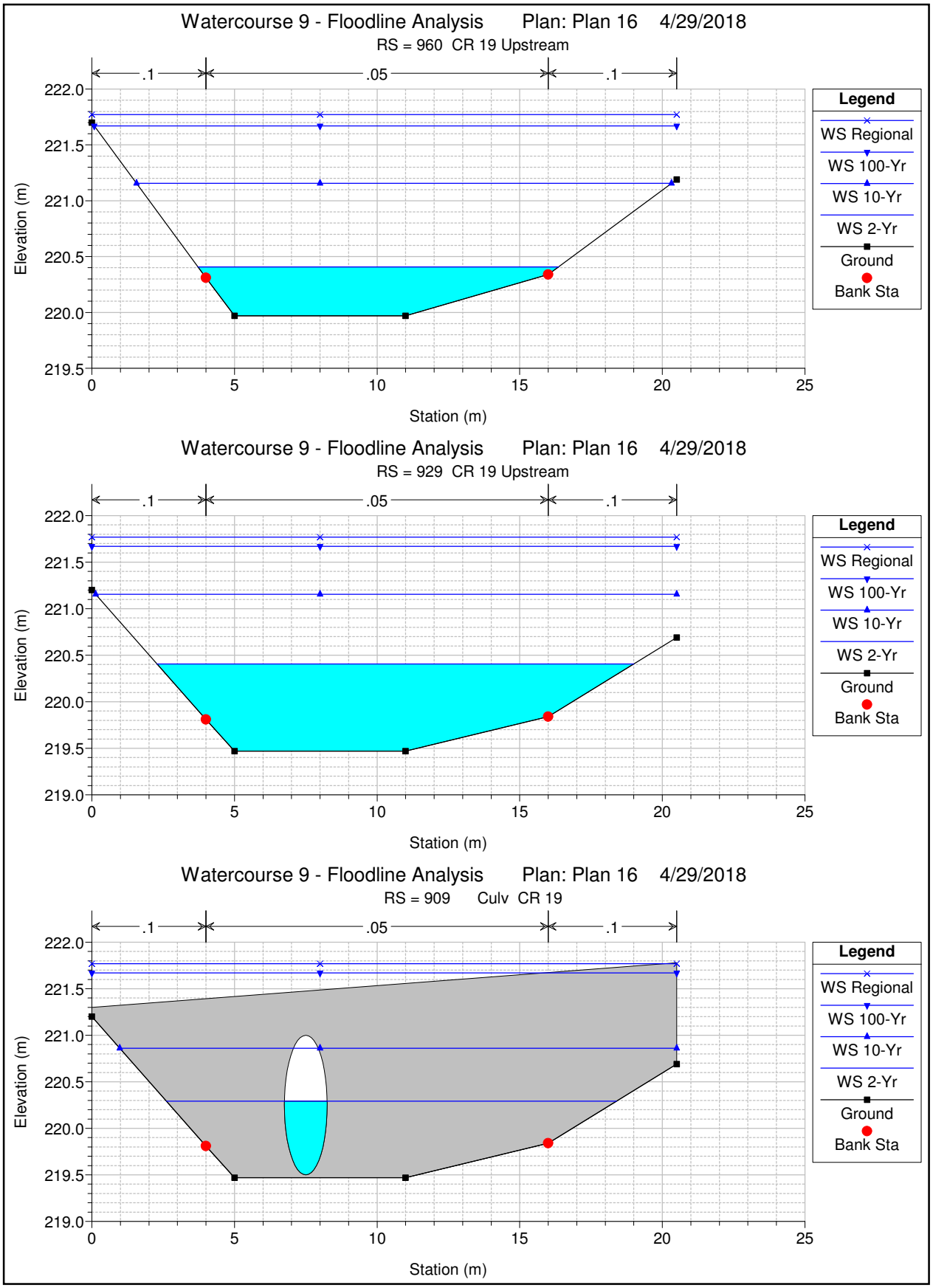
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Watercourse 9	960	2-Yr	1.30	219.97	220.41		220.41	0.001008	0.31	4.19	12.64	0.17
Watercourse 9	960	10-Yr	3.70	219.97	221.16		221.16	0.000159	0.27	15.92	18.75	0.08
Watercourse 9	960	100-Yr	7.00	219.97	221.67		221.68	0.000144	0.33	26.06	20.42	0.08
Watercourse 9	960	Regional	8.70	219.97	221.77		221.78	0.000179	0.38	28.12	20.50	0.09
Watercourse 9	929	2-Yr	1.30	219.47	220.41	219.64	220.41	0.000049	0.12	11.50	16.71	0.04
Watercourse 9	929	10-Yr	3.70	219.47	221.15	219.76	221.16	0.000042	0.18	25.72	20.37	0.04
Watercourse 9	929	100-Yr	7.00	219.47	221.67	219.89	221.67	0.000055	0.24	36.28	20.50	0.05
Watercourse 9	929	Regional	8.70	219.47	221.77	219.94	221.77	0.000072	0.29	38.34	20.50	0.06
Watercourse 9	909		Culvert									
Watercourse 9	895	2-Yr	1.30	219.32	219.48	219.48	219.54	0.048289	1.14	1.14	8.57	1.00
Watercourse 9	895	10-Yr	3.70	219.32	219.61	219.61	219.73	0.040146	1.49	2.48	10.84	1.00
Watercourse 9	895	100-Yr	7.00	219.32	219.74	219.74	219.90	0.036025	1.79	3.92	12.47	1.00
Watercourse 9	895	Regional	8.70	219.32	219.79	219.79	219.98	0.033828	1.92	4.59	12.90	0.99
Watercourse 9	786	2-Yr	1.30	211.97	212.12	212.12	212.17	0.051383	1.07	1.22	10.64	1.01
Watercourse 9	786	10-Yr	3.70	211.97	212.29		212.35	0.018796	1.09	3.40	13.48	0.69
Watercourse 9	786	100-Yr	7.00	211.97	212.34	212.34	212.49	0.037432	1.72	4.08	13.66	1.00
Watercourse 9	786	Regional	8.70	211.97	212.39	212.39	212.56	0.036182	1.84	4.72	13.82	1.01
Watercourse 9	756	2-Yr	1.30	211.02	211.35		211.39	0.013504	0.89	1.47	6.14	0.58
Watercourse 9	756	10-Yr	3.70	211.02	211.47	211.45	211.61	0.033393	1.66	2.23	7.19	0.95
Watercourse 9	756	100-Yr	7.00	211.02	211.87		211.95	0.008081	1.26	5.55	9.16	0.52
Watercourse 9	756	Regional	8.70	211.02	212.14		212.20	0.004153	1.07	8.16	10.45	0.39
Watercourse 9	730	2-Yr	1.30	210.56	210.95	210.89	210.99	0.018043	0.91	1.43	7.17	0.65
Watercourse 9	730	10-Yr	3.70	210.56	211.40	211.05	211.42	0.002297	0.62	6.03	11.91	0.27
Watercourse 9	730	100-Yr	7.00	210.56	211.86	211.20	211.87	0.001061	0.60	11.99	14.19	0.20
Watercourse 9	730	Regional	8.70	210.56	212.13	211.25	212.15	0.000689	0.57	16.07	15.56	0.17
Watercourse 9	715		Culvert									
Watercourse 9	700	2-Yr	1.30	207.00	207.29	207.29	207.39	0.043131	1.44	0.90	4.30	1.00
Watercourse 9	700	10-Yr	3.70	207.00	207.50	207.50	207.67	0.037855	1.83	2.02	6.03	1.01
Watercourse 9	700	100-Yr	7.00	207.00	207.70	207.70	207.92	0.034782	2.10	3.34	7.58	1.01
Watercourse 9	700	Regional	8.70	207.00	207.78	207.78	208.02	0.033845	2.20	3.96	8.21	1.01
Watercourse 9	648	2-Yr	1.30	203.22	203.71	203.71	203.82	0.042295	1.45	0.90	4.14	1.00
Watercourse 9	648	10-Yr	3.70	203.22	203.93	203.93	204.10	0.037441	1.79	2.06	6.35	1.00
Watercourse 9	648	100-Yr	7.00	203.22	204.10	204.10	204.34	0.034105	2.16	3.25	7.29	1.02
Watercourse 9	648	Regional	8.70	203.22	204.18	204.18	204.45	0.030973	2.29	3.84	7.52	0.99
Watercourse 9	608	2-Yr	1.30	200.82	201.17	201.17	201.26	0.046284	1.33	0.98	5.52	1.01
Watercourse 9	608	10-Yr	3.70	200.82	201.35	201.35	201.50	0.038952	1.75	2.11	6.92	1.01
Watercourse 9	608	100-Yr	7.00	200.82	201.52	201.52	201.73	0.034830	2.03	3.44	8.26	1.01
Watercourse 9	608	Regional	8.70	200.82	201.59	201.59	201.83	0.036076	2.19	3.97	8.74	1.04
Watercourse 9	570	2-Yr	1.30	198.18	198.47	198.47	198.57	0.043041	1.42	0.92	4.47	1.00
Watercourse 9	570	10-Yr	3.70	198.18	198.68	198.68	198.86	0.038146	1.85	2.00	5.87	1.01
Watercourse 9	570	100-Yr	7.00	198.18	198.88	198.88	199.11	0.035082	2.14	3.28	7.17	1.01
Watercourse 9	570	Regional	8.70	198.18	198.96	198.96	199.22	0.034151	2.24	3.88	7.72	1.01
Watercourse 9	538.5	2-Yr	1.30	195.78	196.13	196.13	196.24	0.042063	1.49	0.87	3.80	1.00
Watercourse 9	538.5	10-Yr	3.70	195.78	196.37	196.37	196.57	0.036435	1.99	1.86	4.65	1.00
Watercourse 9	538.5	100-Yr	7.00	195.78	196.59	196.59	196.87	0.033732	2.34	2.99	5.46	1.01
Watercourse 9	538.5	Regional	8.70	195.78	196.68	196.68	196.99	0.032781	2.46	3.53	5.80	1.01
Watercourse 9	502.5	2-Yr	1.30	193.77	194.19	194.19	194.31	0.040900	1.52	0.86	3.61	0.99
Watercourse 9	502.5	10-Yr	3.70	193.77	194.44	194.44	194.63	0.035942	1.97	1.88	4.83	1.01
Watercourse 9	502.5	100-Yr	7.00	193.77	194.65	194.65	194.93	0.033282	2.33	3.01	5.55	1.01
Watercourse 9	502.5	Regional	8.70	193.77	194.75	194.75	195.05	0.032364	2.46	3.54	5.87	1.01
Watercourse 9	463.5	2-Yr	1.30	191.52	191.88	191.80	191.90	0.019526	0.95	2.32	15.89	0.64
Watercourse 9	463.5	10-Yr	3.70	191.52	192.37	191.92	192.38	0.002923	0.78	8.17	18.82	0.30
Watercourse 9	463.5	100-Yr	7.00	191.52	192.82	192.04	192.83	0.001741	0.84	15.05	21.82	0.25
Watercourse 9	463.5	Regional	8.70	191.52	193.14	192.11	193.15	0.000591	0.58	29.06	24.02	0.15
Watercourse 9	445		Culvert									
Watercourse 9	430.50*	2-Yr	1.30	190.31	190.66	190.66	190.76	0.039664	1.47	0.93	9.84	0.98
Watercourse 9	430.50*	10-Yr	3.70	190.31	190.86	190.86	190.98	0.026606	1.68	3.31	18.14	0.87
Watercourse 9	430.50*	100-Yr	7.00	190.31	190.99	190.99	191.15	0.028924	2.07	5.19	18.33	0.94
Watercourse 9	430.50*	Regional	8.70	190.31	191.04	191.04	191.23	0.030968	2.26	5.91	18.40	0.98
Watercourse 9	413.5	2-Yr	1.30	189.69	190.02	189.96	190.08	0.021532	1.12	1.16	4.81	0.73

HEC-RAS Plan: Plan 16 River: Watercourse 9 Reach: Watercourse 9 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Watercourse 9	413.5	10-Yr	3.70	189.69	190.19	190.19	190.35	0.031827	1.78	2.20	10.74	0.94
Watercourse 9	413.5	100-Yr	7.00	189.69	190.38	190.38	190.55	0.024083	1.93	4.91	17.73	0.86
Watercourse 9	413.5	Regional	8.70	189.69	190.44	190.44	190.62	0.024482	2.07	5.84	17.82	0.88
Watercourse 9	378.5	2-Yr	1.30	188.51	188.92	188.92	189.04	0.038898	1.54	0.84	3.32	0.97
Watercourse 9	378.5	10-Yr	3.70	188.51	189.13	189.13	189.24	0.026316	1.72	3.50	15.09	0.86
Watercourse 9	378.5	100-Yr	7.00	188.51	189.25	189.25	189.41	0.031028	2.13	5.37	15.38	0.97
Watercourse 9	378.5	Regional	8.70	188.51	189.30	189.30	189.48	0.031545	2.26	6.24	15.51	0.99
Watercourse 9	352.5	2-Yr	1.30	187.44	187.89	187.86	187.98	0.022992	1.35	1.17	6.42	0.78
Watercourse 9	352.5	10-Yr	3.70	187.44	188.10	188.10	188.26	0.024855	1.98	2.93	10.95	0.89
Watercourse 9	352.5	100-Yr	7.00	187.44	188.31	188.31	188.48	0.018508	2.17	6.26	18.22	0.81
Watercourse 9	352.5	Regional	8.70	187.44	188.36	188.36	188.55	0.020341	2.37	7.19	18.41	0.86
Watercourse 9	340.5	2-Yr	1.30	187.10	187.58	187.55	187.67	0.029838	1.33	0.98	6.49	0.84
Watercourse 9	340.5	10-Yr	3.70	187.10	187.85	187.85	187.96	0.019531	1.49	3.63	30.65	0.74
Watercourse 9	340.5	100-Yr	7.00	187.10	187.97	187.97	188.10	0.020909	1.82	6.58	30.65	0.80
Watercourse 9	340.5	Regional	8.70	187.10	188.01	188.01	188.16	0.022083	1.97	7.68	30.65	0.83
Watercourse 9	326	2-Yr	1.30	186.68	187.00	187.00	187.08	0.047255	1.27	1.02	6.45	1.02
Watercourse 9	326	10-Yr	3.70	186.68	187.30	187.17	187.35	0.011330	1.07	3.47	10.33	0.57
Watercourse 9	326	100-Yr	7.00	186.68	187.83	187.32	187.84	0.001082	0.60	18.00	30.15	0.20
Watercourse 9	326	Regional	8.70	186.68	188.00	187.39	188.01	0.000828	0.59	23.07	30.15	0.18
Watercourse 9	312		Culvert									
Watercourse 9	296.76*	2-Yr	1.30	183.92	184.43	184.43	184.56	0.039869	1.63	0.80	2.85	0.99
Watercourse 9	296.76*	10-Yr	3.70	183.92	184.71	184.71	184.94	0.035672	2.10	1.76	3.91	1.00
Watercourse 9	296.76*	100-Yr	7.00	183.92	184.97	184.97	185.27	0.033142	2.43	2.88	10.87	1.00
Watercourse 9	296.76*	Regional	8.70	183.92	185.09	185.09	185.40	0.027876	2.46	3.75	16.69	0.94
Watercourse 9	280	2-Yr	1.30	182.88	183.41	183.41	183.55	0.041377	1.69	0.77	2.81	0.99
Watercourse 9	280	10-Yr	3.70	182.88	183.71	183.71	183.94	0.036944	2.11	1.76	11.06	1.00
Watercourse 9	280	100-Yr	7.00	182.88	184.00	184.00	184.27	0.028484	2.28	3.26	21.73	0.92
Watercourse 9	280	Regional	8.70	182.88	184.14	184.14	184.37	0.020472	2.17	5.39	28.59	0.80
Watercourse 9	260	2-Yr	1.30	182.36	182.68	182.68	182.78	0.038071	1.36	0.95	4.54	0.95
Watercourse 9	260	10-Yr	3.70	182.36	182.89	182.89	183.05	0.036789	1.82	2.03	8.68	1.01
Watercourse 9	260	100-Yr	7.00	182.36	183.12	183.12	183.27	0.020959	1.80	5.24	25.83	0.81
Watercourse 9	260	Regional	8.70	182.36	183.17	183.17	183.34	0.021353	1.91	6.50	26.57	0.83
Watercourse 9	245	2-Yr	1.30	181.79	182.09	182.09	182.20	0.039399	1.50	0.87	6.87	0.97
Watercourse 9	245	10-Yr	3.70	181.79	182.35	182.35	182.50	0.027467	1.79	2.56	20.93	0.88
Watercourse 9	245	100-Yr	7.00	181.79	182.53	182.53	182.72	0.026497	2.11	4.68	25.61	0.90
Watercourse 9	245	Regional	8.70	181.79	182.60	182.60	182.81	0.026644	2.25	5.64	26.67	0.92
Watercourse 9	230	2-Yr	1.30	181.30	181.67	181.56	181.69	0.008824	0.64	2.03	10.16	0.46
Watercourse 9	230	10-Yr	3.70	181.30	181.91	181.72	181.93	0.004403	0.70	6.66	29.75	0.36
Watercourse 9	230	100-Yr	7.00	181.30	182.08	181.86	182.11	0.003638	0.81	11.82	30.31	0.35
Watercourse 9	230	Regional	8.70	181.30	182.16	181.90	182.19	0.003449	0.86	14.05	30.31	0.35
Watercourse 9	212	2-Yr	1.30	180.88	181.35	181.32	181.46	0.031340	1.46	0.89	10.22	0.88
Watercourse 9	212	10-Yr	3.70	180.88	181.69	181.67	181.81	0.017178	1.61	3.29	25.49	0.71
Watercourse 9	212	100-Yr	7.00	180.88	181.88	181.83	182.00	0.013660	1.76	6.68	26.46	0.66
Watercourse 9	212	Regional	8.70	180.88	181.96	181.88	182.08	0.013481	1.87	7.95	26.82	0.67
Watercourse 9	192	2-Yr	1.30	180.52	181.17	180.85	181.19	0.003459	0.67	1.93	4.06	0.31
Watercourse 9	192	10-Yr	3.70	180.52	181.57	181.13	181.60	0.002760	0.82	7.31	35.03	0.30
Watercourse 9	192	100-Yr	7.00	180.52	181.73	181.50	181.78	0.003823	1.09	11.26	35.03	0.36
Watercourse 9	192	Regional	8.70	180.52	181.78	181.57	181.83	0.004643	1.24	12.40	35.03	0.40
Watercourse 9	177	2-Yr	1.30	180.47	181.12	180.73	181.13	0.002211	0.58	2.23	3.89	0.25
Watercourse 9	177	10-Yr	3.70	180.47	181.49	180.98	181.53	0.003936	0.98	4.49	48.96	0.34
Watercourse 9	177	100-Yr	7.00	180.47	181.33	181.24	181.59	0.025186	2.27	3.08	4.18	0.85
Watercourse 9	177	Regional	8.70	180.47	181.60	181.60	181.70	0.009284	1.58	13.62	96.18	0.52
Watercourse 9	172		Culvert									
Watercourse 9	162	2-Yr	1.30	180.33	180.59	180.59	180.72	0.043161	1.56	0.83	3.36	1.00
Watercourse 9	162	10-Yr	3.70	180.33	180.84	180.84	181.08	0.038359	2.15	1.72	3.71	1.01
Watercourse 9	162	100-Yr	7.00	180.33	181.10	181.10	181.44	0.035761	2.57	2.73	4.06	1.00
Watercourse 9	162	Regional	8.70	180.33	181.46	181.46	181.56	0.009419	1.59	13.46	95.96	0.53
Watercourse 9	141.5	2-Yr	1.30	178.81	179.73	179.33	179.74	0.001307	0.54	5.20	22.37	0.20
Watercourse 9	141.5	10-Yr	3.70	178.81	180.42	179.69	180.42	0.000268	0.38	21.34	67.00	0.10
Watercourse 9	141.5	100-Yr	7.00	178.81	180.59	179.82	180.60	0.000545	0.58	25.82	67.00	0.15
Watercourse 9	141.5	Regional	8.70	178.81	180.65	179.87	180.66	0.000700	0.68	27.44	67.00	0.17

HEC-RAS Plan: Plan 16 River: Watercourse 9 Reach: Watercourse 9 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Watercourse 9	134		Culvert									
Watercourse 9	126.5	2-Yr	1.30	178.02	178.76	178.25	178.76	0.000459	0.30	4.93	17.33	0.12
Watercourse 9	126.5	10-Yr	3.70	178.02	179.30	178.44	179.31	0.000163	0.27	33.36	91.44	0.08
Watercourse 9	126.5	100-Yr	7.00	178.02	179.74	178.61	179.75	0.000072	0.22	77.37	101.00	0.06
Watercourse 9	126.5	Regional	8.70	178.02	179.81	178.71	179.81	0.000089	0.26	83.83	101.00	0.06
Watercourse 9	115.5		Culvert									
Watercourse 9	104.5	2-Yr	1.30	178.18	178.60	178.50	178.68	0.006560	1.26	1.03	2.72	0.65
Watercourse 9	104.5	10-Yr	3.70	178.18	179.08	178.80	179.20	0.004702	1.56	2.38	2.92	0.55
Watercourse 9	104.5	100-Yr	7.00	178.18	179.18	179.10	179.53	0.012060	2.62	2.68	2.97	0.88
Watercourse 9	104.5	Regional	8.70	178.18	179.24	179.24	179.71	0.015547	3.05	2.86	3.24	1.00
Watercourse 9	98	2-Yr	1.30	177.81	178.43	178.42	178.61	0.017433	1.87	0.70	1.80	0.96
Watercourse 9	98	10-Yr	3.70	177.81	178.88	178.88	179.14	0.012047	2.31	1.96	7.07	0.83
Watercourse 9	98	100-Yr	7.00	177.81	179.25	179.25	179.43	0.006307	2.16	7.11	65.00	0.64
Watercourse 9	98	Regional	8.70	177.81	179.31	179.31	179.51	0.007102	2.37	8.26	65.00	0.69
Watercourse 9	53.5	2-Yr	1.30	177.30	177.87	177.80	178.01	0.010540	1.62	0.80	1.75	0.76
Watercourse 9	53.5	10-Yr	3.70	177.30	178.37	178.19	178.59	0.009597	2.11	1.91	4.33	0.72
Watercourse 9	53.5	100-Yr	7.00	177.30	178.99	178.68	179.06	0.002092	1.41	9.88	60.00	0.37
Watercourse 9	53.5	Regional	8.70	177.30	179.20	178.76	179.25	0.001656	1.37	12.67	60.00	0.34
Watercourse 9	38.5	2-Yr	1.30	177.10	177.60	177.60	177.80	0.017934	1.98	0.66	1.61	0.99
Watercourse 9	38.5	10-Yr	3.70	177.10	178.02	178.01	178.38	0.018421	2.65	1.39	1.86	0.98
Watercourse 9	38.5	100-Yr	7.00	177.10	178.44	178.44	178.94	0.017630	3.16	2.31	3.10	0.96
Watercourse 9	38.5	Regional	8.70	177.10	178.66	178.66	179.15	0.013731	3.15	3.20	7.19	0.87
Watercourse 9	8.5	2-Yr	1.30	176.73	177.38	177.18	177.45	0.004248	1.15	1.13	24.10	0.51
Watercourse 9	8.5	10-Yr	3.70	176.73	177.54	177.54	177.86	0.015912	2.49	1.49	38.97	0.99
Watercourse 9	8.5	100-Yr	7.00	176.73	177.98	177.98	178.22	0.008014	2.34	4.93	51.00	0.74
Watercourse 9	8.5	Regional	8.70	176.73	178.06	178.06	178.33	0.008435	2.53	5.96	51.00	0.77
Watercourse 9	0	2-Yr	1.30	176.74	177.40	177.07	177.42	0.000729	0.62	2.25	20.00	0.26
Watercourse 9	0	10-Yr	3.70	176.74	177.40	177.30	177.55	0.005908	1.77	2.25	20.00	0.74
Watercourse 9	0	100-Yr	7.00	176.74	177.54	177.54	177.89	0.010036	2.67	2.82	20.00	1.01
Watercourse 9	0	Regional	8.70	176.74	177.66	177.66	178.06	0.009540	2.87	3.27	20.00	1.00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WS 10-Yr
WS 2-Yr
Ground
Bank Sta
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Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
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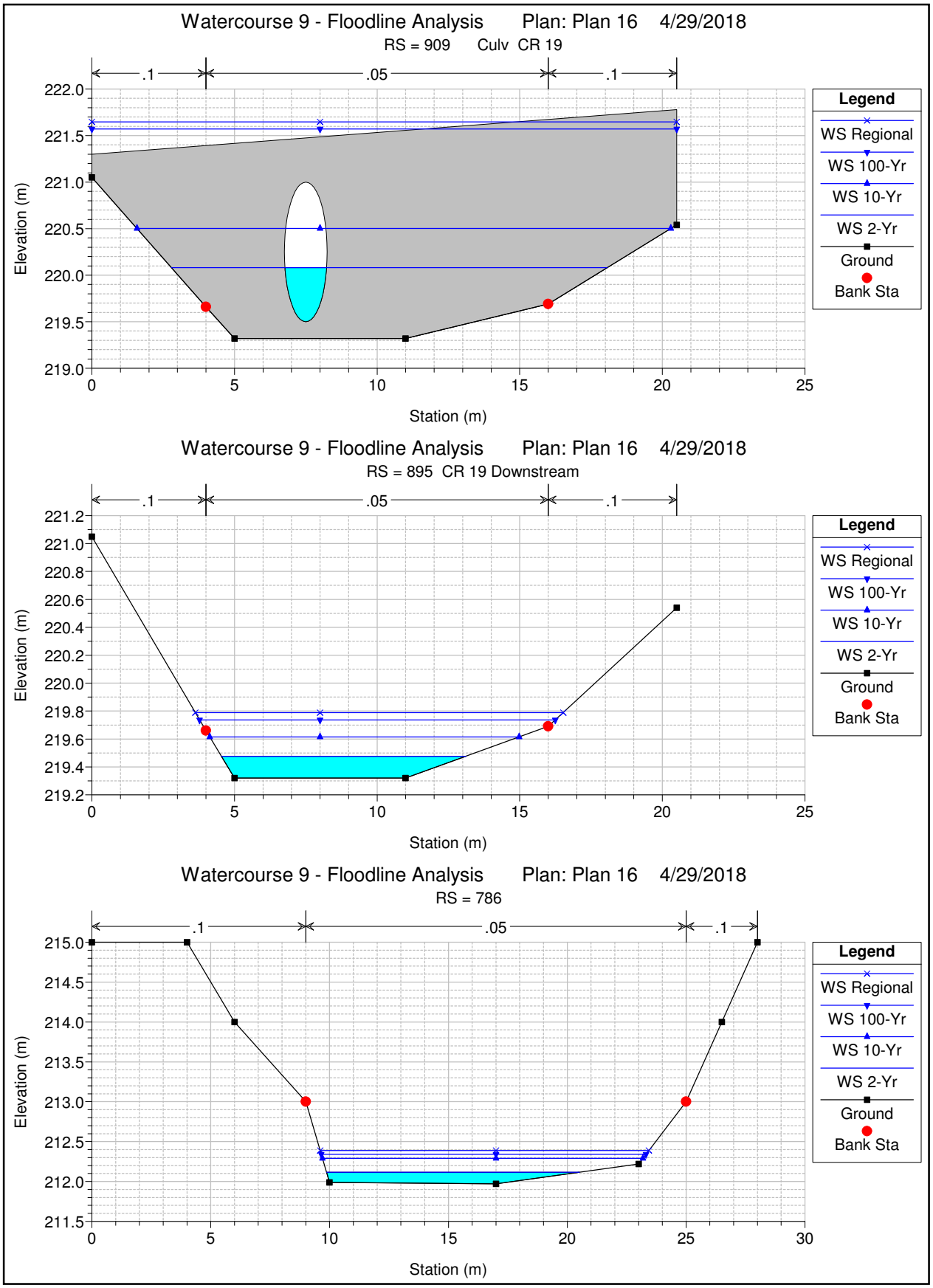
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WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
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Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
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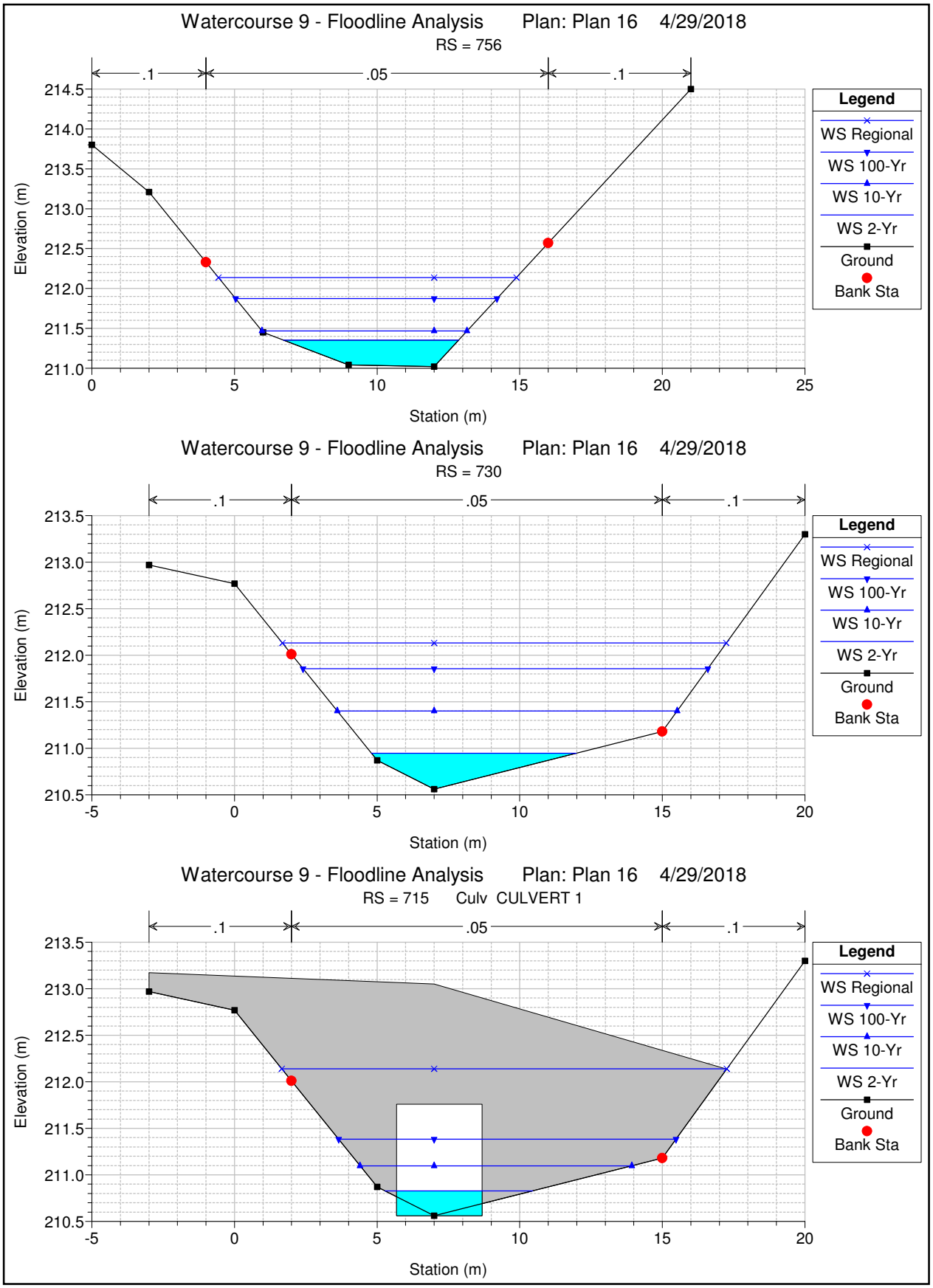
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Station (m)
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WS 10-Yr
WS 2-Yr
Ground
Bank Sta
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Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
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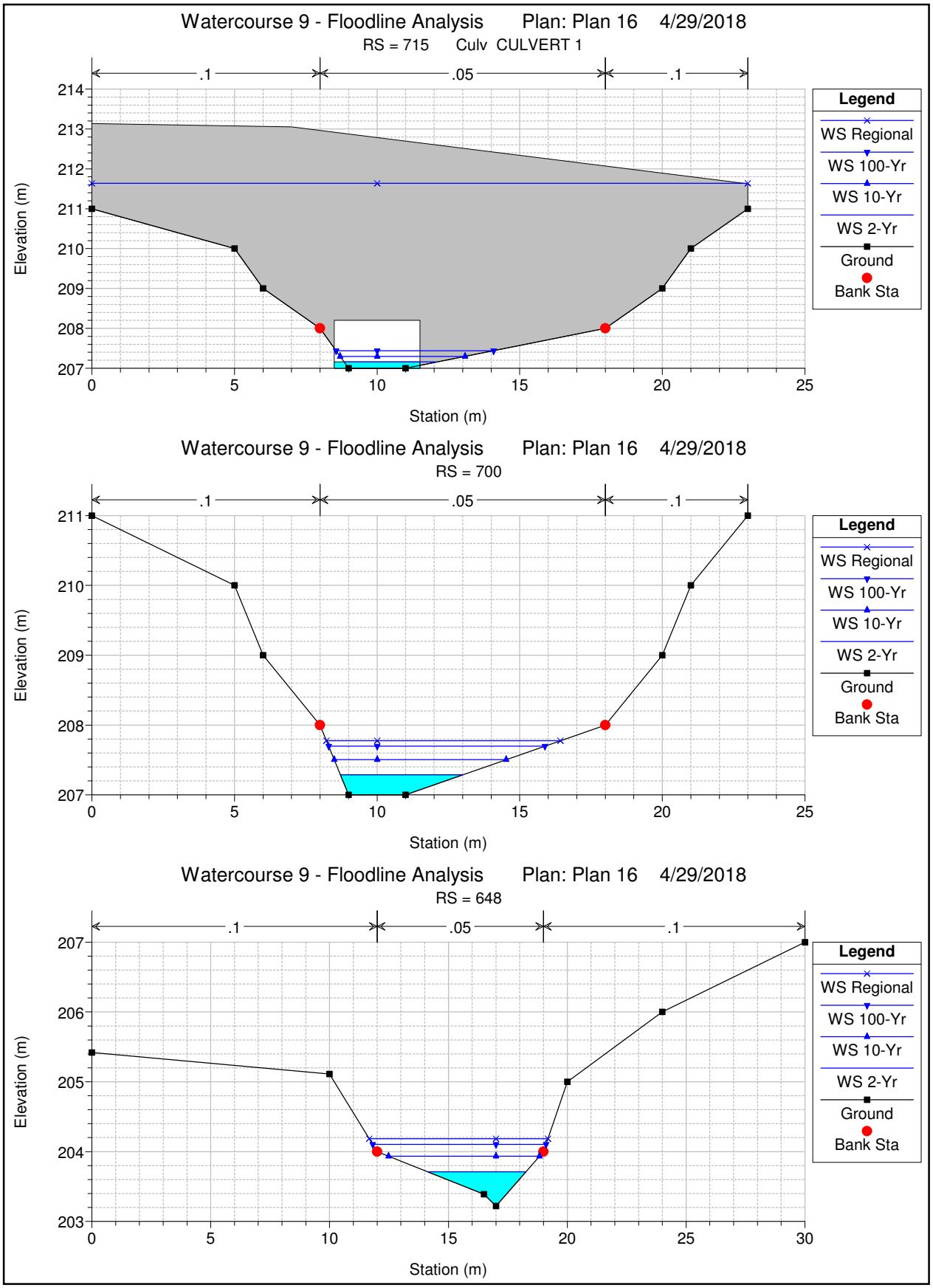
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta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Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
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Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
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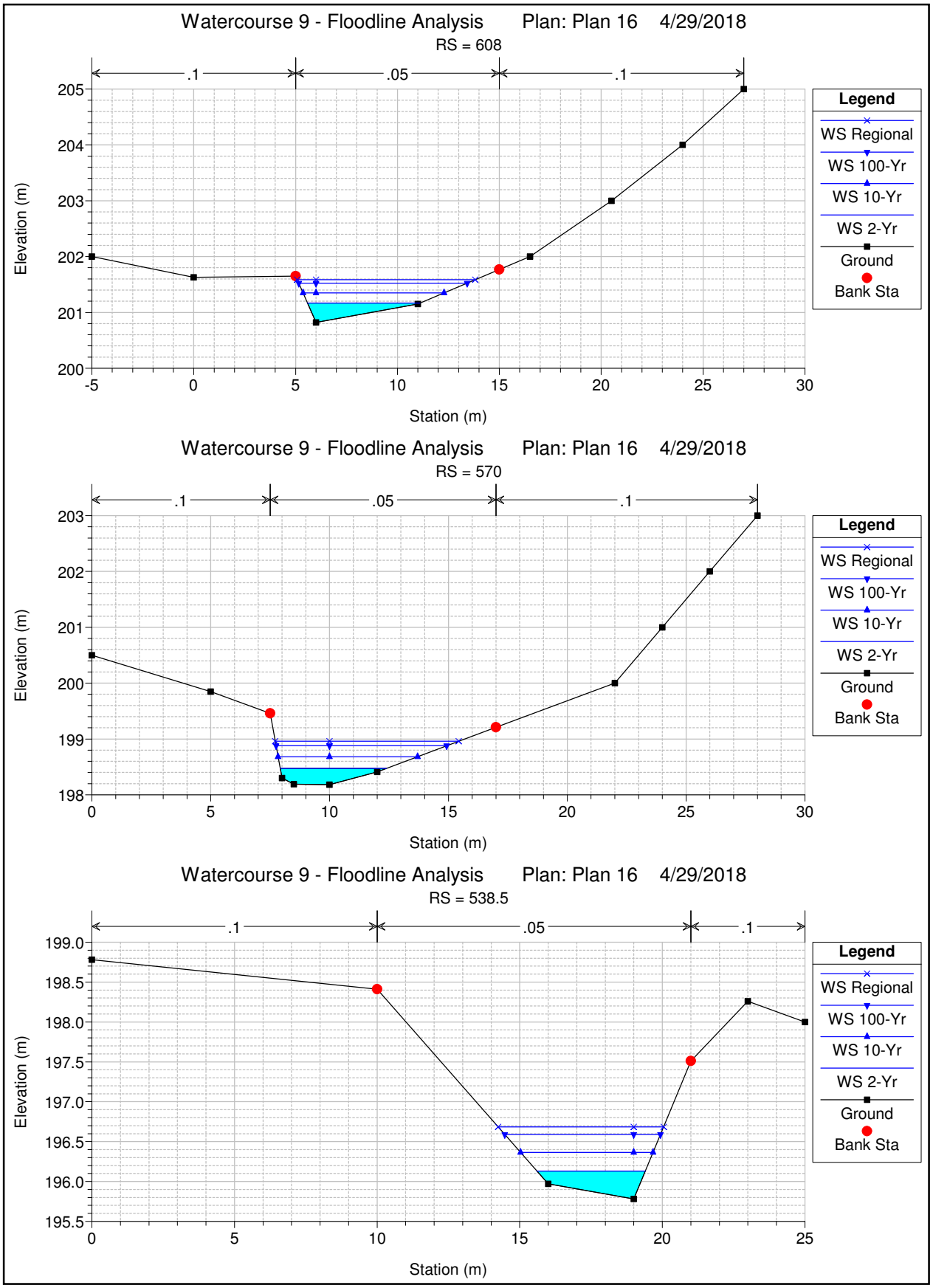
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Station (m)
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WS 10-Yr
WS 2-Yr
Ground
Bank Sta
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Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
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Station (m)
Legend
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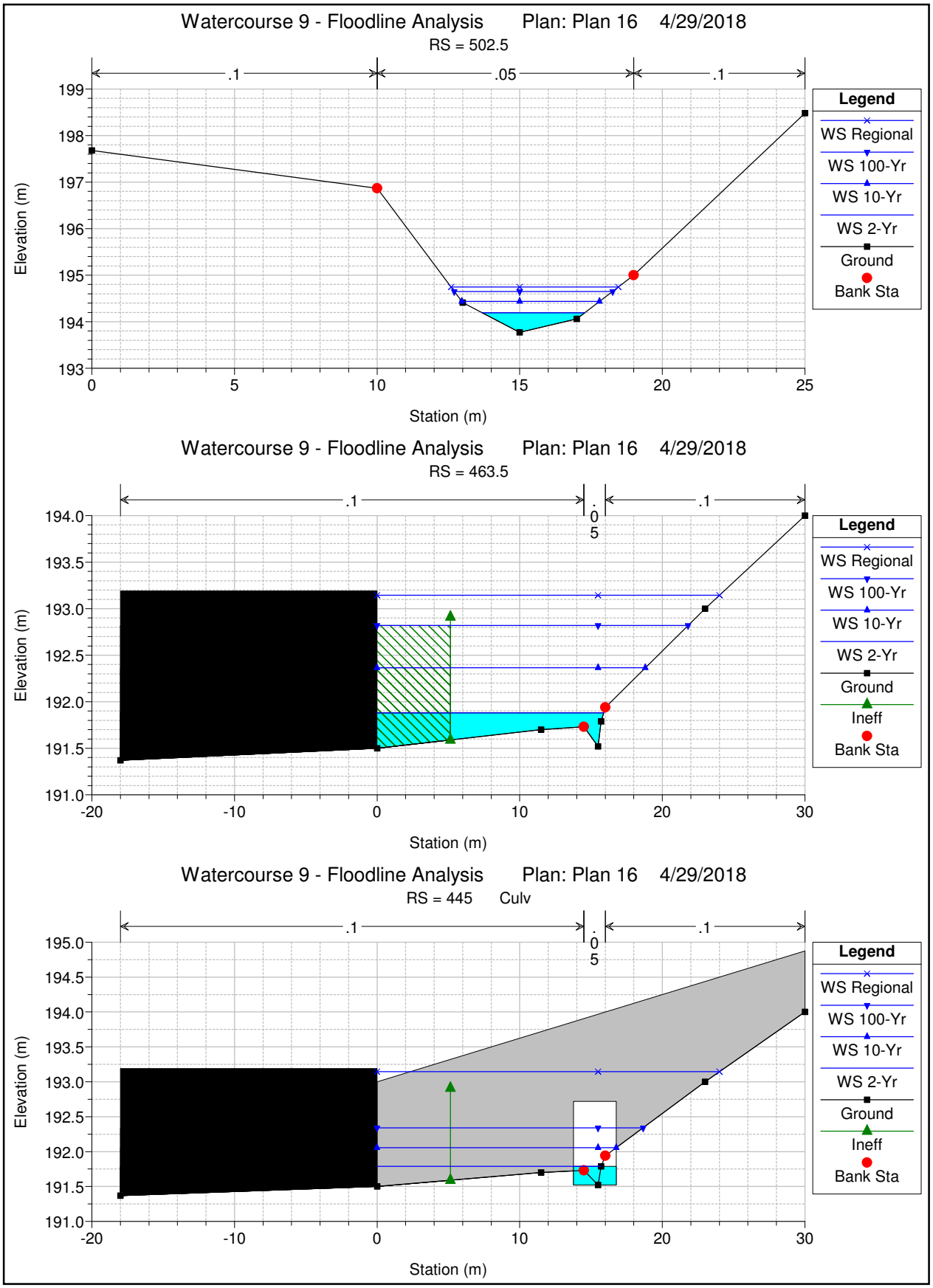
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta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Station (m)
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WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
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Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
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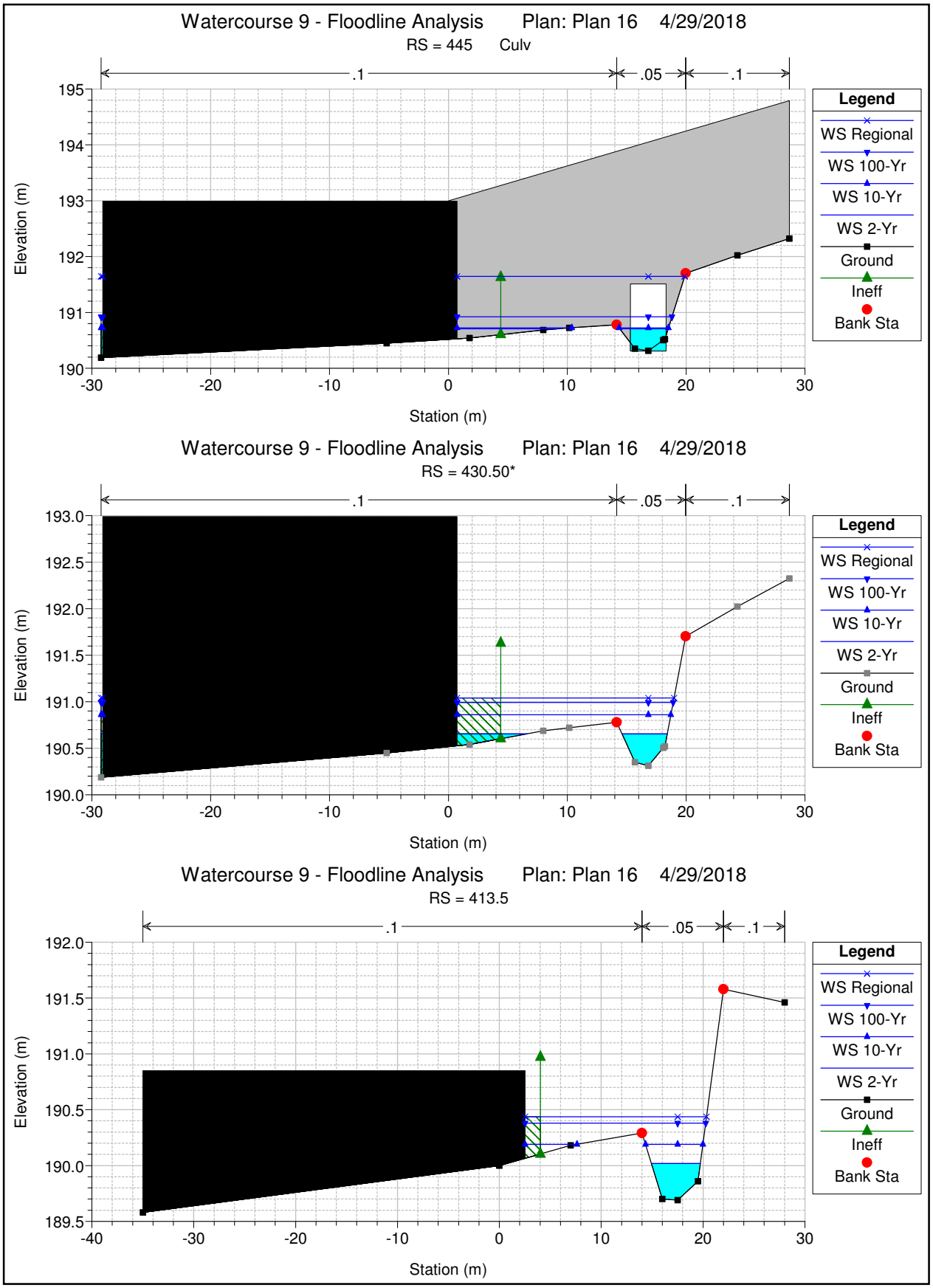
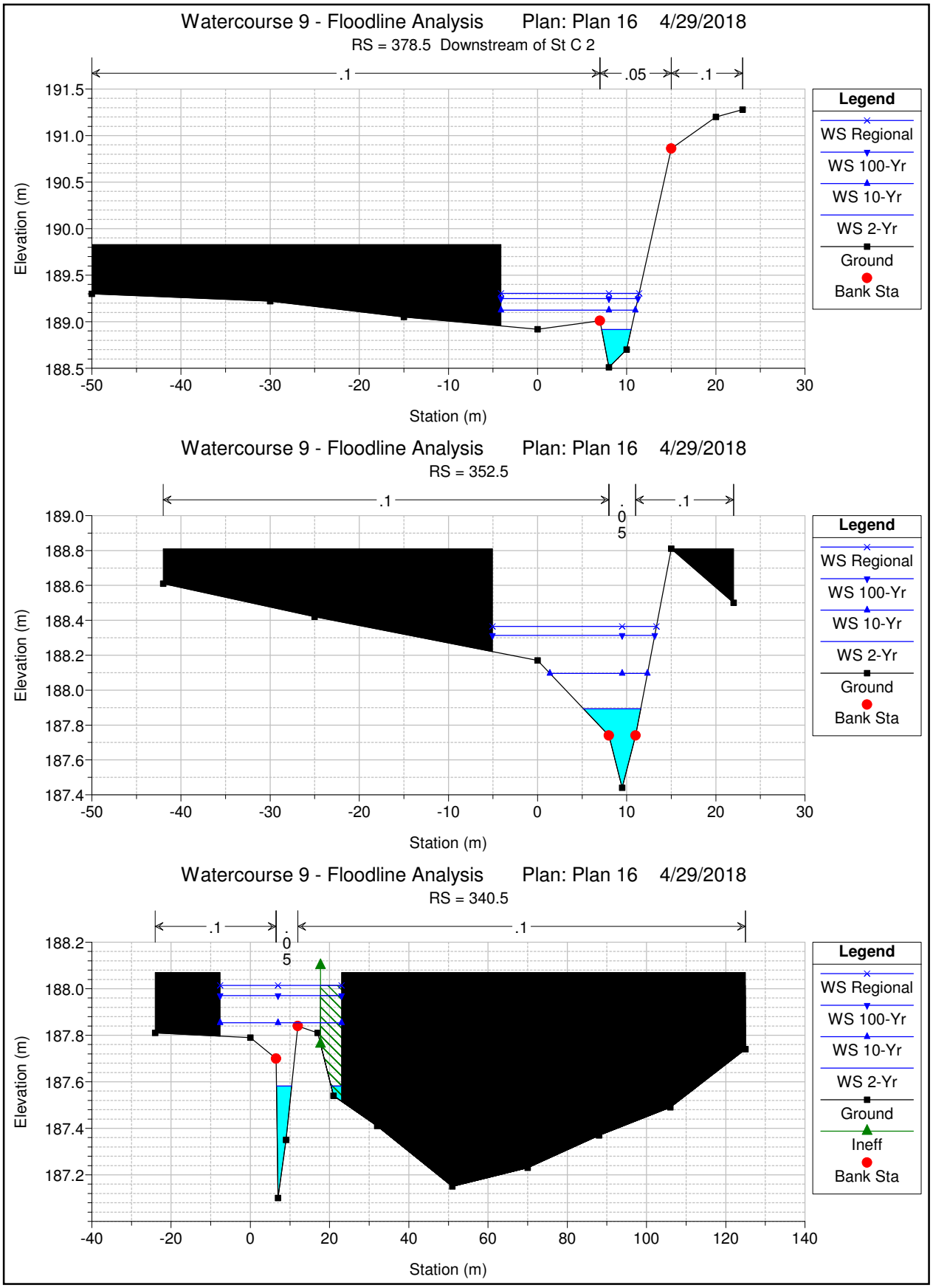
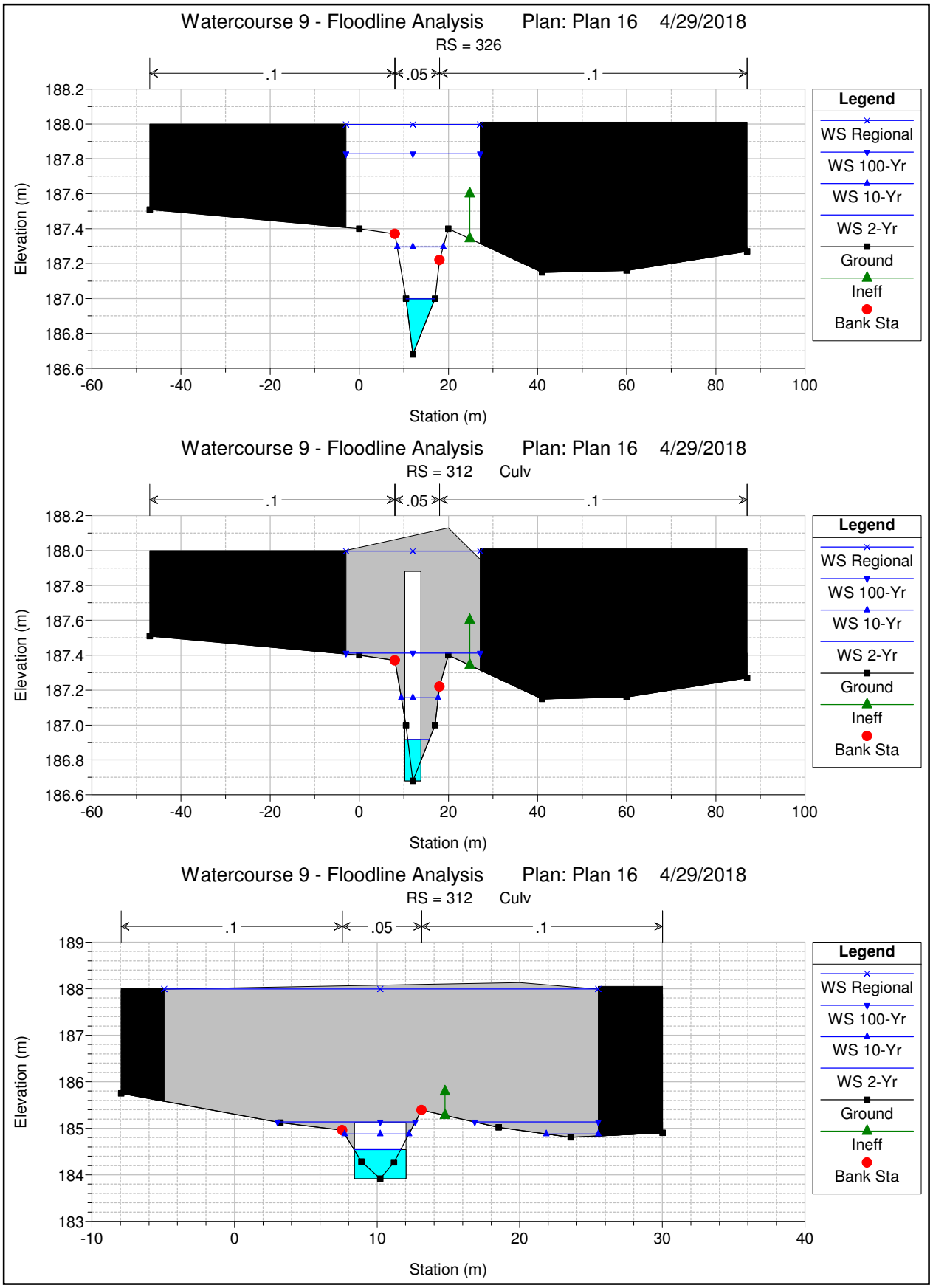
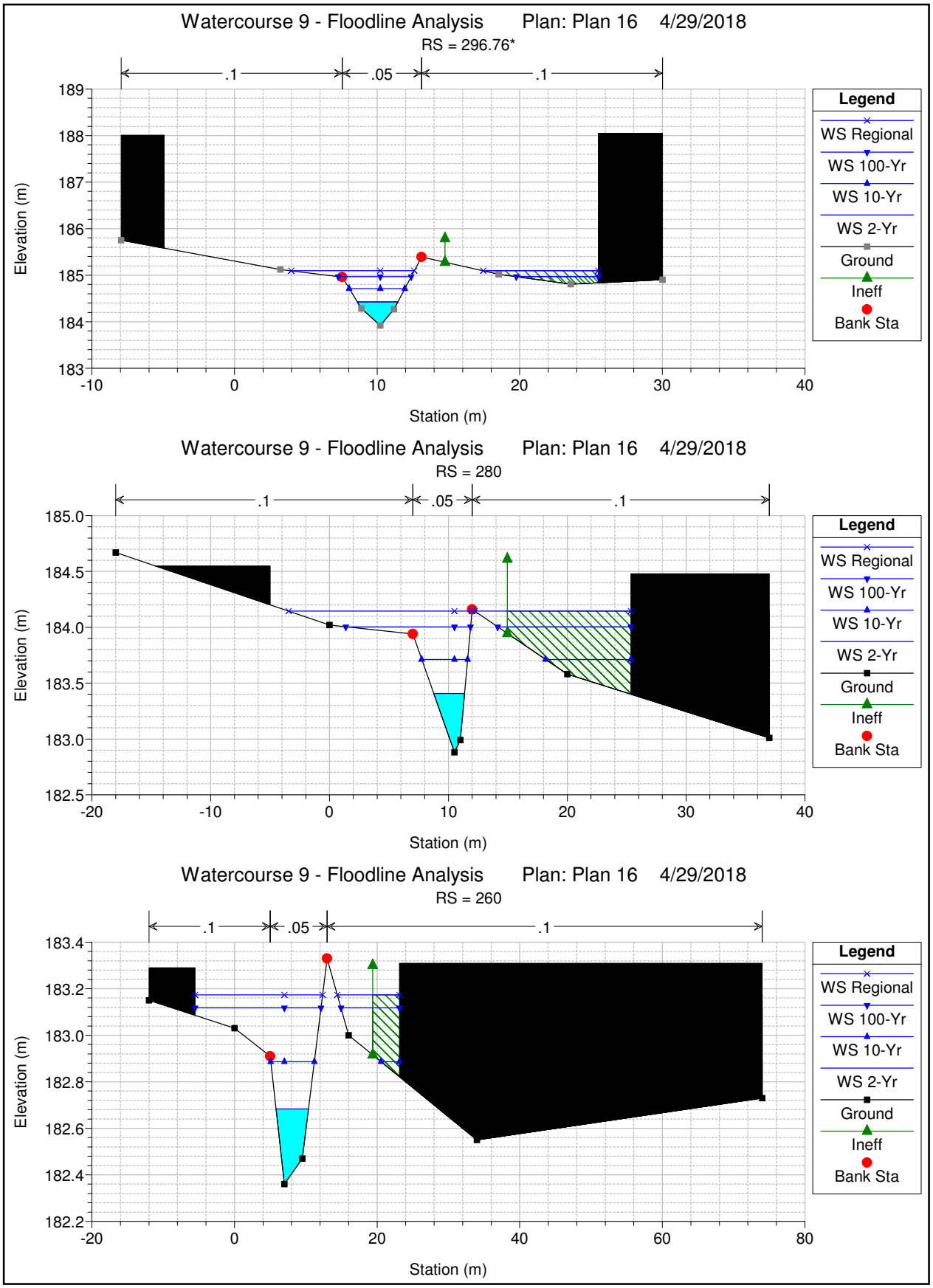
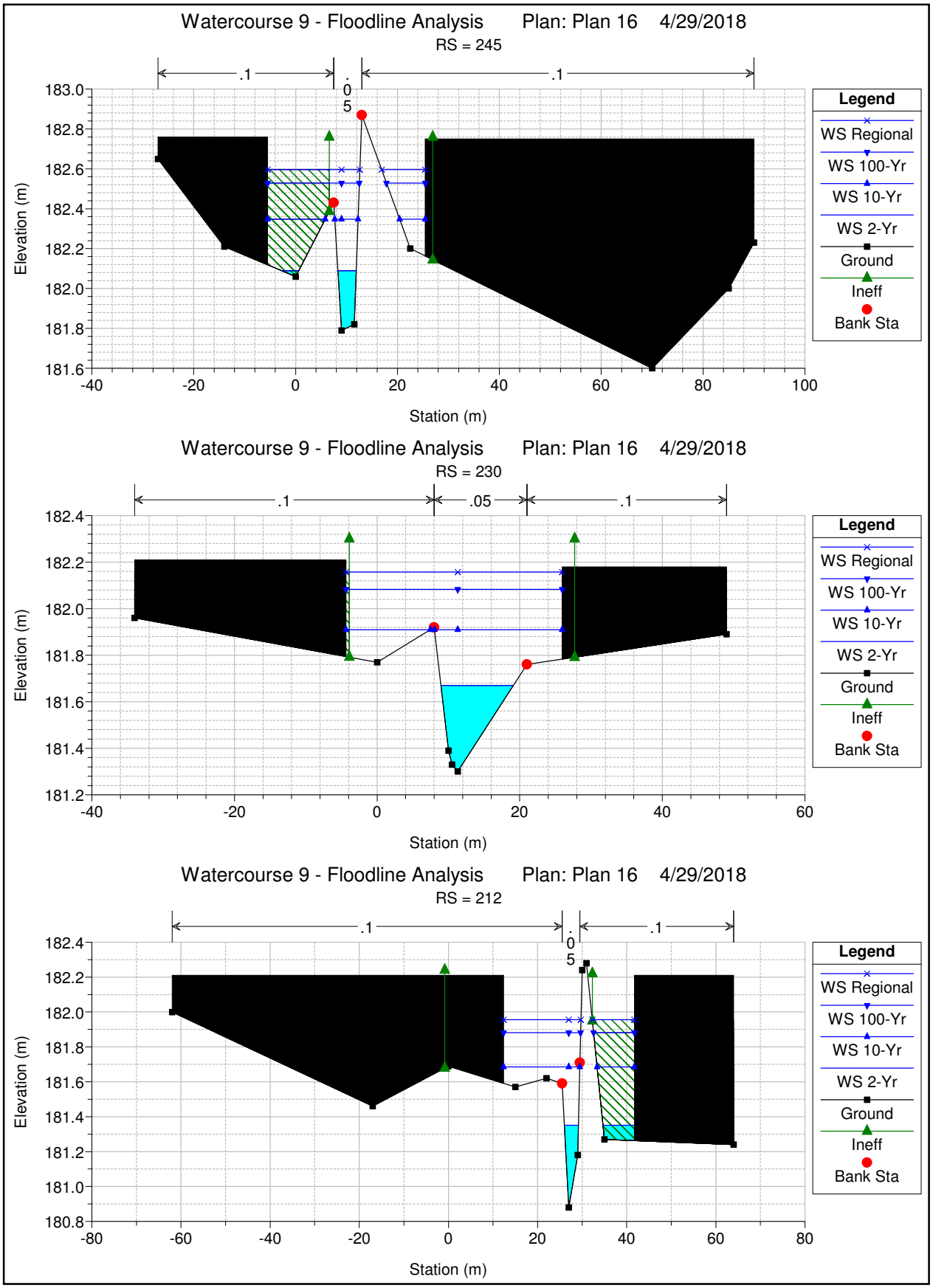
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta

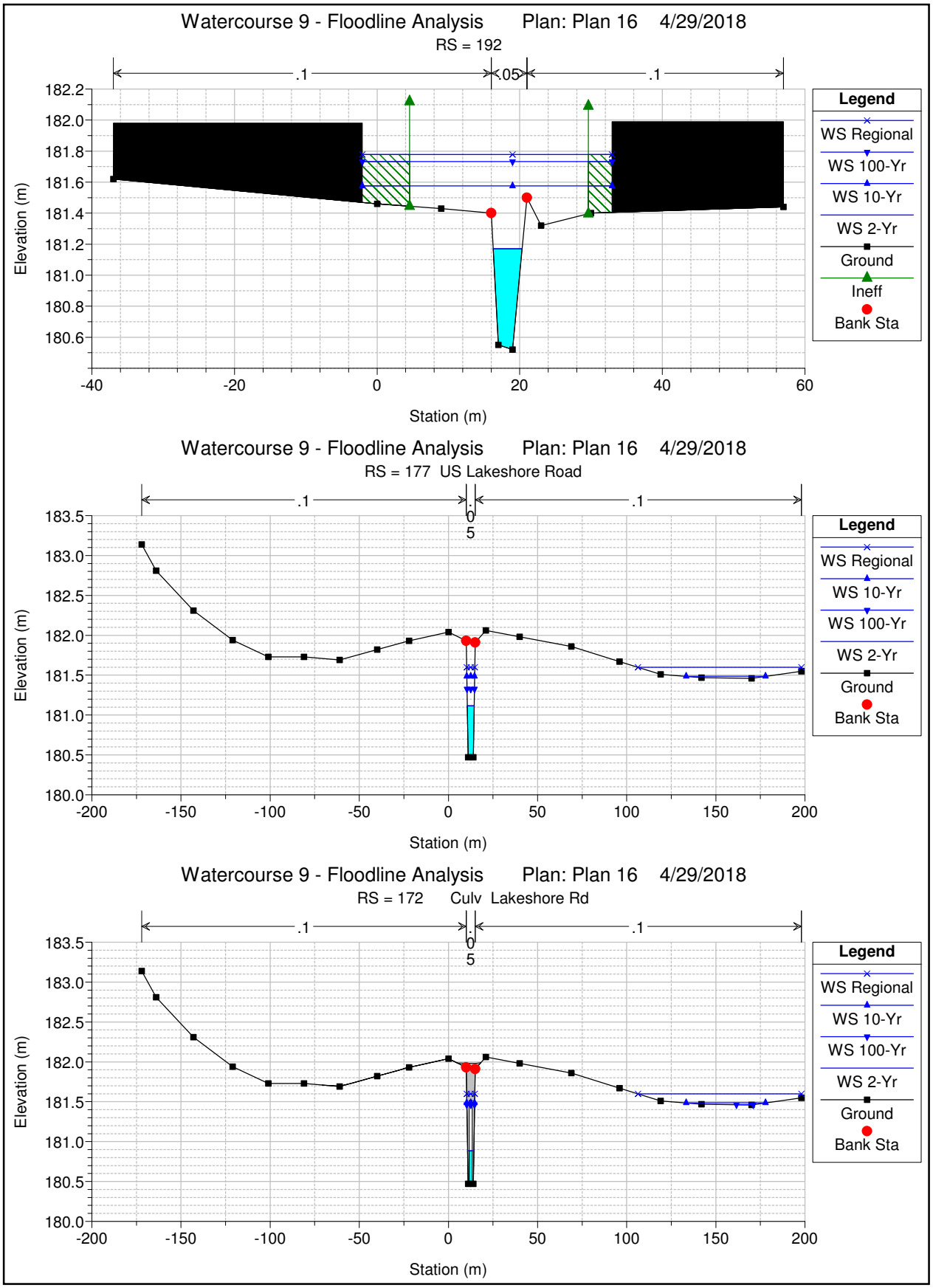

Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 445 Culv
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 430.50*
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 413.5

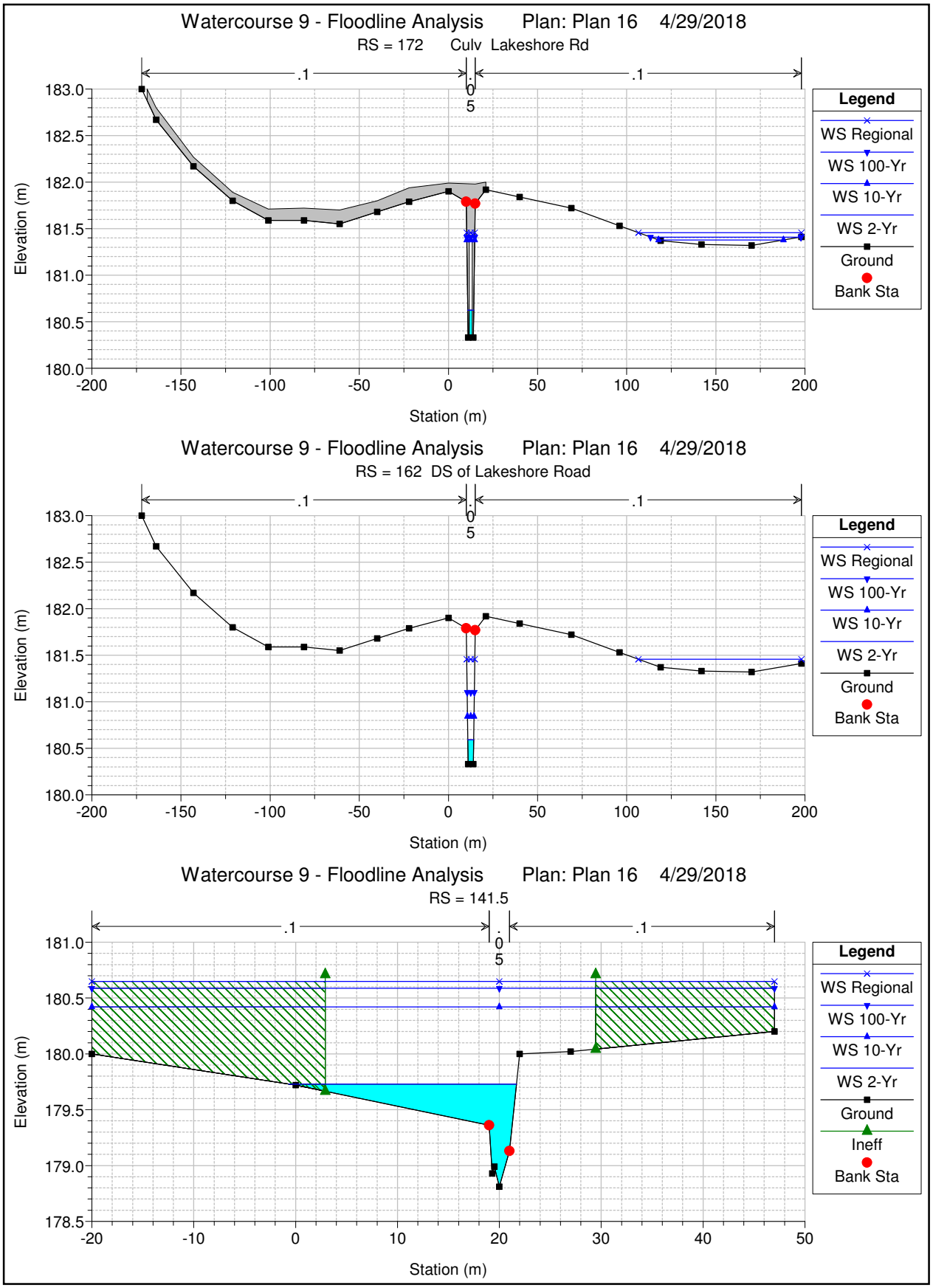

Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 378.5 Downstream of St C 2
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 352.5
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 340.5
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta

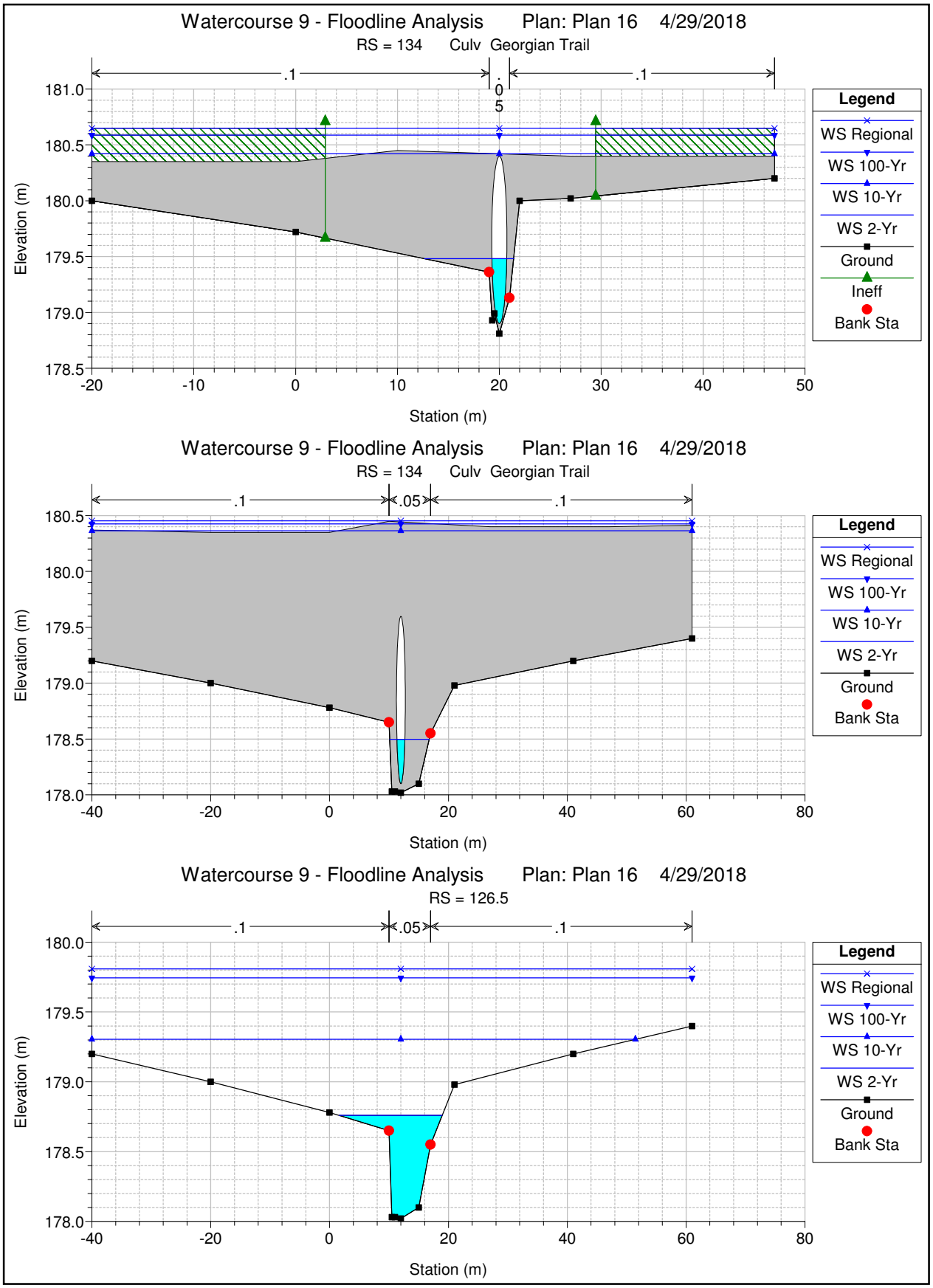

Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 326
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 312 Culv
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 312 Culv
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta

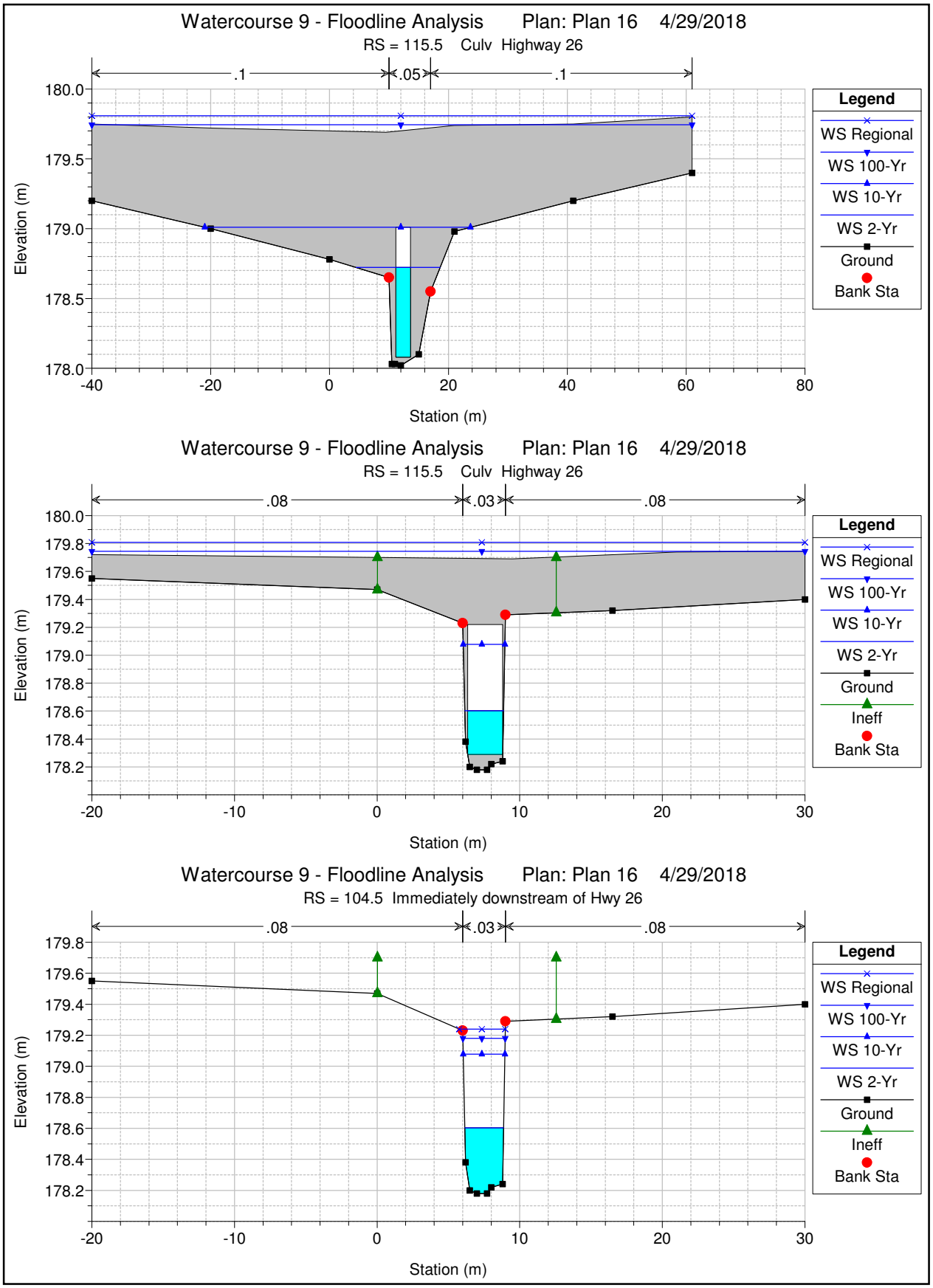

Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 296.76*
.1
.05
.1
Elevation (m)
189
188
187
186
185
184
183
-10
0
10
20
30
40
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 280
.1
.05
.1
Elevation (m)
185.0
184.5
184.0
183.5
183.0
182.5
-20
-10
0
10
20
30
40
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 260
.1
.05
.1
Elevation (m)
183.4
183.2
183.0
182.8
182.6
182.4
182.2
-20
0
20
40
60
80
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta

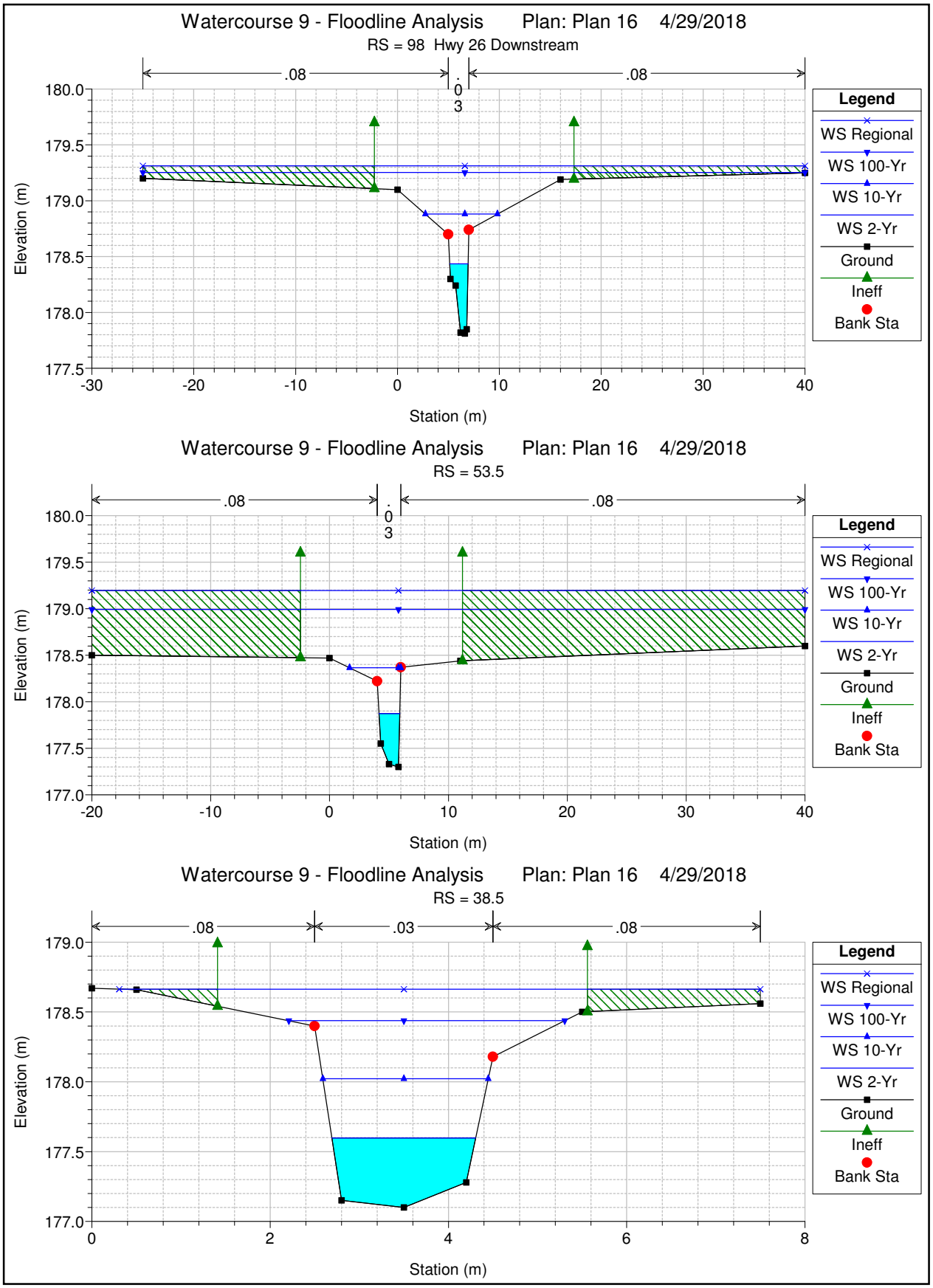

Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 245
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 230
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 212
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta

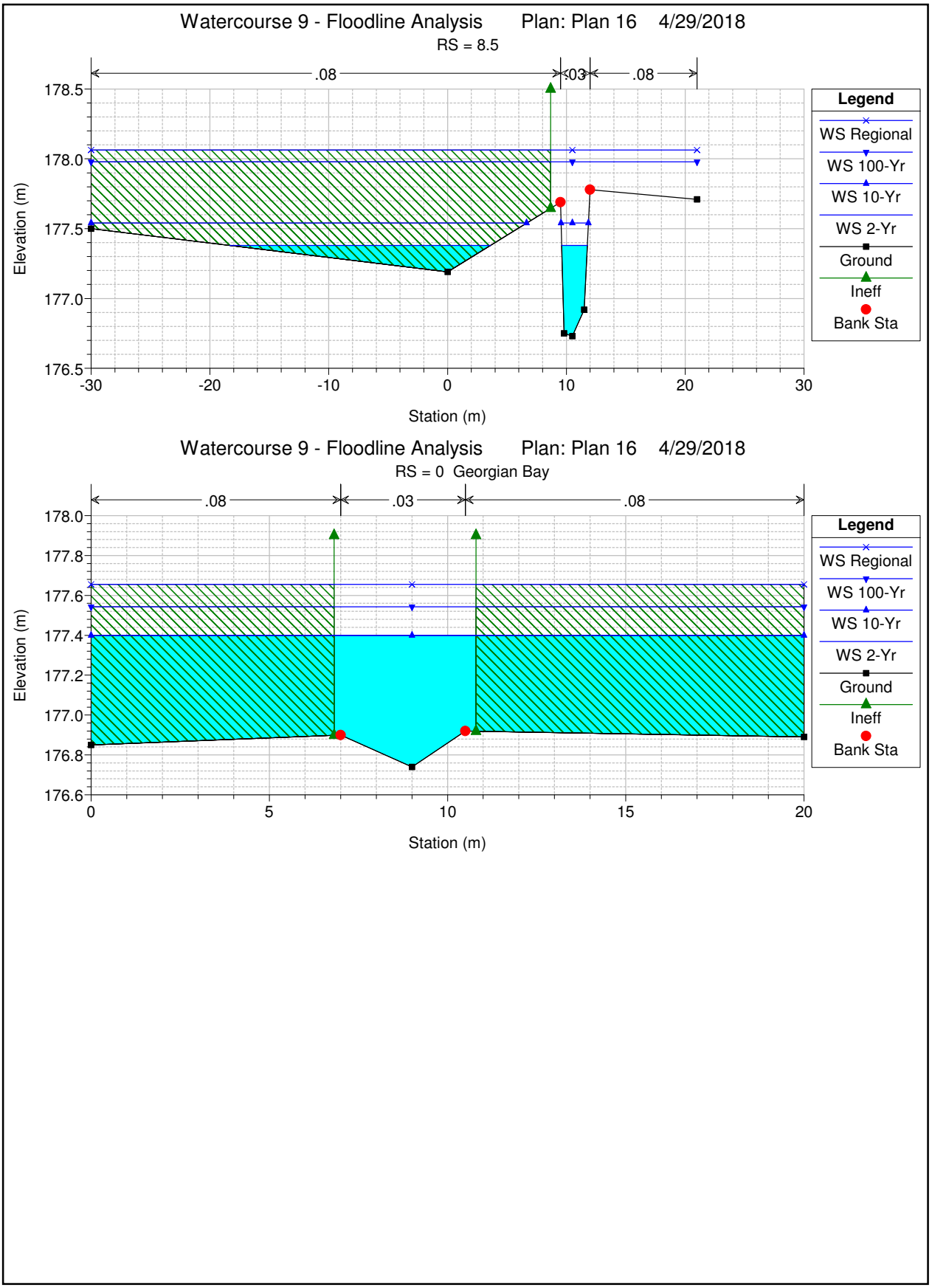

Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 192
.1
.05
.1
Elevation (m)
182.2
182.0
181.8
181.6
181.4
181.2
181.0
180.8
180.6
-40
-20
0
20
40
60
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 177 US Lakeshore Road
.1
.1
Elevation (m)
183.5
183.0
182.5
182.0
181.5
181.0
180.5
180.0
-200
-150
-100
-50
0
50
100
150
200
Station (m)
Legend
WS Regional
WS 10-Yr
WS 100-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 172 Culv Lakeshore Rd
.1
.1
Elevation (m)
183.5
183.0
182.5
182.0
181.5
181.0
180.5
180.0
-200
-150
-100
-50
0
50
100
150
200
Station (m)
Legend
WS Regional
WS 10-Yr
WS 100-Yr
WS 2-Yr
Ground
Bank Sta


Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 172 Culv Lakeshore Rd
.1
.1
.05
Elevation (m)
183.0
182.5
182.0
181.5
181.0
180.5
180.0
-200
-150
-100
-50
0
50
100
150
200
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 162 DS of Lakeshore Road
.1
.1
.05
Elevation (m)
183.0
182.5
182.0
181.5
181.0
180.5
180.0
-200
-150
-100
-50
0
50
100
150
200
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 141.5
.1
.1
.05
Elevation (m)
181.0
180.5
180.0
179.5
179.0
178.5
-20
-10
0
10
20
30
40
50
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta

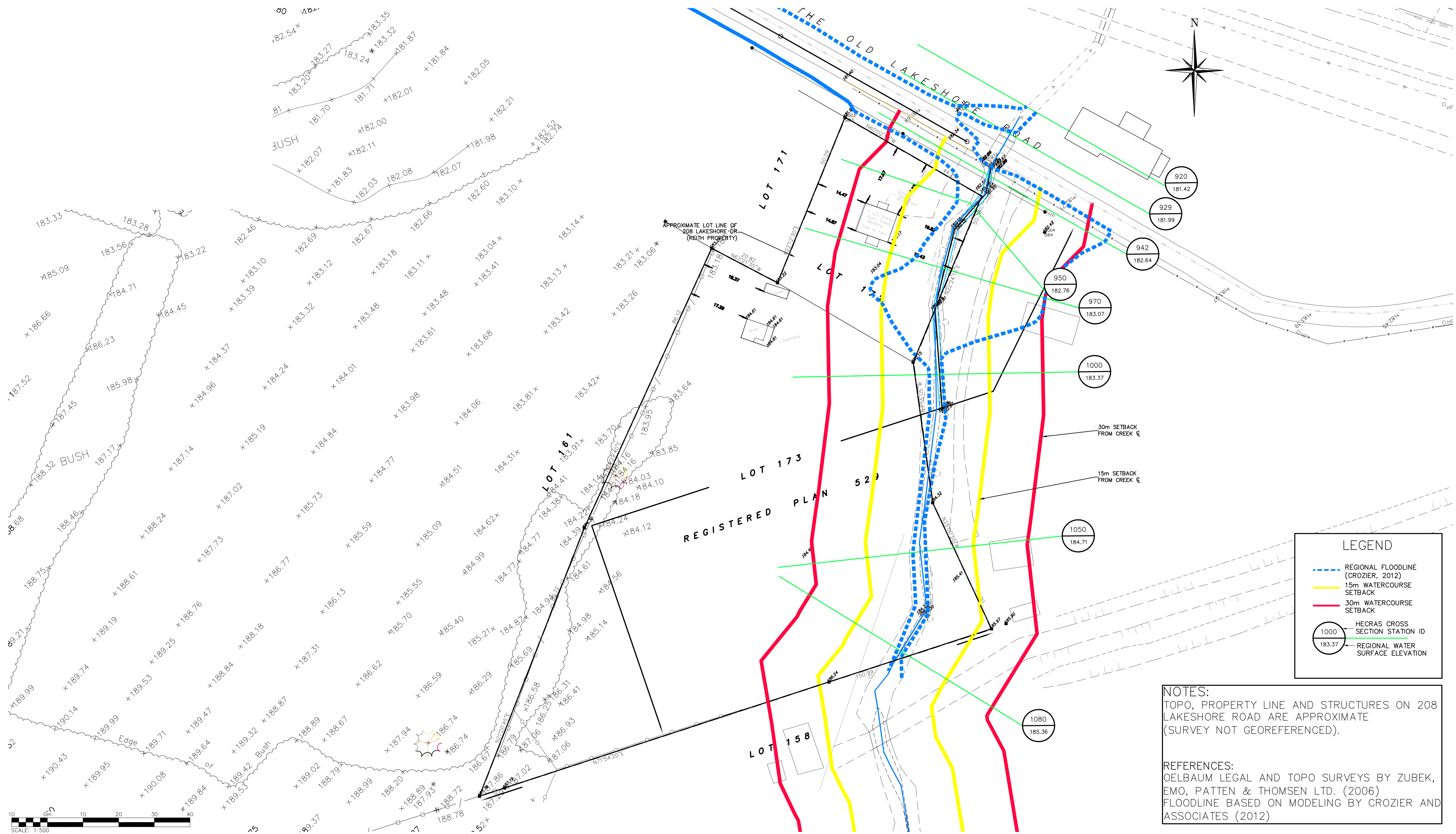

Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 134 Culv Georgian Trail
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 134 Culv Georgian Trail
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 126.5
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta


Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 115.5 Culv Highway 26
.1
.05
.1
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 115.5 Culv Highway 26
.08
.03
.08
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 104.5 Immediately downstream of Hwy 26
.08
.03
.08
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta


Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 98 Hwy 26 Downstream
.08
.03
.08
Elevation (m)
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 53.5
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 38.5


Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 8.5
.08
.03
.08
178.5
178.0
177.5
177.0
176.5
Elevation (m)
-30
-20
-10
0
10
20
30
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta
Watercourse 9 - Floodline Analysis Plan: Plan 16 4/29/2018
RS = 0 Georgian Bay
.08
.03
.08
178.0
177.8
177.6
177.4
177.2
177.0
176.8
176.6
Elevation (m)
0
5
10
15
20
Station (m)
Legend
WS Regional
WS 100-Yr
WS 10-Yr
WS 2-Yr
Ground
Ineff
Bank Sta

Watercourse 7



NOTES:
TOPO, PROPERTY LINE AND STRUCTURES ON 208 LAKESHORE ROAD ARE APPROXIMATE (SURVEY NOT GEOREFERENCED).

REFERENCES:
OELBAUM LEGAL AND TOPO SURVEYS BY ZUBEK, EMO, PATTEN & THOMSEN LTD. (2006)
FLOODLINE BASED ON MODELING BY CROZIER AND ASSOCIATES (2012)

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TEMPORARY BENCHMARKS
TBM#1–
TBM#2–
TBM#3–

Town

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	ISSUED FOR CLIENT REVIEW	03/29/2016

Engineer

Engineer

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Project
208 LAKESHORE ROAD
TOWN OF THE BLUE MOUNTAINS

Drawing
PRELIMINARY CONSTRAINTS SKETCH

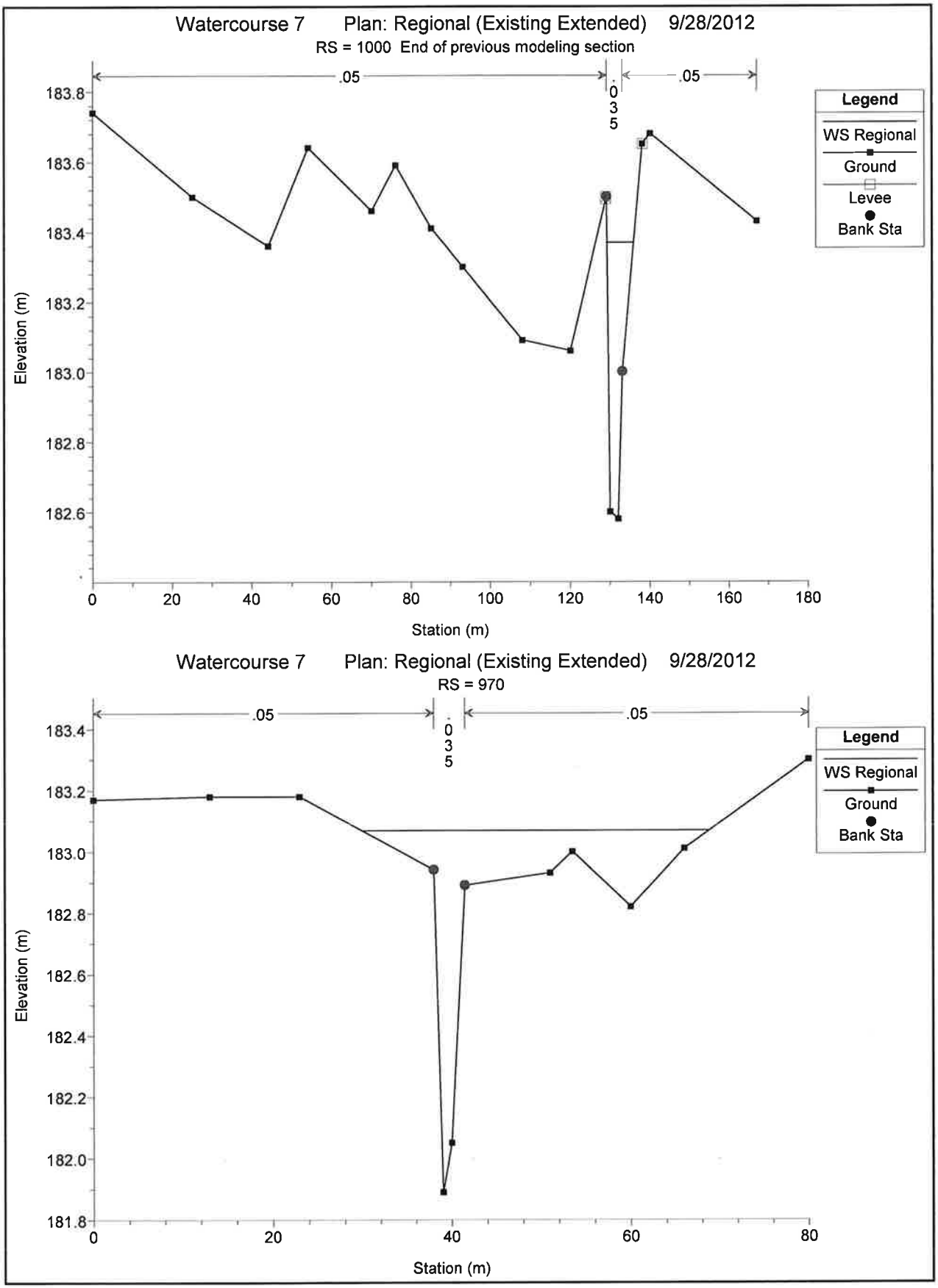
CROZIER & ASSOCIATES Consulting Engineers
The HarbourEdge Building, 40 Huron Street, Suite 301, Collingwood, ON L9Y 4R3
705 446–3510 T
705 446–3520 F
www.cfcrozier.ca
info@cfcrozier.ca

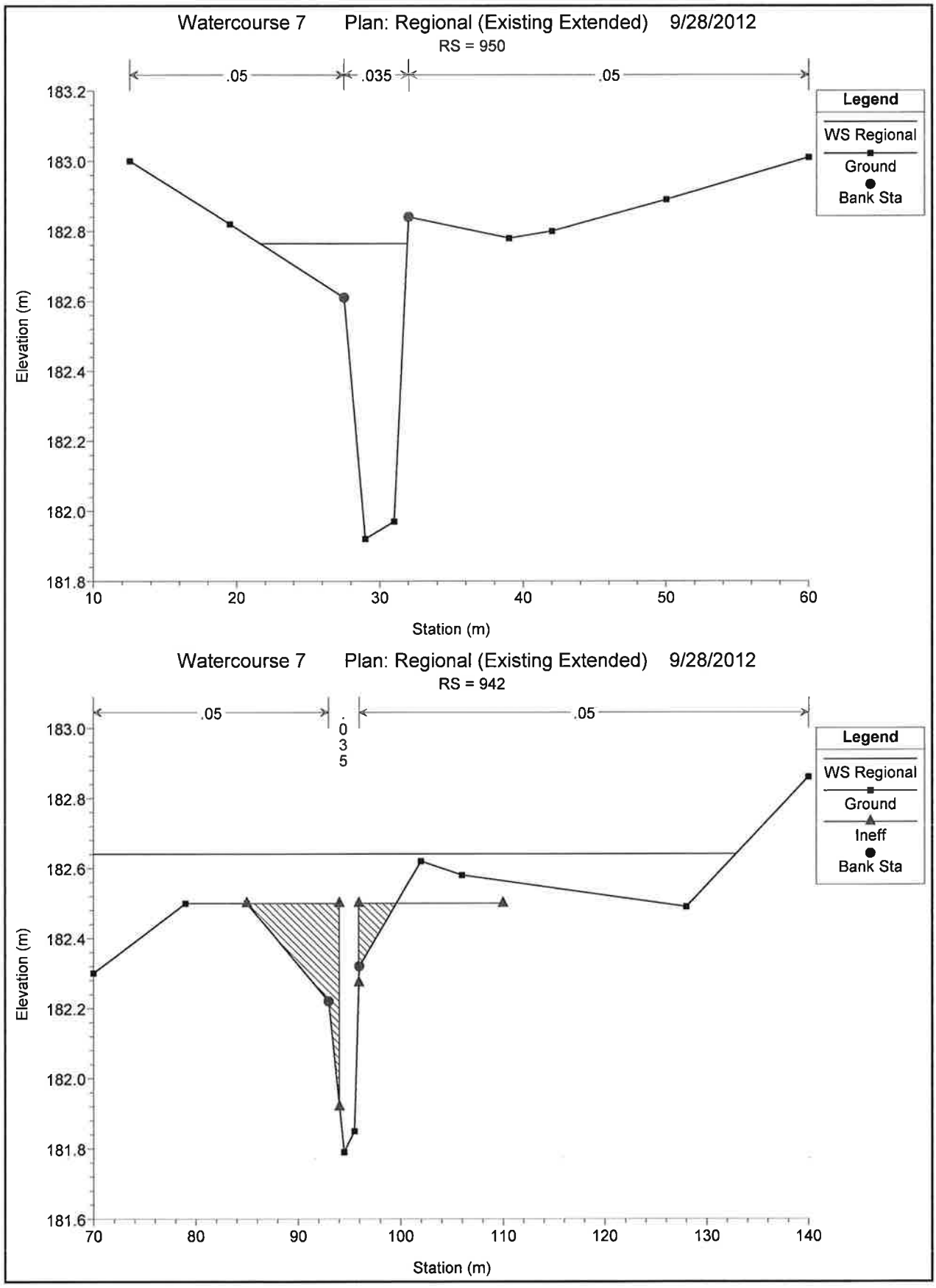
Drawn By C.W. | Design By A.S./C.W. | Project 1046–4031
Check By K.W. | Check By | Scale 1:500 | Drawing 001

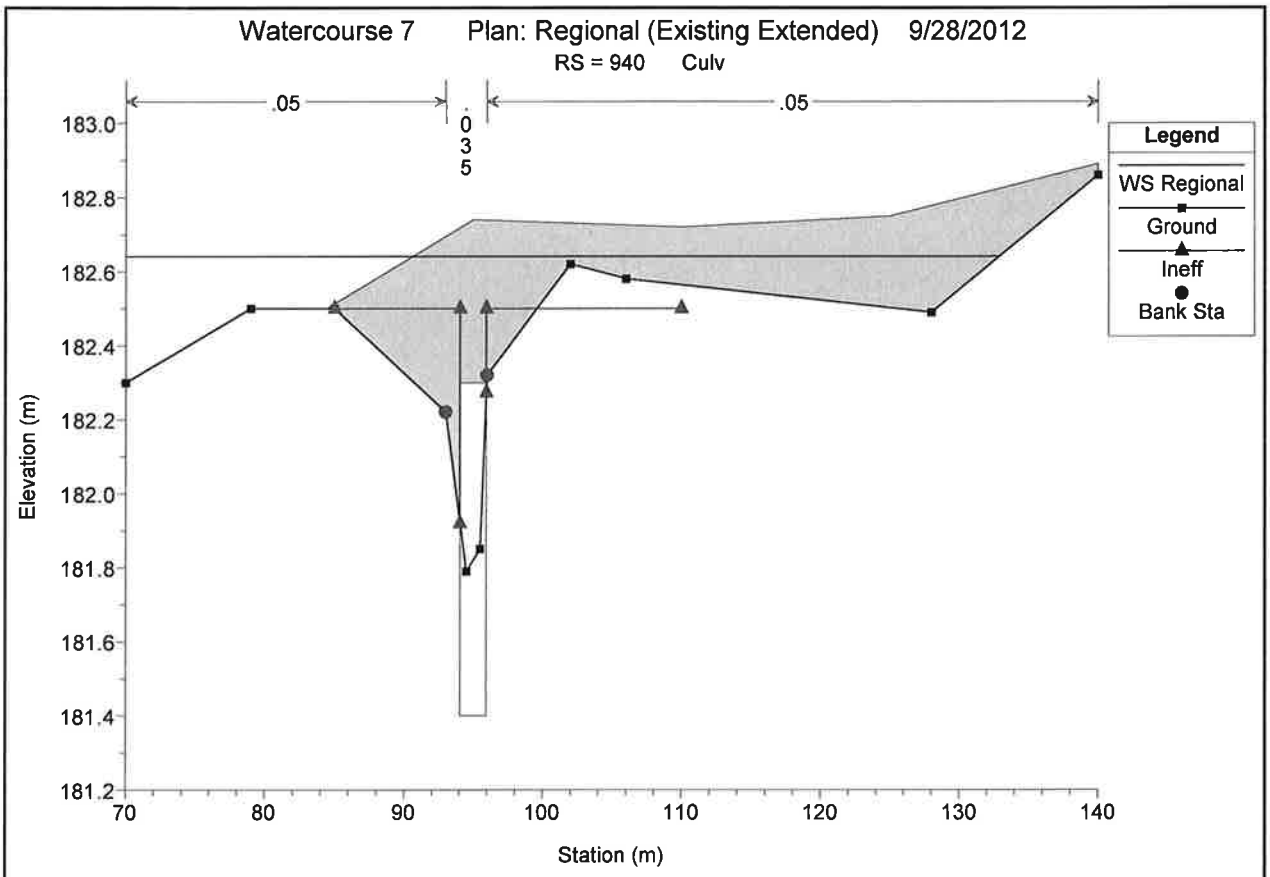
J:\1000\1046-Parkbridge Lifestyle\4031-Craigleith Fogal Land Acq\CAD\CIVIL\1SHEET\4031-001(208 LAKESHORE).dwg, 001, 4/30/2018 10:09:04 AM,

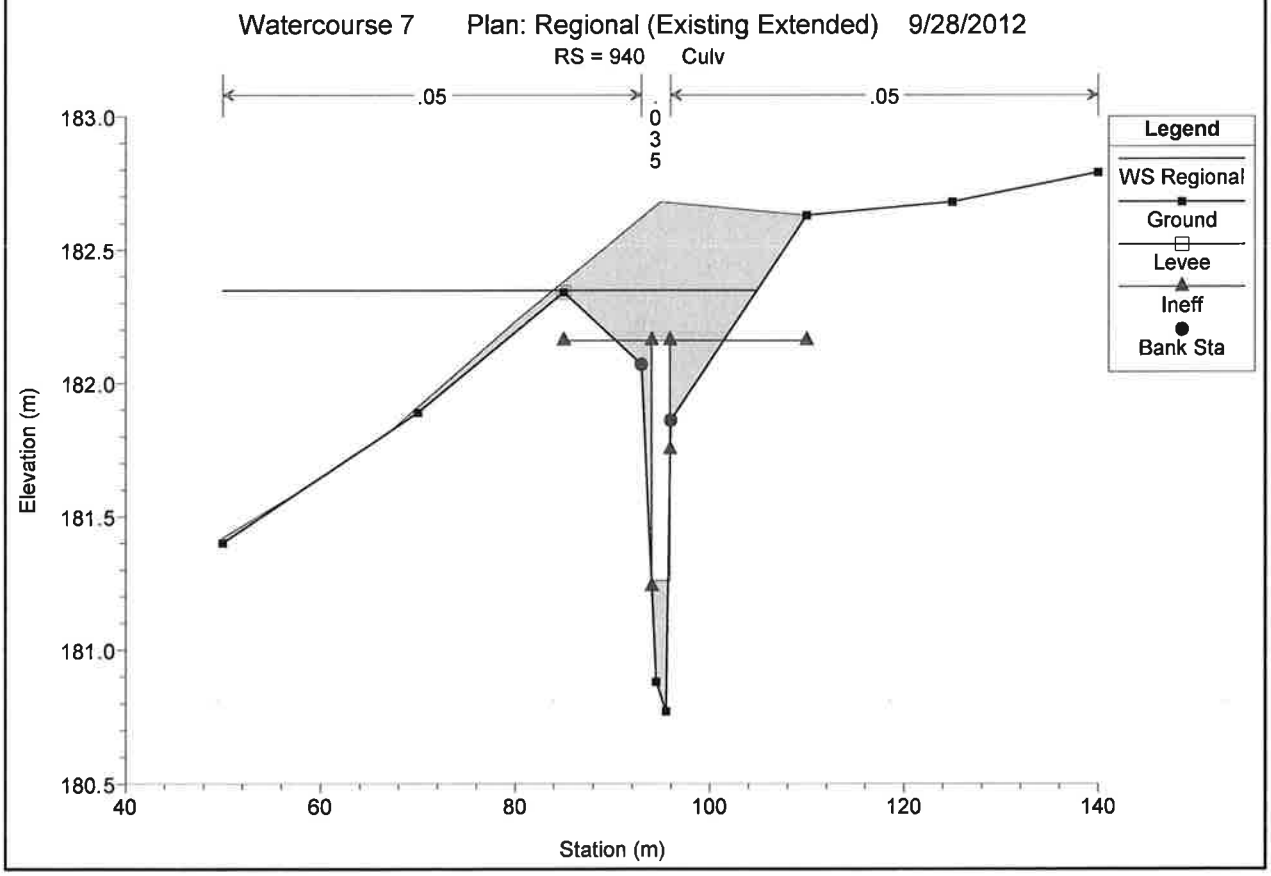
HEC-RAS Plan: RegExExt River: WC 17 Reach: Main Profile: Regional

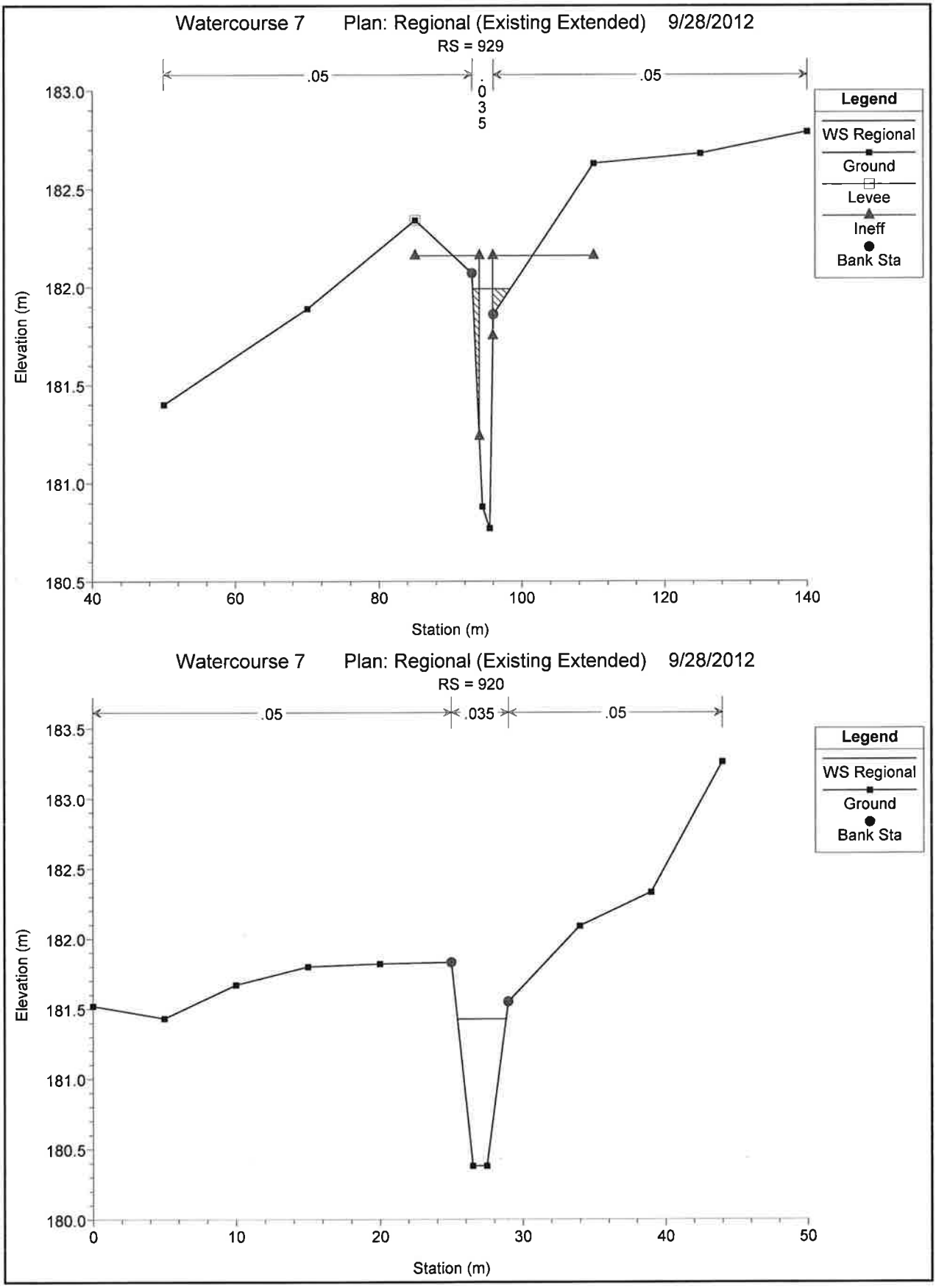
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Main	1000	Regional	6.00	182.58	183.37	183.37	183.62	0.013063	2.28	2.99	6.69	0.91
Main	970	Regional	6.00	181.89	183.07	183.07	183.17	0.005942	1.62	6.96	38.84	0.60
Main	950	Regional	6.00	181.92	182.76	182.76	182.99	0.011719	2.12	3.21	10.30	0.86
Main	942	Regional	6.00	181.79	182.64	182.64	182.70	0.007536	1.54	9.27	62.88	0.68
Main	940		Culvert									
Main	929	Regional	6.00	180.77	181.99	181.99	182.49	0.018680	3.14	1.91	5.27	1.00
Main	920	Regional	6.00	180.38	181.42	181.42	181.77	0.018391	2.60	2.31	3.42	1.01
Main	894	Regional	6.00	178.80	180.20	179.70	180.28	0.003867	1.32	7.77	48.41	0.48
Main	893		Culvert									
Main	882	Regional	6.00	178.40	179.53	179.32	179.81	0.006403	2.35	2.55	6.87	0.73
Main	879	Regional	6.00	178.31	179.64	179.48	179.67	0.003030	0.96	11.06	38.10	0.43
Main	878		Culvert									
Main	855	Regional	6.00	177.79	178.87	178.87	178.92	0.007379	1.33	9.50	67.74	0.65
Main	835	Regional	6.00	177.61	178.52	178.42	178.71	0.010017	1.93	3.12	6.85	0.80

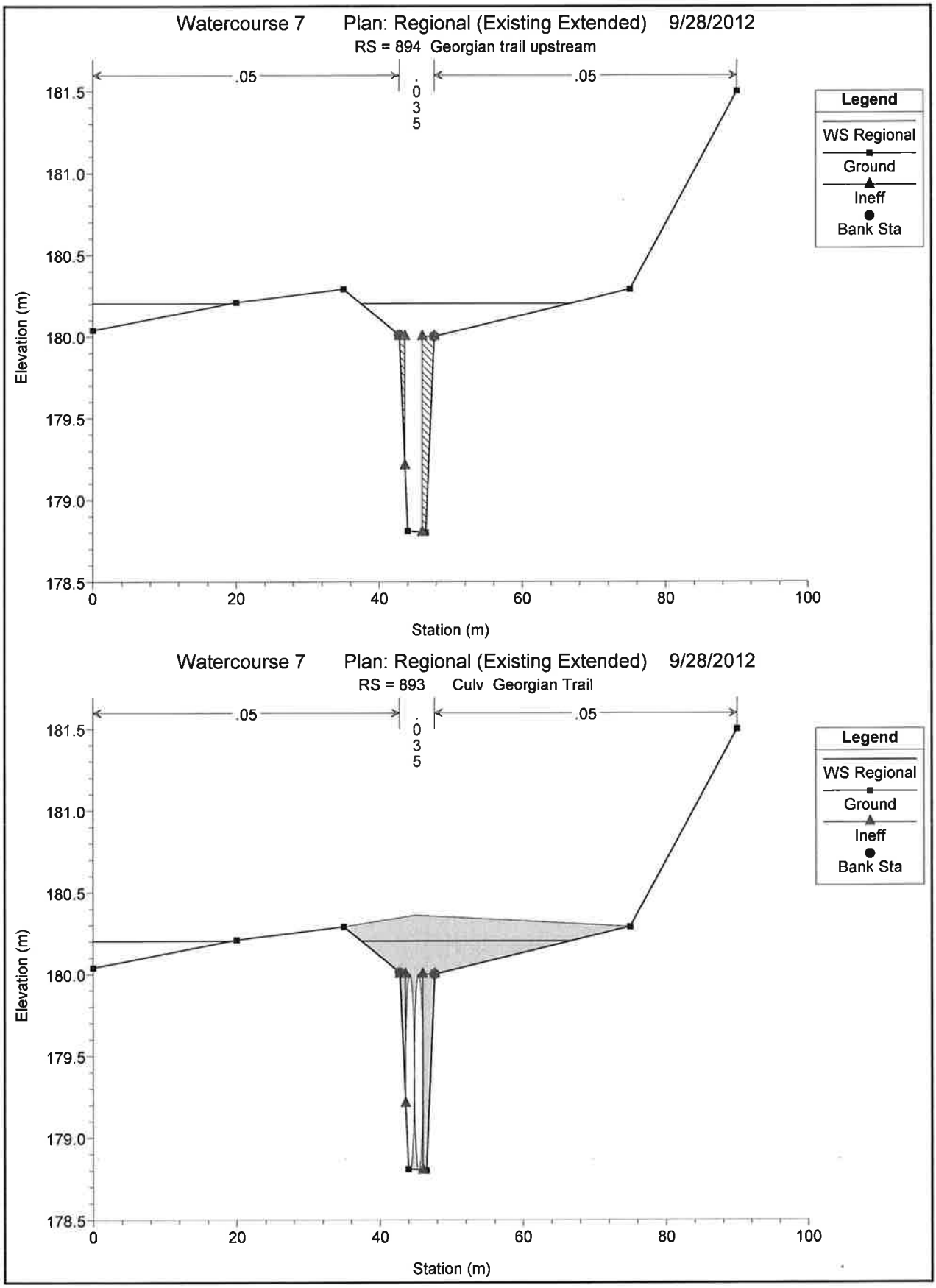

Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 1000 End of previous modeling section
.05
.035
.05
Legend
WS Regional
Ground
Levee
Bank Sta
Elevation (m)
183.8
183.6
183.4
183.2
183.0
182.8
182.6
0
20
40
60
80
100
120
140
160
180
Station (m)
Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 970
.05
.035
.05
Legend
WS Regional
Ground
Bank Sta
Elevation (m)
183.4
183.2
183.0
182.8
182.6
182.4
182.2
182.0
181.8
0
20
40
60
80
Station (m)

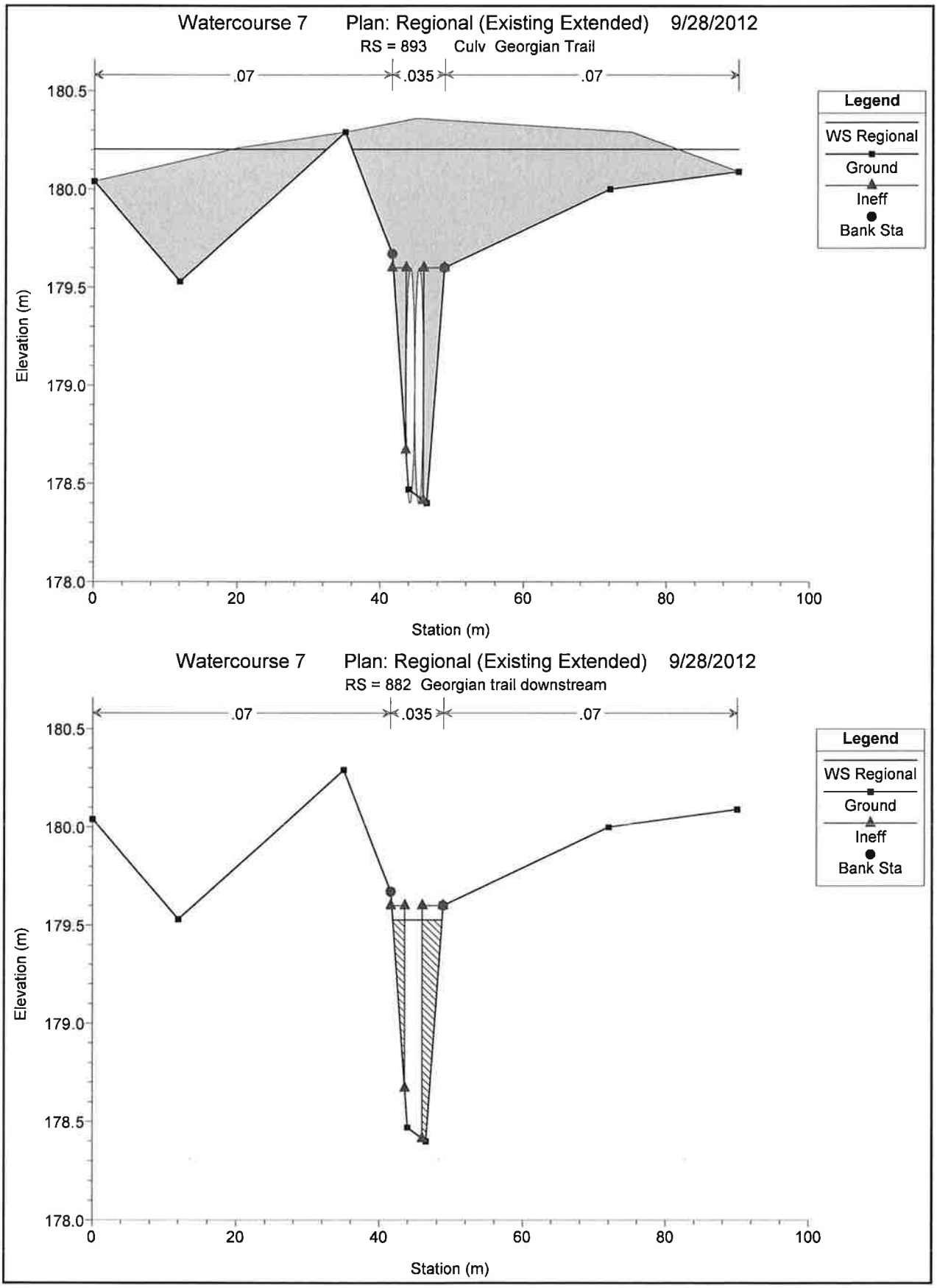

Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 950
.05
.035
.05
Legend
WS Regional
Ground
Bank Sta
Elevation (m)
183.2
183.0
182.8
182.6
182.4
182.2
182.0
181.8
10
20
30
40
50
60
Station (m)
Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 942
.05
.035
.05
Legend
WS Regional
Ground
Ineff
Bank Sta
Elevation (m)
183.0
182.8
182.6
182.4
182.2
182.0
181.8
181.6
70
80
90
100
110
120
130
140
Station (m)

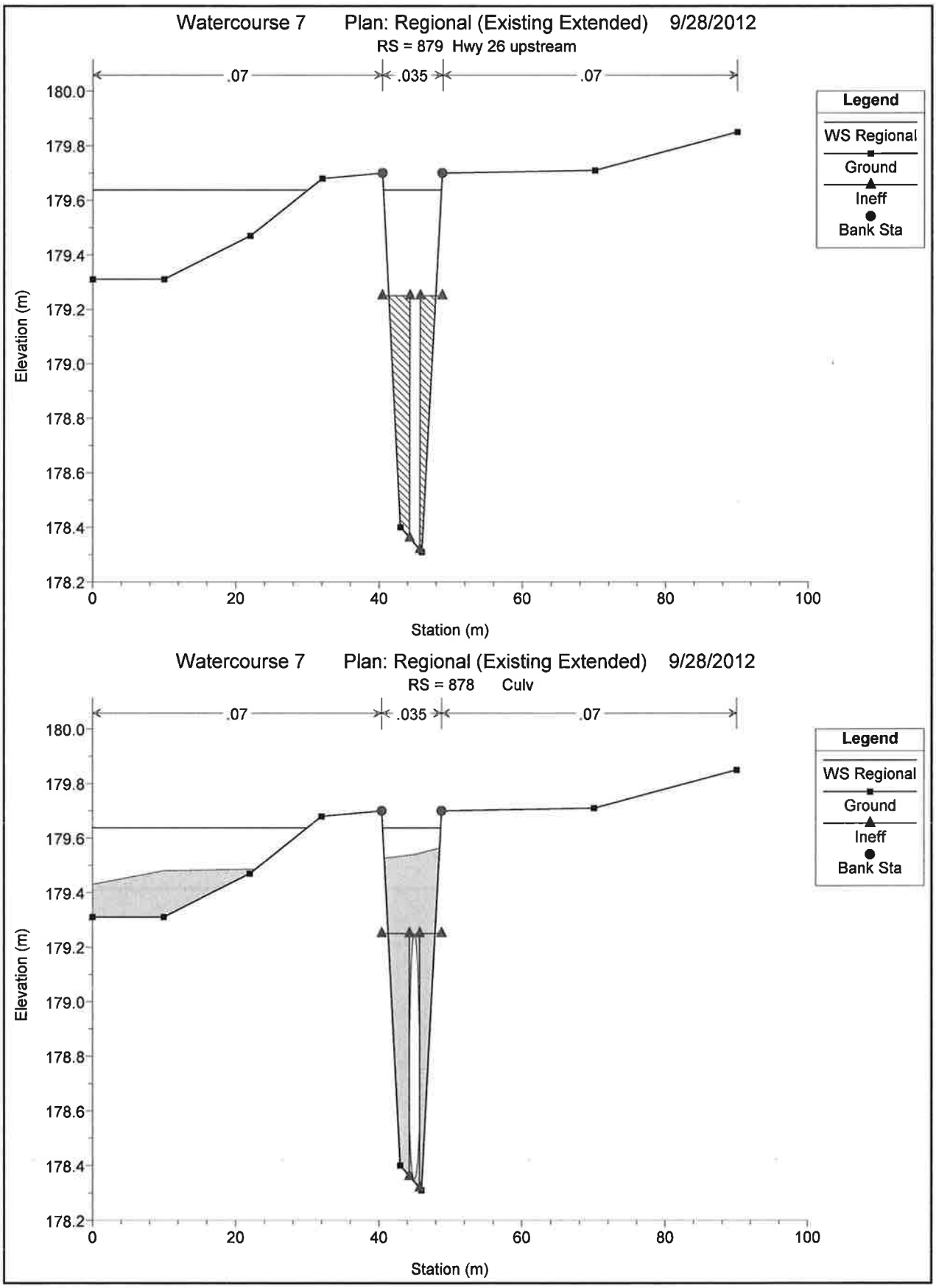

Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 940 Culv
.05
.035
.05
Legend
WS Regional
Ground
Ineff
Bank Sta
Elevation (m)
183.0
182.8
182.6
182.4
182.2
182.0
181.8
181.6
181.4
181.2
70
80
90
100
110
120
130
140
Station (m)

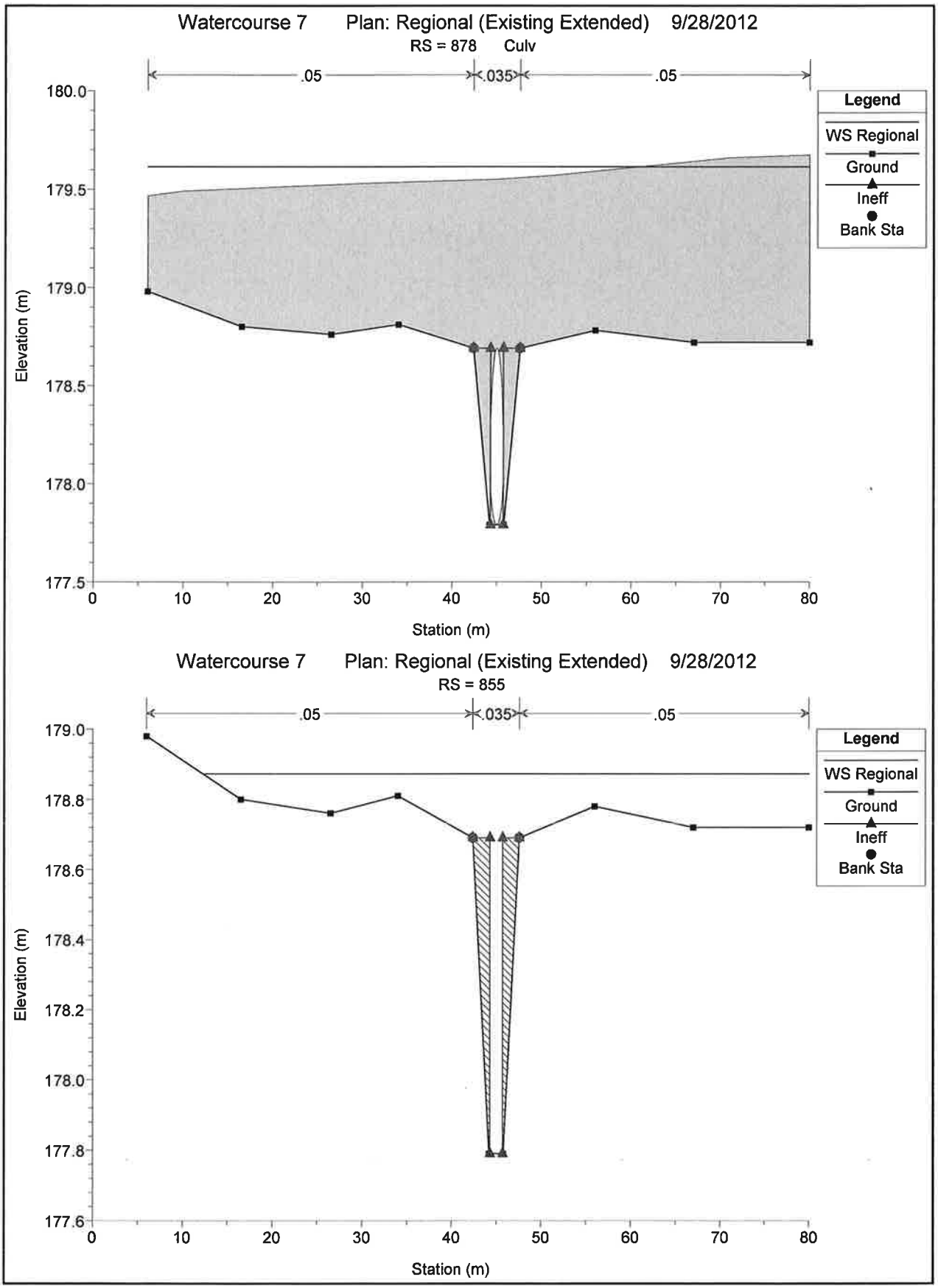

Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 940 Culv
.05
.035
.05
Legend
WS Regional
Ground
Levee
Ineff
Bank Sta
Elevation (m)
183.0
182.5
182.0
181.5
181.0
180.5
40
60
80
100
120
140
Station (m)

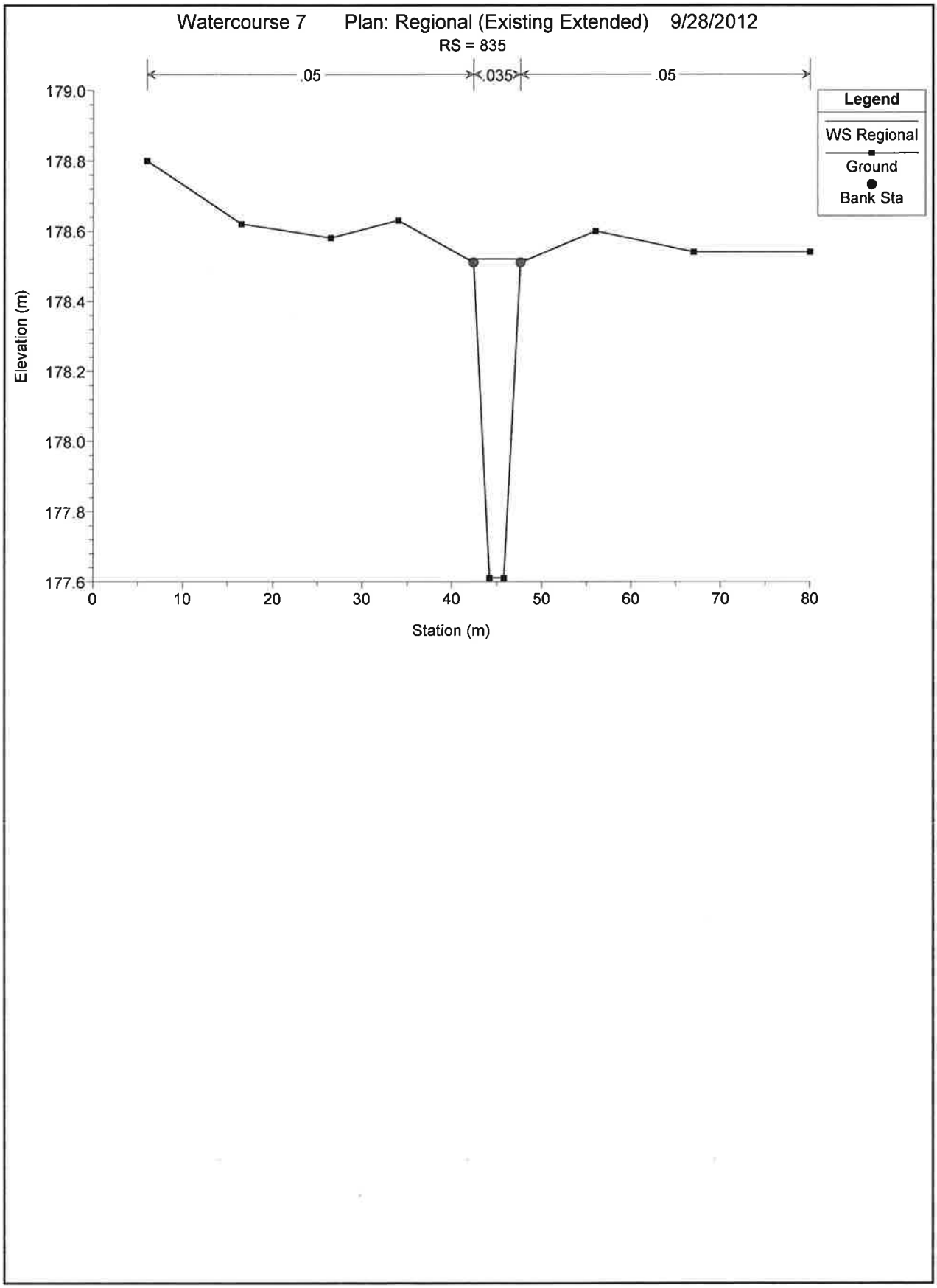

Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 929
.05
.035
.05
Legend
WS Regional
Ground
Levee
Ineff
Bank Sta
Elevation (m)
Station (m)
Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 920
.05
.035
.05
Legend
WS Regional
Ground
Bank Sta
Elevation (m)
Station (m)


Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 894 Georgian trail upstream
.05
.035
.05
Legend
WS Regional
Ground
Ineff
Bank Sta
Elevation (m)
181.5
181.0
180.5
180.0
179.5
179.0
178.5
0
20
40
60
80
100
Station (m)
Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 893 Culv Georgian Trail
.05
.035
.05
Legend
WS Regional
Ground
Ineff
Bank Sta
Elevation (m)
181.5
181.0
180.5
180.0
179.5
179.0
178.5
0
20
40
60
80
100
Station (m)


Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 893 Culv Georgian Trail
.07
.035
.07
Legend
WS Regional
Ground
Ineff
Bank Sta
Elevation (m)
180.5
180.0
179.5
179.0
178.5
178.0
0
20
40
60
80
100
Station (m)
Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 882 Georgian trail downstream
.07
.035
.07
Legend
WS Regional
Ground
Ineff
Bank Sta
Elevation (m)
180.5
180.0
179.5
179.0
178.5
178.0
0
20
40
60
80
100
Station (m)


Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 879 Hwy 26 upstream
.07
.035
.07
Legend
WS Regional
Ground
Ineff
Bank Sta
Elevation (m)
180.0
179.8
179.6
179.4
179.2
179.0
178.8
178.6
178.4
178.2
0
20
40
60
80
100
Station (m)
Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 878 Culv
.07
.035
.07
Legend
WS Regional
Ground
Ineff
Bank Sta
Elevation (m)
180.0
179.8
179.6
179.4
179.2
179.0
178.8
178.6
178.4
178.2
0
20
40
60
80
100
Station (m)


Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 878 Culv
.05
.035
.05
Legend
WS Regional
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)
Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 855
.05
.035
.05
Legend
WS Regional
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)


Watercourse 7 Plan: Regional (Existing Extended) 9/28/2012
RS = 835
.05
.035
.05
Legend
WS Regional
Ground
Bank Sta
Elevation (m)
179.0
178.8
178.6
178.4
178.2
178.0
177.8
177.6
0
10
20
30
40
50
60
70
80
Station (m)

APPENDIX F

Geotechnical Data

Peto MacCallum Ltd.
CONSULTING ENGINEERS

GEOTECHNICAL INVESTIGATION
PROPOSED RESIDENTIAL SUBDIVISION
161 LAKSHORE ROAD EAST
TOWN OF THE BLUE MOUNTAINS, ONTARIO

for

PARKBRIDGE LIFESTYLE COMMUNITIES INC.

PETO MacCALLUM LTD.
19 CHURCHILL DRIVE
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Distribution:
2 cc: Parkbridge Lifestyle Communities Inc. (+email)
1 cc: PML Barrie

PML Ref.: 15BF041
Report: 2
December 2015

Peto MacCallum Ltd.
CONSULTING ENGINEERS

December 7, 2015

PML Ref.: 15BF041
Report: 2

Mr. Chris Alderdice
Parkbridge Lifestyle Communities Inc.
85 Theme Park Drive
Wasaga Beach, Ontario
L9Z 1X7

Dear Mr. Alderdice

Geotechnical Investigation
Proposed Residential Subdivision
161 Lakeshore Road East
Town of the Blue Mountains, Ontario

We are pleased to present the results of a geotechnical investigation completed for the above referenced project. Authorization for this assignment was provided by T. Exner of Parkbridge Lifestyle Communities Inc. (Parkbridge) in an email dated October 28, 2015.

Parkbridge is planning to purchase an approximate 25 Ha parcel of land at 161 Lakeshore Road East for development of an approximate 200 lot residential subdivision. The site is terraced comprising low lying ground, with frontage on Lakeshore Drive East, rising some 20 m up the Niagara Escarpment in the west and south parts of the site. The southwest part of the site has limited frontage along Grey Road 19. The configuration of the subdivision is in the preliminary stages and current concept plan has lots on both the high and low ground, however grading has yet to be determined. It is understood that site servicing is proposed and full depth basements are preferred.

Reference is made to Report 1, dated August 24, 2015 which was a factual report providing the subsurface conditions as revealed in 16 test pits dug in the lower lying northern part of the site.

For this Report 2, 19 boreholes were advanced across the entire site to provide more detailed subsurface information. It is noted that three monitoring wells were installed under the direction of and for the purposes of SPL Consultants, as requested by the Client.

The boreholes in the higher ground revealed typically dense to very dense till soil with ground water level well below the anticipated depth of the development. The low lying north part of the site is characterized by local fill (due to the surface being reworked for archeological reasons) and generally compact to very dense deposits of till, sand and silt. Ground water was encountered as high as 1.5 to 3.0 m below the existing grade of the site. Auger refusal was encountered in some boreholes possibly indicating shallow bedrock.

Geotechnical conditions are generally favourable for development, with due consideration required for relatively high ground water table and shallow bedrock in the low lying north part of the site.

19 Churchill Drive, Barrie, Ontario L4N 8Z5
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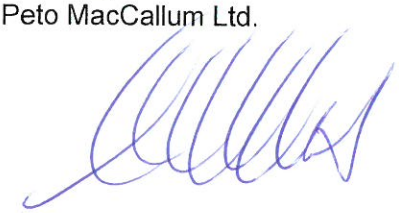
E-mail: barrie@petomaccallum.com
BARRIE, COLLINGWOOD, HAMILTON, KITCHENER, LONDON, TORONTO

We trust the report is complete within our terms of reference and the information presented is sufficient for your present purposes. If you have any questions or when we may be of further service, please do not hesitate to call our office.

Sincerely
Peto MacCallum Ltd.



Geoffrey R. White, P.Eng.
Associate
Manager, Geotechnical and Geoenvironmental Services

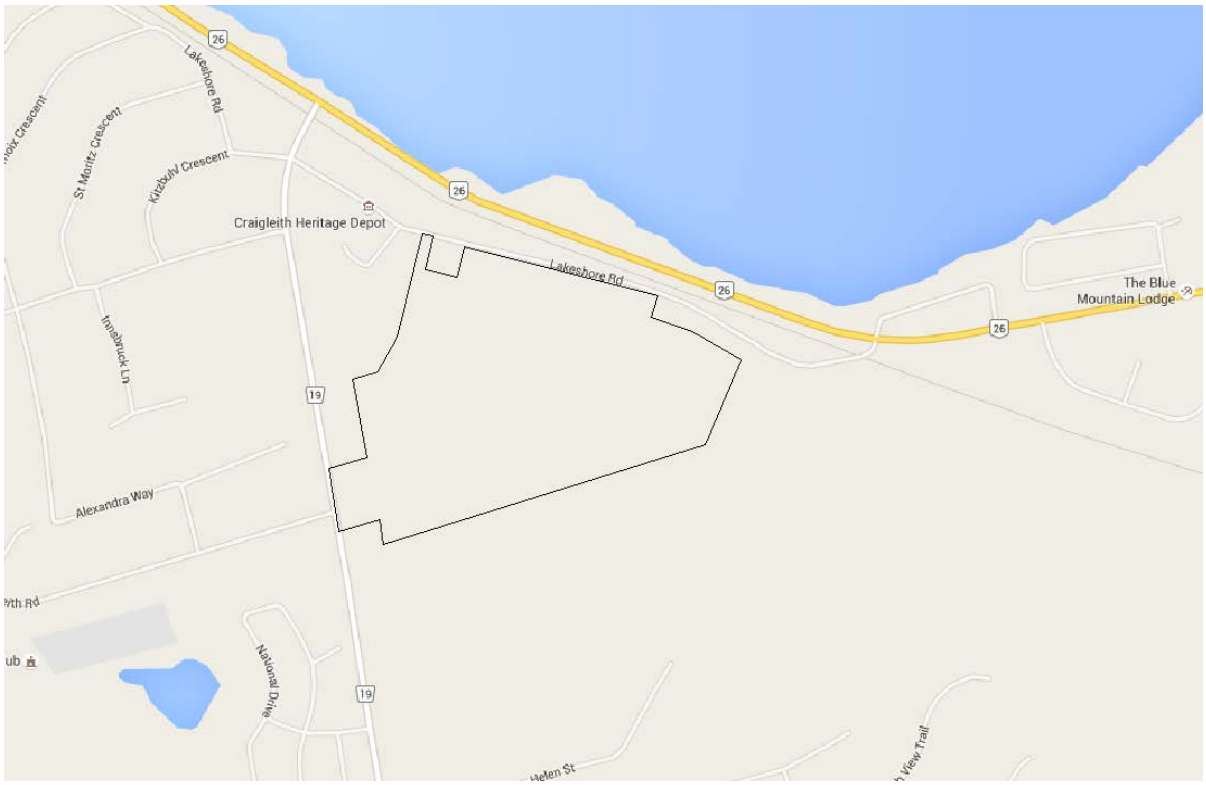
GRW:jlb

TABLE OF CONTENTS

1. INTRODUCTION AND SITE DESCRIPTION

Peto MacCallum Ltd. (PML) is pleased to present the results of the geotechnical investigation completed at the above noted project site. Authorization for this assignment was provided by Mr. T. Exner of Parkbridge Lifestyle Communities Inc. (Parkbridge) in an email dated October 28, 2015.

Parkbridge is proposing a residential subdivision on an approximate 25 Ha irregular shaped property in Craigleigh, in the Town of Blue Mountains. The municipal address for the site is 161 Lakeshore Road East. The site is flanked on the north by Lakeshore Road East, with a small section of frontage on Grey Road 19, in the southwest corner. The site location is shown below.



The current concept plan for the subdivision comprising approximately 200 residential lots is shown in Drawing 2-1, appended. Full depth basements are currently planned, along with full site servicing, a network of internal roads and a Storm Water Management (SWM) Pond. It is noted that there are parts of the site were the topography will not permit development. Also no development is planned along the drainage pathway that flows through the middle of the site. Further, it is understood that Archeological studies are currently in progress that might impact development. Final grading for the subdivision has not yet been determined.

The site is divided by the Niagara Escarpment which creates an elevated southern section and a low lying northern portion, with relief of about 20 m. Within the lower northern lands the site slopes gently down to the northeast about 10 m (elevation 191 to about elevation 181). In the higher west and south grounds there is more irregularity to the relief with the site typically ranging from about elevation 210 to elevation 217. There is a drainage path through the east/west axis of the site and an existing pond in the east part of the lower lying northern section of the site. The depth of the pond is unknown.

Reference is made to Report 1, dated August 24, 2015 which is a factual report providing the subsurface conditions as revealed in 16 test pits dug in the lower lying northern part of the site.

The purpose of this borehole investigation and Report 2 was to obtain more detailed subsurface information for the entire site, and based on this information, provide comments and geotechnical engineering recommendations to assist in the planning and design of the proposed development. Geo-environmental assessment of the site was not within the terms of reference, and no work has been carried out in this regard.

The comments and recommendations provided in this report are based on the site conditions revealed in the boreholes at the time of the investigation, and are applicable only to the proposed works as addressed in the report. The design is at the conceptual/preliminary stages, and final grades were not available at the time of this study. Accordingly, the comments and recommendations provided in this report are general in nature, and suitable only for preliminary design and planning purposes. When design details are available, the proposed plans will require review by PML to assess the validity of the report, and may require modified recommendations, additional investigation and/or analysis.

2. INVESTIGATION PROCEDURES

The field work for the project was carried out during November 9 to 12. Boreholes 1 to 6 were drilled in the southern higher ground to 4.7 to 5.3 m depth, locally 18.4 m depth in Borehole 2. Boreholes 7 to 19 were advanced to 1.5 to 5.0 m depth in the lower lying north part of the site. The borehole locations are shown on appended Drawing 2-1.

Co-ordination for clearances of underground utilities was provided by PML with the aid of a subcontracted private utility locating service.

The boreholes were advanced using continuous flight solid stem augers, powered by track mounted CME-55 drill rig, equipped with and automatic hammer. The drill rig was supplied and operated by a specialist drilling contractor working under the full-time supervision of a member of PML's engineering staff.

Representative samples of the overburden were recovered at frequent depth intervals for identification purposes using a conventional split spoon sampler. Standard penetration tests were carried out simultaneously with the sampling operations to assess the strength characteristics of the subsoil.

Ground water conditions in the boreholes were closely monitored during the course of the field work. Standpipes comprising 19 mm diameter pipe were installed in three boreholes to permit monitoring of the stabilized ground water table. Monitoring wells with 50 mm diameter pipe were installed in three boreholes under the direction of and for the purposes of SPL Consultants, as requested by the Client. Above grade protective casings were installed on the monitoring wells.

Boreholes without standpipes or monitoring wells were backfilled in accordance with O.Reg. 903. As per O.Reg. 903 the standpipes and monitoring wells become the property of the Owner and will have to be decommissioned when no longer required. PML would be pleased to assist in this regard.

The location of each borehole was established in the field by the Client and PML prior to drilling. The boreholes were staked and numbered in the field for subsequent vertical and horizontal ties by the Client.

All recovered soil samples were returned to our laboratory for moisture content determination and detailed examination to confirm field classification. It is noted SPL Consultants recovered all soil samples from the boreholes where monitoring wells were installed and as a result no moisture contents were completed for these boreholes. Four soil samples from the boreholes were submitted for grain size analysis and the results are presented on Figures 2-1 to 2-4, appended.

3. SUMMARIZED SUBSURFACE CONDITIONS

Reference is made to the appended Log of Borehole sheets for details of the subsurface conditions, including soil classifications, inferred stratigraphy, Standard Penetration test N values, standpipe and monitoring well installation details, ground water observations and the results of laboratory moisture content determinations.

Due to the soil sampling procedures and limited sample size, the depth demarcations on the borehole logs must be viewed as "transitional" zones between layers, and cannot be construed as exact geologic boundaries between layers.

3.1 South Elevated Part of Site (Boreholes 1 to 6)

Based on Boreholes 1 to 6, the elevated south part of the site is dominate by a till deposit. Local layers of silt and sand are also present. A description of the characteristics and distribution of the various soil units and ground water observations encountered in Boreholes 1 to 6 is presented below.

3.1.1 Topsoil

An 80 to 150 mm thick layer of topsoil was found at the surface of Boreholes 1 to 5.

3.1.2 Silt

Local upper silt layers were noted in Boreholes 1 and 5. A silt layer occurred from 0.1 to 0.7 m in Borehole 1 and 0.7 to 1.4 m depth in Borehole 5. The material comprised silt to clayey silt with trace sand. The consistency was very stiff to hard. The material was about the plastic limit with moisture contents of 6 to 20%.

A discontinuous basal sandy silt unit was encountered underlying the sand in Borehole 6, extending to the 4.8 m depth of exploration. The unit was very dense and very moist with a moisture content of 17%.

3.1.3 Sand

Sand deposits/layers were encountered in Boreholes 1, 2 5 and 6.

The sand occurred as upper layers in Borehole 1 (below the silt from 0.7 to 1.4 m depth) in Borehole 5 (below the topsoil from 0.08 to 0.7 m), and in Borehole 6 (from the surface to 4.0 m depth). The material comprised sand with trace silt, to silty sand. The unit was loose to very dense and was moist to very moist, with moisture contents of 5 to 17%.

A lower silty sand deposit was encountered below the till in Borehole 2 from 15.2 m depth to the 18.4 m depth of exploration. The deposit was very dense and wet.

3.1.4 Till

A major till deposit was encountered in all boreholes except Borehole 6. The till comprised gravely silty sand with trace clay and trace gravel. Cobbles and boulders were noted. A grain size analysis was conducted on a sample of the material from Borehole 3 and the results are provided in Figure 2-1, appended. The till was typically dense to very dense, locally compact or loose. The deposit was moist with moisture contents of 4 to 10%.

3.1.5 Ground Water

Upon completion of augering, no water or wet cave was observed in the boreholes, except Borehole 2 at 15.2 m depth.

The water levels in the wells installed in Boreholes 2 and 4 were measured on November 27, 2015, some 16 days after installation. The water level in Borehole 2 was measured at 2.9 m depth. The well in Borehole 4 was dry.

Ground water levels are subject to seasonal fluctuations and in response to variations in precipitation.

3.2 North Low Lying Part of Site (Boreholes 7 to 19)

Based on Boreholes 7 to 19, the subsurface stratigraphic sequence in the lower lying part of the site is variable and comprises surficial fill (due to grooming of the fields for archeological purposes) over deposits of sand, silt and till over areas assumed shallow bedrock or boulders. A description of the characteristics and distribution of the various soil units, bedrock and ground water observations encountered in Boreholes 7 to 19 is presented below.

3.2.1 Topsoil

Topsoil was at the surface of Boreholes 9, 12 and 16, measuring 100 to 150 mm thick.

3.2.2 Fill

A fill layer was at the surface of Boreholes 7, 8, 10, 11, 13 to 15, and 17 to 19, typically extending to 0.7 m depth, locally 1.4 m depth in Boreholes 8 and 15. It understood that the lower part of the site underwent an archeological study and as part of the study most of the lower lying lands were ‘groomed’ as part of the study, mixing the topsoil and upper soil layers. The fill typically comprised sandy silt, trace clay, trace gravel, with trace organics and topsoil inclusions. The material was moist with moisture contents ranging from 6 to 20%, locally wet with moisture content of 41% in Borehole 7, adjacent to the existing pond.

3.2.3 Sand

Upper sand layers were encountered in Boreholes 7, 9 and 15, beneath the fill or upper silt layers, and extending to 2.1 to 2.9 m depth. The layers were compact to very dense and comprised sand, trace silt to silty sand, with trace to some gravel, to gravelly sand, some silt. The material from Borehole 15 was submitted for grainsize analysis and the results are provided in Figure 2-2, appended. The material was moist with moisture contents of 3 to 8%.

Lower sand deposits were noted below the fill, silt or clayey silt layer, in Boreholes 9, 10, 12, 13 and 16 to 19 and extended to the depth of the boreholes. The deposit was variable grading from sand, trace silt to silty fine sand, with trace to some gravel, locally trace organics. The material was typically dense to very dense, locally compact or loose. The sand deposits ranged from moist to wet with moisture contents of 1 to 19%.

3.2.4 Silt

Upper silt layers were revealed in Boreholes 9, 10, 12, 16 and 19 below the topsoil or fill and extending to 0.7 to 1.4 m depth. The layers typically comprised sandy silt, trace gravel and trace organics. The material was compact and moist, with moisture contents of 10 to 15%.

A lower silt layer was contacted in Borehole 9 from 2.9 to 4.0 m depth, and in Borehole 15 from 2.9 m depth to the 4.7 m depth of exploration. These lower layers comprised sandy silt and ranged from compact to dense. A sample of the material from Borehole 15 was submitted to our laboratory for grain size analysis and the results are provided in Figure 2-3, attached. The material was moist to very moist with moisture contents of 14 to 18%.

3.2.5 Till

A till deposit was encountered in Boreholes 8, 11 and 14, below the fill to the 2.1 to 4.7 m depth of exploration. The till comprised silty sand to sandy silt, with trace gravel, locally varying to clayey silt, in the upper portion of Borehole 8. Cobbles and boulders were noted. A sample from the upper portion of Borehole 8 was submitted for grainsize analysis and the results are provided on

Figure 2-4, appended. The deposit was very dense/hard, locally compact in the upper portion of Borehole 14. The till was moist, locally wet, with moisture contents ranging from 6 to 16%.

3.2.6 Clayey Silt

A local clayey silt layer was contacted from 2.1 to 2.9 m depth in Borehole 7. The unit was hard and contained shale layers. The moisture content was 2%.

3.2.7 Sand and Silt

A local sand and silt deposit was contacted below the shale layer in Borehole 7 extending to the 4.2 m depth of exploration. The unit contained trace gravel and was very dense. The material was moist with a moisture content of 3%.

3.2.8 Auger Refusal/Assumed Bedrock

Auger refusal was encountered in Boreholes 7, 9 to 11, 13, 14 and 16 to 18 between 1.5 and 4.9 m depth. An additional attempt was made for most of the boreholes encountering similar refusal depths. Auger refusal is assumed to reflect shallow bedrock common to the area however, may also be due to boulders in the till soils.

A review of MOECC well records within about 300 m of the site revealed shale and/or limestone bedrock as shallow as 1.5 m.

It is noted that Rotary diamond coring is typically recommended to prove out bedrock. In this case it is further noted that bedrock, typically limestone, was encountered in some of the test pits from Report 1 at similar depths as noted above.

3.2.9 Ground Water

The following table provides the ground water measurements and measurements in the standpipes or monitoring wells on November 27, 2015.

BOREHOLE	WATER LEVEL UPON COMPLETION (Depth m)	WATER LEVEL IN STANDPIPE OR WELL (Depth m) November 27, 2015
7	No water	No Standpipe or Well
8	4.4	0.6
9	3.8	3.2
10	No water	No Standpipe or Well
11	No water	No Standpipe or Well
12	4.6	1.5
13	No water	No Standpipe or Well
14	No water	No Standpipe or Well
15	4.4	3.1
16	No water	No Standpipe or Well
17	No water	No Standpipe or Well
18	No water	No Standpipe or Well
19	2.4	No Standpipe or Well

The stabilized ground water level is believed to be about 1.5 to 3.0 m below existing.

It is noted that surface water was present around the standpipe in Borehole 8 and the proximity to the existing pond is believed to have impacted the measured water level.

Ground water levels are subject to seasonal fluctuations and in response to variations in precipitation.

4. GEOTECHNICAL ENGINEERING CONSIDERATIONS

4.1 General

Parkbridge is planning to purchase an approximate 25 Ha. parcel of land at 161 Lakeshore Road East for development of an approximate 200 lot residential subdivision. The site is terraced comprising low lying ground, with frontage on Lakeshore Drive East, rising some 20 m up the Niagara Escarpment in the west and south parts of the site. The southwest part of the site has limited frontage along Grey Road 19. The configuration of the subdivision is in the preliminary stages and current concept plan has lots on both the high and low ground, however grading has yet to be determined. It is understood that site servicing is proposed and full depth basements are preferred.

The current concept plan for the subdivision comprising approximately 200 residential lots is shown in Drawing 2-1, appended. Full depth basements are currently planned, along with full site servicing, a network of internal roads and a Storm Water Management (SWM) Pond. It is noted that there are parts of the site were the topography will not permit development. Also no development is planned along the drainage pathway that flows through the middle of the site. Further, it is understood that Archeological studies are currently in progress that might impact development. Final grading for the subdivision has not yet been determined.

For purposes of this report it is assumed the proposed grades will coincide with the existing grade, with only minor cut and fill adjustments as required. Based on this assumption the irregular relief in the upper part of the site will likely require more grading.

The boreholes in the elevated south and west parts of the site have revealed typically dense to very dense till with ground water well below the anticipated 3 m depth anticipated for full depth basements and site servicing. The conditions are favourable for development in the higher ground.

Boreholes 7 to 19 in the lower lying norther part of the site encountered typically compact to very dense soil below a thin layer of fill, with assumed bedrock at 1.5 to 4.9 m depth below existing

grade. The stabilized ground water table is anticipated at 1.5 to 3.0 m below existing grade. While bearing capacity for the residences is readily available, the presence of the higher ground water table and shallow bedrock will require due consideration in relation to full depth basements. Rock excavation will be required depending on the depth of the basements and servicing.

4.2 General Site Grading and Engineered Fill

Final grades for the site have not yet been established. However, it is anticipated that some amount of cut/fill operations will be required. Existing fill that exists in the low lying north part of the site is not suitable for supporting buildings or infrastructure. Such existing fill needs to be sub-excavated and replaced with engineered fill. Also, engineered fill will be needed where grades are to be raised to support building infrastructure and roads.

General guidelines for engineered fill construction are provided in Appendix A. Specific site details are provided below:

- Strip existing topsoil, and sub-excavate existing fill, organic and other obvious deleterious materials down to competent native inorganic soil as verified by geotechnical review during construction;
- Proofroll exposed subgrade using a heavy roller. The proofrolling should be witnessed by geotechnical personnel to identify any unstable areas that may require further excavation;
- Following geotechnical approval of the subgrade, place select material in maximum 200 mm thick lifts and compact to minimum 100% Standard Proctor maximum dry density under buildings and structures. Engineered fill under pavements should be constructed to 95% Standard Proctor maximum dry density;
- Engineered fill should comprise inorganic soil, free of boulders, rubble, frozen or otherwise deleterious material, at a moisture content suitable for compaction. In this regard, excavated site soils are generally suitable for reuse, subject to geotechnical field review and approval during construction. Soils excavated from below the water table will be too wet to achieve compaction and will have to be “dried out” or mixed with direr soil;

- Proposed borrow/imported material should be reviewed for geotechnical and environmental quality;

- The engineered fill pad must extend to at least 1 m horizontally beyond the perimeter of the structural to be supported, then down and outwards at no steeper than 45 degrees to meet the approved subgrade. Strict survey control by an OLS will be needed to document and ensure the engineered fill pad fully incorporates the structure to be supported;

- Earthworks operations should be reviewed by PML to approve subgrade preparation and backfill material and ensure satisfactory placement and compaction efforts.

4.3 Foundations

4.3.1 South Elevated Part of Site (Boreholes 1 to 6)

Finished grades for the site have yet to be determined, however based on Borehole 1 to 6, dense to very dense soil was encountered below 0.5 m depth.

A geotechnical bearing resistance at Serviceability Limit State (SLS) of 200 kPa and a factored bearing resistance at Ultimate Limit State (ULS) of 300 kPa is available for design of residential footings founded on native soil, a minimum 0.5 m below existing grade. In general, it is noted that geotechnical bearing resistances increase with depth.

In areas where site grades are to be raised, the footings can be supported on engineered fill, constructed as described in Section 4.2, where a geotechnical bearing resistance of 150 kPa at SLS and a factored geotechnical bearing resistance at ULS of 225 kPa are available for design.

4.3.2 North Low Lying Part of Site (Boreholes 7 to 19)

Boreholes 7 to 19 revealed fill to 0.7 to 1.4 m depth, underlain by compact to very dense native soils. Shallow bedrock (limestone and shale) is assumed based on auger refusal in the boreholes between 1.5 and 4.9 m depth. The ground water table is interpreted to stabilized between 1.5 and 3.0 m depth below existing grade.

Based on the above, it is recommended that basement floor slabs be established no deeper than 1.5 m below existing grade, with footings no deeper than 2.0 m below existing grade, to minimize complications and impacts of shallow bedrock and ground water.

A geotechnical bearing resistance at SLS of 150 kPa and a factored bearing resistance at ULS of 225 kPa may be adopted for design of residential footings founded on native soil, a minimum 0.5 m below existing grade, or engineered fill, constructed as described in Section 4.2, except in the area of the existing pond as discussed below. In general, it is noted that geotechnical bearing resistances increase with depth within the native soil.

For residences planned in the location of the existing pond in the east part of the site, further investigation within and around the pond will be required prior to finalizing foundation recommendations.

Bedrock/assumed shallow bedrock (limestone and shale) was encountered in the boreholes (and test pits from Report 1) in the lower northern part of the site. While it is recommended that footings be kept within 2.0 m of the existing grade, there may be areas where footings are founded on bedrock. Where footings for a house are to be founded on bedrock it is recommended that all footings for the house extend down to the bedrock surface in order to avoid concerns with differential settlement. Footings founded on limestone or shale bedrock will not be governed by settlement and can be designed based on a factored bearing resistance at ULS of 400 kPa.

4.3.3 Ancillary

Site Classification D is applicable for Seismic Site Response as set out in Table 4.1.8.4.A of the Ontario Building Code (2012). There is a low potential for liquefaction based on the soil stratigraphy noted in the boreholes.

The geotechnical bearing resistance at SLS is based on 25 mm of settlement in the bearing stratum with differential settlement not exceeding 75% of this value. The factored bearing

resistance at ULS assumes a minimum footing width of 600 mm, with minimum 600 mm embedment.

Footings subject to frost action should be provided with a minimum 1.2 m of earth cover or equivalent.

Prior to placement of structural concrete, the footing subgrade surface must be examined by PML to verify that the design bearing capacity is available throughout.

4.4 Floor Slabs and Basements

The subsurface conditions in the southern elevated part of the site are favourable for full depth basements with basement floor slabs founded on native soil.

For the low lying northern part of the site it is recommended that basement floor slabs be set no deeper than 1.5 m below existing grade due to potential complications with the ground water table. Based on this level an underfloor drainage system may only be required in the southwest corner of the north half of the site (Borehole 12). Drainage requirements must be reviewed when final grading plans are established. Drainage system requirements within the existing pond area will have to be reviewed after further investigation is completed.

A minimum 200 mm thick base layer of crushed stone (nominal 20 mm size) is recommended directly beneath the basement floor slabs. A polyethylene sheeting or similar means should be incorporated as a vapour barrier on areas of shallow ground water.

Exterior grades should be established to promote drainage away from the site.

Basement walls must be designed to resist the unbalanced lateral pressure due to the weight of the retained soil. The lateral earth pressure, p, may be computed using the following equation and assuming a triangular pressure distribution:

$$p = K(\gamma h + q)$$

Where
- K = lateral earth pressure coefficient = 0.5, assuming level backfill
- γ = unit weight of retained soil = 20.0 kN/m^3
- h = depth at which pressure is computed
- q = surcharge adjacent to the wall (kPa)

It is recommended that the exterior basement be damp proofed and the backfill behind the wall comprise free draining material in conjunction with perimeter weeping tile system to prevent the buildup of hydrostatic pressure behind the wall. The weeping tile should be surrounded by a minimum 150 mm thick layer of clear crushed stone (20 mm nominal size) or pea gravel, fully wrapped with synthetic filter fabric to prevent migration of fines which may otherwise clog the system. The weeping tile should be positively sloped to a frost free sump or outlet.

Imported material such as OPSS Granular B should be used as free draining wall backfill. Alternatively, a proprietary drainage board product could be provided in conjunction with reuse of site excavated soil as wall backfill.

Backfill should be placed in maximum 200 mm thick lifts and compacted to 95% Standard Proctor maximum dry density. Over compaction close to the wall should be avoided as this could generate excessive pressure on the wall. Suitable bracing and/or precautions should be taken to ensure the wall is not damaged during backfill/compaction activities.

4.5 Site Servicing

The invert levels of the services were not known at the time of this report and site grading were yet to be determined. For purposes of this report it is assumed that inverts will be no deeper than 3.0 m below existing grade.

4.5.1 Trench Excavation and Ground Water Control

Trench excavation and ground water control is discussed later in the report under Section 4.8.

4.5.2 Bedding

It is anticipated that services will generally be supported by native soils, where bearing capacity is not expected to be a concern. However, where poor subgrade or fill soil is encountered at the design invert and it may be necessary to sub-excavate and provide an increased thickness of bedding, subject to geotechnical field review.

Standard granular bedding in accordance with OPSS compacted to 95% Standard Proctor maximum dry density should be satisfactory. For flexible pipes, bedding and cover material should comprise OPSS Granular A. For rigid pipes, bedding material should comprise OPSS Granular A, and cover material may comprise select trench backfill free of oversized (200 mm or less) or excessively wet material.

4.5.3 Backfill

Backfill in trenches should be placed in maximum 200 mm thick loose lifts compacted to at least 95% Standard Proctor maximum dry density to minimize post construction settlement in the backfill. Backfill for at least the upper 1 m of trench should be close to optimum moisture content to prevent subgrade instability issues.

Backfill for service trenches should comprise inorganic soil, free of boulders, rubble, frozen or otherwise deleterious material, at a moisture content suitable for compaction. In this regard, excavated site soils will be generally suitable for reuse, subject to geotechnical review and

approval during construction. Soils excavated from below the ground water table will be too wet to achieve high compaction. Wet soil will have to be mixed and/or allowed to "dry out" in order to render the material suitable for reuse. Construction during the dry time of the season is encouraged to optimize the reuse of any excavated site soil. Imported soil for backfill, if required, should be reviewed by PML prior to transporting the material to the site.

Earthworks operations should be inspected by PML to approve the subgrade, backfill materials, placement and compaction procedures and to ensure the specified compaction standards are achieved throughout.

4.6 Pavement Design and Construction

A preliminary Concept Plan in Drawing 2-1, appended, shows a network of roads. The proposed grades have not been established at the time of this report.

For preliminary purposes, based on the subgrade comprising moderate to high frost susceptible silty sand to sandy silt, present near the existing surface over most of the site, the following preliminary pavement structure thicknesses are recommended:

MATERIAL	LIGHT DUTY	HEAVY DUTY
Asphalt (mm)	90	120
Granular A Base Course (mm)	150	150
Granular B Subbase Course (mm)	400	600
Total Thickness (mm)	640	870

Following rough grading, subgrade preparation should include proofrolling and compacting the exposed subgrade with a heavy vibratory compactor to 95% Standard Proctor maximum dry density under geotechnical review. Any unstable zones identified during this process should be sub-excavated and replaced with compacted select material. Where grades are to be raised, road fill should be constructed as engineered fill.

Imported material for the granular base and subbase should conform to OPSS gradation specifications for Granular A and Granular B, and should be compacted to 100% Standard Proctor maximum dry density. Asphalt should be compacted in accordance with OPSS 310.

For the pavement to function properly, it is essential that provisions be made for water to drain and not collect in the base material. The incorporation of subdrains is recommended in conjunction crowing of the final surface to promote drainage away from the structure.

4.7 Storm Water Management Pond

Final grades and details of the SWM pond have not yet been established.

Boreholes 9 and 15 were advanced in the area of the SWM pond and revealed silty sand fill over layers of sandy silt, sand and/or silt to 2.9 m depth that was moist to very moist with depth. Beneath the sand, a lower compact to very dense sandy silt layer was encountered to the 4.7 m depth. The stabilized water levels in the standpipe and well were measured at 3.2 and 3.1 m depth below existing grade.

At the time of this report, the SWM pond design was not established. The following general comments and recommendations are provided for your consideration. When final grading and details of the pond are established they should be submitted to PML for geotechnical review:

- A maximum proposed depth of 2.5 m below existing grade should be considered so that the capacity of the pond is not compromised by ground water. The permeability of the in-situ is quite variable ranging between about 10^{-2} to 10^{-5} cm/sec;
- Berms should be constructed as engineered fill, using select material, compacted to 95% Standard Proctor maximum dry density as discussed earlier in the report;
- For storm water retention, an impermeable pond liner will be needed. Interior side slopes for ponds should be no steeper than 5 horizontal to 1 vertical (5H:1V) with exterior side slopes no steeper than 3H:1V. Vegetation cover, granular blanket, rip rap or the likes will be required for erosion control.

4.8 Excavation and Ground Water Control

For purposes of this report it is assumed that excavation for basements and trenching for servicing site will extend no deeper than 3.0 m below the existing ground surface. A variety of soil types will be encountered including fill, till, sand and silt. Also bedrock can be anticipated in the south part of the site. Open cuts will be feasible although harder digging conditions can be expected in the typically dense to very dense soils. Boulders can be expected in till soils, and bedrock excavation can be anticipated in the low lying south part of the site.

Cognizant of the blasting/rock excavation, a pre-construction survey should be carried out for structures located within and around the construction area. This documentation will assist in resolution of potential claims arising in the event of complaints of construction related damage. A blast monitoring programme should be implemented to optimize the effectiveness of each blast while maintaining vibrations within acceptable limits.

The site soils should be considered as Type 3 soil requiring excavation sidewalls to be constructed no steeper than 1H:1V from the base of the excavation in accordance with the Occupational Health and Safety Act.

Excavation in the southern part of the site will be above the ground water table and surface water run-off and perched water seepage can be handled by conventional sump pumping.

For the northern part of the site the recommended basement excavation depth is designed to keep excavation above the ground water table, while site serving will generally be above, locally below the ground water level. Surface water run-off and perched water seepage can be handled by conventional sump pumping for the most part. It is noted that greater water volumes can be anticipated in the southwest part of the northern half of the site (Borehole 12) where more aggressive pumping from keg wells and/or granular sheeting may be required. Excavation deeper than discussed above may require dewatering.

Also ground water control requirements for the east part of the north half of the site, where the existing pond is located, will need to be determined when further investigation is completed.

Water taking in Ontario is governed by the Ontario Water Resources Act (OWRA) and the Water Taking and Transfer Regulation O.Reg. 387/040, Section 34 of the OWRA requires any one taking more than 50,000 L/d to obtain a Permit to Take Water (PTTW). This requirement applies to all withdrawals, whether for consumption, temporary construction dewatering or permanent drainage improvements.

In general, excavation will be above the ground water table a PTTW is not anticipated. However, when grading details are established the requirement for a PTTW should be reviewed, which may require a site specific Hydrogeological Site Assessment to further assess dewatering requirements, and/or in support of an application to the MOECC for a PTTW.

4.2 Geotechnical Review and Construction Inspection and Testing

The borehole locations were staked and numbered in the field for subsequent horizontal and vertical tie-ins by the Client. In conjunction with the survey information, and final grading plans, it is recommended that the design drawings be submitted to PML to review of compatibility with site conditions and recommendations of this report.

Earthworks operations should be carried out under the supervision of PML to approve subgrade preparation, backfill materials, placement and compaction procedures, and verify that the specified compaction standards are achieved throughout.

Prior to placement of structural concrete, all founding surfaces must be inspected by PML to verify the design bearing capacity is available, or to reassess the design parameters based on the actual conditions.

Cognizant of the blasting/rock excavation, a pre-construction survey should be carried out for structures located within and around the construction area. This documentation will assist in resolution of potential claims arising in the event of complaints of construction related damage. A blast monitoring programme should be implemented to optimize the effectiveness of each blast while maintaining vibrations within acceptable limits.

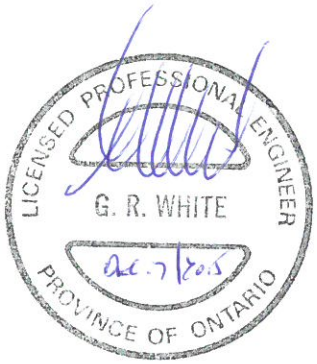
The comments and recommendations provided in the report are based on the information revealed in the boreholes. Conditions away from and between boreholes may vary, particularly where foundation and/or service trenches exist. Geotechnical review during construction should be on going to confirm the subsurface conditions are substantially similar to those encountered in the boreholes, which may otherwise require modification to the original recommendations.

5. CLOSURE

We trust this report is complete within our terms of reference, and the information presented is sufficient for your present purposes. If you have any questions, or when we may be of further assistance, please do not hesitate to call our office.

Sincerely

Peto MacCallum Ltd.



Geoffrey R. White, P.Eng.
Associate
Manager, Geotechnical and Geoenvironmental Services

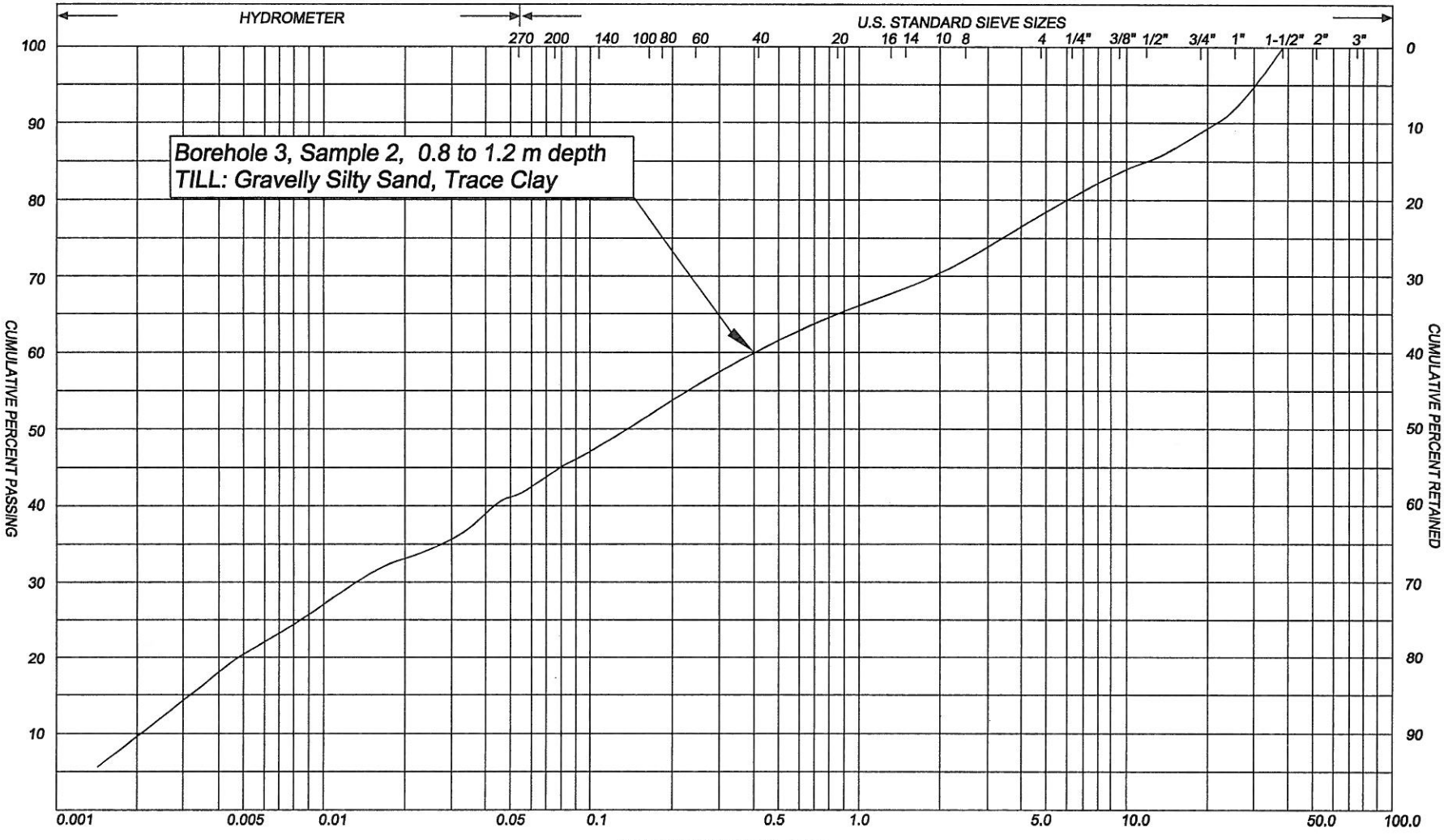
Turney Lee-Bun, P.Eng.
Vice President

GRW/TLB:jlb

Peto MacCallum Ltd.
CONSULTING ENGINEERS

PARTICLE SIZE DISTRIBUTION CHART

PML Ref.: 15BF041
Figure No.: 2-1



SILT & CLAY				FINE	MEDIUM	COARSE	GRAVEL		COB BLES	UNIFIED
				SAND						
CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	GRAVEL		COBBLES	M.I.T.
	SILT			SAND						
CLAY	SILT			V. FINE	FINE	MED	COARSE	GRAVEL		U.S. BUREAU
				SAND						

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PARTICLE SIZE DISTRIBUTION CHART

PML Ref.: 15BF041
Figure No.: 2-2

SILT & CLAY			FINE	MEDIUM	COARSE	GRAVEL	COB BLES	UNIFIED
			SAND					
CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	GRAVEL	COBBLES	M.I.T.
	SILT			SAND					
CLAY	SILT	V. FINE	FINE	MED	COARSE	GRAVEL	U.S. BUREAU
		SAND					

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PARTICLE SIZE DISTRIBUTION CHART

PML Ref.: 15BF041
Figure No.: 2-3

SILT & CLAY				FINE		MEDIUM		COARSE	GRAVEL		COB BLES	UNIFIED
				SAND								
CLAY	FINE	MEDIUM	COARSE	FINE		MEDIUM		COARSE	GRAVEL		COBBLES	M.I.T.
	SILT			SAND								
CLAY	SILT			V. FINE	FINE	MED	COARSE		GRAVEL			U.S. BUREAU
				SAND								

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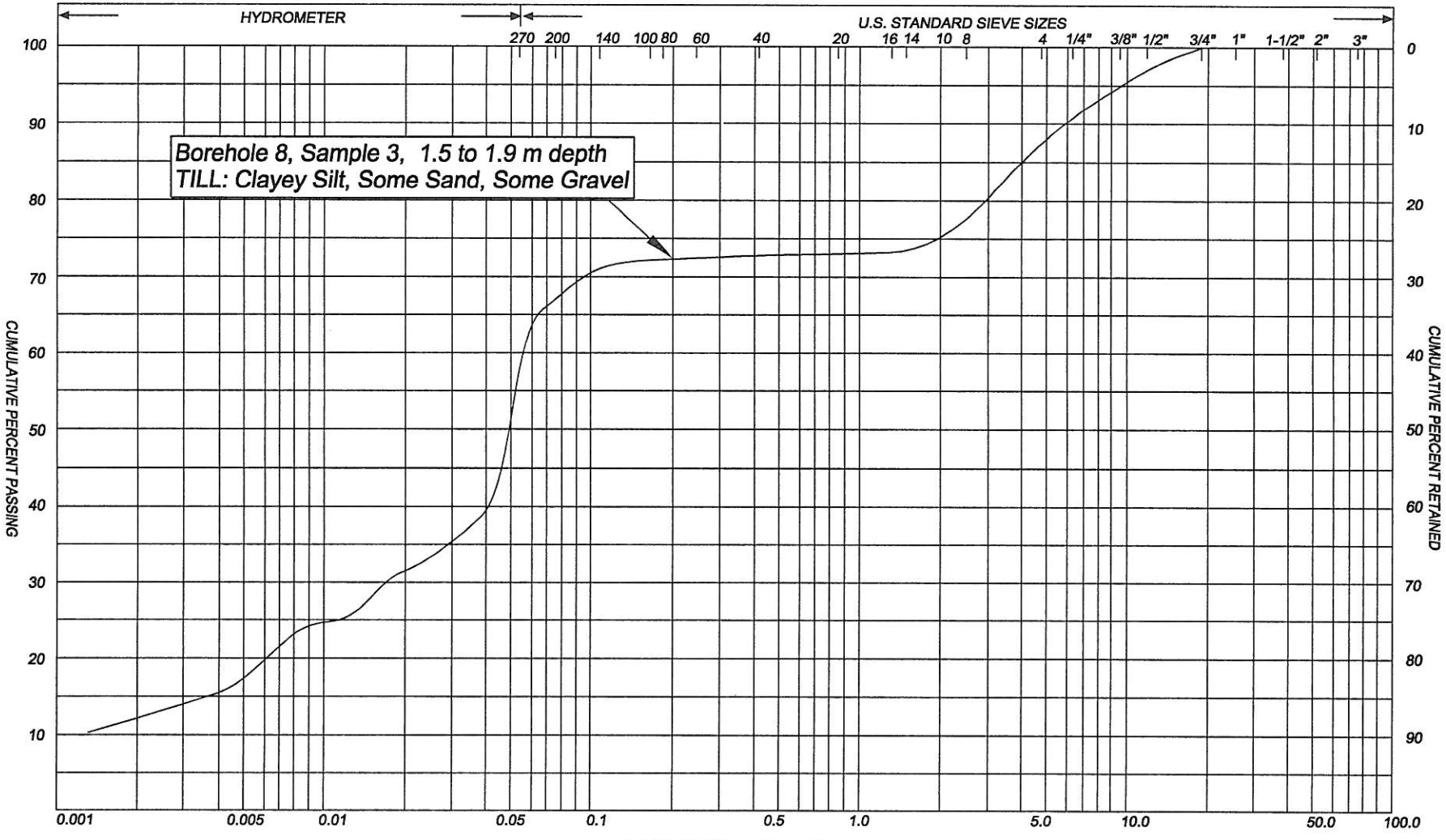
PARTICLE SIZE DISTRIBUTION CHART

PML Ref.: 15BF041
Figure No.: 2-4



SILT & CLAY				FINE	MEDIUM	COARSE	GRAVEL		COB BLES	UNIFIED
				SAND						
CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	GRAVEL		COBBLES	M.I.T.
	SILT			SAND						
CLAY	SILT			V. FINE	FINE	MED	COARSE	GRAVEL		U.S. BUREAU
				SAND						

LIST OF ABBREVIATIONS

PENETRATION RESISTANCE

Standard Penetration Resistance N: - The number of blows required to advance a standard split spoon sampler 0.3 m into the subsoil. Driven by means of a 63.5 kg hammer falling freely a distance of 0.76 m.

Dynamic Penetration Resistance: - The number of blows required to advance a 51 mm, 60 degree cone, fitted to the end of drill rods, 0.3 m into the subsoil. The driving energy being 475 J per blow.

DESCRIPTION OF SOIL

The consistency of cohesive soils and the relative density or denseness of cohesionless soils are described in the following terms:

CONSISTENCY	N (blows/0.3 m)	c (kPa)	DENSENESS	N (blows/0.3 m)
Very Soft	0 - 2	0 - 12	Very Loose	0 - 4
Soft	2 - 4	12 - 25	Loose	4 - 10
Firm	4 - 8	25 - 50	Compact	10 - 30
Stiff	8 - 15	50 - 100	Dense	30 - 50
Very Stiff	15 - 30	100 - 200	Very Dense	> 50
Hard	> 30	> 200		

WTPL	Wetter Than Plastic Limit
APL	About Plastic Limit
DTPL	Drier Than Plastic Limit

TYPE OF SAMPLE

SS	Split Spoon	ST	Slotted Tube Sample
WS	Washed Sample	TW	Thinwall Open
SB	Scraper Bucket Sample	TP	Thinwall Piston
AS	Auger Sample	OS	Oesterberg Sample
CS	Chunk Sample	FS	Foil Sample
GS	Grab Sample	RC	Rock Core

PH	Sample Advanced Hydraulically
PM	Sample Advanced Manually

SOIL TESTS

Qu	Unconfined Compression	LV	Laboratory Vane
Q	Undrained Triaxial	FV	Field Vane
Qcu	Consolidated Undrained Triaxial	C	Consolidation
Qd	Drained Triaxial		

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LOG OF BOREHOLE NO. 1

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0553702E
4929760N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 11, 2015
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES
	SURFACE ELEVATION				
0.10	TOPSOIL: Black, silt, trace sand, moist		1	SS	18
0.70	SILT: Very stiff, brown, silt to clayey silt, trace sand, APL				
	SAND: Dense, brown, silty sand, trace gravel, moist		2	SS	46
1.4	TILL: Very dense, brown to grey, silty sand/sandy silt, trace gravel, trace clay, cobbles and boulders, moist		3	SS	86
			4	SS	82/250mm
			5	SS	75
4.7	Becoming grey		6	SS	50/140mm
	BOREHOLE TERMINATED AT 4.7 m				

ELEVATION SCALE

SHEAR STRENGTH (kPa)
+FIELD VANE △TORVANE ○ Qu
▲POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS
GRAIN SIZE DISTRIBUTION (%) GR SA SI CL

Upon completion of augering
No water
No cave

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE/MONITORING WELL NO. 2

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0553743E
4929800N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 11, 2015
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	TYPE	"N" VALUES
	SURFACE ELEVATION				
0.15	TOPSOIL: Brown, sandy silt, moist		1	SS	7
	TILL: Loose to very dense, brown, silty sand/sandy silt, trace gravel, trace clay, cobbles and boulders, moist		2	SS	70
			3	SS	75/220mm
			4	SS	84/290mm
	Becoming grey		5	SS	84/210mm
			6	SS	50/140mm
	With trace clay		7	SS	43
			8	SS	90/250mm
			9	SS	68/250mm
			10	SS	50/100mm
			11	SS	84/200mm
			12	SS	64/250mm
	CONTINUED				

ELEVATION SCALE: 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0, 12.0, 13.0, 14.0, 15.0

SHEAR STRENGTH (kPa)
+FIELD VANE △TORVANE ○ Qu
▲POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS
GRAIN SIZE DISTRIBUTION (%) GR SA SI CL

Stick-up Casing
Monitoring well
Bentonite Seal

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE/MONITORING WELL NO. 2

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0553743E
4929800N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 11, 2015
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) +FIELD VANE △TORVANE ○Qu ▲POCKET PENETROMETER ○Q; DYNAMIC CONE PENETRATION STANDARD PENETRATION TEST × ●	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L; WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS; GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
15.0	CONTINUED FROM PREVIOUS PAGE						50 100 150 200	10 20 30 40		
15.2	SAND: Very dense, grey, silty sand, trace gravel, wet		13	SS	50/100mm		20 40 60 80			50 mm slotted pipe Filter sand
18.4	BOREHOLE TERMINATED AT 18.4 m		14	SS	50/100mm					Upon completion of augering Water at 15.2 m No cave Water Level Readings Date: Nov. 27, 2015 — Depth (m): 2.9

NOTES

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LOG OF BOREHOLE NO. 3

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0553842E
4929702N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 12, 2015
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES
	SURFACE ELEVATION				
0.12	TOPSOIL: Brown, silt, trace sand, moist				
	TILL: Compact to very dense, brown, gravelly silty sand/sandy silt, trace clay, cobbles and boulders, moist		1	SS	18
			2	SS	83
			3	SS	78/250mm
			4	SS	83/230mm
	Becoming grey		5	SS	87
5.0			6	SS	38
	BOREHOLE TERMINATED AT 5.0 m				

ELEVATION SCALE

SHEAR STRENGTH (kPa)
+FIELD VANE △TORVANE ○ Qu
▲POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS

GRAIN SIZE DISTRIBUTION (%) GR SA SI CL

Upon completion of augering
No water
No cave

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE/MONITORING WELL NO. 4

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
LOCATION Town of The Blue Mountains, Ontario
BORING METHOD Continuous Flight Solid Stem Augers

17T 0553880E
4929772N

BORING DATE November 12, 2015

PML REF. 15BF041
ENGINEER GW
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	NUMBER	TYPE	"N" VALUES
	SURFACE ELEVATION			
0.10	TOPSOIL: Brown, silt, trace sand, moist	1	SS	29
0.50	TILL: Compact to very dense, brown to grey, gravelly silty sand/sandy silt, trace clay, cobbles and boulders, moist	2	SS	77/290mm
		3	SS	82/250mm
		4	SS	78/290mm
	Becoming dark grey	5	SS	85/190mm
		6	SS	79/290mm
5.3	BOREHOLE TERMINATED AT 5.3 m	7	SS	50/100mm

SHEAR STRENGTH (kPa)
+FIELD VANE △TORVANE ○ Qu
▲POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS
GRAIN SIZE DISTRIBUTION (%) GR SA SI CL

Stick-up Casing
Monitoring well
Bentonite Seal
50 mm slotted pipe
Filter sand

Upon completion of augering
No water
No cave

Water Level Readings

Date	Depth (m)
Nov. 27, 2015	Dry

NOTES

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CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 5

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0553944E
4929828N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 12, 2015
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES
	SURFACE ELEVATION				
0.08	TOPSOIL: Brown, silt, trace sand, moist				
	SAND: Compact, brown, sand, trace silt, trace gravel, moist		1	SS	12
0.70					
	SILT: Hard, brown, silt to clayey silt, trace sand, APL		2	SS	62/250mm
1.4					
	TILL: Very dense, brown, gravelly silty sand/sandy silt, trace clay, cobbles and boulders, moist		3	SS	61
			4	SS	50/140mm
	Sand layers, very moist		5	SS	94/250mm
	Becoming grey		6	SS	74
5.0	BOREHOLE TERMINATED AT 5.0 m				

ELEVATION SCALE: 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0, 12.0, 13.0, 14.0, 15.0

SHEAR STRENGTH (kPa)
+FIELD VANE △TORVANE ○ Qu
▲POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS

GRAIN SIZE DISTRIBUTION (%) GR SA SI CL

Upon completion of augering
No water
No cave

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 6

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0554004E
4929787N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 12, 2015
ENGINEER GW

BORING METHOD Continuous Flight Hollow Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) +FIELD VANE △TORVANE ○ Qu ▲POCKET PENETROMETER ○ Q; DYNAMIC CONE PENETRATION STANDARD PENETRATION TEST × ●	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L; WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS; GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
0.0	SURFACE ELEVATION						50 100 150 200; 20 40 60 80	10 20 30 40		
	SAND: Loose to very dense, brown to light brown, sand, some silt to silty, trace gravel, moist to very moist		1	SS	9					
1.0			2	SS	32					
2.0			3	SS	37					
			4	SS	64					
3.0			5	SS	58					
4.0	4.0 SILT: Very dense, brown, sandy silt, very moist									
	4.8		6	SS	80/250mm		>>			
5.0	BOREHOLE TERMINATED AT 4.8 m									Upon completion of augering No water No cave
6.0										
7.0										
8.0										
9.0										
10.0										
11.0										
12.0										
13.0										
14.0										
15.0										

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 7

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0554077E
4929936N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 9, 2015
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES
	SURFACE ELEVATION				
0.0	FILL: Black, sandy silt, trace clay, trace gravel, trace organics, wet		1	SS	10
0.70	SAND: Very dense, black to brown, silty sand, some gravel, trace organics, moist		2	SS	47
1.0			3	SS	50/100mm
2.1	CLAYEY SILT: Hard, grey, clayey silt, with shale layers, damp		4	SS	65/290mm
2.9	SAND AND SILT: Very dense, brown to grey, sand and silt, trace gravel, moist		5	SS	50/100mm
4.2	BOREHOLE TERMINATED UPON REFUSAL TO AUGER AT 4.2 m				

ELEVATION SCALE

SHEAR STRENGTH (kPa)
+FIELD VANE △TORVANE ○ Qu
▲POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS
GRAIN SIZE DISTRIBUTION (%) GR SA SI CL

Upon completion of augering
No water
Cave at 3.4 m

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE/MONITORING WELL NO. 8

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0554161E
4929892N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 9, 2015
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES
	SURFACE ELEVATION				
0.0	FILL: Dark brown to black, sandy silt/clayey silt, trace gravel, trace organics, moist		1	SS	54
1.0			2	SS	29
1.4	TILL: Hard, brown, clayey silt, some sand, some gravel, cobbles and boulders, moist		3	SS	77
2.0			4	SS	50/140mm
3.0	Becoming very dense, grey, sandy silt/silty sand, trace gravel, cobbles and boulders, wet		5	SS	50/140mm
4.0					
4.7	BOREHOLE TERMINATED AT 4.7 m		6	SS	50/100mm
5.0					
6.0					
7.0					
8.0					
9.0					
10.0					
11.0					
12.0					
13.0					
14.0					
15.0					

ELEVATION SCALE

SHEAR STRENGTH (kPa)
+FIELD VANE △TORVANE ○ Qu
▲POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS
GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

Upon completion of augering
Water at 4.4 m
No cave

Water Level Readings

Date	Depth (m)
Nov. 27, 2015	0.6

Surface water ponded around well.

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE/MONITORING WELL NO. 9

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
LOCATION Town of The Blue Mountains, Ontario
BORING METHOD Continuous Flight Solid Stem Augers

17T 0554074E
4930139N

BORING DATE November 10, 2015

PML REF. 15BF041
ENGINEER GW
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	NUMBER	TYPE	"N" VALUES
	SURFACE ELEVATION			
0.15	TOPSOIL: Brown, sand, moist			
	SILT: Compact, brown, sandy silt, trace gravel, very moist	1	SS	24
0.70	SAND: Very dense to compact, brown, silty sand, trace gravel, to gravelly sand, trace silt, moist to very moist	2	SS	66
		3	SS	28
		4	SS	12
2.9	SILT: Dense, grey, sandy silt, very moist	5	SS	38
4.0	SAND: Loose to very dense, grey, silty sand, trace gravel, wet	6	SS	5
	Shale pieces	7	SS	50/100mm
4.9	BOREHOLE TERMINATED UPON REFUSAL TO AUGER AT 4.9 m			

SHEAR STRENGTH (kPa)
+FIELD VANE △TORVANE ○ Qu
▲POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS
GRAIN SIZE DISTRIBUTION (%) GR SA SI CL

Stick-up Casing
Bentonite Seal
Monitoring well
50 mm slotted pipe
Filter sand

Upon completion of augering
Water at 3.8 m

Water Level Readings

Date	Depth (m)
Nov. 27, 2015	3.2

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 10

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0554016E
4929979N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 10, 2015
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) / DYNAMIC CONE PENETRATION / STANDARD PENETRATION TEST	PLASTIC LIMIT / NATURAL MOISTURE CONTENT / LIQUID LIMIT / WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS / GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	SURFACE ELEVATION						+FIELD VANE △TORVANE ○ Qu ▲POCKET PENETROMETER ○ Q; 50 100 150 200; DYNAMIC CONE PENETRATION × STANDARD PENETRATION TEST ●; 20 40 60 80	W_P W W_L; WATER CONTENT (%) 10 20 30 40		
0.0	FILL: Black to brown, sand, trace silt, some gravel, topsoil inclusions, moist		1	SS	21					
0.70	SILT: Compact, brown, sandy silt, trace clay, trace gravel, trace organics, moist		2	SS	15					
1.0										
1.4	SAND: Very dense, brown, silty sand, trace gravel, shale pieces, moist		3	SS	50/100mm					
2.0										
2.4	BOREHOLE TERMINATED UPON REFUSAL TO AUGER AT 2.4 m		4	SS	50/100mm					Upon completion of augering No water No cave Auger probe 1.0 m south of borehole encountered refusal at 1.8 m
3.0										
4.0										
5.0										
6.0										
7.0										
8.0										
9.0										
10.0										
11.0										
12.0										
13.0										
14.0										
15.0										

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 11

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0553945E
4930039N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 10, 2015
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) +FIELD VANE △TORVANE ○Qu ▲POCKET PENETROMETER ○Q 50 100 150 200 / DYNAMIC CONE PENETRATION STANDARD PENETRATION TEST × ● 20 40 60 80	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%) 10 20 30 40	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS / GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
SURFACE ELEVATION										
0.0	FILL: Brown, sandy silt, trace clay, trace gravel, trace orgaincs, topsoil inclusions, moist		1	SS	13					
0.70	TILL: Very dense, grey, silty sand/sandy silt, trace gravel, cobbles and boulders, moist		2	SS	61/250mm					
1.0			3	SS	80/220mm					
2.1	BOREHOLE TERMINATED UPON REFUSAL TO AUGER AT 2.1 m									Upon completion of augering No water No cave Auger probe 1.0 m south of borehole encountered refusal at 2.1 m

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE/MONITORING WELL NO. 12

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0553828E
4930064N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 10, 2015
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES
	SURFACE ELEVATION				
0.14	TOPSOIL: Black, silt, trace sand, moist		1	SS	13
0.70	SILT: Compact, brown, silt to clayey silt, trace to some gravel, very moist				
	SAND: Compact to very dense, brown to grey, silty fine sand with silt layers, moist to wet		2	SS	20
			3	SS	53
			4	SS	79
			5	SS	90
5.0			6	SS	53
	BOREHOLE TERMINATED AT 5.0 m				

ELEVATION SCALE

SHEAR STRENGTH (kPa)
+FIELD VANE △TORVANE ○ Qu
▲POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P — NATURAL MOISTURE CONTENT w — LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS
GRAIN SIZE DISTRIBUTION (%) GR SA SI CL

Standpipe
Bentonite Seal
19 mm slotted pipe
Filter sand

Upon completion of augering
Water at 4.6 m
No cave

Water Level Readings

Date	Depth (m)
Nov. 27, 2015	1.5

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 13

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0554016E
4930097N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 9, 2015
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) +FIELD VANE △TORVANE ○ Qu ▲POCKET PENETROMETER ○ Q / DYNAMIC CONE PENETRATION × STANDARD PENETRATION TEST ●	PLASTIC LIMIT / NATURAL MOISTURE CONTENT / LIQUID LIMIT (w_P w w_L) WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS / GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	SURFACE ELEVATION						50 100 150 200 / 20 40 60 80	10 20 30 40		
0.0	FILL: Brown, sandy silt, trace clay, trace gravel, trace orgaincs, topsoil inclusions, moist		1	SS	15					
0.70										
1.0	SAND: very dense, brown to black, silty sand, trace to some gravel, trace organics, moist		2	SS	61/240mm					
1.5	BOREHOLE TERMINATED UPON REFUSAL TO AUGER AT 1.5 m									Upon completion of augering No water No cave Auger probe 1.0 m north of borehole encountered refusal at 1.5 m
2.0										
3.0										
4.0										
5.0										
6.0										
7.0										
8.0										
9.0										
10.0										
11.0										
12.0										
13.0										
14.0										
15.0										

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 14

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0553875E
4930117N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 10, 2015
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) +FIELD VANE △TORVANE ○ Qu ▲POCKET PENETROMETER ○ Q; DYNAMIC CONE PENETRATION × STANDARD PENETRATION TEST ●	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L; WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS; GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	SURFACE ELEVATION						50 100 150 200; 20 40 60 80	10 20 30 40		
0.0	FILL: Brown to dark brown, silty sand to sand some silt, silt pockets, some gravel, trace organics, moist		1	SS	14					
0.70	TILL: Compact to very dense, brown, silty sand/sandy silt, trace gravel, cobbles and boulders, moist to very moist		2	SS	18					
1.0										
2.0			3	SS	54					
2.4	BOREHOLE TERMINATED UPON REFUSAL TO AUGER AT 2.4 m		4	SS	50/100mm					Upon completion of augering No water No cave Auger probe 1.0 m west of borehole encountered refusal at 2.4 m
3.0										
4.0										
5.0										
6.0										
7.0										
8.0										
9.0										
10.0										
11.0										
12.0										
13.0										
14.0										
15.0										

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE/MONITORING WELL NO. 15

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
LOCATION Town of The Blue Mountains, Ontario
BORING METHOD Continuous Flight Solid Stem Augers

17T 0554074E
4930135N

BORING DATE November 9, 2015

PML REF. 15BF041
ENGINEER GW
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES
	SURFACE ELEVATION				
0.0	FILL: Dark brown, silty sand, organic pockets, shale pieces, moist		1	SS	7
			2	SS	9
1.4	SAND: Compact, brown, gravelly sand, some silt, trace gravel, moist to very moist		3	SS	16
			4	SS	23
2.9	SILT: Compact to very dense, grey, silt to sandy silt, trace clay, trace gravel, very moist		5	SS	17
4.7	BOREHOLE TERMINATED AT 4.7 m		6	SS	50/100mm

ELEVATION SCALE

SHEAR STRENGTH (kPa)
+FIELD VANE △TORVANE ○ Qu
▲POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P — NATURAL MOISTURE CONTENT w — LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS
GRAIN SIZE DISTRIBUTION (%) GR SA SI CL

Standpipe
Bentonite Seal
19 mm slotted pipe
Filter sand

Upon completion of augering
Water at 4.4 m
No cave

Water Level Readings

Date	Depth (m)
Nov. 27, 2015	3.1

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 16

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0553882E
4930179N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 10, 2015
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) +FIELD VANE △TORVANE ○ Qu ▲POCKET PENETROMETER ○ Q; 50 100 150 200; DYNAMIC CONE PENETRATION × STANDARD PENETRATION TEST ●; 20 40 60 80	PLASTIC LIMIT w_P NATURAL MOISTURE CONTENT w LIQUID LIMIT w_L; WATER CONTENT (%) 10 20 30 40	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS; GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	SURFACE ELEVATION									
0.10	TOPSOIL: Black, sandy silt, moist									
	SILT: Compact, brown, sandy silt, trace gravel, trace organics, moist		1	SS	11					
			2	SS	19					
1.4										
	SAND: Dense to very dense, brown, silty sand, some gravel, moist		3	SS	43					
			4	SS	50/50mm					
3.1										
	BOREHOLE TERMINATED UPON REFUSAL TO AUGER AT 3.1 m									Upon completion of augering No water No cave Auger probe at south west side of hydro station near creek encountered refusal at 1.7 m

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 17

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0553938E
4930146N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 10, 2015
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) / DYNAMIC CONE PENETRATION / STANDARD PENETRATION TEST	PLASTIC LIMIT / NATURAL MOISTURE CONTENT / LIQUID LIMIT / WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS / GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	SURFACE ELEVATION						+FIELD VANE △TORVANE ○ Qu ▲POCKET PENETROMETER O Q; 50 100 150 200; DYNAMIC CONE PENETRATION × STANDARD PENETRATION TEST ●; 20 40 60 80	W_P W W_L; 10 20 30 40		
0.0	FILL: Brown, sandy silt, trace clay, trace gravel, trace orgaincs, topsoil inclusions, moist		1	SS	8			○		
0.70	SAND: Very dense, black to brown, silty sand, some gravel, trace organics, moist		2	SS	43			○		
1.0			3	SS	78/160mm		>>	○		
2.1	BOREHOLE TERMINATED UPON REFUSAL TO AUGER AT 2.1 m									Upon completion of augering No water No cave Auger probe 1.0 m north of borehole encountered refusal at 1.8 m
3.0										
4.0										
5.0										
6.0										
7.0										
8.0										
9.0										
10.0										
11.0										
12.0										
13.0										
14.0										
15.0										

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 18

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0554121E
4930001N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 9, 2015
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) / DYNAMIC CONE PENETRATION / STANDARD PENETRATION TEST	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS / GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	SURFACE ELEVATION						+ FIELD VANE △ TORVANE ○ Qu ▲ POCKET PENETROMETER ○ Q (50 100 150 200) × DYNAMIC CONE PENETRATION ● STANDARD PENETRATION TEST (20 40 60 80)	w_P w w_L (10 20 30 40)		
0.0	FILL: Brown, sandy silt, trace clay, trace gravel, trace orgaincs, topsoil inclusions, moist		1	SS	11					
0.70	SAND: Very dense, black to brown, silty sand, trace gravel, moist		2	SS	50					
1.0										
1.7			3	SS	50/140mm					
2.0	BOREHOLE TERMINATED UPON REFUSAL TO AUGER AT 1.7 m									Upon completion of augering No water No cave Auger probe 1.0 m west of borehole encountered refusal at 1.7 m
3.0										
4.0										
5.0										
6.0										
7.0										
8.0										
9.0										
10.0										
11.0										
12.0										
13.0										
14.0										
15.0										

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 19

PROJECT Proposed Residential Subdivision - 161 Lakeshore Road East
17T 0554313E
4929943N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 9, 2015
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN AT

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE
0.0	SURFACE ELEVATION					
	FILL: Brown, sandy silt, trace clay, trace gravel, trace orgaincs, topsoil inclusions, moist		1	SS	5	
0.70						
1.0	SILT: Compact, brown to black, sandy silt, trace clay, trace gravel, trace organics, very moist		2	SS	17	
	Some gravel, shale pieces		3	SS	21	
2.1						
2.0	SAND: Compact, brown to dark grey, sand, trace to some silt, trace gravel, wet		4	SS	15	
3.0			5	SS	20	
4.0						
5.0			6	SS	22	
5.0	BOREHOLE TERMINATED AT 5.0 m					
6.0						
7.0						
8.0						
9.0						
10.0						
11.0						
12.0						
13.0						
14.0						
15.0						

SHEAR STRENGTH (kPa)
+ FIELD VANE △ TORVANE ○ Qu
▲ POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS

GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

Upon completion of augering
Water at 2.4 m
Cave at 2.8 m

NOTES

KEY PLAN
TOWN OF BLUE MOUNTAINS, ONTARIO

LEGEND:

- SITE LIMITS
- BH 1 — BOREHOLE 1
- BH 2 — BOREHOLE 2 (WITH MONITORING WELL)
- BH 8 — BOREHOLE 8 (WITH STANDPIPE)

REFERENCE:

BASE PLAN PROVIDED BY CLIENT.

BOREHOLE LOCATIONS WERE STAKED UPON DRILLING COMPLETION IN THE FIELD FOR SUBSEQUENT HORIZONTAL AND VERTICAL TIE IN BY THE CLIENT.

0m 40 80 120 160 200

SCALE

BOREHOLE LOCATION PLAN

PROPOSED RESIDENTIAL SUBDIVISION
161 LAKESHORE ROAD EAST
TOWN OF BLUE MOUNTAINS, ONTARIO

Peto MacCallum Ltd.
CONSULTING ENGINEERS

		DATE	SCALE	PML REF.	DRAWING NO.
DRAWN	RB	DEC. 2015	AS SHOWN	15BF041	2–1
CHECKED	GRW				
APPROVED	GRW				

APPENDIX A

Engineered Fill

ENGINEERED FILL

The information presented in this appendix is intended for general guidance only. Site specific conditions and prevailing weather may require modification of compaction standards, backfill type or procedures. Each site must be discussed, and procedures agreed with Peto MacCallum Ltd. prior to the start of the earthworks and must be subject to ongoing review during construction. This appendix is not intended to apply to embankments. Steeply sloping ravine residential lots require special consideration.

For fill to be classified as engineered fill suitable for supporting structural loads, a number of conditions must be satisfied, including but not necessarily limited to the following:

1. Purpose

The site specific purpose of the engineered fill must be recognized. In advance of construction, all parties should discuss the project and its requirements and agree on an appropriate set of standards and procedures.

2. Minimum Extent

The engineered fill envelope must extend beyond the footprint of the structure to be supported. The minimum extent of the envelope should be defined from a geotechnical perspective by:

- at founding level, extend a minimum 1.0 m beyond the outer edge of the foundations, greater if adequate layout has not yet been completed as noted below; and
- extend downward and outward at a slope no greater than 45° to meet the subgrade

All fill within the envelope established above must meet the requirements of engineered fill in order to support the structure safely. Other considerations such as survey control, or construction methods may require an envelope that is larger, as noted in the following sections.

Once the minimum envelope has been established, structures must not be moved or extended without consultation with Peto MacCallum Ltd. Similarly, Peto MacCallum Ltd. should be consulted prior to any excavation within the minimum envelope.

3. Survey Control

Accurate survey control is essential to the success of an engineered fill project. The boundaries of the engineered fill must be laid out by a surveyor in consultation with engineering staff from Peto MacCallum Ltd. Careful consideration of the maximum building envelope is required.

During construction it is necessary to have a qualified surveyor provide total station control on the three dimensional extent of filling.

4. Subsurface Preparation

Prior to placement of fill, the subgrade must be prepared to the satisfaction of Peto MacCallum Ltd. All deleterious material must be removed and in some cases, excavation of native mineral soils may be required.

Particular attention must be paid to wet subgrades and possible additional measures required to achieve sufficient compaction. Where fill is placed against a slope, benching may be necessary and natural drainage paths must not be blocked.

5. Suitable Fill Materials

All material to be used as fill must be approved by Peto MacCallum Ltd. Such approval will be influenced by many factors and must be site and project specific. External fill sources must be sampled, tested and approved prior to material being hauled to site.

6. Test Section

In advance of the start of construction of the engineered fill pad, the Contractor should conduct a test section. The compaction criterion will be assessed in consultation with Peto MacCallum Ltd. for the various fill material types using different lift thicknesses and number of passes for the compaction equipment proposed by the Contractor.

Additional test sections may be required throughout the course of the project to reflect changes in fill sources, natural moisture content of the material and weather conditions.

The Contractor should be particularly aware of changes in the moisture content of fill material. Site review by Peto MacCallum Ltd. is required to ensure the desired lift thickness is maintained and that each lift is systematically compacted, tested and approved before a subsequent lift is commenced.

7. Inspection and Testing

Uniform, thorough compaction is crucial to the performance of the engineered fill and the supported structure. Hence, all subgrade preparation, filling and compacting must be carried out under the full time inspection by Peto MacCallum Ltd.

All founding surfaces for all buildings and residential dwellings or any part thereof (including but not limited to footings and floor slabs) on structural fill or native soils must be inspected and approved by PML engineering personnel prior to placement of the base/subbase granular material and/or concrete. The purpose of the inspection is to ensure the subgrade soils are capable of supporting the building/house foundation and floor slab loads and to confirm the building/house envelope does not extend beyond the limits of any structural fill pads.

8. Protection of Fill

Fill is generally more susceptible to the effects of weather than natural soil. Fill placed and approved to the level at which structural support is required must be protected from excessive wetting, drying, erosion or freezing. Where adequate protection has not been provided, it may be necessary to provide deeper footings or to strip and recompact some of the fill.

9. Construction Delay Time Considerations

The integrity of the fill pad can deteriorate due to the harsh effects of our Canadian weather. Hence, particular care must be taken if the fill pad is constructed over a long time period.

It is necessary therefore, that all fill sources are tested to ensure the material compactability prior to the soil arriving at site. When there has been a lengthy delay between construction periods of the fill pad, it is necessary to conduct subgrade proof rolling, test pits or boreholes to verify the adequacy of the exposed subgrade to accept new fill material.

When the fill pad will be constructed over a lengthy period of time, a field survey should be completed at the end of each construction season to verify the areal extent and the level at which the compacted fill has been brought up to, tested and approved.

In the following spring, subexcavation may be necessary if the fill pad has been softened attributable to ponded surface water or freeze/thaw cycles.

A new survey is required at the beginning of the next construction season to verify that random dumping and/or spreading of fill has not been carried out at the site.

10. Approved Fill Pad Surveillance

It should be appreciated that once the fill pad has been brought to final grade and documented by field survey, there must be ongoing surveillance to ensure that the integrity of the fill pad is not threatened.

Grading operations adjacent to fill pads can often take place several months or years after completion of the fill pad.

It is imperative that all site management and supervision staff, the staff of Contractors and earthwork operators be fully aware of the boundaries of all approved engineered fill pads.

Excavation into an approved engineered fill pad should never be contemplated without the full knowledge, approval and documentation by the geotechnical consultant.

If the fill pad is knowingly built several years in advance of ultimate construction, the areal limits of the fill pad should be substantially overbuilt laterally to allow for changes in possible structure location and elevation and other earthwork operations and competing interests on the site. The overbuilt distance required is project and/or site specified.

Iron bars should be placed at the corner/intermediate points of the fill pad as a permanent record of the approved limits of the work for record keeping purposes.

11. Unusual Working Conditions

Construction of fill pads may at times take place at night and/or during periods of freezing weather conditions because of the requirements of the project schedule. It should be appreciated therefore, that both situations present more difficult working conditions. The Owner, Contractor, Design Consultant and Geotechnical Engineer must be willing to work together to revise site construction procedures, enhance field testing and surveillance, and incorporate design modifications as necessary to suit site conditions.

When working at night there must be sufficient artificial light to properly illuminate the fill pad and borrow areas.

Placement of material to form an engineered fill pad during winter and freezing temperatures has its own special conditions that must be addressed. It is imperative that each day prior to placement of new fill, the exposed subgrade must be inspected and any overnight snow or frozen material removed. Particular attention should be given to the borrow source inspection to ensure only nonfrozen fill is brought to the site.

The Contractor must continually assess the work program and have the necessary spreading and compacting equipment to ensure that densification of the fill material takes place in a minimum amount of time. Changes may be required to the spreading methods, lift thickness, and compaction techniques to ensure the desired compaction is achieved uniformly throughout each fill lift.

The Contractor should adequately protect the subgrade at the end of each shift to minimize frost penetration overnight. Since water cannot be added to the fill material to facilitate compaction, it is imperative that densification of the fill be achieved by additional compaction effort and an appropriate reduced lift thickness. Once the fill pad has been completed, it must be properly protected from freezing temperatures and ponding of water during the spring thaw period.

If the pad is unusually thick or if the fill thickness varies dramatically across the width or length of the fill pad, Peto MacCallum Ltd. should be consulted for additional recommendations. In this case, alternative special provisions may be recommended, such as providing a surcharge preload for a limited time or increase the degree of compaction of the fill.

Peto MacCallum Ltd.
CONSULTING ENGINEERS

SUPPLEMENTAL GEOTECHNICAL INVESTIGATION
PROPOSED RESIDENTIAL SUBDIVISION
CRAIGLEITH RIDGE
209621 HIGHWAY 26 AND 208 LAKESHORE ROAD EAST
TOWN OF THE BLUE MOUNTAINS, ONTARIO

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PML Ref.: 15BF041
Report: 4 Revised
January 2018

Peto MacCallum Ltd.
CONSULTING ENGINEERS

January 23, 2018

PML Ref.: 15BF041
Report: 4 Revised

Mr. Michael Sproule, C.E.T.
Parkbridge Lifestyle Communities Inc.
85 Theme Park Drive
Wasaga Beach, Ontario
L9Z 1X7

Dear Mr. Sproule

Supplemental Geotechnical Investigation
Proposed Residential Subdivision
Craigleith Ridge
209621 Highway 26 and 208 Lakeshore Road East
Town of The Blue Mountains, Ontario

Peto MacCallum Ltd. (PML) is pleased to present the results of the supplemental geotechnical investigation recently completed at the above noted project site. Authorization for this assignment was provided by Mr. R. Wagner, in the signed Engineering Services Agreement Change Order 4, dated October 23, 2017.

Parkbridge is planning an approximate 211 lot residential subdivision for the approximate 25 Ha parcel of land at 209621 Highway 26 & 208 Lakeshore Road East, in the Town of Blue Mountains. The site is terraced comprising low lying ground in the northern portion, with frontage on Lakeshore Road East, rising some 15 to 20 m up the Niagara Escarpment in the south part of the site. The southwest part of the site has limited frontage along Grey Road 19. The configuration is shown on Drawing 4-1, appended, however grading has yet to be finalized for all parts of the subdivision. It is understood that site servicing is proposed and full depth basements are preferred.

Reference is made to Report 2, dated December 7, 2015, where a geotechnical investigation was conducted and geotechnical engineering recommendations for the proposed development were provided.

The purpose of this supplemental borehole investigation was to obtain more detailed subsurface information for the entire site, and based on this information, provide any revisions to the recommendations provided in Report 2.

INVESTIGATION PROCEDURES

The field work for this supplemental investigation was carried out on November 16 and 17, 2017, and consisted of Boreholes 101 to 110 drilled to depths of 0.9 to 5.0 m. The borehole locations are shown on the Borehole Location Plan, Drawing 4-1, appended. The boreholes from the previous investigation are also shown.

The boreholes were established in the field by PML. Co-ordination for clearances of underground public utilities was provided by PML. The boreholes were drilled cognizant of underground utilities.

The boreholes were advanced using continuous flight solid stem augers, powered by a rubber tire mounted CME-75 drill rig, equipped with an automatic hammer, supplied and operated by a specialist drilling contractor working under the full time supervision of a member of PML's engineering staff.

Representative samples of the overburden in the boreholes were recovered at frequent depth intervals for identification purposes using a conventional split spoon sampler. Standard penetration tests were carried out simultaneously with the sampling operations to assess the strength characteristics of the substrata. The ground water conditions in the boreholes were assessed during drilling by visual examination of the soil samples, the sampler, and drill rods as the samples were retrieved, and measurement of the water level in the open boreholes, if any.

The boreholes were backfilled in accordance with O.Reg. 903.

All recovered soil samples were returned to our laboratory for moisture content determinations and detailed examination to confirm field classification.

SUMMARIZED SUBSURFACE CONDITIONS

Reference is made to the appended Log of Borehole sheet for details of the subsurface conditions, including soil classifications, inferred stratigraphy, Standard Penetration test N values, ground water observations and the results of laboratory moisture content determinations.

Due to the soil sampling procedures and limited sample size, the depth demarcations on the borehole logs must be viewed as "transitional" zones between layers, and cannot be construed as exact geologic boundaries between layers. PML should be retained to assist in determining geologic boundaries in the field during construction, if required.

Elevated Southern Part of the Site – Boreholes 101 to 103

The stratigraphy revealed in the initial boreholes carried out for Report 2, comprised topsoil over local layers of silt and sand, over a major till deposit. The soils were typically dense to very dense and ground water was only noted in one borehole.

Boreholes 101 to 103 from the supplemental investigation revealed similar subsurface conditions as summarized below.

A topsoil mantle was at the surface and was 100 to 150 mm thick.

A sandy silt or silty sand unit was below the topsoil extending to 0.7 to 1.4 m depth in all three boreholes. The sandy silt was loose and the silty sand was very loose to very dense. The material was moist with moisture contents of 3 to 18%.

The major till deposit underlying the topsoil and upper soil units comprised silty sand to sandy silt with some gravel. Cobbles and boulders were noted. The till extended to the 4.7 to 5.0 m depth of investigation. The till was dense to very dense and moist with moisture contents of 5 to 11%.

Upon completion of augering, all three boreholes wet dry.

Ground water levels will fluctuate seasonally, and in response to variations in precipitation.

Lower Lying Northern Part of the Site – Boreholes 104 to 110

The stratigraphy revealed in the initial boreholes carried out for Report 2 was variable. Below the topsoil, the stratigraphic sequence comprised surficial fill (due to grooming of the fields for archeological purposes) over deposits of sand, silt and till, locally clayey silt or sand and silt, over areas where auger refusal was encountered, assumed to be shallow bedrock or boulders. The stabilized ground water level is believed to be about 1.5 to 3.0 m below existing grade.

Boreholes 104 to 110 from the supplemental investigation revealed similar subsurface conditions as summarized below.

The topsoil at the surface of the boreholes, except Borehole 109, and was 100 to 150 mm thick.

At the surface of Borehole 109 a thin fill layer was present to 0.2 m depth. The fill comprised silty sand which was moist with a moisture content of about 6%.

A sand layer was noted underlying the topsoil in Boreholes 106, 109 and 110 and extended to 2.1 to 2.9 m depth. The layer contained trace to some silt and gravel. The sand was very loose to very dense with depth and typically moist to wet with depth. Moisture contents ranged from 5 to 21%.

A silt or sandy silt unit was revealed in Boreholes 104 to 106, 107 and 110. A single layer was noted in Boreholes 105, 106 and 110, from 0.1 to 2.1 m depth and extending to 1.4 to 3.7 m depth. Two layers were noted in Boreholes 104 and 107, from beneath the topsoil to 1.4 m depth and again from 2.1 or 2.9 m depth to the 4.3 m depth of the boreholes. The layers ranged from loose to very dense. Moisture contents ranged from 6 to 24%, moist to very moist.

A till layer was noted in all boreholes at varying depths. The till was typically 1.0 to 2.0 m thick and comprised silty sand to sandy silt with some grave and trace clay. Cobbles and boulders were noted. The material was compact to very dense, typically with depth, and moist with moisture contents of 5 to 15%.

Auger refusal was encountered in Boreholes 104, and 107 to 109 between 0.9 and 4.3 m depth. Auger refusal is assumed to reflect shallow bedrock common to the area however, may also be due to boulders in the till soils.

A review of MOECC well records within about 300 m of the site revealed shale and/or limestone bedrock as shallow as 1.5 m.

It is noted that Rotary diamond coring is typically recommended to prove out bedrock. In this case it is further noted that bedrock, typically limestone, was encountered in some of the test pits from Report 1 at similar depths as noted above.

The following table provides the first water strike depths and the water level upon completion of augering.

BOREHOLE	FIRST WATER STRIKE (Depth m)	WATER LEVEL UPON COMPLETION (Depth m)
104	2.1	3.0
105	No Water	No Water
106	No Water	No Water
107	2.1	4.1
108	No water	No Water
109	2.1	1.5
110	2.1	3.0

Based on the data above, the stabilized water level is estimated to be 1.5 to 2.0 m below existing grade.

Ground water levels will fluctuate seasonally, and in response to variations in precipitation.

GEOTECHNICAL ENGINEERING CONSIDERATIONS

Elevated Southern Part of the Site

The subsurface conditions revealed in supplemental Boreholes 101 to 103 in the higher grounds in the southern part of the site were consistent with the initial boreholes carried out for Report 2. As such the recommendations provided in Report 2 for the elevated southern lands are still considered applicable.

Lower Lying Northern Part of the Site

Similar to the higher grounds to the south, the subsurface conditions revealed in supplemental Boreholes 104 to 110 in the lower lying lands in the northern part of the site were generally consistent with the initial boreholes carried out for Report 2. As such the recommendations provided in Report 2 for the elevated southern lands are still considered applicable, except as follows.

The Storm Water Management (SWM) pond has been shifted to the east half of the low lying lands in the north.

Borehole 109 was advanced in the new location of the SWM pond. Below a 200 mm layer of surficial fill, a native sand deposit was revealed to 2.9 m depth. The sand was very loose to very dense with depth and moist to wet with depth (moisture contents of 6 to 14%). Below the sand to the 4.0 m depth (where auger refusal was encountered) a till deposit was present comprising a silty sand/sandy silt matrix with some gravel and trace clay. Cobbles and boulders were noted. Auger refusal could have been on assumed shallow bedrock common to the area or boulders in the till. First water strike was noted at 2.1 m depth and water in the borehole upon completion was at 1.5 m depth.

At the time of this report, the SWM pond design was not established. The general comments and recommendations provided in Report 2 are provided below and have been revised accordingly. When final grading and details of the pond are established they should be submitted to PML for geotechnical review:

- A maximum proposed depth of 1.0 m below existing grade should be considered to keep the pond base above the ground water level to allow for ease of excavation/construction and so that the capacity of the pond is not compromised by ground water. Excavation below the ground water table will require dewatering and ground water will have to be considered in the capacity design. The permeability of the in-situ sand is estimated to be 10^{-2} to 10^{-3} cm/sec and the underlying till is about 10^{-4} to 10^{-5} cm/sec;

- Berms should be constructed as engineered fill, using select material, compacted to 95% Standard Proctor maximum dry density as discussed earlier in the report;

- For storm water retention or to maintain a permanent pool level, an impermeable pond liner will be needed (permeability of 10^{-6} cm/sec or less). Interior side slopes for ponds should be no steeper than 5 horizontal to 1 vertical (5H:1V) with exterior side slopes no steeper than 3H:1V. Vegetation cover, granular blanket, rip rap or the likes will be required for erosion control.

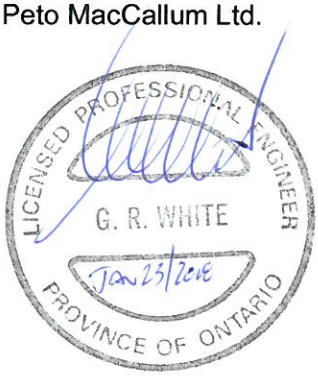
- Maintenance of the side slopes will be required until vegetation, rip rap and/or other protective measures have taken root or have been installed.

CLOSURE

We trust this report is complete within our terms of reference, and the information presented is sufficient for your present purposes. If you have any questions, or when we may be of further assistance, please do not hesitate to call our office.

Sincerely

Peto MacCallum Ltd.



Geoffrey R. White, P.Eng.
Associate
Manager, Geotechnical and Geoenvironmental Services

GRW:jlb

Enclosure(s):
List of Abbreviations
Log of Borehole Nos. 101 to 110
Drawing No. 4-1 - Borehole Location Plan

LIST OF ABBREVIATIONS

PENETRATION RESISTANCE

Standard Penetration Resistance N: - The number of blows required to advance a standard split spoon sampler 0.3 m into the subsoil. Driven by means of a 63.5 kg hammer falling freely a distance of 0.76 m.

Dynamic Penetration Resistance: - The number of blows required to advance a 51 mm, 60 degree cone, fitted to the end of drill rods, 0.3 m into the subsoil. The driving energy being 475 J per blow.

DESCRIPTION OF SOIL

The consistency of cohesive soils and the relative density or denseness of cohesionless soils are described in the following terms:

CONSISTENCY	N (blows/0.3 m)	c (kPa)	DENSENESS	N (blows/0.3 m)
Very Soft	0 - 2	0 - 12	Very Loose	0 - 4
Soft	2 - 4	12 - 25	Loose	4 - 10
Firm	4 - 8	25 - 50	Compact	10 - 30
Stiff	8 - 15	50 - 100	Dense	30 - 50
Very Stiff	15 - 30	100 - 200	Very Dense	> 50
Hard	> 30	> 200		

WTPL	Wetter Than Plastic Limit
APL	About Plastic Limit
DTPL	Drier Than Plastic Limit

TYPE OF SAMPLE

SS	Split Spoon	ST	Slotted Tube Sample
WS	Washed Sample	TW	Thinwall Open
SB	Scraper Bucket Sample	TP	Thinwall Piston
AS	Auger Sample	OS	Oesterberg Sample
CS	Chunk Sample	FS	Foil Sample
GS	Grab Sample	RC	Rock Core

PH	Sample Advanced Hydraulically
PM	Sample Advanced Manually

SOIL TESTS

Qu	Unconfined Compression	LV	Laboratory Vane
Q	Undrained Triaxial	FV	Field Vane
Qcu	Consolidated Undrained Triaxial	C	Consolidation
Qd	Drained Triaxial		

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 101

17T 0553738E
4929836N

PROJECT Proposed Residential Subdivision - Craigleith Ridge
LOCATION Town of The Blue Mountains, Ontario
BORING METHOD Continuous Flight Solid Stem Augers
BORING DATE November 16, 2017
PML REF. 15BF041
ENGINEER GW
TECHNICIAN WP

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) / DYNAMIC CONE PENETRATION / STANDARD PENETRATION TEST	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS / GRAIN SIZE DISTRIBUTION (%) GR SA SI&CL
	SURFACE ELEVATION						+ FIELD VANE △ TORVANE ○ Qu ▲ POCKET PENETROMETER ○ Q; 50 100 150 200; DYNAMIC CONE PENETRATION × STANDARD PENETRATION TEST ●; 20 40 60 80	w_P w w_L; WATER CONTENT (%) 10 20 30 40		
0.12	TOPSOIL: Dark Brown, silty sand, trace gravel, moist		1	SS	6					
0.7	SANDY SILT: Loose, brown, sandy silt, trace clay, moist									
	TILL: Dense to very dense, brown to grey, silty sand/sandy silt, some gravel, cobbles and boulders, moist		2	SS	41					
			3	SS	74/250mm					
			4	SS	98/250mm					
			5	SS	76/270mm					
4.7			6	SS	50/100mm					
	BOREHOLE TERMINATED AT 4.7 m									Upon completion of augering No water No cave

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 102

PROJECT Proposed Residential Subdivision - Craigleith Ridge
17T 0553787E
4929692N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 16, 2017
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN WP

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES
	SURFACE ELEVATION				
0.10	TOPSOIL: Dark brown, silty sand, trace gravel, moist		1	SS	6
0.7	SANDY SILT: Loose, brown, sandy silt, trace gravel, trace clay, moist				
	TILL: Dense to very dense, brown to grey, silty sand/sandy silt, some gravel, cobbles and boulders, moist		2	SS	49
			3	SS	75/230mm
			4	SS	84/250mm
			5	SS	82
5.0			6	SS	58
	BOREHOLE TERMINATED AT 5.0 m				

ELEVATION SCALE

SHEAR STRENGTH (kPa)
+ FIELD VANE △ TORVANE ○ Qu
▲ POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS
GRAIN SIZE DISTRIBUTION (%) GR SA SI&CL

Upon completion of augering
No water
No cave

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 103

17T 0553894E
4929728N

PROJECT Proposed Residential Subdivision - Craigleith Ridge
LOCATION Town of The Blue Mountains, Ontario
BORING METHOD Continuous Flight Solid Stem Augers
BORING DATE November 16, 2017
PML REF. 15BF041
ENGINEER GW
TECHNICIAN WP

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES
	SURFACE ELEVATION				
0.2	TOPSOIL: Dark Brown, silty sand, trace gravel, moist		1	SS	2
	SILTY SAND: Very loose to very dense, brown, silty sand, trace to some gravel, moist		2	SS	67
			3	SS	50/100mm
2.1	TILL: Very dense, grey, silty sand/sandy silt, some gravel, cobbles and boulders, moist		4	SS	50/100mm
			5	SS	97/200mm
4.7	BOREHOLE TERMINATED AT 4.7 m		6	SS	50/80mm

ELEVATION SCALE

SHEAR STRENGTH (kPa)
+ FIELD VANE △ TORVANE ○ Qu
▲ POCKET PENETROMETER O Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS
GRAIN SIZE DISTRIBUTION (%) GR SA SI&CL

Upon completion of augering
No water
No cave

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 104

PROJECT Proposed Residential Subdivision - Craigleith Ridge
17T 0554503E
4929897N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 16, 2017
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN WP

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) + FIELD VANE △ TORVANE ○ Qu ▲ POCKET PENETROMETER O Q; DYNAMIC CONE PENETRATION × STANDARD PENETRATION TEST ●	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L; WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS; GRAIN SIZE DISTRIBUTION (%) GR SA SI&CL
	SURFACE ELEVATION						50 100 150 200; 20 40 60 80	10 20 30 40		
0.2	TOPSOIL: Dark brown, silty sand, some gravel, moist		1	SS	17					
	SILT: Compact, brown, sandy silt, trace gravel, trace clay, moist		2	SS	29					
1.4										
	TILL: Compact to very dense, brown to grey, silty sand/sandy silt, some gravel, trace clay, cobbles and boulders, moist		3	SS	23					
			4	SS	50/80mm		>>			First water strike at 2.1 m
2.9										
	SILT: Dense, grey, silt, some sand, some gravel, moist		5	SS	40					
4.3	BOREHOLE TERMINATED UPON REFUSAL TO AUGER AT 4.3 m									Upon completion of augering Water at 3.0 m No cave

0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0 14.0 15.0

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 105

17T 0554590E
4929794N

PROJECT Proposed Residential Subdivision - Craigleith Ridge
LOCATION Town of The Blue Mountains, Ontario
BORING METHOD Continuous Flight Solid Stem Augers
BORING DATE November 16, 2017
PML REF. 15BF041
ENGINEER GW
TECHNICIAN WP

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE
SURFACE ELEVATION						
0.10	TOPSOIL: Dark brown, silt, some sand, trace gravel, moist		1	SS	13	
	SILT: Compact to dense, brown, sandy silt, trace gravel, trace clay, moist		2	SS	36	
1.4	TILL: Very dense, brown, silty sand/sandy silt, some gravel, trace clay, cobbles and boulders, moist		3	SS	60	
			4	SS	50/80mm	
			5	SS	50/30mm	
4.6	BOREHOLE TERMINATED AT 4.6 m		6	SS	50/Bouncing	

SHEAR STRENGTH (kPa)
+FIELD VANE △TORVANE ○ Qu
▲POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS

GRAIN SIZE DISTRIBUTION (%) GR SA SI&CL

Upon completion of augering
No water
No cave

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 106

17T 0554105E
4929995N

PROJECT Proposed Residential Subdivision - Craigleith Ridge
LOCATION Town of The Blue Mountains, Ontario
BORING METHOD Continuous Flight Solid Stem Augers
BORING DATE November 17, 2017
PML REF. 15BF041
ENGINEER GW
TECHNICIAN WP

DEPTH ELEV (metres)	DESCRIPTION	NUMBER	TYPE	"N" VALUES
SURFACE ELEVATION				
0.12	TOPSOIL: Dark brown, silt, some sand, trace gravel, moist	1	SS	4
	SAND: Loose to very dense, dark brown, sand, some gravel, some silt, cobbles, moist	2	SS	16
		3	SS	67
2.1				
	SILT: Very dense, brown, silt, trace sand, trace gravel, moist	4	SS	75
2.9				
	TILL: Very dense, brown to grey, silty sand/sandy silt, some gravel, trace clay, cobbles and boulders, moist	5	SS	65
4.8		6	SS	65/220mm
	BOREHOLE TERMINATED AT 4.8 m			

SHEAR STRENGTH (kPa)
+ FIELD VANE △ TORVANE ○ Qu
▲ POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS
GRAIN SIZE DISTRIBUTION (%) GR SA SI&CL

Upon completion of augering
No water
No cave

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 107

PROJECT Proposed Residential Subdivision - Craigleith Ridge
17T 0553843E
4930114N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 17, 2017
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN WP

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) + FIELD VANE △ TORVANE ○ Qu ▲ POCKET PENETROMETER ○ Q / DYNAMIC CONE PENETRATION × STANDARD PENETRATION TEST ●	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS / GRAIN SIZE DISTRIBUTION (%) GR SA SI&CL
	SURFACE ELEVATION						50 100 150 200 / 20 40 60 80	10 20 30 40		
0.12	TOPSOIL: Dark brown, silty, trace sand, moist		1	SS	4					
	SANDY SILT: Loose to dense, brown, sandy silt, trace gravel, trace clay, very moist to moist		2	SS	36					
1.4										
	TILL: Very dense, grey, sandy silt, trace gravel, cobbles and boulders, moist		3	SS	79					
2.1										
	SANDY SILT: Very dense, grey, sandy silt, sand seam, moist to wet		4	SS	75					First water strike at 2.1 m
			5	SS	78/200mm		>>			
4.3										
	BOREHOLE TERMINATED UPON REFUSAL TO AUGER AT 4.3 m									Upon completion of augering Wet cave at 4.1 m

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 108

PROJECT Proposed Residential Subdivision - Craigleith Ridge
17T 0554027E
4930057N
PML REF. 15BF041

LOCATION Town of The Blue Mountains, Ontario
BORING DATE November 17, 2017
ENGINEER GW

BORING METHOD Continuous Flight Solid Stem Augers
TECHNICIAN WP

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES	ELEVATION SCALE	SHEAR STRENGTH (kPa) + FIELD VANE △ TORVANE ○ Qu ▲ POCKET PENETROMETER ○ Q / DYNAMIC CONE PENETRATION × STANDARD PENETRATION TEST ●	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS / GRAIN SIZE DISTRIBUTION (%) GR SA SI&CL
	SURFACE ELEVATION						50 100 150 200 / 20 40 60 80	10 20 30 40		
0.12	TOPSOIL: Dark brown, silt, some sand, trace gravel, moist		1	SS	7		●	○		
0.9	TILL: Very dense, brown, silty sand/sandy silt, some gravel, trace clay, cobbles and boulders, moist		2	SS	50/Bouncing		>>●			
	BOREHOLE TERMINATED UPON REFUSAL TO AUGER AT 0.9 m									Upon completion of augering No water No cave

0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0 14.0 15.0

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 109

17T 0554223E
4930120N

PROJECT Proposed Residential Subdivision - Craigleith Ridge
LOCATION Town of The Blue Mountains, Ontario
BORING METHOD Continuous Flight Solid Stem Augers
BORING DATE November 17, 2017
PML REF. 15BF041
ENGINEER GW
TECHNICIAN WP

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES	ELEVATION SCALE	UNIT WEIGHT kN/m³	GROUND WATER OBSERVATIONS AND REMARKS / GRAIN SIZE DISTRIBUTION (%) GR SA SI&CL
	SURFACE ELEVATION							
0.2	FILL: Dark brown, silty sand, trace gravel, moist		1	SS	3			
	SAND: Very loose to very dense, brown, sand, trace to some gravel, trace to some silt, moist to wet		2	SS	14			
			3	SS	56			
			4	SS	44			First water strike at 2.1 m
2.9								
	TILL: Compact, grey, silty sand/sandy silt, some gravel, trace clay, cobbles and boulders, moist		5	SS	21			
4.0								
	BOREHOLE TERMINATED UPON REFUSAL TO AUGER AT 4.0 m							Upon completion of augering Water at 1.5 m Cave at 2.1 m

SHEAR STRENGTH (kPa)
+FIELD VANE △TORVANE ○ Qu
▲POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0 14.0 15.0

NOTES

Peto MacCallum Ltd.
CONSULTING ENGINEERS

LOG OF BOREHOLE NO. 110

PROJECT Proposed Residential Subdivision - Craigleith Ridge
LOCATION Town of The Blue Mountains, Ontario
BORING METHOD Continuous Flight Solid Stem Augers

17T 0554244E
4930046N

BORING DATE November 17, 2017

PML REF. 15BF041
ENGINEER GW
TECHNICIAN WP

DEPTH ELEV (metres)	DESCRIPTION	STRAT PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" VALUES
SURFACE ELEVATION					
0.10	TOPSOIL: Dark brown, sand, some silt, moist		1	SS	3
	SAND: Very loose to compact, brown, sand, trace to some silt, moist to wet		2	SS	9
			3	SS	16
2.1	SILT: Compact to dense, grey, silt, trace sand, moist		4	SS	33
			5	SS	22
3.7	TILL: Compact, grey, silty sand/sandy silt, some gravel, trace clay, cobbles and boulders, moist		6	SS	12
5.0	BOREHOLE TERMINATED AT 5.0 m				

ELEVATION SCALE: 0.0, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0, 12.0, 13.0, 14.0, 15.0

SHEAR STRENGTH (kPa)
+ FIELD VANE △ TORVANE ○ Qu
▲ POCKET PENETROMETER ○ Q
50 100 150 200
DYNAMIC CONE PENETRATION ×
STANDARD PENETRATION TEST ●
20 40 60 80

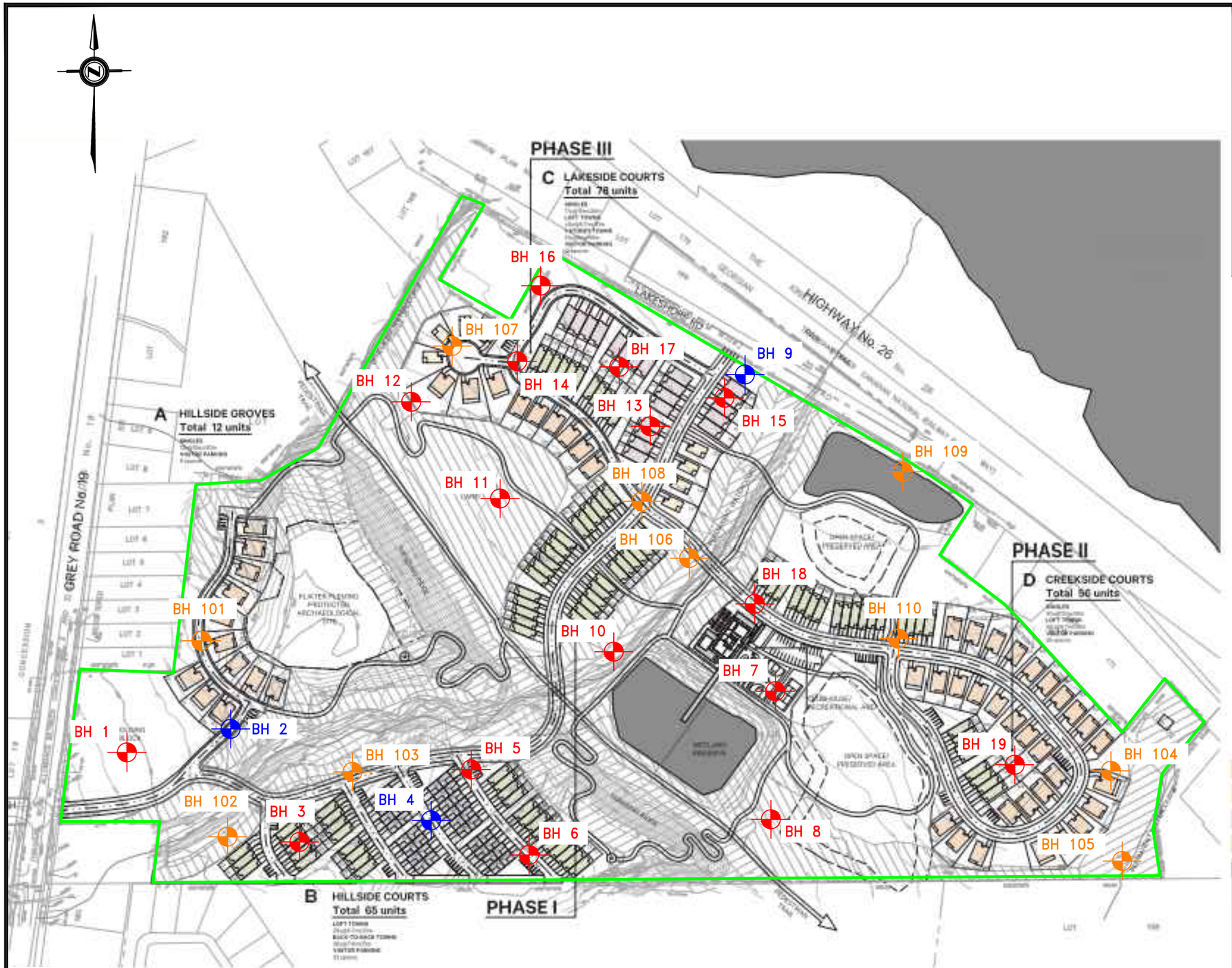
PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30 40

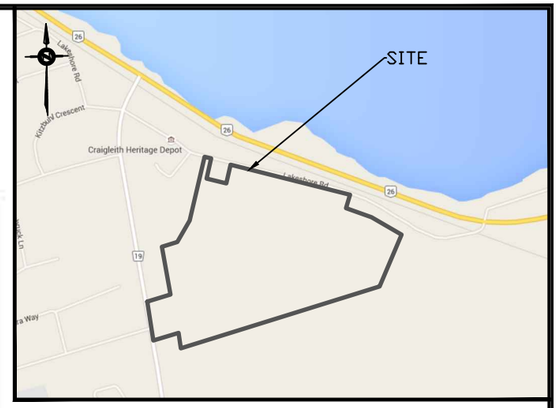
UNIT WEIGHT kN/m³

GROUND WATER OBSERVATIONS AND REMARKS
First water strike at 2.1 m
Upon completion of augering
Wet cave at 3.0 m

GRAIN SIZE DISTRIBUTION (%)
GR SA SI&CL

NOTES





KEY PLAN
TOWN OF BLUE MOUNTAINS, ONTARIO

LEGEND:

- SITE LIMITS
- BH 101 — BOREHOLE 101 (THIS REPORT 4)
- BH 2 — BOREHOLE 2 (WITH MONITORING WELL) (REPORT 2)
- BH 101 — BOREHOLE 1 (REPORT 2)

REFERENCE:

BASE PLAN PROVIDED BY CLIENT.

KEY PLAN PRODUCED USING GOOGLE MAPS, DECEMBER 2017.

0m 40 80 120 160 200

BOREHOLE LOCATION PLAN

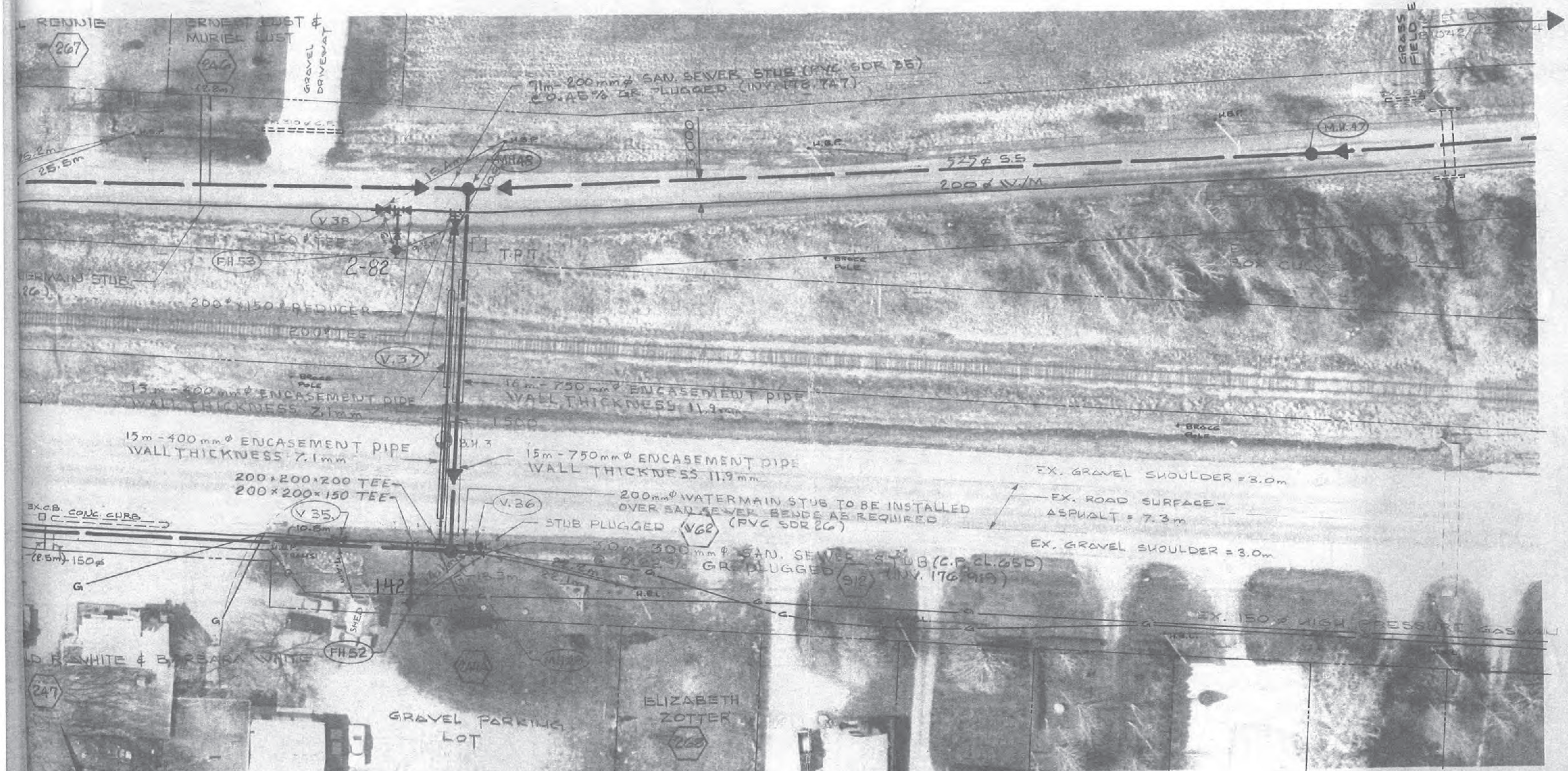
PROPOSED RESIDENTIAL SUBDIVISION
CRAIGLEITH RIDGE
TOWN OF BLUE MOUNTAINS, ONTARIO

Peto MacCallum Ltd.
CONSULTING ENGINEERS

		DATE	SCALE	PML REF.	DRAWING NO.
DRAWN	WP	JAN. 2018	AS SHOWN	15BF041	4–1
CHECKED	GW				
APPROVED	GW				

APPENDIX G

As-Constructed Drawings



ERNEST LUST &
MURIEL LUST
GRAVEL DRIVEWAY
71m - 200mmφ SAN. SEWER STUB (PVC SDR 35)
@ 0.45% GR. PLUGGED (INV. 178.747)
525φ S.S
200φ W/M
GRASS FIELD ELT.
M.H.47
MH48
V.38
150φ TEE
FH53
2-82
T.P.II
WATERMAIN STUB
200φ x 150φ REDUCER
200φ TEE
V.37
15m - 400mmφ ENCASEMENT PIPE
WALL THICKNESS 7.1mm
16m - 750mmφ ENCASEMENT PIPE
WALL THICKNESS 11.9mm
15m - 400mmφ ENCASEMENT PIPE
WALL THICKNESS 7.1mm
B.H.3
15m - 750mmφ ENCASEMENT PIPE
WALL THICKNESS 11.9mm
200 x 200 x 200 TEE
200 x 200 x 150 TEE
V.36
200mmφ WATERMAIN STUB TO BE INSTALLED
OVER SAN SEWER BENDS AS REQUIRED
STUB PLUGGED
V62
(PVC SDR 26)
V 35
EX. C.B. CONC. CURB
EX. GRAVEL SHOULDER = 3.0m
EX. ROAD SURFACE -
ASPHALT = 7.3m
EX. GRAVEL SHOULDER = 3.0m
SAN. SEWER STUB (C.P. CL.65D)
GR. PLUGGED
INV. 176.919
142
SHED
FH52
EX. 150φ HIGH PRESSURE GASMAIN
247
ELIZABETH
ZOTTER
268
GRAVEL PARKING
LOT

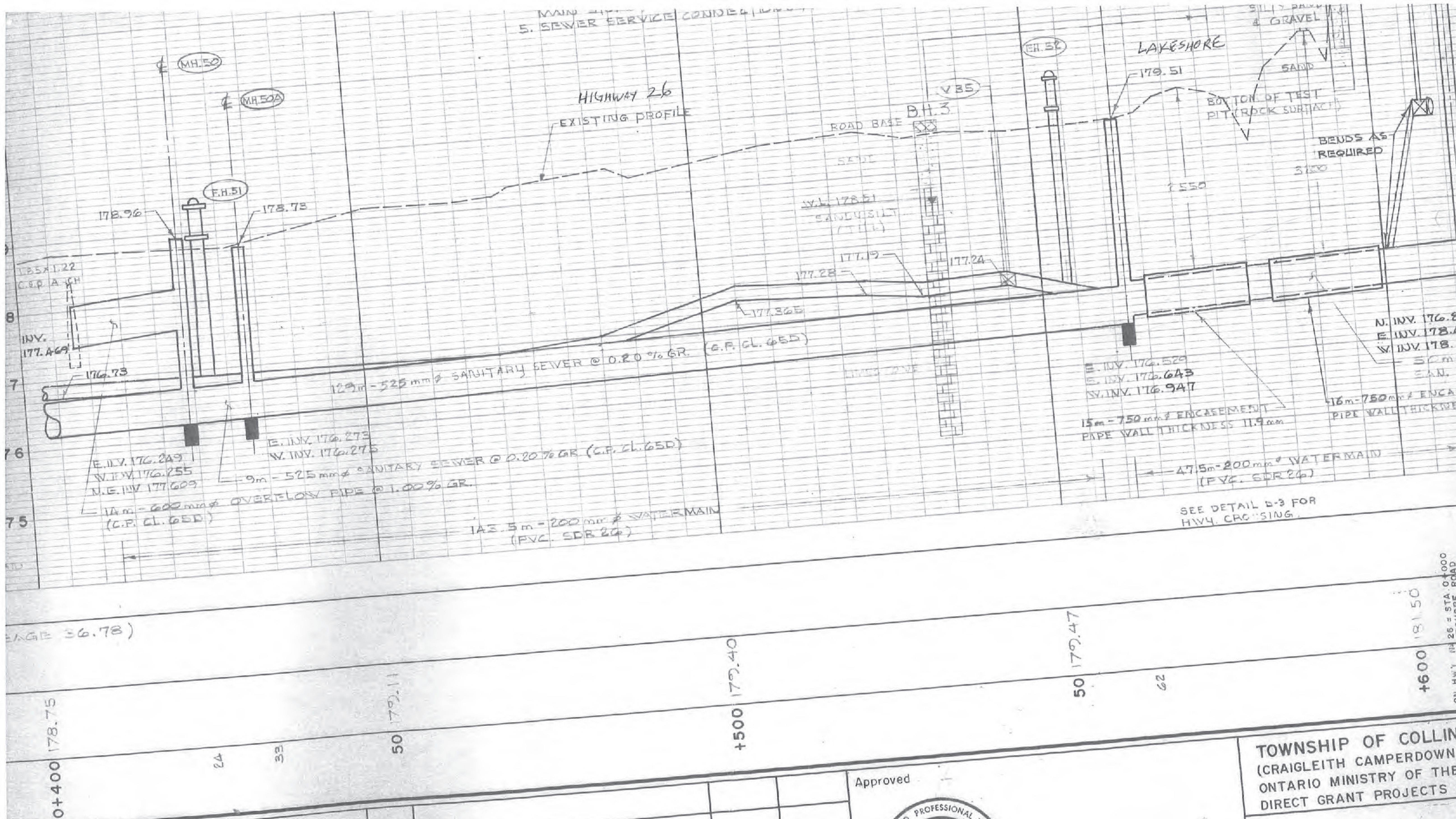
BRAD-L-BRIN RESTAURANT
GR. 178.91

MOTEL UNITS #9 TO #16
GR. 178.80

OLD LAKESHORE . ROAD

AS CONSTRUCTED DRAWINGS

COMPILED BY D.B. DATE MAY 1985


5. SEWER SERVICE CONNECTIONS
MH.50
MH.50A
HIGHWAY 26
EXISTING PROFILE
F.H.51
178.96
178.75
ROAD BASE
B.H.3
V35
W.L. 178.51
SAND/SILT (TILL)
177.19
177.24
177.28
177.365
F.H.52
LAKESHORE
179.51
SAND
& GRAVEL
BOTTOM OF TEST PIT (ROCK SURFACE)
BENDS AS REQUIRED
INV. 177.469
176.73
E. INV. 176.273
W. INV. 176.275
E. INV. 176.249
W. INV. 176.255
N.E. INV. 177.609
129m - 525 mm⌀ SANITARY SEWER @ 0.20 % GR. (C.P. CL. 65D)
9m - 525 mm⌀ SANITARY SEWER @ 0.20 % GR. (C.P. CL. 65D)
14 m - 600 mm⌀ OVERFLOW PIPE @ 1.00 % GR. (C.P. CL. 65D)
142.5 m - 200 mm⌀ WATERMAIN (PVC. SDR 26)
E. INV. 176.529
S. INV. 176.643
W. INV. 176.947
15m - 750 mm⌀ ENCASEMENT PIPE WALL THICKNESS 11.9mm
16m - 750 mm⌀ ENCASEMENT PIPE WALL THICKNESS
47.5m - 200 mm⌀ WATERMAIN (PVC. SDR 26)
SEE DETAIL D-3 FOR HWY. CROSSING.
N. INV. 176.8
E. INV. 178.4
W. INV. 178.0
0+400 178.75
50 179.11
+500 179.40
50 179.47
+600 181.50
ON HWY Nº 26 = STA. 0+000 ON OLD LAKESHORE ROAD

Legend

———	Watermain
—B—	Buried Bell Cable
—G—	Gasmain
	Existing Watermain

No.	Revision	Date	Initial
3	AS CONSTRUCTED	SEPT. 1985	C.K.K.
2	PRE - TENDER REVISIONS	JUNE 1984	C.K.K.
1	DRAWING REDRAFTED	MAR 1984	C.K.K.
		DATE	INITIAL

Approved

REGISTERED PROFESSIONAL ENGINEER
C. K. KENT
PROVINCE OF ONTARIO

TOWNSHIP OF COLLING
(CRAIGLEITH CAMPERDOWN
ONTARIO MINISTRY OF THE
DIRECT GRANT PROJECTS N

PLAN AND PROFILE

HIGHWAY Nº 26 - STA. 0+41
OLD LAKESHORE ROAD -

FIGURES

Legend

= SUBJECT PROPERTY

Project

PARKBRIDGE CRAIGLEITH
TOWN OF THE BLUE MOUNTAINS

Drawing

SITE LOCATION

CROZIER & ASSOCIATES Consulting Engineers
The HarbourEdge Building,
40 Huron Street, Suite 301,
Collingwood, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
www.cfcrozier.ca
info@cfcrozier.ca

Drawn By	Design By	Project
C.W.	C.W./O.D.	1046-4031

Scale	Date	Check By	Drawing
N.T.S.	12/22/2016	J.P.	FIG. 1

J:\1000\1046-Parkbridge Lifestyle\4031-Craigleith Fogal Land Acq\CAD\CIVIL\1SHEET\4031_201-213.dwg, 201, 4/30/2018 4:51:43 PM, lwaters

LEGEND

- CONSTRAINTS - HIGH
- CONSTRAINTS - MEDIUM
- TYPE A BACK-TO-BACK TOWNS
- TYPE B 1-STOREY TOWNS
- TYPE C LOFT TOWNS
- TYPE D 1-STOREY SINGLE
- TYPE E 2-STOREY SINGLE

NOTE: DETACHED LOTS CAN ACCOMMODATE BOTH SINGLE TYPE D OR E

LAKESIDE COURTS
Total 77 units

SINGLES
11u@15mx30m
LOFT TOWNS
40u@6.7mx30m
1-STOREY TOWNS
26u@9mx30m
VISITOR PARKING
20 spaces

CREEKSIDE COURTS
Total 65 units

SINGLES
34u@15mx30m
LOFT TOWNS
31u@6.7mx30m
VISITOR PARKING
90 spaces

HILLSIDE COURTS
Total 69 units

LOFT TOWNS
21u@6.7mx30m
BACK-TO-BACK TOWNS
48u@7.8mx15m
VISITOR PARKING
50 spaces

GEORGIAN BAY

HIGHWAY No. 26

GREY ROAD No. 19

LAKESHORE RD

GEORGIAN TRAIL

CANADIAN NATIONAL RAILWAY RIGHT OF WAY)

EMERGENCY ACCESS ROAD ONLY

BOLLARDS

TRAIL NETWORK CONNECTION complete w/ SIGNAGE AT CROSSING

STORAGE BUILDING [6000 sq.ft.]

EPHEMERAL WATERCOURSE

PEDESTRIAN TRAIL

ENVIRONMENTAL AREA

NIPISSING RIDGE

PLATER-FLEMING CONSERVATION AREA

COMMUNITY CLUB HOUSE [5000 sq.ft.]

CRAIGLEITH RD

UNPAVED EMERGENCY ACCESS LOOP

OPEN SPACE

PERMANENT WATERCOURSE

15M MIN. BUFFER FROM CREEK (TYPICAL 30M PROVIDED)

STORMWATER POND

OPEN SPACE/ PRESERVED AREA

POTENTIAL PLAYGROUND

PEDESTRIAN PRIORITY ZONE

WETLAND PRESERVE

PEDESTRIAN TRAIL

SvN
110 Adelaide St. E.
Toronto, Canada
M5C 1K9
416.593.6499
www.svn-ap.com

41717 // Craigleith Ridge

Parkbridge Lifestyle Communities Inc.
Craigleith, Ontario

CRAIGLEITH RIDGE

TECHNICAL SITE PLAN

scale 1:2500

April 30, 2018

A0.1

LEGEND

- SUBJECT PROPERTY
- EX. TRIBUTARY
- EX. CONTOUR
- XWM — XWM — EX. WATERMAIN
- W — PR. WATERMAIN
- (PRV) PR. PRESSURE REDUCING VALVE

POTENTIAL SECONDARY CONNECTION TO EX. 150mmø WATERMAIN

POTENTIAL SECONDARY CONNECTION TO EX. 150mmø WATERMAIN

EXISTING HYDRO SUBSTATION

EXISTING BANNERMAN DEVELOPMENT

GEORGIAN TRAIL

HIGHWAY 26

LAKESHORE ROAD

POTENTIAL PRV

EDEN OAK DEVELOPMENT

PROPOSED PRIMARY CONNECTION TO EX. 350mmø WATERMAIN

CRAIGLEITH ROAD

GREY ROAD 19

WATERMAIN LOOP (Typ.)

Project: PARKBRIDGE CRAIGLEITH
TOWN OF THE BLUE MOUNTAINS

Drawing: PROPOSED WATER DISTRIBUTION PLAN

CROZIER & ASSOCIATES Consulting Engineers
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Drawn By	Design By	Project
J.O.	O.D.	1046-4031
Scale	Date	Check By	Drawing
1:2500	12/22/2016	J.P.	FIG. 3

J:\1000\1046-Parkbridge Lifestyle\4031-Craigleith Fogal Land Acq\CAD\CIVIL\1SHEET\4031_201-213.dwg, 203, 4/30/2018 4:43:33 PM, lwaters

LEGEND

- SUBJECT PROPERTY
- EX. TRIBUTARY
- EX. CONTOUR
- XSAN — EX. SANITARY SEWER
- SAN — PR. SANITARY SEWER

CONNECT TO EX. SANITARY SEWER INV. 178.7+–

EX. SANITARY SEWER DRAINS TO EX. CRAIGLEITH PUMP STATION

EX. 200mmø SANITARY SEWER

EX. 525mmø SANITARY SEWER

CONNECT TO EX. SAN. MH#48 INV. 176.8+–

EXISTING HYDRO SUBSTATION

EXISTING BANNERMAN DEVELOPMENT

EDEN OAK DEVELOPMENT

GEORGIAN BAY

THE GEORGIAN TRAIL (FORMER CANADIAN NATIONAL RAILWAY RIGHT OF WAY)

KING'S HIGHWAY No. 26

HIGHWAY 26

GEORGIAN TRAIL

LAKESHORE ROAD

CRAIGLEITH ROAD

GREY ROAD 19

COUNTY ROAD No. 19

CONCESSION

PLAN 634

REGISTERED PLAN

LOT 1 LOT 2 LOT 3 LOT 4 LOT 5 LOT 6 LOT 7 LOT 8 LOT 9 LOT 19 LOT 20 LOT 167 LOT 168

Project
PARKBRIDGE CRAIGLEITH
TOWN OF THE BLUE MOUNTAINS

Drawing
PROPOSED SANITARY SERVICING PLAN

CROZIER & ASSOCIATES Consulting Engineers
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Drawn By	Design By	Project
J.O.	O.D.	1046–4031
Scale	Date	Check By	Drawing
1: 2500	12/22/2016	J.P.	FIG. 4

J:\1000\1046-Parkbridge Lifestyle\4031-Craigleith Fogal Land Acq\CAD\CIVIL\1SHEET\4031_201-213.dwg, 204, 4/30/2018 4:42:56 PM, lwaters

LEGEND

- SUBJECT PROPERTY
- EX. TRIBUTARY
- EX. CONTOUR
- EX. DRAINAGE CATCHMENTS
- EX. DRAINAGE FLOW DIRECTION

GEORGIAN BAY

HIGHWAY 26

LAKESHORE RD

EXISTING "GEORGIAN WOODLANDS" DEVELOPMENT

ARROWHEAD ROAD

SLEEPY HOLLOW ROAD

EXISTING "BANNERMAN" DEVELOPMENT

WATER-COURSE 10

WATERCOURSE 9

LAKESHORE RD

WATERCOURSE 7

EDEN OAK DEVELOPMENT

EX. "ORCHARDS" SWM FACILITY

CRAIGLEITH ROAD

WATERCOURSE 8

GREY ROAD 19

EX. SNOWMAKING POND

SUBWATERSHED 9

EXT-9
116.6ha

EXISTING "ORCHARDS" DEVELOPMENT

TYROLEAN LANE

EXISTING "TYROLEAN LANE" DEVELOPMENT

GREY ROAD 19

4TH LINE

NOTE: TOPOGRAPHIC MAPPING PER OBM BASE MAPS

Project: PARKBRIDGE CRAIGLEITH
TOWN OF THE BLUE MOUNTAINS

Drawing: REGIONAL DRAINAGE PLAN
SUBWATERSHED 9

CROZIER & ASSOCIATES Consulting Engineers
The HarbourEdge Building,
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Drawn By	Design By	Project
C.W.	O.D.	1046-4031
Scale	Date	Check By	Drawing
1:10,000	12/22/2016	J.P.	FIG. 5

J:\1000\1046-Parkbridge Lifestyle\4031-Craigleith Fogal Land Acq\CAD\CIVIL\1SHEET\4031_201-213.dwg, 205, 4/30/2018 4:42:22 PM, lwaters

LEGEND

- SUBJECT PROPERTY
- EX. TRIBUTARY
- EX. CONTOUR
- EX. DRAINAGE CATCHMENTS
- 9E / 7.73 / 63.0 / R — DRAINAGE I.D.; R=RURAL; CURVE NUMBER; U=URBAN; TOTAL IMPERVIOUSNESS (%); AREA (ha)
- EX. DRAINAGE FLOW DIRECTION

EX. 0.9mø CSP

WATER COURSE 10

EX. 1.55m X 1.05m CONC. BOX CULVERT

EX. 2.45m X 0.9m CONC. BOX CULVERT

EX. 1.5mø CSP

GEORGIAN BAY

EXISTING HYDRO SUBSTATION

EXISTING BANNERMAN DEVELOPMENT

GEORGIAN TRAIL

HIGHWAY 26

WATERCOURSE 8 CROSSING

EX. 2–0.7mø CSP

EX. 0.35mø CSP

EX. 1.1m x 0.9m BOX CULVERT

LAKESHORE ROAD

WATERCOURSE 10

SUBWATERSHED 10

9E 7.73 63.0 R

9F 3.44 64.0 R

WATERCOURSE 9

WATER– COURSE 7 CROSSING

WATERCOURSE 7

SUBWATERSHED 8

9C 0.96 33.2 R

EXISTING POND

9D 1.87 43.6 R

EDEN OAK DEVELOPMENT

9A 2.58 48.8 R

GREY ROAD 19

CRAIGLEITH ROAD

9B 11.6 68.0 R

EXT–9 116.6ha

EX. 1.5mø CSP

REFER TO FIGURE 7

NOTE:
SUBWATERSHED 8 CATCHMENTS MODELED IN POST DEVELOPMENT CONDITIONS FOR POST DEVELOPMENT CONVEYANCE DESIGN. AS SHOWN ON POST DEVELOPMENT DRAINAGE PLANS, SUBWATERSHED 8 DRAINAGE AREAS WILL BE REDUCED DUE TO POST–DEVELOPMENT GRADING/DRAINAGE, REDUCING FLOOD DRAINAGE TO WATERCOURSE 8.

Project: PARKBRIDGE CRAIGLEITH
TOWN OF THE BLUE MOUNTAINS

Drawing: PRE–DEVELOPMENT DRAINAGE PLAN (NORTH)

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3
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705 446-3520 F
WWW.CFCROZIER.CA
INFO@CFCROZIER.CA

Drawn By	C.W.	Design By	O.D.	Project	1046–4031
Scale	1: 2500	Date	12/22/2016	Check By	J.P.	Drawing	FIG. 6

J:\1000\1046-Parkbridge Lifestyle\4031-Craigleith Fogal Land Acq\CAD\CIVIL\1SHEET\4031_201-213.dwg, 206, 4/30/2018 4:41:50 PM, lwaters

REFER TO FIGURE 6

LEGEND

- SUBJECT PROPERTY
- EX. TRIBUTARY
- EX. CONTOUR
- EX. DRAINAGE CATCHMENTS
- DRAINAGE I.D. (9E / 7.73 / 63.0 / R)
  - R=RURAL; CURVE NUMBER
  - U=URBAN; TOTAL IMPERVIOUSNESS (%)
  - AREA (ha)
- EX. DRAINAGE FLOW DIRECTION
- EX. SWALE FLOW DIRECTION

CRAIGLEITH ROAD

GREY ROAD 19

9A — 2.58 / 48.8 / R

EXT–9 — 116.6ha

EX. 1.5mø CSP

9B — 11.6 / 68.0 / R

EX. SWM POND

EXISTING "ORCHARDS" DEVELOPMENT

CRAIGLEITH SKI CLUB

H-3

SOUTHERN RAILWAY

WATERCOURSE #7

NOTE:
SUBWATERSHED 8 CATCHMENTS MODELED IN POST DEVELOPMENT CONDITIONS FOR POST DEVELOPMENT CONVEYANCE DESIGN. AS SHOWN ON POST DEVELOPMENT DRAINAGE PLANS, SUBWATERSHED 8 DRAINAGE AREAS WILL BE REDUCED DUE TO POST–DEVELOPMENT GRADING/DRAINAGE, REDUCING FLOOD DRAINAGE TO WATERCOURSE 8.

Project: PARKBRIDGE CRAIGLEITH
TOWN OF THE BLUE MOUNTAINS

Drawing: PRE–DEVELOPMENT DRAINAGE PLAN (SOUTH)

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Drawn By	C.W.	Design By	O.D./N.M.	Project	1046–4031
Scale	1: 2500	Date	12/22/2016	Check By	J.P.	Drawing	FIG. 7

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LEGEND

- SUBJECT PROPERTY
- PR. DRAINAGE CATCHMENTS
- PR. DRAINAGE FLOW DIRECTION
- PR. SWALE
- × 182.45 — PR. ELEVATION
- 1.5% → — PR. GRADE & DIRECTION
- LP — PR. LOW POINT ELEVATION
- HP — PR. HIGH POINT ELEVATION
- STM — PR. STORM SEWER SYSTEM
- CULVERT
- EX. TRIBUTARY
- EX. CONTOUR
- 9G / 3.6 — DRAINAGE I.D. / AREA (ha)

NOTE: FOR POST-DEVELOPMENT HYDROLOGIC PARAMETERS (ie. % IMPERVIOUS) REFER TO APPENDIX B IN CROZIER FUNCTIONAL SERVICING & STORMWATER MANAGEMENT REPORT

PR. CULVERT CROSSINGS

- C#1 – 3.0m x 1.2m CONCRETE BOX CULVERT
- C#2 – 3.0m x 1.2m CONCRETE BOX CULVERT
- C#3 – 3.6m x 1.2m CONCRETE BOX CULVERT
- C#4 – REPLACE EQUIVALENT
- C#5 – 450mmø CSP

SWM FACILITY SUMMARY –OPERATING CHARACTERISTICS SUMMARY

SWM FACILITY #1
EX. POND CONVERTED TO WETLAND

	VOLUME (m^3)	ELEVATION
–PERMANENT POOL	1400	189.00
–EXTENDED DETENTION	583	189.30
–REGIONAL STORM (HIGH WATER LEVEL)	12,120	191.32

SWM FACILITY #2
PR. WET POND

	VOLUME (m^3)	ELEVATION
–PERMANENT POOL	1560	181.50
–EXTENDED DETENTION	738	181.80
–REGIONAL STORM (HIGH WATER LEVEL)	2662	182.63

* NOTE: FOR SWM FACILITY #2, 100 YEAR HIGH WATER LEVEL GOVERNS OVER REGIONAL

EX. 0.9mø CSP
EX. 2.45m X 0.9m CONC. BOX CULVERT
EX. 1.55m X 1.05m CONC. BOX CULVERT
EX. 1.5mø CSP
EX. 2–0.7mø CSP
EX. 0.35mø CSP
EX. 1.1m x 0.9m BOX CULVERT
EX. 1.5mø CSP
GEORGIAN BAY
HIGHWAY 26
GEORGIAN TRAIL
LAKESHORE ROAD
CRAIGLEITH ROAD
GREY ROAD 19
WATERCOURSE 10
WATERCOURSE 9
WATERCOURSE 8
WATERCOURSE 7
WATERCOURSE 8 CROSSING
EXISTING BANNERMAN DEVELOPMENT
EXISTING HYDRO SUBSTATION
EDEN OAK DEVELOPMENT
PR. SWM FACILITY #1
PR. SWM FACILITY #2
MAIN CELL
FOREBAY
PR. INTERCEPTOR SWALE TO CAPTURE & CONVEY EXTERNAL DRAINAGE
WATERCOURSE 8 CATCHMENT & EXT–8 TO BE DIRECTED TO WATERCOURSE 8 VIA STORM SEWER TO BE DESIGNED AT DETAIL DESIGN STAGE.
REFER TO FIGURE 9

9J 0.81 · 9P 1.75 · 9L 0.66 · 9o 0.35 · 9N 1.85 · 9H 1.67 · 9K 0.68 · 9M 5.80 · 8i 2.23 · 9G 1.16 · 9D 1.92 · 9E 2.10 · 9B 3.10 · 9C 0.55 · Ext9D 0.6 · Ext9C 8.4 · Ext8 7.6 · Ext9 116.6ha

C#1 · C#2 · C#3 · C#4 · C#5

Project: PARKBRIDGE CRAIGLEITH
TOWN OF THE BLUE MOUNTAINS

Drawing: POST–DEVELOPMENT SITE DRAINAGE AND STORMWATER MANAGEMENT PLAN (NORTH)

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1:2500	12/22/2016	J.P.	FIG. 8

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REFER TO FIGURE 8

CRAIGLEITH ROAD

GREY ROAD 19

9B
3.10

9C
0.55

Ext8
7.6

Ext9D
0.6

Ext9
116.6ha

Ext9C
8.4

EX. 1.5mø CSP

EX.
SWM
POND

WATERCOURSE #7

WATERCOURSE #7

LEGEND

- SUBJECT PROPERTY
- PR. DRAINAGE CATCHMENTS
- PR. DRAINAGE FLOW DIRECTION
- PR. SWALE
- CULVERT
- EX. TRIBUTARY
- EX. CONTOUR
- 9G / 3.6 — DRAINAGE I.D. / AREA (ha)

NOTE: FOR POST-DEVELOPMENT HYDROLOGIC PARAMETERS (ie. IMPERVIOUS) REFER TO APPENDIX B IN CROZIER FUNCTIONAL SERVICING & STORMWATER MANAGEMENT REPORT

Project: PARKBRIDGE CRAIGLEITH
TOWN OF THE BLUE MOUNTAINS

Drawing: POST-DEVELOPMENT DRAINAGE PLAN (SOUTH)

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