

**FUNCTIONAL SERVICING &
STORMWATER MANAGEMENT REPORT**

**EDEN OAK – BLUE TRAILS
RESIDENTIAL DEVELOPMENT
TOWN OF THE BLUE MOUNTAINS**

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TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	BACKGROUND	1
3.0	SITE DESCRIPTION	2
4.0	ROAD STANDARD	2
5.0	SANITARY SERVICING	3
6.0	WATER SERVICING	4
7.0	UTILITIES	4
8.0	STORM WATER MANAGEMENT AND URBAN DRAINAGE	4
8.1	Existing Drainage Conditions	5
8.1.1.	Subwatershed 6	5
8.1.2.	Subwatershed 7	6
8.2	Proposed Drainage Conditions	7
8.2.1.	Watercourse 7 Floodplain Management	7
8.2.2.	Major / Minor Systems	7
8.2.3.	Stormwater Management Facility	8
8.3	Stormwater Quantity Control	9
8.3.1.	Uncontrolled Modeling Analysis	9
8.3.2.	Proposed Conditions Modeling Analysis	10
8.4	Stormwater Quality Control	11
9.0	CONCLUSIONS	12

APPENDICES

Appendix A:	Hydraulic Modeling of Watercourse 7
Appendix B:	Hydrologic Parameters
Appendix C:	SWMHYMO Modeling

LIST OF FIGURES

Figure 1:	Site Location Plan
Figure 2:	Development Concept Plan
Figure 3:	Development Draft Plan
Figure 4:	Proposed Sanitary Servicing
Figure 5:	Proposed Water Servicing
Figure 6:	GSCA Delineation of Sub-Watersheds 6 & 7
Figure 7:	Site Drainage & Stormwater Management Plan
Figure 8:	CFCA Revised Delineation of Sub-Watersheds 6 & 7

1.0 INTRODUCTION

CF Crozier & Associates Inc. (Crozier) was retained by Eden Oak (Trailshead) Inc. to complete a Functional Servicing & Stormwater Management Report for the proposed Eden Oak Blue Trails Residential Development. Located within the Village of Craighleith south of Highway 26, the property is bounded by privately owned lands, the Georgian Trail and Old Lakeshore Road. Refer to Figure 1 for a site location plan.

The proposed development is comprised of two separate parcels. The larger 17 ha (42 acre) property is located south of Old Lakeshore Road and is legally described as Plan 529, Part Lot 158 and Part Lot 173, Part Lot 10 Conc. 2, shown as Part 2 RP 16R-1974 & Part 1 RP 16R-4636, Town of The Blue Mountains, County of Grey. The smaller 0.24 ha (0.6 acre) property is located north of Old Lakeshore Road and is legally described as Plan 529, Part 2, Lot 174, RP 16R-8571, Town of The Blue Mountains, County of Grey.

The development concept reflects a total of 194 residential units comprised of a mixture of semi-detached, townhome and villa units as well as a series of public road allowances, environmental, open space and future development blocks and a stormwater management facility. Units on the smaller 0.24 ha parcel north of Old Lakeshore Road (4 semi's) will be used as model home units for the development. The development concept plan and development draft plan have been reflected in Figures 2 & 3, respectively.

This report has been prepared to provide information concerning the servicing (water, sewer, and utilities) and stormwater management to support the Official Plan Amendment, Zoning By-law Amendment and Draft Plan Application for the proposed development.

2.0 BACKGROUND

The subject lands were formerly Draft Approved in 2006 by the previous site owners for a 71 lot golf course community known as the TrailsHead Golf & Residence Club. Subsequent to this approval, Eden Oak (Trailshead) Inc. purchased the subject lands and modified the development concept plan to reflect a 77 unit estate residential subdivision. This plan was Draft Approved in 2007. Subsequently, detailed design of the subdivision and preliminary onsite earthworks grading operations were substantially completed.

The engineering services for the previous development applications were handled by our firm. As such, the servicing strategy described herein relies extensively on the engineering work completed for the previous approvals obtained from the Town, Grey Sauble Conservation Authority (GSCA) and Ministry of Transportation (MTO). The general layout, servicing strategies and development limits have been maintained for the new development concept plan, although the proposed development within these limits has been intensified. An additional 0.24 ha property north of Old Lakeshore Road has also been obtained and included in the development concept since the previous Draft Plan Approval. Additionally, butternut trees have been identified as an endangered species and are therefore accorded appropriate buffer zones in the updated development concept plan.

An updated Functional Servicing & Stormwater Management Report package was submitted in April of 2012 in support of a 217 unit concept plan. This plan has subsequently been refined based on

comments received from the Town, Agencies and the Public to the current 194 unit proposal presented herein.

3.0 SITE DESCRIPTION

With the exception of the southwest corner of the site, the majority of the property lies just below the Nipissing Ridge – a geologic feature of the Georgian Bay Peninsula. These lands generally possess a uniform gradient of 3% and slope towards the northeast.

Below the Ridge, soils are classified as Granby sands, poorly drained sands over finer grained material (Soil Survey of Grey County, 1954). Shale contact is encountered approximately 1 to 1.5 metres below native ground surface and slopes uniformly toward the northeast following the gradient of the surface topography. Original vegetation on the site consisted of cultural meadow and cultural thicket characteristic of past agricultural activities. Preliminary site grading activities were completed in 2008 and 2009 to clear developable areas of the site, rough grade lots and roadways and establish the stormwater management facility in the northeast corner of the site.

A watercourse (Watercourse #7) is located on the western third of the property, draining lands to the south and traversing the Nipissing Ridge by a steeply sloping ravine. All lands west of the watercourse buffer limit (established through the previous approvals) remain untouched and consist of wooded areas surrounding the slope of the Nipissing Ridge and successional growth areas adjacent former agricultural lands. Remnants of past agricultural activities are evident west of the watercourse including remnants of the former house and barn structure (since demolished).

Lands obtained to the north of Old Lakeshore Road are vacant and fall northeasterly towards the Georgian Trail. Land use across this site is primarily maintained lawn with a series of shrubs and sporadic trees along the northerly property limit.

4.0 ROAD STANDARD

The looped internal roadway and entrance within the property will be municipally owned and maintained. Access to the site will be via the existing 20 m frontage onto Old Lakeshore Road in the central portion of the property.

While municipal precedence does exist for the use of a single access for a development of this nature, it is considered good engineering design practice to include a second access for emergency purposes. Consequently, the subject concept plan reflects a future road connection adjacent the southeast corner of the development. From this location connections can be made to the adjacent development properties to the south and east.

The typical road section for the development will consist of a 20 m public road allowance containing an 8.5 m wide paved asphalt platform complete with curb and gutter, sanitary sewers, storm sewers, watermain, utilities and streetlights. However, given subsequent discussions with the Town post our April 2012 submission, we have incorporated an expanded 26m wide right of way east of the site entrance on Street 'B'. Additionally, we have modified a number of internal roadway centerline radii to meet the 80m Town minimum (50km/hr design speed). However, some elements of the Town geometric standard have not been met given the existing site constraints including property geometry

as well as agreements to service / provide road connections to adjacent properties. To this end multiple discussions / meetings with the Town on the proposed roadway layout were completed to arrive at the current Draft Plan configuration moving forward.

The four semi-detached units north of Old Lakeshore Road will be provided access from the existing roadway structure. Further we have verified that a horizontal curve of 80 metres could be accommodated within the existing Old Lakeshore Road right of way fronting the development, should the Town wish to rebuild the roadway platform at some point in the future. It is further noted that we understand the intersection of Old Lakeshore Road and Highway #26 will be studied by the Town through a future Environmental Assessment process.

5.0 SANITARY SERVICING

The site is situated immediately adjacent to the Craigleith Sewage Lift Station, located off of Old Lakeshore Road. This lift station collects wastewater from most of the Craigleith Service Area before pumping the sewage to the Craigleith Wastewater Treatment Plant, located on Long Point Road, via forcemain. This Wastewater Treatment Plant currently has ample capacity to service the subject development with approximately 4,704 units free for allocation (2013 TOBM Water & Wastewater Capacity Assessment).

Two existing trunk sanitary sewers are located in proximity to the subject lands. A 675 mm diameter gravity trunk sewer is located approximately 100 meters east of the site. This sewer is contained within a municipal easement through privately held lands. Further downstream, the alignment of this sewer follows Timmons Road to Highway 26 then drains westward to the sewage lift station. The second trunk sewer (525 mm Ø) is located within the northern boulevard of Highway 26. It drains south across Highway 26 to the sewage lift station. The location of the sewers and sewage lift station are reflected in Figure 4. With the proximity of the existing sewers, servicing of the subject development with gravity sewers is feasible.

Connecting to the existing 525 mm Ø gravity sewer has been selected as the preferred option, in keeping with the original Trailshead approach and previous detailed design drawings. Connection to the 675 mm Ø sewer to the east of the property was not selected as agreements with private land owners to the east have not been secured to date.

The physical connection of the proposed gravity sewer originating from the site to the existing 525 mm Ø gravity sewer will be made at the last upstream manhole from the pump station, south of Highway 26. This manhole also connects an existing 750 mm Ø trunk sewer from the east to the inlet of the pump station. Since this manhole is located on the south side of Highway 26 no works within the roadway of Highway 26 will be required. Sanitary sewer will extend from this connection location along the south side of Highway 26 and Old Lakeshore Road to the development entrance.

Internal sewers will follow the alignment of the proposed roadways per municipal standard. Each residential unit fronting onto public roadways will have service laterals connected to this local sewer. Proposed units on the northerly parcel will be serviced by way of extension of services from proposed sewers to be extended along Old Lakeshore Drive to the westerly property limits.

Figure 4 reflects the recommended sanitary servicing scheme for the development.

6.0 WATER SERVICING

Potable water supply for the subject lands will be supplied by the Town of The Blue Mountains municipal system. Similar to the sewage servicing, connection to the existing water distribution system is straightforward and feasible.

A 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; however, the minimum diameter is 150 mm. Fire hydrants will be spaced as required to provide the necessary fire protection. The proposed watermain alignment is reflected on Figure 5.

A 150 mm diameter watermain is located along Old Lakeshore Road. When the watermain was installed on Old Lakeshore Road in 1985, a tee and valve were installed on the property line in the vicinity of the proposed entrance to the subject lands on the property line. Connection will be made to this stub to form part of the supply network for the residential development.

There is a second existing municipal watermain (200 mm Ø) located in the municipal servicing corridor containing the 675 mm Ø sanitary trunk sewer, east of the subject lands. Connection to the watermain is also recommended following the alignment of the Georgian Trail. A connection at the junction of the 200 mm Ø watermain and the Georgian Trail will occur, eliminating the need to cross onto private property. A "live tap" will be required in order to connect to the existing watermain, since no allowance was made along this section of municipal watermain (i.e. stub or tee) for a future connection point.

With these watermains surrounding the property, it will be possible to provide two dedicated connections to the municipal distribution network and "loop" through the Eden Oak development to avoid dead-end mains, as required by the Municipality and Ministry of Environment.

The Town is currently in the process of modeling the existing municipal water distribution system. Upon completion of the municipal water distribution system model, the existing municipal system capacity will be assessed in relation to the development's projected demand, and any required upgrades to the municipal system will be identified.

7.0 UTILITIES

The Eden Oak Blue Trails development will be serviced with natural gas, telephone, cable TV and hydro. All such utilities are currently available on Old Lakeshore Road.

8.0 STORM WATER MANAGEMENT AND URBAN DRAINAGE

Stormwater management for the proposed development will be consistent with the previously approved strategy and will comply with the policies and standards of the various agencies including: Town of The Blue Mountains, Ministry of Transportation, Ministry of Environment, and Grey Sauble Conservation Authority.

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

- Water Quality Control
 - "Enhanced Protection" 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
 - Lot grading at 2% optimum
 - Minor and major drainage system to convey frequent and infrequent rainfall/runoff events

8.1 Existing Drainage Conditions

The site lies within two subwatersheds as identified in the *Craigleith Camperdown Subwatershed Study* prepared by Gore & Storrie (1993) for the GSCA, namely Subwatershed 6 and 7. The watercourse located in the western half of the property is the main branch of Subwatershed 7, which will be referred to as Watercourse 7 throughout in this report. The main watercourse of Subwatershed 6 is located off site to the east. It has been referred to as "Boughton's Creek", but is referred to as Watercourse 6 within this report.

The subwatersheds were delineated by Gore & Storrie based on OBM 1:10 000 mapping and are reflected on Figure 6. The majority of the subject property lies within Subwatershed 6.

8.1.1. Subwatershed 6

Watercourse 6 collects and conveys flow from approximately 570 ha upstream of Highway 26. The 17 ha subject property is located at the downstream end near the ultimate receiving body, Georgian Bay. Given its downstream location within the watershed, it is reasonable to assume that site runoff enters the Watercourse 6 system and discharges to Georgian Bay in advance of the hydrograph peak of the entire watershed.

Drainage in Subwatershed 6 within the subject property is generally by way of overland sheet flow in a northeast direction. A number of minor depression areas exist onsite which facilitate temporary ponding of runoff. A small berm was constructed along the north property line some time ago to intercept runoff/snow melt from draining into the properties fronting Old Lakeshore Road east of Watercourse 7. This berm redirects runoff in an easterly direction before the runoff returns to sheet flow as it drains toward the Georgian Trail.

Under existing conditions, site drainage within Subwatershed 6 is directed north across the Georgian Trail via two existing culverts (800 mm and 500 mm CSPs). Immediately north of the Trail and east of the sewage lift station, there exists a low lying area containing trees and shrubs. Field reconnaissance confirmed the presence of a small defined drainage route within this area, which drains directly to Watercourse 6 upstream of Highway 26.

Prior to reaching Georgian Bay, Watercourse 6 passes under the Georgian Trail via a 2.6 m by 1.9 m CSP arch culvert and then crosses Highway 26 via a 3.6 m by 1.2 m concrete box culvert. The capacities of these hydraulic structures were analyzed in the GSCA (1993) study and are summarized in Table 1.

Table 1: Summary of Hydraulic Structures and Capacities along Watercourse 6

Structure Location	Structure Size / Type	Capacity ¹ (m ³ /s)
Georgian Trail	2.6 m x 1.9 m CSP Arch	12
Highway 26	3.6 m x 1.2 m Concrete Box	12

¹ Approximate culvert capacities taken from hydraulic rating curves (GSCA, 1993)

8.1.2. Subwatershed 7

Watercourse 7 is the most prominent drainage feature on-site within Subwatershed 7. The watercourse conveys drainage from an upstream area of approximately 200 ha, measured at the downstream limit of the subject lands, based on the delineation reflected in the Craigleith Camperdown Subwatershed Study (GSCA, 1993).

Watercourse 7 flows year-round and originates above the escarpment. Upon traversing the escarpment, the watercourse bisects a number of ski hills before crossing County Road 19 at Helen Street. The watercourse makes its way through private lands (former Blue Mountain Resort "Home Farm") prior to traversing the subject lands. The western portion of the main parcel and the parcel north of Old Lakeshore Drive contribute drainage to Watercourse 7 primarily via sheet flow. Downstream of the site, the watercourse crosses Old Lakeshore Road, Georgian Trail and Highway 26 via a series of culverts before outletting to Georgian Bay. A summary of the existing culverts and discharge capabilities is provided in Table 2.

Table 2: Summary of Hydraulic Structures and Capacities along Watercourse 7

Structure Location	Structure Size / Type	Capacity ¹ (m ³ /s)
Old Lakeshore Road	1.8 m x 1.0 m Concrete Box	2.5
Georgian Trail	1200 mm Twin CSPs	5
Highway 26	1.8 m x 1.1 m CSP Arch	4.5
Highway 26	Concrete Ellipse (relief culvert)	n/a

¹ Approximate culvert capacities taken from hydraulic rating curves (GSCA, 1993)

It should be noted that improvements were made by MTO to the hydraulic capacity of the Highway 26 corridor following the recommendation of the Subwatershed Study (GSCA, 1993). The major

improvement included the installation of a relief culvert in the form of a concrete elliptical pipe adjacent to the primary culvert. This relief culvert redirects flood flows from Watercourse 7 to another outlet approximately 100 m west of the watercourse. This was completed to address flood damage potential on a property located immediately downstream of Highway 26.

It has been noted that downstream flooding concerns continue to persist on Watercourse 7, and the design of the Eden Oak Blue Trails development has been undertaken with this in mind.

8.2 Proposed Drainage Conditions

8.2.1. Watercourse 7 Floodplain Management

The development has been designed to respect and potentially enhance Watercourse 7 by implementing a buffer setback from both sides of the watercourse as agreed upon with the Town and GSCA through previous design iterations. No residential buildings will be placed within this buffer.

Detailed HEC RAS modeling of Watercourse 7, including the proposed crossing and engineered spill flow route through the development was completed as part of the SWM Implementation Report (Crozier, February 2008 & June 2008) in support of detailed engineering design approvals. As the modeling and design associated with Watercourse 7 have not changed as a result of the new concept plan this work remains valid. An excerpt from the previous Watercourse 7 hydraulic analysis including detailed floodplain modeling / figures has been included with this report in Appendix A.

Additionally, floodplain modeling calculations were completed to address GSCA comments pertaining to the 0.24ha parcel to the north of Old Lakeshore Road. A subsequent memo confirming these lands are not flood affected was completed and submitted in September of 2012. This material has also been included in Appendix A for reference.

8.2.2. Major / Minor Systems

The development will incorporate an urban cross section consisting of a 20m/26m public road allowance containing a paved asphalt platform complete with curb and gutter, sanitary sewers, storm sewers, watermain, utilities and streetlights. The roadway will be constructed to TOBM municipal standards and the looped road and entrance within the property will be municipally 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, ditch inlets and lot drainage swales and conveyed to the SWM facility through a storm sewer pipe 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 Facility.

Major system spillflows from Watercourse #7 have been accommodated through the site with the design of an engineered conveyance system contained within a 17m (typical) open space corridor through the site. This system ensures spill flows from Watercourse #7 are safely directed to the downstream stormwater management facility and ultimately Watercourse #6 as in the existing condition.

The preliminary site drainage and stormwater management concept has been illustrated on Figure 7.

8.2.3. Stormwater Management Facility

Runoff generated from the Eden Oak Blue Trails site will be collected and treated in a regional stormwater management "end-of-pipe" constructed wetland facility. This facility features extended detention capabilities, providing water quality and erosion control. As noted previously this facility has been "roughed-in" as part of earthworks undertaken in 2008/2009.

The outfall from the SWM facility will discharge flows to the south ditchline of the Georgian Trail and ultimately drain to the existing 2.6m x 1.9m CSP arch culvert approximately 100 metres east of the site. The south ditchline of the Georgian Trail was also regarded in 2008 / 2009 to allow the safe passage of the 100 year return period flow to the Watercourse 6.

The stormwater management facility for the Eden Oak development has been sized to accept stormwater from the proposed site as well as surrounding existing and future development sites. Figure 8 illustrates the drainage areas within the subwatershed which have been incorporated into the design of this "Regional" SWM facility. Table 3 below summarizes each individual area contribution to the regional facility.

Table 3: Contributing Lands to Eden Oak Regional Stormwater Management Facility

Contributing Lands	Drainage ID #	Area (ha)	Imperviousness (%)
Eden Oak (Site Proper)	6062	13.2	46
Chasson Development	6062	0.3	46
Nipissing Ridge (BMR) & Existing Tyrolean Village Resorts	6063	26.3	10
Former BMR Home Farm	6064	7.5	45
Becker Lands	6065	5.6	47
Total		52.9	28

As indicated in Table 3, the proposed stormwater management facility has been sized to accommodate the Eden Oak site as well as future development properties which are, for all intents and purposes, currently undisturbed. Included below is a brief summary of the external lands which have been considered in the sizing of the Eden Oak Regional SWM pond.

The Chasson Lands, an 8 lot plan of subdivision, which will be constructed as an infill off of the internal roadways of Eden Oak will ultimately obtain stormwater treatment from the Eden Oak SWM Facility. Runoff generated from the front half of these lots (0.3 ha drainage area) will flow overland to the Eden Oak ROW and will be collected and conveyed in the Eden Oak storm sewer / roadway system to the inlet of the SWM facility for both minor and major flow events.

A 26.3 ha tract of land from the existing Tyrolean Village traverses the Nipissing Ridge and enters the Eden Oak property as an existing drainage condition along southern property limits. This catchment is sparsely developed and has been incorporated into the design of the SWM facility as an existing condition.

A 7.5 ha tract of future development lands known as the former "BMR Home Farm" adjoins the proposed Eden Oak development along the southern property limit. It is expected that these lands will become future residential development lands gaining access through either the adjacent property to the east or south. As such, these lands have been incorporated into the design of the Eden Oak SWM facility based on an impervious level of 45% consistent with future expected residential densities.

An additional 5.6 ha of drainage from the "Becker" property located to the east of the subject lands has been incorporated into the Eden Oak facility capacity. Flow generated from this catchment will reach the facility via a piped storm sewer system and will enter into a sediment forebay along the east limit of the SWM pond.

The catchments that will contribute to the regional stormwater management facility are shown on Figure 8. Detailed hydrologic parameters of each catchment can be found in Appendix B.

8.3 Stormwater Quantity Control

Stormwater quantity control analysis was explored in depth through past design experience with the Trailshead project and subsequent residential draft plan. In these analyses it was shown that the implementation of typical "post to pre" quantity control was counter-productive on a watershed basis. In fact, peak flows in Watercourse 6 increased when quantity control was applied due to a "timing of peaks" phenomenon.

The watershed model prepared for the previous applications was modified to reflect the current Eden Oak Blue Trails proposal. The modeling methodology and results are summarized in the following sections. The conclusion of this analysis is consistent with that arrived at for the original and subsequent iterations of this residential development: Quantity control in the form of detention storage is **not** required nor is it recommended for the subject lands due to their proximity to Georgian Bay and geographic (downstream) position in the overall watershed.

8.3.1. Uncontrolled Modeling Analysis

Hydrologic modeling was prepared for both pre-development and post-development site conditions. The purpose of this modeling was to explore the effectiveness of on-site detention storage on the overall peak flow occurring on Watercourse 6. Crozier applied the stormwater management hydrologic computer program SWMHYMO (Sabourin, 1998) to model the pre and post-development on-site conditions, consistent with industry standard.

The GSCA (1993) QUALHYMO model for Watershed 6 was utilized to determine peak flows from the unchanged portions of the watershed outside of the study limits. QUALHYMO model results were imported into the Crozier SWMHYMO model in order to determine the total watershed hydrograph at Highway 26. Rainfall distributions for the array of design storms (ie. 2 to 100-Year) were simulated using a 6 hour Kieffer-Chu distribution consistent with the GSCA QUALHYMO model; rainfall depths were based on Owen Sound IDF curves. The Timmins 12-hour rainfall event was used as the Regional

storm in this analysis.

The effects of development within Subwatershed 6 were evaluated based on the post-development model scenario. Table 4 provides a summary of peak flows at the two flow nodes (Node A being Watercourse 6 at the Georgian Trail; Node B being Watercourse 6 immediately upstream of Highway 26) for uncontrolled post-development conditions. Also included in the table are pre-development peak flows for comparison. Refer to Appendix C for the SWMHYMO model input and output files for the array of storm events analyzed (2 to 100-Year and Regional event).

Table 4: Summary of Peak Flows for Pre and Post-Development (Uncontrolled) Conditions

Node		Peak Flow (m^3/s)						
		2-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	Timmins (Regional)
A Watercourse 6 (Georgian Trail)	Pre	2.26	3.31	4.24	5.14	5.60	6.52	13.57
	Post ¹	2.26	3.31	4.24	5.14	5.60	6.52	13.63
	% Diff	0	0	0	0	0	0	+0.4
B Watercourse 6 (Highway 26)	Pre	2.26	3.31	4.24	5.14	5.60	6.52	14.37
	Post ¹	2.26	3.31	4.24	5.14	5.60	6.52	14.43
	% Diff	0	0	0	0	0	0	+0.4

¹ Post-development uncontrolled conditions

The post-development peak flows discharging to Watercourse 6 at the Georgian Trail (Node A) and Watercourse 6 at Highway 26 (Node B) are essentially unchanged. This is clearly an example of hydrograph peak timing effects. The proposed development will lead to a more responsive catchment and consequently the flow from the site will actually reach the Highway 26 outlet more quickly than under pre-development conditions, prior to the overall hydrograph peak of the watershed.

8.3.2 Proposed Conditions Modeling Analysis

As presented in Section 8.3.1, the post-development peak flows within Watercourse 6 do not increase over pre-development levels if left unattenuated. Past experience with stormwater attenuation with the former Trailhead development and Eden Oak 77 lot residential draft plan illustrated that peak flows on Watercourse 6 increased when stormwater at the site outlet was held back to pre-development levels; potentially impacting the extent of downstream flooding. Based on these findings, water quantity control is not provided within the Eden Oak Blue Trails SWM facility beyond the requirements of the 25mm water quality event.

The post-development SWM facility discharge which enters the southern Georgian Trail ditchline immediately downstream of the facility warrants re-grading of approximately 100m of said ditch

(previously completed in 2008 / 2009), to safely convey flows up to and including the 100 year event to Watercourse 6. It should be noted that the Watercourse 6 Regional event flow exceeds the capacity of both the Watercourse 6 Georgian Trail crossing and Highway 26 box culvert crossing.

Table 5 below illustrates the effect of the proposed stormwater quality control facility design on peak flows on Watercourse 6 at the Georgian Trail and Highway 26. Note that the nominal increase in peak flow for storm events 2-Year to 100-Year on Watercourse 6 is a result of the extended detention outlet flow rate (0.04 m³/s) required in order to provide sufficient water quality storage (i.e. extended detention).

Table 5: Summary of Peak Flows for Pre and Post-Development Conditions (Water Quality Control Only)

Node		Peak Flow (m3/s)						
		2-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	Timmins (Regional)
Watercourse 6 (Georgian Trail)	<i>Pre</i>	2.26	3.31	4.24	5.14	5.60	6.52	13.57
	<i>Post¹</i>	2.30	3.35	4.28	5.18	5.64	6.56	14.03
	<i>% Diff</i>	+1.8	+0.9	+0.9	+0.8	+0.7	+0.6	+3.4
Watercourse 6 (Highway 26)	<i>Pre</i>	2.26	3.32	4.24	5.14	5.60	6.52	14.37
	<i>Post¹</i>	2.30	3.35	4.28	5.18	5.64	6.56	14.82
	<i>% Diff</i>	+1.8	+0.9	+0.9	+0.8	+0.7	+0.6	+3.1

¹ Post-development condition including SWM facility design

The modeling analysis presented herein concludes that quantity control is not required to match pre to post-development peak flows within Watercourse 6. This 'beating the peak' phenomenon is characteristic of sites that are located close to the ultimate outlet and contribute a small percentage of flow to the total watershed volume.

8.4 Stormwater Quality Control

It will be necessary to implement stormwater management practices to address the water quality and the erosion control requirements of the regulatory agencies.

Since Georgian Bay is the ultimate receiver of drainage from the subject lands, the development will incorporate measures to provide "enhanced protection". Integrating the stormwater wetland facility into the site plan layout is an attractive and very practical way of addressing the stormwater quality control requirements.

Based on a conservative site imperviousness of 35% for all catchments contributing to the SWM facility, the water quality storage volume for a stormwater wetland is 80 m³/ha (MOE, 2003). This is

comprised of 40 m³/ha permanent pool volume and 40 m³/ha extended detention. Given the drainage area within the site of 13.2 ha plus the additional 39.7 ha of external land slated to use the regional facility, the minimum water quality volumes required by the MOE are as follows:

- Permanent Pool 2,120 m³
- Extended Detention 2,120 m³

In addition to the required extended detention component calculated above, the runoff volume from a short duration 25 mm storm event was also used to determine the minimum required extended detention volume. Our preliminary modeling suggests that the runoff volume from a 25 mm event of 2,640 m³ governs the design of the extended detention volume required in the SWM facility. An extended detention orifice will be designed to provide between 24 and 48 hours of drawdown of the runoff produced from a short duration 25 mm storm event.

A preliminary SWM facility design was completed to support the updated submissions and has been illustrated on Figure 7. The proposed facility provided the following water quality volumes:

- Permanent Pool 2,390 m³
- Extended Detention 3,000 m³

It is noted that all design details with respect to the operation of the stormwater management wetland facility including specific inverts, detailed grading, sediment forebays, and control structures will be specified during the next stage of the project, that being the detailed engineering design. Likewise, permits/instruments such as an Environmental Compliance Approval (MOE) and Fill Permit (GSCA) will be secured.

9.0 CONCLUSIONS

Based on the foregoing we conclude that the proposed Eden Oak Blue Trails development can be adequately serviced.

1. The servicing and stormwater management strategy presented herein is consistent with the design completed and approved for previous draft plan applications for the property.
2. Access to the site will be provided from Old Lakeshore Road into the proposed development. Provisions for secondary access have been provided at the termination point of roadway in the southeast corner of the property.
3. The development will be serviced by municipal sanitary sewer. Connection to the existing Municipal sewer system will be made to the existing 525mm dia. sewer upstream of the sanitary sewage pumping station
4. Domestic water supply will be provided through connections to the existing municipal system at Old Lakeshore Road and watermain in easement east of the site. Confirmation of any water system improvements to provide required pressures and flows will be confirmed with the Town as detailed design proceeds.
5. All major utilities are available to the development, located on Highway 26 and Old Lakeshore Road.
6. A Regional Stormwater Management wetland facility has been provided to improve water quality for the subject lands, as well as future development areas and existing residential

areas in Craighleith. Given that un-attenuated stormwater from the site outlets to Georgian Bay in advance of the overall watershed peak (ie. "beating the peak") water quantity controls are not recommended for the subject lands.

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

Should you have any questions or require any further information, please do not hesitate to contact the undersigned. Thank you.

Respectfully submitted,

C.F. CROZIER & ASSOCIATES INC.



Kevin Morris, P.Eng.
Partner

C.F. CROZIER & ASSOCIATES INC.



Jonathan M. Proctor, P.Eng.
Project Engineer

J:\200\218 - Eden Oak\2659\Reports\FSR\09 11 2014_FSR SWM Report KM Notes.doc

APPENDIX A

Hydraulic Modeling of Watercourse 7

Hydraulic Analysis

(Per Crozier February 2008 Stormwater Management Implementation Report & Subsequent June 2008 Addendum #1)

In order to determine the hydraulic characteristics of Watercourse 7 across the site, a comprehensive HEC-RAS hydraulic computer model was created based on field information gathered from 15 surveyed watercourse cross sections. The HEC-RAS geometry file was developed from the surveyed cross sections and the steady flow file was created based on results of the QUALYHMO hydrologic model (GSCA, 1993) for Subwatershed 7. The HEC-RAS model extends approximately 400 metres, from the south property limit to approximately 50 metres upstream of Old Lakeshore Road. Refer to Figure 4 for the location and orientation of the HEC-RAS hydraulic sections under existing conditions.

As illustrated on Figure 4, Watercourse 7 enters the site from the south as a well defined channel. The watercourse becomes less defined as it passes north across the western portion of the subject lands. In general, the main channel of Watercourse 7 ranges between 1 to 4 metres in width and is generally less than 1 metre deep across the subject lands. The topography of the right overbank area slopes away from the watercourse and is lower than the top of bank. This facilitates a spill flow condition when the capacity of the watercourse is exceeded, as suggested in Section 4.1.1.

Results from the HEC-RAS model conclude that the capacity of Watercourse 7 across the subject site is approximately $6 \text{ m}^3/\text{s}$ before spill flow occurs. This is approximately equivalent to a 50-year return period event flow. Based on a Regional peak flow of $9.7 \text{ m}^3/\text{s}$ entering the site, we conclude that the spill flow rate is approximately $3.7 \text{ m}^3/\text{s}$ across the subject lands. During the 100-year event, the corresponding spill flow rate is approximately $1.4 \text{ m}^3/\text{s}$.

Upon further examination of the model results, the spill location is limited to the right overbank area along the upstream portion of Watercourse 7, specifically at Cross Sections 0+240, 0+305, and 0+330. Consequently, spill flow to Subwatershed 6 would occur between Cross Sections 0+240 and 0+330. Refer to Appendix B for the hydraulic sections and summary output tables based on the existing conditions analysis.

Since approximately $3.7 \text{ m}^3/\text{s}$ spills from Watercourse 7 across the subject lands under a Regional storm event, it will be necessary to safely accommodate this spill flow through the development of the site. Consequently, the design solution is based on two aspects; specifically, the collection of spill flows (ie. $3.7 \text{ m}^3/\text{s}$) and safe conveyance of these flows through the site proper.

A series of interceptor ditches and small earthen berms are proposed along the east side of Watercourse 7 in the above-noted overbank areas as a simple solution to collect the naturally occurring spill flows identified through the hydraulic analysis. Construction of these features will **not** require any work to take place in the existing Watercourse 7 stream channel; rather, works will be limited to the overbank areas and serve to direct the spill flow to a specific open space block. Limited ditching and filling within the 30 m watercourse buffer setback will be required to ensure that spill flows are collected and routed to the proper location. It is important to note that all works will be completed under the authority of a GSCA fill permit.

Spill flow conveyance will be accomplished by way of a ditch which will bisect the interior of the development. Additionally, the spill flows will cross beneath Street 'C' by way of twin 1200 mm

CSP culverts and Street 'B' by way of an 1800 mm x 1200 mm concrete box culvert structure. Design sheets for these structures can be found attached in Appendix B. The proposed drainage system is reflected on the Storm Drainage Plan enclosed within this report as Figure 5.

The proposed access road to the cul-de-sac on Street 'B' will cross Watercourse 7 downstream of the spill flow area. At this point, the peak flow during the Regional storm will be approximately 6 m³/s. The proposed access road across Watercourse 7 will include 2692mm x 1854mm CSP multi-plate arch culvert allowing conveyance of flows up to the Regional event (ie. 6 m³/s).

Figure 6 includes updated HEC-RAS hydraulic sections to account for the proposed post development conditions, including the proposed watercourse crossing. A summary of the post development HEC-RAS modeling is also included in Appendix B.

Note that the proposed design also addresses concerns of adjacent landowners regarding flooding of neighboring lands. It has been noted that the existing historic watercourse crossing to the original farmhouse building has been the location of ice jams during spring freshet conditions. Consequently, ponding of water upstream of the structure causes streamflow to breach the stream channel via a secondary overland spillflow route causing flooding on adjacent private properties, as illustrated on Figure 4. As part of the proposed development the poor historic watercourse crossing will be removed, thus eliminating the existing ice jam and westerly spill flow condition.

In the event that the proposed watercourse crossing becomes blocked, stream flows will spill onto Street 'B' and flow east towards the proposed SWM facility. Again, the existing ice jam / spill flow issue will be resolved due to the proposed development.

LEGEND

- SUBJECT PROPERTY LIMITS
- EX. 0.5m CONTOUR
- EX. DITCH
- EX. WATERCOURSE
- HEC-RAS SECTION I.D.
- REGIONAL WATER SURFACE ELEVATION (m)
- REGIONAL FLOOD EXTENTS
- LIMITS OF SPILL FLOW

EXISTING WATERCOURSE CROSSING STRUCTURE. SEASONAL ICE JAMMING IN SPRING FRESHET UPSTREAM OF STRUCTURE

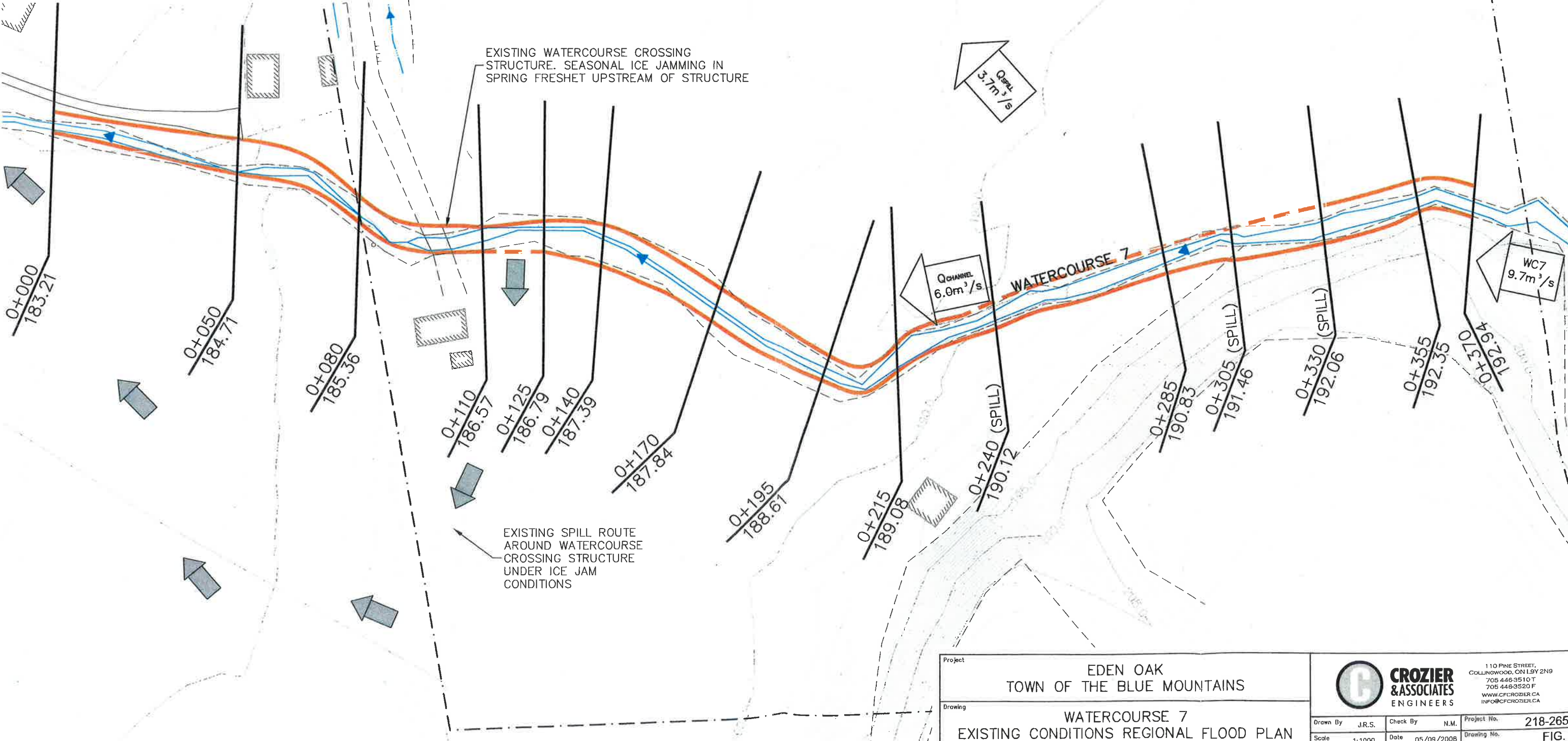
EXISTING SPILL ROUTE AROUND WATERCOURSE CROSSING STRUCTURE UNDER ICE JAM CONDITIONS

Q_{SPILL}
3.7m³/s

Q_{CHANNEL}
6.0m³/s

WC7
9.7m³/s

WATERCOURSE 7



Project	EDEN OAK TOWN OF THE BLUE MOUNTAINS		
Drawing	WATERCOURSE 7 EXISTING CONDITIONS REGIONAL FLOOD PLAN		



CROZIER & ASSOCIATES
ENGINEERS

110 PINE STREET,
COLLINGWOOD, ON L9Y 2N9
705 446-3510 T
705 446-3520 F
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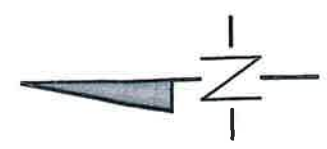
Drawn By	J.R.S.	Check By	N.M.	Project No.	218-2659
Scale	1:1000	Date	05/09/2008	Drawing No.	FIG. 4

File Last Updated: Wed, 25 Jun 2008

LEGEND

- SUBJECT PROPERTY LIMITS
- EX. 0.5m CONTOUR
- EX. WATERCOURSE
- HEC-RAS SECTION I.D.
- REGIONAL WATER SURFACE ELEVATION (m)
- REGIONAL FLOOD EXTENTS

0+050
184.73



STREET 'B'

STREET 'C'

TWIN 63.0m-1200mm ϕ
CSP CULVERTS TO
CONVEY SPILL FLOW TO
REGIONAL SWM FACILITY

Q_{cul}
3.7m³/s

SWALES/BERMS IN
WATERCOURSE BUFFER
USED TO DIRECT SPILL
FLOW TO CONVEYANCE
CULVERTS

CONSTRUCT 0.5m
HIGH BERM ALONG
REAR YARD OF
UNITS 21-31 FOR
FLOOD PROTECTION.

REGRADE CULVERT INLET TO
SUIT. RESTORATION WITH
300mm RIVERSTONE.

FLOOD-PROOF LOTS
TO PROVIDE FLOOD
PROTECTION FOR
REGIONAL EVENT

EXISTING
WATERCOURSE
CROSSING TO
BE REMOVED

WC7
6.0m³/s

WATERCOURSE 7

WC7
9.7m³/s

36.0m-2692mm(SPAN)x1854mm
(RISE) MULTI-PLATE ARCH CULVERT
@ 2.5% (2.8mm MIN. THICKNESS)
N INV 185.45
S INV 186.30

0+170
188.15

0+195
188.67

0+215
189.08

0+240 (SPILL)
190.12

0+285
190.83

0+305 (SPILL)
191.46

0+330 (SPILL)
192.06

0+355
192.35

0+370
192.61

Project	EDEN OAK TOWN OF THE BLUE MOUNTAINS
Drawing	WATERCOURSE 7 POST-DEVELOPMENT REGIONAL FLOOD PLAN

	CROZIER & ASSOCIATES ENGINEERS	1110 PINE STREET, COLLINGWOOD, ON L9Y 2N9 705 446-3510 T 705 446-3520 F WWW.CFCROZIER.CA INFO@CFCROZIER.CA	
		Drawn By J.R.S.	Check By N.M.
Scale 1:1000	Date 05/09/2008	Drawing No. FIG. 6	

Drawing: J:\218 - EDEN OAK\2659\CAD\2659_213_215.DWG, Layout Tab: 215



MEMO

DATE September 28, 2012 FILE NO. 218-2659
RE Blue Trails (Eden Oak): GSCA Additional Information Request

TO	Andy Sorensen	CC	Romas Kartavicius
COMPANY	Grey Sauble Conservation Authority		David Finbow
FROM	Kevin Morris, P.Eng.		Randy Scherzer
			Andrew Pascuzzo

As per email communication D.C. Slade Consultants on September 6, 2012, we understand that the Grey Sauble Conservation Authority (GSCA) has requested additional engineering information to complete the review of the Blue Trails (Eden Oak) development proposal. The following engineering issues have been identified by the GSCA:

- Address flooding and stormwater on small parcel (i.e. the "model homes");
- Address the existing culvert (damaged) on site, which provides access to proposed recreational open space area; and
- Address the existing culvert at Lakeshore Road (Watercourse 7); does this culvert need to be resized?

Flooding

Flooding hazards on the proposed model home parcel have been assessed by extending the original HEC-RAS hydraulic model downstream to capture the reach of Watercourse 7 in proximity to this parcel. Ten (10) additional cross sections were added to the model, extending from the downstream limits of the original model to downstream of Highway 26. Cross section data was obtained from survey data used in the original modeling exercise as well as supplementary survey by Crozier staff (dated September 6, 2012). Topography and hydraulic characteristics of the channel were confirmed via field inspection (dated September 6, 2012 and September 20, 2012). Conservatively, the capacity of the Highway 26 flood relief culvert (located approximately 100m west of the main culvert) was not accounted for in our analysis.

The attached figure and modeling output provides the results of the modeling. It is evident from the modeling output and site observation that any floodwaters overtopping Lakeshore Road will spill in a westerly direction, away from the model homes. Further water surface elevations downstream of Lakeshore Road are well below the existing grades on the model home parcel.

SWM

In keeping with the results of the hydrologic modeling for the Blue Trails development site proper, quantity control of runoff from the model home parcel is not recommended as the development is in close proximity to the watershed outlet and in fact "beats the peak" of the entire watershed. Quality control will be achieved through implementation of best management practices such as grassed swales and reduced on-site gradients.

Existing WC #7 Culvert

Crozier staff are aware that the existing Watercourse 7 cross culvert is in poor condition. As part of the development of Blue Trails, we propose the removal of the culvert and naturalization of the watercourse at the culvert location. Any proposal to provide a crossing at Watercourse 7 (for example to provide access to a recreational facility) will be addressed in the future.

Lakeshore Road Culvert

The Blue Trails development site proper does not propose to discharge stormwater to Watercourse 7, and the site has been designed to accommodate existing spill flow from the watercourse via a spill relief channel. As such, flows in Watercourse 7 will not increase with the development of Blue Trails. Therefore, re-sizing of the culvert will not be required as a result of the proposed development.

The outlet for the model home parcel drainage is Watercourse 7; however this parcel is located downstream of the Lakeshore Road culvert.

C.F. CROZIER AND ASSOCIATES INC.

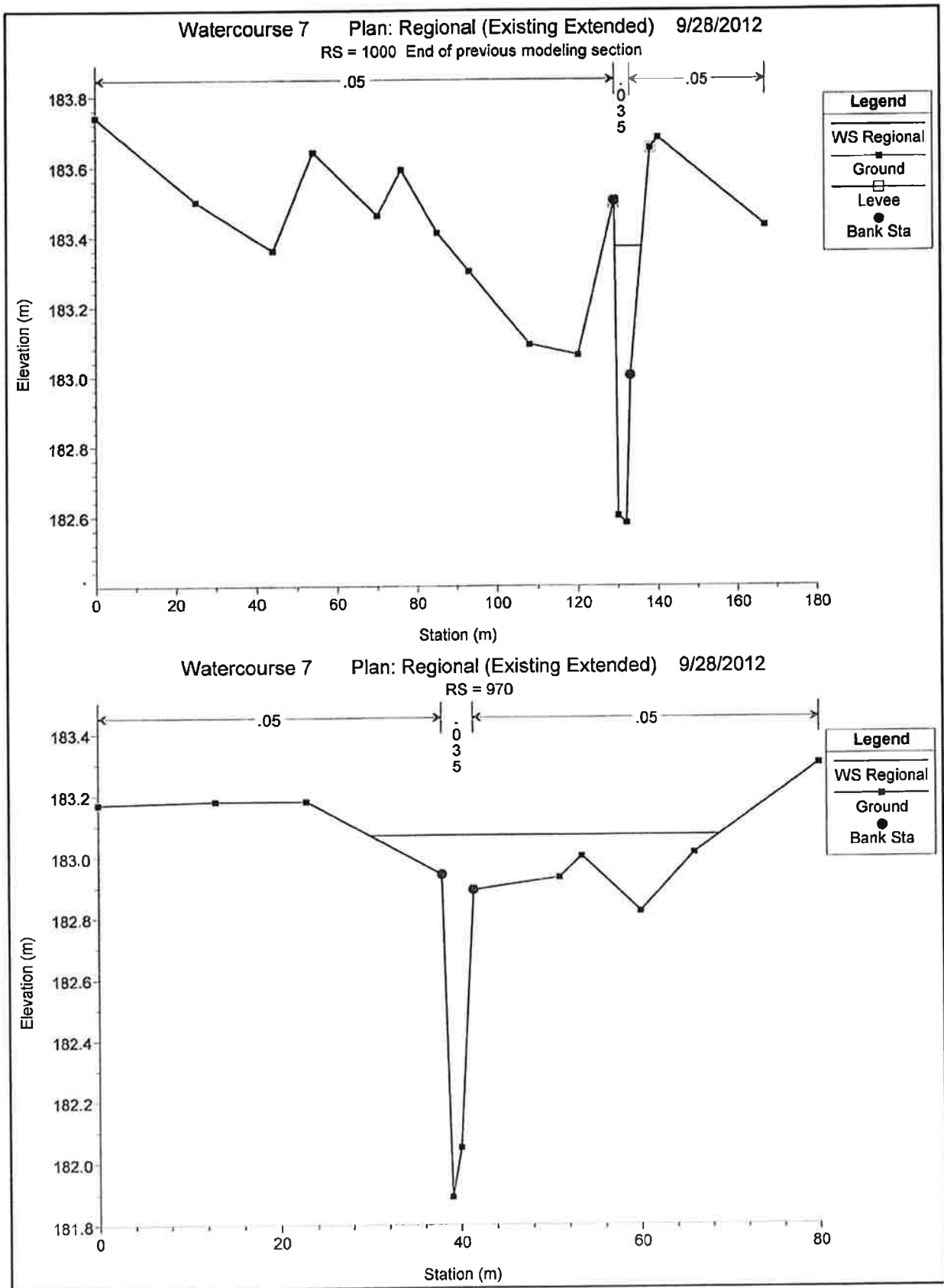


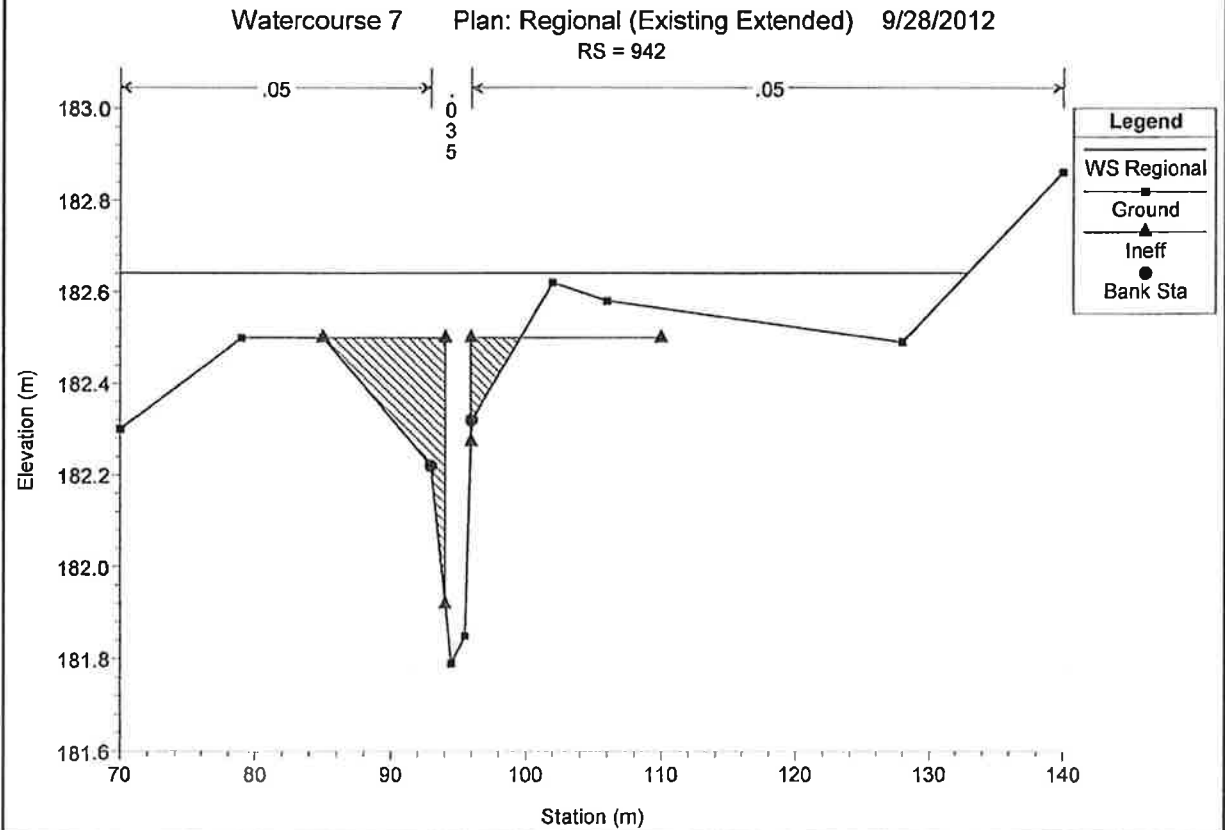
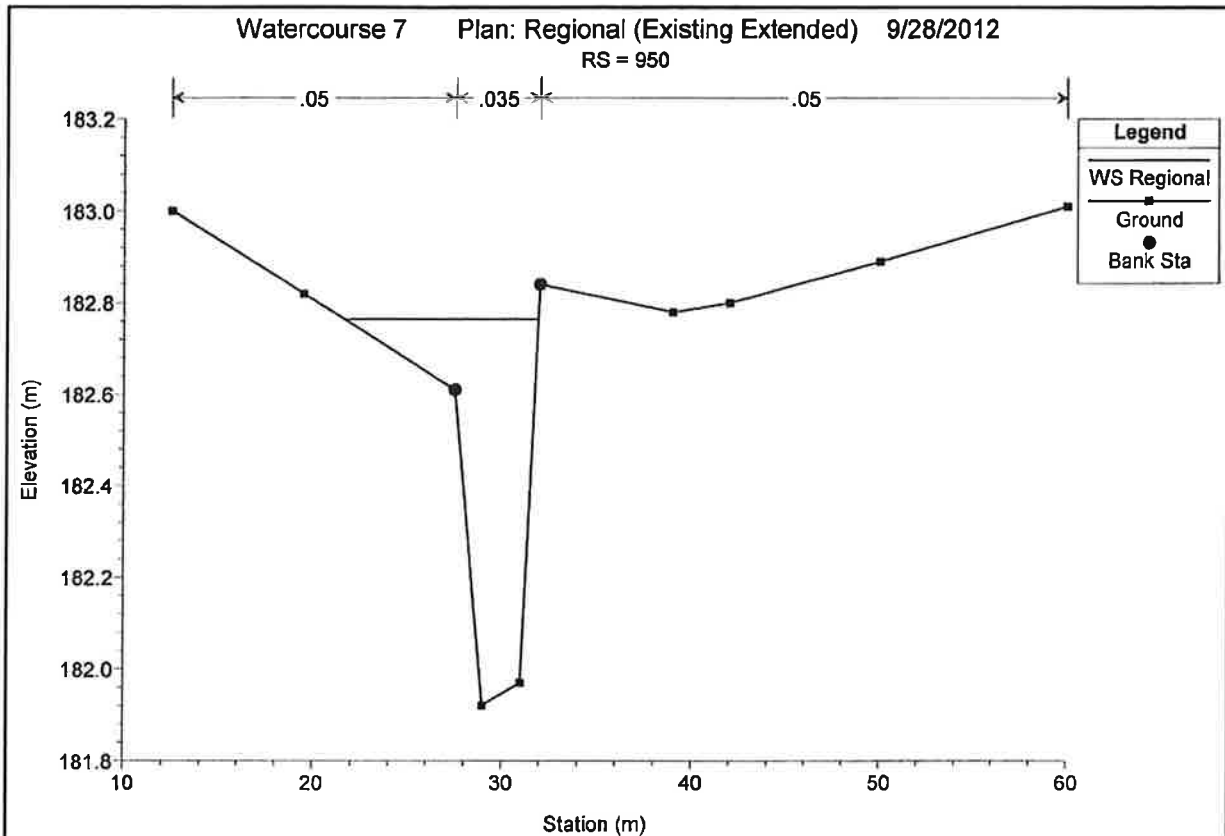
Kevin A. Morris, P.Eng

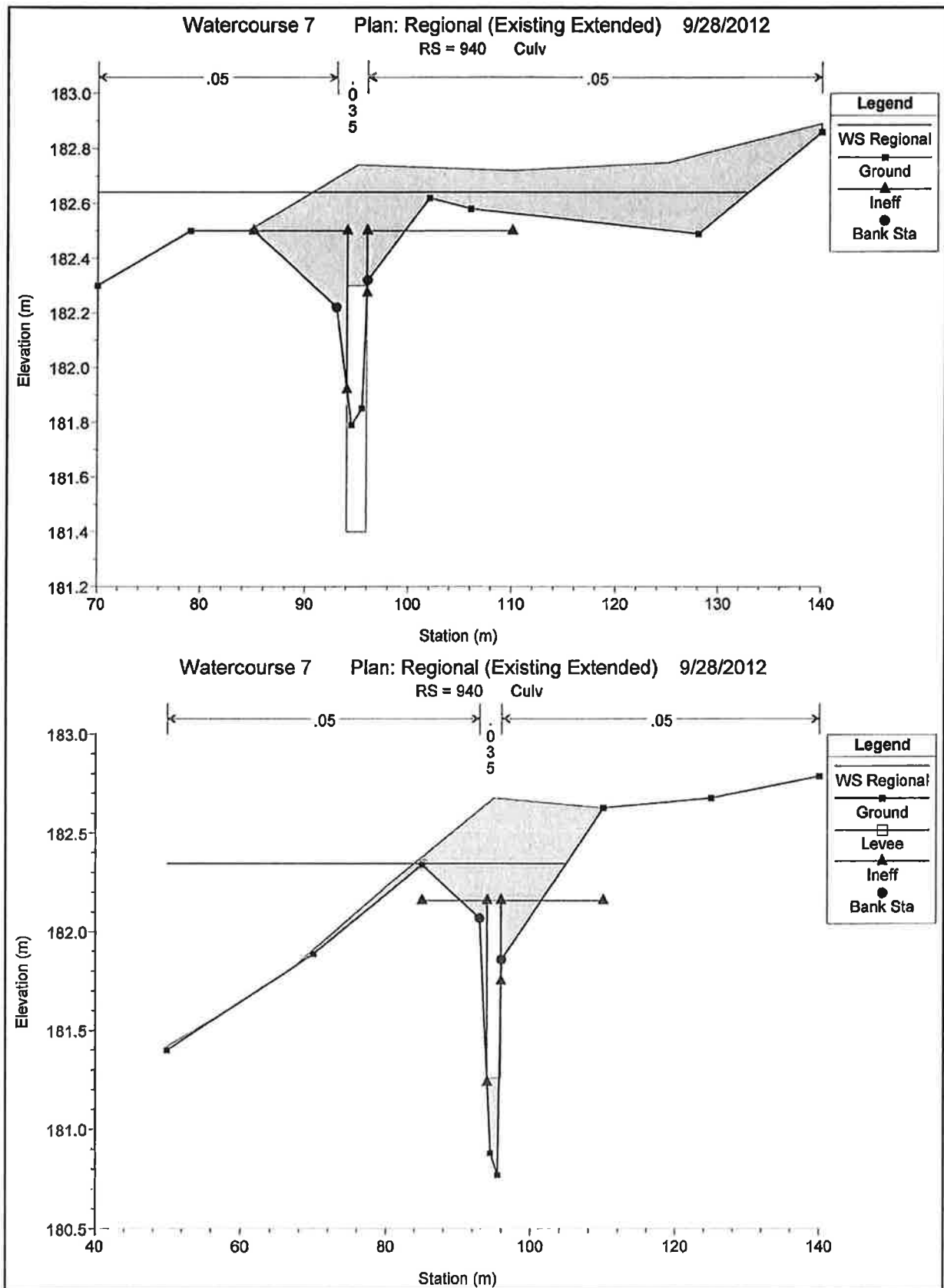
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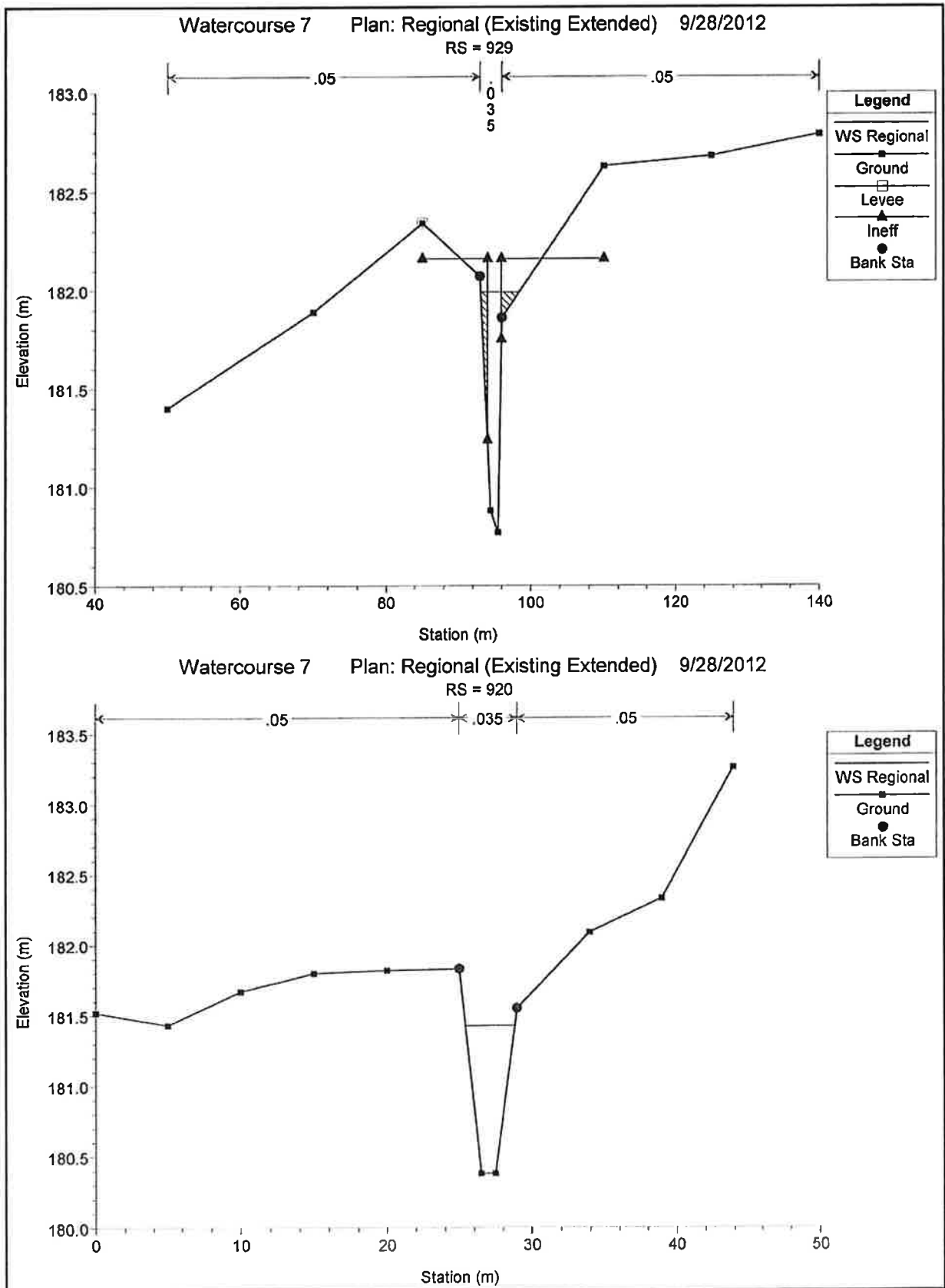
HEC-RAS Plan: RegExExt River: WC 17 Reach: Main Profile: Regional

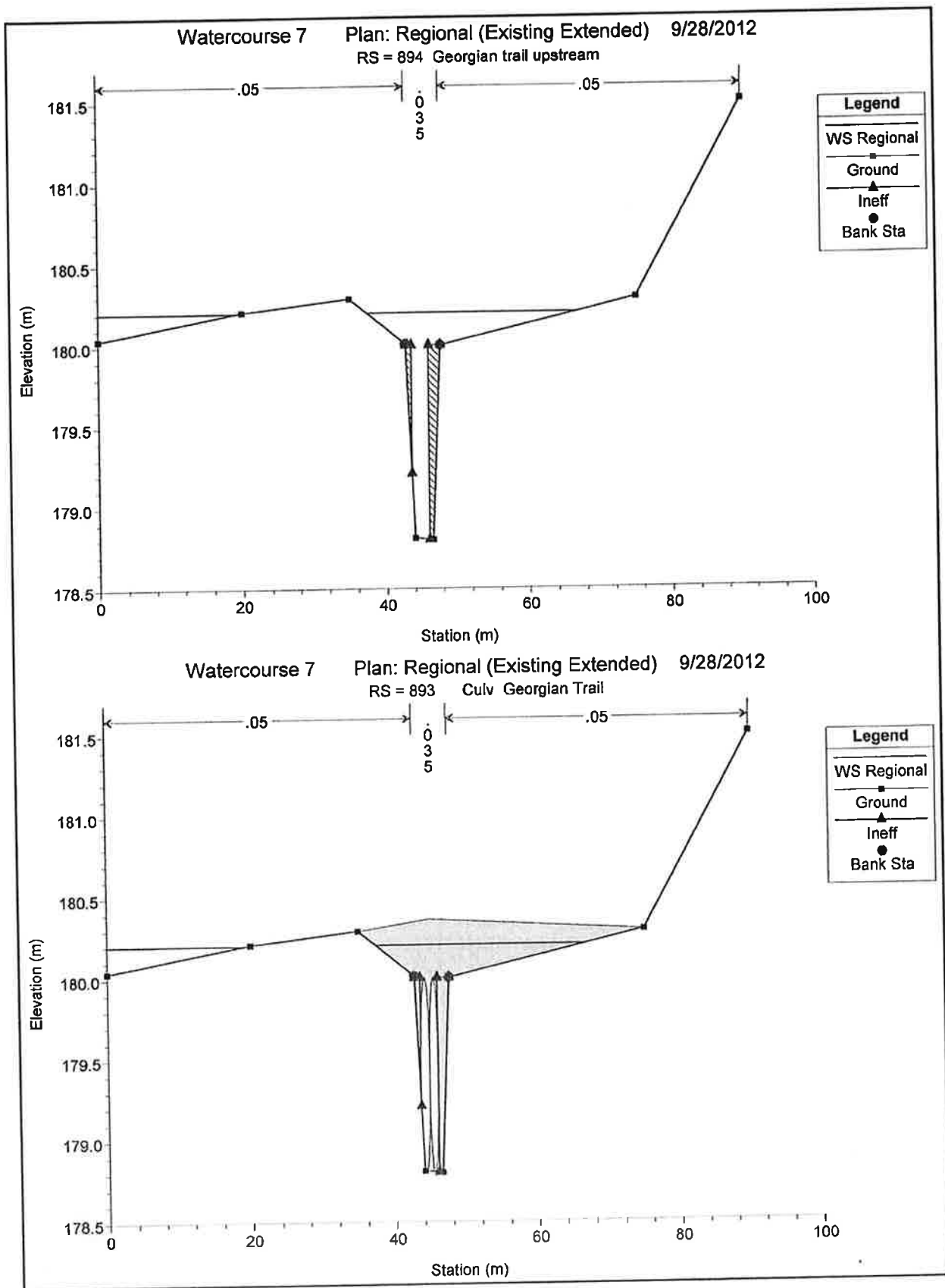
Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Main	1000	Regional	6.00	182.58	183.37	183.37	183.62	0.013063	2.28	2.99	6.68	0.91
Main	970	Regional	6.00	181.89	183.07	183.07	183.17	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	6.00									
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	6.00									
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	6.00									
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

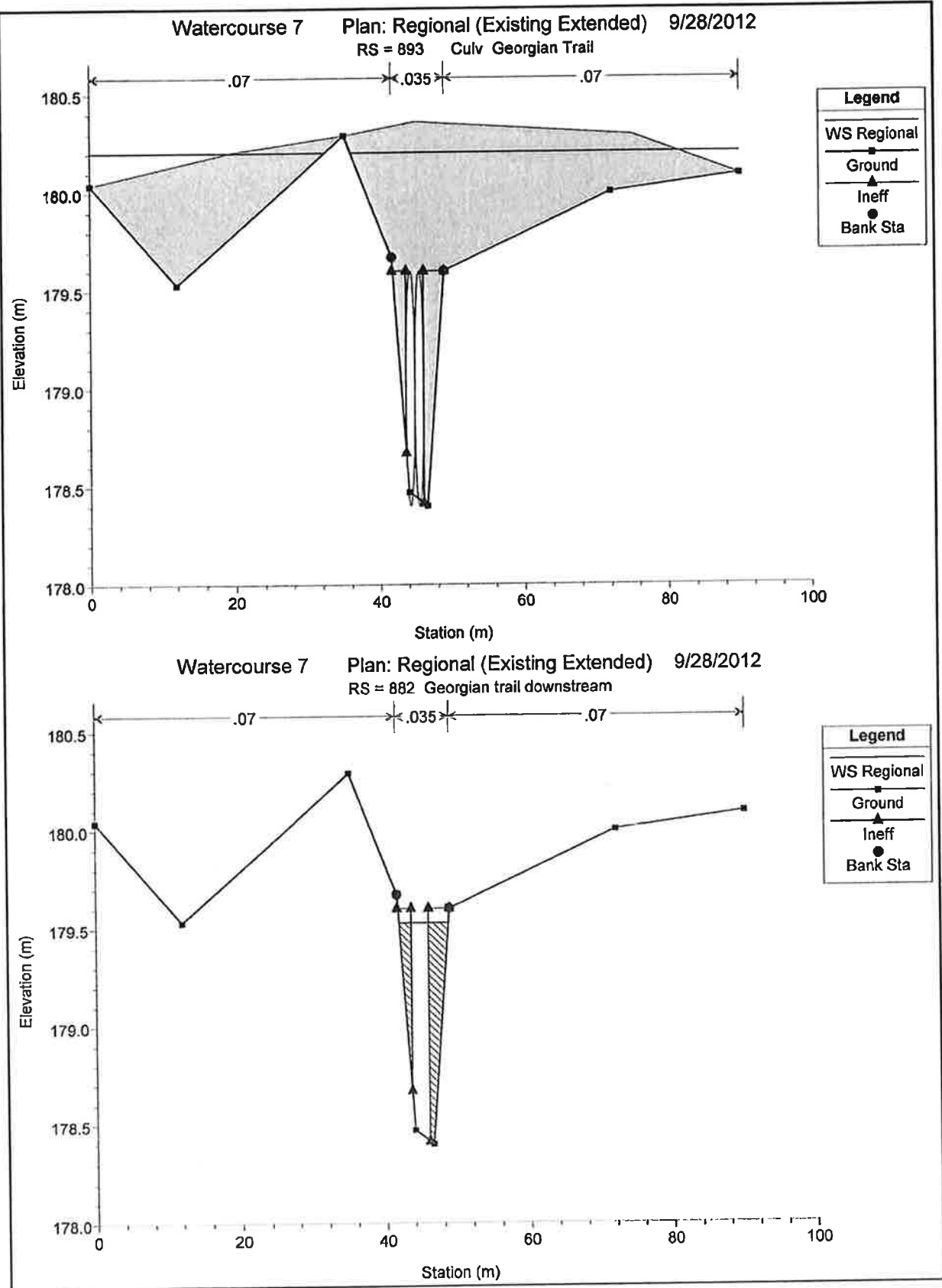


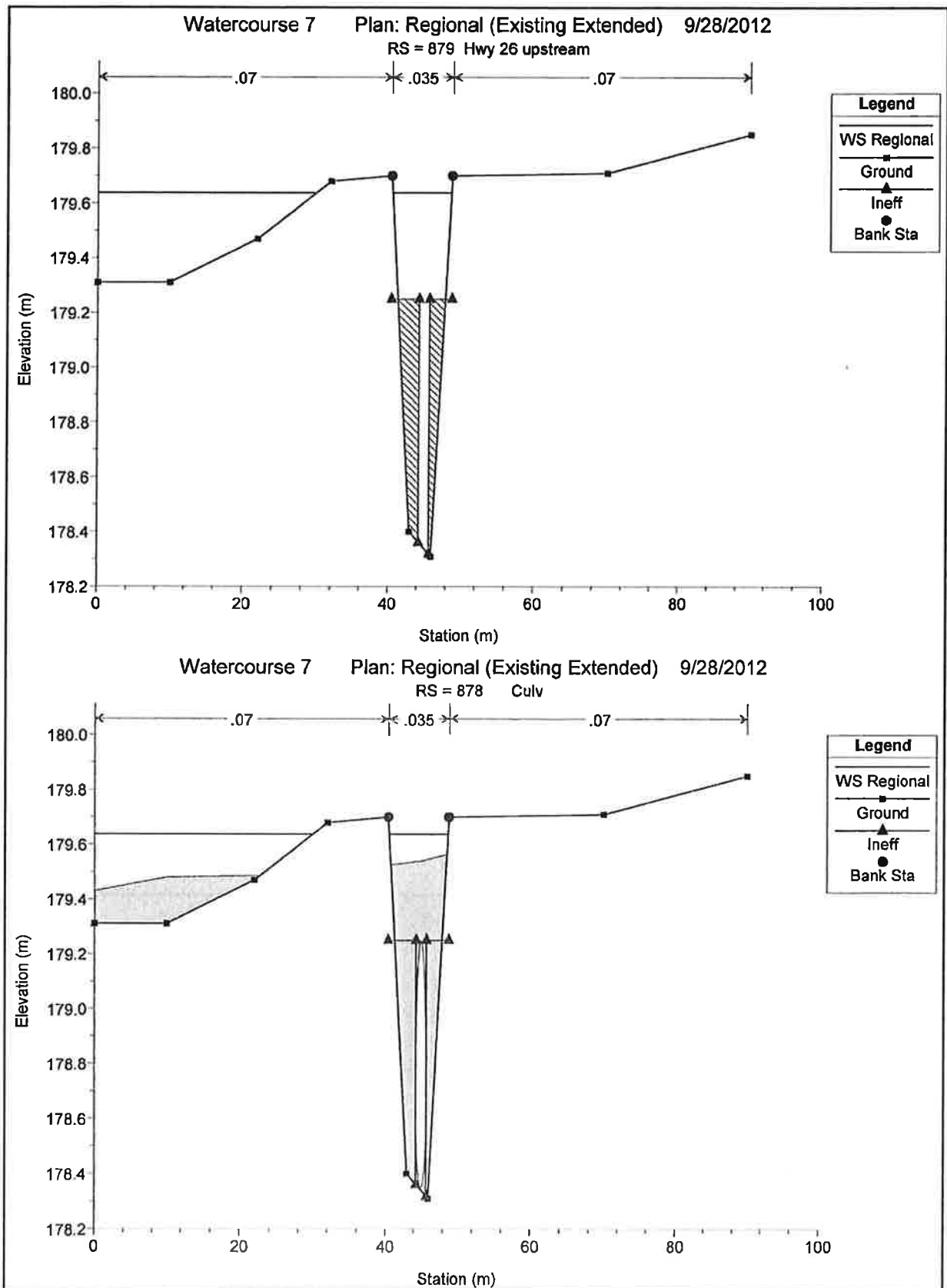


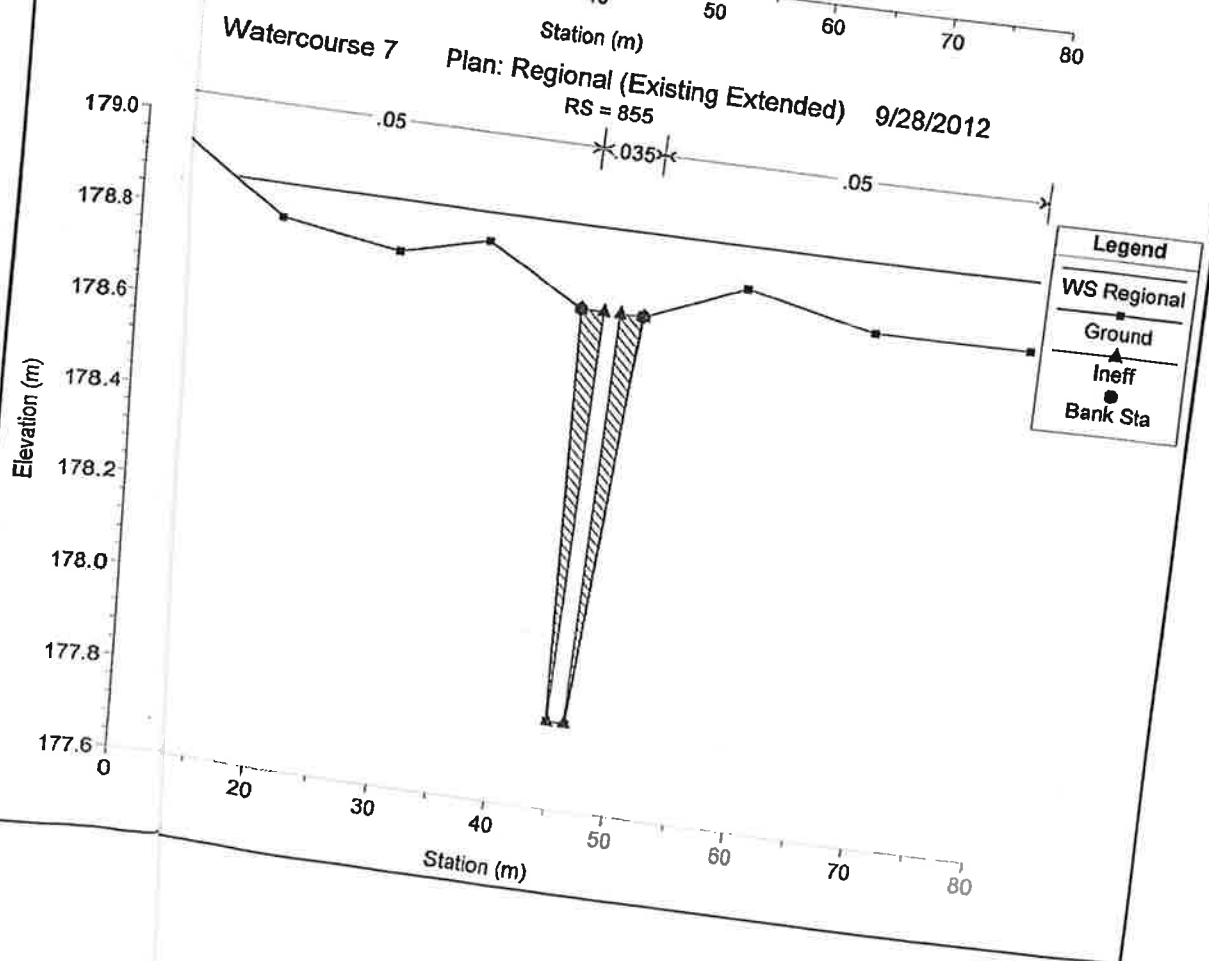
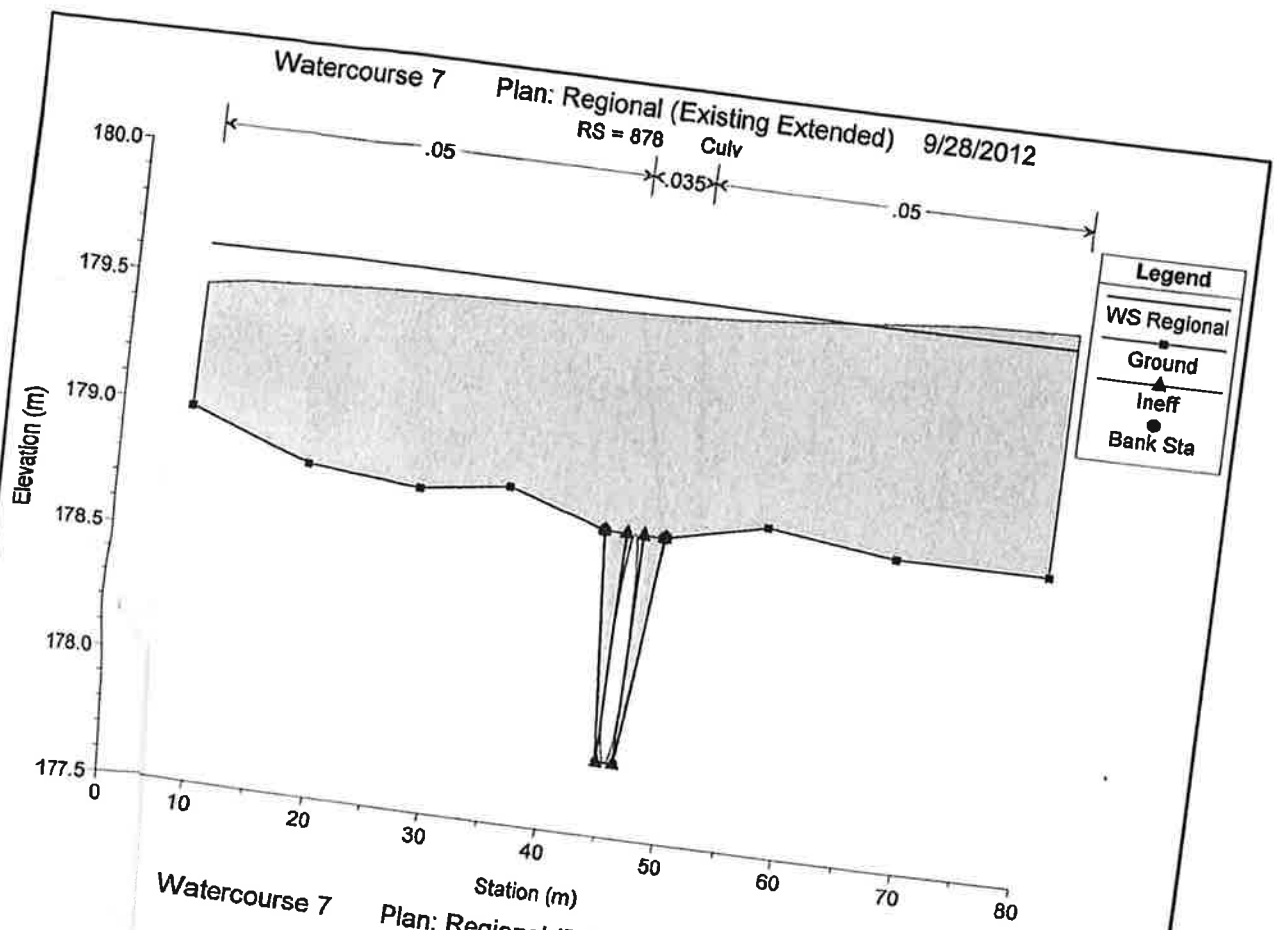


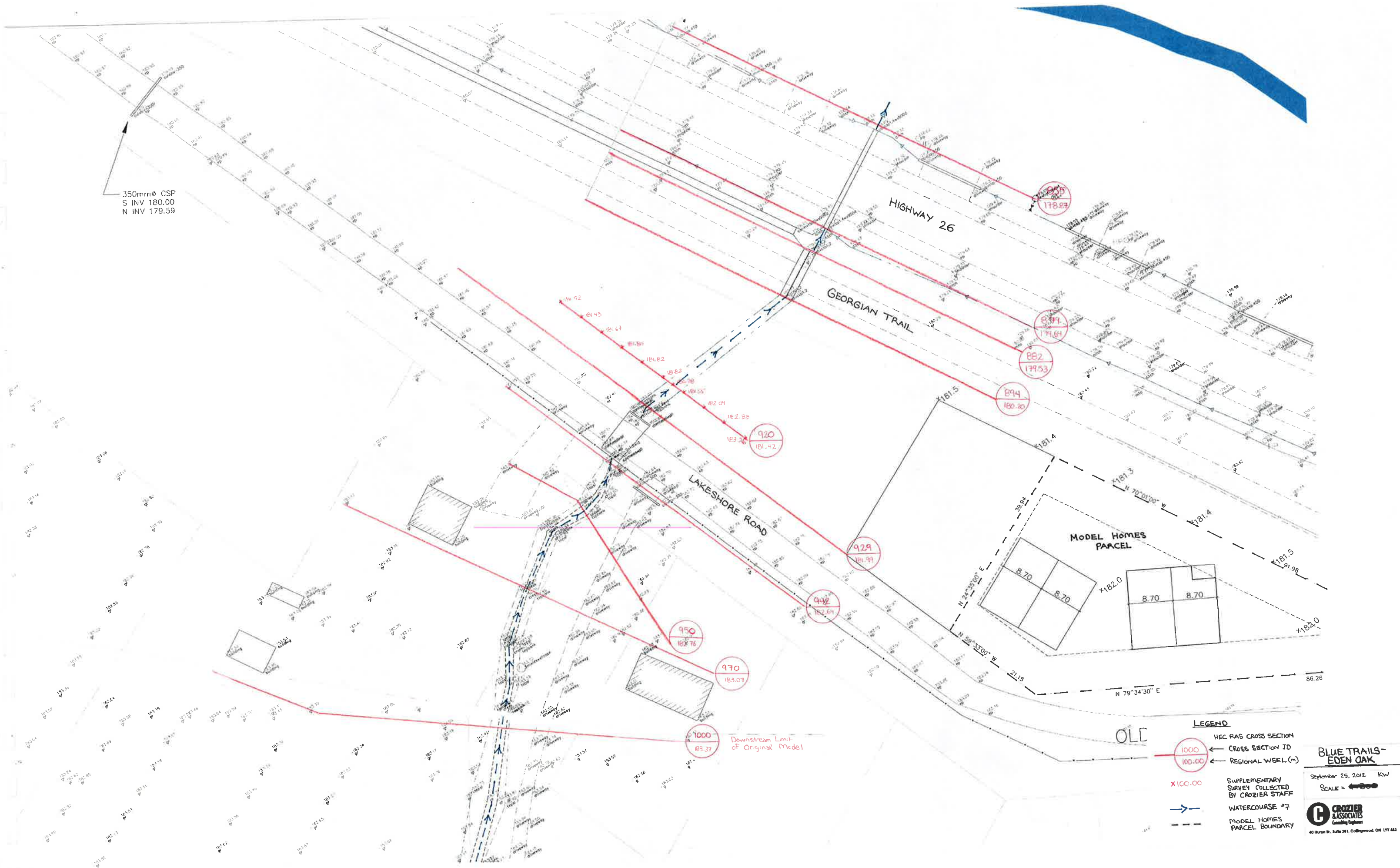












APPENDIX B

Hydrologic Parameters

Eden Oak Post (Including Chasson)- Impervious Areas

Contributing Lands	Drainage I Area (ha)	Original Imp. Level (%)	Updated Imp Level (%)
Eden Oak (Site Proper) & Chasson Development	13.5	42%	46%
Nipissing Ridge (BMR) & Existing Tyrolean Village Resort	26.3	10%	10%
BMR Home Farm	7.5	45%	45%
Becker Lands	5.6	47%	47%
Total	52.9	27.05%	28.07%



HYDROLOGIC PARAMETERS

Project: Eden Oak
Project No.: 218-2859
File: Hyd Parameters
Design by: JP
Date: 18-May-06

D.A. Eden Oak Pre
Area 13.5 ha

Eden Oak Pre

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
Granby Sand	B		10.8	80			0	10.8	58	626.4
Waterloo Sand loam	A		2.7	20			0	2.7	30	81
				0			0			0
				0			0			0
				0			0			0
Totals			13.5		0.0		0	13.5		707.4

Wetlands			Lawn			Cultivated			Impervious	
Area	CN	CN*A	Area	CN	CN*A	Area	CN	CN*A	Land Use	Area (ha)
0.0		0	0.0		0	0.0		0	Roadway	0
		0			0			0	Sidewalk	0
		0			0			0	Driveway	0
		0			0			0	Building	0
0.0		0	0.0		0	0.0		0		0

Ximp 0 %
Timp 0 %
Composite Curve Number (for previous areas) 52.4

Land Use	Initial Abstraction (mm)	Area (ha)	I/A*A
Wetlands	16	0.0	0.0
Woodland	10	0.0	0.0
Meadow	8	13.5	108.0
Cultivated	7	0.0	0.0
Lawn	5	0.0	0.0
Impervious	2	0.0	0.0

Total Property Area 13.5 ha

Soil Type	Initial Abstraction (mm)	Slope (%)	Lot Depth/Travel Length (m)	Mannings n
Pervious	8	2.05	365	0.25
Impervious	2	0.5		

TIME OF CONCENTRATION

GENERAL INPUTS

Longest Flow Path 365 m
Elevation Drop 7.5 m
Sw 2.05 %

Runoff Coefficient Determination

Land Use	Granby Sand			Waterloo Sand loam			0			0		
	C(-)	Area	CA	C(-)	Area	CA	C(-)	Area	CA	C(-)	Area	CA
Woodland		0.0	0.0	0.0	0.0	0.0		0.0	0.0		0	0.0
Meadow	0.1	10.8	1.1	2.7	0.3	0.0		0.0	0.0		0	0.0
Wetlands		0.0	0.0	0.0	0.0	0.0		0.0	0.0		0	0.0
Lawn		0.0	0.0	0.0	0.0	0.0		0.0	0.0		0	0.0
Cultivated		0.0	0.0	0.0	0.0	0.0		0.0	0.0		0	0.0
Impervious	0.95	0.0	0.0									
Total			1.1		0.3	0.0			0.0			0.0

Composite Runoff Coefficient 0.10

AIRPORT METHOD
(runoff coefficient less than 0.40, <1 km²)

Time of Concentration 49.1 min
Time to Peak 32.9 min
 $t_c = \frac{3.26 * (1.1 - C) * L^{0.5}}{S_w^{0.33}}$
0.82 hours
0.55 hours

BRANSBY-WILLIAMS METHOD
(Runoff Coefficient greater than 0.40, <25km²)

Time of Concentration 15.0 min
Time to Peak 10.1 min
 $t_c = \frac{0.057 * L}{S^{0.2} * A^{0.1}}$
0.25 hours
0.17 hours

TIME TO PEAK	
Appropriate Method	AIRPORT METHOD
Tp	0.55



HYDROLOGIC PARAMETERS

Project: Eden Oak
Project No.: 218-2659
File: Hyd Parameters
Design by: JP
Date: 18-May-06
Updated: January 15, 2008

D.A. Becker-Tyrolean Pre
Area 5.6 ha

Becker-Tyrolean Pre

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
Granby Sand	B		5.6	100	0		0	5.6	58	324.8
				0	0		0			0
				0	0		0			0
				0	0		0			0
				0	0		0			0
Totals			5.6		0.0		0	5.6		324.8

Wetlands			Lawn			Cultivated			Impervious	
Area	CN	CN*A	Area	CN	CN*A	Area	CN	CN*A	Land Use	Area (ha)
0.0		0	0.0		0	0.0		0	Roadway	0
		0			0			0	Sidewalk	0
		0			0			0	Driveway	0
		0			0			0	Building	0
		0			0			0		0
0.0		0	0.0		0	0.0		0		0

Ximp 0 % Composite Curve Number
(for previous areas) 58.0
Timp 0 %

Land Use	Initial Abstraction (mm)	Area (ha)	IA*A
Wetlands	15	0.0	0.0
Woodland	10	0.0	0.0
Meadow	8	5.6	44.8
Cultivated	7	0.0	0.0
Lawn	5	0.0	0.0
Impervious	2	0.0	0.0

Total Property Area 5.6 ha

Soil Type	Initial Abstraction (mm)	Slope (%)	Lot Depth/Travel Length (m)	Mannings n
Pervious	8	2.14	350	0.25
Impervious	2	0.5		

TIME OF CONCENTRATION

GENERAL INPUTS

Longest Flow Path 350 m
Elevation Drop 7.5 m
Sw 2.14 %

Runoff Coefficient Determination

Land Use	Granby Sand			0			0			0		
	C(-)	Area	CA	C(-)	Area	CA	C(-)	Area	CA	C(-)	Area	CA
Woodland		0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Meadow	0.1	5.6	0.6		0.0	0.0		0.0	0.0		0	0.0
Wetlands		0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Lawn		0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Cultivated		0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Impervious	0.95	0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Total			0.6			0.0			0.0			0.0

Composite Runoff Coefficient 0.10

AIRPORT METHOD
(runoff coefficient less than 0.40, <1 km²)

Time of Concentration 47.4 min 0.79 hours
Time to Peak 31.8 min 0.53 hours $t_c = \frac{3.26 * (1.1 - C) * L^{0.5}}{S_w^{0.33}}$

BRANSBY-WILLIAMS METHOD
(Runoff Coefficient greater than 0.40, <25km²)

Time of Concentration 15.0 min 0.25 hours
Time to Peak 10.1 min 0.17 hours $t_c = \frac{0.057 * L}{S^{0.2} * A^{0.1}}$

TIME TO PEAK	
Appropriate Method	AIRPORT METHOD
Tp	0.53



HYDROLOGIC PARAMETERS

Project: Eden Oak
Project No.: 218-2659
File: Hyd Parameters
Design by: JP
Date: 9-Jun-06

D.A. BMR Lands-Pre
Area 7.5 ha

BMR Lands-Pre

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
Granby Sand	B		4.5	60			0	4.5	58	261
Waterloo Sand loam	A		3.0	40			0	3.0	30	90
				0			0			0
				0			0			0
				0			0			0
Totals			7.5		0.0		0	7.5		351

Wetlands			Lawn			Cultivated			Impervious	
Area	CN	CN*A	Area	CN	CN*A	Area	CN	CN*A	Land Use	Area (ha)
0.0		0	0.0		0	0.0		0	Roadway	0
		0			0			0	Sidewalk	0
		0			0			0	Driveway	0
		0			0			0	Building	0
0.0		0	0.0		0	0.0		0		0

Ximp 0 % Composite Curve Number
(for previous areas) **46.8**
Timp 0 %

Land Use	Initial Abstraction (mm)	Area (ha)	IA*A
Wetlands	16	0.0	0.0
Woodland	10	0.0	0.0
Meadow	8	7.5	60.0
Cultivated	7	0.0	0.0
Lawn	5	0.0	0.0
Impervious	2	0.0	0.0

Total Property Area 7.5 ha

Soil Type	Initial Abstraction (mm)	Slope (%)	Lot Depth/Travel Length (m)	Mannings n
Pervious	8	5.49	410	0.25
Impervious	2	2	0	0.013

TIME OF CONCENTRATION

GENERAL INPUTS

Longest Flow Path 410 m
Elevation Drop 22.5 m
Sw 5.49 %

Runoff Coefficient Determination

Land Use	Granby Sand			Waterloo Sand loam			0			0		
	C(-)	Area	CA	C(-)	Area	CA	C(-)	Area	CA	C(-)	Area	CA
Woodland		0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Meadow	0.1	4.5	0.5	0.1	3.0	0.3		0.0	0.0		0	0.0
Wetlands		0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Lawn		0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Cultivated		0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Impervious	0.95	0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Total			0.5			0.3			0.0			0.0

Composite Runoff Coefficient 0.10

AIRPORT METHOD
(runoff coefficient less than 0.40, <1 km²)

Time of Concentration 37.6 min 0.63 hours
Time to Peak 25.2 min 0.42 hours $t_c = \frac{3.26 * (1.1 - C) * L^{0.5}}{S_w^{0.33}}$

BRANSBY-WILLIAMS METHOD
(Runoff Coefficient greater than 0.40, <25km²)

Time of Concentration 15.0 min 0.25 hours
Time to Peak 10.1 min 0.17 hours $t_c = \frac{0.057 * L}{S^{0.2} * A^{0.1}}$

TIME TO PEAK	
Appropriate Method	AIRPORT METHOD
Tp	0.42



HYDROLOGIC PARAMETERS

Project: Eden Oak
Project No.: 218-2659
File: Hyd Parameters
Design by: JP
Date: November 21, 2007

D.A. BMR-Tyrolean
Area 26.3 ha

BMR-Tyrolean

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
Kemble Silt Clay	C		15.8	60	6.3	77	486.024	6.3	71	448.152
Waterloo Sand loam	A		10.5	40	4.2	45	189.36	4.2	30	126.24
				0			0			0
				0			0			0
				0			0			0
Totals			26.3		10.5		675.384	10.5		574.392

Wetlands			Lawn			Cultivated			Impervious	
Area	CN	CN*A	Area	CN	CN*A	Area	CN	CN*A	Land Use	Area (ha)
0.0		0	1.6	79	124.652	0.0		0	Roadway	0.70
		0	1.1	49	51.548			0	Sidewalk	0.00
		0			0			0	Driveway	0.48
		0			0			0	Building	1.44
		0			0			0		
0.0		0	2.6		176.21	0.0		0		2.62

Total Area 26.294

Xmp **5** % **Composite Curve Number**

(for pervious areas) 60.2

Temp **10** % **Composite Curve Number**

(for all areas) 64.0

Land Use	Initial Abstraction (mm)	Area (ha)	IA * A
Wetlands	16	0.0	0.0
Woodland	10	10.5	105.2
Meadow	8	10.5	84.2
Cultivated	7	0.0	0.0
Lawn	5	2.6	13.2
Impervious	2	2.6	5.2
			7.90

Total Property Area 26.3 ha

Number of Houses 48
Building footprint 300 m²
Pavement Width 8 m
Sidewalks 0 m²
Length ROW 880 m
Driveway 100 m²

Soil Type	Initial Abstraction (mm)	Slope (%)	Lot Depth/Travel Length (m)	Mannings n
Pervious	8.553387397	2.00	1120	.25
Impervious	2	0.5	10	.013

TIME OF CONCENTRATION

GENERAL INPUTS

Longest Flow Path 1120 m
Elevation Drop 35 m
Sw 3.13 %

Runoff Coefficient Determination

Land Use	Kemble Silt Clay			Waterloo Sand loam			0			0		
	C(-)	Area	CA	C(-)	Area	CA	C(-)	Area	CA	C(-)	Area	CA
Woodland	0.35	6.3	2.2	0.08	4.2	0.3		0.0	0.0		0	0.0
Meadow	0.4	6.3	2.5	0.1	4.2	0.4		0.0	0.0		0	0.0
Wetlands		0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Lawn	0.17	1.6	0.3	0.1	1.1	0.1		0.0	0.0		0	0.0
Cultivated		0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Impervious	0.95	2.6	2.5	0.95	0.0	0.0						
Total			7.5			0.9			0.0			0.0

Composite Runoff Coefficient 0.3178

AIRPORT METHOD

(runoff coefficient less than 0.40, <1 km²)

Time of Concentration **58.6** min
Time to Peak **39.3** min

$$t_c = \frac{3.26 * (1.1 - C) * L^{0.5}}{S_w^{0.33}}$$

BRANSBY-WILLIAMS METHOD

(Runoff Coefficient greater than 0.40, <25km²)

Time of Concentration **36.7** min
Time to Peak **24.6** min

$$t_c = \frac{0.057 * L}{S^{0.2} * A^{0.1}}$$

TIME TO PEAK	
Appropriate Method	AIRPORT METHOD
Tp	0.65



HYDROLOGIC PARAMETERS

Project: Eden Oak
 Project No.: 218-2659
 File: Hyd Parameters
 Design by: B.H.
 Date: 18-May-06
 Updated: 29-Aug-14

D.A. Eden Oak Post - Including Chasson
 Area 13.5 ha

Eden Oak Post - Including Chasson

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
Granby Sand	B		10.8	80			0			0
Waterloo Sand loam	A		2.7	20			0			0
				0			0			0
				0			0			0
				0			0			0
Totals			13.5		0.0		0	0.0		0

Wetlands			Lawn			Cultivated			Impervious	
Area	CN	CN*A	Area	CN	CN*A	Area	CN	CN*A	Land Use	Area (ha)
0.0		0	5.8	61	354.0684	0.0		0	Roadway	1.46
		0	1.5	39	58.5929			0	Sidewalk	0.20
		0			0			0	Driveway	1.16
		0			0			0	Building	2.23
		0			0			0	Pond	1.20
0.0		0	7.26		410.6613	0.0		0		6.24

Ximp **29** % **Composite Curve Number**
 (for previous areas) **56.6**
 Timp **46** %

Land Use	Initial Abstraction (mm)	Area (ha)	IA * A
Wetlands	16	0.0	0.0
Woodland	10	0.0	0.0
Meadow	8	0.0	0.0
Cultivated	7	0.0	0.0
Lawn	5	7.3	36.3
Impervious	2	6.2	12.5

Total Property Area 13.5 ha

Soil Type	Initial Abstraction (mm)	Slope (%)	Lot Depth/Travel Length (m)	Mannings n
Pervious	5	2.0	40	.25
Impervious	2	1.2	300	.013



HYDROLOGIC PARAMETERS

Project: Eden Oak
Project No.: 218-2659
File: Hyd Parameters
Design by: JP
Date: 26-May-06
Updated: January 15, 2008

D.A. Becker-Tyrolean Post
Area 5.60 ha

Becker-Tyrolean Post

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
Granby Sand	B		5.60	100			0			0
				0			0			0
				0			0			0
				0			0			0
				0			0			0
Totals			5.6		0.0		0	0.0		0

Wetlands			Lawn			Cultivated			Impervious	
Area	CN	CN*A	Area	CN	CN*A	Area	CN	CN*A	Land Use	Area (ha)
0.0		0	2.97	61	180.9748	0.0		0	Roadway	0.49
		0			0			0	Sidewalk	0.08
		0			0			0	Driveway	0.69
		0			0			0	Building	1.36
		0			0			0		
0.0		0	3.0		180.9748	0.0		0		2.6332

Ximp **22** % **Composite Curve Number**
(for previous areas) **61.0**
Timp **47** %

Land Use	Initial Abstraction (mm)	Area (ha)	IA*A
Wetlands	16	0.0	0.0
Woodland	10	0.0	0.0
Meadow	8	0.0	0.0
Cultivated	7	0.0	0.0
Lawn	5	3.0	14.8
Impervious	2	2.6	5.3

Total Property Area **5.60** ha

Number of Houses 69
Building footprint 200 m²
Pavement Width 9.5 m
Sidewalks 1.5 m²
Length ROW 512 m
Driveway 100 m²

Soil Type	Initial Abstraction (mm)	Slope (%)	Lot Depth/Travel Length (m)	Mannings n
Pervious	5	2.00	40	.25
Impervious	2	0.5	475	.013

TIME OF CONCENTRATION

GENERAL INPUTS

Longest Flow Path 360 m
Elevation Drop 1.8 m
Sw 0.50 %

Runoff Coefficient Determination

Land Use	Granby Sand			0			0			0		
	C(-)	Area	CA	C(-)	Area	CA	C(-)	Area	CA	C(-)	Area	CA
Woodland		0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Meadow		0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Wetlands		0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Lawn	0.1	2.97	0.3		0.0	0.0		0.0	0.0		0	0.0
Cultivated		0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Impervious	0.95	2.63	2.5		0.0	0.0		0.0	0.0		0.0	0.0
Total			2.8			0.0			0.0			0.0

Composite Runoff Coefficient 0.50

AIRPORT METHOD

(runoff coefficient less than 0.40, <1 km²)

Time of Concentration **46.7** min **0.78** hours
Time to Peak **31.3** min **0.52** hours

$$t_c = \frac{3.26 * (1.1 - C) * L^{0.5}}{S_w^{0.33}}$$

TIME TO PEAK	
Appropriate Method	BRANSBY-WILLIAMS METHOD
Tp	0.22

BRANSBY-WILLIAMS METHOD

(Runoff Coefficient greater than 0.40, <25km²)

Time of Concentration **19.8** min **0.33** hours
Time to Peak **13.3** min **0.22** hours

$$t_c = \frac{0.057 * L}{S^{0.2} * A^{0.1}}$$



CF CROZIER & ASSOCIATES INC.
LAND DEVELOPMENT ENGINEERS

HYDROLOGIC PARAMETERS

Project: Eden Oak
Project No.: 218-2659
File: Hyd Parameters
Design by: JP
Date: 9-Jun-06
Updated: November 21, 2007

D.A. BMR Lands-Post
Area 7.5 ha

BMR Lands-Post

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
Granby Sand	B		4.5	60			0			0
Waterloo Sand loam	A		3.0	40			0			0
				0			0			0
				0			0			0
				0			0			0
Totals			7.5		0.0		0	0.0		0

Wetlands			Lawn			Cultivated			Impervious	
Area	CN	CN*A	Area	CN	CN*A	Area	CN	CN*A	Land Use	Area (ha)
0.0		0	2.5	61	150.975	0.0		0	Roadway	0.85
		0	1.7	39	64.35			0	Sidewalk	0.15
		0			0			0	Driveway	0.888
		0			0			0	Building	1.48
		0			0			0		
0.0		0	4.1		215.325	0.0		0		3.368

Ximp **25** % **Composite Curve Number**
(for previous areas) **52.1**

Note: Assumes Ximp, Timp to match Eden Oak / Becker Lands

Timp **45** %

Land Use	Initial Abstraction (mm)	Area (ha)	IA*A
Wetlands	18	0.0	0.0
Woodland	10	0.0	0.0
Meadow	8	0.0	0.0
Cultivated	7	0.0	0.0
Lawn	5	4.1	20.8
Impervious	2	3.4	6.7

Total Property Area **7.5** ha

Number of Houses 74
Building footprint 200 m²
Pavement Width 8.5 m
Sidewalk Width 1.5 m
Length ROW 1000 m
Driveway 120 m²

Soil Type	Initial Abstraction (mm)	Slope (%)	Lot Depth/Travel Length (m)	Mannings n
Pervious	5	5.00	40	.25
Impervious	2	3	450	.013

TIME OF CONCENTRATION

GENERAL INPUTS

Longest Flow Path 450 m
Elevation Drop 15 m
Sw 3.33 %

Runoff Coefficient Determination

Land Use	Granby Sand			Waterloo Sand loam			0			0		
	C(-)	Area	CA	C(-)	Area	CA	C(-)	Area	CA	C(-)	Area	CA
Woodland		0.0	0.0		0.0	0.0		0.0	0.0		0	0.0
Meadow		0.00	0.0		0.0	0.0		0.0	0.0		0	0.0
Wetlands		0.00	0.0		0.0	0.0		0.0	0.0		0	0.0
Lawn	0.1	2.48	0.2	0.1	1.65	0.2		0.0	0.0		0	0.0
Cultivated		0.00	0.0		0.0	0.0		0.0	0.0		0	0.0
Impervious	0.95	2.02	1.9	0.95	1.35	1.3						
Total			2.2			1.4			0.0			0.0

Composite Runoff Coefficient 0.48

AIRPORT METHOD

(runoff coefficient less than 0.40, <1 km²)

Time of Concentration **28.7** min **0.48** hours $t_c = \frac{3.26 * (1.1 - C) * L^{0.5}}{S_w^{0.33}}$
Time to Peak **19.3** min **0.32** hours

BRANSBY-WILLIAMS METHOD

(Runoff Coefficient greater than 0.40, <25km²)

Time of Concentration **16.5** min **0.27** hours $t_c = \frac{0.057 * L}{S^{0.2} * A^{0.1}}$
Time to Peak **11.0** min **0.18** hours

TIME TO PEAK	
Appropriate Method	BRANSBY-WILLIAMS METHOD
Tp	0.18

APPENDIX C

SWMHYMO Modeling

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00003> S W W W M M H H Y Y M M O O 9 9 9 9 Ver. 4.02
00004> SSSSS W W M M H H Y Y M M O O 9999 9999 July 1999
00005> SSSSS W W M M H H Y Y M M O O 9 9 9 9 # 3737016
00006> *****
00007> StormWater Management Hydrologic Model 999 999 *****
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0010165 001:0011-----ID:MHYD-----AREA-----OPEAK-TpeakDate hh:mm-----R.V.-R.C.
0010166 HEAD HYD 09:ZYRK 489.80 2.258 No date 12:30 40.82 n/a
0010167 Filename = C:\218-2659\03 of 2012 HYMD\Pond Design\Zyrk.HYD
0010168 Comment = 2-Year 15-min storm hydrograph at ID606
0010169
0010170 -----TOTAL PRE-DEVELOPMENT FLOW U/s of GEORGIAN TRAIL-----R.V.-R.C.
0010171 001:0012-----ID:MHYD-----AREA-----OPEAK-TpeakDate hh:mm-----R.V.-R.C.
0010172 ADD HYD 09:Trail 52.90 .331 No date 3:20 4.30 n/a
0010173 + 08:ZYRK 489.80 2.258 No date 12:30 40.82 n/a
0010174 [DT= 5.00] SUM= 09:Trail 542.70 2.258 No date 12:35 37.26 n/a
0010175 001:0013-----ID:MHYD-----AREA-----OPEAK-TpeakDate hh:mm-----R.V.-R.C.
0010176 SAVE HYD 09:Trail 542.70 2.258 No date 12:35 37.26 n/a
0010177 frame C:\218-2659\030420-1\PRE-DE-1\H-Trail.001
0010178 remark:Trail
0010179 -----AREA 6071-----
0010180 001:0014-----ID:MHYD-----AREA-----OPEAK-TpeakDate hh:mm-----R.V.-R.C.
0010181 CALN NHDW 10:6071 25.50 1.128 No date 4:20 6.16 .163
0010182 [CW= 68.8; N= 3.00]
0010183 [Tp= 1.36;DT= 5.00]
0010184 -----TOTAL PRE-DEVELOPMENT FLOW TO HWY 26-----R.V.-R.C.
0010185 001:0015-----ID:MHYD-----AREA-----OPEAK-TpeakDate hh:mm-----R.V.-R.C.
0010186 ADD HYD 10:6071 542.70 2.258 No date 12:35 37.26 n/a
0010187 + 10:6071 25.50 1.128 No date 4:20 6.16 n/a
0010188 [DT= 5.00] SUM= 11:MHYD 568.20 2.258 No date 12:30 35.86 n/a
0010189 001:0016-----ID:MHYD-----AREA-----OPEAK-TpeakDate hh:mm-----R.V.-R.C.
0010190 SAVE HYD 11:MHYD 568.20 2.258 No date 12:30 35.86 n/a
0010191 frame C:\218-2659\030420-1\PRE-DE-1\H-Trail.001
0010192 remark:NHDW
0010193 001:0017-----
0010194 FINISH
0010195
0010196 -----
0010197 WARNINGS / ERRORS / NOTES
0010198
0010199 Simulation ended on 2012-04-03 at 11:09:38
0010200 -----
0010201
0010202

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00003> SSSSS W W M M H H Y Y M M OOO 999 999
00004> S W W M M H H Y Y M M O O O 9 9 9 9 9 Ver. 4.02
00005> S W W M M H H Y Y M M O O O 9999 9999 July 1999
00006> S W W M M H H Y Y M M O O O 9 9 9 9 # 3737016
00007> SSSSS W W M M H H Y Y M M OOO 999 999
00008> StormWater Management Hydrologic Model
00009>
00010>
00011>
00012> ***** SWHYMO-99 Ver/4.02 *****
00013> ***** A single event and continuous hydrologic simulation model *****
00014> ***** based on the principles of HYMO and its successors *****
00015> ***** OTTHMO-83 and OTTHMO-89 *****
00016>
00017> ***** Distributed by: J.F. Sabourin and Associates Inc. *****
00018> ***** Ottawa, Ontario: (613) 727-5199 *****
00019> ***** Gatineau, Quebec: (819) 243-6858 *****
00020> ***** E-Mail: swmhyom@jfasa.com *****
00021>
00022>
00023>
00024> ***** Licensed user: C.F. Crozier & Associates Inc *****
00025> ***** Collingswood SERIAL#3737016 *****
00026>
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00028>
00029> ***** PROGRAM ARRAY DIMENSIONS *****
00030> ***** Maximum value for ID numbers : 10 *****
00031> ***** Max. number of rainfall points: 15000 *****
00032> ***** Max. number of flow points : 15000 *****
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00053> ***** SUMMARY OUTPUT *****
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00134> *****
00135> *****

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00136> 001:0011-----ID:NHYD-----AREA-----QPEAK-TpeakDate hh:mm-----R.V.-R.C.
00137> READ HYD 08:5726 489.80 3.312 No date 12:00 55.37 n/a
00138> Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\5yr6.HYD
00139> Comment = 5-Year 15-min storm hydrograph at ID606
00140> *****
00141> 001:0012-----ID:NHYD-----AREA-----QPEAK-TpeakDate hh:mm-----R.V.-R.C.
00142> ADD HYD 07:GTRAIL 52.90 .682 No date 3:20 8.94 n/a
00143> *****
00144> [DT= 5.00] SUM= 09:Trail 542.70 3.312 No date 12:00 50.84 n/a
00145> 001:0013-----ID:NHYD-----AREA-----QPEAK-TpeakDate hh:mm-----R.V.-R.C.
00146> SAVE HYD 09:Trail 542.70 3.312 No date 12:00 50.84 n/a
00147> fname :C:\218-2659\030420-1\PRE-DE-1\H-Trail.001
00148> remark:Trail
00149> *****
00150> 001:0014-----ID:NHYD-----AREA-----QPEAK-TpeakDate hh:mm-----R.V.-R.C.
00151> CALIB NASHYD 10:6071 25.50 .259 No date 4:20 12.50 .237
00152> [CN= 68.8: N= 3.00]
00153> [Tp= 1.36:DT= 5.00]
00154> *****
00155> ***** TOTAL PRE-DEVELOPMENT FLOW TO HWY 26-----R.V.-R.C. *****
00156> 001:0015-----ID:NHYD-----AREA-----QPEAK-TpeakDate hh:mm-----R.V.-R.C.
00157> ADD HYD 09:Trail 542.70 3.312 No date 12:00 50.84 n/a
00158> *****
00159> 001:0016-----ID:NHYD-----AREA-----QPEAK-TpeakDate hh:mm-----R.V.-R.C.
00160> SAVE HYD 11:NodeB 568.20 3.312 No date 12:00 49.12 n/a
00161> fname :C:\218-2659\030420-1\PRE-DE-1\H-NodeB.001
00162> remark:NodeB
00163> *****
00164> ***** FINISH *****
00165> *****
00166> *****
00167> *****
00168> *****
00169> *****
00170> *****
00171> *****
00172> *****

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00001> *****
00002> *****
00003> SSSSS W W M M H H Y Y M M O O O 999 999 *****
00004> S W W W M M M H H Y Y M M O O 9 9 9 9 Ver. 4.02
00005> SSSSS W W M M M H H Y Y M M O O 9999 9999 July 1999
00006> S W W M M H H Y Y M M O O 9 9 9 9
00007> SSSSS W W M M H H Y Y M M O O 9 9 9 9 # 3737016
00008>
00009> StormWater Management Hydrologic Model 999 999
00010>
00011> *****
00012> ***** SWHYMO-99 Ver/4.02 *****
00013> ***** A single event and continuous hydrologic simulation model *****
00014> ***** based on the principles of HYMO and its successors *****
00015> ***** OTHYMO-83 and OTHYMO-89 *****
00016>
00017> ***** Distributed by: J.F. Sabourin and Associates Inc. *****
00018> ***** Ottawa, Ontario: (613) 727-5199 *****
00019> ***** Gatineau, Quebec: (819) 243-6858 *****
00020> ***** E-Mail: swmhymo@fsa.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: 15000 *****
00032> ***** Max. number of flow points : 15000 *****
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, (ft3/s) or (m3/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> ***** SUMMARY OUTPUT *****
00054> *****
00055> ***** DATE: 2012-04-03 TIME: 11:10:35 RUN COUNTER: 000228 *****
00056> *****
00057> ***** Input filename: C:\218-2659\030420-1\PRE-DE-1\10_pre.dat *****
00058> ***** Output filename: C:\218-2659\030420-1\PRE-DE-1\10_pre.out *****
00059> ***** Summary filename: C:\218-2659\030420-1\PRE-DE-1\10_pre.sum *****
00060> *****
00061> ***** * 1: *****
00062> ***** * 2: *****
00063> ***** * 3: *****
00064> *****
00065> *****
00066> *****
00067> *****
00068> ***** Project Name: [Eden Oak] Project Number: [218-2659] *****
00069> ***** Date : 05-26-2006 *****
00070> ***** Updated : 04-03-2012 *****
00071> ***** Modeler : [J. Proctor] *****
00072> ***** Company : C.F. Crozier & Associates Inc. *****
00073> ***** License # : 3737016 *****
00074> *****
00075> ***** RUN:COMMANDS *****
00076> ***** 001:0001 *****
00077> ***** START *****
00078> ***** [TZERO = .00 hrs on 0] *****
00079> ***** [METOUT= 2 (1=imperial, 2=metric output)] *****
00080> ***** [NSTORM= 0] *****
00081> ***** [NRUN= 1] *****
00082> ***** *****
00083> ***** COMBINED PRE-DEVELOPMENT - 10 Year Event *****
00084> *****
00085> ***** Rainfall Depths per MTC - Basins East of Collingwood *****
00086> ***** 6 hour Kifer Chu Chicago Rainfall Distribution *****
00087> *****
00088> ***** 001:0002 *****
00089> ***** READ STORM *****
00090> ***** Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\10YR.STH *****
00091> ***** Comment = 10yr 6 hr Kifer Chu Chicago Storm Event *****
00092> ***** [SDT=60.00:SDUR= 6.00:PTOT= 66.00] *****
00093> ***** *****
00094> ***** 001:0003 *****
00095> ***** READ HYD *****
00096> ***** Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\10YR7.HYD *****
00097> ***** Comment = 10-Year 15-min storm hydrograph at ID702 new *****
00098> ***** *****
00099> ***** 001:0004 *****
01000> ***** DIVERT HYD -> 01:10YR7 178.10 4.950 No_date 3:30 68.35 n/a *****
01001> ***** diverted <= 02:M-7022 178.10 4.950 No_date 3:30 68.35 n/a *****
01002> ***** diverted <= 02:M-600 .00 .000 No_date 0:00 .00 n/a *****
01003> ***** *****
01004> ***** 001:0005 *****
01005> ***** CALIB NASHYD 03:6062 13.50 .242 No_date 3:20 11.65 .177 *****
01006> ***** [CN= 52.4: N= 3.00] *****
01007> ***** [Tp= .55:DT= 5.00] *****
01008> ***** *****
01009> ***** 001:0006 *****
01010> ***** CALIB NASHYD 04:6063 26.30 .616 No_date 3:25 16.80 .254 *****
01011> ***** [CN= 64.0: N= 3.00] *****
01012> ***** [Tp= .65:DT= 5.00] *****
01013> ***** *****
01014> ***** 001:0007 *****
01015> ***** CALIB NASHYD 05:6064 7.50 .132 No_date 3:10 9.70 .147 *****
01016> ***** [CN= 46.8: N= 3.00] *****
01017> ***** [Tp= .42:DT= 5.00] *****
01018> ***** *****
01019> ***** 001:0008 *****
01020> ***** CALIB NASHYD 06:6065 5.60 .124 No_date 3:15 13.90 .211 *****
01021> ***** [CN= 58.0: N= 3.00] *****
01022> ***** [Tp= .53:DT= 5.00] *****
01023> ***** *****
01024> ***** 001:0009 *****
01025> ***** ADD HYD *****
01026> ***** + 02:6062 13.50 .242 No_date 3:20 11.65 n/a *****
01027> ***** + 03:6063 26.30 .616 No_date 3:25 16.80 n/a *****
01028> ***** + 05:6064 7.50 .132 No_date 3:10 9.70 n/a *****
01029> ***** + 06:6065 5.60 .124 No_date 3:15 13.90 n/a *****
01030> ***** [DT= 5.00] SUM= 07:GTRAIL 52.90 1.101 No_date 3:20 14.17 n/a *****
01031> ***** 001:0010 *****
01032> ***** SAVE HYD *****
01033> ***** fname :C:\218-2659\030420-1\PRE-DE-1\N-GTRAIL.001 *****
01034> ***** remark:NodeA *****
01035> ***** *****
01036> *****
01037> *****
01038> *****
01039> *****
01040> *****
01041> *****
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01071> *****
01072> *****

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00136> 001:0011-----ID:NHYD-----AREA-----QPEAK-TpeakDate_hh:mm-----R.V.-R.C.
00137> READ HYD 08:10786 489.80 4.241 No_date 11:45 68.48 n/a
00138> File name = C:\218-2659\03 04 2012 HYMO\Pond Design\10YR6.HYD
00139> Comment = 10 yr 15-min storm hydrograph at ID606
00140> *****
00141> 001:0012-----ID:NHYD-----AREA-----QPEAK-TpeakDate_hh:mm-----R.V.-R.C.
00142> ADD HYD 07:GTRAIL 52.90 1.101 No_date 3:20 14.17 n/a
00143> + 08:10YR6 489.80 4.241 No_date 11:45 68.48 n/a
00144> [DT= 5.00] SUM= 09:Trail 542.70 4.241 No_date 11:45 63.18 n/a
00145> 001:0013-----ID:NHYD-----AREA-----QPEAK-TpeakDate_hh:mm-----R.V.-R.C.
00146> SAVE HYD 09:Trail 542.70 4.241 No_date 11:45 63.18 n/a
00147> fname :C:\218-2659\030420-1\PRE-DE-1\N-Trail.001
00148> remark:Trail
00149> *****
00150> ***** AREA 6071 *****
00151> 001:0014-----ID:NHYD-----AREA-----QPEAK-TpeakDate_hh:mm-----R.V.-R.C.
00152> CALIB NASHYD 10:6071 25.50 .408 No_date 4:15 19.42 .294
00153> [CN= 68.8: N= 3.00]
00154> [Tp= 1.36:DT= 5.00]
00155> *****
00156> ***** TOTAL PRE-DEVELOPMENT FLOW to HWY 26 *****
00157> 001:0015-----ID:NHYD-----AREA-----QPEAK-TpeakDate_hh:mm-----R.V.-R.C.
00158> ADD HYD 09:Trail 542.70 4.241 No_date 11:45 63.18 n/a
00159> + 10:6071 25.50 .408 No_date 4:15 19.42 n/a
00160> [DT= 5.00] SUM= 11:NodeB 568.20 4.242 No_date 11:45 61.22 n/a
00161> 001:0016-----ID:NHYD-----AREA-----QPEAK-TpeakDate_hh:mm-----R.V.-R.C.
00162> SAVE HYD 11:NodeB 568.20 4.242 No_date 11:45 61.22 n/a
00163> fname :C:\218-2659\030420-1\PRE-DE-1\N-NodeB.001
00164> remark:NodeB
00165> 001:0017-----FINISH
00166> *****
00167> ***** WARNINGS / ERRORS / NOTES *****
00168> *****
00169> *****
00170> ***** Simulation ended on 2012-04-03 at 11:10:36 *****
00171> *****
00172> *****

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00001>
00002>
00003> SSSSS W W M M M H H Y Y M M O O O 999 999
00004> S W W W M M M H H Y Y M M O O O 9 9 9 9
00005> SSSSS W W M M M H H H H H Y M M O O O 9 9 9 9 Ver. 4.02
00006> S W W M M M H H Y M M O O O 9999 9999 July 1999
00007> SSSSS W W M M M H H Y M M O O O 9 9 9 9 # 3737016
00008>
00009> StormWater Management Hydrologic Model 999 999
00010>
00011>
00012> ***** SMHMYMO-99 Ver/4.02 *****
00013> ***** A single event and continuous hydrologic simulation model *****
00014> ***** based on the principles of HYMO and its successors *****
00015> ***** OTHMYMO-83 and OTHMYMO-89 *****
00016>
00017> ***** Distributed by: J.F. Sabourin and Associates Inc. *****
00018> ***** Ottawa, Ontario: (613) 727-5199 *****
00019> ***** Gatineau, Quebec: (819) 243-6958 *****
00020> ***** E-Mail: smhmymo@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: 15000 *****
00032> ***** Max. number of flow points : 15000 *****
00033>
00034>
00035>
00036> ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
00037> ***** ID: Hydrograph Identification numbers, (1-10). *****
00038> ***** MHYD: Hydrograph reference numbers, (6 digits or characters). *****
00039> ***** AREA: Drainage area associated with hydrograph, (ac.) or (ha.). *****
00040> ***** QPEAK: Peak flow of simulated hydrograph, (ft3/s) or (m3/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> ***** ERROR messages printed at end of run. *****
00046>
00047>
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00053> ***** SUMMARY OUTPUT *****
00054> *****
00055> ***** DATE: 2012-04-03 TIME: 11:11:34 RUN COUNTER: 000229 *****
00056> *****
00057> ***** Input filename: C:\218-2659\030420-1\PRE-DE-1\25_pre.dat *****
00058> ***** Output filename: C:\218-2659\030420-1\PRE-DE-1\25_pre.out *****
00059> ***** Summary filename: C:\218-2659\030420-1\PRE-DE-1\25_pre.sum *****
00060> ***** User comments: *****
00061> *****
00062> *****
00063> *****
00064>
00065>
00066>
00067> *****
00068> ***** Project Name: [Eden Oak] Project Number: [218-2659] *****
00069> ***** Date : 05-26-2006 *****
00070> ***** Updated : 04-03-2012 *****
00071> ***** Modeller : [J.Proctor] *****
00072> ***** Company : C.F. Crozier & Associates Inc. *****
00073> ***** License # : 3737016 *****
00074> *****
00075> ***** RUNS COMMAND *****
00076> ***** 001:0001 *****
00077> ***** START *****
00078> ***** [TEPRG = .00 hrs on 0] *****
00079> ***** [METOUT = 2] *****
00080> ***** [INFORM = 0] *****
00081> ***** [INRUN = 1] *****
00082> *****
00083> ***** COMBINED PRE-DEVELOPMENT - 25 Year Event *****
00084> *****
00085> ***** Rainfall Depths per HYD Basins East of Collingwood *****
00086> ***** 6 hour Kifer Chu Chicago Rainfall Distribution *****
00087> *****
00088> ***** 001:0002 *****
00089> ***** READ STORM *****
00090> ***** Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\25YR.STM *****
00091> ***** Comment = 25-Year 6 hr Kifer Chu Chicago Storm Event *****
00092> ***** [SDT=60.00:SDUR= 6.00:PTOT= 77.90] *****
00093> *****
00094> ***** QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1) *****
00095> ***** ID:MHYD--AREA--QPEAK-TpeakDate_hh:mm--R.V.-R.C. *****
00096> ***** READ HYD 01:25YR7 178.10 5.791 No date 3:30 80.09 n/a *****
00097> ***** Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\25YR7.HYD *****
00098> ***** Comment = 25-Year 15-min storm hydrograph at ID702 new *****
00099> *****
00100> ***** SPILL FLOW to W/C 6 *****
00101> ***** ID:MHYD--AREA--QPEAK-TpeakDate_hh:mm--R.V.-R.C. *****
00102> ***** DIVERG HYD 178.10 5.791 No date 3:30 80.09 n/a *****
00103> ***** diverted <= 03:H-7022 178.10 5.791 No date 3:30 80.09 n/a *****
00104> ***** diverted <= 02:H-600 .00 .000 No date 0:00 .00 n/a *****
00105> *****
00106> ***** EDEN OAK SITE 6062 *****
00107> ***** ID:MHYD--AREA--QPEAK-TpeakDate_hh:mm--R.V.-R.C. *****
00108> ***** CALIB NASHYD 03:6062 13.50 .331 No date 3:20 16.25 .209 *****
00109> ***** [CN= 52.4: N= 3.00] *****
00110> ***** [Tp= .55:DT= 5.00] *****
00111> *****
00112> ***** EXISTING TYROLEAN 6063 *****
00113> ***** ID:MHYD--AREA--QPEAK-TpeakDate_hh:mm--R.V.-R.C. *****
00114> ***** CALIB NASHYD 04:6063 26.30 .832 No date 3:25 23.02 .295 *****
00115> ***** [CN= 64.0: N= 3.00] *****
00116> ***** [Tp= .65:DT= 5.00] *****
00117> *****
00118> ***** BMR SITE 6064 *****
00119> ***** ID:MHYD--AREA--QPEAK-TpeakDate_hh:mm--R.V.-R.C. *****
00120> ***** CALIB NASHYD 05:6064 7.50 .181 No date 3:10 13.62 .175 *****
00121> ***** [CN= 46.8: N= 3.00] *****
00122> ***** [Tp= .42:DT= 5.00] *****
00123> *****
00124> ***** BECKER SITE 6065 *****
00125> ***** ID:MHYD--AREA--QPEAK-TpeakDate_hh:mm--R.V.-R.C. *****
00126> ***** CALIB NASHYD 06:6065 5.60 .168 No date 3:15 19.25 .247 *****
00127> ***** [CN= 58.0: N= 3.00] *****
00128> ***** [Tp= .53:DT= 5.00] *****
00129> *****
00130> ***** ADD AREAS 6062 - 6065 *****
00131> ***** ID:MHYD--AREA--QPEAK-TpeakDate_hh:mm--R.V.-R.C. *****
00132> ***** ADD HYD 02:H-600 .00 .000 No date 0:00 .00 n/a *****
00133> ***** + 03:6062 13.50 .331 No date 3:20 16.25 n/a *****
00134> ***** + 04:6063 26.30 .832 No date 3:25 23.02 n/a *****
00135> ***** + 05:6064 7.50 .181 No date 3:10 13.62 n/a *****
00136> ***** + 06:6065 5.60 .168 No date 3:15 19.25 n/a *****
00137> ***** [DT= 5.00] SUM= 07:CTRAIL 52.90 1.494 No date 3:20 19.56 n/a *****
00138> ***** ID:MHYD--AREA--QPEAK-TpeakDate_hh:mm--R.V.-R.C. *****
00139> ***** SAVE HYD 07:CTRAIL 52.90 1.494 No date 3:20 19.56 n/a *****
00140> ***** fname :C:\218-2659\030420-1\PRE-DE-1\H-CTRAIL.001 *****
00141> ***** remark:NodeA *****
00142> *****
00143> ***** QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 6061) *****

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00136> 001:0011--ID:MHYD--AREA--QPEAK-TpeakDate_hh:mm--R.V.-R.C.
00137> READ HYD 08:25YR6 504.80 5.142 No date 11:30 77.86 n/a
00138> Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\25YR6.HYD
00139> Comment = 25-Year 15-min storm hydrograph at ID606
00140> ***** TOTAL PRE-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL *****
00141> 001:0012--ID:MHYD--AREA--QPEAK-TpeakDate_hh:mm--R.V.-R.C.
00142> ADD HYD 07:CTRAIL 52.90 1.494 No date 3:20 19.56 n/a
00143> + 08:25YR6 504.80 5.142 No date 11:30 77.86 n/a
00144> [DT= 5.00] SUM= 09:Trail 557.70 5.142 No date 11:30 72.33 n/a
00145> 001:0013--ID:MHYD--AREA--QPEAK-TpeakDate_hh:mm--R.V.-R.C.
00146> SAVE HYD 09:Trail 557.70 5.142 No date 11:30 72.33 n/a
00147> fname :C:\218-2659\030420-1\PRE-DE-1\H-Trail.001
00148> remark:Trail
00149> ***** AREA 6071 *****
00150> 001:0014--ID:MHYD--AREA--QPEAK-TpeakDate_hh:mm--R.V.-R.C.
00151> CALIB NASHYD 10:6071 25.50 .551 No date 4:15 26.40 .339
00152> [CN= 68.8: N= 3.00]
00153> [Tp= 1.36:DT= 5.00]
00154> ***** TOTAL PRE-DEVELOPMENT FLOW to HWY 26 *****
00155> 001:0015--ID:MHYD--AREA--QPEAK-TpeakDate_hh:mm--R.V.-R.C.
00156> ADD HYD 09:Trail 557.70 5.142 No date 11:30 72.33 n/a
00157> + 10:6071 25.50 .551 No date 4:15 26.40 n/a
00158> [DT= 5.00] SUM= 11:NodeB 583.20 5.144 No date 11:30 70.32 n/a
00159> 001:0016--ID:MHYD--AREA--QPEAK-TpeakDate_hh:mm--R.V.-R.C.
00160> SAVE HYD 11:NodeB 583.20 5.144 No date 11:30 70.32 n/a
00161> fname :C:\218-2659\030420-1\PRE-DE-1\H-NodeB.001
00162> remark:NodeB
00163> 001:0017--
00164> FINISH
00165> *****
00166> ***** WARNINGS / ERRORS / NOTES *****
00167> *****
00168> Simulation ended on 2012-04-03 at 11:11:35
00169> *****
00170>
00171>
00172>

```



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00001> *****
00002>
00003> SSSSS W W M M H H Y Y M M O O 999 999 *****
00004> S W W W M M H H Y Y M M O O 9 9 9 9 Ver. 4.02
00005> SSSSS W W M M H H Y Y M M O O 9999 9999 July 1999
00006> S W W M M H H Y M M O O 9 9 9 9
00007> SSSSS W W M M H H Y M M O O 9 9 9 9 3737016
00008>
00009> StormWater Management Hydrologic Model 999 999 *****
00010>
00011> *****
00012> ***** SWHYMO-99 Ver/4.02 *****
00013> ***** A single event and continuous hydrologic simulation model *****
00014> ***** based on the principles of HYMO and its successors *****
00015> *****
00016> *****
00017> ***** Distributed by: J.F. Sabourin and Associates Inc. *****
00018> ***** Ottawa, Ontario: (613) 727-5199 *****
00019> ***** Gatineau, Quebec: (819) 243-6958 *****
00020> ***** E-Mail: swmhm@jfsa.com *****
00021> *****
00022> *****
00023> *****
00024> ***** Licensed user: C.F. Crozier & Associates Inc. *****
00025> ***** SERIAL#: 3737016 *****
00026> *****
00027> *****
00028> *****
00029> *****
00030> *****
00031> ***** Max. number of rainfall points: 15000 *****
00032> ***** Max. number of flow points : 15000 *****
00033> *****
00034> *****
00035> *****
00036> *****
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00134> *****
00135> *****

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00136> 001:0011-----ID:NHYD-----AREA-----QPEAK-TpeakDate hh:mm-----R.V.-R.C.
00137> READ HYD 08:50YR6 489.80 5.599 No date 11:30 86.18 n/a
00138> Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\50yr6.HYD
00139> Comment = 50-Year 15-min storm hydrograph at ID606
00140> *****
00141> *****
00142> *****
00143> *****
00144> *****
00145> *****
00146> *****
00147> *****
00148> *****
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00162> *****
00163> *****
00164> *****
00165> *****
00166> *****
00167> *****
00168> *****
00169> *****
00170> *****
00171> *****
00172> *****

```

```

00001:
00002:
00003: SSSSS W W M M H H Y Y M M O O 999 999
00004: S W W M M H H Y Y M M O O 9 9 9 9 Ver. 4.02
00005: SSSSS W W M M H H H H H H Y M M O O 9999 9999 July 1999
00006: S W W M M H H R Y M M O O 9 9 9 9
00007: SSSSS W W M M H H Y M M O O 9 9 9 9 3737016
00008:
00009: StormWater Management Hydrologic Model 999 999
00010:
00011:
00012: ***** SWHYMO-99 Ver/4.02 *****
00013: ***** A single event and continuous hydrologic simulation model *****
00014: ***** based on the principles of HYMO and its successors *****
00015: ***** OTHYMO-83 and OTHYMO-89 *****
00016:
00017: ***** Distributed by: J.F. Sabourin and Associates Inc. *****
00018: ***** Ottawa, Ontario: (613) 727-5199 *****
00019: ***** Gatineau, Quebec: (819) 243-6858 *****
00020: ***** E-Mail: sabs@hydrologica.com *****
00021:
00022:
00023:
00024: ***** Licensed user: C.F. Crozier & Associates Inc. *****
00025: ***** Collingwood SERIAL#:3737016 *****
00026:
00027:
00028: ***** PROGRAM ARRAY DIMENSIONS *****
00029: ***** Maximum value for ID numbers : 10 *****
00030: ***** Max. number of rainfall points: 15000 *****
00031: ***** Max. number of flow points : 15000 *****
00032:
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: ** PEAK: Peak flow of simulated hydrograph, (cfs/3/s) or (m3/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: 2012-04-03 TIME: 11:14:00 RUN COUNTER: 000232 *
00056:
00057: * Input filename: C:\218-2659\030420-1\PRE-DE-1\100_pre.dat *
00058: * Output filename: C:\218-2659\030420-1\PRE-DE-1\100_pre.out *
00059: * Summary filename: C:\218-2659\030420-1\PRE-DE-1\100_pre.sum *
00060: * User comments: *
00061: * 1: *
00062: * 2: *
00063: * 3: *
00064:
00065:
00066:
00067: *****
00068: * Project Name: [Eden Oak] Project Number: [218-2659] *
00069: * Date : 05-26-2006 *
00070: * Updated : 04-03-2012 *
00071: * Modeller : [J.Proctor] *
00072: * Company : C.F. Crozier & Associates Inc. *
00073: * License # : 3737016 *
00074: *****
00075: RUN:COMMAND#
00076: 001:0001-----
00077: START
00078: [TZERO = .00 hrs on 0]
00079: [METOUT= 2 (1=imperial, 2=metric output)]
00080: [NFORM= 0]
00081: [NRUN= 1]
00082: *****
00083: *****COMBINED PRE-DEVELOPMENT - 100 Year Event*****
00084: *****
00085: * Rainfall Depths per MTO - Basins East of Collingwood *
00086: * 6 hour Kifer Chu Chicago Rainfall Distribution *
00087: *****
00088: 001:0002-----
00089: READ STORM
00090: Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\100YR.STM
00091: Comment = 100-Year 6 hr Kifer Chu Chicago Storm Event
00092: [SDT=60.00:SDUR= 6.00:PTOT= 96.00]
00093: *****
00094: 001:0003-----QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)-----
00095: ID:NHYD-----AREA-----PEAK-TpeakDate hh:mm-----R.V.-R.C.
00096: READ HYD 01:100YR7 178.10 7.393 No date 3:30 99.77 n/a
00097: Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\100YR7.HYD
00098: Comment = 100-Year 15-min storm hydrograph at ID702 new
00099: *****
00100: 001:0004-----SPILL FLOW TO W/C 6-----
00101: ID:NHYD-----AREA-----PEAK-TpeakDate hh:mm-----R.V.-R.C.
00102: DIVERT HYD 01:100YR7 178.10 7.393 No date 3:30 99.77 n/a
00103: diverted <= 03:H-7022 169.75 6.000 No date 3:30 99.77 n/a
00104: diverted <= 02:H-600 8.35 1.393 No date 3:30 99.77 n/a
00105: *****
00106: 001:0005-----EDEN OAK SITE 6062-----
00107: ID:NHYD-----AREA-----PEAK-TpeakDate hh:mm-----R.V.-R.C.
00108: CALIB NASHYD 03:6062 13.50 .495 No date 3:15 24.30 .253
00109: [CN= 52.4: N= 3.00]
00110: [Tp= .55:DT= 5.00]
00111: *****
00112: 001:0006-----EXISTING TYROLEAN 6063-----
00113: ID:NHYD-----AREA-----PEAK-TpeakDate hh:mm-----R.V.-R.C.
00114: CALIB NASHYD 04:6063 26.30 1.214 No date 3:20 33.60 .350
00115: [CN= 64.0: N= 3.00]
00116: [Tp= .65:DT= 5.00]
00117: *****
00118: 001:0007-----BMR SITE 6064-----
00119: ID:NHYD-----AREA-----PEAK-TpeakDate hh:mm-----R.V.-R.C.
00120: CALIB NASHYD 05:6064 7.50 .271 No date 3:10 20.56 .214
00121: [CN= 46.8: N= 3.00]
00122: [Tp= .42:DT= 5.00]
00123: *****
00124: 001:0008-----BECKER SITE 6065-----
00125: ID:NHYD-----AREA-----PEAK-TpeakDate hh:mm-----R.V.-R.C.
00126: CALIB NASHYD 06:6065 5.60 .248 No date 3:15 28.48 .297
00127: [CN= 58.0: N= 3.00]
00128: [Tp= .53:DT= 5.00]
00129: *****
00130: 001:0009-----ADD AREAS 6062 - 6065-----
00131: ID:NHYD-----AREA-----PEAK-TpeakDate hh:mm-----R.V.-R.C.
00132: ADD HYD + 03:6062 13.50 .495 No date 3:15 24.30 n/a
00133: + 04:6063 26.30 1.214 No date 3:20 33.60 n/a
00134: + 05:6064 7.50 .271 No date 3:10 20.56 n/a
00135: + 06:6065 5.60 .248 No date 3:15 28.48 n/a
00136: [DT= 5.00] SUM= 07:GTRAIL 61.25 3.503 No date 3:25 38.51 n/a
00137: *****
00138: 001:0010-----ID:NHYD-----AREA-----PEAK-TpeakDate hh:mm-----R.V.-R.C.
00139: SAVE HYD 07:GTRAIL 61.25 3.503 No date 3:25 38.51 n/a
00140: fname :C:\218-2659\030420-1\PRE-DE-1\H-GTRAIL.001
00141: remark:NodeA
00142: *****
00143: ***** QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 6061) *****

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00136: 001:0011-----ID:NHYD-----AREA-----PEAK-TpeakDate hh:mm-----R.V.-R.C.
00137: READ HYD 08:100YR6 489.80 6.517 No date 11:15 98.18 n/a
00138: Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\100YR6.HYD
00139: Comment = 100-Year 15-min storm hydrograph at ID606
00140: *****
00141: 001:0012-----TOTAL PRE-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL-----
00142: ID:NHYD-----AREA-----PEAK-TpeakDate hh:mm-----R.V.-R.C.
00143: ADD HYD 07:GTRAIL 61.25 3.503 No date 3:25 38.51 n/a
00144: + 08:100YR6 489.80 6.517 No date 11:15 98.18 n/a
00145: [DT= 5.00] SUM= 09:Trail 551.05 6.517 No date 11:15 91.55 n/a
00146: *****
00147: 001:0013-----ID:NHYD-----AREA-----PEAK-TpeakDate hh:mm-----R.V.-R.C.
00148: SAVE HYD 09:Trail 551.05 6.517 No date 11:15 91.55 n/a
00149: fname :C:\218-2659\030420-1\PRE-DE-1\H-Trail.001
00150: remark:Trail
00151: *****
00152: 001:0014-----AREA 6071-----
00153: ID:NHYD-----AREA-----PEAK-TpeakDate hh:mm-----R.V.-R.C.
00154: CALIB NASHYD 10:6071 25.50 .797 No date 4:15 38.11 .397
00155: [CN= 68.8: N= 3.00]
00156: [Tp= 1.36:DT= 5.00]
00157: *****
00158: 001:0015-----TOTAL PRE-DEVELOPMENT FLOW TO HWY 26-----
00159: ID:NHYD-----AREA-----PEAK-TpeakDate hh:mm-----R.V.-R.C.
00160: ADD HYD 09:Trail 551.05 6.517 No date 11:15 91.55 n/a
00161: + 10:6071 25.50 .797 No date 4:15 38.11 n/a
00162: [DT= 5.00] SUM= 11:NodeB 576.55 6.520 No date 11:15 89.18 n/a
00163: *****
00164: 001:0016-----ID:NHYD-----AREA-----PEAK-TpeakDate hh:mm-----R.V.-R.C.
00165: SAVE HYD 11:NodeB 576.55 6.520 No date 11:15 89.18 n/a
00166: fname :C:\218-2659\030420-1\PRE-DE-1\H-NodeB.001
00167: remark:NodeB
00168: *****
00169: 001:0017-----FINISH-----
00170: *****
00171: *****
00172: *****

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WARNINGS / ERRORS / NOTES

Simulation ended on 2012-04-03 at 11:14:00

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00001>
00002>
00003> SSSSS W W M M H H Y Y M M O O 999 999
00004> S W W M M M H H Y Y M M O O 999 999 Ver. 4.02
00005> SSSSS W W M M M H H H Y Y M M O O 9999 9999 July 1999
00006> S W W M M M H H Y Y M M O O 999 999
00007> SSSSS W W M M M H H Y Y M M O O 999 999
00008> StormWater Management Hydrologic Model
00009> 999 999
00010>
00011> ***** SWHYMO-99 Ver/4.02 *****
00012> ***** A single event and continuous hydrologic simulation model *****
00013> ***** based on the principles of HYMO and its successors *****
00014> ***** OTHYMO-83 and OTHYMO-89 *****
00015> *****
00016> ***** Distributed by: J.F. Sabourin and Associates Inc. *****
00017> *****
00018> ***** Ottawa, Ontario: (613) 727-5199 *****
00019> ***** Gatineau, Quebec: (819) 243-6858 *****
00020> ***** E-Mail: sws@hydrologica.com *****
00021> *****
00022> *****
00023> *****
00024> ***** Licensed user: C.F. Crozier & Associates Inc *****
00025> ***** SERIAL# 3737016 *****
00026> *****
00027> *****
00028> *****
00029> ***** PROGRAM ARRAY DIMENSIONS *****
00030> ***** Maximum value for 10 numbers : 10 *****
00031> ***** Max. number of rainfall points: 15000 *****
00032> ***** Max. number of flow points : 15000 *****
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> ***** PEAK: Peak flow of simulated hydrograph, (ft3/s) or (m3/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> ***** SUMMARY OUTPUT *****
00054> *****
00055> ***** DATE: 2012-04-03 TIME: 11:15:32 RUN COUNTER: 000233 *****
00056> *****
00057> ***** Input filename: C:\218-2659\030420-1\PRE-DE-1\Reg_pre.dat *****
00058> ***** Output filename: C:\218-2659\030420-1\PRE-DE-1\Reg_pre.out *****
00059> ***** Summary filename: C:\218-2659\030420-1\PRE-DE-1\Reg_pre.sum *****
00060> ***** User comments: *****
00061> *****
00062> *****
00063> *****
00064> *****
00065> *****
00066> *****
00067> *****
00068> ***** Project Name: [Eden Oak] Project Number: [218-2659] *****
00069> ***** Date : 05-26-2006 *****
00070> ***** Updated : 04-03-2012 *****
00071> ***** Modeller : [J.Proctor] *****
00072> ***** Company : C.F. Crozier & Associates Inc. *****
00073> ***** License # : 3737016 *****
00074> *****
00075> ***** RUN:COMMAND *****
00076> ***** 001:000 *****
00077> ***** START *****
00078> ***** [TZERO = .00 hrs on 0] *****
00079> ***** [METOUT= 2 (1=imperial, 2=metric output)] *****
00080> ***** [NUTORM= 0] *****
00081> ***** [NRUN = 1] *****
00082> ***** *****
00083> ***** *****
00084> ***** *****
00085> ***** *****
00086> ***** *****
00087> ***** *****
00088> ***** 001:000 *****
00089> ***** READ STORM *****
00090> ***** Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\tim.STM *****
00091> ***** Comment = Timmins Storm Event *****
00092> ***** [SOT-60.00:SDUR= 12.00:PTOT= 193.00] *****
00093> ***** *****
00094> ***** *****
00095> ***** *****
00096> ***** *****
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00134> ***** *****
00135> ***** *****

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00136> 001:0011-----ID:NHYD-----AREA-----QPEAK-TpeakDate hh:mm-----R.V.-R.C.
00137> READ HYD 08:tim6 489.80 13.332 No date 15:30 194.65 n/a
00138> Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\tim6.HYD
00139> Comment = Timmins 15-min storm hydrograph at ID606
00140> *****
00141> *****
00142> *****
00143> *****
00144> *****
00145> *****
00146> *****
00147> *****
00148> *****
00149> *****
00150> *****
00151> *****
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00165> *****
00166> *****
00167> *****
00168> *****
00169> *****
00170> *****
00171> *****
00172> *****

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00001> *****
00002>
00003> SSSSS W W M M H H Y Y M M O O 999 999 *****
00004> S W W W M M M H H Y Y M M O O 9 9 9 9 Ver 4.05
00005> SSSSS W W M M M H H H Y Y M M O O 9999 9999 Sept 2011
00006> S W W M M H H Y Y M M O O 9 9 9
00007> SSSSS W W M M H H Y Y M M O O 9 9 9 # 3737016
00008>
00009> StormWater Management Hydrologic Model 999 999 *****
00010>
00011> ***** SWMMHYMO Ver/4.05 *****
00012>
00013> ***** A single event and continuous hydrologic simulation model *****
00014> ***** based on the principles of HYMO and its successors *****
00015> ***** OTHHYMO-8) and OTHHYMO-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: swmhyo@jfsa.com *****
00021>
00022> *****
00023> ***** Licensed user: C.F. Crozier & Associates Inc. *****
00024> ***** Collingwood SERIAL#:3737016 *****
00025> *****
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, (ft3/s) or (m3/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> ***** SUMMARY OUTPUT *****
00054> *****
00055> ***** DATE: 2014-08-29 TIME: 17:11:29 RUN COUNTER: 000307 *****
00056> *****
00057> ***** Input filename: C:\SWMMHYMO\PROJECTS\POSTUN-1\25mm_uc.dat *****
00058> ***** Output filename: C:\SWMMHYMO\PROJECTS\POSTUN-1\25mm_uc.out *****
00059> ***** Summary filename: C:\SWMMHYMO\PROJECTS\POSTUN-1\25mm_uc.sum *****
00060> ***** User comments: *****
00061> *****
00062> *****
00063> *****
00064> *****
00065> *****
00066> *****
00067> *****
00068> ***** Project Name: [EDEN OAK] Project Number: [218-2659] *****
00069> ***** # Date : 05-26-2006 *****
00070> ***** # Modified : 08 29 2014 *****
00071> ***** # Modeller : [J.Proctor, B.Hummelen] *****
00072> ***** # Company : C.F. Crozier & Associates Inc. *****
00073> ***** # License # : 3737016 *****
00074> *****
00075> ***** RUN:COMMAND *****
00076> ***** 001:0001 *****
00077> ***** START *****
00078> ***** [TZERO = .00 hrs on 0] *****
00079> ***** [METOUT= 2 (1=imperial, 2=metric output)] *****
00080> ***** [NSTORM= 0] *****
00081> ***** [NRUN = 1] *****
00082> *****
00083> ***** ***** COMBINED POST-DEVELOPMENT UNCONTROLLED - 25mm Event *****
00084> *****
00085> ***** # Rainfall Depths per MTO - Basins East of Collingwood *****
00086> ***** # 6 hour Kifer Chu Chicago Rainfall Distribution *****
00087> *****
00088> *****
00089> ***** 001:0002 *****
00090> ***** READ STORM *****
00091> ***** Filename = 25mm.stm *****
00092> ***** Comment = *****
00093> ***** [SDT=60.00:SDUR= 6.00:PTOT= 25.00] *****
00094> ***** ***** QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1) *****
00095> ***** 001:0003 *****
00096> ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate_hh:mm ***** R.V. *****
00097> ***** READ HYD ***** 01:25mm7 ***** 178.10 ***** 1.952 No_date 3:15 28.08 *****
00098> ***** Filename = C:\SWMMHYMO\PROJECTS\POSTUN-1\25mm7.hyd *****
00099> ***** Comment = 25-mm 15-min storm hydrograph at ID702 new *****
00100> ***** ***** SPILL FLOW TO W/C *****
00101> ***** 001:0004 *****
00102> ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate_hh:mm ***** R.V. *****
00103> ***** DIVERG HYD ***** 01:25mm7 ***** 178.10 ***** 1.952 No_date 3:15 28.08 *****
00104> ***** diverted <= 09H-702 ***** 178.10 ***** 1.952 No_date 3:15 28.08 *****
00105> ***** diverted <= 02H-600 ***** .00 ***** .000 No_date 0:00 .00 *****
00106> ***** ***** EDEN OAK SITE 6062 *****
00107> ***** 001:0005 *****
00108> ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate_hh:mm ***** R.V. *****
00109> ***** CALIB STANDHYD ***** 03:6062 ***** 13.50 ***** .206 No_date 3:00 8.55 *****
00110> ***** [XIMP= 29:TIMP=46] *****
00111> ***** [LOSS= 2 :CN= 56.6] *****
00112> ***** [Pervious area: IAper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP= .0] *****
00113> ***** [Impervious area: IAimp= 2.00:SLPI=1.20:LGI= 300.:MNI=.013:SCI= .0] *****
00114> ***** ***** EXISTING TYROLEAN 6063 *****
00115> ***** 001:0006 *****
00116> ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate_hh:mm ***** R.V. *****
00117> ***** CALIB NASHHYD ***** 04:6063 ***** 26.30 ***** .063 No_date 3:30 1.83 *****
00118> ***** [CN= 64.0: N= 3.00] *****
00119> ***** [Tp= .65:DT= 5.00] *****
00120> ***** ***** BMR SITE 6064 *****
00121> ***** 001:0007 *****
00122> ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate_hh:mm ***** R.V. *****
00123> ***** CALIB STANDHYD ***** 05:6064 ***** 7.50 ***** .095 No_date 3:00 7.52 *****
00124> ***** [XIMP= 25:TIMP=45] *****
00125> ***** [LOSS= 2 :CN= 52.1] *****
00126> ***** [Pervious area: IAper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP= .0] *****
00127> ***** [Impervious area: IAimp= 2.00:SLPI= .50:LGI= 475.:MNI=.013:SCI= .0] *****
00128> ***** ***** BUCKNER SITE 6065 *****
00129> ***** 001:0008 *****
00130> ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate_hh:mm ***** R.V. *****
00131> ***** CALIB STANDHYD ***** 06:6065 ***** 5.60 ***** .071 No_date 3:00 7.82 *****
00132> ***** [XIMP= 22:TIMP=47] *****
00133> ***** [LOSS= 2 :CN= 61.0] *****
00134> ***** [Pervious area: IAper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP= .0] *****
00135> ***** [Impervious area: IAimp= 2.00:SLPI= .50:LGI= 360.:MNI=.013:SCI= .0] *****
00136> ***** ***** ADD AREAS 6062 = 6065 *****
00137> ***** 001:0009 *****
00138> ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate_hh:mm ***** R.V. *****
00139> ***** ADD HYD ***** 02:H=600 ***** .00 ***** .000 No_date 0:00 .00 *****
00140> ***** + 03:6062 ***** 13.50 ***** .206 No_date 3:00 8.55 *****
00141> ***** + 04:6063 ***** 26.30 ***** .063 No_date 3:30 1.83 *****
00142> ***** + 05:6064 ***** 7.50 ***** .095 No_date 3:00 7.52 *****
00143> ***** + 06:6065 ***** 5.60 ***** .071 No_date 3:00 7.82 *****

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00136> [DT= 5.00] SUM= 07:GTRAIL 52.90 .405 No_date 3:00 4.99
00137> 001:0010 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate_hh:mm ***** R.V. *****
00138> SAVE HYD ***** 07:GTRAIL ***** 52.90 ***** .405 No_date 3:00 4.99 *****
00139> filename : C:\SWMMHYMO\PROJECTS\POSTUN-1\H-GTRAIL.001 *****
00140> remark:NodeA *****
00141> ***** QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 6061) *****
00142> 001:0011 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate_hh:mm ***** R.V. *****
00143> READ HYD ***** 08:25mm6 ***** 489.80 ***** 1.437 No_date 12:45 28.19 *****
00144> filename = C:\SWMMHYMO\PROJECTS\POSTUN-1\25mm6.HYD *****
00145> Comment = 25-mm 15-min storm hydrograph at ID606 *****
00146> ***** TOTAL UNCONTROLLED-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL *****
00147> 001:0012 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate_hh:mm ***** R.V. *****
00148> ADD HYD ***** 07:GTRAIL ***** 52.90 ***** .405 No_date 3:00 4.99 *****
00149> + 08:25mm6 ***** 489.80 ***** 1.437 No_date 12:45 28.19 *****
00150> [DT= 5.00] SUM= 09:Trail 542.70 1.437 No_date 12:45 25.93
00151> 001:0013 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate_hh:mm ***** R.V. *****
00152> SAVE HYD ***** 09:Trail ***** 542.70 ***** 1.437 No_date 12:45 25.93 *****
00153> filename : C:\SWMMHYMO\PROJECTS\POSTUN-1\H-Trail.001 *****
00154> remark:Trail *****
00155> ***** AREA 6071 *****
00156> 001:0014 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate_hh:mm ***** R.V. *****
00157> CALIB NASHHYD ***** 10:6071 ***** 25.50 ***** .044 No_date 4:30 2.19 *****
00158> [CN= 68.8: N= 3.00] *****
00159> [Tp= 1.36:DT= 1.00] *****
00160> ***** TOTAL UNCONTROLLED-DEVELOPMENT FLOW TO HWY 26 *****
00161> 001:0015 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate_hh:mm ***** R.V. *****
00162> ADD HYD ***** 09:Trail ***** 542.70 ***** 1.437 No_date 12:45 25.93 *****
00163> + 10:6071 ***** 25.50 ***** .044 No_date 4:30 2.19 *****
00164> [DT= 5.00] SUM= 03:NodeB 568.20 1.437 No_date 12:45 24.86
00165> 001:0016 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate_hh:mm ***** R.V. *****
00166> SAVE HYD ***** 03:NodeB ***** 568.20 ***** 1.437 No_date 12:45 24.86 *****
00167> filename : C:\SWMMHYMO\PROJECTS\POSTUN-1\H-NodeB.001 *****
00168> remark:NodeB *****
00169> 001:0017 *****
00170> FINISH *****
00171> *****
00172> *****
00173> ***** WARNINGS / ERRORS / NOTES *****
00174> *****
00175> ***** Simulation ended on 2014-08-29 at 17:11:29 *****
00176> *****
00177> *****
00178> *****

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00001> *****
00002> SSSSS W W M M M H Y Y M M O O O 999 999 *****
00003> S W W W M M M H H Y Y M M O O O 9 9 9 9 Ver 4.05
00004> SSSSS W W W M M M H H Y Y M M O O O 999 999 Sept 2011
00005> S W W M M H H Y Y M M O O O 9 9 9 9 # 3737016
00006> SSSSS W W M M M H H Y Y M M O O O 999 999 *****
00007> StormWater Management HYdrologic Model
00008>
00009> *****
00010> ***** SWMMHYMO Ver4.05 *****
00011> ***** A single event and continuous hydrologic simulation model *****
00012> ***** based on the principles of HYMO and its successors *****
00013> ***** OTTHYMO-83 and OTTHYMO-89 *****
00014> *****
00015> ***** Distributed by: J.P. Sahourian and Associates Inc. *****
00016> ***** Ottawa, Ontario: (613) 836-3884 *****
00017> ***** Gatineau, Quebec: (819) 243-6858 *****
00018> ***** E-Mail: swmhyom@jfas.com *****
00019> *****
00020> *****
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, (ft3/s) or (m3/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> ***** SUMMARY OUTPUT *****
00053> *****
00054> ***** DATE: 2014-08-29 TIME: 17:12:47 RUN COUNTER: 000310 *****
00055> *****
00056> ***** * Input filename: C:\SWMMHYMO\PROJECTS\POSTUN-1\2yr_uc.dat *****
00057> ***** * Output filename: C:\SWMMHYMO\PROJECTS\POSTUN-1\2yr_uc.out *****
00058> ***** * Summary filename: C:\SWMMHYMO\PROJECTS\POSTUN-1\2yr_uc.sum *****
00059> ***** * User comments: *****
00060> *****
00061> *****
00062> *****
00063> *****
00064> *****
00065> *****
00066> *****
00067> *****
00068> ***** Project Name: [EDEN OAK] Project Number: [218-2659] *****
00069> ***** Date : 05-26-2006 *****
00070> ***** Modified : 08 29 2014 *****
00071> ***** Modeller : [J.Prococr, B.Mumelen] *****
00072> ***** Company : C.F. Crozier & Associates Inc. *****
00073> ***** License # : 3737016 *****
00074> *****
00075> ***** RUN:COMMAND *****
00076> ***** 001:0001 *****
00077> ***** START *****
00078> ***** [TZERO = .00 hrs on 0] *****
00079> ***** [METOUT= 2 (1=imperial, 2=metric output)] *****
00080> ***** [NSTORM= 0] *****
00081> ***** [NRUN = 1] *****
00082> *****
00083> ***** *****COMBINED POST-DEVELOPMENT UNCONTROLLED - 2 Year Event *****
00084> *****
00085> ***** Rainfall Depths per MRO - Basins East of Collingwood *****
00086> ***** # 6 hour Kifer Chu Chicago Rainfall Distribution *****
00087> *****
00088> ***** 001:0002 *****
00089> ***** READ STORM *****
00090> ***** Filename = 2yr.stm *****
00091> ***** Comment *****
00092> ***** [SDT=60.00:SDUR= 6.00:PTOT= 37.90] *****
00093> ***** ***** QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1) *****
00094> ***** 001:0003 ***** AREA= 2.893 No_date 3:15 40.70 *****
00095> ***** READ HYD ***** ID:NHYD ***** QPEAK-TpeakDate hh:mm *****
00096> ***** Filename = C:\SWMMHYMO\PROJECTS\POSTUN-1\2yr7.hyd *****
00097> ***** Comment = 2-Year 15-min storm hydrograph at ID702 new *****
00098> ***** ***** SPILL FLOW TO W/C 6 *****
00099> ***** 001:0004 ***** ID:NHYD ***** AREA= 2.893 No_date 3:15 40.70 *****
00100> ***** DIVERT HYD ***** ID:NHYD ***** QPEAK-TpeakDate hh:mm *****
00101> ***** diverted <= 03:18-7022 ***** 178.10 2.893 No_date 3:15 40.70 *****
00102> ***** diverted <= 03:18-600 ***** .00 .000 No_date 0:00 .00 *****
00103> ***** ***** EDEN OAK SITE 6062 *****
00104> ***** 001:0005 ***** ID:NHYD ***** AREA= 13.50 ***** QPEAK-TpeakDate hh:mm *****
00105> ***** CALIB STANDHYD ***** 03:6062 ***** 13.50 .366 No_date 3:00 14.94 *****
00106> ***** [XIMP=.29:TIMP=.46] *****
00107> ***** [LOSS= 2 :CN= 56.6] *****
00108> ***** [Pervious area: IAper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP=.0] *****
00109> ***** [Impervious area: IAimp= 2.00:SLPI=1.20:LGI= 300.:MNI=.013:SCI=.0] *****
00110> ***** ***** EXISTING TYROLEAN 6063 *****
00111> ***** 001:0006 ***** ID:NHYD ***** AREA= 26.30 ***** QPEAK-TpeakDate hh:mm *****
00112> ***** CALIB NASHYD ***** 04:6063 ***** 26.30 .189 No_date 3:25 5.21 *****
00113> ***** [CN= 64.0: N= 3.00] *****
00114> ***** [Tp= .65:D7= 5.00] *****
00115> ***** ***** BMR SITE 6064 *****
00116> ***** 001:0007 ***** ID:NHYD ***** AREA= 7.50 ***** QPEAK-TpeakDate hh:mm *****
00117> ***** CALIB STANDHYD ***** 05:6064 ***** 7.50 .169 No_date 3:00 13.25 *****
00118> ***** [XIMP=.25:TIMP=.45] *****
00119> ***** [LOSS= 2 :CN= 52.1] *****
00120> ***** [Pervious area: IAper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP=.0] *****
00121> ***** [Impervious area: IAimp= 2.00:SLPI= .50:LGI= 475.:MNI=.013:SCI=.0] *****
00122> ***** ***** BECKER SITE 6065 *****
00123> ***** 001:0008 ***** ID:NHYD ***** AREA= 5.60 ***** QPEAK-TpeakDate hh:mm *****
00124> ***** CALIB STANDHYD ***** 06:6065 ***** 5.60 .139 No_date 3:00 14.31 *****
00125> ***** [XIMP=.22:TIMP=.47] *****
00126> ***** [LOSS= 2 :CN= 61.0] *****
00127> ***** [Pervious area: IAper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP=.0] *****
00128> ***** [Impervious area: IAimp= 2.00:SLPI= .50:LGI= 360.:MNI=.013:SCI=.0] *****
00129> ***** ***** ADD AREAS 6062 - 6065 *****
00130> ***** 001:0009 ***** ID:NHYD ***** AREA= 0.00 ***** QPEAK-TpeakDate hh:mm *****
00131> ***** ADD HYD ***** 02:600 ***** 0.00 .000 No_date 0:00 .00 *****
00132> ***** + 03:6062 ***** 13.50 .366 No_date 3:00 14.94 *****
00133> ***** + 04:6063 ***** 26.30 .189 No_date 3:25 5.21 *****
00134> ***** + 05:6064 ***** 7.50 .169 No_date 3:00 13.25 *****
00135> ***** + 06:6065 ***** 5.60 .139 No_date 3:00 14.31 *****

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00136> [DT= 5.00] SUM= 07:GTRAIL 52.90 793 No_date 3:00 9.79
00137> 001:0010 ***** ID:NHYD ***** AREA= ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00138> SAVE HYD ***** 07:GTRAIL 52.90 793 No_date 3:00 9.79 *****
00139> ***** fname :C:\SWMMHYMO\PROJECTS\POSTUN-1\H-GTRAIL.001 *****
00140> ***** remark:NodeA *****
00141> ***** ***** QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 6061) *****
00142> ***** 001:0011 ***** ID:NHYD ***** AREA= ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00143> READ HYD ***** 08:2yr6 489.80 2.258 No_date 12:30 40.82 *****
00144> ***** Filename = C:\SWMMHYMO\PROJECTS\POSTUN-1\2yr6.HYD *****
00145> ***** Comment = 2-Year 15-min storm hydrograph at ID606 *****
00146> ***** ***** TOTAL UNCONTROLLED-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL *****
00147> ***** 001:0012 ***** ID:NHYD ***** AREA= ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00148> ADD HYD ***** 07:GTRAIL 52.90 793 No_date 3:00 9.79 *****
00149> ***** + 08:2yr6 489.80 2.258 No_date 12:30 40.82 *****
00150> [DT= 5.00] SUM= 09:Trail 542.70 2.258 No_date 12:35 37.79 *****
00151> ***** 001:0013 ***** ID:NHYD ***** AREA= ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00152> SAVE HYD ***** 09:Trail 542.70 2.258 No_date 12:35 37.79 *****
00153> ***** fname :C:\SWMMHYMO\PROJECTS\POSTUN-1\H-Trail.001 *****
00154> ***** remark:Trail *****
00155> ***** ***** AREA 6071 *****
00156> ***** 001:0014 ***** ID:NHYD ***** AREA= ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00157> CALIB NASHYD ***** 10:6071 ***** 25.50 .128 No_date 4:20 6.16 *****
00158> ***** [CN= 68.0: N= 3.00] *****
00159> ***** [Tp= 1.36:D7= 5.00] *****
00160> ***** ***** TOTAL UNCONTROLLED-DEVELOPMENT FLOW TO HWY 26 *****
00161> ***** 001:0015 ***** ID:NHYD ***** AREA= ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00162> ADD HYD ***** 09:Trail 542.70 2.258 No_date 12:35 37.79 *****
00163> ***** + 10:6071 25.50 .128 No_date 4:20 6.16 *****
00164> [DT= 5.00] SUM= 03:NodeB 568.20 2.258 No_date 12:30 36.37 *****
00165> ***** 001:0016 ***** ID:NHYD ***** AREA= ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00166> SAVE HYD ***** 03:NodeB 568.20 2.258 No_date 12:30 36.37 *****
00167> ***** fname :C:\SWMMHYMO\PROJECTS\POSTUN-1\H-NodeB.001 *****
00168> ***** remark:NodeB *****
00169> *****
00170> *****
00171> *****
00172> *****
00173> ***** WARNINGS / ERRORS / NOTES *****
00174> *****
00175> ***** Simulation ended on 2014-08-29 at 17:12:48 *****
00176> *****
00177> *****
00178> *****

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00001> *****
00002>
00003> SSSSS W W W M M H H Y Y M M O O O 999 999 *****
00004> S W W W M M M H H Y Y M M O O 9 9 9 9 Ver 4.05
00005> SSSSS W W W M M M H H H Y Y M M O O 9999 9999 Sept 2011
00006> S W W M M H H Y M M O O 9 9 9 9
00007> SSSSS W W W M M H H Y M M O O 9 9 9 9
00008>
00009> StormWater Management Hydrologic Model 999 999 *****
00010>
00011> *****
00012> ***** SWHYMO Ver/4.05 *****
00013> ***** A single event and continuous hydrologic simulation model *****
00014> ***** based on the principles of HYMO and its successors *****
00015> ***** OTHYMO-83 and OTHYMO-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: swmhyom@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, (ft3/s) or (m3/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> ***** SUMMARY OUTPUT *****
00054> *****
00055> ***** DATE: 2014-08-29 TIME: 17:13:36 RUN COUNTER: 000312 *****
00056> *****
00057> ***** Input filename: C:\SWHYMO\PROJECTS\POSTUN-1\5yr uc.dat *****
00058> ***** Output filename: C:\SWHYMO\PROJECTS\POSTUN-1\5yr uc.out *****
00059> ***** Summary filename: C:\SWHYMO\PROJECTS\POSTUN-1\5yr uc.sum *****
00060> ***** User comments: *****
00061> ***** 1: *****
00062> ***** 2: *****
00063> ***** 3: *****
00064> *****
00065> *****
00066> *****
00067> *****
00068> ***** Project Name: [EDEN OAK] Project Number: [218-2659] *****
00069> ***** Date : 05-26-2006 *****
00070> ***** Modified : 09 29 2014 *****
00071> ***** Modeller : [J.Proctor, B.Hummelen] *****
00072> ***** Company : C.F. Crozier & Associates Inc. *****
00073> ***** License # : 3737016 *****
00074> *****
00075> ***** RUN:COMMAND *****
00076> ***** 001:0001 *****
00077> ***** START *****
00078> ***** [TZERO = .00 hrs on 0] *****
00079> ***** [METOUT= 2 (1=imperial, 2=metric output)] *****
00080> ***** [NSTORM= 0] *****
00081> ***** [NRUN = 1] *****
00082> *****
00083> ***** *****COMBINED POST-DEVELOPMENT UNCONTROLLED - 5 Year Event *****
00084> *****
00085> ***** # Rainfall Depths per MTO - Basins East of Collingwood *****
00086> ***** # 6 hour Kier Chu Chicago Rainfall Distribution *****
00087> *****
00088> ***** 001:0002 *****
00089> ***** READ STORM *****
00090> ***** Filename = 5yr.stm *****
00091> ***** *****
00092> ***** [SDT=60.0:SDUR= 6.00:PTOT= 52.70] *****
00093> ***** ***** QHM HYDROGRAPH FROM WATERSHED 7 (701, 702,1) *****
00094> ***** 001:0003 ***** AREA ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00095> ***** READ HYD ***** 01:5yr7 ***** 178.10 ***** 3.943 No_date 3:30 55.24 *****
00096> ***** Filename = C:\SWHYMO\PROJECTS\POSTUN-1\5yr7.hyd *****
00097> ***** Comment = 5-year 15-min storm hydrograph at ID702 new *****
00098> ***** *****
00099> ***** 001:0004 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00100> ***** DIVERT HYD ***** 01:5yr7 ***** 178.10 ***** 3.943 No_date 3:30 55.24 *****
00101> ***** diverted <= 02:H-702 ***** 178.10 ***** 3.943 No_date 3:30 55.24 *****
00102> ***** diverted <= 02:H-600 ***** .00 ***** .000 No_date 0:00 .00 *****
00103> ***** ***** EDEN OAK SITE 6062 *****
00104> ***** 001:0005 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00105> ***** CALIB STANDHYD ***** 03:6062 ***** 13.50 ***** .589 No_date 3:00 23.32 *****
00106> ***** [XIMP=.25:TIMP=.46] *****
00107> ***** [LOSS= 2 :CN= 56.6] *****
00108> ***** [Pervious area: Iaper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP= .0] *****
00109> ***** [Impervious area: Iaimp= 2.00:SLPI=1.20:LGI= 300.:MNI=.013:SCI= .0] *****
00110> ***** ***** EXISTING TYROLEAN 6063 *****
00111> ***** 001:0006 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00112> ***** CALIB NASHYD ***** 04:6063 ***** 26.30 ***** .386 No_date 3:25 10.69 *****
00113> ***** [CN= 64.0: N= 3.00] *****
00114> ***** [Tp= .65:DT= 5.00] *****
00115> ***** ***** BMR SITE 6064 *****
00116> ***** 001:0007 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00117> ***** CALIB STANDHYD ***** 05:6064 ***** 7.50 ***** .267 No_date 3:00 20.86 *****
00118> ***** [XIMP=.25:TIMP=.45] *****
00119> ***** [LOSS= 2 :CN= 52.1] *****
00120> ***** [Pervious area: Iaper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP= .0] *****
00121> ***** [Impervious area: Iaimp= 2.00:SLPI= .50:LGI= 475.:MNI=.013:SCI= .0] *****
00122> ***** ***** BECKER SITE 6065 *****
00123> ***** 001:0008 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00124> ***** CALIB STANDHYD ***** 06:6065 ***** 5.60 ***** .231 No_date 3:00 23.03 *****
00125> ***** [XIMP=.22:TIMP=.47] *****
00126> ***** [LOSS= 2 :CN= 61.0] *****
00127> ***** [Pervious area: Iaper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP= .0] *****
00128> ***** [Impervious area: Iaimp= 2.00:SLPI= .50:LGI= 360.:MNI=.013:SCI= .0] *****
00129> ***** ***** ADD AREAS 6062 - 6065 *****
00130> ***** 001:0009 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00131> ***** ADD HYD ***** 02:H-600 ***** .00 ***** .000 No_date 0:00 .00 *****
00132> ***** + 03:6062 ***** 13.50 ***** .589 No_date 3:00 23.32 *****
00133> ***** + 04:6063 ***** 26.30 ***** .386 No_date 3:25 10.69 *****
00134> ***** + 05:6064 ***** 7.50 ***** .267 No_date 3:00 20.86 *****
00135> ***** + 06:6065 ***** 5.60 ***** .231 No_date 3:00 23.03 *****

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00136> [DT= 5.00] SUM= 07:GTRAIL 52.90 1.350 No_date 3:00 16.66
00137> 001:0010 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00138> SAVE HYD ***** 07:GTRAIL ***** 52.90 1.350 No_date 3:00 16.66 *****
00139> ***** filename : C:\SWHYMO\PROJECTS\POSTUN-1\H-GTRAIL.001 *****
00140> ***** remark:NodeA *****
00141> ***** -1-QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 606) *****
00142> 001:0011 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00143> READ HYD ***** 08:5yr6 ***** 489.80 3.312 No_date 12:00 55.37 *****
00144> ***** filename = C:\SWHYMO\PROJECTS\POSTUN-1\5yr6.HYD *****
00145> ***** Comment = 5-Year 15-min storm hydrograph at ID606 *****
00146> ***** -1-TOTAL UNCONTROLLED-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL *****
00147> 001:0012 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00148> ADD HYD ***** 07:GTRAIL ***** 52.90 1.350 No_date 3:00 16.66 *****
00149> ***** + 08:5yr6 ***** 489.80 3.312 No_date 12:00 55.37 *****
00150> [DT= 5.00] SUM= 09:Trail 542.70 3.312 No_date 12:00 51.60 *****
00151> 001:0013 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00152> SAVE HYD ***** 09:Trail ***** 542.70 3.312 No_date 12:00 51.60 *****
00153> ***** filename : C:\SWHYMO\PROJECTS\POSTUN-1\H-Trail.001 *****
00154> ***** remark:Trail *****
00155> *****
00156> 001:0014 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00157> CALIB NASHYD ***** 10:6071 ***** 25.50 ***** .259 No_date 4:20 12.50 *****
00158> ***** [CN= 68.8: N= 3.00] *****
00159> ***** [Tp= 1.36:DT= 5.00] *****
00160> ***** ***** -1-TOTAL UNCONTROLLED-DEVELOPMENT FLOW TO HWY 26 *****
00161> 001:0015 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00162> ADD HYD ***** 09:Trail ***** 542.70 3.312 No_date 12:00 51.60 *****
00163> ***** + 10:6071 ***** 25.50 ***** .259 No_date 4:20 12.50 *****
00164> [DT= 5.00] SUM= 03:NodeB 568.20 3.312 No_date 12:00 49.84 *****
00165> 001:0016 ***** ID:NHYD ***** AREA ***** QPEAK-TpeakDate hh:mm ***** R.V. *****
00166> SAVE HYD ***** 03:NodeB ***** 568.20 3.312 No_date 12:00 49.84 *****
00167> ***** filename : C:\SWHYMO\PROJECTS\POSTUN-1\H-NodeB.001 *****
00168> ***** remark:NodeB *****
00169> *****
00170> ***** FINISH *****
00171> *****
00172> *****
00173> ***** WARNINGS / ERRORS / NOTES *****
00174> *****
00175> ***** Simulation ended on 2014-08-29 at 17:13:37 *****
00176> *****
00177> *****
00178> *****

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00001> =====
00002>
00003> SSSSS W W M M H H Y Y M M O O 999 999
00004> S W W W M M M H H Y Y M M O O 9 9 9 9
00005> SSSSS W W M M M H H H Y Y M M O O # 9 9 9 9 Ver 4.05
00006> S W M M M H Y M M O O 9999 9999 Sept 2011
00007> SSSSS W W M M H H Y Y M M O O 9 9 9 9
00008> 9 9 9 9 # 3737016
00009> StormWater Management Hydrologic Model 999 999
00010>
00011> =====
00012> SWHYMO Ver/4.05
00013> ***** A single event and continuous hydrologic simulation model *****
00014> ***** based on the principles of HYMO and its successors *****
00015> ***** OTTHMO-83 and OTTHMO-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: swmhyom@fsa.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 number : 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, (ft3/s) or (m3/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> ***** SUMMARY OUTPUT *****
00054> *****
00055> ***** DATE: 2014-08-29 TIME: 17:10:55 RUN COUNTER: 000306 *****
00056> *****
00057> ***** Input filename: C:\SWHYMO\PROJECTS\POSTUN-1\10yr uc.dat *****
00058> ***** Output filename: C:\SWHYMO\PROJECTS\POSTUN-1\10yr uc.out *****
00059> ***** Summary filename: C:\SWHYMO\PROJECTS\POSTUN-1\10yr uc.sum *****
00060> *****
00061> ***** User comments: *****
00062> ***** 1: *****
00063> ***** 2: *****
00064> ***** 3: *****
00065> *****
00066> *****
00067> *****
00068> ***** Project Name: [EDEN OAK] Project Number: [218-2659] *****
00069> ***** Date : 05-26-2006 *****
00070> ***** Modified : 08 29 2014 *****
00071> ***** Modeller : [J.Proctor, B.Hummelen] *****
00072> ***** Company : C.F. Crozier & Associates Inc. *****
00073> ***** License # : 3737016 *****
00074> *****
00075> ***** RUN:COMMAND *****
00076> ***** 001:0001 *****
00077> ***** START *****
00078> ***** [TEERO = .00 hrs on 0] *****
00079> ***** [METOUT= 2 [1=imperial, 2=metric output]] *****
00080> ***** [NFORM= 0] *****
00081> ***** [NRUN= 1] *****
00082> *****
00083> ***** COMBINED POST-DEVELOPMENT UNCONTROLLED - 10 Year Event *****
00084> *****
00085> ***** Rainfall Depths per HMO - Basins East of Collingwood *****
00086> ***** 6 hour Kifer Chu Chicago Rainfall Distribution *****
00087> *****
00088> ***** 001:0002 *****
00089> ***** READ STORM *****
00090> ***** Filename = 10yr.stm *****
00091> ***** Comment = *****
00092> ***** [SDT=60.00:SDUR= 6.00:PTOT= 66.00] *****
00093> *****
00094> ***** 001:0003 *****
00095> ***** READ HYD *****
00096> ***** File name = C:\SWHYMO\PROJECTS\POSTUN-1\10yr7.hyd *****
00097> ***** Comment = 10-Year 15-min storm hydrograph at ID702 nmw *****
00098> *****
00099> ***** 001:0004 *****
00100> ***** DIVERGENT HYD -> 01:10yr7 *****
00101> ***** diverted <= 09:H-702 *****
00102> ***** diverted <= 02:H-600 *****
00103> *****
00104> ***** 001:0005 *****
00105> ***** CALIB STANDHYD *****
00106> ***** [XIMP=.29:TIMP=.46] *****
00107> ***** [LOSS= 2 :CN= 56.6] *****
00108> ***** [Pervious area: Iaper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP=.0] *****
00109> ***** [Impervious area: Iaimp= 2.00:SLPI=1.20:LGI= 300.:MNI=.013:SCI=.0] *****
00110> *****
00111> ***** 001:0006 *****
00112> ***** CALIB NASHYD *****
00113> ***** [CN= 64.0: N= 3.00] *****
00114> ***** [Tp= .65:DT= 5.00] *****
00115> *****
00116> ***** 001:0007 *****
00117> ***** CALIB STANDHYD *****
00118> ***** [XIMP=.25:TIMP=.45] *****
00119> ***** [LOSS= 2 :CN= 52.1] *****
00120> ***** [Pervious area: Iaper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP=.0] *****
00121> ***** [Impervious area: Iaimp= 2.00:SLPI= .50:LGI= 475.:MNI=.013:SCI=.0] *****
00122> *****
00123> ***** 001:0008 *****
00124> ***** CALIB STANDHYD *****
00125> ***** [XIMP=.22:TIMP=.47] *****
00126> ***** [LOSS= 2 :CN= 61.0] *****
00127> ***** [Pervious area: Iaper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP=.0] *****
00128> ***** [Impervious area: Iaimp= 2.00:SLPI= .50:LGI= 360.:MNI=.013:SCI=.0] *****
00129> *****
00130> ***** 001:0009 *****
00131> ***** ADD HYD *****
00132> ***** + 04:6063 *****
00133> ***** + 05:6064 *****
00134> ***** + 06:6065 *****
00135> ***** [DT= 5.00] SUM= 07:GTRAIL *****
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00136> 001:0010-----ID:NHYD-----AREA-----QPEAK-TpeakDate hh:mm-----R.V.-
00137> SAVE HYD 07:GTRAIL 39.40 1.191 No_date 3:05 21.15
00138> remark:NodeA
00139>
00140> #-----|-----OHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 6061)|
00141> 001:0011-----ID:NHYD-----AREA-----QPEAK-TpeakDate hh:mm-----R.V.-
00142> READ HYD 08:10yr6 489.80 4.241 No_date 11:45 68.48
00143> File name = C:\SWHYMO\PROJECTS\POSTUN-1\10yr6.hyd
00144> Comment = 10 yr- 15-min storm hydrograph at ID606
00145> #-----|-----TOTAL UNCONTROLLED-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL-|
00146> 001:0012-----ID:NHYD-----AREA-----QPEAK-TpeakDate hh:mm-----R.V.-
00147> ADD HYD 07:GTRAIL 39.40 1.191 No_date 3:05 21.15
00148> + 08:10yr6 489.80 4.241 No_date 11:45 68.48
00149> [DT= 5.00] SUM= 09:Trail 529.20 4.241 No_date 11:45 64.95
00150> 001:0013-----ID:NHYD-----AREA-----QPEAK-TpeakDate hh:mm-----R.V.-
00151> SAVE HYD 09:Trail 529.20 4.241 No_date 11:45 64.95
00152> fname :C:\SWHYMO\PROJECTS\POSTUN-1\H-Trail.001
00153> remark:Trail
00154> #-----|-----AREA 6071-----|
00155> 001:0014-----ID:NHYD-----AREA-----QPEAK-TpeakDate hh:mm-----R.V.-
00156> CALIB NASHYD 10:6071 25.50 .408 No_date 4:15 19.42
00157> [CN= 68.8: N= 3.00]
00158> [Tp= 1.36:DT= 5.00]
00159> #-----|-----TOTAL UNCONTROLLED-DEVELOPMENT FLOW TO HWY 26-----|
00160> 001:0015-----ID:NHYD-----AREA-----QPEAK-TpeakDate hh:mm-----R.V.-
00161> ADD HYD 09:Trail 529.20 4.241 No_date 11:45 64.95
00162> + 10:6071 25.50 .408 No_date 4:15 19.42
00163> [DT= 5.00] SUM= 03:NodeB 554.70 4.242 No_date 11:45 62.86
00164> 001:0016-----ID:NHYD-----AREA-----QPEAK-TpeakDate hh:mm-----R.V.-
00165> SAVE HYD 02:H-600 .00 .000 No_date 0:00 .00
00166> fname :C:\SWHYMO\PROJECTS\POSTUN-1\H-H-600.001
00167> remark:NodeB
00168> 001:0017-----
00169> FINISH
00170>
00171> *****
00172> ***** WARNINGS / ERRORS / NOTES *****
00173> *****
00174> ***** Simulation ended on 2014-08-29 at 17:10:56 *****
00175> *****
00176> *****
00177> *****
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00001>
00002>
00003> SSSSS W W M M H H Y Y M M OOO 999 999 *****
00004> S W W W M M M H H Y Y M M O O 9 9 9 9 Ver 4.05
00005> SSSSS W W W M M M H H Y Y M M O O 9999 9999 Sept 2011
00006> S W W M M H H Y Y M M O O 9 9 9 9
00007> SSSSS W W M M H H Y Y M M OOO 9 9 9 9 # 3737016
00008>
00009> StormWater Management Hydrologic Model 999 999 *****
00010>
00011> ***** SWHYMO Ver/4.05 *****
00012> ***** A single event and continuous hydrologic simulation model *****
00013> ***** based on the principles of HYMO and its successors *****
00014> ***** OTHYMO-83 and OTHYMO-89 *****
00015> ***** Distributed by: J.F. Sabourin and Associates Inc. *****
00016> ***** Ottawa, Ontario: (613) 836-3884 *****
00017> ***** Gatineau, Quebec: (819) 243-6858 *****
00018> ***** E-Mail: swmhy89@fna.com *****
00019>
00020>
00021>
00022> *****
00023> ***** Licensed user: C.F. Crozier & Associates Inc. *****
00024> ***** Collingwood SERIAL:3737016 *****
00025> *****
00026> *****
00027> *****
00028> ***** PROGRAM ARRAY DIMENSIONS *****
00029> ***** Maximum value for ID numbers : 10 *****
00030> ***** Max. number of rainfall points: 105408 *****
00031> ***** Max. number of flow points : 105408 *****
00032> *****
00033> *****
00034> ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
00035> ***** ID: Hydrograph Identification numbers, (1-10). *****
00036> ***** NHYD: Hydrograph reference numbers, (6 digits or characters). *****
00037> ***** AREA: Drainage area associated with hydrograph, (ac.) or (ha.). *****
00038> ***** QPEAK: Peak flow of simulated hydrograph, (ft3/s) or (m3/s). *****
00039> ***** PeakDate_hh:mm is the date and time of the peak flow. *****
00040> ***** R.V.: Runoff Volume of simulated hydrograph, (in) or (mm). *****
00041> ***** R.C.: Runoff Coefficient of simulated hydrograph, (ratio). *****
00042> ***** *: see WARNING or NOTE message printed at end of run. *****
00043> ***** **: see ERROR message printed at end of run. *****
00044> *****
00045> *****
00046> *****
00047> *****
00048> *****
00049> *****
00050> *****
00051> *****
00052> *****
00053> ***** SUMMARY OUTPUT *****
00054> *****
00055> ***** DATE: 2014-08-29 TIME: 17:11:46 RUN COUNTER: 000308 *****
00056> *****
00057> ***** Input filename: C:\SWHYMO\PROJECTS\POSTUN-1\25yr uc.dat *****
00058> ***** Output filename: C:\SWHYMO\PROJECTS\POSTUN-1\25yr uc.out *****
00059> ***** Summary filename: C:\SWHYMO\PROJECTS\POSTUN-1\25yr uc.sum *****
00060> ***** User comments: *****
00061> ***** 1: *****
00062> ***** 2: *****
00063> ***** 3: *****
00064> *****
00065> *****
00066> *****
00067> *****
00068> ***** Project Name: [RDEN OAK] Project Number: [218-2659] *****
00069> ***** Date : 05-26-2006 *****
00070> ***** Modified : 08 29 2014 *****
00071> ***** Modeler : [J. Proctor, B. Hummelen] *****
00072> ***** Company : C.F. Crozier & Associates Inc. *****
00073> ***** License # : 3737016 *****
00074> *****
00075> ***** RUN:COMMANDS *****
00076> ***** 001:0001 *****
00077> ***** START *****
00078> ***** [TZERO = .00 hrs on 0] *****
00079> ***** [METOUT = 2 (1=imperial, 2=metric output)] *****
00080> ***** [NSTORM = 0] *****
00081> ***** [NRUN = 1] *****
00082> *****
00083> ***** COMBINED POST-DEVELOPMENT UNCONTROLLED - 25yr Event *****
00084> *****
00085> ***** Rainfall Depths per MTO - Basins East of Collingwood *****
00086> ***** 6 hour Kifer Chu Chicago Rainfall Distribution *****
00087> *****
00088> ***** 001:0002 *****
00089> ***** READ STORM *****
00090> ***** Filename = 25yr.stm *****
00091> ***** Comment *****
00092> ***** [ISD=60.00:SDUR= 6.00:PTOT= 77.90] *****
00093> ***** QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1) *****
00094> ***** 001:0003 *****
00095> ***** READ HYD *****
00096> ***** Filename = C:\SWHYMO\PROJECTS\POSTUN-1\25yr7.hyd *****
00097> ***** Comment *****
00098> ***** = 25-Year 15-min storm hydrograph at ID702 new *****
00099> ***** SPILL FLOW TO W/C 6 *****
00100> ***** 001:0004 *****
00101> ***** DIVERT HYD *****
00102> ***** diverted <= 09:11-7022 *****
00103> ***** diverted <= 02:11-608 *****
00104> ***** RDEN OAK SITE 6062 *****
00105> ***** 001:0005 *****
00106> ***** CALIB STANDHYD *****
00107> ***** [XIMP=.25:TIMP=.45] *****
00108> ***** [LOSS= 2 :CN= 56.6] *****
00109> ***** [Pervious area: IAPER= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP=.0] *****
00110> ***** [Imperious area: IAImp= 2.00:SLPI=1.20:LGI= 300.:MNI=.013:SCI=.0] *****
00111> ***** EXISTING TYROLEAN 6063 *****
00112> ***** 001:0006 *****
00113> ***** CALIB NASHYD *****
00114> ***** [CN= 64.0: N= 3.00] *****
00115> ***** [Tp= .65:DT= 5.00] *****
00116> ***** BMR SITE 6064 *****
00117> ***** 001:0007 *****
00118> ***** CALIB STANDHYD *****
00119> ***** [XIMP=.25:TIMP=.45] *****
00120> ***** [LOSS= 2 :CN= 52.1] *****
00121> ***** [Pervious area: IAPER= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP=.0] *****
00122> ***** [Imperious area: IAImp= 2.00:SLPI= .50:LGI= 475.:MNI=.013:SCI=.0] *****
00123> ***** BECKER SITE 6065 *****
00124> ***** 001:0008 *****
00125> ***** CALIB STANDHYD *****
00126> ***** [XIMP=.22:TIMP=.47] *****
00127> ***** [LOSS= 2 :CN= 61.0] *****
00128> ***** [Pervious area: IAPER= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP=.0] *****
00129> ***** [Imperious area: IAImp= 2.00:SLPI= .50:LGI= 360.:MNI=.013:SCI=.0] *****
00130> ***** ADD AREAS 6062 - 6065 *****
00131> ***** 001:0009 *****
00132> ***** ADD HYD *****
00133> ***** + 03:6062 *****
00134> ***** + 04:6063 *****
00135> ***** + 05:6064 *****
00136> ***** + 06:6065 *****

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00136> [DT= 5.00] SUM= 07:GTRAIL 52.90 2.528 No_date 3:00 30.86
00137> 001:0010 *****
00138> ***** SAVE HYD *****
00139> ***** ID:GTRAIL *****
00140> ***** QPEAK-TpeakDate_hh:mm--R.V. *****
00141> ***** fname :C:\SWHYMO\PROJECTS\POSTUN-1\H-GTRAIL.001 *****
00142> ***** remark:NodeA *****
00143> ***** QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 606) *****
00144> ***** 001:0011 *****
00145> ***** READ HYD *****
00146> ***** ID:NHYD *****
00147> ***** AREA *****
00148> ***** QPEAK-TpeakDate_hh:mm--R.V. *****
00149> ***** ADD HYD *****
00150> ***** 07:GTRAIL *****
00151> ***** 08:25yr6 *****
00152> ***** 52.90 2.528 No_date 3:00 30.86 *****
00153> ***** 504.80 5.142 No_date 11:30 77.86 *****
00154> ***** 557.70 5.142 No_date 11:30 73.40 *****
00155> ***** 09:Trail *****
00156> ***** 001:0012 *****
00157> ***** ID:NHYD *****
00158> ***** AREA *****
00159> ***** QPEAK-TpeakDate_hh:mm--R.V. *****
00160> ***** ADD HYD *****
00161> ***** 09:Trail *****
00162> ***** 557.70 5.142 No_date 11:30 73.40 *****
00163> ***** 504.80 5.142 No_date 11:30 77.86 *****
00164> ***** 583.20 5.144 No_date 11:30 71.35 *****
00165> ***** 583.20 5.144 No_date 11:30 71.35 *****
00166> ***** 03:NodeB *****
00167> ***** 583.20 5.144 No_date 11:30 71.35 *****
00168> ***** fname :C:\SWHYMO\PROJECTS\POSTUN-1\H-NodeB.001 *****
00169> ***** remark:NodeB *****
00170> *****
00171> ***** FINISH *****
00172> *****
00173> ***** WARNINGS / ERRORS / NOTES *****
00174> *****
00175> ***** Simulation ended on 2014-08-29 at 17:11:47 *****
00176> *****
00177> *****
00178> *****

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00001>
00002>
00003> SSSSS W W M M H H Y Y M M O O 999 999
00004> S W W M M M H H Y Y M M O O 9 9 9 9 Ver 4.05
00005> SSSSS W W M M H H Y Y M M O O 9999 9999 Sept 2011
00006> SSSSS W W M M H H Y Y M M O O 9 9 9 9
00007> SSSSS W W M M H H Y Y M M O O 9 9 9 9 3737016
00008>
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> ***** OTHYMO-83 and OTHYMO-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: sunhym@jfsa.com *****
00021>
00022>
00023> ***** Licensed user: C.F. Crozier & Associates Inc. *****
00024> ***** Collingwood *****
00025> ***** SERIAL:3737016 *****
00026>
00027>
00028> ***** PROGRAM ARRAY DIMENSIONS *****
00029> ***** Maximum value for ID numbers : 10 *****
00030> ***** Max. number of rainfall points: 105408 *****
00031> ***** Max. number of flow points : 105408 *****
00032>
00033>
00034> ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
00035>
00036> ***** ID: Hydrograph Identification numbers, (1-10). *****
00037> ***** NHYD: Hydrograph reference numbers, (6 digits or characters). *****
00038> ***** AREA: Drainage area associated with hydrograph, (ac.) or (ha.). *****
00039> ***** QPEAK: Peak flow of simulated hydrograph, (ft3/s) or (m3/s). *****
00040> ***** PeakDate_hh:mm is the date and time of the peak flow. *****
00041> ***** R.V.: Runoff Volume of simulated hydrograph, (in) or (mm). *****
00042> ***** R.C.: Runoff Coefficient of simulated hydrograph, (ratio). *****
00043> ***** *: see WARNING or NOTE message printed at end of run. *****
00044> ***** *: see ERROR message printed at end of run. *****
00045>
00046>
00047>
00048>
00049>
00050>
00051>
00052>
00053> ***** SUMMARY OUTPUT *****
00054>
00055> ***** DATE: 2014-08-29 TIME: 17:13:08 RUN COUNTER: 000311 *****
00056>
00057> * Input filename: C:\SWMHYMO\PROJECTS\POSTUN-1\50yr_uc.dat
00058> * Output filename: C:\SWMHYMO\PROJECTS\POSTUN-1\50yr_uc.out
00059> * Summary filename: C:\SWMHYMO\PROJECTS\POSTUN-1\50yr_uc.sum
00060> * User comments:
00061> * 1:
00062> * 2:
00063> * 3:
00064>
00065>
00066>
00067>
00068> # Project Name: [EDEN OAK] Project Number: [210-2659]
00069> # Date : 05-26-2006
00070> # Modified : 08-29-2014
00071> # Modelled by: [J.F. Crozier, B.Hummel]
00072> # Company : C.F. Crozier & Associates Inc.
00073> # License # : 3737016
00074>
00075> RUN:COMMANDS
00076> 001:0001
00077> START
00078> [TZERO = .00 hrs on 0]
00079> [METOUT = 2 (1=imperial, 2=metric output)]
00080> [NSTORM = 0]
00081> [NRUN = 1]
00082>
00083> ***** COMBINED POST-DEVELOPMENT UNCONTROLLED - 50 Year Event *****
00084>
00085> # Rainfall Depths per MTO Basins East of Collingwood
00086> # 6 hour Kier Chu Chicago Rainfall Distribution
00087>
00088> 001:0002
00089> READ STORM
00090> Filename = 50yr.stm
00091>
00092> [SDT=60.00:SDUR= 6.00:PTOT= 83.90]
00093>
00094> ***** QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1) *****
00095> 001:0003 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00096> READ HYD 01:50yr 178.10 6.442 No_date 3:30 87.56
00097> Filename = C:\SWMHYMO\PROJECTS\POSTUN-1\50yr7.hyd
00098> Comment = 50-Year 15-min storm hydrograph at ID702 new
00099>
00100> ***** SPILL FLOW TO W/C 6 *****
00101> 001:0004 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00102> DIVERT HYD > 01:50yr 178.10 6.442 No_date 3:30 87.56
00103> diverted <= 02:M-7022 176.63 6.000 No_date 3:30 87.56
00104> diverted <= 02:M-600 1.47 .442 No_date 3:30 87.56
00105>
00106> ***** EDEN OAK SITE 6062 *****
00107> 001:0005 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00108> CALIB STANDHYD 03:6062 13.50 1.140 No_date 3:00 43.71
00109> [XIMP=.29:TIMP=.46]
00110> [LOSS= 2 :CN= 56.6]
00111> [Pervious area: IApex= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP= .0]
00112> [Impervious area: IAImp= 2.00:SLPI=1.20:LGI= 300.:MNI=.013:SCI= .0]
00113>
00114> 001:0006 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00115> CALIB NASHYD 04:6063 26.30 .950 No_date 3:25 26.39
00116> [CN= 64.0: N= 3.00]
00117> [Tp= .65:DT= 5.00]
00118>
00119> ***** BMA SITE 6064 *****
00120> 001:0007 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00121> CALIB STANDHYD 05:6064 7.50 .541 No_date 3:00 39.67
00122> [XIMP=.25:TIMP=.45]
00123> [LOSS= 2 :CN= 52.1]
00124> [Pervious area: IApex= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP= .0]
00125> [Impervious area: IAImp= 2.00:SLPI= .50:LGI= 360.:MNI=.013:SCI= .0]
00126>
00127> ***** BECKER SITE 6065 *****
00128> 001:0008 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00129> CALIB STANDHYD 06:6065 5.60 .470 No_date 3:00 44.50
00130> [XIMP=.22:TIMP=.47]
00131> [LOSS= 2 :CN= 61.0]
00132> [Pervious area: IApex= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP= .0]
00133> [Impervious area: IAImp= 2.00:SLPI= .50:LGI= 360.:MNI=.013:SCI= .0]
00134>
00135> ***** ADD AREAS 6065 *****
00136> 001:0009 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00137> ADD HYD 02:M-600 1.47 .442 No_date 3:30 87.56
00138> + 03:6062 13.50 1.140 No_date 3:00 43.71
00139> + 04:6063 26.30 .950 No_date 3:25 26.39
00140> + 05:6064 7.50 .541 No_date 3:00 39.67
00141> + 06:6065 5.60 .470 No_date 3:00 44.50

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00136> [DT= 5.00] SUM= 07:GTRAIL 54.37 2.854 No_date 3:00 36.04
00137> 001:0010 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00138> SAVE HYD 07:GTRAIL 54.37 2.854 No_date 3:00 36.04
00139> fname :C:\SWMHYMO\PROJECTS\POSTUN-1\H-GTRAIL.001
00140> remark:NodeA
00141> ***** QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 606.1) *****
00142> 001:0011 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00143> READ HYD 08:50yr 489.80 5.599 No_date 11:30 86.18
00144> Filename = C:\SWMHYMO\PROJECTS\POSTUN-1\50yr6.HYD
00145> Comment = 50-Year 15-min storm hydrograph at ID606
00146> ***** TOTAL UNCONTROLLED-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL *****
00147> 001:0012 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00148> ADD HYD 07:GTRAIL 54.37 2.854 No_date 3:00 36.04
00149> + 08:50yr 489.80 5.599 No_date 11:30 86.18
00150> [DT= 5.00] SUM= 09:Trail 544.17 5.599 No_date 11:30 81.17
00151> 001:0013 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00152> SAVE HYD 09:Trail 544.17 5.599 No_date 11:30 81.17
00153> fname :C:\SWMHYMO\PROJECTS\POSTUN-1\H-Trail.001
00154> remark:Trail
00155> ***** AREA 6071 *****
00156> 001:0014 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00157> CALIB NASHYD 10:6071 25.50 .627 No_date 4:15 30.15
00158> [CN= 68.8: N= 3.00]
00159> [Tp= 1.36:DT= 5.00]
00160> ***** TOTAL UNCONTROLLED-DEVELOPMENT FLOW TO HWY 26 *****
00161> 001:0015 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00162> ADD HYD 09:Trail 544.17 5.599 No_date 11:30 81.17
00163> + 10:6071 25.50 .627 No_date 4:15 30.15
00164> [DT= 5.00] SUM= 03:NodeB 569.67 5.601 No_date 11:30 78.89
00165> 001:0016 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00166> SAVE HYD 03:NodeB 569.67 5.601 No_date 11:30 78.89
00167> fname :C:\SWMHYMO\PROJECTS\POSTUN-1\H-NodeB.001
00168> remark:NodeB
00169> 001:0017
00170> FINISH
00171>
00172>
00173> WARNINGS / ERRORS / NOTES
00174>
00175> Simulation ended on 2014-08-29 at 17:13:09
00176>
00177>
00178>

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00001> *****
00002>
00003> SSSSS W W M M M H H Y Y M M M O O O 999 999 *****
00004> S W W W M M M H H Y Y M M M O O O 9 9 9 9 Ver 4.05
00005> SSSSS W W M M M H H Y Y M M M O O O 9999 9999 Sept 2011
00006> S W W M M M H H Y M M M O O O 9 9 9
00007> SSSSS W W M M M H H Y M M M O O O 9 9 9
00008>
00009> StormWater Management Hydrologic Model 999 999 *****
00010>
00011> ***** SWHYMO Ver/4.05 *****
00012> *****
00013> ***** A single event and continuous hydrologic simulation model *****
00014> ***** based on the principles of HYMO and its successors *****
00015> *****
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, (cfs³/s) or (m³/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> ***** ** ERROR message printed at end of run *****
00046> *****
00047> *****
00048> *****
00049> *****
00050> *****
00051> *****
00052> ***** SUMMARY OUTPUT *****
00053> *****
00054> *****
00055> ***** DATE: 2014-08-29 TIME: 17:08:45 RUN COUNTER: 000305 *****
00056> *****
00057> * Input filename: C:\SWHYMO\PROJECTS\POSTUN-1\100YR1-1.DAT *
00058> * Output filename: C:\SWHYMO\PROJECTS\POSTUN-1\100YR1-1.out *
00059> * Summary filename: C:\SWHYMO\PROJECTS\POSTUN-1\100YR1-1.sum *
00060> * User comments: *
00061> * 1: *
00062> * 2: *
00063> * 3: *
00064> *****
00065> *****
00066> *****
00067> *****
00068> * Project Name: [EDEN OAK] Project Number: [218-2659] *****
00069> * Date : 05-26-2006 *****
00070> * Modified : 08-29-2014 *****
00071> * Modeller : [J.Proctor, B.Hummelen] *****
00072> * Company : C.F. Crozier & Associates Inc. *****
00073> * License # : 3737016 *****
00074> *****
00075> RUN: COMMAND# *****
00076> 001:0001 *****
00077> START *****
00078> [TZERO = .00 hrs on 0] *****
00079> [METOUT= 2 (1=imperial, 2=metric output)] *****
00080> [NFORM= 0] *****
00081> [NRUM = 1] *****
00082> *****
00083> ***** COMBINED POST-DEVELOPMENT UNCONTROLLED - 100yr Event *****
00084> *****
00085> * Rainfall Depths per HTO Basins East of Collingwood *****
00086> * 6 hour Kifer Chu Chicago Rainfall Distribution *****
00087> *****
00088> 001:0002 *****
00089> READ STORM *****
00090> Filename = 100yr.stm *****
00091> Comment = *****
00092> [SDT=60.00:SDUR= 6.00:PTOT= 96.00] *****
00093> ***** QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1) *****
00094> 001:0003 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00095> READ HYD 01:100yr7 178.10 7.393 No_date 3:30 99.77
00096> Filename = C:\SWHYMO\PROJECTS\POSTUN-1\100yr7.hyd
00097> Comment = 100-Year 15-min storm hydrograph at ID702 new
00098> ***** SPILL FLOW TO W/C 6 *****
00099> 001:0004 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00100> DIVERG 01:100yr7 178.10 7.393 No_date 3:30 99.77
00101> diverted <= 03:H-7622 169.75 6.000 No_date 3:30 99.77
00102> diverted <= 02:H-600 8.35 1.393 No_date 3:30 99.77
00103> ***** EDEN OAK SITE 6062 *****
00104> 001:0005 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00105> CALIB STANDHYD 03:6062 13.50 1.349 No_date 3:00 52.37
00106> [XIMP=.25:TIMP=.46] *****
00107> [LOSS= 2 :CN= 56.6] *****
00108> [Pervious area: IApex= 5.00:SLPP=2.00:LGP= 40.0:MNP=.250:SCP= .0] *****
00109> [Impervious area: IAlmp= 2.00:SLPI=1.20:LGI= 360.0:MNI=.013:SCI= .0] *****
00110> *****
00111> 001:0006 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00112> CALIB NASHYD 04:6063 26.30 1.214 No_date 3:20 33.60
00113> [CN= 64.0: N= 3.00] *****
00114> [Tp= .65:DI= 5.00] *****
00115> ***** BMR SITE 6064 *****
00116> 001:0007 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00117> CALIB STANDHYD 05:6064 7.50 .657 No_date 3:00 47.76
00118> [XIMP=.25:TIMP=.45] *****
00119> [LOSS= 2 :CN= 52.1] *****
00120> [Pervious area: IApex= 5.00:SLPP=2.00:LGP= 40.0:MNP=.250:SCP= .0] *****
00121> [Impervious area: IAlmp= 2.00:SLPI= .50:LGI= 475.0:MNI=.013:SCI= .0] *****
00122> ***** BECKER SITE 6065 *****
00123> 001:0008 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00124> CALIB STANDHYD 06:6065 5.60 .586 No_date 3:00 53.64
00125> [XIMP=.22:TIMP=.47] *****
00126> [LOSS= 2 :CN= 61.0] *****
00127> [Pervious area: IApex= 5.00:SLPP=2.00:LGP= 40.0:MNP=.250:SCP= .0] *****
00128> [Impervious area: IAlmp= 2.00:SLPI= .50:LGI= 360.0:MNI=.013:SCI= .0] *****
00129> ***** ADD AREAS 6062 = 6065 *****
00130> 001:0009 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00131> ADD HYD 02:H-600 8.35 1.393 No_date 3:30 99.77
00132> + 03:6062 13.50 1.349 No_date 3:00 52.37
00133> + 04:6063 26.30 1.214 No_date 3:20 33.60
00134> + 05:6064 7.50 .657 No_date 3:00 47.76
00135> + 06:6065 5.60 .586 No_date 3:00 53.64

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00136> [DT= 1.00] SUM= 07:GTRAIL 61.25 4.261 No_date 3:04 50.33
00137> 001:0010 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00138> SAVE HYD 07:GTRAIL 61.25 4.261 No_date 3:04 50.33
00139> fname :C:\SWHYMO\PROJECTS\POSTUN-1\H-GTRAIL.001
00140> remark:NodeA
00141> ***** QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 606) *****
00142> 001:0011 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00143> READ HYD 08:25mm6 489.80 6.517 No_date 11:15 98.18
00144> Filename = C:\SWHYMO\PROJECTS\POSTUN-1\100yr6.HYD
00145> Comment = 100-Year 15-min storm hydrograph at ID606
00146> ***** TOTAL UNCONTROLLED-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL *****
00147> 001:0012 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00148> ADD HYD 07:GTRAIL 61.25 4.261 No_date 3:04 50.33
00149> + 08:25mm6 489.80 6.517 No_date 11:15 98.18
00150> [DT= 1.00] SUM= 09:Trail 551.05 6.517 No_date 11:15 92.86
00151> 001:0013 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00152> SAVE HYD 09:Trail 551.05 6.517 No_date 11:15 92.86
00153> fname :C:\SWHYMO\PROJECTS\POSTUN-1\H-Trail.001
00154> remark:Trail
00155> ***** AREA 6071 *****
00156> 001:0014 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00157> CALIB NASHYD 10:6071 25.50 .797 No_date 4:15 38.11
00158> [CN= 68.8: N= 3.00] *****
00159> [Tp= 1.36:DT= 5.00] *****
00160> ***** TOTAL UNCONTROLLED-DEVELOPMENT FLOW TO HWY 26 *****
00161> 001:0015 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00162> ADD HYD 09:Trail 551.05 6.517 No_date 11:15 92.86
00163> + 10:6071 25.50 .797 No_date 4:15 38.11
00164> [DT= 1.00] SUM= 03:NodeB 576.55 6.520 No_date 11:15 90.44
00165> 001:0016 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00166> SAVE HYD 03:NodeB 576.55 6.520 No_date 11:15 90.44
00167> fname :C:\SWHYMO\PROJECTS\POSTUN-1\H-NodeB.001
00168> remark:NodeB
00169> *****
00170> FINISH *****
00171> *****
00172> *****
00173> WARNINGS / ERRORS / NOTES *****
00174> *****
00175> Simulation ended on 2014-08-29 at 17:08:45 *****
00176> *****
00177> *****
00178> *****

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00001>
00002>
00003> SSSSS W W M M H H Y Y M M OOO 999 999
00004> S W W W M M M H H Y Y M M O O 9 9 9 9 Ver 4.05
00005> SSSSS W W W M M M H H Y Y M M O O 9999 9999 Sept 2011
00006> S W W M M H H Y Y M M OOO 9 9 9
00007> SSSSS W W W M M H H Y Y M M OOO 9 9 9 9 # 3737016
00008>
00009> StormWater Management Hydrologic Model 999 999
00010>
00011>
00012> ***** SWHYMO Ver/4.05 *****
00013> ***** A single event and continuous hydrologic simulation model *****
00014> ***** based on the principles of HYMO and its successors *****
00015> ***** OTHYMO-83 and OTHYMO-89 *****
00016> ***** Distributed by: J.F. Sabourin and Associates Inc. *****
00017> ***** Ottawa, Ontario: (613) 836-3884 *****
00018> ***** Gatineau, Quebec: (819) 243-6858 *****
00019> ***** E-mail: swmhyom8@fsa.com *****
00020>
00021>
00022>
00023> ***** Licensed user: C.F. Crozier & Associates Inc. *****
00024> ***** Collingwood SERIAL#:3737016 *****
00025>
00026>
00027>
00028> ***** PROGRAM ARRAY DIMENSIONS *****
00029> ***** Maximum value for ID numbers : 10 *****
00030> ***** Max. number of rainfall points: 105408 *****
00031> ***** Max. number of flow points : 105408 *****
00032>
00033>
00034>
00035> ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
00036> ***** ID: Hydrograph Identification numbers. (1-10). *****
00037> ***** NHYD: Hydrograph reference numbers. (6 digits or characters). *****
00038> ***** AREA: Drainage area associated with hydrograph, (ac.) or (ha.). *****
00039> ***** QPEAK: Peak flow of simulated hydrograph, (ft3/s) or (m3/s). *****
00040> ***** TpeakDate_hh:mm: Peak time of simulated hydrograph, (in) or (mm). *****
00041> ***** R.V.: Runoff Volume of simulated hydrograph, (in) or (mm). *****
00042> ***** R.C.: Runoff Coefficient of simulated hydrograph, (ratio). *****
00043> ***** *: see WARNING or NOTE message printed at end of run. *****
00044> ***** **: see ERROR message printed at end of run. *****
00045>
00046>
00047>
00048>
00049>
00050>
00051>
00052>
00053> ***** SUMMARY OUTPUT *****
00054> ***** DATE: 2014-08-29 TIME: 17:14:16 RUN COUNTER: 000314 *****
00055> ***** Input filename: C:\SWHYMO\PROJECTS\POSTUN-1\tim_uc.dat *****
00056> ***** Output filename: C:\SWHYMO\PROJECTS\POSTUN-1\tim_uc.out *****
00057> ***** Summary filename: C:\SWHYMO\PROJECTS\POSTUN-1\tim_uc.sum *****
00058> ***** User comments: *****
00059> ***** 1: *****
00060> ***** 2: *****
00061> ***** 3: *****
00062>
00063>
00064>
00065>
00066>
00067>
00068> ***** Project Name: [EDEN OAK] Project Number: [218-2659] *****
00069> ***** Date : 05-26-2006 *****
00070> ***** Modified : 08 29 2014 *****
00071> ***** Modeller : [J.Proctor, B.Hummelen] *****
00072> ***** Company : [C.F. Crozier & Associates Inc.] *****
00073> ***** License # : 3737016 *****
00074>
00075> RUN:COMMANDS
00076> 001:0001
00077> START
00078> [TZERO = .00 hrs on 0]
00079> [METOUT = 2 (1=imperial, 2=metric output)]
00080> [NSTORM = 0]
00081> [NRUN = 1]
00082>
00083> ***** COMBINED POST-DEVELOPMENT UNCONTROLLED - Regional Event *****
00084>
00085> ***** Rainfall Depths per MTO - Basins East of Collingwood *****
00086> ***** 6 hour Kifer Chu Chicago Rainfall Distribution *****
00087>
00088> 001:0002
00089> READ STORM
00090> Filename = tim.stm
00091> Comment =
00092> [SOT=60.00:SDUR= 12.00:FTOT= 193.00]
00093> ***** QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1) *****
00094> 001:0003 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00095> READ HYD 01:tim7 178.10 9.720 No_date 9:15 198.01
00096> Filename = C:\SWHYMO\PROJECTS\POSTUN-1\tim7.hyd
00097> Comment = Timmins 15-min storm hydrograph at 10702 new, updated 070820
00098> ***** SPILL FLOW TO W/C 6 *****
00099> 001:0004 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00100> DIVERT HYD -> 01:tim7 178.10 9.720 No_date 9:15 198.01
00101> diverted <= 02:H-7022 147.49 6.000 No_date 9:15 198.01
00102> diverted <= 02:H-606 30.61 3.720 No_date 9:15 198.01
00103> ***** EDEN OAK SITE 6062 *****
00104> 001:0005 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00105> CALIB STANDHYD 03:6062 13.50 1.175 No_date 7:00 130.73
00106> [XIMP=.29:TIMP=.46]
00107> [LOSS= 2 :CN= 56.6]
00108> [Pervious area: IAper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP=.0]
00109> [Impervious area: IAimp= 2.00:SLPI=1.20:LGI= 300.:MNI=.013:SCI=.0]
00110> ***** EXISTING TYROLEAN 6063 *****
00111> 001:0006 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00112> CALIB NASHYD 04:6063 26.30 1.569 No_date 7:20 104.47
00113> [CN= 64.0: N= 3.00]
00114> [Tp= .65:DT= 5.00]
00115> ***** BMR SITE 6064 *****
00116> 001:0007 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00117> CALIB STANDHYD 05:6064 7.50 .590 No_date 7:00 122.31
00118> [XIMP=.25:TIMP=.45]
00119> [LOSS= 2 :CN= 52.1]
00120> [Pervious area: IAper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP=.0]
00121> [Impervious area: IAimp= 2.00:SLPI= .50:LGI= 475.:MNI=.013:SCI=.0]
00122> ***** BECKER SITE 6065 *****
00123> 001:0008 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00124> CALIB STANDHYD 06:6065 5.60 .502 No_date 7:00 135.50
00125> [XIMP=.22:TIMP=.47]
00126> [LOSS= 2 :CN= 61.0]
00127> [Pervious area: IAper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP=.0]
00128> [Impervious area: IAimp= 2.00:SLPI= .50:LGI= 360.:MNI=.013:SCI=.0]
00129> ***** ADD AREAS 6062 - 6065 *****
00130> 001:0009 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00131> ADD HYD 02:H-600 30.61 3.720 No_date 9:15 198.01
00132> + 03:6062 13.50 1.175 No_date 7:00 130.73
00133> + 04:6063 26.30 1.569 No_date 7:20 104.47
00134> + 05:6064 7.50 .590 No_date 7:00 122.31
00135> + 06:6065 5.60 .502 No_date 7:00 135.50

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00136> [DT= 5.00] SUM= 07:GTRAIL 83.51 6.250 No_date 9:00 146.69
00137> 001:0010 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00138> SAVE HYD 07:GTRAIL 83.51 6.250 No_date 9:00 146.69
00139> Fname = C:\SWHYMO\PROJECTS\POSTUN-1\H-GTRAIL.001
00140> remark:NodeA
00141> ***** QHM HYDROGRAPH FROM WATERSHED 8 (601, 602, 603, 605, 606) *****
00142> 001:0011 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00143> READ HYD 08:tim6 489.80 13.332 No_date 15:30 194.65
00144> Filename = C:\SWHYMO\PROJECTS\POSTUN-1\tim6.HYD
00145> Comment = Timmins 15-min storm hydrograph at 10606
00146> ***** TOTAL UNCONTROLLED-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL *****
00147> 001:0012 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00148> ADD HYD 07:GTRAIL 83.51 6.250 No_date 9:00 146.69
00149> + 08:tim6 489.80 13.332 No_date 15:30 194.65
00150> [DT= 5.00] SUM= 09:Trail 573.31 13.632 No_date 12:00 187.67
00151> 001:0013 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00152> SAVE HYD 09:Trail 573.31 13.632 No_date 12:00 187.67
00153> Fname = C:\SWHYMO\PROJECTS\POSTUN-1\H-Trail.001
00154> remark:Trail
00155> ***** AREA 6071 *****
00156> 001:0014 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00157> CALIB NASHYD 10:6071 25.50 1.269 No_date 9:05 114.01
00158> [CN= 68.8: N= 3.00]
00159> [Tp= 1.36:DT= 5.00]
00160> ***** TOTAL UNCONTROLLED-DEVELOPMENT FLOW TO HWY 26 *****
00161> 001:0015 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00162> ADD HYD 09:Trail 573.31 13.632 No_date 12:00 187.67
00163> + 10:6071 25.50 1.269 No_date 9:05 114.01
00164> [DT= 5.00] SUM= 03:NodeB 598.81 14.433 No_date 12:00 184.53
00165> 001:0016 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00166> SAVE HYD 03:NodeB 598.81 14.433 No_date 12:00 184.53
00167> Fname = C:\SWHYMO\PROJECTS\POSTUN-1\H-NodeB.001
00168> remark:NodeB
00169>
00170> FINISH
00171>
00172>
00173> ***** WARNINGS / ERRORS / NOTES *****
00174>
00175> Simulation ended on 2014-08-29 at 17:14:16
00176>
00177>
00178>

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001367      [DT= 5.00] SUM= 07:GTRAIL          52.90      .405 No date      3:00      4.99
001370 001:0010      -ID:NHYD          -AREA-----QPEAK-TpeakDate hh:mm-----R-V-
001380      SAVE HYD      07:GTRAIL          52.90      .405 No date      3:00      4.99
001390      name :C:\SWMHYMO\PROJECTS\PONDDE\1\H-GTRAIL.001
001400      remark:NodeA
001410 001:0011      -ID:NHYD          -AREA-----QPEAK-TpeakDate hh:mm-----R-V-
001420      ROUTE RESERVOIR -> 07:GTRAIL          52.90      .405 No date      3:00      4.99
001430      [RDT= 1.00] out<- 03:POND          52.90      .043 No date      6:08      4.99
001440      overflow<- 04:OVERFLOW          .00      .000 No date      6:08      4.99
001450      [Maistead= 20716.00, TotOfVol= 5.000E+06, N-Ov= 5, TotOfDur= 0.0]
001460      #-----1-QHM HYDROGRAPH FROM WATERSHED # 601, 602, 603, 605, 606]1-
001470      [001:0012      -ID:NHYD          -AREA-----QPEAK-TpeakDate hh:mm-----R-V-
001480      READ HYD      08:25mm6          489.80      1.437 No date      12:45      28.19
001490      Filename = C:\SWMHYMO\PROJECTS\PONDDE\1\25mm.HYD
001500      Comment = 23=15 min storm hydrograph at ID606
001510      #-----1-TOTAL CONTROLLED-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL-----
001520 001:0013      -ID:NHYD          -AREA-----QPEAK-TpeakDate hh:mm-----R-V-
001530      ADD HYD      03:POND          52.90      .043 No date      6:08      4.99
001540      # 08:25mm +          489.80      1.437 No date      12:45      28.19
001550      [DT= 1.00] SUM= 03:NodeB          542.70      1.467 No date      12:45      25.93
001560 001:0014      -ID:NHYD          -AREA-----QPEAK-TpeakDate hh:mm-----R-V-
001570      SAVE HYD      09:Trail          542.70      1.467 No date      12:45      25.93
001580      name :C:\SWMHYMO\PROJECTS\PONDDE\1\H-Trail.001
001590      remark:Trail
001600      #-----1-AREA 6071-----
001610 001:0015      -ID:NHYD          -AREA-----QPEAK-TpeakDate hh:mm-----R-V-
001620      CALIB WASHYD      10:6071          25.50      .044 No date      4:30      2.19
001630      [CN= 68.8, N= 3.00]
001640      [Tp= 1.36;DT= 5.00]
001650      #-----1-TOTAL CONTROLLED-DEVELOPMENT FLOW TO HWY 26-----
001660 001:0016      -ID:NHYD          -AREA-----QPEAK-TpeakDate hh:mm-----R-V-
001670      ADD HYD      09:Trail          542.70      1.467 No date      12:45      25.93
001680      # 10:6071 +          25.50      .044 No date      4:30      2.19
001690      [DT= 1.00] SUM= 03:NodeB          568.20      1.467 No date      12:45      24.86
001700 001:0017      -ID:NHYD          -AREA-----QPEAK-TpeakDate hh:mm-----R-V-
001710      SAVE HYD      06:NodeB          568.20      1.467 No date      12:45      24.86
001720      name :C:\SWMHYMO\PROJECTS\PONDDE\1\H-NodeB.001
001730      remark:NodeB
001740 001:0018      -----
001750      FINISH
001760      =====
001770      WARNINGS / ERRORS / NOTES
001780
001790
001800      Simulation ended on 04-Jan-92      at 15:02:55
001810
001820
001830

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00001>
00002>
00003> SSSSS W W M M H H Y Y M M O O 999 999 *****
00004> S W W W M M M H H Y Y M M M O O 9 9 9 9 Ver 4.05
00005> SSSSS W W M M M H H H Y Y M M M O O 9999 9999 Sept 2011
00006> SSSSS W W M M M H H Y Y M M O O 9 9 9 9
00007> SSSSS W W M M M H H Y Y M M O O 9 9 9 9 # 3737016
00008>
00009> StormWater Management HYdrologic Model 999 999 *****
00010>
00011>
00012> ***** SWHYMO 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.P. Sabourin and Associates Inc. *****
00018> ***** Ottawa, Ontario: (613) 836-3884 *****
00019> ***** Gatineau, Quebec: (819) 243-6858 *****
00020> ***** E-Mail: swmhy@jpsa.com *****
00021>
00022>
00023> ***** Licensed user: C.F. Crozier & Associates Inc. *****
00024> ***** Collingwood SERIAL#3737016 *****
00025> *****
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> ***** ID: Hydrograph Identification numbers, (1-10). *****
00037> ***** NHYD: Hydrograph reference numbers, (6 digits or characters). *****
00038> ***** AREA: Drainage area associated with hydrograph, (ac.) or (ha.). *****
00039> ***** QPEAK: Peak flow of simulated hydrograph, (ft3/s) or (m3/s). *****
00040> ***** TpeakDate hh:mm is the date and time of the peak flow. *****
00041> ***** R.V.: Runoff Volume of simulated hydrograph, (in) or (mm). *****
00042> ***** R.C.: Runoff Coefficient of simulated hydrograph, (ratio). *****
00043> ***** *: see WARNING or NOTE message printed at end of run. *****
00044> ***** **: see ERROR message printed at end of run. *****
00045> *****
00046>
00047>
00048>
00049>
00050>
00051>
00052>
00053> ***** SUMMARY OUTPUT *****
00054>
00055> * DATE: 2014-09-02 TIME: 15:20:44 RUN COUNTER: 000322
00056>
00057> * Input filename: C:\SWHYMO\PONDD-1\2yr_pst.dat
00058> * Output filename: C:\SWHYMO\PONDD-1\2yr_pst.out
00059> * Summary filename: C:\SWHYMO\PONDD-1\2yr_pst.sum
00060> * User comments:
00061> * 1:
00062> * 2:
00063> * 3:
00064>
00065>
00066>
00067>
00068> # Project Name: [EDEN OAK] Project Number: [218-2659]
00069> # Date : 05-26-2006
00070> # Modified : 08-29-2014
00071> # Modeller : [J. PROCTOR, B. HUMMELAN]
00072> # Company : C.F. Crozier & Associates Inc.
00073> # License # : 3737016
00074>
00075> RUN:COMMAND#
00076> 001:0001
00077> START
00078> [TZERO = .00 hrs on 0]
00079> [METOUT= 2 (1=imperial, 2=metric output)]
00080> [NSTORM= 0]
00081> [NRUN = 1]
00082> *****
00083> *****COMBINED POND POST-DEVELOPMENT - 2yr Event *****
00084>
00085> # Rainfall Depths per MTO - Basins East of Collingwood
00086> # 6 hour Kifer Chu Chicago Rainfall Distribution
00087> *****
00088> 001:0002
00089> READ STORM
00090> Filename = 2yr.stm
00091> Comment
00092> [SDUR=60.00:SDUR= 6.00:PTOT= 37.90]
00093> *****
00094> 001:0003 ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00095> READ HYD 01:2yr 178.10 2.893 No_date 3:15 40.70
00096> Filename = C:\SWHYMO\PONDD-1\2yr7.hyd
00097> Comment = 2-Year 15-min storm hydrograph at ID702 new
00098> *****
00099> 001:0004 ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00100> DIVERST HYD -> 01:2yr 178.10 2.893 No_date 3:15 40.70
00101> diverted <= 09:H-702 178.10 2.893 No_date 3:15 40.70
00102> diverted <= 02:H-600 .00 .000 No_date 0:00 .00
00103> *****
00104> 001:0005 ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00105> CALIB STANDHYD 03:6062 13.50 .366 No_date 3:00 14.94
00106> [XIMP=.25:TIMP=.45]
00107> [LOSS= 2 :CN= 56.6]
00108> [Impervious area: Iaper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP=.0]
00109> [Impervious area: Iaimp= 2.00:SLPI=1.20:LGI= 300.:MNI=.013:SCI=.0]
00110> *****
00111> 001:0006 ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00112> CALIB NASHYD 02:6063 26.30 .189 No_date 3:25 5.21
00113> [CN= 64.0: N= 3.00]
00114> [Tp= .65:DT= 5.00]
00115> *****
00116> 001:0007 ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00117> CALIB STANDHYD 05:6064 7.50 .169 No_date 3:00 13.25
00118> [XIMP=.25:TIMP=.45]
00119> [LOSS= 2 :CN= 52.1]
00120> [Impervious area: Iaper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP=.0]
00121> [Impervious area: Iaimp= 2.00:SLPI=.50:LGI= 475.:MNI=.013:SCI=.0]
00122> *****
00123> 001:0008 ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00124> CALIB STANDHYD 06:6065 5.60 .139 No_date 3:00 14.31
00125> [XIMP=.22:TIMP=.47]
00126> [LOSS= 2 :CN= 61.0]
00127> [Impervious area: Iaper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP=.0]
00128> [Impervious area: Iaimp= 2.00:SLPI=.50:LGI= 360.:MNI=.013:SCI=.0]
00129> *****
00130> 001:0009 ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00131> ADD HYD 02:H-600 .00 .000 No_date 0:00 .00
00132> + 03:6062 13.50 .366 No_date 3:00 14.94
00133> + 04:6063 26.30 .189 No_date 3:25 5.21
00134> + 05:6064 7.50 .169 No_date 3:00 13.25
00135> + 06:6065 5.60 .139 No_date 3:00 14.31

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00136> [DT= 5.00] SUM= 07:GTRAIL 52.90 .793 No_date 3:00 9.79
00137> 001:0010 ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00138> SAVE HYD 07:GTRAIL 52.90 .793 No_date 3:00 9.79
00139> fname C:\SWHYMO\PONDD-1\H-GTRAIL.001
00140> remark:NodeA
00141> 001:0011 ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00142> ROUTE RESERVOIR -> 07:GTRAIL 52.90 .793 No_date 3:00 9.79
00143> [RDT= 1.00] out< 03:POND 52.90 .334 No_date 3:58 9.79
00144> overflow <= 04:OVERFLOW .00 .000 No_date 0:00 .00
00145> [HxstoUsed=.3000:00. TotOvfVol=.0000:00. N-Ovf= 0. TotDurOvf= 0.hrs
00146> ] QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 6061)]
00147> 001:0012 ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00148> READ HYD 08:2yr6 489.80 2.258 No_date 12:30 40.82
00149> Filename = C:\SWHYMO\PONDD-1\2yr6.hyd
00150> Comment = 2-Year 15-min storm hydrograph at ID606
00151> *****
00152> 001:0013 ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00153> ADD HYD 03:POND 52.90 .334 No_date 3:58 9.79
00154> + 08:2yr6 489.80 2.258 No_date 12:30 40.82
00155> [DT= 1.00] SUM= 09:Trail 542.70 2.295 No_date 12:30 37.79
00156> 001:0014 ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00157> SAVE HYD 09:Trail 542.70 2.295 No_date 12:30 37.79
00158> fname C:\SWHYMO\PONDD-1\H-Trail.001
00159> remark:Trail
00160> *****
00161> 001:0015 ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00162> CALIB NASHYD 10:6071 25.50 .128 No_date 4:20 6.16
00163> [CN= 68.8: N= 3.00]
00164> [Tp= 1.36:DT= 5.00]
00165> *****
00166> 001:0016 ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00167> ADD HYD 09:Trail 542.70 2.295 No_date 12:30 37.79
00168> + 10:6071 25.50 .128 No_date 4:20 6.16
00169> [DT= 1.00] SUM= 03:NodeB 568.20 2.295 No_date 12:30 36.37
00170> 001:0017 ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00171> SAVE HYD 03:NodeB 568.20 2.295 No_date 12:30 36.37
00172> fname C:\SWHYMO\PONDD-1\H-NodeB.001
00173> remark:NodeB
00174>
00175>
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00177>
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00183>

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WARNINGS / ERRORS / NOTES
Simulation ended on 2014-09-02 at 15:20:45

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00001> *****
00002> *****
00003> SSSSS W W M M H H Y Y M M O O 999 999 *****
00004> S W W M M M H H Y Y M M O O 999 999 Ver 4.05
00005> SSSSS W W M M H H Y Y M M O O 999 999 Sept 2011
00006> S W W M M M H H Y Y M M O O 999 999
00007> SSSSS W W M M H H Y Y M M O O 999 999 # 3737016
00008> *****
00009> StormWater Management Hydrologic Model 999 999 *****
00010> *****
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00129> *****
00130> *****
00131> *****
00132> *****
00133> *****
00134> *****
00135> *****

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```

00136> [DT= 5.00] SUM= 07:GTRAIL 52.90 1.350 No_date 3:00 16.66
00137> 001:0011 ID:NHYD AREA OPEAK-TpeakDate hh:mm--R.V.-
00138> SAVE HYD 07:GTRAIL 52.90 1.350 No_date 3:00 16.66
00139> fname :C:\SWMHYMO\PONDE-1\H-GTRAIL.001
00140> remark:NodeA
00141> 001:0011 ID:NHYD AREA OPEAK-TpeakDate hh:mm--R.V.-
00142> ROUTE RESERVOIR -> 07:GTRAIL 52.90 1.350 No_date 3:00 16.66
00143> [RDT= 1.00] out< 03:POND 52.90 .882 No_date 3:24 16.66
00144> overflow <= 04:OVERFLOW .00 .000 No_date 0:00 .00
00145> (MxStoUsed=.3615E+00, TotovrVol=.0000E+00, N-Ovr= 0, TotburOvr=
00146> 0.0000E+00)
00147> 001:0012 ID:NHYD AREA OPEAK-TpeakDate hh:mm--R.V.-
00148> READ HYD 08:5yr6 489.80 3.312 No_date 12:00 55.37
00149> Filename = C:\SWMHYMO\PONDE-1\5yr6.HYD
00150> Comment = 5-Year 15-min storm hydrograph at 10606
00151> 001:0013 ID:NHYD AREA OPEAK-TpeakDate hh:mm--R.V.-
00152> ADD HYD 03:POND 52.90 .882 No_date 3:24 16.66
00153> + 08:5yr6 489.80 3.312 No_date 12:00 55.37
00154> [DT= 1.00] SUM= 09:Trail 542.70 3.351 No_date 12:00 51.60
00155> 001:0014 ID:NHYD AREA OPEAK-TpeakDate hh:mm--R.V.-
00156> SAVE HYD 09:Trail 542.70 3.351 No_date 12:00 51.60
00157> fname :C:\SWMHYMO\PONDE-1\H-Trail.001
00158> remark:Trail
00159> *****
00160> *****
00161> 001:0015 ID:NHYD AREA OPEAK-TpeakDate hh:mm--R.V.-
00162> CALIB NASHYD 10:6071 25.50 .259 No_date 4:20 12.50
00163> [CN= 68.8; N= 3.00]
00164> [Tp= 1.36; DT= 5.00]
00165> *****
00166> 001:0016 ID:NHYD AREA OPEAK-TpeakDate hh:mm--R.V.-
00167> ADD HYD 09:Trail 542.70 3.351 No_date 12:00 51.60
00168> + 10:6071 25.50 .259 No_date 4:20 12.50
00169> [DT= 1.00] SUM= 03:NodeB 568.20 3.351 No_date 12:00 49.84
00170> 001:0017 ID:NHYD AREA OPEAK-TpeakDate hh:mm--R.V.-
00171> SAVE HYD 03:NodeB 568.20 3.351 No_date 12:00 49.84
00172> fname :C:\SWMHYMO\PONDE-1\H-NodeB.001
00173> remark:NodeB
00174> 001:0018 *****
00175> FINISH
00176> *****
00177> *****
00178> *****
00179> *****
00180> *****
00181> *****
00182> *****
00183> *****

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00001 *****
00002 *****
00003 SSSSS W W M M H H Y Y M M O O O 999 999 *****
00004 S W W M M M H H Y Y M M O O O 9 9 9 9 Ver 4.05
00005 SSSSS W W M M H H Y Y M M O O O 9999 9999 Sept 2011
00006 S W W M M H H Y Y M M O O O 9 9 9 *****
00007 SSSSS W W M M H H Y Y M M O O O 9 9 9 *****
00008 9 9 9 9 3737016 *****
00009 StormWater Management Hydrologic Model 999 999 *****
00010 *****
00011 *****
00012 ***** SWHYMO Ver/4.05 *****
00013 ***** A single event and continuous hydrologic simulation model *****
00014 ***** based on the principles of HYMO and its successors *****
00015 ***** OTHYMO-53 and OTHYMO-59 *****
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: swmymo@jfsa.com *****
00021 *****
00022 *****
00023 *****
00024 ***** Licensed user: C.F. Crozier & Associates Inc. *****
00025 ***** Collingwood SERIAL:3737016 *****
00026 *****
00027 *****
00028 *****
00029 *****
00030 *****
00031 ***** Maximum value for ID numbers : 10 *****
00032 ***** Max. number of rainfall points: 105408 *****
00033 ***** Max. number of flow points : 105408 *****
00034 *****
00035 *****
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 ***** OPEAK: Peak flow of simulated hydrograph, (ft3/s) or (m3/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 ERR message printed at end of run. *****
00046 *****
00047 *****
00048 *****
00049 *****
00050 *****
00051 *****
00052 *****
00053 ***** SUMMARY OUTPUT *****
00054 *****
00055 ***** DATE: 2014-09-02 TIME: 15:01:23 RUN COUNTER: 000319 *****
00056 *****
00057 ***** Input filename: C:\SWHYMO\PROJECTS\PONDDE-1\10yr_pst.dat *****
00058 ***** Output filename: C:\SWHYMO\PROJECTS\PONDDE-1\10yr_pst.out *****
00059 ***** Summary filename: C:\SWHYMO\PROJECTS\PONDDE-1\10yr_pst.sum *****
00060 ***** User comments: *****
00061 ***** 1: *****
00062 ***** 2: *****
00063 ***** 3: *****
00064 *****
00065 *****
00066 *****
00067 *****
00068 ***** Project Name: [EDEN OAK] Project Number: [218-2659] *****
00069 ***** Date : 05-26-2006 *****
00070 ***** Modified : 08-29-2014 *****
00071 ***** Modeller : [J. PROCTOR, B. HUMMELLEN] *****
00072 ***** Company : C.F. Crozier & Associates Inc. *****
00073 ***** License # : 3737016 *****
00074 *****
00075 ***** RUN: COMMAND *****
00076 ***** 001:0001 *****
00077 ***** START *****
00078 ***** [TZERO = .00 hrs on 0] *****
00079 ***** [METOUT = 2 (1=imperial, 2=metric output)] *****
00080 ***** [INSTORM = 0] *****
00081 ***** [NORM = 1] *****
00082 *****
00083 *****
00084 *****
00085 *****
00086 *****
00087 *****
00088 ***** 001:0002 *****
00089 ***** READ STORM *****
00090 ***** Filename = 10yr.stm *****
00091 ***** *****
00092 ***** [SDT=60.00:SDUR= 6.00:PTOT= 66.00] *****
00093 *****
00094 *****
00095 ***** 001:0003 *****
00096 ***** ID:NHYD= 178.10 AREA= 4.950 No_date 3:30 68.35 *****
00097 ***** READ HYD *****
00098 ***** Filename = C:\SWHYMO\PROJECTS\PONDDE-1\10yr7.hyd *****
00099 ***** Comment = 10-Year 15-min storm hydrograph at ID702 new *****
00100 *****
00101 *****
00102 *****
00103 *****
00104 ***** 001:0004 *****
00105 ***** ID:NHYD= 178.10 AREA= 4.950 No_date 3:30 68.35 *****
00106 ***** DIVERT HYD *****
00107 ***** 09:H-7022 178.10 4.950 No_date 3:30 68.35 *****
00108 ***** diverted <= 02:H-600 .00 .000 No_date 0:00 .00 *****
00109 *****
00110 *****
00111 *****
00112 *****
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00136 [DT= 5.00] SUM= 07:GTRAIL 52.90 1.973 No_date 3:00 23.82
00137 001:0010 ***** ID:NHYD= ***** AREA= ***** OPEAK-TpeakDate_hh:mm ***** R.V. *****
00138 SAVE HYD 07:GTRAIL 52.90 1.973 No_date 3:00 23.82 *****
00139 filename: C:\SWHYMO\PROJECTS\PONDDE-1\H-GTRAIL.001 *****
00140 *****
00141 *****
00142 *****
00143 *****
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(C:\...25yr pst.sum)

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00001>
00002>
00003> SSSSS W W M M H H Y Y M M O O 999 999
00004> S W W W M M M H H Y Y M M M O O # 9 9 9 9 Ver 4.05
00005> SSSSS W W W M M M H H Y Y M M M O O 9999 9999 Sept 2011
00006> S W W M M M H H Y Y M M O O
00007> SSSSS W W M M H H Y Y M M O O
00008>
00009> StormWater Management Hydrologic Model
00010>
00011>
00012>
00013> ***** SWMMHYMO Ver/4.05 *****
00014> ***** A single event and continuous hydrologic simulation model *****
00015> ***** based on the principles of HYMO and its successors *****
00016> ***** OTTHYMO-83 and OTTHYMO-89 *****
00017> ***** Distributed by: J.F. Sabourin and Associates Inc. *****
00018> ***** Ottawa, Ontario: (613) 836-3884 *****
00019> ***** Gatineau, Quebec: (819) 243-6858 *****
00020> ***** E-Mail: swmhy@jfas.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 IO 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> ***** ID: Hydrograph Identification numbers, (1-10). *****
00037> ***** NHYD: Hydrograph reference numbers, (6 digits or characters). *****
00038> ***** AREA: Drainage area associated with hydrograph, (ac.) or (ha.). *****
00039> ***** QPEAK: Peak flow of simulated hydrograph, (ft3/s) or (m3/s). *****
00040> ***** TpeakDate_hh:mm is the date and time of the peak flow. *****
00041> ***** R.V.: Runoff Volume of simulated hydrograph, (in) or (mm). *****
00042> ***** R.C.: Runoff Coefficient of simulated hydrograph, (ratio). *****
00043> ***** *: see WARNING or NOTE messages printed at end of run. *****
00044> ***** **: see ERROR message printed at end of run. *****
00045> *****
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01035>

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00136> [DT= 5.00] SUM= 07:GTRAIL 52.90 2.528 No date 3:00 30.86
00137> 001:0010 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00138> SAVE HYD 07:GTRAIL 52.90 2.528 No date 3:00 30.86
00139> fname=C:\SWMMHYMO\PONDD8-1\N-GTRAIL.001
00140> remark:NodeA
00141> 001:0011 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00142> ROUTE RESERVOIR -> 07:GTRAIL 52.90 2.528 No date 3:00 30.86
00143> [RDT= 1.00] out= 03:POND 52.90 2.099 No date 3:11 30.86
00144> overflow <= 04:OVERFLOW .00 .000 No date 0:00 .00
00145> [MaxToUsed=4583E+00, TotOfVol=0.000E+00, N-Of= 5, TotDurov= 0.hrs
00146> 1-QM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 606)]
00147> 001:0012 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00148> READ HYD 08:25yr6 504.80 5.142 No date 11:30 77.86
00149> Filename=C:\SWMMHYMO\PONDD8-1\25yr6.HYD
00150> Comment=25-Year 15-min storm hydrograph at ID606
00151> 001:0013 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00152> TOTAL CONTROLLED-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL---
00153> ADD HYD 03:POND 52.90 2.099 No date 3:11 30.86
00154> + 08:25yr6 504.80 5.142 No date 11:30 77.86
00155> [DT= 1.00] SUM= 09:Trail 557.70 5.183 No date 11:30 73.40
00156> 001:0014 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00157> SAVE HYD 09:Trail 557.70 5.183 No date 11:30 73.40
00158> fname=C:\SWMMHYMO\PONDD8-1\N-Trail.001
00159> remark:Trail
00160> 001:0015 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00161> CALIB NASHYD 10:6071 25.50 .551 No date 4:15 26.40
00162> [CN= 68.8; N= 3.00]
00163> [Tp= 1.36;DT= 5.00]
00164>
00165> ***** TOTAL CONTROLLED-DEVELOPMENT FLOW to HWY 26 *****
00166> 001:0016 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00167> ADD HYD 09:Trail 557.70 5.183 No date 11:30 73.40
00168> + 10:6071 25.50 .551 No date 4:15 26.40
00169> [DT= 1.00] SUM= 03:NodeB 583.20 5.184 No date 11:30 71.35
00170> 001:0017 ID:NHYD AREA QPEAK-TpeakDate_hh:mm R.V.
00171> SAVE HYD 03:NodeB 583.20 5.184 No date 11:30 71.35
00172> fname=C:\SWMMHYMO\PONDD8-1\N-NodeB.001
00173> remark:NodeB
00174>
00175>
00176>
00177>
00178>
00179>
00180>
00181>
00182>
00183>

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00001> *****
00002> *****
00003> SSSSS W W M M H H Y Y M M O O O 999 999 *****
00004> S W W M M M H H Y Y M M O O O 9 9 9 9 Ver 4.05
00005> SSSSS W W M M H H Y Y M M O O O 9999 9999 Sept 2011
00006> S W W M M H H Y Y M M O O O 9 9 9 9
00007> SSSSS W W M M H H Y Y M M O O O 9 9 9 9 # 3737016
00008>
00009> StormWater Management Hydrologic Model 999 999 *****
00010> *****
00011> SWHYMO Ver/4.05 *****
00012> ***** A single event and continuous hydrologic simulation model *****
00013> ***** based on the principles of HYMO and its successors *****
00014> ***** OTHERMO-53 and OTHERMO-89 *****
00015> *****
00016> ***** Distributed by: J.F. Sabourin and Associates Inc. *****
00017> ***** Ottawa, Ontario: (613) 836-3884 *****
00018> ***** Gatineau, Quebec: (819) 243-6858 *****
00019> ***** E-Mail: swmhymo@jfsa.com *****
00020> *****
00021> *****
00022> *****
00023> *****
00024> ***** Licensed user: C.F. Crozier & Associates Inc. *****
00025> ***** Collingswood SERIAL: 3737016 *****
00026> *****
00027> *****
00028> *****
00029> *****
00030> *****
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> ***** PEAK: Peak flow of simulated hydrograph, (ft3/s) or (m3/s). *****
00041> ***** PeakDate 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> ***** SUMMARY OUTPUT *****
00054> *****
00055> ***** DATE: 2014-09-02 TIME: 15:28:48 RUN COUNTER: 000327 *****
00056> *****
00057> * Input Filename: C:\SWMHYMO\PONDDE-1\50yr_pst.dat *
00058> * Output Filename: C:\SWMHYMO\PONDDE-1\50yr_pst.out *
00059> * Summary Filename: C:\SWMHYMO\PONDDE-1\50yr_pst.sum *
00060> * User comments: *
00061> * 1: *
00062> * 2: *
00063> * 3: *
00064> *****
00065> *****
00066> *****
00067> *****
00068> # Project Name: [EDEN OAK] Project Number: [218-2659]
00069> # Date : 05-26-2006
00070> # Modified : 06-29-2014
00071> # Modeller : [J.PROCTOR, B.HUMMEL]
00072> # Company : C.F. Crozier & Associates Inc.
00073> # License # : 3737016
00074> *****
00075> RUN:COMMANDS
00076> 001:0001-
00077> START
00078> [TZERO = .00 hrs on 0]
00079> [METOUT = 2 (Imperial, 2-metric output)]
00080> [NSTORM = 0]
00081> [NDRN = 1]
00082> *****
00083> *****COMBINED POND POST-DEVELOPMENT - 50yr Event *****
00084> *****
00085> # Rainfall Depths per WPD - Basins East of Collingswood
00086> # 6 hours Kifer Chu Chicago Rainfall Distribution
00087> *****
00088> 001:0002-
00089> READ STORM
00090> Filename = 50yr.stm
00091> Comment =
00092> [SDT=60.00:SDUR= 6.00:PTOT= 83.90]
00093> ***** QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1) *****
00094> 001:0003- ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00095> READ HYD 01:50yr7 178.10 6.442 No_date 3:30 87.56
00096> Filename = C:\SWMHYMO\PONDDE-1\50yr7.hyd
00097> Comment = 50-Year 15-min storm hydrograph at ID702 new
00098> ***** SPILL FLOW TO W/C *****
00099> 001:0004- ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00100> DIVERT HYD 01:50yr7 178.10 6.442 No_date 3:30 87.56
00101> diverted <= 03:H-7022 176.63 6.000 No_date 3:30 87.56
00102> diverted <= 02:H-600 1.47 .442 No_date 3:30 87.56
00103> ***** EDEN OAK SITE 6062 *****
00104> 001:0005- ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00105> CALIB STANDHYD 03:6062 13.50 1.140 No_date 3:00 43.71
00106> [XIMP=.25:TIMP=.46]
00107> [LOSS= 2 :CN= 56.6]
00108> [Pervious area: IAPer= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP= .0]
00109> [Impervious area: IAImp= 2.00:SLPI=1.20:LGI= 300.:MNI=.013:SCI= .0]
00110> *****
00111> 001:0006- ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00112> CALIB NASHYD 04:6063 26.30 .950 No_date 3:25 26.39
00113> [CN= 64.0: N= 3.00]
00114> [Tp= .65:DT= 5.00]
00115> ***** RNR SITE 6064 *****
00116> 001:0007- ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00117> CALIB STANDHYD 05:6064 7.50 .541 No_date 3:00 39.67
00118> [XIMP=.25:TIMP=.45]
00119> [LOSS= 2 :CN= 52.1]
00120> [Pervious area: IAPer= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP= .0]
00121> [Impervious area: IAImp= 2.00:SLPI= .50:LGI= 475.:MNI=.013:SCI= .0]
00122> ***** BECKER SITE 6065 *****
00123> 001:0008- ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00124> CALIB STANDHYD 06:6065 5.60 .470 No_date 3:00 44.50
00125> [XIMP=.22:TIMP=.47]
00126> [LOSS= 2 :CN= 61.0]
00127> [Pervious area: IAPer= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP= .0]
00128> [Impervious area: IAImp= 2.00:SLPI= .50:LGI= 360.:MNI=.013:SCI= .0]
00129> ***** ADD AREAS 6062 6065 *****
00130> 001:0009- ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00131> ADD HYD 02:H-600 1.47 .442 No_date 3:30 87.56
00132> + 03:6062 13.50 1.140 No_date 3:00 43.71
00133> + 04:6063 26.30 .950 No_date 3:25 26.39
00134> + 05:6064 7.50 .541 No_date 3:00 39.67
00135> + 06:6065 5.60 .470 No_date 3:00 44.50

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00136> [DT= 5.00] SUM= 07:GTRAIL 54.37 2.854 No_date 3:00 36.04
00137> 001:0010- ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00138> SAVE HYD 07:GTRAIL 54.37 2.854 No_date 3:00 36.04
00139> filename : C:\SWMHYMO\PONDDE-1\H-GTRAIL.001
00140> remark:NodeA
00141> 001:0011- ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00142> ROUTE RESERVOIR -> 07:GTRAIL 54.37 2.854 No_date 3:00 36.04
00143> [RDT= 1.00] out< 03:POND 54.37 2.496 No_date 3:15 36.04
00144> overflow <= 04:OVERFLOW .00 .000 No_date 0:00 .00
00145> [MaxStoUsed=.4876:TotOvfVol=.0000:0.00, N-ovf= 0, TotDurOvf= 0.hrs
00146> QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 606.1)
00147> 001:0012- ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00148> READ HYD 08:50yr6 489.80 5.599 No_date 11:30 86.18
00149> filename = C:\SWMHYMO\PONDDE-1\50yr6.HYD
00150> Comment = 50-Year 15-min storm hydrograph at ID606
00151> ***** TOTAL CONTROLLED-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL *****
00152> 001:0013- ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00153> ADD HYD 03:POND 54.37 2.496 No_date 3:15 36.04
00154> + 08:50yr6 489.80 5.599 No_date 11:30 86.18
00155> [DT= 1.00] SUM= 09:Trail 544.17 5.640 No_date 11:30 81.17
00156> 001:0014- ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00157> SAVE HYD 09:Trail 544.17 5.640 No_date 11:30 81.17
00158> filename : C:\SWMHYMO\PONDDE-1\H-Trail.001
00159> remark:Trail
00160> ***** AREA 6071 *****
00161> 001:0015- ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00162> CALIB NASHYD 10:6071 25.50 .627 No_date 4:15 30.15
00163> [CN= 68.8: N= 3.00]
00164> [Tp= 1.36:DT= 5.00]
00165> ***** TOTAL CONTROLLED-DEVELOPMENT FLOW TO RHY 26 *****
00166> 001:0016- ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00167> ADD HYD 09:Trail 544.17 5.640 No_date 11:30 81.17
00168> + 10:6071 25.50 .627 No_date 4:15 30.15
00169> [DT= 1.00] SUM= 03:NodeB 569.67 5.642 No_date 11:30 78.89
00170> 001:0017- ID:NHYD AREA QPEAK-TpeakDate hh:mm R.V.
00171> SAVE HYD 03:NodeB 569.67 5.642 No_date 11:30 78.89
00172> filename : C:\SWMHYMO\PONDDE-1\H-NodeB.001
00173> remark:NodeB
00174> 001:0018-
00175> FINISH
00176> *****
00177> *****
00178> *****
00179> *****
00180> Simulation ended on 2014-09-02 at 15:28:49
00181> *****
00182> *****
00183> *****

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00001> =====
00002> SSSSS W W W M M H H Y Y M M O O O 999 999
00003> S W W M M H H Y Y M M O O O 9 9 9 9
00004> SSSSS W W W M M H H H H Y Y M M O O O ## 9 9 9 9 Ver 4.05
00005> S W W M M H H Y Y M M O O O 9999 9999 Sept 2011
00006> SSSSS W W W M M H H Y Y M M O O O 9 9 9
00007> StormWater Management HYdrologic Model 999 999
00008>
00009>
00010>
00011> ***** SWHMYMO Ver/4.05 *****
00012> ***** A single event and continuous hydrologic simulation model *****
00013> ***** based on the principles of HYMO and its successors *****
00014> ***** OTHYMO-B3 and OTHYMO-B9 *****
00015>
00016> ***** Distributed by: J.F. Sabourin and Associates Inc. *****
00017> ***** Ottawa, Ontario: (613) 836-3884 *****
00018> ***** Gatineau, Quebec: (819) 243-6958 *****
00019> ***** E-Mail: swmym@jfsa.com *****
00020>
00021> *****
00022>
00023> ***** Licensed user: C.F. Crozier & Associates Inc. *****
00024> ***** Collingwood SERIALS:3737016 *****
00025>
00026>
00027>
00028> ***** PROGRAM ARRAY DIMENSIONS *****
00029> ***** Maximum value for ID numbers : 10 *****
00030> ***** Max. number of rainfall points: 105408 *****
00031> ***** Max. number of flow points : 105408 *****
00032>
00033>
00034> ***** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) *****
00035>
00036> ***** ID: Hydrograph Identification numbers, (1-10). *****
00037> ***** NHYD: Hydrograph reference numbers, (6 digits or characters). *****
00038> ***** AREA: Drainage area associated with hydrograph, (ac.) or (ha.). *****
00039> ***** QPEAK: Peak flow of simulated hydrograph, (ft3/s) or (m3/s). *****
00040> ***** PeakDate_hh:mm is the date and time of the peak flow. *****
00041> ***** R.V.: Runoff Volume of simulated hydrograph, (in) or (mm). *****
00042> ***** R.C.: Runoff Coefficient of simulated hydrograph, (ratio). *****
00043> ***** *: see WARNING or NOTE message printed at end of run. *****
00044> ***** *: see ERROR message printed at end of run. *****
00045>
00046>
00047>
00048>
00049> =====
00050>
00051>
00052> ***** SUMMARY OUTPUT *****
00053>
00054> *****
00055> * DATE: 2014-09-02 TIME: 15:33:11 RUN COUNTER: 000330 *
00056>
00057> * Input filename: C:\SWHMYMO\PONDD-1\tim_pst.dat *
00058> * Output filename: C:\SWHMYMO\PONDD-1\tim_pst.out *
00059> * Summary filename: C:\SWHMYMO\PONDD-1\tim_pst.sum *
00060> * User comments: *
00061> * 1: *
00062> * 2: *
00063> * 3: *
00064>
00065>
00066>
00067>
00068> # Project Name: [EDEN OAK] Project Number: [218-2659]
00069> # Date : 05-26-2006 AREA QPEAK-TpeakDate_hh:mm--R.V.-
00070> # Modified : 08-29-2014
00071> # Modeller : [J.PROCTOR, B.HUMMEL]
00072> # Company : C.F. Crozier & Associates Inc.
00073> # License # : 3737016
00074>
00075> RUN:COMMAND
00076> 001:0001-
00077> START
00078> [TZERO = .00 hrs on 0]
00079> [METOUT= 2 [imperial, 2=metric output]]
00080> [NFORM= 0]
00081> [NRUN = 1]
00082> *****
00083> *****COMBINED POND POST-DEVELOPMENT - Timmins Event*****
00084>
00085> # Rainfall Depths per MTO - Basins East of Collingwood
00086> # 6 hour Kifer Chu Chicago Rainfall Distribution
00087> *****
00088> 001:0002-
00089> READ STORM
00090> Filename = tim.stm
00091> Comment =
00092> [SDT=60.00:SDUR= 12.00:PTOT= 193.00]
00093> *****
00094> 001:0003- ID:NHYD AREA QPEAK-TpeakDate_hh:mm--R.V.-
00095> READ HYD 01:tim7 178.10 9.720 No_date 9:15 198.01
00096> Filename = C:\SWHMYMO\PONDD-1\tim7.hyd
00097> Comment = Timmins 15-min storm hydrograph at ID702 new, updated 070820
00098> *****
00099> 001:0004- ID:NHYD AREA QPEAK-TpeakDate_hh:mm--R.V.-
00100> DIVERT HYD -> 01:tim7 178.10 9.720 No_date 9:15 198.01
00101> diverted <= 03:H-7022 147.49 6.000 No_date 9:15 198.01
00102> diverted <= 02:H-600 30.61 3.720 No_date 9:15 198.01
00103> *****
00104> 001:0005- ID:NHYD AREA QPEAK-TpeakDate_hh:mm--R.V.-
00105> CALIB STANDHYD 03:6062 13.50 1.175 No_date 7:00 130.73
00106> [XIMP=29:TIMP=46]
00107> [LOSS= 2 :CN= 56.6]
00108> [Pervious area: Iaper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP= .0]
00109> [Impervious area: Iaiap= 2.00:SLPI= .50:LGI= 475.:MNI=.013:SCI= .0]
00110> *****
00111> 001:0006- ID:NHYD AREA QPEAK-TpeakDate_hh:mm--R.V.-
00112> CALIB NASHYD 04:6063 26.30 1.569 No_date 7:20 104.47
00113> [CN= 64.0: N= 3.00]
00114> [Tp= .65:DT= 5.00]
00115> *****
00116> 001:0007- ID:NHYD AREA QPEAK-TpeakDate_hh:mm--R.V.-
00117> CALIB STANDHYD 05:6064 7.50 .590 No_date 7:00 122.31
00118> [XIMP=25:TIMP=45]
00119> [LOSS= 2 :CN= 52.1]
00120> [Pervious area: Iaper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP= .0]
00121> [Impervious area: Iaiap= 2.00:SLPI= .50:LGI= 475.:MNI=.013:SCI= .0]
00122> *****
00123> 001:0008- ID:NHYD AREA QPEAK-TpeakDate_hh:mm--R.V.-
00124> CALIB STANDHYD 06:6065 5.60 .502 No_date 7:00 135.50
00125> [XIMP=22:TIMP=47]
00126> [LOSS= 2 :CN= 61.0]
00127> [Pervious area: Iaper= 5.00:SLPP=2.00:LGP= 40.:MNP=.250:SCP= .0]
00128> [Impervious area: Iaiap= 2.00:SLPI= .50:LGI= 360.:MNI=.013:SCI= .0]
00129> *****
00130> 001:0009- ID:NHYD AREA QPEAK-TpeakDate_hh:mm--R.V.-
00131> ADD HYD 02:H-600 30.61 3.720 No_date 9:15 198.01
00132> + 03:6062 13.50 1.175 No_date 7:00 130.73
00133> + 04:6063 26.30 1.569 No_date 7:20 104.47
00134> + 05:6064 7.50 .590 No_date 7:00 122.31
00135> + 06:6065 5.60 .502 No_date 7:00 135.50

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00136> [DT= 5.00] SUM= 07:GTRAIL 83.51 6.250 No_date 9:00 146.69
00137> 001:0010- ID:NHYD AREA QPEAK-TpeakDate_hh:mm--R.V.-
00138> SAVE HYD 07:GTRAIL 83.51 6.250 No_date 9:00 146.69
00139> filename = C:\SWHMYMO\PONDD-1\H-GTRAIL.001
00140> remark:NodeA
00141> 001:0011- ID:NHYD AREA QPEAK-TpeakDate_hh:mm--R.V.-
00142> ROUTE RESERVOIR -> 07:GTRAIL 83.51 6.250 No_date 9:00 146.69
00143> [RDT= 1.00] out<= 03:POND 83.51 6.137 No_date 9:08 146.68
00144> overflow <= 04:OVERFLOW .00 .000 No_date 0:00 .00
00145> [MaxStoUsed=.8167E+00, TotOvfVol=.0000E+00, M-Ovf= 0, TotDurOvf= 0.hrs
00146> ]-QOM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 606)11
00147> 001:0012- ID:NHYD AREA QPEAK-TpeakDate_hh:mm--R.V.-
00148> READ HYD 08:tim6 489.80 13.332 No_date 15:30 194.65
00149> Filename = C:\SWHMYMO\PONDD-1\tim6.HYD
00150> Comment = Timmins 15-min storm hydrograph at ID606
00151> *****
00152> 001:0013- ID:NHYD AREA QPEAK-TpeakDate_hh:mm--R.V.-
00153> ADD HYD 03:POND 83.51 6.137 No_date 9:08 146.68
00154> + 08:tim6 489.80 13.332 No_date 15:30 194.65
00155> [DT= 1.00] SUM= 09:Trail 573.31 14.025 No_date 12:05 187.67
00156> 001:0014- ID:NHYD AREA QPEAK-TpeakDate_hh:mm--R.V.-
00157> SAVE HYD 09:Trail 573.31 14.025 No_date 12:05 187.67
00158> filename = C:\SWHMYMO\PONDD-1\H-Trail.001
00159> remark:Trail
00160> *****
00161> 001:0015- ID:NHYD AREA QPEAK-TpeakDate_hh:mm--R.V.-
00162> CALIB NASHYD 10:6071 25.50 1.269 No_date 9:05 114.01
00163> [CN= 68.8: N= 3.00]
00164> [Tp= 1.36:DT= 5.00]
00165> *****
00166> 001:0016- ID:NHYD AREA QPEAK-TpeakDate_hh:mm--R.V.-
00167> ADD HYD 09:Trail 573.31 14.025 No_date 12:05 187.67
00168> + 10:6071 25.50 1.269 No_date 9:05 114.01
00169> [DT= 1.00] SUM= 03:NodeB 598.81 14.815 No_date 12:02 184.53
00170> 001:0017- ID:NHYD AREA QPEAK-TpeakDate_hh:mm--R.V.-
00171> SAVE HYD 03:NodeB 598.81 14.815 No_date 12:02 184.53
00172> filename = C:\SWHMYMO\PONDD-1\H-NodeB.001
00173> remark:NodeB
00174> 001:0018-
00175> FINISH
00176> *****
00177>
00178> ***** WARNINGS / ERRORS / NOTES *****
00179>
00180> Simulation ended on 2014-09-02 at 15:33:12
00181>
00182>
00183>

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FIGURES

Figure 1: Site Location Plan

Figure 2: Development Concept Plan

Figure 3: Development Draft Plan

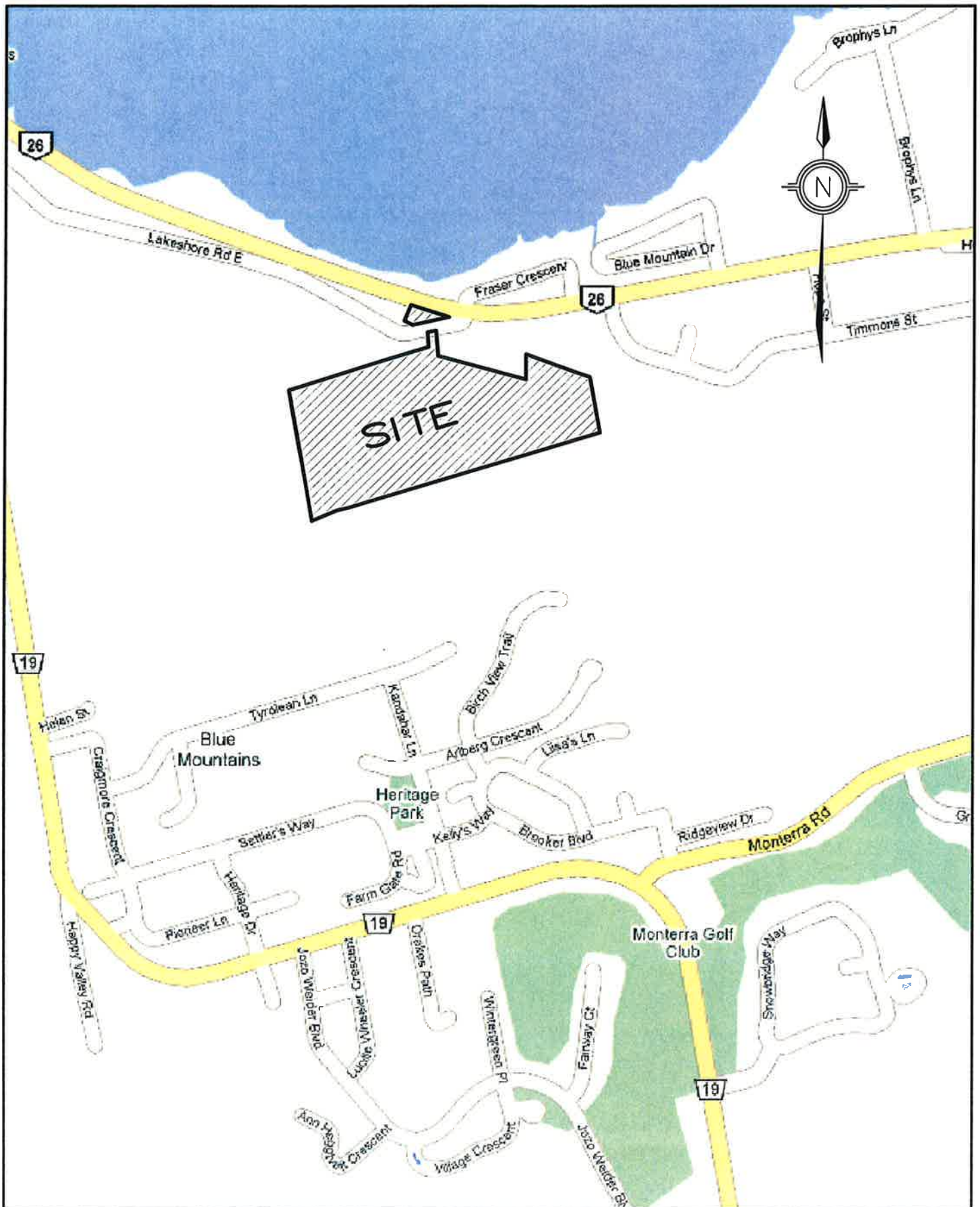
Figure 4: Proposed Sanitary Servicing


Figure 5: Proposed Water Servicing

Figure 6: GSCA Delineation of Sub-Watersheds 6 & 7

Figure 7: Site Drainage & Stormwater Management Plan

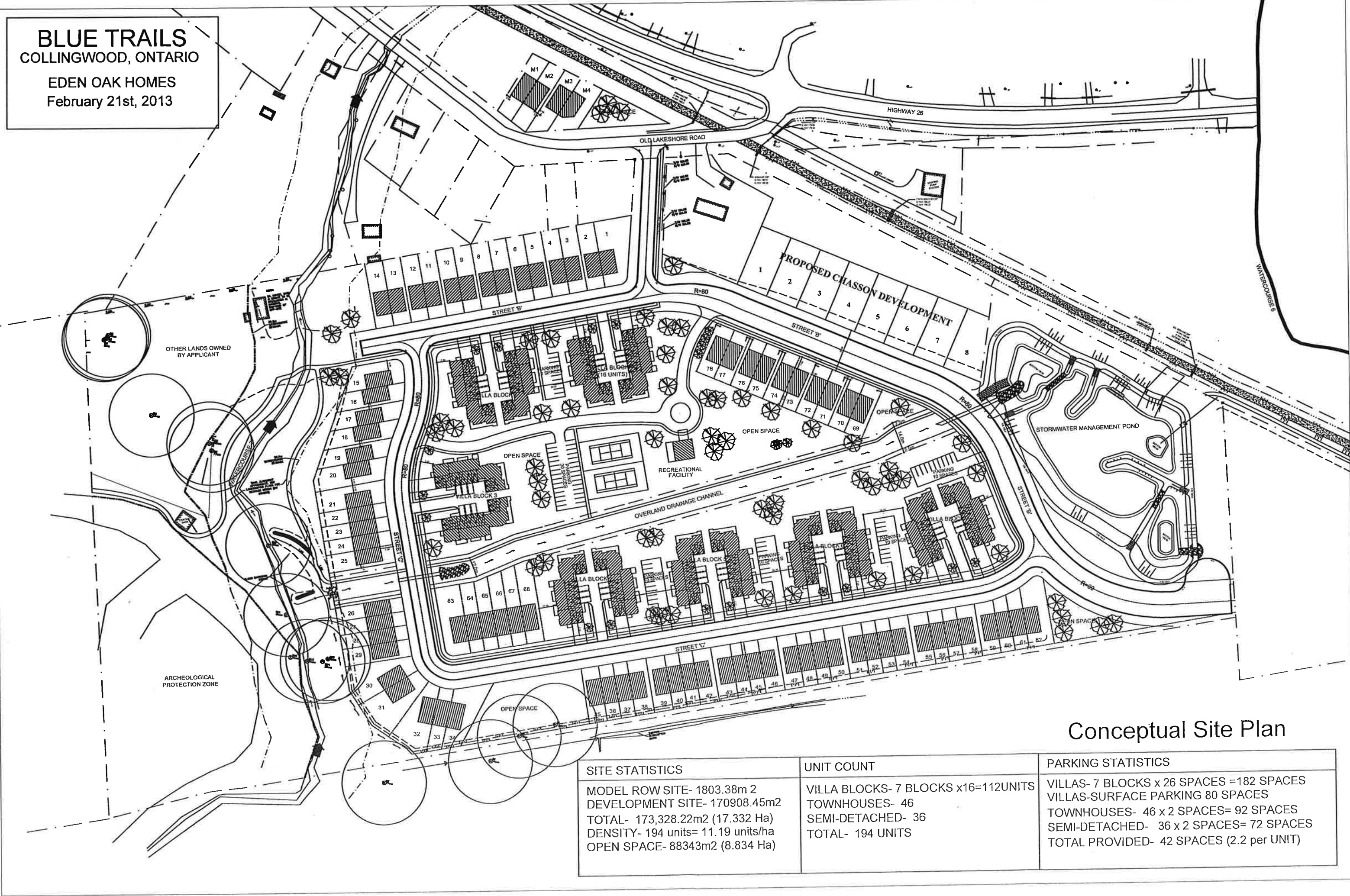
Figure 8: CFCA Revised Delineation of Sub-Watersheds 6 & 7



Project	EDEN OAK TOWN of THE BLUE MOUNTAINS			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			
Drawing	SITE LOCATION PLAN							
			Drawn By	L.W.	Check By	K.M.	Project No.	218-2659
			Scale	N.T.S.	Date	04/28/2012	Drawing No.	FIG.1

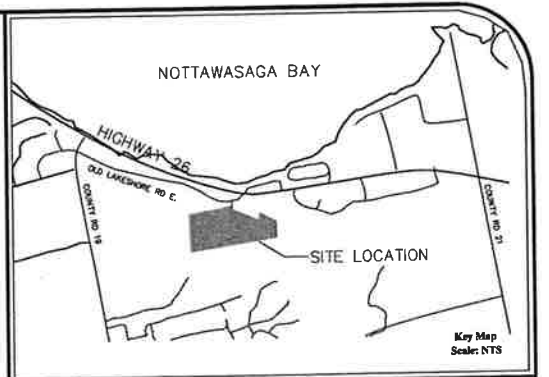
BLUE TRAILS
COLLINGWOOD, ONTARIO
EDEN OAK HOMES
February 21st, 2013

J:\200\218 - Eden Oak\2659\CAD\EXTERNAL\CONCEPT PLANS\2013.02.22\08068-SP-100.(21Feb2013).dwg, Layout1, 9/11/2014 1:34:13 PM, lwaters



Conceptual Site Plan

SITE STATISTICS	UNIT COUNT	PARKING STATISTICS
MODEL ROW SITE- 1803.38m ² DEVELOPMENT SITE- 170908.45m ² TOTAL- 173,328.22m ² (17.332 Ha) DENSITY- 194 units= 11.19 units/ha OPEN SPACE- 88343m ² (8.834 Ha)	VILLA BLOCKS- 7 BLOCKS x16=112UNITS TOWNHOUSES- 46 SEMI-DETACHED- 36 TOTAL- 194 UNITS	VILLAS- 7 BLOCKS x 26 SPACES =182 SPACES VILLAS-SURFACE PARKING 80 SPACES TOWNHOUSES- 46 x 2 SPACES= 92 SPACES SEMI-DETACHED- 36 x 2 SPACES= 72 SPACES TOTAL PROVIDED- 42 SPACES (2.2 per UNIT)



**DRAFT PLAN
OF SUBDIVISION**
Part of Lots 158, 173 and 174
Registered Plan 529
TOWN OF THE BLUE MOUNTAINS
(Geographic Township of Collingwood)
COUNTY OF GREY

SURVEYOR'S CERTIFICATE
I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED ON THIS PLAN AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN.

SEPT, 2014
PAUL THOMSEN, OLS
ZUBEK, EMO, PATTEN & THOMSEN LTD.
ONTARIO LAND SURVEYOR
TOWN OF COLLINGWOOD

OWNER'S CERTIFICATE
EDEN OAK (TRAILHEAD) INC. HAS AUTHORIZED D.C. SLADE CONSULTANTS INC. TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE COUNTY OF GREY FOR APPROVAL.

SEPT, 2014
ANDREW PASCUZZO MCIP, RPP
D.C. SLADE CONSULTANTS INC.

**ADDITIONAL INFORMATION REQUIRED UNDER
SECTION 51 (17) OF THE PLANNING ACT**

- | | |
|---|--|
| (a) AS SHOWN ON DRAFT PLAN,
(b) AS SHOWN ON DRAFT PLAN,
(c) AS SHOWN ON DRAFT AND KEY PLAN,
(d) THE LAND IS TO BE USED ACCORDING TO
THE SCHEDULE OF LAND USE,
(e) AS SHOWN ON DRAFT PLAN,
(f) AS SHOWN ON DRAFT PLAN, | (g) AS SHOWN ON DRAFT PLAN,
(h) MUNICIPAL WATER SUPPLY,
(i) CLAY,
(j) AS SHOWN ON DRAFT PLAN,
(k) MUNICIPAL SANITARY SEWER,
(l) AS SHOWN ON DRAFT PLAN. |
|---|--|

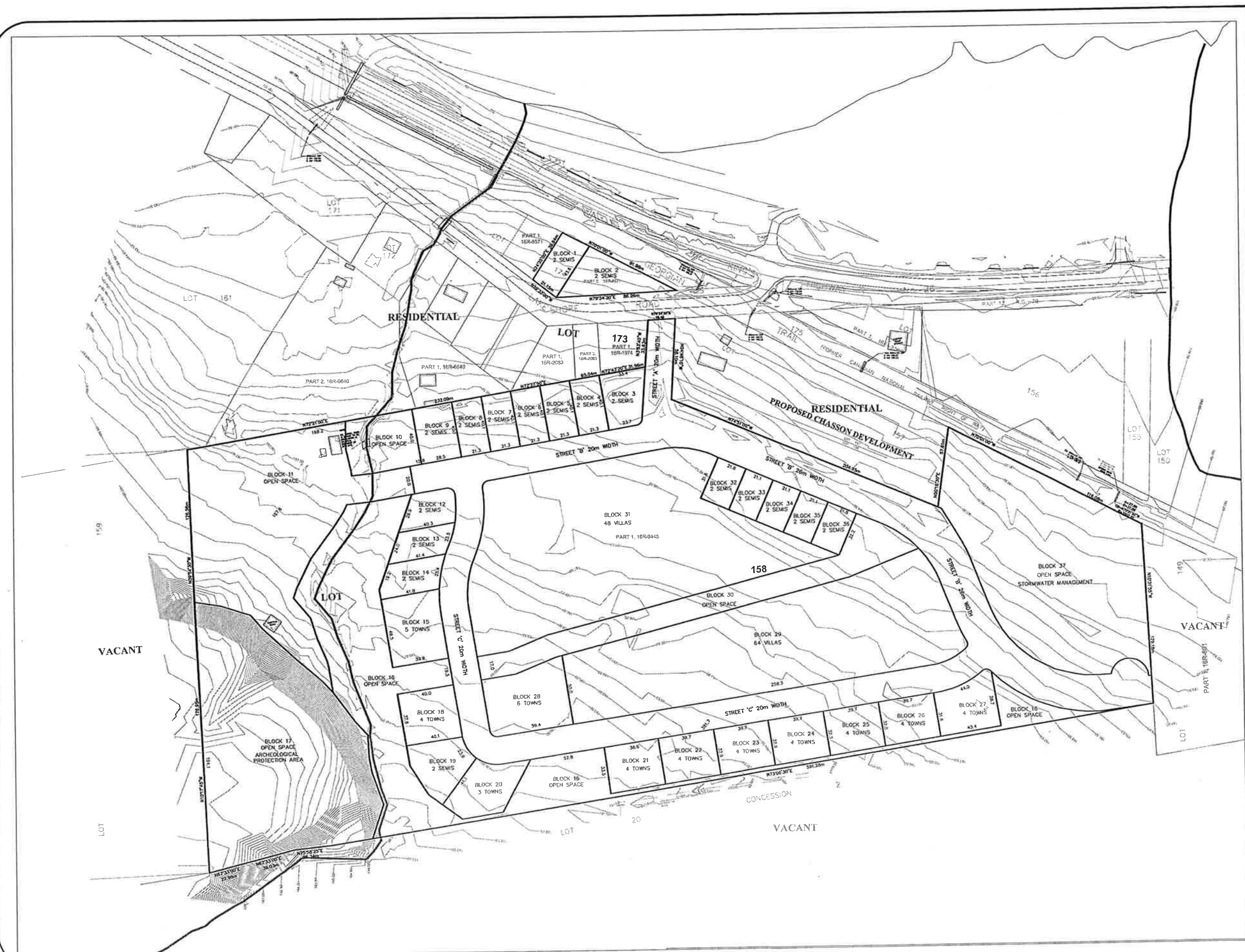
SCHEDULE OF LAND USE	UNITS	AREA
BLOCK 1 - SEMI DETACHED	2	0.0884 ha.
BLOCK 2 - SEMI DETACHED	2	0.1526 ha.
BLOCK 3 - SEMI DETACHED	2	0.1138 ha.
BLOCK 4 - SEMI DETACHED	2	0.0854 ha.
BLOCK 5 - SEMI DETACHED	2	0.0854 ha.
BLOCK 6 - SEMI DETACHED	2	0.0854 ha.
BLOCK 7 - SEMI DETACHED	2	0.0854 ha.
BLOCK 8 - SEMI DETACHED	2	0.0854 ha.
BLOCK 9 - SEMI DETACHED	2	0.0854 ha.
BLOCK 10 - OPEN SPACE (TO BE DEDICATED TO TOWN)		0.1992 ha.
BLOCK 11 - PRIVATE OPEN SPACE		1.4375 ha.
BLOCK 12 - SEMI DETACHED	2	0.0900 ha.
BLOCK 13 - SEMI DETACHED	2	0.0869 ha.
BLOCK 14 - SEMI DETACHED	2	0.1010 ha.
BLOCK 15 - TOWNHOUSES	5	0.2002 ha.
BLOCK 16 - OPEN SPACE (TO BE DEDICATED TO TOWN)		1.5907 ha.
BLOCK 17 - OPEN SPACE (ARCHAEOLOGICAL AREA)		1.7187 ha.
BLOCK 18 - TOWNHOUSES	4	0.1514 ha.
BLOCK 19 - SEMI DETACHED	2	0.1429 ha.
BLOCK 20 - TOWNHOUSES	3	0.1607 ha.
BLOCK 21 - TOWNHOUSES	4	0.1301 ha.
BLOCK 22 - TOWNHOUSES	4	0.1310 ha.
BLOCK 23 - TOWNHOUSES	4	0.1299 ha.
BLOCK 24 - TOWNHOUSES	4	0.1287 ha.
BLOCK 25 - TOWNHOUSES	4	0.1274 ha.
BLOCK 26 - TOWNHOUSES	4	0.1264 ha.
BLOCK 27 - TOWNHOUSES	4	0.1539 ha.
BLOCK 28 - TOWNHOUSES	6	0.2649 ha.
BLOCK 29 - VILLAS	64	1.8072 ha.
BLOCK 30 - OPEN SPACE (TO BE DEDICATED TO TOWN)		0.5964 ha.
BLOCK 31 - VILLAS, COMMUNITY REC AREA	48	2.2140 ha.
BLOCK 32 - SEMI DETACHED	2	0.0689 ha.
BLOCK 33 - SEMI DETACHED	2	0.0669 ha.
BLOCK 34 - SEMI DETACHED	2	0.0672 ha.
BLOCK 35 - SEMI DETACHED	2	0.0675 ha.
BLOCK 36 - SEMI DETACHED	2	0.0700 ha.
BLOCK 37 - OPEN SPACE (STORMWATER MANAGEMENT)		1.6522 ha.
ROADS		2.7566 ha.
TOTAL	194	17.3328 ha.



METRIC
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY
DIVIDING BY 0.3048
PROJECT: 573-06 DRAWN: AP DATE: AUGUST/2014

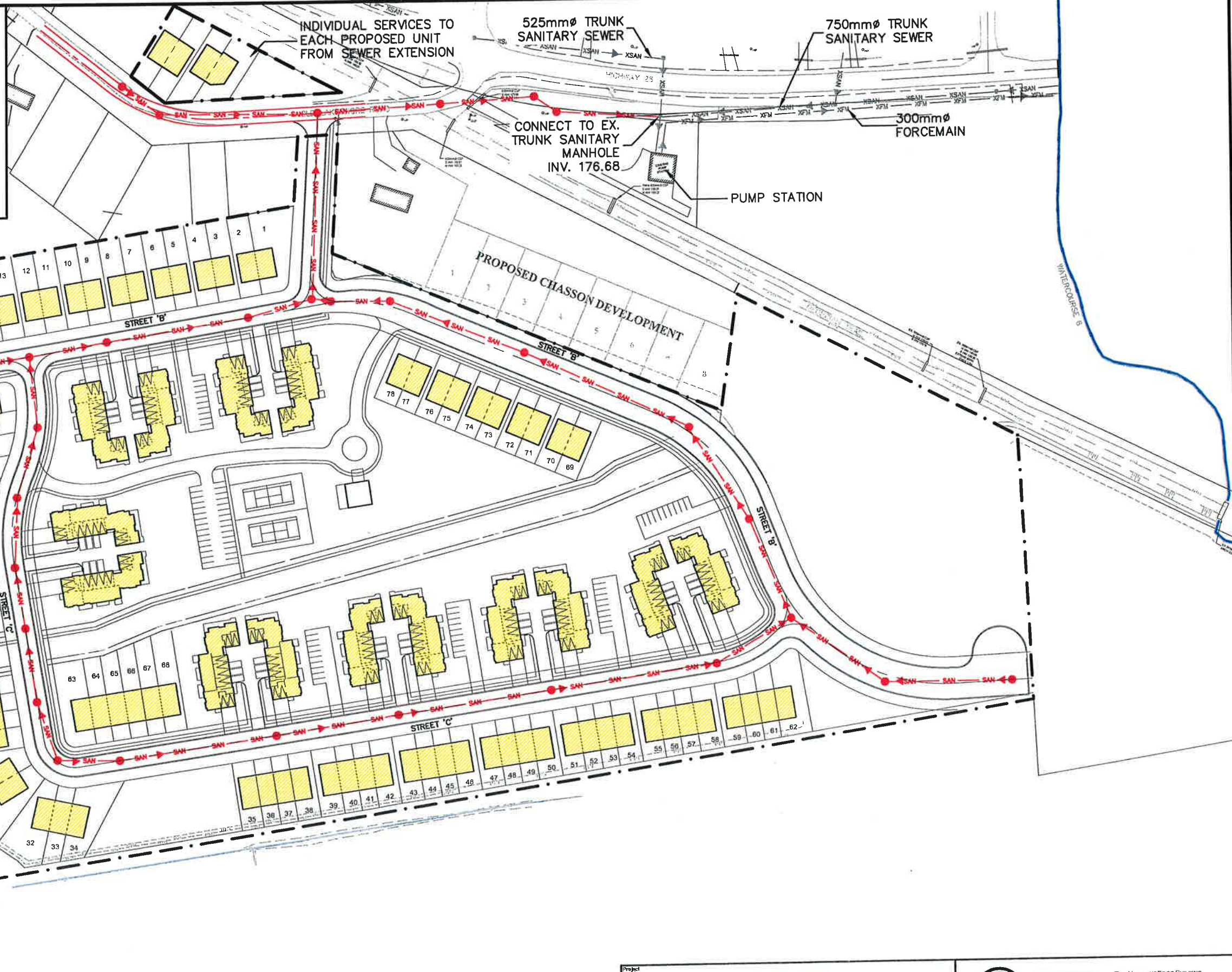
DWG: 573-06-DP18

DCS D.C. Slade Consultants Inc.
Planning & Development
243 Huronville Street, Collingwood, ON Phone: 705.444.1350



LEGEND

- SUBJECT PROPERTY LIMITS
- SAN --- SAN --- SAN --- SAN --- PROPOSED SANITARY SEWER
- XSAN --- XSAN --- XSAN --- XSAN --- EXISTING SANITARY SEWER
- XFM --- XFM --- XFM --- XFM --- EXISTING SANITARY FORCEMAIN



Project		EDEN OAK TOWN of THE BLUE MOUNTAINS		Project		218-2659
Drawing		SANITARY SERVICING PLAN		Drawing		FIG. 4
Drawn By	L.W.	Design By	K.M.	Check By	K.M.	
Scale	1:2000	Date	04/28/2012	Check By	K.M.	

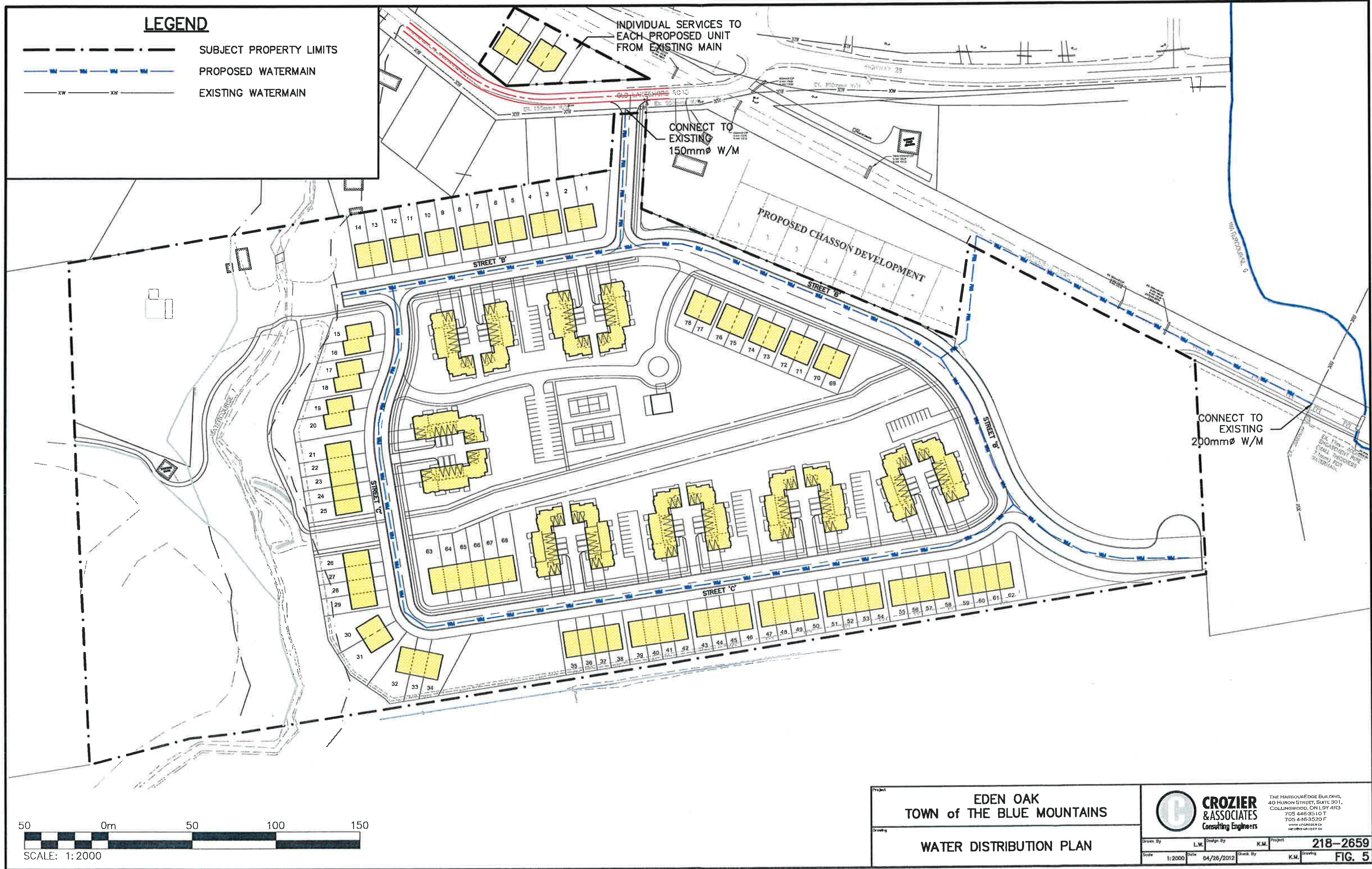
CROZIER & ASSOCIATES
Consulting Engineers

THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
COLLINGWOOD, ON L9Y 4R3
705.446.3510 T
705.446.3520 F
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J:\200\218 - Eden Oak\2659\CAD\2659_700-705, 707.dwg, 704-Fig 4, 9/11/2014 1:35:51 PM, lwaters

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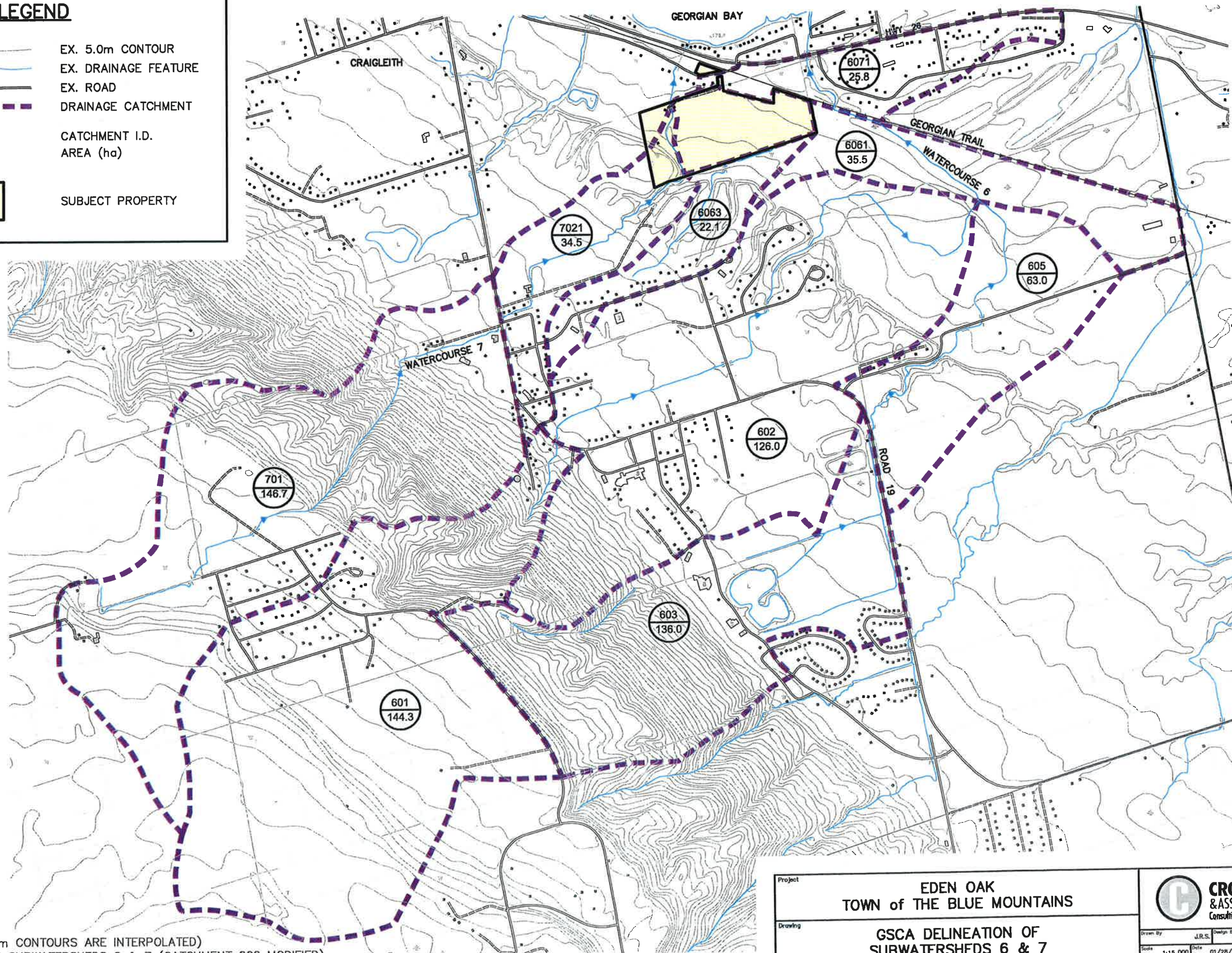
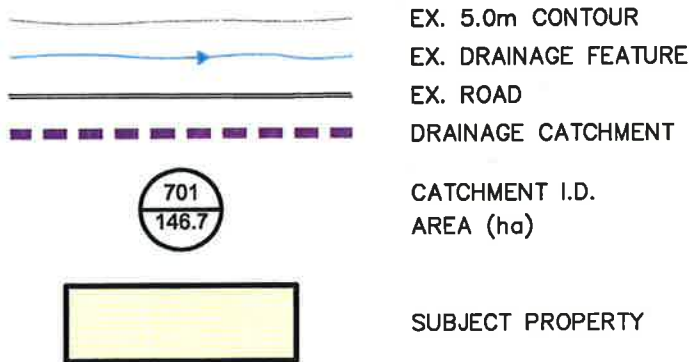
- SUBJECT PROPERTY LIMITS
- PROPOSED WATERMAIN
- EXISTING WATERMAIN



J:\200\218 - Eden Oak\2659\CAD\2659_700-705, 707.dwg, 705-Fig 5, 9/11/2014 1:36:23 PM, lwaters

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Drawn By	L.W.	Design By	K.M.
Scale	1:2000	Date	04/26/2012
Check By	K.M.	Project	218-2659
			FIG. 5

LEGEND



NOTES:

1. 5.0m CONTOURS (2.5m CONTOURS ARE INTERPOLATED)
2. GSCA DELINEATION OF SUBWATERSHEDS 6 & 7 (CATCHMENT 606 MODIFIED)

Project		EDEN OAK TOWN of THE BLUE MOUNTAINS		 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.crozier.ca info@crozier.ca	
Drawing		GSCA DELINEATION OF SUBWATERSHEDS 6 & 7			
Drawn By	J.R.S.	Design By	N.M.	Project	218-2659
Scale	1:15 000	Date	01/28/2008	Check By	K.M.
					FIG. 6

J:\200\218 - Eden Oak\2659\CAD\2659_203, 207.dwg, 203 - FIG.6, 9/11/2014 1:36:51 PM, lwaters

LEGEND

- SUBJECT PROPERTY LIMITS
- PROPOSED STORM SEWER
- PROPOSED ROAD GRADE
- OVERLAND FLOW DIRECTION

PROPOSED SWM FACILITY (WET POND)

LEVEL	ELEVATION	STORAGE	
BOTTOM OF POND	181.50	2390m ³	DEAD
PERMANENT POOL	181.80	3000m ³	ACTIVE
EXTENDED DETENTION	182.25	6600m ³	ACTIVE
100yr HWL	182.70	11400m ³	ACTIVE
TOP OF BERM	183.50		



EDEN OAK
TOWN of THE BLUE MOUNTAINS

SITE DRAINAGE AND
STORMWATER MANAGEMENT PLAN

CROZIER & ASSOCIATES
Consulting Engineers

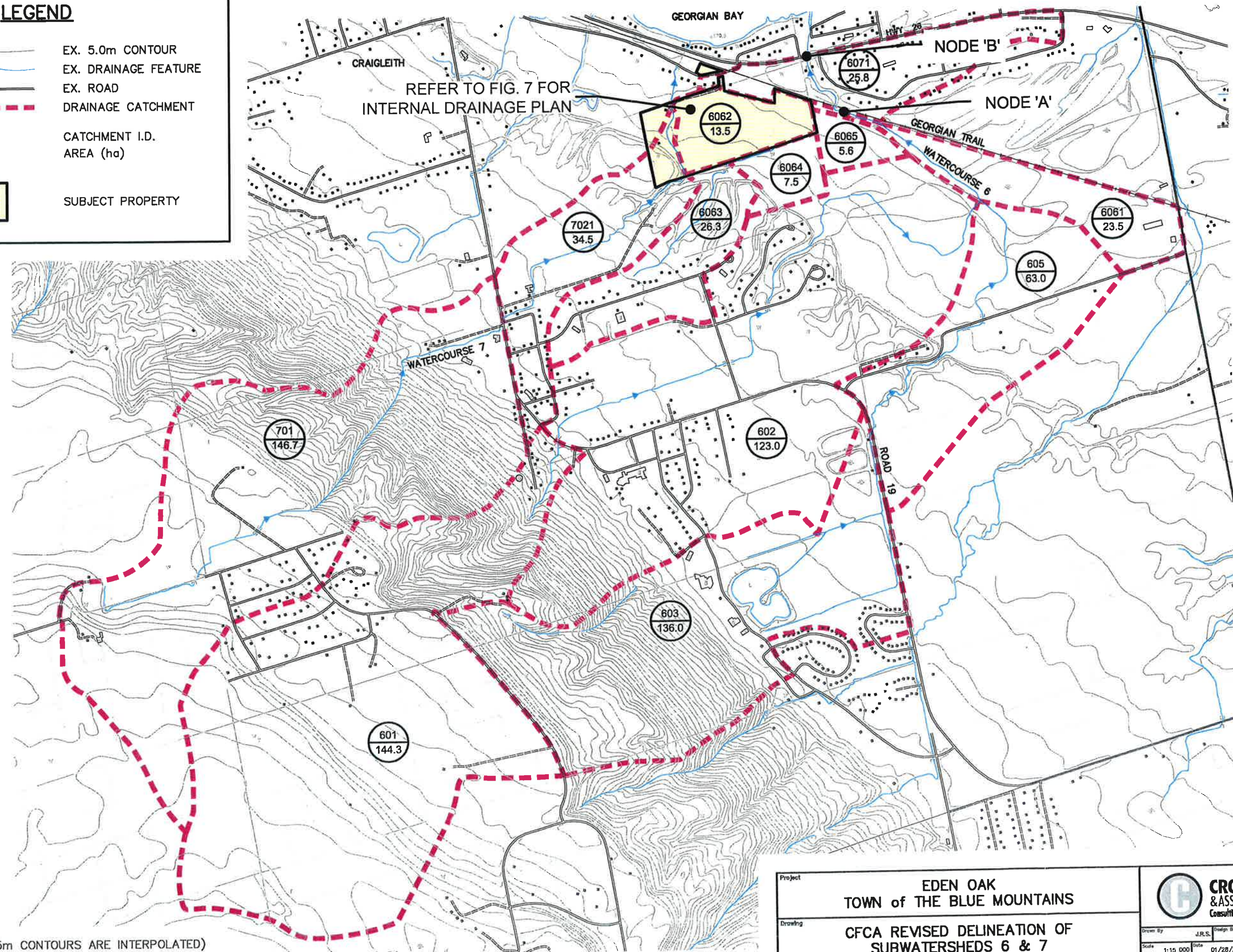
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Drawn By	L.W.	Design By	K.M.	Project	218-2659
Scale	1:2000	Date	04/26/2012	Check By	K.M.
				Drawing	FIG. 7


J:\200\218 - Eden Oak\2659\CAD\2659_700-705, 707.dwg, 707-Fig 7, 9/11/2014 1:37:21 PM, lwaters

LEGEND

- EX. 5.0m CONTOUR
- EX. DRAINAGE FEATURE
- EX. ROAD
- DRAINAGE CATCHMENT
- CATCHMENT I.D. AREA (ha)
- SUBJECT PROPERTY



- NOTES:
- 1. 5.0m CONTOURS (2.5m CONTOURS ARE INTERPOLATED)
 - 2. CFCA UPDATED SUBWATERSHED DELINEATIONS

Project		EDEN OAK TOWN of THE BLUE MOUNTAINS		 CROZIER & ASSOCIATES Consulting Engineers <small>THE HARBOUREDGE BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3 705 446-3510 T 705 446-3520 F WWW.CROZIERCA.COM</small>
Drawing		CFCA REVISED DELINEATION OF SUBWATERSHEDS 6 & 7		
Drawn By	J.R.S.	Design By	K.M.	Project
Scale	1:15 000	Date	01/28/2008	Check By
				K.M. Drawing
				218-2659 FIG. 8

J:\200\218 - Eden Oak\2659\CAD\2659_203, 207.dwg, 207 - FIG.8, 9/11/2014 1:37:48 PM, lwaters