FUNCTIONAL SERVICING & STORMWATER MANAGEMENT REPORT

EDEN OAK - INDIAN VALLEY RESIDENTIAL DEVELOPMENT TOWN OF THE BLUE MOUNTAINS

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1.0 INTRODUCTION

CF Crozier & Associates Inc. (Crozier) was retained by the Eden Oak (Trailshead) Inc. to complete a Functional Servicing & Stormwater Management Report for the proposed Eden Oak - Indian Valley Residential Development. Located within the Village of Craigleith 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 217 residential units comprised of a mixture of semi-detached, townhome and villa units as well as a series of 20 m 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 (2 semi's, 3 townhouses) 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 Approval. Additionally, butternut trees have been identified as an endangered species and are therefore accorded appropriate buffer zones in the updated development concept plan.

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 original house and barn structure.

Lands obtained to the north of Old Lakeshore road are vacant and fall northeasterly towards the Georgian Trail. Landuse 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.

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 to the property located east of the subject lands (see Figure 2).

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. The roadway will be constructed to Town of The Blue Mountains municipal standards.

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 6,047 units free for allocation (2010 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 an individual service lateral 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 exiting 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 – Indian Valley 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 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 (Mountain Road) at Helen Street. The watercourse makes its way through private lands (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 - Indian Valley 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 and only one watercourse crossing will be required to access the future community recreational facility west of the watercourse.

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.

8.2.2. Major / Minor Systems

The development will incorporate an urban cross section consisting 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. The roadway will be constructed to TOBM municipal standards and the looped road and entrance within the property will be municipally owned and maintained. Access to the site will be provided via the existing 20 m frontage on Old Lakeshore Road.

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.

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 – Indian Valley 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. 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 will be graded to allow the safe passage of the 100 year return period flow to the Watercourse 6. GSCA approval will be required for all works taking place within the regulated areas along 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	52
Chasson Development	6062	0.3	52
Nipissing Ridge (BMR) & Existing Tyrolean Village Resorts	6063	26.3	10
BMR Home Farm	6064	7.5	45
Becker Lands	6065	5.6	47
Total		52.9	30

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. Runofff 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 "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. A block within the Eden Oak draft plan has been dedicated for future ROW access to these lands. 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 – Indian Valley proposal. Due to the existence of several butternuts the area of the development located west of Watercourse 7 is shown as a future development area (community recreation facility). For the purposes of modeling the most conservative scenario, it was assumed that this area was developed at a density consistent with the remainder of the plan.

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 Trailshead and subsequent 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	13.64
	% Diff	0	0	0	0	0	0	+0.5
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	14.44
	% Diff	0	0	0	0	0	0	+0.5

[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 Trailshead development and residential draft plan illustrated that peak flows on Watercourse 6 increased when stormwater at the site outlet was held back to pre-development levels; thereby increasing the extent of downstream flooding. Based on these findings, water quantity control is not provided within the Eden Oak – Indian Valley 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 will warrant re-grading of approximately 100m of said ditch, 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 m^3/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)	*Pre*	2.26	3.31	4.24	5.14	5.60	6.52	13.57
	Post[1]	2.30	3.35	4.28	5.18	5.64	6.56	14.04
	% Diff	+1.8	+0.9	+0.9	+0.8	+0.7	+0.6	+3.5
Watercourse 6 (Highway 26)	*Pre*	2.26	3.32	4.24	5.14	5.60	6.52	14.37
	Post[1]	2.30	3.35	4.28	5.18	5.64	6.56	14.82
	% Diff	+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 m^3/ha (MOE, 2003). This is comprised of 40 m^3/ha permanent pool volume and 40 m^3/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 m^3
- Extended Detention 2,120 m^3

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 2,810 m^3 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 m^3
- Extended Detention 3,000 m^3

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 – Indian Valley 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 to future development lands to the east.

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 Craigleith. 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.

Respectfully submitted,

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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 m^3/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 m^3/s entering the site, we conclude that the spill flow rate is approximately 3.7 m^3/s across the subject lands. During the 100-year event, the corresponding spill flow rate is approximately 1.1 m^3/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 m^3/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 m^3/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 location between Lots 32 and 33. 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 m^3/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 m^3/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.

File Last Updated: Wed, 25 Jun 2008

LEGEND

- SUBJECT PROPERTY LIMITS
- EX. 0.5m CONTOUR
- EX. DITCH
- EX. WATERCOURSE
- 0+050 / 184.73 — 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

Qspill 3.7m³/s

QCHANNEL 6.0m³/s

WATERCOURSE 7

WC7 9.7m³/s

0+000 183.21

0+050 184.71

0+080 185.36

0+170 187.84

0+195 188.61

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+370 192.64

218 2659
15 copies 1/1
424 2996
16 copies 3/8 11
209-2649
12 copies 3/8 11

...ING SPILL ROUTE AROUND WATERCOURSE CROSSING STRUCTURE UNDER ICE JAM CONDITIONS

Drawing: J:\218 - EDEN OAK\2659\CAD\2659_213, 215.DWG, Layout Tab:213

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
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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

LEGEND

- SUBJECT PROPERTY LIMITS
- EX. 0.5m CONTOUR
- EX. WATERCOURSE
- 0+050 / 184.73 — HEC-RAS SECTION I.D. / REGIONAL WATER SURFACE ELEVATION (m)
- REGIONAL FLOOD EXTENTS

STREET 'B'

STREET 'C'

TWIN 63.0m–1200mmø CSP CULVERTS TO CONVEY SPILL FLOW TO REGIONAL SWM FACILITY

Qspill 3.7m³/s

0+130 DS 186.61

0+130 US 188.15

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

FLOOD-PROOF LOTS TO PROVIDE FLOOD PROTECTION FOR REGIONAL EVENT

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.

EXISTING WATERCOURSE CROSSING TO BE REMOVED

WATERCOURSE 7

WC7 6.0m³/s

WC7 9.7m³/s

0+000 183.21

0+050 184.71

0+080 185.36

0+110 186.61

0+170 188.15

0+195 188.61

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+370 192.76

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

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

CROZIER & ASSOCIATES ENGINEERS
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Drawn By	J.R.S.	Check By	N.M.
Scale	1:1000	Date	05/09/2008
Project No.	218-2659		
Drawing No.	FIG. 6		

APPENDIX B

Hydrologic Parameters

CROZIER &ASSOCIATES Consulting Engineers

HYDROLOGIC PARAMETERS

Project:	Eden Oak
Project No.:	218-2659
File:	Hyd Parameters
Design by:	E.J.
Date:	April 3rd, 2012

Eden Oak Post - Indian Valley -Regional SWM Pond Sizing

Contributing Lands	Drainage I	Area (ha)	Original Imp. Level (%)	Updated Imp Level (%)
Eden Oak (Site Proper) & Chasson Development	6062	13.5	42%	52%
Nipissing Ridge (BMR) & Existing Tyrolean Village Resort	6063	26.3	10%	10%
BMR Home Farm	6064	7.5	45%	45%
Becker Lands	6065	5.6	47%	47%
Total		**52.9**	**27.05%**	**29.60%**

CF CROZIER & ASSOCIATES INC
LAND DEVELOPMENT ENGINEERS

HYDROLOGIC PARAMETERS

Project: Eden Oak
Project No.: 218-2659
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 loar	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	0.0		0		0

Ximp **0** %

Timp **0** %

Composite Curve Number (for previous areas) **52.4**

Land Use	Initial Abstraction (mm)	Area (ha)	IA*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
Meadow	0.1	10.8	1.1		2.7	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									
Total			1.1			0.3			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 **0.82** hours
Time to Peak **32.9** min **0.55** 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	0.55

CF CROZIER & ASSOCIATES INC
LAND DEVELOPMENT ENGINEERS

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	5.6	58	324.8
				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

Ximp **0** %

Timp **0** %

Composite Curve Number (for previous areas) **58.0**

Land Use	Initial Abstraction (mm)	Area (ha)	IA*A
Wetlands	16	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									
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

CF CROZIER & ASSOCIATES INC
LAND DEVELOPMENT CONSULTANTS

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 loar	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	0.0		0		0

Ximp **0** %

Timp **0** %

Composite Curve Number (for previous areas) **46.8**

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									
Total			0.5			0.3			0.0			0.0

Composite Runoff Coefficient 0.10

AIRPORT METHOD
(runoff coefficient less than 0.40, <1 km^2)

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, <25km^2)

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

CF CROZIER & ASSOCIATES INC
LAND DEVELOPMENT CONSULTANTS

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	124.662	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

Ximp **5** %

Timp **10** %

Composite Curve Number (for pervious areas) **60.2**

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 m^2
Pavement Width	8 m
Sidewalks	0 m^2
Length ROW	880 m
Driveway	100 m^2

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 km^2)

Time of Concentration **58.6** min **0.98** hours
Time to Peak **39.3** min **0.65** 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, <25km^2)

Time of Concentration **36.7** min **0.61** hours
Time to Peak **24.6** min **0.41** hours

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

TIME TO PEAK	
Appropriate Method	AIRPORT METHOD
Tp	0.65

CROZIER & ASSOCIATES
Consulting Engineers

HYDROLOGIC PARAMETERS

Project:	Eden Oak
Project No.:	218-2659
File:	Hyd Parameters
Design by:	E.J.
Date:	18-May-06
Updated	3-Apr-12

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 loar	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	5.1	61	313.370176	0.0		0	Roadway	1.53
		0	1.3	39	50.087856			0	Sidewalk	0.24
		0			0			0	Driveway	1.69
		0			0			0	Building	2.42
		0			0			0	Pond	1.20
0.0		0	6.42		363.458032	0.0		0		7.08

Ximp **35** %

Timp **52** %

Composite Curve Number (for previous areas) **56.6**

Land Use	Intial 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	6.4	32.1
Impervious	2	7.1	14.2

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

CF CROZIER & ASSOCIATES INC

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	1.38
		0			0			0		
0.0		0	3.0		180.9748	0.0		0		2.6332

Ximp **22** %

Timp **47** %

Composite Curve Number (for previous areas) **61.0**

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 m^2
Pavement Width	9.5 m
Sidewalks	1.5 m^2
Length ROW	512 m
Driveway	100 m^2

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						
Total			2.8			0.0			0.0			0.0

Composite Runoff Coefficient 0.50

AIRPORT METHOD
(runoff coefficient less than 0.40, <1 km^2)

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

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

BRANSBY-WILLIAMS METHOD
(Runoff Coefficient greater than 0.40, <25km^2)

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

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

TIME TO PEAK	
Appropriate Method	BRANSBY-WILLIAMS METHOD
Tp	0.22

CF CROZIER & ASSOCIATES INC
LAND DEVELOPMENT CONSULTANTS

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 Area(ha)	Percent	Woodland Area	CN	CN*A	Meadow Area	CN	CN*A
Granby Sand	B		4.5	60			0			0
Waterloo Sand loan	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 Area	CN	CN*A	Lawn Area	CN	CN*A	Cultivated Area	CN	CN*A	Impervious 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** %

Timp **45** %

Composite Curve Number (for previous areas) **52.1**

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

Land Use	Intial 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	4.1	20.6
Impervious	2	3.4	6.7

Total Property Area **7.5** **ha**

Number of Houses	74
Building footprint	200 m^2
Pavement Width	8.5 m
Sidewalk Width	1.5 m
Length ROW	1000 m
Driveway	120 m^2

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 C(-)	Area	CA	Waterloo Sand loam C(-)	Area	CA	0 C(-)	Area	CA	0 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
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 km^2)

Time of Concentration **28.7** min **0.48** hours
Time to Peak **19.3** min **0.32** 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, <25km^2)

Time of Concentration **16.5** min **0.27** hours
Time to Peak **11.0** min **0.18** hours

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

TIME TO PEAK	
Appropriate Method	BRANSBY-WILLIAMS METHOD
Tp	0.18

APPENDIX C

SWMHYMO Modeling

```
00001> ********************************************************************************
00002>
00003>  SSSSS   W    W  M    M  H    H  Y    Y  M    M    OOO         999    999  *********
00004>  S       W W W  MM MM  H    H   Y Y     MM MM  O   O       9   9  9   9
00005>  SSSSS   W W W  M M M  HHHHH     Y      M M M  O   O  ##   9   9  9   9  Ver. 4.02
00006>      S   W W W  M    M  H    H    Y      M    M  O   O       9999   9999  July 1999
00007>  SSSSS    W W   M    M  H    H    Y      M    M   OOO          9      9  *********
00008>                                                              9   9  9   9  # 3737016
00009>       StormWater Management HYdrologic Model                  999    999  *********
00010>
00011>  ********************************************************************************
00012>  ************************** SWMHYMO-99 Ver/4.02 ********************************
00013>  *******  A single event and continuous hydrologic simulation model  *******
00014>  *******       based on the principles of HYMO and its successors       *******
00015>  *******                    OTTHYMO-83 and OTTHYMO-89.                  *******
00016>  ********************************************************************************
00017>  ******* Distributed by:  J.F. Sabourin and Associates Inc.             *******
00018>  *******                  Ottawa,  Ontario: (613) 727-5199             *******
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:  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, (ft^3/s) or (m^3/s).      ***
00041>  *** TpeakDate_hh:mm is the date and time of the peak flow.               ***
00042>  ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).        ***
00043>  ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).        ***
00044>  ***    *:  see WARNING or NOTE message printed at end of run.           ***
00045>  ***   **:  see  ERROR  message printed at end of run.                   ***
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049>  ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  *********************   S U M M A R Y   O U T P U T   **********************
00054>  ********************************************************************************
00055>  *       DATE: 2012-04-03     TIME: 11:09:38     RUN COUNTER: 000227       *
00056>  ********************************************************************************
00057>  * Input   filename: C:\218-2659\030420~1\PRE-DE~1\2_pre.dat                 *
00058>  * Output  filename: C:\218-2659\030420~1\PRE-DE~1\2_pre.out                 *
00059>  * Summary filename: C:\218-2659\030420~1\PRE-DE~1\2_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>         [NSTORM=   0 ]
00081>         [NRUN  =   1 ]
00082>  #*******************************************************************************
00083>  #*****************COMBINED PRE-DEVELOPMENT - 2 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\2YR.STM
00091>         Comment  = 2-Year 6 hr Kefer Chu Chicago Storm Event
00092>         [SDT=60.00:SDUR=   6.00:PTOT=  37.90]
00093>  #----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)---------|
00094>  001:0003---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00095>       READ HYD           01:2YR7     178.10    2.893 No_date    3:15   40.70  n/a
00096>         Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\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----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00100>       DIVERT HYD       -> 01:2YR7     178.10    2.893 No_date    3:15   40.70  n/a
00101>                diverted <= 03:H-7022  178.10    2.893 No_date    3:15   40.70  n/a
00102>                diverted <= 02:H-600      .00     .000 No_date    0:00    .00  n/a
00103>  #----------------|------------------EDEN OAK SITE 6062---------------------|
00104>  001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>       CALIB NASHYD       03:6062      13.50     .071 No_date    3:20    3.43 .091
00106>         [CN= 52.4: N= 3.00]
00107>         [Tp=  .55:DT= 5.00]
00108>  #----------------|----------------EXISTING TYROLEAN 6063---------------------|
00109>  001:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00110>       CALIB NASHYD       04:6063      26.30     .189 No_date    3:25    5.21 .137
00111>         [CN= 64.0: N= 3.00]
00112>         [Tp=  .65:DT= 5.00]
00113>  #----------------|-----------------KMR SITE 6064---------------------------|
00114>  001:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00115>       CALIB NASHYD       05:6064       7.50     .039 No_date    3:10    2.81 .074
00116>         [CN= 46.8: N= 3.00]
00117>         [Tp=  .42:DT= 5.00]
00118>  #----------------|---------------BECKER SITE 6065----------------------------|
00119>  001:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00120>       CALIB NASHYD       06:6065       5.60     .037 No_date    3:20    4.18 .110
00121>         [CN= 58.0: N= 3.00]
00122>         [Tp=  .53:DT= 5.00]
00123>  #----------------|----------------ADD AREAS 6062 - 6065----------------------|
00124>  001:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00125>       ADD HYD            02:H-600      .00     .000 No_date    0:00     .00  n/a
00126>                        + 03:6062      13.50     .071 No_date    3:20    3.43  n/a
00127>                        + 04:6063      26.30     .189 No_date    3:25    5.21  n/a
00128>                        + 05:6064       7.50     .039 No_date    3:10    2.81  n/a
00129>                        + 06:6065       5.60     .037 No_date    3:20    4.18  n/a
00130>         [DT= 5.00]  SUM=  07:GTRAIL    52.90     .331 No_date    3:20    4.30  n/a
00131>  001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00132>       SAVE HYD           07:GTRAIL    52.90     .331 No_date    3:20    4.30  n/a
00133>         fname :C:\218-2659\030420~1\PRE-DE~1\H-GTRAIL.001
00134>         remark:NodeA
00135>  #----------------|-QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 606)|
00136>  001:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00137>       READ HYD           08:2YR6     489.80    2.258 No_date   12:30   40.82  n/a
00138>         Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\2yr6.HYD
00139>         Comment  = 2-Year 15-min storm hydrograph at ID606
00140>  #----------------|------TOTAL PRE-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL-----|
00141>  001:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00142>       ADD HYD            07:GTRAIL    52.90     .331 No_date    3:20    4.30  n/a
00143>                        + 08:2YR6     489.80    2.258 No_date   12:30   40.82  n/a
00144>         [DT= 5.00]  SUM=  09:Trail    542.70    2.258 No_date   12:35   37.26  n/a
00145>  001:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00146>       SAVE HYD           09:Trail    542.70    2.258 No_date   12:35   37.26  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:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00151>       CALIB NASHYD       10:6071      25.50     .128 No_date    4:20    6.16 .163
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:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00156>       ADD HYD            09:Trail    542.70    2.258 No_date   12:35   37.26  n/a
00157>                        + 10:6071      25.50     .128 No_date    4:20    6.16  n/a
00158>         [DT= 5.00]  SUM=  11:NodeB    568.20    2.258 No_date   12:30   35.86  n/a
00159>  001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00160>       SAVE HYD           11:NodeB    568.20    2.258 No_date   12:30   35.86  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>  ********************************************************************************
00167>       WARNINGS / ERRORS / NOTES
00168>       -------------------------
00169>    Simulation ended on 2012-04-03     at 11:09:38
00170>  ********************************************************************************
00171>
```

```
00001> ********************************************************************************
00002>
00003>  SSSSS   W    W  M    M  H    H  Y    Y  M    M    OOO         999    999  *********
00004>  S       W W W  MM MM  H    H   Y Y     MM MM  O   O       9   9  9   9
00005>  SSSSS   W W W  M M M  HHHHH    Y      M M M  O   O  ##   9   9  9   9  Ver. 4.02
00006>      S   W W W  M    M  H    H   Y      M    M  O   O       9999   9999 July 1999
00007>  SSSSS    W W   M    M  H    H   Y      M    M   OOO          9      9  *********
00008>                                                             9   9  9   9  # 3737016
00009>       StormWater Management HYdrologic Model                 999    999  *********
00010>
00011>  ********************************************************************************
00012>  ************************** SWMHYMO-99 Ver/4.02 ***********************************
00013>  *******  A single event and continuous hydrologic simulation model  *******
00014>  *******     based on the principles of HYMO and its successors       *******
00015>  *******              OTTHYMO-83 and OTTHYMO-89.                      *******
00016>  ********************************************************************************
00017>  ******* Distributed by:  J.F. Sabourin and Associates Inc.            *******
00018>  *******                  Ottawa, Ontario: (613) 727-5199             *******
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:  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, (ft^3/s) or (m^3/s).       ***
00041>  *** TpeakDate_hh:mm is the date and time of the peak flow.                 ***
00042>  ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).          ***
00043>  ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).          ***
00044>  ***     *:  see WARNING or NOTE message printed at end of run.            ***
00045>  ***    **:  see  ERROR  message printed at end of run.                    ***
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049>  ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  ********************  S U M M A R Y   O U T P U T  ********************
00054>  ********************************************************************************
00055>  *       DATE: 2012-04-03     TIME: 11:08:24     RUN COUNTER: 000226          *
00056>  ********************************************************************************
00057>  * Input   filename: C:\218-2659\030420-1\PRE-DE-1\5_pre.dat                    *
00058>  * Output  filename: C:\218-2659\030420-1\PRE-DE-1\5_pre.out                    *
00059>  * Summary filename: C:\218-2659\030420-1\PRE-DE-1\5_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>       [NSTORM=   0 ]
00081>       [NRUN  =   1 ]
00082> #*******************************************************************************
00083> #*****************COMBINED PRE-DEVELOPMENT - 5 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\5YR.STM
00091>       Comment  = 5-Year 6 hr Kifer Chu Chicago Storm Event
00092>       [SDT=60.00:SDUR=   6.00:PTOT=  52.70]
00093> #-----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)---------|
00094>  001:0003---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00095>      READ HYD          01:5YR7     178.10    3.943 No_date    3:30   55.24  n/a
00096>       Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\5yr7.HYD
00097>       Comment  = 5-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.-R.C.
00100>      DIVERT HYD      -> 01:5YR7     178.10    3.943 No_date    3:30   55.24  n/a
00101>             diverted <= 03:H-7022   178.10    3.943 No_date    3:30   55.24  n/a
00102>             diverted <= 02:H-600        .00     .000 No_date    0:00     .00  n/a
00103> #-----------------|-----------------EDEN OAK SITE 6062-----------------------|
00104>  001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>      CALIB NASHYD      03:6062      13.50     .149 No_date    3:20    7.25 .138
00106>       [CN= 52.4: N= 3.00]
00107>       [Tp=  .55:DT= 5.00]
00108> #-----------------|-----------------EXISTING TYROLEAN 6063---------------------|
00109>  001:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00110>      CALIB NASHYD      04:6063      26.30     .386 No_date    3:25   10.69 .203
00111>       [CN= 64.0: N= 3.00]
00112>       [Tp=  .65:DT= 5.00]
00113> #-----------------|-----------------BMR SITE 6064-----------------------------|
00114>  001:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00115>      CALIB NASHYD      05:6064       7.50     .081 No_date    3:10    5.99 .114
00116>       [CN= 46.8: N= 3.00]
00117>       [Tp=  .42:DT= 5.00]
00118> #-----------------|-----------------BECKER SITE 6065----------------------------|
00119>  001:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00120>      CALIB NASHYD      06:6065       5.60     .076 No_date    3:15    8.74 .166
00121>       [CN= 58.0: N= 3.00]
00122>       [Tp=  .53:DT= 5.00]
00123> #-----------------|-----------------ADD AREAS 6062 - 6065----------------------|
00124>  001:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00125>      ADD HYD           02:H-600        .00     .000 No_date    0:00     .00  n/a
00126>                      + 03:6062       13.50     .149 No_date    3:20    7.25  n/a
00127>                      + 04:6063       26.30     .386 No_date    3:25   10.69  n/a
00128>                      + 05:6064        7.50     .081 No_date    3:10    5.99  n/a
00129>                      + 06:6065        5.60     .076 No_date    3:15    8.74  n/a
00130>       [DT= 5.00]  SUM=  07:GTRAIL    52.90     .682 No_date    3:20    8.94  n/a
00131>  001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00132>      SAVE HYD          07:GTRAIL    52.90     .682 No_date    3:20    8.94  n/a
00133>       fname :C:\218-2659\030420-1\PRE-DE-1\H-GTRAIL.001
00134>       remark:NodeA
00135> #-----------------|-QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 6061)|
00136>  001:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00137>      READ HYD          08:5YR6     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> #-----------------|------TOTAL PRE-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL-----|
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>                      + 08:5YR6     489.80    3.312 No_date   12:00   55.37  n/a
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> #-----------------|-----------------------AREA 6071-----------------------------|
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> #-----------------|---------TOTAL PRE-DEVELOPMENT FLOW TO HWY 26-------------|
00155>  001:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00156>      ADD HYD           09:Trail    542.70    3.312 No_date   12:00   50.84  n/a
00157>                      + 10:6071      25.50     .259 No_date    4:20   12.50  n/a
00158>       [DT= 5.00]  SUM=  11:NodeB    568.20    3.312 No_date   12:00   49.12  n/a
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>  001:0017-------------------------------------------------------------------------
00164>      FINISH
00165>  -------------------------------------------------------------------------------
00166>  *******************************************************************************
00167>      WARNINGS / ERRORS / NOTES
00168>      -------------------------
00169>    Simulation ended on 2012-04-03      at 11:08:25
00170>  ===============================================================================
00171>
```

```
00001> ================================================================================
00002>
00003>  SSSSS   W    W   M    M   H    H   Y    Y   M    M     OOO         999    999  ==========
00004>  S       W W W   MM  MM   H    H    Y Y     MM  MM    O   O       9   9  9   9
00005>  SSSSS   W W W   M MM M   HHHHHH     Y      M MM M    O   O  ##   9   9  9   9  Ver. 4.02
00006>      S   W W W   M    M   H    H     Y      M    M    O   O        9999   9999  July 1999
00007>  SSSSS    W W    M    M   H    H     Y      M    M     OOO           9      9  ==========
00008>                                                                   9   9  9   9  # 3737016
00009>        StormWater Management HYdrologic Model                     999    999  ==========
00010>
00011>  ********************************************************************************
00012>  ********** SWMHYMO-99 Ver/4.02 **********************************************
00013>  *******  A single event and continuous hydrologic simulation model  *******
00014>  *******     based on the principles of HYMO and its successors       *******
00015>  *******                 OTTHYMO-83 and OTTHYMO-89.                   *******
00016>  ********************************************************************************
00017>  ******* Distributed by:  J.F. Sabourin and Associates Inc.           *******
00018>  *******                  Ottawa, Ontario: (613) 727-5199            *******
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:  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, (ft^3/s) or (m^3/s).       ***
00041>  *** TpeakDate_hh:mm is the date and time of the peak flow.                 ***
00042>  ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).          ***
00043>  ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).          ***
00044>  ***    *:  see WARNING or NOTE message printed at end of run.             ***
00045>  ***   **:  see  ERROR  message printed at end of run.                     ***
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  *********************  S U M M A R Y   O U T P U T  *********************
00054>  ********************************************************************************
00055>  *       DATE: 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>  * 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>        [NSTORM=   0 ]
00081>        [NRUN  =   1 ]
00082> #*******************************************************************************
00083> #****************COMBINED PRE-DEVELOPMENT - 10 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\10YR.STM
00091>        Comment  = 10yr 6 hr Kifer Chu Chicago Storm Event
00092>        [SDT=60.00:SDUR=   6.00:PTOT=  66.00]
00093> #-----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)---------|
00094>  001:0003---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00095>       READ HYD           01:10YR7    178.10    4.950 No_date    3:30   68.35  n/a
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> #-----------------|-----------------SPILL FLOW TO W/C 6-------------------------|
00099>  001:0004---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00100>       DIVERT HYD      -> 01:10YR7    178.10    4.950 No_date    3:30   68.35  n/a
00101>                diverted <= 03:H-7022  178.10    4.950 No_date    3:30   68.35  n/a
00102>                diverted <= 02:H-600      .00     .000 No_date    0:00     .00  n/a
00103> #-----------------|-----------------EDEN OAK SITE 6062-----------------------|
00104>  001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>       CALIB NASHYD       03:6062     13.50     .242 No_date    3:20   11.65 .177
00106>        [CN= 52.4: N= 3.00]
00107>        [Tp=  .55:DT= 5.00]
00108> #-----------------|---------------EXISTING TYROLEAN 6063----------------------|
00109>  001:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00110>       CALIB NASHYD       04:6063     26.30     .616 No_date    3:25   16.80 .254
00111>        [CN= 64.0: N= 3.00]
00112>        [Tp=  .65:DT= 5.00]
00113> #-----------------|-----------------BMR SITE 6064-----------------------------|
00114>  001:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00115>       CALIB NASHYD       05:6064      7.50     .132 No_date    3:10    9.70 .147
00116>        [CN= 46.8: N= 3.00]
00117>        [Tp=  .42:DT= 5.00]
00118> #-----------------|---------------BECKER SITE 6065-----------------------------|
00119>  001:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00120>       CALIB NASHYD       06:6065      5.60     .124 No_date    3:15   13.90 .211
00121>        [CN= 58.0: N= 3.00]
00122>        [Tp=  .53:DT= 5.00]
00123> #-----------------|---------------ADD AREAS 6062 + 6065-----------------------|
00124>  001:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00125>       ADD HYD            02:H-600      .00     .000 No_date    0:00     .00  n/a
00126>                        + 03:6062     13.50     .242 No_date    3:20   11.65  n/a
00127>                        + 04:6063     26.30     .616 No_date    3:25   16.80  n/a
00128>                        + 05:6064      7.50     .132 No_date    3:10    9.70  n/a
00129>                        + 06:6065      5.60     .124 No_date    3:15   13.90  n/a
00130>        [DT= 5.00]  SUM=  07:GTRAIL    52.90    1.101 No_date    3:20   14.17  n/a
00131>  001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00132>       SAVE HYD           07:GTRAIL    52.90    1.101 No_date    3:20   14.17  n/a
00133>        fname :C:\218-2659\030420-1\PRE-DE-1\H-GTRAIL.001
00134>        remark:NodeA
00135> #-----------------|-QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 6061)|
00136>  001:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00137>       READ HYD           08:10YR6    489.80    4.241 No_date   11:45   68.48  n/a
00138>        Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\10yr6.HYD
00139>        Comment  = 10 yr- 15-min storm hydrograph at ID606
00140> #-----------------|------TOTAL PRE-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL-----|
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\H-Trail.001
00148>        remark:Trail
00149> #-----------------|----------------------AREA 6071-----------------------------|
00150>  001:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00151>       CALIB NASHYD       10:6071     25.50     .408 No_date    4:15   19.42 .294
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:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00156>       ADD HYD            09:Trail    542.70    4.241 No_date   11:45   63.18  n/a
00157>                        + 10:6071     25.50     .408 No_date    4:15   19.42  n/a
00158>        [DT= 5.00]  SUM=  11:NodeB    568.20    4.242 No_date   11:45   61.22  n/a
00159>  001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00160>       SAVE HYD           11:NodeB    568.20    4.242 No_date   11:45   61.22  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> ********************************************************************************
00167>       WARNINGS / ERRORS / NOTES
00168>       -------------------------
00169>    Simulation ended on 2012-04-03     at 11:10:36
00170> ================================================================================
00171>
```

```
00001> ===============================================================================
00002>
00003>  SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999  =========
00004>  S      W W W  MM MM  H   H   Y Y   MM MM  O   O    9   9  9   9
00005>  SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9  Ver. 4.02
00006>      S  W W W  M   M  H   H    Y    M   M  O   O      9999   9999  July 1999
00007>  SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9  =========
00008>                                                       9   9  9   9  # 3737016
00009>       StormWater Management HYdrologic Model          999    999  =========
00010>
00011>  ********************************************************************************
00012>  ************************** SWMHYMO-99 Ver/4.02 ********************************
00013>  *******  A single event and continuous hydrologic simulation model  *******
00014>  *******     based on the principles of HYMO and its successors       *******
00015>  *******                 OTTHYMO-83 and OTTHYMO-89.                   *******
00016>  ********************************************************************************
00017>  ******* Distributed by:  J.F. Sabourin and Associates Inc.           *******
00018>  *******                  Ottawa,  Ontario: (613) 727-5199           *******
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:  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, (ft^3/s) or (m^3/s).      ***
00041>  *** TpeakDate_hh:mm is the date and time of the peak flow.               ***
00042>  ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).         ***
00043>  ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).         ***
00044>  ***    *:  see WARNING or NOTE message printed at end of run.            ***
00045>  ***   **:  see  ERROR  message printed at end of run.                    ***
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  *********************  S U M M A R Y   O U T P U T  *********************
00054>  ********************************************************************************
00055>  *          DATE: 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>  * 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>        [NSTORM=   0 ]
00081>        [NRUN  =   1 ]
00082> #*******************************************************************************
00083> #*****************COMBINED PRE-DEVELOPMENT - 25 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\25YR.STM
00091>        Comment  = 25-Year 6 hr Kifer Chu Chicago Storm Event
00092>        [SDT=60.00:SDUR=   6.00:PTOT=  77.90]
00093> #-----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)---------|
00094>  001:0003----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00095>       READ HYD           01:25YR7    178.10     5.791 No_date    3:30   80.09  n/a
00096>        Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\25yr7.HYD
00097>        Comment  = 25-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.-R.C.
00100>       DIVERT HYD      -> 01:25YR7    178.10     5.791 No_date    3:30   80.09  n/a
00101>              diverted <= 03:H-7022   178.10     5.791 No_date    3:30   80.09  n/a
00102>              diverted <= 02:H-600        .00      .000 No_date    0:00     .00  n/a
00103> #-----------------|-----------------EDEN OAK SITE 6062-----------------------|
00104>  001:0005----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>       CALIB NASHYD       03:6062     13.50      .331 No_date    3:20   16.25 .209
00106>        [CN= 52.4: N= 3.00]
00107>        [Tp=  .55:DT= 5.00]
00108> #-----------------|---------------EXISTING TYROLEAN 6063----------------------|
00109>  001:0006----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00110>       CALIB NASHYD       04:6063     26.30      .832 No_date    3:25   23.02 .295
00111>        [CN= 64.0: N= 3.00]
00112>        [Tp=  .65:DT= 5.00]
00113> #-----------------|-------------------BMR SITE 6064---------------------------|
00114>  001:0007----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00115>       CALIB NASHYD       05:6064      7.50      .181 No_date    3:10   13.62 .175
00116>        [CN= 66.0: N= 3.00]
00117>        [Tp=  .42:DT= 5.00]
00118> #-----------------|---------------BECKER SITE 6065----------------------------|
00119>  001:0008----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00120>       CALIB NASHYD       06:6065      5.60      .168 No_date    3:15   19.25 .247
00121>        [CN= 58.0: N= 3.00]
00122>        [Tp=  .53:DT= 5.00]
00123> #-----------------|----------------ADD AREAS 6062 - 6065-----------------------|
00124>  001:0009----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00125>       ADD HYD            02:H-600        .00      .000 No_date    0:00     .00  n/a
00126>                        + 03:6062       13.50      .331 No_date    3:20   16.25  n/a
00127>                        + 04:6063       26.30      .832 No_date    3:25   23.02  n/a
00128>                        + 05:6064        7.50      .181 No_date    3:10   13.62  n/a
00129>                        + 06:6065        5.60      .168 No_date    3:15   19.25  n/a
00130>        [DT= 5.00]  SUM=  07:GTRAIL     52.90     1.494 No_date    3:20   19.56  n/a
00131>  001:0010----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00132>       SAVE HYD           07:GTRAIL     52.90     1.494 No_date    3:20   19.56  n/a
00133>        fname :C:\218-2659\030420-1\PRE-DE~1\H-GTRAIL.001
00134>        remark:NodeA
00135> #-----------------|-QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 6061)|
00136>  001:0011----------------ID:NHYD-------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:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00142>       ADD HYD            07:GTRAIL     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:NHYD-------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:NHYD-------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:NHYD-------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:NHYD-------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> ********************************************************************************
00167>       WARNINGS / ERRORS / NOTES
00168>       -------------------------
00169>    Simulation ended on 2012-04-03     at 11:11:35
00170> ================================================================================
00171>
```

```
00001> ================================================================================
00002>
00003>  SSSSS   W    W  M    M  H    H  Y    Y  M    M   OOO         999    999  =========
00004>  S       W W W  MM MM  H    H   Y Y     MM MM  O   O       9   9  9   9
00005>  SSSSS   W W W  M M M  HHHHH    Y      M M M  O   O  ##   9   9  9   9  Ver. 4.02
00006>      S   W W W  M    M  H    H   Y      M    M  O   O       9999   9999 July 1999
00007>  SSSSS    W W   M    M  H    H   Y      M    M   OOO           9      9  =========
00008>                                                              9   9  9   9  # 3737016
00009>        StormWater Management HYdrologic Model                 999    999  =========
00010>
00011>  ********************************************************************************
00012>  ************************** SWMHYMO-99 Ver/4.02 ***********************************
00013>  *******  A single event and continuous hydrologic simulation model  ********
00014>  *******      based on the principles of HYMO and its successors      ********
00015>  *******              OTTHYMO-83 and OTTHYMO-89.                      ********
00016>  ********************************************************************************
00017>  ******* Distributed by:  J.F. Sabourin and Associates Inc.           ********
00018>  *******                  Ottawa, Ontario: (613) 727-5199             ********
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:  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, (ft^3/s) or (m^3/s).       ***
00041>  *** TpeakDate_hh:mm is the date and time of the peak flow.                 ***
00042>  ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).          ***
00043>  ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).          ***
00044>  ***    *:  see WARNING or NOTE message printed at end of run.             ***
00045>  ***   **:  see ERROR message printed at end of run.                       ***
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  *********************  S U M M A R Y   O U T P U T  **********************
00054>  ********************************************************************************
00055>  *       DATE: 2012-04-03     TIME: 11:12:44     RUN COUNTER: 000230          *
00056>  ********************************************************************************
00057>  * Input   filename: C:\218-2659\030420~1\PRE-DE~1\50_pre.dat                   *
00058>  * Output  filename: C:\218-2659\030420~1\PRE-DE~1\50_pre.out                   *
00059>  * Summary filename: C:\218-2659\030420~1\PRE-DE~1\50_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>        [NSTORM=   0 ]
00081>        [NRUN  =   1 ]
00082> #*******************************************************************************
00083> #*****************COMBINED PRE-DEVELOPMENT - 50 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\50YR.STM
00091>        Comment  = 50-Year 6 hr Kifer Chu Chicago Storm Event
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.-R.C.
00095>       READ HYD           01:50YR7    178.10    6.442 No_date    3:30   87.56  n/a
00096>        Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\50yr7.HYD
00097>        Comment  = 50-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.-R.C.
00100>       DIVERT HYD      -> 01:50YR7    178.10    6.442 No_date    3:30   87.56  n/a
00101>              diverted <= 03:H-7022   176.63    6.000 No_date    3:30   87.56  n/a
00102>              diverted <= 02:H-600      1.47     .442 No_date    3:30   87.56  n/a
00103> #-----------------|-----------------EDEN OAK SITE 6062----------------------|
00104>  001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>       CALIB NASHYD       03:6062     13.50     .381 No_date    3:15   18.79 .224
00106>        [CN= 52.4: N= 3.00]
00107>        [Tp=  .55:DT= 5.00]
00108> #-----------------|-------------EXISTING TYROLEAN 6063----------------------|
00109>  001:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00110>       CALIB NASHYD       04:6063     26.30     .950 No_date    3:25   26.39 .315
00111>        [CN= 64.0: N= 3.00]
00112>        [Tp=  .65:DT= 5.00]
00113> #-----------------|-----------------BMR SITE 6064-----------------------------|
00114>  001:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00115>       CALIB NASHYD       05:6064      7.50     .209 No_date    3:10   15.80 .188
00116>        [CN= 46.8: N= 3.00]
00117>        [Tp=  .42:DT= 5.00]
00118> #-----------------|-----------------BECKER SITE 6065---------------------------|
00119>  001:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00120>       CALIB NASHYD       06:6065      5.60     .193 No_date    3:15   22.17 .264
00121>        [CN= 58.0: N= 3.00]
00122>        [Tp=  .53:DT= 5.00]
00123> #-----------------|----------------ADD AREAS 6062 + 6065---------------------|
00124>  001:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00125>       ADD HYD            02:H-600     1.47     .442 No_date    3:30   87.56  n/a
00126>                        + 03:6062     13.50     .381 No_date    3:15   18.79  n/a
00127>                        + 04:6063     26.30     .950 No_date    3:25   26.39  n/a
00128>                        + 05:6064      7.50     .209 No_date    3:10   15.80  n/a
00129>                        + 06:6065      5.60     .193 No_date    3:15   22.17  n/a
00130>       [DT= 5.00]  SUM=  07:GTRAIL    54.37    2.089 No_date    3:25   24.26  n/a
00131>  001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00132>       SAVE HYD           07:GTRAIL    54.37    2.089 No_date    3:25   24.26  n/a
00133>        fname :C:\218-2659\030420~1\PRE-DE~1\H-GTRAIL.001
00134>        remark:NodeA
00135> #-----------------|-QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 6061)|
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> #-----------------|------TOTAL PRE-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL-----|
00141>  001:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00142>       ADD HYD            07:GTRAIL    54.37    2.089 No_date    3:25   24.26  n/a
00143>                        + 08:50YR6    489.80    5.599 No_date   11:30   86.18  n/a
00144>       [DT= 5.00]  SUM=  09:Trail    544.17    5.599 No_date   11:30   80.00  n/a
00145>  001:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00146>       SAVE HYD           09:Trail    544.17    5.599 No_date   11:30   80.00  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:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00151>       CALIB NASHYD       10:6071     25.50     .627 No_date    4:15   30.15  .359
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:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00156>       ADD HYD            09:Trail    544.17    5.599 No_date   11:30   80.00  n/a
00157>                        + 10:6071     25.50     .627 No_date    4:15   30.15  n/a
00158>       [DT= 5.00]  SUM=  11:NodeB    569.67    5.601 No_date   11:30   77.76  n/a
00159>  001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00160>       SAVE HYD           11:NodeB    569.67    5.601 No_date   11:30   77.76  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> ********************************************************************************
00167>       WARNINGS / ERRORS / NOTES
00168>       -------------------------
00169>    Simulation ended on 2012-04-03     at 11:12:44
00170> ================================================================================
00171>
```

```
00001> ********************************************************************************
00002>
00003>  SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO         999    999  =========
00004>  S      W W W  MM MM  H   H   Y Y   MM MM  O   O       9   9  9   9
00005>  SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##   9   9  9   9  Ver. 4.02
00006>      S   W W   M   M  H   H    Y    M   M  O   O        9999   9999 July 1999
00007>  SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9  =========
00008>                                                         9   9  9   9  # 3737016
00009>       StormWater Management HYdrologic Model             999    999  =========
00010>
00011>  ********************************************************************************
00012>  ************************** SWMHYMO-99 Ver/4.02 ********************************
00013>  *******  A single event and continuous hydrologic simulation model  *******
00014>  *******      based on the principles of HYMO and its successors       *******
00015>  *******                 OTTHYMO-83 and OTTHYMO-89.                    *******
00016>  ********************************************************************************
00017>  ******* Distributed by:  J.F. Sabourin and Associates Inc.            *******
00018>  *******                  Ottawa,  Ontario: (613) 727-5199            *******
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:  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, (ft^3/s) or (m^3/s).      ***
00041>  *** TpeakDate_hh:mm is the date and time of the peak flow.               ***
00042>  ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).        ***
00043>  ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).        ***
00044>  ***    *:  see WARNING or NOTE message printed at end of run.           ***
00045>  ***   **:  see  ERROR  message printed at end of run.                   ***
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049>  ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  *********************   S U M M A R Y   O U T P U T   **********************
00054>  ********************************************************************************
00055>  *       DATE: 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>       [NSTORM=   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> #----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)---------|
00094>  001:0003--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00095>      READ HYD            01:100YR7   178.10    7.393 No_date    3:30   99.77  n/a
00096>       Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\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.-R.C.
00100>      DIVERT HYD      -> 01:100YR7   178.10    7.393 No_date    3:30   99.77  n/a
00101>             diverted <= 03:H-7022   169.75    6.000 No_date    3:30   99.77  n/a
00102>             diverted <= 02:H-600      8.35    1.393 No_date    3:30   99.77  n/a
00103> #----------------|-----------------EDEN OAK SITE 6062----------------------|
00104>  001:0005--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>      CALIB NASHYD        03:6062      13.50     .495 No_date    3:15   24.30 .253
00106>       [CN= 52.4: N= 3.00]
00107>       [Tp=  .55:DT= 5.00]
00108> #----------------|---------------EXISTING TYROLEAN 6063---------------------|
00109>  001:0006--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00110>      CALIB NASHYD        04:6063      26.30    1.214 No_date    3:20   33.60 .350
00111>       [CN= 64.0: N= 3.00]
00112>       [Tp=  .65:DT= 5.00]
00113> #----------------|-----------------BMR SITE 6064--------------------------|
00114>  001:0007--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00115>      CALIB NASHYD        05:6064       7.50     .271 No_date    3:10   20.56 .214
00116>       [CN= 46.8: N= 3.00]
00117>       [Tp=  .42:DT= 5.00]
00118> #----------------|---------------BECKER SITE 6065---------------------------|
00119>  001:0008--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00120>      CALIB NASHYD        06:6065       5.60     .248 No_date    3:15   28.48 .297
00121>       [CN= 58.0: N= 3.00]
00122>       [Tp=  .53:DT= 5.00]
00123> #----------------|---------------ADD AREAS 6062 - 6065----------------------|
00124>  001:0009--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00125>      ADD HYD             02:H-600      8.35    1.393 No_date    3:30   99.77  n/a
00126>                        + 03:6062      13.50     .495 No_date    3:15   24.30  n/a
00127>                        + 04:6063      26.30    1.214 No_date    3:20   33.60  n/a
00128>                        + 05:6064       7.50     .271 No_date    3:10   20.56  n/a
00129>                        + 06:6065       5.60     .248 No_date    3:15   28.48  n/a
00130>       [DT= 5.00]  SUM=  07:GTRAIL    61.25    3.503 No_date    3:25   30.51  n/a
00131>  001:0010--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00132>      SAVE HYD            07:GTRAIL    61.25    3.503 No_date    3:25   30.51  n/a
00133>       fname :C:\218-2659\030420~1\PRE-DE~1\H-GTRAIL.001
00134>       remark:NodeA
00135> #----------------|-QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 6061)|
00136>  001:0011--------------ID:NHYD-------AREA----QPEAK-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> #----------------|------TOTAL PRE-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL-----|
00141>  001:0012--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00142>      ADD HYD             07:GTRAIL    61.25    3.503 No_date    3:25   30.51  n/a
00143>                        + 08:100YR6   489.80    6.517 No_date   11:15   98.18  n/a
00144>       [DT= 5.00]  SUM=  09:Trail     551.05    6.517 No_date   11:15   91.55  n/a
00145>  001:0013--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00146>      SAVE HYD            09:Trail     551.05    6.517 No_date   11:15   91.55  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:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00151>      CALIB NASHYD        10:6071      25.50     .797 No_date    4:15   30.11 .397
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:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00156>      ADD HYD             09:Trail     551.05    6.517 No_date   11:15   91.55  n/a
00157>                        + 10:6071      25.50     .797 No_date    4:15   30.11  n/a
00158>       [DT= 5.00]  SUM=  11:NodeB     576.55    6.520 No_date   11:15   89.18  n/a
00159>  001:0016--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00160>      SAVE HYD            11:NodeB     576.55    6.520 No_date   11:15   89.18  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> ********************************************************************************
00167>      WARNINGS / ERRORS / NOTES
00168>      -------------------------
00169>   Simulation ended on 2012-04-03     at 11:14:00
00170> ********************************************************************************
00171>
```

```
00001> ================================================================================
00002>
00003>  SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999  =========
00004>  S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>  SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9  Ver. 4.02
00006>      S  W W   M   M  H   H    Y    M   M  O   O       9999   9999  July 1999
00007>  SSSSS  W W   M   M  H   H    Y    M   M   OOO           9      9  =========
00008>                                                      9   9  9   9  # 3737016
00009>       StormWater Management HYdrologic Model          999    999  =========
00010>
00011>  ********************************************************************************
00012>  ************************** SWMHYMO-99 Ver/4.02 ***************************
00013>  *******  A single event and continuous hydrologic simulation model  *******
00014>  *******     based on the principles of HYMO and its successors      *******
00015>  *******                 OTTHYMO-83 and OTTHYMO-89.                  *******
00016>  ********************************************************************************
00017>  ******* Distributed by:  J.F. Sabourin and Associates Inc.           *******
00018>  *******                    Ottawa,  Ontario: (613) 727-5199         *******
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:  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, (ft^3/s) or (m^3/s).       ***
00041>  *** TpeakDate_hh:mm is the date and time of the peak flow.                 ***
00042>  ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).          ***
00043>  ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).          ***
00044>  ***     *:  see WARNING or NOTE message printed at end of run.            ***
00045>  ***    **:  see  ERROR  message printed at end of run.                    ***
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  *********************  S U M M A R Y   O U T P U T  ***********************
00054>  ********************************************************************************
00055>  *       DATE: 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>  * 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>       [NSTORM=   0 ]
00081>       [NRUN  =   1 ]
00082> #*******************************************************************************
00083> #*****************COMBINED PRE-DEVELOPMENT - 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 = C:\218-2659\03 04 2012 HYMO\Pond Design\tim.STM
00091>       Comment  = Timmins Storm Event
00092>       [SDT=60.00:SDUR=  12.00:PTOT= 193.00]
00093> #-----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)---------|
00094>  001:0003---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00095>      READ HYD            01:tim7     178.10    9.720 No_date    9:15  198.01  n/a
00096>       Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\tim7.HYD
00097>       Comment  = Timmins 15-min storm hydrograph at ID702 new, updated 070820
00098> #-----------------|-------------SPILL FLOW TO W/C 6-----------------------|
00099>  001:0004---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00100>      DIVERT HYD      -> 01:tim7     178.10    9.720 No_date    9:15  198.01  n/a
00101>             diverted <= 03:H-7022   147.49    6.000 No_date    9:15  198.01  n/a
00102>             diverted <= 02:H-600     30.61    3.720 No_date    9:15  198.01  n/a
00103> #-----------------|-----------------EDEN OAK SITE 6062----------------------|
00104>  001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>      CALIB NASHYD        03:6062      13.50     .660 No_date    7:15   82.32 .427
00106>       [CN= 52.4: N= 3.00]
00107>       [Tp=  .55:DT= 5.00]
00108> #-----------------|--------------EXISTING TYROLEAN 6063--------------------|
00109>  001:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00110>      CALIB NASHYD        04:6063      26.30    1.569 No_date    7:20  104.47 .541
00111>       [CN= 64.0: N= 3.00]
00112>       [Tp=  .65:DT= 5.00]
00113> #-----------------|-----------------BMR SITE 6064-----------------------------|
00114>  001:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00115>      CALIB NASHYD        05:6064       7.50     .345 No_date    7:05   72.24 .374
00116>       [CN= 46.8: N= 3.00]
00117>       [Tp=  .42:DT= 5.00]
00118> #-----------------|----------------BECKER SITE 6065---------------------------|
00119>  001:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00120>      CALIB NASHYD        06:6065       5.60     .315 No_date    7:15   92.77 .481
00121>       [CN= 58.0: N= 3.00]
00122>       [Tp=  .53:DT= 5.00]
00123> #-----------------|----------------ADD AREAS 6062 - 6065---------------------|
00124>  001:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00125>      ADD HYD             02:H-600     30.61    3.720 No_date    9:15  198.01  n/a
00126>                        + 03:6062      13.50     .660 No_date    7:15   82.32  n/a
00127>                        + 04:6063      26.30    1.569 No_date    7:20  104.47  n/a
00128>                        + 05:6064       7.50     .345 No_date    7:05   72.24  n/a
00129>                        + 06:6065       5.60     .315 No_date    7:15   92.77  n/a
00130>       [DT= 5.00]  SUM=  07:GTRAIL    83.51    5.895 No_date    9:10  131.50  n/a
00131>  001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00132>      SAVE HYD            07:GTRAIL    83.51    5.895 No_date    9:10  131.50  n/a
00133>       fname :C:\218-2659\030420~1\PRE-DE~1\H-GTRAIL.001
00134>       remark:NodeA
00135> #-----------------|-QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 606)|
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> #-----------------|------TOTAL PRE-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL-----|
00141>  001:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00142>      ADD HYD             07:GTRAIL    83.51    5.895 No_date    9:10  131.50  n/a
00143>                        + 08:tim6     489.80   13.332 No_date   15:30  194.65  n/a
00144>       [DT= 5.00]  SUM=  09:Trail    573.31   13.567 No_date   12:00  185.45  n/a
00145>  001:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00146>      SAVE HYD            09:Trail    573.31   13.567 No_date   12:00  185.45  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:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00151>      CALIB NASHYD        10:6071      25.50    1.269 No_date    9:05  114.01 .591
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:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00156>      ADD HYD             09:Trail    573.31   13.567 No_date   12:00  185.45  n/a
00157>                        + 10:6071      25.50    1.269 No_date    9:05  114.01  n/a
00158>       [DT= 5.00]  SUM=  11:NodeB    598.81   14.368 No_date   12:00  182.41  n/a
00159>  001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00160>      SAVE HYD            11:NodeB    598.81   14.368 No_date   12:00  182.41  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> ********************************************************************************
00167>      WARNINGS / ERRORS / NOTES
00168>      -------------------------
00169>   Simulation ended on 2012-04-03     at 11:15:33
00170> ================================================================================
00171>
```

```
00001> ********************************************************************
00002>
00003>  SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999  =========
00004>  S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>  SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9  Ver. 4.02
00006>      S   W W   M   M  H   H    Y    M   M  O   O       9999   9999  July 1999
00007>  SSSSS   W W   M   M  H   H    Y    M   M   OOO            9      9  =========
00008>                                                          9   9  9   9  # 3737016
00009>       StormWater Management HYdrologic Model              999    999  =========
00010>
00011>  ************************************************************************
00012>  ***************************** SWMHYMO-99 Ver/4.02 ************************
00013>  *******  A single event and continuous hydrologic simulation model  *******
00014>  *******      based on the principles of HYMO and its successors      *******
00015>  *******                 OTTHYMO-83 and OTTHYMO-89.                   *******
00016>  ************************************************************************
00017>  *******  Distributed by:  J.F. Sabourin and Associates Inc.           *******
00018>  *******                   Ottawa, Ontario: (613) 727-5199            *******
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:  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, (ft^3/s) or (m^3/s).   ***
00041>  *** TpeakDate_hh:mm is the date and time of the peak flow.            ***
00042>  ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).      ***
00043>  ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).      ***
00044>  ***    *:  see WARNING or NOTE message printed at end of run.         ***
00045>  ***   **:  see  ERROR  message printed at end of run.                 ***
00046>  ************************************************************************
00047>  ************************************************************************
00048>
00049>  ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ************************************************************************
00052>
00053>  *******************  S U M M A R Y   O U T P U T  ********************
00054>  ************************************************************************
00055>  *       DATE: 2012-04-03     TIME: 13:52:37     RUN COUNTER: 000247     *
00056>  ************************************************************************
00057>  * Input   filename: C:\218-2659\030420~1\POSTUN~1\25mm_uc.dat           *
00058>  * Output  filename: C:\218-2659\030420~1\POSTUN~1\25mm_uc.out           *
00059>  * Summary filename: C:\218-2659\030420~1\POSTUN~1\25mm_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    : 03 04 2012
00071>  #  Modeller    : [J.PROCTOR, K. Wilmshurst, E. Johnston]
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>   001:0002----------------------------------------------------------------
00089>       READ STORM
00090>        Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\25mm.stm
00091>        Comment  = 25mm 6 hr Kifer Chu Chicago Storm Event
00092>        [SDT=60.00:SDUR=   6.00:PTOT=  25.00]
00093>  #----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)---------|
00094>   001:0003---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00095>       READ HYD           01:25mm7    178.10     1.952 No_date    3:15   28.08  n/a
00096>        Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\25mm7.hyd
00097>        Comment  = 25-mm 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.-R.C.
00100>       DIVERT HYD     -> 01:25mm7    178.10     1.952 No_date    3:15   28.08  n/a
00101>              diverted <= 03:H-7022  178.10     1.952 No_date    3:15   28.08  n/a
00102>              diverted <= 02:H-600       .00      .000 No_date    0:00     .00  n/a
00103>  #----------------|-----------------EDEN OAK SITE 6062---------------------|
00104>   001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>       CALIB STANDHYD     03:6062      13.50      .243 No_date    3:00    9.84 .393
00106>        [XIMP=.35:TIMP=.52]
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.-R.C.
00112>       CALIB NASHYD       04:6063      26.30      .063 No_date    3:30    1.83 .073
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.-R.C.
00117>       CALIB STANDHYD     05:6064       7.50      .095 No_date    3:00    7.52 .301
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.-R.C.
00124>       CALIB STANDHYD     06:6065       5.60      .071 No_date    3:00    7.82 .313
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.-R.C.
00131>       ADD HYD            02:H-600       .00      .000 No_date    0:00     .00  n/a
00132>                        + 03:6062      13.50      .243 No_date    3:00    9.84  n/a
00133>                        + 04:6063      26.30      .063 No_date    3:30    1.83  n/a
00134>                        + 05:6064       7.50      .095 No_date    3:00    7.52  n/a
00135>                        + 06:6065       5.60      .071 No_date    3:00    7.82  n/a
00136>        [DT= 1.00]  SUM=  07:GTRAIL    52.90      .442 No_date    3:01    5.31  n/a
00137>   001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00138>       SAVE HYD           07:GTRAIL    52.90      .442 No_date    3:01    5.31  n/a
00139>        fname :C:\218-2659\030420~1\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.-R.C.
00143>       READ HYD           08:25mm6    489.80     1.437 No_date   12:45   28.19  n/a
00144>        Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\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.-R.C.
00148>       ADD HYD            07:GTRAIL    52.90      .442 No_date    3:01    5.31  n/a
00149>                        + 08:25mm6    489.80     1.437 No_date   12:45   28.19  n/a
00150>        [DT= 1.00]  SUM=  09:Trail    542.70     1.437 No_date   12:46   25.96  n/a
00151>   001:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00152>       SAVE HYD           09:Trail    542.70     1.437 No_date   12:46   25.96  n/a
00153>        fname :C:\218-2659\030420~1\POSTUN~1\H-Trail.001
00154>        remark:Trail
00155>  #----------------|-------------------------AREA 6071-------------------------|
00156>   001:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00157>       CALIB NASHYD       10:6071      25.50      .044 No_date    4:30    2.19 .087
00158>        [CN= 60.8: 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.-R.C.
00162>       ADD HYD            09:Trail    542.70     1.437 No_date   12:46   25.96  n/a
00163>                        + 10:6071      25.50      .044 No_date    4:30    2.19  n/a
00164>        [DT= 1.00]  SUM=  11:NodeB    568.20     1.437 No_date   12:45   24.90  n/a
00165>   001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00166>       SAVE HYD           11:NodeB    568.20     1.437 No_date   12:45   24.90  n/a
00167>        fname :C:\218-2659\030420~1\POSTUN~1\H-NodeB.001
00168>        remark:NodeB
00169>   001:0017----------------------------------------------------------------
00170>       FINISH
00171>  ----------------------------------------------------------------------
00172>  **********************************************************************
00173>       WARNINGS / ERRORS / NOTES
00174>       ------------------------
00175>    Simulation ended on 2012-04-03     at 13:52:37
00176>  ======================================================================
00177>
```

```
00001> ********************************************************************************
00002>
00003>  SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO          999    999  =========
00004>  S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>  SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9  Ver. 4.02
00006>      S  W W W  M   M  H   H    Y    M   M  O   O      9999   9999  July 1999
00007>  SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9  ==========
00008>                                                       9   9  9   9  # 3737016
00009>       StormWater Management HYdrologic Model          999    999  ==========
00010>
00011> ********************************************************************************
00012> ************************** SWMHYMO-99 Ver/4.02 ********************************
00013> *******  A single event and continuous hydrologic simulation model     *******
00014> *******       based on the principles of HYMO and its successors       *******
00015> *******                 OTTHYMO-83 and OTTHYMO-89.                     *******
00016> ********************************************************************************
00017> ******* Distributed by:  J.F. Sabourin and Associates Inc.             *******
00018> *******                  Ottawa,  Ontario: (613) 727-5199              *******
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:  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, (ft^3/s) or (m^3/s).      ***
00041> *** TpeakDate_hh:mm is the date and time of the peak flow.               ***
00042> ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).         ***
00043> ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).         ***
00044> ***    *:  see WARNING or NOTE message printed at end of run.           ***
00045> ***   **:  see  ERROR  message printed at end of run.                   ***
00046> ********************************************************************************
00047> ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051> ********************************************************************************
00052>
00053> ********************  S U M M A R Y   O U T P U T  ************************
00054> ********************************************************************************
00055> *       DATE: 2012-04-03      TIME: 13:55:14      RUN COUNTER: 000248       *
00056> ********************************************************************************
00057> * Input   filename: C:\218-2659\030420~1\POSTUN~1\2yr_uc.dat                  *
00058> * Output  filename: C:\218-2659\030420~1\POSTUN~1\2yr_uc.out                  *
00059> * Summary filename: C:\218-2659\030420~1\POSTUN~1\2yr_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    : 04 03 2012
00071> #  Modeller    : [J.PROCTOR, K. Wilmshurst, E. Johnston]
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 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\Post Uncontrolled\2yr.stm
00091>        Comment  = 2-Year 6 hr Kefer Chu Chicago Storm Event
00092>        [SDT=60.00:SDUR=   6.00:PTOT=  37.90]
00093> #----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)---------|
00094>  001:0003---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00095>       READ HYD           01:2yr7     178.10    2.893 No_date    3:15   40.70  n/a
00096>        Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\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----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00100>       DIVERT HYD      -> 01:2yr7     178.10    2.893 No_date    3:15   40.70  n/a
00101>                diverted <= 03:H-7022  178.10    2.893 No_date    3:15   40.70  n/a
00102>                diverted <= 02:H-600       .00     .000 No_date    0:00     .00  n/a
00103> #-----------------|-----------------EDEN OAK SITE 6062---------------------|
00104>  001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>       CALIB STANDHYD     03:6062      13.50     .419 No_date    3:00   16.84  .444
00106>        [XIMP=.35:TIMP=.52]
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.-R.C.
00112>       CALIB NASHYD       04:6063      26.30     .189 No_date    3:25    5.21  .137
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.-R.C.
00117>       CALIB STANDHYD     05:6064       7.50     .169 No_date    3:00   13.25 .350
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.-R.C.
00124>       CALIB STANDHYD     06:6065       5.60     .139 No_date    3:00   14.31 .378
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.-R.C.
00131>       ADD HYD            02:H-600       .00     .000 No_date    0:00     .00  n/a
00132>                        + 03:6062      13.50     .419 No_date    3:00   16.84  n/a
00133>                        + 04:6063      26.30     .189 No_date    3:25    5.21  n/a
00134>                        + 05:6064       7.50     .169 No_date    3:00   13.25  n/a
00135>                        + 06:6065       5.60     .139 No_date    3:00   14.31  n/a
00136>       [DT= 1.00]  SUM=  07:GTRAIL    52.90     .849 No_date    3:01   10.28  n/a
00137>  001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00138>       SAVE HYD           07:GTRAIL    52.90     .849 No_date    3:01   10.28  n/a
00139>        fname :C:\218-2659\030420~1\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.-R.C.
00143>       READ HYD           08:2yr6     489.80    2.258 No_date   12:30   40.82  n/a
00144>        Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\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.-R.C.
00148>       ADD HYD            07:GTRAIL    52.90     .849 No_date    3:01   10.28  n/a
00149>                        + 08:2yr6     489.80    2.258 No_date   12:30   40.82  n/a
00150>       [DT= 1.00]  SUM=  09:Trail     542.70    2.258 No_date   12:31   37.84  n/a
00151>  001:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00152>       SAVE HYD           09:Trail     542.70    2.258 No_date   12:31   37.84  n/a
00153>        fname :C:\218-2659\030420~1\POSTUN~1\H-Trail.001
00154>        remark:Trail
00155> #----------------|-----------------------AREA 6071-------------------------|
00156>  001:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00157>       CALIB NASHYD       10:6071      25.50     .120 No_date    4:20    6.16  .163
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.-R.C.
00162>       ADD HYD            09:Trail     542.70    2.258 No_date   12:31   37.84  n/a
00163>                        + 10:6071      25.50     .120 No_date    4:20    6.16  n/a
00164>       [DT= 1.00]  SUM=  11:NodeB     568.20    2.258 No_date   12:30   36.42  n/a
00165>  001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00166>       SAVE HYD           11:NodeB     568.20    2.258 No_date   12:30   36.42  n/a
00167>        fname :C:\218-2659\030420~1\POSTUN~1\H-NodeB.001
00168>        remark:NodeB
00169>  001:0017-------------------------------------------------------------------------
00170>       FINISH
00171> -------------------------------------------------------------------------------
00172> ********************************************************************************
00173>       WARNINGS / ERRORS / NOTES
00174>       -------------------------
00175>    Simulation ended on 2012-04-03     at 13:55:14
00176> ================================================================================
00177>
```

```
SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999  =========
S      W W W  MM MM  H   H   Y Y   MM MM  O   O   9   9  9   9
SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9 Ver. 4.02
    S   W W   M   M  H   H    Y    M   M  O   O       9999   9999 July 1999
SSSSS   W W   M   M  H   H    Y    M   M   OOO            9      9 ==========
                                                      9   9  9   9 # 3737016
      StormWater Management HYdrologic Model           999    999  =========

********************************************************************************
************************** SWMHYMO-99 Ver/4.02 ********************************
*******  A single event and continuous hydrologic simulation model  ********
*******      based on the principles of HYMO and its successors      ********
*******                    OTTHYMO-83 and OTTHYMO-89.                ********
********************************************************************************
******* Distributed by:  J.F. Sabourin and Associates Inc.           ********
*******                  Ottawa,  Ontario: (613) 727-5199           ********
*******                  Gatineau, Quebec: (819) 243-6858           ********
*******                  E-Mail: swmhymo@jfsa.Com                   ********
********************************************************************************

********************************************************************************
+++++++ Licensed user: C.F. Crozier & Associates Inc                  +++++++
+++++++                Collingwood          SERIAL#:3737016          +++++++
********************************************************************************

********************************************************************************
*******          ++++++ PROGRAM ARRAY DIMENSIONS ++++++               ********
*******          Maximum value for ID numbers  :    10               ********
*******          Max. number of rainfall points:  15000              ********
*******          Max. number of flow points    :  15000              ********
********************************************************************************

*** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) ***
*****************************************************************************
***    ID:  Hydrograph IDentification numbers, (1-10).                    ***
***  NHYD:  Hydrograph reference numbers, (6 digits or characters).       ***
***  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).     ***
*** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).       ***
*** TpeakDate_hh:mm is the date and time of the peak flow.                ***
***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).          ***
***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).          ***
***    *:  see WARNING or NOTE message printed at end of run.             ***
***   **:  see ERROR message printed at end of run.                       ***
*****************************************************************************
********************************************************************************

::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

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

********************  S U M M A R Y   O U T P U T  *********************
********************************************************************************
*       DATE: 2012-04-03     TIME: 13:59:42     RUN COUNTER: 000253       *
********************************************************************************
* Input   filename: C:\218-2659\030420~1\POSTUN~1\5yr_uc.dat                *
* Output  filename: C:\218-2659\030420~1\POSTUN~1\5yr_uc.out                *
* Summary filename: C:\218-2659\030420~1\POSTUN~1\5yr_uc.sum                *
* User comments:                                                           *
* 1:_______________________________________________________________________*
* 2:_______________________________________________________________________*
* 3:_______________________________________________________________________*
********************************************************************************

#*****************************************************************************
#  Project Name: [EDEN OAK]  Project Number: [218-2659]
#  Date        : 05-26-2006
#  Modified    : 04 03 2012
#  Modeller    : [J.PROCTOR, K. Wilmshurst, E. Johnston]
#  Company     : C.F. Crozier & Associates Inc.
#  License #   :  3737016
#*****************************************************************************
 RUN:COMMAND#
 001:0001----------------------------------------------------------------------
     START
       [ZERO =    .00 hrs on        0]
       [METOUT=   2     (1=imperial, 2=metric output)]
       [NSTORM=   0 ]
       [NRUN  =   1 ]
#*****************************************************************************
#**************COMBINED POST-DEVELOPMENT UNCONTROLLED - 5 Year Event ***********
#*****************************************************************************
#   Rainfall Depths per MTO - Basins East of Collingwood
#   6 hour Kifer Chu Chicago Rainfall Distribution
#*****************************************************************************
 001:0002----------------------------------------------------------------------
     READ STORM
       Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\5yr.stm
       Comment  = 5-Year 6 hr Kifer Chu Chicago Storm Event
       [SDT=60.00:SDUR=   6.00:PTOT=  52.70]
#----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702,1)---------|
 001:0003---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     READ HYD           01:5yr7      178.10     3.943 No_date    3:30   55.24  n/a
       Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\5yr7.hyd
       Comment  = 5-year 15-min storm hydrograph at ID702 new
#----------------|-----------------SPILL FLOW TO W/C 6-----------------------|
 001:0004---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     DIVERT HYD      -> 01:5yr7     178.10     3.943 No_date    3:30   55.24  n/a
            diverted <= 03:H-7022   178.10     3.943 No_date    3:30   55.24  n/a
            diverted <= 02:H-600      .00      .000 No_date    0:00     .00  n/a
#----------------|-----------------EDEN OAK SITE 6062---------------------|
 001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     CALIB STANDHYD     03:6062      13.50     .642 No_date    3:00   25.84 .490
       [XIMP=.35:TIMP=.52]
       [LOSS= 2 :CN= 56.6]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI=1.20:LGI= 300.:MNI=.013:SCI=   .0]
#----------------|-----------------EXISTING TYROLEAN 6063---------------------|
 001:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     CALIB NASHYD       04:6063      26.30     .386 No_date    3:25   10.69 .203
       [CN= 64.0: N= 3.00]
       [Tp=  .65:DT= 5.00]
#----------------|-----------------BMR SITE 6064---------------------|
 001:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     CALIB STANDHYD     05:6064       7.50     .267 No_date    3:00   20.86 .396
       [XIMP=.25:TIMP=.45]
       [LOSS= 2 :CN= 52.1]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 475.:MNI=.013:SCI=   .0]
#----------------|-----------------BECKER SITE 6065---------------------|
 001:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     CALIB STANDHYD     06:6065       5.60     .231 No_date    3:00   23.03 .437
       [XIMP=.22:TIMP=.47]
       [LOSS= 2 :CN= 61.0]
       [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 360.:MNI=.013:SCI=   .0]
#----------------|-----------------ADD AREAS 6062 - 6065---------------------|
 001:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     ADD HYD            02:H-600       .00      .000 No_date    0:00     .00  n/a
                      + 03:6062      13.50     .642 No_date    3:00   25.84  n/a
                      + 04:6063      26.30     .386 No_date    3:25   10.69  n/a
                      + 05:6064       7.50     .267 No_date    3:00   20.86  n/a
                      + 06:6065       5.60     .231 No_date    3:00   23.03  n/a
       [DT= 1.00]  SUM=  07:GTRAIL    52.90    1.406 No_date    3:01   17.31  n/a
 001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     SAVE HYD           07:GTRAIL    52.90    1.406 No_date    3:01   17.31  n/a
       fname :C:\218-2659\030420~1\POSTUN~1\H-GTRAIL.001
       remark:NodeA
#----------------|-QHM HYDROGRAPH FROM WATERSHED 8 (801, 802, 803, 805, 8061)|
 001:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     READ HYD           08:5yr6      489.80     3.312 No_date   12:00   55.37  n/a
       Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\5yr6.HYD
       Comment  = 5-Year 15-min storm hydrograph at ID606
#----------------|-TOTAL UNCONTROLLED-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL-|
 001:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     ADD HYD            07:GTRAIL    52.90    1.406 No_date    3:01   17.31  n/a
                      + 08:5yr6     489.80     3.312 No_date   12:00   55.37  n/a
       [DT= 1.00]  SUM=  09:Trail    542.70     3.312 No_date   12:00   51.66  n/a
 001:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     SAVE HYD           09:Trail     542.70     3.312 No_date   12:00   51.66  n/a
       fname :C:\218-2659\030420~1\POSTUN~1\H-Trail.001
       remark:Trail
#----------------|-------------------------AREA 6071--------------------------|
 001:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     CALIB NASHYD       10:6071      25.50     .259 No_date    4:20   12.50 .237
       [CN= 68.8: N= 3.00]
       [Tp= 1.36:DT= 5.00]
#----------------|-TOTAL UNCONTROLLED-DEVELOPMENT FLOW TO HWY 26-------------|
 001:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     ADD HYD            09:Trail     542.70     3.312 No_date   12:00   51.66  n/a
                      + 10:6071      25.50     .259 No_date    4:20   12.50  n/a
       [DT= 1.00]  SUM=  11:NodeB    568.20     3.312 No_date   12:00   49.90  n/a
 001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     SAVE HYD           11:NodeB     568.20     3.312 No_date   12:00   49.90  n/a
       fname :C:\218-2659\030420~1\POSTUN~1\H-NodeB.001
       remark:NodeB
 001:0017----------------------------------------------------------------------
       FINISH
-------------------------------------------------------------------------------
********************************************************************************
     WARNINGS / ERRORS / NOTES
     -------------------------
  Simulation ended on 2012-04-03     at 13:59:42
================================================================================
```

```
00001> ================================================================================
00002>
00003>  SSSSS  W   W  M   M  H   H   Y   Y  M   M   OOO         999    999  ========
00004>  S      W W W  MM MM  H   H    Y Y   MM MM  O   O       9   9  9   9
00005>  SSSSS  W W W  M M M  HHHHH     Y    M M M  O   O  ##   9   9  9   9  Ver. 4.02
00006>      S  W W W  M   M  H   H     Y    M   M  O   O        9999   9999  July 1999
00007>  SSSSS   W W   M   M  H   H     Y    M   M   OOO           9      9  ========
00008>                                                          9   9  9   9  # 3737016
00009>       StormWater Management HYdrologic Model              999    999  ========
00010>
00011>  ********************************************************************************
00012>  ************************** SWMHYMO-99 Ver/4.02 ***********************************
00013>  *******  A single event and continuous hydrologic simulation model      ********
00014>  *******     based on the principles of HYMO and its successors          ********
00015>  *******                  OTTHYMO-83 and OTTHYMO-89.                     ********
00016>  ********************************************************************************
00017>  ******* Distributed by:  J.F. Sabourin and Associates Inc.               ********
00018>  *******                  Ottawa,  Ontario: (613) 727-5199               ********
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:  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, (ft^3/s) or (m^3/s).       ***
00041>  *** TpeakDate_hh:mm is the date and time of the peak flow.                 ***
00042>  ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).          ***
00043>  ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).          ***
00044>  ***     *:  see WARNING or NOTE message printed at end of run.            ***
00045>  ***    **:  see  ERROR  message printed at end of run.                    ***
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049>  ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  *********************  S U M M A R Y   O U T P U T  ***************************
00054>  ********************************************************************************
00055>  *       DATE: 2012-04-03     TIME: 13:59:09     RUN COUNTER: 000252          *
00056>  ********************************************************************************
00057>  * Input   filename: C:\218-2659\030420~1\POSTUN~1\10yr_uc.dat                  *
00058>  * Output  filename: C:\218-2659\030420~1\POSTUN~1\10yr_uc.out                  *
00059>  * Summary filename: C:\218-2659\030420~1\POSTUN~1\10yr_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    : 04 03 2012
00071> #  Modeller    : [J.PROCTOR, K. Wilmshurst, E. Johnston]
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 - 10 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\Post Uncontrolled\10yr.stm
00091>       Comment  = 10yr 6 hr Kifer Chu Chicago Storm Event
00092>       [SDT=60.00:SDUR=   6.00:PTOT=  66.00]
00093> #-----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702,1)---------|
00094>  001:0003---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00095>      READ HYD            01:10yr7    178.10    4.950 No_date    3:30   68.35  n/a
00096>       Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\10yr7.hyd
00097>       Comment  = 10-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.-R.C.
00100>      DIVERT HYD      -> 01:10yr7    178.10    4.950 No_date    3:30   68.35  n/a
00101>             diverted <= 03:H-7022   178.10    4.950 No_date    3:30   68.35  n/a
00102>             diverted <= 02:H-600       .00     .000 No_date    0:00     .00  n/a
00103> #-----------------|-----------------EDEN OAK SITE 6062----------------------|
00104>  001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>      CALIB STANDHYD      03:6062      13.50     .885 No_date    3:00   34.64 .525
00106>       [XIMP=.35:TIMP=.52]
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.-R.C.
00112>      CALIB NASHYD        04:6063      26.30     .616 No_date    3:25   16.80 .254
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.-R.C.
00117>      CALIB STANDHYD      05:6064       7.50     .381 No_date    3:00   28.48 .431
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.-R.C.
00124>      CALIB STANDHYD      06:6065       5.60     .337 No_date    3:00   31.76 .481
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.-R.C.
00131>      ADD HYD             02:H-600       .00     .000 No_date    0:00     .00  n/a
00132>                        + 03:6062      13.50     .885 No_date    3:00   34.64  n/a
00133>                        + 04:6063      26.30     .616 No_date    3:25   16.80  n/a
00134>                        + 05:6064       7.50     .381 No_date    3:00   28.48  n/a
00135>                        + 06:6065       5.60     .337 No_date    3:00   31.76  n/a
00136>       [DT= 1.00]  SUM=  07:GTRAIL    52.90    2.048 No_date    3:01   24.59  n/a
00137>  001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00138>      SAVE HYD            07:GTRAIL    52.90    2.048 No_date    3:01   24.59  n/a
00139>       fname :C:\218-2659\030420~1\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.-R.C.
00143>      READ HYD            08:10yr6    489.80    4.241 No_date   11:45   68.48  n/a
00144>       Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\10yr6.HYD
00145>       Comment  = 10 yr- 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.-R.C.
00148>      ADD HYD             07:GTRAIL    52.90    2.048 No_date    3:01   24.59  n/a
00149>                        + 08:10yr6    489.80    4.241 No_date   11:45   68.48  n/a
00150>       [DT= 1.00]  SUM=  09:Trail     542.70    4.241 No_date   11:45   64.20  n/a
00151>  001:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00152>      SAVE HYD            09:Trail     542.70    4.241 No_date   11:45   64.20  n/a
00153>       fname :C:\218-2659\030420~1\POSTUN~1\H-Trail.001
00154>       remark:Trail
00155> #-----------------|---------------------AREA 6071--------------------------|
00156>  001:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00157>      CALIB NASHYD        10:6071      25.50     .408 No_date    4:15   19.42 .294
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.-R.C.
00162>      ADD HYD             09:Trail     542.70    4.241 No_date   11:45   64.20  n/a
00163>                        + 10:6071       25.50     .408 No_date    4:15   19.42  n/a
00164>       [DT= 1.00]  SUM=  11:NodeB     568.20    4.242 No_date   11:45   62.19  n/a
00165>  001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00166>      SAVE HYD            11:NodeB     568.20    4.242 No_date   11:45   62.19  n/a
00167>       fname :C:\218-2659\030420~1\POSTUN~1\H-NodeB.001
00168>       remark:NodeB
00169>  001:0017----------------------------------------------------------------------
00170>      FINISH
00171>  ----------------------------------------------------------------------------
00172> ********************************************************************************
00173>      WARNINGS / ERRORS / NOTES
00174>      -------------------------
00175>    Simulation ended on 2012-04-03     at 13:59:10
00176> ================================================================================
00177>
```

```
00001> ********************************************************************************
00002>
00003>  SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO         999    999  =========
00004>  S      W W W  MM MM  H   H   Y Y   MM MM  O   O       9   9  9   9
00005>  SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##   9   9  9   9  Ver. 4.02
00006>      S  W W W  M   M  H   H    Y    M   M  O   O        9999   9999  July 1999
00007>  SSSSS   W W   M   M  H   H    Y    M   M   OOO           9      9  =========
00008>                                                        9   9  9   9  # 3737016
00009>        StormWater Management HYdrologic Model           999    999  =========
00010>
00011>  ********************************************************************************
00012>  ************************** SWMHYMO-99 Ver/4.02 ***************************
00013>  *******  A single event and continuous hydrologic simulation model  *******
00014>  *******     based on the principles of HYMO and its successors      *******
00015>  *******                 OTTHYMO-83 and OTTHYMO-89.                  *******
00016>  ********************************************************************************
00017>  ******* Distributed by:  J.F. Sabourin and Associates Inc.           *******
00018>  *******                  Ottawa,  Ontario: (613) 727-5199           *******
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:  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, (ft^3/s) or (m^3/s).      ***
00041>  *** TpeakDate_hh:mm is the date and time of the peak flow.               ***
00042>  ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).        ***
00043>  ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).        ***
00044>  ***    *:  see WARNING or NOTE message printed at end of run.           ***
00045>  ***   **:  see  ERROR  message printed at end of run.                   ***
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049>  ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  ********************  S U M M A R Y   O U T P U T  ********************
00054>  ********************************************************************************
00055>  *       DATE: 2012-04-03      TIME: 13:58:34      RUN COUNTER: 000251       *
00056>  ********************************************************************************
00057>  * Input   filename: C:\218-2659\030420~1\POSTUN~1\25yr_uc.dat                  *
00058>  * Output  filename: C:\218-2659\030420~1\POSTUN~1\25yr_uc.out                  *
00059>  * Summary filename: C:\218-2659\030420~1\POSTUN~1\25yr_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    : 04 03 2012
00071> #  Modeller    : [J.PROCTOR, K. Wilmshurst, E. Johnston]
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 - 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 = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\25yr.stm
00091>        Comment  = 25-Year 6 hr Kifer Chu Chicago Storm Event
00092>        [SDT=60.00:SDUR=   6.00:PTOT=  77.90]
00093> #-----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)---------|
00094>  001:0003---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00095>       READ HYD          01:25yr7    178.10    5.791 No_date    3:30   80.09  n/a
00096>        Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\25yr7.hyd
00097>        Comment  = 25-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.-R.C.
00100>       DIVERT HYD      -> 01:25yr7    178.10    5.791 No_date    3:30   80.09  n/a
00101>              diverted <= 03:H-7022   178.10    5.791 No_date    3:30   80.09  n/a
00102>              diverted <= 02:H-600        .00     .000 No_date    0:00     .00  n/a
00103> #-----------------|-----------------EDEN OAK SITE 6062---------------------|
00104>  001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>       CALIB STANDHYD     03:6062      13.50    1.093 No_date    3:00   42.98  .552
00106>        [XIMP=.35:TIMP=.52]
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.-R.C.
00112>       CALIB NASHYD       04:6063      26.30     .832 No_date    3:25   23.02  .295
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.-R.C.
00117>       CALIB STANDHYD     05:6064       7.50     .488 No_date    3:00   35.81  .460
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.-R.C.
00124>       CALIB STANDHYD     06:6065       5.60     .423 No_date    3:00   40.12  .515
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.-R.C.
00131>       ADD HYD            02:H-600        .00     .000 No_date    0:00     .00  n/a
00132>                        + 03:6062      13.50    1.093 No_date    3:00   42.98  n/a
00133>                        + 04:6063      26.30     .832 No_date    3:25   23.02  n/a
00134>                        + 05:6064       7.50     .488 No_date    3:00   35.81  n/a
00135>                        + 06:6065       5.60     .423 No_date    3:00   40.12  n/a
00136>        [DT= 1.00]  SUM=  07:GTRAIL    52.90    2.617 No_date    3:01   31.74  n/a
00137>  001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00138>       SAVE HYD           07:GTRAIL    52.90    2.617 No_date    3:01   31.74  n/a
00139>        fname :C:\218-2659\030420~1\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.-R.C.
00143>       READ HYD           08:25yr6    504.80    5.142 No_date   11:30   77.86  n/a
00144>        Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\25yr6.HYD
00145>        Comment  = 25-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.-R.C.
00148>       ADD HYD            07:GTRAIL    52.90    2.617 No_date    3:01   31.74  n/a
00149>                        + 08:25yr6    504.80    5.142 No_date   11:30   77.86  n/a
00150>        [DT= 1.00]  SUM=  09:Trail    557.70    5.142 No_date   11:30   73.48  n/a
00151>  001:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00152>       SAVE HYD           09:Trail    557.70    5.142 No_date   11:30   73.48  n/a
00153>        fname :C:\218-2659\030420~1\POSTUN~1\H-Trail.001
00154>        remark:Trail
00155> #-----------------|-----------------------------AREA 6071-------------------------|
00156>  001:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00157>       CALIB NASHYD       10:6071      25.50     .551 No_date    4:15   26.40 .339
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.-R.C.
00162>       ADD HYD            09:Trail    557.70    5.142 No_date   11:30   73.48  n/a
00163>                        + 10:6071      25.50     .551 No_date    4:15   26.40  n/a
00164>        [DT= 1.00]  SUM=  11:NodeB    583.20    5.144 No_date   11:30   71.43  n/a
00165>  001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00166>       SAVE HYD           11:NodeB    583.20    5.144 No_date   11:30   71.43  n/a
00167>        fname :C:\218-2659\030420~1\POSTUN~1\H-NodeB.001
00168>        remark:NodeB
00169>  001:0017----------------------------------------------------------------------
00170>       FINISH
00171>  ----------------------------------------------------------------------------
00172> ********************************************************************************
00173>       WARNINGS / ERRORS / NOTES
00174>       -------------------------
00175>    Simulation ended on 2012-04-03     at 13:58:34
00176> ================================================================================
00177>
```

```
00001> ********************************************************************************
00002>
00003>  SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO          999    999  =========
00004>  S      W W W  MM MM  H   H   Y Y   MM MM  O   O        9   9  9   9
00005>  SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##    9   9  9   9  Ver. 4.02
00006>      S  W W W  M   M  H   H    Y    M   M  O   O         9999   9999  July 1999
00007>  SSSSS   W W   M   M  H   H    Y    M   M   OOO              9      9  =========
00008>                                                           9   9  9   9  # 3737016
00009>       StormWater Management HYdrologic Model               999    999  =========
00010>
00011>  ********************************************************************************
00012>  ************************** SWMHYMO-99 Ver/4.02 ***********************************
00013>  *******  A single event and continuous hydrologic simulation model          *******
00014>  *******     based on the principles of HYMO and its successors             *******
00015>  *******                 OTTHYMO-83 and OTTHYMO-89.                          *******
00016>  ********************************************************************************
00017>  ******* Distributed by:  J.F. Sabourin and Associates Inc,                   *******
00018>  *******                  Ottawa,  Ontario: (613) 727-5199                   *******
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:  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, (ft^3/s) or (m^3/s).       ***
00041>  *** TpeakDate_hh:mm is the date and time of the peak flow.                 ***
00042>  ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).          ***
00043>  ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).          ***
00044>  ***    *:  see WARNING or NOTE message printed at end of run.             ***
00045>  ***   **:  see  ERROR  message printed at end of run.                     ***
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  ********************  S U M M A R Y   O U T P U T  ********************
00054>  ********************************************************************************
00055>  *       DATE: 2012-04-03      TIME: 14:01:45      RUN COUNTER: 000255       *
00056>  ********************************************************************************
00057>  * Input   filename: C:\218-2659\030420-1\POSTUN~1\50yr_uc.dat                  *
00058>  * Output  filename: C:\218-2659\030420-1\POSTUN~1\50yr_uc.out                 *
00059>  * Summary filename: C:\218-2659\030420-1\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: [218-2659]
00069> #  Date        : 05-26-2006
00070> #  Modified    : 04 03 2012
00071> #  Modeller    : [J.PROCTOR, K. Wilmshurst, E. Johnston]
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 - 50 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\Post Uncontrolled\50yr.stm
00091>       Comment  = 50-Year 6 hr Kifer Chu Chicago Storm Event
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.-R.C.
00095>      READ HYD           01:50yr7     178.10     6.442 No_date    3:30   87.56  n/a
00096>       Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\50yr7.hyd
00097>       Comment  = 50-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.-R.C.
00100>      DIVERT HYD      -> 01:50yr7    178.10     6.442 No_date    3:30   87.56  n/a
00101>             diverted <= 03:H-7022   176.63     6.000 No_date    3:30   87.56  n/a
00102>             diverted <= 02:H-600      1.47      .442 No_date    3:30   87.56  n/a
00103> #----------------|-----------------EDEN OAK SITE 6062----------------------|
00104>  001:0005--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>      CALIB STANDHYD     03:6062      13.50     1.202 No_date    3:00   47.33 .564
00106>       [XIMP=.35:TIMP=.52]
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.-R.C.
00112>      CALIB NASHYD       04:6063      26.30      .950 No_date    3:25   26.39 .315
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.-R.C.
00117>      CALIB STANDHYD     05:6064       7.50      .541 No_date    3:00   39.67 .473
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.-R.C.
00124>      CALIB STANDHYD     06:6065       5.60      .470 No_date    3:00   44.50 .530
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.-R.C.
00131>      ADD HYD            02:H-600      1.47      .442 No_date    3:30   87.56  n/a
00132>                       + 03:6062      13.50     1.202 No_date    3:00   47.33  n/a
00133>                       + 04:6063      26.30      .950 No_date    3:25   26.39  n/a
00134>                       + 05:6064       7.50      .541 No_date    3:00   39.67  n/a
00135>                       + 06:6065       5.60      .470 No_date    3:00   44.50  n/a
00136>       [DT= 1.00]  SUM=  07:GTRAIL    54.37     2.961 No_date    3:03   36.94  n/a
00137>  001:0010--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00138>      SAVE HYD           07:GTRAIL    54.37     2.961 No_date    3:03   36.94  n/a
00139>       fname :C:\218-2659\030420-1\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.-R.C.
00143>      READ HYD           08:50yr     489.80     5.599 No_date   11:30   86.18  n/a
00144>       Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\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.-R.C.
00148>      ADD HYD            07:GTRAIL    54.37     2.961 No_date    3:03   36.94  n/a
00149>                       + 08:50yr     489.80     5.599 No_date   11:30   86.18  n/a
00150>       [DT= 1.00]  SUM=  09:Trail    544.17     5.599 No_date   11:30   81.26  n/a
00151>  001:0013--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00152>      SAVE HYD           09:Trail    544.17     5.599 No_date   11:30   81.26  n/a
00153>       fname :C:\218-2659\030420-1\POSTUN~1\H-Trail.001
00154>       remark:Trail
00155> #----------------|----------------------AREA 6071---------------------------|
00156>  001:0014--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00157>      CALIB NASHYD       10:6071      25.50      .627 No_date    4:15   30.15 .359
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.-R.C.
00162>      ADD HYD            09:Trail    544.17     5.599 No_date   11:30   81.26  n/a
00163>                       + 10:6071      25.50      .627 No_date    4:15   30.15  n/a
00164>       [DT= 1.00]  SUM=  11:NodeB    569.67     5.601 No_date   11:30   78.98  n/a
00165>  001:0016--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00166>      SAVE HYD           11:NodeB    569.67     5.601 No_date   11:30   78.98  n/a
00167>       fname :C:\218-2659\030420-1\POSTUN~1\H-NodeB.001
00168>       remark:NodeB
00169>  001:0017----------------------------------------------------------------------
00170>      FINISH
00171> ----------------------------------------------------------------------------
00172> ********************************************************************************
00173>      WARNINGS / ERRORS / NOTES
00174>      -------------------------
00175>    Simulation ended on 2012-04-03      at 14:01:46
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  MM  MM  H    H   Y  Y   MM  MM  O   O       9   9   9   9
00005>  SSSSS  W W W  M MM M  HHHHHH    Y     M MM M  O   O  ##   9   9   9   9  Ver. 4.02
00006>      S  W W W  M    M  H    H    Y     M    M  O   O        9999    9999  July 1999
00007>  SSSSS   W W   M    M  H    H    Y     M    M   OOO             9       9  =========
00008>                                                              9   9   9   9  # 3737016
00009>       StormWater Management HYdrologic Model                  999     999  =========
00010>
00011> ********************************************************************************
00012> ************************** SWMHYMO-99 Ver/4.02 ***************************
00013> *******  A single event and continuous hydrologic simulation model  *******
00014> *******      based on the principles of HYMO and its successors     *******
00015> *******                OTTHYMO-83 and OTTHYMO-89.                   *******
00016> ********************************************************************************
00017> ******* Distributed by:  J.F. Sabourin and Associates Inc.           *******
00018> *******                  Ottawa,  Ontario: (613) 727-5199           *******
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:  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, (ft^3/s) or (m^3/s).    ***
00041> *** TpeakDate_hh:mm is the date and time of the peak flow.             ***
00042> ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).       ***
00043> ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).       ***
00044> ***    *:  see WARNING or NOTE message printed at end of run.          ***
00045> ***   **:  see ERROR message printed at end of run.                    ***
00046> ********************************************************************************
00047> ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051> ********************************************************************************
00052>
00053> *********************  S U M M A R Y   O U T P U T  ***********************
00054> ********************************************************************************
00055> *       DATE: 2012-04-03     TIME: 14:02:55     RUN COUNTER: 000256          *
00056> ********************************************************************************
00057> * Input   filename: C:\218-2659\030420~1\POSTUN~1\100YR1~1.DAT                 *
00058> * Output  filename: C:\218-2659\030420~1\POSTUN~1\100YR1~1.out                 *
00059> * Summary filename: C:\218-2659\030420~1\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    : 04 03 2012
00071> #  Modeller    : [J.PROCTOR, K. Wilmshurst, E. Johnston]
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 - 100yr 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\Post Uncontrolled\100yr.stm
00091>       Comment  = 100-Year 6 hr Kifer Chu Chicago Storm Event
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.-R.C.
00095>      READ HYD          01:100yr7   178.10    7.393 No_date    3:30   99.77  n/a
00096>       Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\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.-R.C.
00100>      DIVERT HYD      -> 01:100yr7   178.10    7.393 No_date    3:30   99.77  n/a
00101>            diverted <= 03:H-7022   169.75    6.000 No_date    3:30   99.77  n/a
00102>            diverted <= 02:H-600      8.35    1.393 No_date    3:30   99.77  n/a
00103> #----------------|-----------------EDEN OAK SITE 6062--------------------|
00104>  001:0005--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>      CALIB STANDHYD     03:6062     13.50    1.444 No_date    3:00   56.35 .587
00106>       [XIMP=.35:TIMP=.52]
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.-R.C.
00112>      CALIB NASHYD       04:6063     26.30    1.214 No_date    3:20   33.60 .350
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.-R.C.
00117>      CALIB STANDHYD     05:6064      7.50     .657 No_date    3:00   47.76 .497
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.-R.C.
00124>      CALIB STANDHYD     06:6065      5.60     .586 No_date    3:00   53.64 .559
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.-R.C.
00131>      ADD HYD           02:H-600      8.35    1.393 No_date    3:30   99.77  n/a
00132>                      + 03:6062      13.50    1.444 No_date    3:00   56.35  n/a
00133>                      + 04:6063      26.30    1.214 No_date    3:20   33.60  n/a
00134>                      + 05:6064       7.50     .657 No_date    3:00   47.76  n/a
00135>                      + 06:6065       5.60     .586 No_date    3:00   53.64  n/a
00136>       [DT= 1.00]  SUM=  07:GTRAIL    61.25    4.333 No_date    3:03   51.20  n/a
00137>  001:0010--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00138>      SAVE HYD          07:GTRAIL    61.25    4.333 No_date    3:03   51.20  n/a
00139>       fname :C:\218-2659\030420~1\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.-R.C.
00143>      READ HYD          08:25mm6    489.80    6.517 No_date   11:15   98.18  n/a
00144>       Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\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.-R.C.
00148>      ADD HYD           07:GTRAIL    61.25    4.333 No_date    3:03   51.20  n/a
00149>                      + 08:25mm6    489.80    6.517 No_date   11:15   98.18  n/a
00150>       [DT= 1.00]  SUM=  09:Trail    551.05    6.517 No_date   11:15   92.96  n/a
00151>  001:0013--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00152>      SAVE HYD          09:Trail    551.05    6.517 No_date   11:15   92.96  n/a
00153>       fname :C:\218-2659\030420~1\POSTUN~1\H-Trail.001
00154>       remark:Trail
00155> #----------------|-------------------------AREA 6071--------------------------|
00156>  001:0014--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00157>      CALIB NASHYD      10:6071      25.50     .797 No_date    4:15   38.11 .397
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.-R.C.
00162>      ADD HYD           09:Trail    551.05    6.517 No_date   11:15   92.96  n/a
00163>                      + 10:6071      25.50     .797 No_date    4:15   38.11  n/a
00164>       [DT= 1.00]  SUM=  11:NodeB    576.55    6.520 No_date   11:15   90.54  n/a
00165>  001:0016--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00166>      SAVE HYD          11:NodeB    576.55    6.520 No_date   11:15   90.54  n/a
00167>       fname :C:\218-2659\030420~1\POSTUN~1\H-NodeB.001
00168>       remark:NodeB
00169>  001:0017----------------------------------------------------------------------
00170>      FINISH
00171> ----------------------------------------------------------------------------
00172> ********************************************************************************
00173>      WARNINGS / ERRORS / NOTES
00174>      -------------------------
00175>   Simulation ended on 2012-04-03     at 14:02:55
00176> ================================================================================
00177>
```

```
00001> ********************************************************************************
00002>
00003>  SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999  =========
00004>  S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>  SSSS   W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9 Ver. 4.02
00006>      S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999 July 1999
00007>  SSSSS   W W   M   M  H   H    Y    M   M   OOO            9      9 =========
00008>                                                        9   9  9   9 # 3737016
00009>       StormWater Management HYdrologic Model           999    999  ========
00010>
00011>  ********************************************************************************
00012>  ***************************** SWMHYMO-99 Ver/4.02 ******************************
00013>  *******  A single event and continuous hydrologic simulation model  ********
00014>  *******     based on the principles of HYMO and its successors       *******
00015>  *******                  OTTHYMO-83 and OTTHYMO-89.                  *******
00016>  ********************************************************************************
00017>  ******* Distributed by:  J.F. Sabourin and Associates Inc.           *******
00018>  *******                  Ottawa, Ontario: (613) 727-5199            *******
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:  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, (ft^3/s) or (m^3/s).     ***
00041>  *** TpeakDate_hh:mm is the date and time of the peak flow.              ***
00042>  ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).       ***
00043>  ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).       ***
00044>  ***     *:  see WARNING or NOTE message printed at end of run.         ***
00045>  ***    **:  see  ERROR  message printed at end of run.                 ***
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  ********************  S U M M A R Y   O U T P U T  ********************
00054>  ********************************************************************************
00055>  *       DATE: 2012-04-30     TIME: 11:04:57     RUN COUNTER: 000016          *
00056>  ********************************************************************************
00057>  * Input   filename: C:\218-2659\030420-1\POSTUN~1\tim_uc.dat                   *
00058>  * Output  filename: C:\218-2659\030420-1\POSTUN~1\tim_uc.out                   *
00059>  * Summary filename: C:\218-2659\030420-1\POSTUN~1\tim_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    : 03 04 2012
00071> #  Modeller    : [J.PROCTOR, K. Wilmshurst, E. Johnston]
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 - 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 = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\tim.stm
00091>       Comment  = Timmins Storm Event
00092>       [SDT=60.00:SDUR=  12.00:PTOT= 193.00]
00093> #-----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)---------|
00094>  001:0003---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00095>      READ HYD           01:tim7     170.10    9.720 No_date    9:15  198.01  n/a
00096>       Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\tim7.hyd
00097>       Comment  = Timmins 15-min storm hydrograph at ID702 new, updated 070820
00098> #-----------------|-----------------SPILL FLOW TO W/C 6-----------------------|
00099>  001:0004---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00100>      DIVERT HYD       -> 01:tim7     170.10    9.720 No_date    9:15  198.01  n/a
00101>             diverted <= 03:H-7022    147.49    6.000 No_date    9:15  198.01  n/a
00102>             diverted <= 02:H-600      30.61    3.720 No_date    9:15  198.01  n/a
00103> #-----------------|-----------------EDEN OAK SITE 6062---------------------|
00104>  001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>      CALIB STANDHYD     03:6062      13.50    1.212 No_date    7:00  136.77 .709
00106>       [XIMP=.35:TIMP=.52]
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 TYPOLEAN 6063--------------------|
00111>  001:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00112>      CALIB NASHYD       04:6063      26.30    1.569 No_date    7:20  104.47 .541
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.-R.C.
00117>      CALIB STANDHYD     05:6064       7.50     .590 No_date    7:00  122.31 .634
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.-R.C.
00124>      CALIB STANDHYD     06:6065       5.60     .502 No_date    7:00  135.50 .702
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.-R.C.
00131>      ADD HYD            02:H-600     30.61    3.720 No_date    9:15  198.01  n/a
00132>                       + 03:6062      13.50    1.212 No_date    7:00  136.77  n/a
00133>                       + 04:6063      26.30    1.569 No_date    7:20  104.47  n/a
00134>                       + 05:6064       7.50     .590 No_date    7:00  122.31  n/a
00135>                       + 06:6065       5.60     .502 No_date    7:00  135.50  n/a
00136>       [DT= 1.00]  SUM=  07:GTRAIL    83.51    6.266 No_date    9:00  147.66  n/a
00137>  001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00138>      SAVE HYD           07:GTRAIL    83.51    6.266 No_date    9:00  147.66  n/a
00139>       fname :C:\218-2659\030420-1\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.-R.C.
00143>      READ HYD           08:tim6     489.80   13.332 No_date   15:30  194.65  n/a
00144>       Filename = C:\218-2659\03 04 2012 HYMO\Post Uncontrolled\tim6.HYD
00145>       Comment  = Timmins 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.-R.C.
00148>      ADD HYD            07:GTRAIL    83.51    6.266 No_date    9:00  147.66  n/a
00149>                       + 08:tim6      489.80   13.332 No_date   15:30  194.65  n/a
00150>       [DT= 1.00]  SUM=  09:Trail     573.31   13.637 No_date   12:00  187.81  n/a
00151>  001:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00152>      SAVE HYD           09:Trail     573.31   13.637 No_date   12:00  187.81  n/a
00153>       fname :C:\218-2659\030420-1\POSTUN~1\H-Trail.001
00154>       remark:Trail
00155> #-----------------|-------------------------AREA 6071--------------------------|
00156>  001:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00157>      CALIB NASHYD       10:6071      25.50    1.269 No_date    9:05  114.01 .591
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.-R.C.
00162>      ADD HYD            09:Trail     573.31   13.637 No_date   12:00  187.81  n/a
00163>                       + 10:6071      25.50    1.269 No_date    9:05  114.01  n/a
00164>       [DT= 1.00]  SUM=  11:NodeB     598.81   14.438 No_date   12:00  184.67  n/a
00165>  001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00166>      SAVE HYD           11:NodeB     598.81   14.438 No_date   12:00  184.67  n/a
00167>       fname :C:\218-2659\030420-1\POSTUN~1\H-NodeB.001
00168>       remark:NodeB
00169>  001:0017-----------------------------------------------------------------------
00170>      FINISH
00171> ===============================================================================
00172> ********************************************************************************
00173>      WARNINGS / ERRORS / NOTES
00174>      -------------------------
00175>   Simulation ended on 2012-04-30     at 11:04:58
00176> ===============================================================================
00177>
00178>
```

```
 ========================================================================

 SSSSS  W   W   M   M  H   H  Y   Y  M   M   OOO        999    999  =========
 S      W W W   MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
 SSSSS  W W W   M M M  HHHHH    Y    M M M  O   O  ## 9   9  9   9  Ver. 4.02
     S   W W    M   M  H   H    Y    M   M  O   O      9999   9999  July 1999
 SSSSS   W W    M   M  H   H    Y    M   M   OOO          9      9  =========
                                                       9   9  9   9  # 3737016
      StormWater Management HYdrologic Model            999    999  =========

 ************************************************************************
 ************************* SWMHYMO-99 Ver/4.02 **************************
 *******   A single event and continuous hydrologic simulation model  *******
 *******      based on the principles of HYMO and its successors      *******
 *******                  OTTHYMO-83 and OTTHYMO-89.                  *******
 ************************************************************************
 ******* Distributed by:  J.F. Sabourin and Associates Inc.            *******
 *******                  Ottawa, Ontario: (613) 727-5199             *******
 *******                  Gatineau, Quebec: (819) 243-6858            *******
 *******                  E-Mail: swmhymo@jfsa.Com                    *******
 ************************************************************************

 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 +++++++ Licensed user: C.F. Crozier & Associates Inc             +++++++
 +++++++                Collingwood          SERIAL#:3737016      +++++++
 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

 ************************************************************************
 *******            ++++++ PROGRAM ARRAY DIMENSIONS ++++++            *******
 *******            Maximum value for ID numbers   :    10            *******
 *******            Max. number of rainfall points:  15000            *******
 *******            Max. number of flow points     :  15000            *******
 ************************************************************************

 *** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) ***
 ***--------------------------------------------------------------------***
 ***     ID:  Hydrograph IDentification numbers, (1-10).                ***
 ***   NHYD:  Hydrograph reference numbers, (6 digits or characters).   ***
 ***   AREA:  Drainage area associated with hydrograph, (ac.) or (ha.). ***
 *** QPEAK:   Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).   ***
 *** TpeakDate_hh:mm is the date and time of the peak flow.             ***
 ***   R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).      ***
 ***   R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).      ***
 ***      *:  see WARNING or NOTE message printed at end of run.        ***
 ***     **:  see  ERROR  message printed at end of run.                ***
 ************************************************************************
 ************************************************************************

 ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

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

 ********************     S U M M A R Y   O U T P U T    ********************
 ************************************************************************
 *      DATE: 2012-04-03      TIME: 13:37:39      RUN COUNTER: 000236     *
 ************************************************************************
 * Input   filename: C:\218-2659\030420~1\PONDDE~1\2yr_pst.dat            *
 * Output  filename: C:\218-2659\030420~1\PONDDE~1\2yr_pst.out            *
 * Summary filename: C:\218-2659\030420~1\PONDDE~1\2yr_pst.sum            *
 * User comments:                                                         *
 * 1:_____________________________________________________________________*
 * 2:_____________________________________________________________________*
 * 3:_____________________________________________________________________*
 ************************************************************************


#*************************************************************************
#  Project Name: [EDEN OAK]  Project Number: [218-2659]
#  Date          : 05-26-2006
#  Modified      : 04-03-2012
#  Modeller      : [J.PROCTOR]
#  Company       : C.F. Crozier & Associates Inc.
#  License #     :  3737016
#*************************************************************************
 RUN:COMMAND#
 001:0001-----------------------------------------------------------------
     START
      [TZERO =     .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  =   1 ]
#*************************************************************************
#*************COMBINED POND POST-DEVELOPMENT - 2yr Event ******************
#*************************************************************************
#   Rainfall Depths per MTO - Basins East of Collingwood
#   6 hour Kifer Chu Chicago Rainfall Distribution
#*************************************************************************
 001:0002-----------------------------------------------------------------
     READ STORM
      Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\2yr.stm
      Comment  = 2-Year 6 hr Kefer Chu Chicago Storm Event
      [SDT=60.00:SDUR=   6.00:PTOT=  37.90]
#-----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)---------|
 001:0003--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     READ HYD             01:2yr7      178.10     2.893 No_date    3:15   40.70  n/a
      Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\2yr7.hyd
      Comment  = 2-Year 15-min storm hydrograph at ID702 new
#-----------------|----------------SPILL FLOW TO W/C 6-----------------------|
 001:0004--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     DIVERT HYD       -> 01:2yr7      178.10     2.893 No_date    3:15   40.70  n/a
           diverted <= 03:H-7022   178.10     2.893 No_date    3:15   40.70  n/a
           diverted <= 02:H-600       .00      .000 No_date    0:00     .00  n/a
#-----------------|-----------------EDEN OAK SITE 6062--------------------|
 001:0005--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     CALIB STANDHYD       03:6062       13.50      .419 No_date    3:00   16.84 .444
      [XIMP=.35:TIMP=.52]
      [LOSS= 2 :CN= 56.6]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.20:LGI= 300.:MNI=.013:SCI=   .0]
#-----------------|---------------EXISTING TYROLEAN 6063--------------------|
 001:0006--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     CALIB NASHYD         04:6063       26.30      .189 No_date    3:25    5.21 .137
      [CN= 64.0: N= 3.00]
      [Tp=  .65:DT= 5.00]
#-----------------|-----------------BMR SITE 6064---------------------------|
 001:0007--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     CALIB STANDHYD       05:6064        7.50      .169 No_date    3:00   13.25 .350
      [XIMP=.25:TIMP=.45]
      [LOSS= 2 :CN= 52.1]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 475.:MNI=.013:SCI=   .0]
#-----------------|---------------BECKER SITE 6065--------------------------|
 001:0008--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     CALIB STANDHYD       06:6065        5.60      .139 No_date    3:00   14.31 .378
      [XIMP=.22:TIMP=.47]
      [LOSS= 2 :CN= 61.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 360.:MNI=.013:SCI=   .0]
#-----------------|---------------ADD AREAS 6062 - 6065---------------------|
 001:0009--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     ADD HYD              02:H-600        .00      .000 No_date    0:00     .00  n/a
                       + 03:6062       13.50      .419 No_date    3:00   16.84  n/a
                       + 04:6063       26.30      .189 No_date    3:25    5.21  n/a
                       + 05:6064        7.50      .169 No_date    3:00   13.25  n/a
                       + 06:6065        5.60      .139 No_date    3:00   14.31  n/a
      [DT= 1.00]  SUM=  07:GTRAIL     52.90      .849 No_date    3:01   10.28  n/a
 001:0010--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     SAVE HYD             07:GTRAIL     52.90      .849 No_date    3:01   10.28  n/a
      fname :C:\218-2659\030420~1\PONDDE~1\H-GTRAIL.001
      remark:NodeA
 001:0011--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     ROUTE RESERVOIR -> 07:GTRAIL     52.90      .849 No_date    3:01   10.28  n/a
      [RDT= 1.00] out<- 03:POND       52.90      .367 No_date    3:51   10.28  n/a
            overflow <= 04:OVERFL       .00      .000 No_date    0:00     .00  n/a
     (MxStoUsed=.3052E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|-QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 6061)|
 001:0012--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     READ HYD             08:2yr6      489.80     2.258 No_date   12:30   40.82  n/a
      Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\2yr6.HYD
      Comment  = 2-Year 15-min storm hydrograph at ID606
#-----------------|-TOTAL CONTROLLED-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL---|
 001:0013--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     ADD HYD              03:POND       52.90      .367 No_date    3:51   10.28  n/a
                       + 08:2yr6      489.80     2.258 No_date   12:30   40.82  n/a
      [DT= 1.00]  SUM=  09:Trail     542.70     2.295 No_date   12:30   37.84  n/a
 001:0014--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     SAVE HYD             09:Trail     542.70     2.295 No_date   12:30   37.84  n/a
      fname :C:\218-2659\030420~1\PONDDE~1\H-Trail.001
      remark:Trail
#-----------------|-------------------------AREA 6071-------------------------|
 001:0015--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     CALIB NASHYD         10:6071       25.50      .128 No_date    4:20    6.16 .163
      [CN= 68.8: N= 3.00]
      [Tp= 1.36:DT= 5.00]
#-----------------|-------TOTAL CONTROLLED-DEVELOPMENT FLOW TO HWY 26---------|
 001:0016--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     ADD HYD              09:Trail     542.70     2.295 No_date   12:30   37.84  n/a
                       + 10:6071       25.50      .128 No_date    4:20    6.16  n/a
      [DT= 1.00]  SUM=  11:NodeB     568.20     2.295 No_date   12:30   36.42  n/a
 001:0017--------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     SAVE HYD             11:NodeB     568.20     2.295 No_date   12:30   36.42  n/a
      fname :C:\218-2659\030420~1\PONDDE~1\H-NodeB.001
      remark:NodeB
 001:0018-----------------------------------------------------------------
      FINISH
 ------------------------------------------------------------------------
 ************************************************************************
     WARNINGS / ERRORS / NOTES
     -------------------------
   Simulation ended on 2012-04-03     at 13:37:39
 ========================================================================
```

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

 SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO       999   999  ==========
 S      W W W  MM MM  H   H   Y Y   MM MM  O   O     9   9 9   9
 SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O ## 9   9 9   9 Ver. 4.02
     S   W W   M   M  H   H    Y    M   M  O   O     9999  9999 July 1999
 SSSSS   W W   M   M  H   H    Y    M   M   OOO         9     9 =========
                                                   9   9 9   9 # 3737016
      StormWater Management HYdrologic Model         999   999  =========

 *****************************************************************************
 ************************* SWMHYMO-99 Ver/4.02 ******************************
 *******  A single event and continuous hydrologic simulation model  *******
 *******     based on the principles of HYMO and its successors       *******
 *******                 OTTHYMO-83 and OTTHYMO-89.                  *******
 *****************************************************************************
 ******* Distributed by:  J.F. Sabourin and Associates Inc.          *******
 *******                  Ottawa,  Ontario: (613) 727-5199           *******
 *******                  Gatineau, Quebec: (819) 243-6858           *******
 *******                  E-Mail: swmhymo@jfsa.Com                   *******
 *****************************************************************************

 +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 +++++++ Licensed user: C.F. Crozier & Associates Inc                 +++++++
 +++++++                Collingwood            SERIAL#:3737016        +++++++
 +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

 *****************************************************************************
 *******                ****** PROGRAM ARRAY DIMENSIONS ******         *******
 *******                Maximum value for ID numbers  :     10         *******
 *******                Max. number of rainfall points:  15000         *******
 *******                Max. number of flow points    :  15000         *******
 *****************************************************************************

 *** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) ***
 ***-------------------------------------------------------------------------***
 ***     ID:  Hydrograph IDentification numbers, (1-10).                   ***
 ***   NHYD:  Hydrograph reference numbers, (6 digits or characters).      ***
 ***   AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).    ***
 *** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).       ***
 *** TpeakDate_hh:mm is the date and time of the peak flow.                ***
 ***   R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).         ***
 ***   R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).         ***
 ***      *:  see WARNING or NOTE message printed at end of run.           ***
 ***     **:  see  ERROR  message printed at end of run.                   ***
 *****************************************************************************
 *****************************************************************************

::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

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

 *******************    S U M M A R Y   O U T P U T    *******************
 *****************************************************************************
 *      DATE: 2012-04-03     TIME: 13:38:28     RUN COUNTER: 000237        *
 *****************************************************************************
 * Input   filename: C:\218-2659\030420~1\PONDDE~1\5yr_pst.dat              *
 * Output  filename: C:\218-2659\030420~1\PONDDE~1\5yr_pst.out              *
 * Summary filename: C:\218-2659\030420~1\PONDDE~1\5yr_pst.sum              *
 * User comments:                                                            *
 * 1:_______________________________________________________________________*
 * 2:_______________________________________________________________________*
 * 3:_______________________________________________________________________*
 *****************************************************************************


#******************************************************************************
#  Project Name: [EDEN OAK]  Project Number: [218-2659]
#  Date         : 05-26-2006
#  Modified     : 04-03-2012
#  Modeller     : [J.PROCTOR]
#  Company      : C.F. Crozier & Associates Inc.
#  License #    :  3737016
#******************************************************************************
 RUN:COMMAND#
 001:0001-----------------------------------------------------------------------
     START
      [TZERO =     .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  =   1 ]
#******************************************************************************
#*************COMBINED POND POST-DEVELOPMENT - 5yr Event *******************
#******************************************************************************
#   Rainfall Depths per MTO - Basins East of Collingwood
#   6 hour Kifer Chu Chicago Rainfall Distribution
#******************************************************************************
 001:0002-----------------------------------------------------------------------
     READ STORM
      Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\5yr.stm
      Comment  = 5-Year 6 hr Kifer Chu Chicago Storm Event
      [SDT=60.00:SDUR=   6.00:PTOT=  52.70]
#-----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)---------|
 001:0003---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     READ HYD           01:5yr7      178.10    3.943 No_date    3:30   55.24  n/a
      Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\5yr7.hyd
      Comment  = 5-year 15-min storm hydrograph at ID702 new
#-----------------|-----------------SPILL FLOW TO W/C 6----------------------|
 001:0004---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     DIVERT HYD      -> 01:5yr7      178.10    3.943 No_date    3:30   55.24  n/a
           diverted <= 03:H-7022    178.10    3.943 No_date    3:30   55.24  n/a
           diverted <= 02:H-600        .00     .000 No_date    0:00     .00  n/a
#-----------------|-----------------EDEN OAK SITE 6062--------------------|
 001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     CALIB STANDHYD     03:6062       13.50     .642 No_date    3:00   25.84 .490
      [XIMP=.35:TIMP=.52]
      [LOSS= 2 :CN= 56.6]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 2.00:SLPI=1.20:LGI= 300.:MNI=.013:SCI=    .0]
#-----------------|---------------EXISTING TYROLEAN 6063--------------------|
 001:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     CALIB NASHYD       04:6063       26.30     .386 No_date    3:25   10.69 .203
      [CN= 64.0: N= 3.00]
      [Tp=  .65:DT= 5.00]
#-----------------|------------------BMR SITE 6064--------------------------|
 001:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     CALIB STANDHYD     05:6064        7.50     .267 No_date    3:00   20.86 .396
      [XIMP=.25:TIMP=.45]
      [LOSS= 2 :CN= 52.1]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 475.:MNI=.013:SCI=    .0]
#-----------------|---------------BECKER SITE 6065-------------------------|
 001:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     CALIB STANDHYD     06:6065        5.60     .231 No_date    3:00   23.03 .437
      [XIMP=.22:TIMP=.47]
      [LOSS= 2 :CN= 61.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 2.00:SLPI= .50:LGI= 360.:MNI=.013:SCI=    .0]
#-----------------|---------------ADD AREAS 6062 - 6065---------------------|
 001:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     ADD HYD            02:H-600        .00     .000 No_date    0:00     .00  n/a
                    +   03:6062       13.50     .642 No_date    3:00   25.84  n/a
                    +   04:6063       26.30     .386 No_date    3:25   10.69  n/a
                    +   05:6064        7.50     .267 No_date    3:00   20.86  n/a
                    +   06:6065        5.60     .231 No_date    3:00   23.03  n/a
      [DT= 1.00]  SUM=  07:GTRAIL     52.90    1.406 No_date    3:01   17.31  n/a
 001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     SAVE HYD           07:GTRAIL     52.90    1.406 No_date    3:01   17.31  n/a
      fname :C:\218-2659\030420~1\PONDDE~1\H-GTRAIL.001
      remark:NodeA
 001:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     ROUTE RESERVOIR -> 07:GTRAIL     52.90    1.406 No_date    3:01   17.31  n/a
      [RDT= 1.00] out<- 03:POND       52.90     .959 No_date    3:21   17.31  n/a
             overflow <= 04:OVERFL       .00     .000 No_date    0:00     .00  n/a
     [MxStoUsed=.3684E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
#-----------------|-QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 6061)|
 001:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     READ HYD           08:5yr6      489.80    3.312 No_date   12:00   55.37  n/a
      Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\5yr6.HYD
      Comment  = 5-Year 15-min storm hydrograph at ID606
#-----------------|-TOTAL CONTROLLED-DEVELOPMENT FLOW u/s of GEORGIAN TRAIL---|
 001:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     ADD HYD            03:POND       52.90     .959 No_date    3:21   17.31  n/a
                    +   08:5yr6      489.80    3.312 No_date   12:00   55.37  n/a
      [DT= 1.00]  SUM=  09:Trail     542.70    3.351 No_date   12:00   51.66  n/a
 001:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     SAVE HYD           09:Trail     542.70    3.351 No_date   12:00   51.66  n/a
      fname :C:\218-2659\030420~1\PONDDE~1\H-Trail.001
      remark:Trail
#-----------------|-------------------------AREA 6071-----------------------|
 001:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     CALIB NASHYD       10:6071       25.50     .259 No_date    4:20   12.50 .237
      [CN= 68.8: N= 3.00]
      [Tp= 1.36:DT= 5.00]
#-----------------|-------TOTAL CONTROLLED-DEVELOPMENT FLOW TO HWY 26---------|
 001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     ADD HYD            09:Trail     542.70    3.351 No_date   12:00   51.66  n/a
                    +   10:6071       25.50     .259 No_date    4:20   12.50  n/a
      [DT= 1.00]  SUM=  11:NodeB     568.20    3.351 No_date   12:00   49.90  n/a
 001:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
     SAVE HYD           11:NodeB     568.20    3.351 No_date   12:00   49.90  n/a
      fname :C:\218-2659\030420~1\PONDDE~1\H-NodeB.001
      remark:NodeB
 001:0018-----------------------------------------------------------------------
      FINISH
 -------------------------------------------------------------------------------
 *******************************************************************************
     WARNINGS / ERRORS / NOTES
     -------------------------
   Simulation ended on 2012-04-03     at 13:38:29
 ===============================================================================
```

```
00001> ================================================================================
00002>
00003>  SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999  =========
00004>  S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>  SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9  Ver. 4.02
00006>      S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999  July 1999
00007>  SSSSS   W W   M   M  H   H    Y    M   M   OOO            9      9  ========
00008>                                                          9   9  9   9  # 3737016
00009>       StormWater Management HYdrologic Model            999    999  =========
00010>
00011>  ********************************************************************************
00012>  ************************** SWMHYMO-99 Ver/4.02 ***********************************
00013>  *******  A single event and continuous hydrologic simulation model  ********
00014>  *******     based on the principles of HYMO and its successors       ********
00015>  *******              OTTHYMO-83 and OTTHYMO-89.                      ********
00016>  ********************************************************************************
00017>  *******  Distributed by:  J.F. Sabourin and Associates Inc.          ********
00018>  *******                   Ottawa, Ontario: (613) 727-5199            ********
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:  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, (ft^3/s) or (m^3/s).       ***
00041>  *** TpeakDate_hh:mm is the date and time of the peak flow.                 ***
00042>  ***   R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).         ***
00043>  ***   R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).         ***
00044>  ***     *:  see WARNING or NOTE message printed at end of run.            ***
00045>  ***    **:  see  ERROR  message printed at end of run.                    ***
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049>  ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  *********************  S U M M A R Y   O U T P U T  **********************
00054>  ********************************************************************************
00055>  *       DATE: 2012-04-03     TIME: 13:39:38     RUN COUNTER: 000238       *
00056>  ********************************************************************************
00057>  * Input   filename: C:\218-2659\030420~1\PONDDE~1\10yr_pst.dat             *
00058>  * Output  filename: C:\218-2659\030420~1\PONDDE~1\10yr_pst.out             *
00059>  * Summary filename: C:\218-2659\030420~1\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    : 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>       [NSTORM=   0 ]
00081>       [NRUN  =   1 ]
00082> #*******************************************************************************
00083> #**************COMBINED POND POST-DEVELOPMENT - 10yr 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\10yr.stm
00091>       Comment  = 10yr 6 hr Kifer Chu Chicago Storm Event
00092>       [SDT=6.00:SDUR=   6.00:PTOT=  66.00]
00093> #-----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)---------|
00094>  001:0003----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00095>      READ HYD            01:10yr7    178.10    4.950 No_date    3:30   68.35  n/a
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> #-----------------|-----------------SPILL FLOW TO W/C 6-------------------------|
00099>  001:0004----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00100>      DIVERT HYD      -> 01:10yr7    178.10    4.950 No_date    3:30   68.35  n/a
00101>             diverted <= 03:H-7022   178.10    4.950 No_date    3:30   68.35  n/a
00102>             diverted <= 02:H-600        .00     .000 No_date    0:00     .00  n/a
00103> #-----------------|-----------------EDEN OAK SITE 6062----------------------|
00104>  001:0005----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>      CALIB STANDHYD      03:6062      13.50     .885 No_date    3:00   34.64 .525
00106>       [XIMP=.35:TIMP=.52]
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.-R.C.
00112>      CALIB NASHYD        04:6063      26.30     .616 No_date    3:25   16.80 .254
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.-R.C.
00117>      CALIB STANDHYD      05:6064       7.50     .381 No_date    3:00   28.48 .431
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.-R.C.
00124>      CALIB STANDHYD      06:6065       5.60     .337 No_date    3:00   31.76 .481
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.-R.C.
00131>      ADD HYD             02:H-600        .00     .000 No_date    0:00     .00  n/a
00132>                        + 03:6062       13.50     .885 No_date    3:00   34.64  n/a
00133>                        + 04:6063       26.30     .616 No_date    3:25   16.80  n/a
00134>                        + 05:6064        7.50     .381 No_date    3:00   28.48  n/a
00135>                        + 06:6065        5.60     .337 No_date    3:00   31.76  n/a
00136>       [DT= 1.00]  SUM=  07:GTRAIL    52.90    2.048 No_date    3:01   24.59  n/a
00137>  001:0010----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00138>      SAVE HYD            07:GTRAIL    52.90    2.048 No_date    3:01   24.59  n/a
00139>       fname :C:\218-2659\030420~1\PONDDE~1\H-GTRAIL.001
00140>       remark:NodeA
00141>  001:0011----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00142>      ROUTE RESERVOIR -> 07:GTRAIL    52.90    2.048 No_date    3:01   24.59  n/a
00143>       [RDT= 1.00] out<- 03:POND      52.90    1.645 No_date    3:13   24.59  n/a
00144>             overflow <= 04:OVERFL      .00     .000 No_date    0:00     .00  n/a
00145>       (MxStoUsed=.4255E+00, TotOvfVol=.0000E+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.-R.C.
00148>      READ HYD            08:10yr6    489.80    4.241 No_date   11:45   60.48  n/a
00149>       Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\10yr6.HYD
00150>       Comment  = 10 yr- 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.-R.C.
00153>      ADD HYD             03:POND      52.90    1.645 No_date    3:13   24.59  n/a
00154>                        + 08:10yr6    489.80    4.241 No_date   11:45   60.48  n/a
00155>       [DT= 1.00]  SUM=  09:Trail    542.70    4.281 No_date   11:45   64.20  n/a
00156>  001:0014----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00157>      SAVE HYD            09:Trail    542.70    4.281 No_date   11:45   64.20  n/a
00158>       fname :C:\218-2659\030420~1\PONDDE~1\H-Trail.001
00159>       remark:Trail
00160> #-----------------|-----------------------AREA 6071--------------------------|
00161>  001:0015----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00162>      CALIB NASHYD        10:6071      25.50     .408 No_date    4:15   19.42 .294
00163>       [CN= 68.8: N= 3.00]
00164>       [Tp= 1.36:DT= 5.00]
00165> #-----------------|--------TOTAL CONTROLLED-DEVELOPMENT FLOW TO HWY 26---------|
00166>  001:0016----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00167>      ADD HYD             09:Trail    542.70    4.281 No_date   11:45   64.20  n/a
00168>                        + 10:6071      25.50     .408 No_date    4:15   19.42  n/a
00169>       [DT= 1.00]  SUM=  11:NodeB    568.20    4.282 No_date   11:45   62.19  n/a
00170>  001:0017----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00171>      SAVE HYD            11:NodeB    568.20    4.282 No_date   11:45   62.19  n/a
00172>       fname :C:\218-2659\030420~1\PONDDE~1\H-NodeB.001
00173>       remark:NodeB
00174>  001:0018----------------------------------------------------------------------
00175>      FINISH
00176> ----------------------------------------------------------------------------
00177> ********************************************************************************
00178>      WARNINGS / ERRORS / NOTES
00179>      -------------------------
00180>    Simulation ended on 2012-04-03     at 13:39:38
00181> ================================================================================
00182>
```

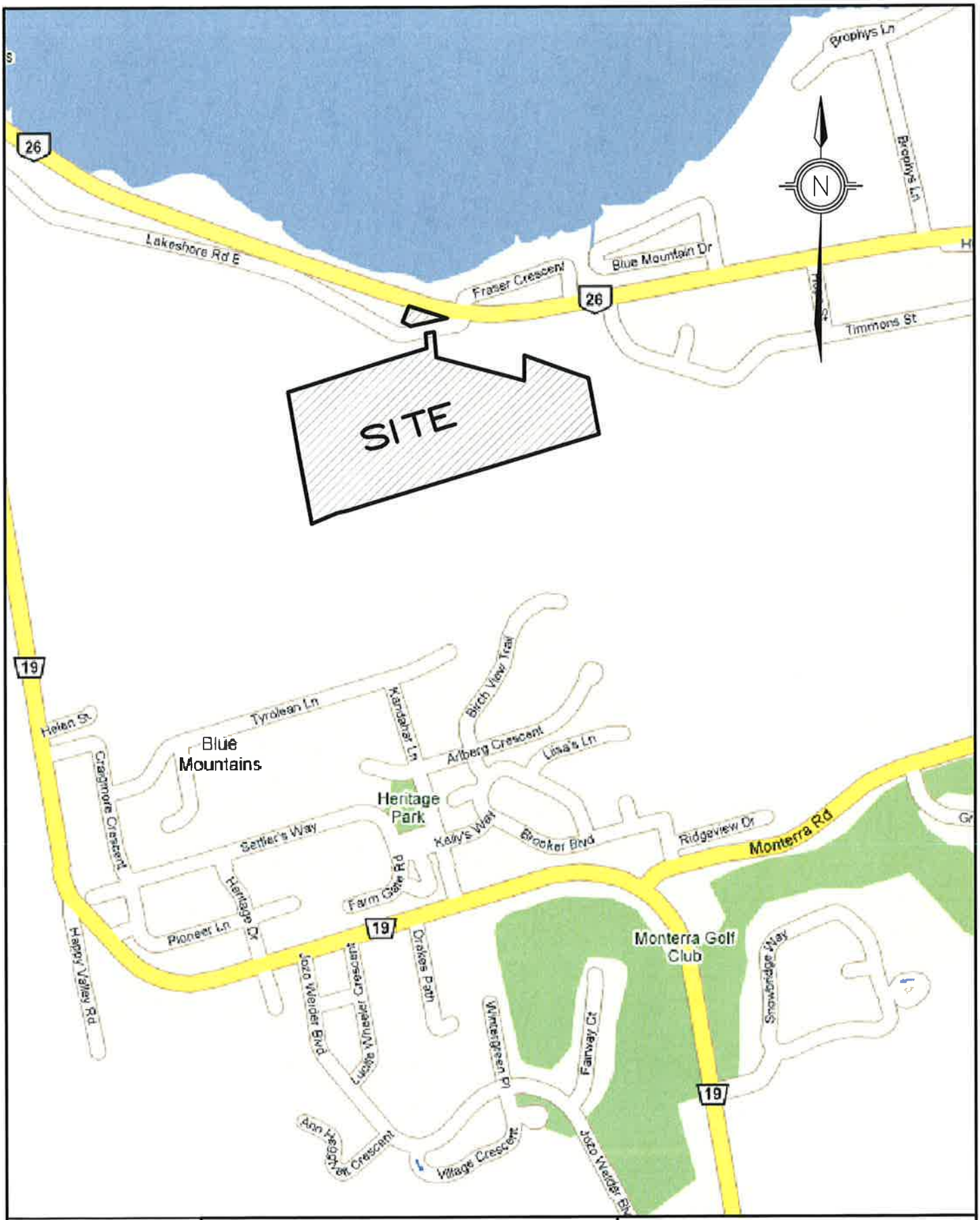
```
00001> ================================================================================
00002>
00003>  SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO         999    999  =========
00004>  S      W W W  MM MM  H   H   Y Y   MM MM  O   O       9   9  9   9
00005>  SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##   9   9  9   9  Ver. 4.02
00006>      S   W W   M   M  H   H    Y    M   M  O   O       9999   9999  July 1999
00007>  SSSSS   W W   M   M  H   H    Y    M   M   OOO            9      9  =========
00008>                                                          9   9  9   9  # 3737016
00009>       StormWater Management HYdrologic Model              999    999  =========
00010>
00011>  ********************************************************************************
00012>  ************************** SWMHYMO-99 Ver/4.02 ***************************
00013>  *******  A single event and continuous hydrologic simulation model  ********
00014>  *******     based on the principles of HYMO and its successors       ********
00015>  *******                  OTTHYMO-83 and OTTHYMO-89.                  ********
00016>  ********************************************************************************
00017>  ******* Distributed by:  J.F. Sabourin and Associates Inc.           ********
00018>  *******                  Ottawa,  Ontario: (613) 727-5199           ********
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:  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, (ft^3/s) or (m^3/s).       ***
00041>  *** TpeakDate_hh:mm is the date and time of the peak flow.                 ***
00042>  ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).          ***
00043>  ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).          ***
00044>  ***    *:  see WARNING or NOTE message printed at end of run.             ***
00045>  ***   **:  see  ERROR  message printed at end of run.                     ***
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  *********************   S U M M A R Y   O U T P U T   **************************
00054>  ********************************************************************************
00055>  *        DATE: 2012-04-03      TIME: 13:40:36      RUN COUNTER: 000239         *
00056>  ********************************************************************************
00057>  * Input  filename: C:\218-2659\030420-1\PONDDE~1\25yr_pst.dat                   *
00058>  * Output  filename: C:\218-2659\030420-1\PONDDE~1\25yr_pst.out                 *
00059>  * Summary filename: C:\218-2659\030420-1\PONDDE~1\25yr_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     : 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>       [NSTORM=   0 ]
00081>       [NRUN  =   1 ]
00082> #**********************************************************************************
00083> #**************COMBINED POND POST-DEVELOPMENT - 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 = 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> #-----------------|-------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)---------|
00094>  001:0003---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00095>      READ HYD           01:25yr7    178.10    5.791 No_date    3:30   80.09  n/a
00096>       Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\25yr7.hyd
00097>       Comment  = 25-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.-R.C.
00100>      DIVERT HYD      -> 01:25yr7    178.10    5.791 No_date    3:30   80.09  n/a
00101>             diverted <= 03:H-7022   178.10    5.791 No_date    3:30   80.09  n/a
00102>             diverted <= 02:H-600       .00     .000 No_date    0:00     .00  n/a
00103> #-----------------|-----------------EDEN OAK SITE 6062---------------------|
00104>  001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>      CALIB STANDHYD     03:6062      13.50    1.093 No_date    3:00   42.98 .552
00106>       [XIMP=.35:TIMP=.52]
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.-R.C.
00112>      CALIB NASHYD       04:6063      26.30     .832 No_date    3:25   23.02 .295
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.-R.C.
00117>      CALIB STANDHYD     05:6064       7.50     .488 No_date    3:00   35.81 .460
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.-R.C.
00124>      CALIB STANDHYD     06:6065       5.60     .423 No_date    3:00   40.12 .515
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.-R.C.
00131>      ADD HYD            02:H-600        .00     .000 No_date    0:00     .00  n/a
00132>                       + 03:6062       13.50    1.093 No_date    3:00   42.98  n/a
00133>                       + 04:6063       26.30     .832 No_date    3:25   23.02  n/a
00134>                       + 05:6064        7.50     .488 No_date    3:00   35.81  n/a
00135>                       + 06:6065        5.60     .423 No_date    3:00   40.12  n/a
00136>       [DT= 1.00]  SUM=  07:GTRAIL    52.90    2.617 No_date    3:01   31.74  n/a
00137>  001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00138>      SAVE HYD           07:GTRAIL    52.90    2.617 No_date    3:01   31.74  n/a
00139>       fname :C:\218-2659\030420-1\PONDDE~1\H-GTRAIL.001
00140>       remark:NodeA
00141>  001:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00142>      ROUTE RESERVOIR -> 07:GTRAIL    52.90    2.617 No_date    3:01   31.74  n/a
00143>       [RDT= 1.00] out<- 03:POND      52.90    2.229 No_date    3:10   31.74  n/a
00144>            overflow <= 04:OVERFL      .00     .000 No_date    0:00     .00  n/a
00145>       [MxStoUsed=.4677E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs
00146> #-----------------|-QHM HYDROGRAPH FROM WATERSHED 6 (601, 602, 603, 605, 606)|
00147>  001:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00148>      READ HYD           08:25yr6    504.80    5.142 No_date   11:30   77.86  n/a
00149>       Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\25yr6.HYD
00150>       Comment  = 25-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.-R.C.
00153>      ADD HYD            03:POND      52.90    2.229 No_date    3:10   31.74  n/a
00154>                       + 08:25yr6    504.80    5.142 No_date   11:30   77.86  n/a
00155>       [DT= 1.00]  SUM=  09:Trail    557.70    5.183 No_date   11:30   73.48  n/a
00156>  001:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00157>      SAVE HYD           09:Trail    557.70    5.183 No_date   11:30   73.48  n/a
00158>       fname :C:\218-2659\030420-1\PONDDE~1\H-Trail.001
00159>       remark:Trail
00160> #-----------------|----------------------AREA 6071----------------------------|
00161>  001:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00162>      CALIB NASHYD       10:6071      25.50     .551 No_date    4:15   26.40 .339
00163>       [CN= 68.0: N= 3.00]
00164>       [Tp= 1.36:DT= 5.00]
00165> #-----------------|-------TOTAL CONTROLLED-DEVELOPMENT FLOW TO HWY 26---------|
00166>  001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00167>      ADD HYD            09:Trail    557.70    5.183 No_date   11:30   73.48  n/a
00168>                       + 10:6071      25.50     .551 No_date    4:15   26.40  n/a
00169>       [DT= 1.00]  SUM=  11:NodeB    583.20    5.184 No_date   11:30   71.43  n/a
00170>  001:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00171>      SAVE HYD           11:NodeB    583.20    5.184 No_date   11:30   71.43  n/a
00172>       fname :C:\218-2659\030420-1\PONDDE~1\H-NodeB.001
00173>       remark:NodeB
00174>  001:0018----------------------------------------------------------------------
00175>      FINISH
00176> ----------------------------------------------------------------------------
00177> ****************************************************************************
00178>      WARNINGS / ERRORS / NOTES
00179>      -------------------------
00180>   Simulation ended on 2012-04-03      at 13:40:37
00181> ============================================================================
00182>
```

```
00001> ********************************************************************************
00002>
00003>  55555  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999  =========
00004>  5      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>  55555  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9 Ver. 4.02
00006>      5  W W   M   M  H   H    Y    M   M  O   O       9999   9999 July 1999
00007>  55555  W W   M   M  H   H    Y    M   M   OOO          9      9 =========
00008>                                                      9   9  9   9 # 3737016
00009>        StormWater Management HYdrologic Model         999    999  =========
00010>
00011> ********************************************************************************
00012> ************************** SWMHYMO-99 Ver/4.02 ********************************
00013> *******  A single event and continuous hydrologic simulation model  *******
00014> *******     based on the principles of HYMO and its successors       *******
00015> *******                 OTTHYMO-83 and OTTHYMO-89.                   *******
00016> ********************************************************************************
00017> *******  Distributed by:  J.F. Sabourin and Associates Inc.           *******
00018> *******                  Ottawa, Ontario: (613) 727-5199             *******
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:  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, (ft^3/s) or (m^3/s).      ***
00041> *** TpeakDate_hh:mm is the date and time of the peak flow.               ***
00042> ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).         ***
00043> ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).         ***
00044> ***    *:  see WARNING or NOTE message printed at end of run.            ***
00045> ***   **:  see ERROR message printed at end of run.                      ***
00046> ********************************************************************************
00047> ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051> ********************************************************************************
00052>
00053> *********************   S U M M A R Y   O U T P U T   **************************
00054> ********************************************************************************
00055> *       DATE: 2012-04-03      TIME: 13:41:23       RUN COUNTER: 000240         *
00056> ********************************************************************************
00057> * Input   filename: C:\218-2659\030420~1\PONDDE~1\50yr_pst.dat                  *
00058> * Output  filename: C:\218-2659\030420~1\PONDDE~1\50yr_pst.out                  *
00059> * Summary filename: C:\218-2659\030420~1\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   : 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>       [NSTORM=   0 ]
00081>       [NRUN  =   1 ]
00082> #*******************************************************************************
00083> #*************COMBINED POND POST-DEVELOPMENT - 50yr 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\50yr.stm
00091>       Comment  = 50-Year 6 hr Kifer Chu Chicago Storm Event
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.-R.C.
00095>      READ HYD           01:50yr7    178.10    6.442 No_date    3:30   87.56  n/a
00096>       Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\50yr7.hyd
00097>       Comment  = 50-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.-R.C.
00100>      DIVERT HYD      -> 01:50yr7    178.10    6.442 No_date    3:30   87.56  n/a
00101>             diverted <= 03:H-7022   176.63    6.000 No_date    3:30   87.56  n/a
00102>             diverted <= 02:H-600      1.47     .442 No_date    3:30   87.56  n/a
00103> #----------------|-----------------EDEN OAK SITE 6062--------------------------|
00104>  001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>      CALIB STANDHYD     03:6062      13.50    1.202 No_date    3:00   47.33 .564
00106>       [XIMP=.35:TIMP=.52]
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.-R.C.
00112>      CALIB NASHYD       04:6063      26.30     .950 No_date    3:25   26.39 .315
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.-R.C.
00117>      CALIB STANDHYD     05:6064       7.50     .541 No_date    3:00   39.67 .473
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.-R.C.
00124>      CALIB STANDHYD     06:6065       5.60     .470 No_date    3:00   44.50 .530
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.-R.C.
00131>      ADD HYD            02:H-600      1.47     .442 No_date    3:30   87.56  n/a
00132>                       + 03:6062      13.50    1.202 No_date    3:00   47.33  n/a
00133>                       + 04:6063      26.30     .950 No_date    3:25   26.39  n/a
00134>                       + 05:6064       7.50     .541 No_date    3:00   39.67  n/a
00135>                       + 06:6065       5.60     .470 No_date    3:00   44.50  n/a
00136>       [DT= 1.00]  SUM=  07:GTRAIL    54.37    2.961 No_date    3:03   36.94  n/a
00137>  001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00138>      SAVE HYD           07:GTRAIL    54.37    2.961 No_date    3:03   36.94  n/a
00139>       fname :C:\218-2659\030420~1\PONDDE~1\H-GTRAIL.001
00140>       remark:NodeA
00141>  001:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00142>      ROUTE RESERVOIR -> 07:GTRAIL     54.37    2.961 No_date    3:03   36.94  n/a
00143>       [RDT= 1.00] out<- 03:POND       54.37    2.582 No_date    3:15   36.94  n/a
00144>            overflow <= 04:OVERFL       .00     .000 No_date    0:00    .00  n/a
00145>       |MxStoUsed=.4970E+00, TotOvfVol=.0000E+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.-R.C.
00148>      READ HYD           08:50yr6    489.80    5.599 No_date   11:30   86.18  n/a
00149>       Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\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.-R.C.
00153>      ADD HYD            03:POND      54.37    2.582 No_date    3:15   36.94  n/a
00154>                       + 08:50yr6    489.80    5.599 No_date   11:30   86.18  n/a
00155>       [DT= 1.00]  SUM=  09:Trail     544.17    5.640 No_date   11:30   81.26  n/a
00156>  001:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00157>      SAVE HYD           09:Trail     544.17    5.640 No_date   11:30   81.26  n/a
00158>       fname :C:\218-2659\030420~1\PONDDE~1\H-Trail.001
00159>       remark:Trail
00160> #----------------|-----------------------AREA 6071-----------------------------|
00161>  001:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00162>      CALIB NASHYD       10:6071      25.50     .627 No_date    4:15   30.15 .359
00163>       [CN= 68.8: N= 3.00]
00164>       [Tp= 1.36:DT= 5.00]
00165> #----------------|-------TOTAL CONTROLLED-DEVELOPMENT FLOW TO HWY 26---------|
00166>  001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00167>      ADD HYD            09:Trail     544.17    5.640 No_date   11:30   81.26  n/a
00168>                       + 10:6071      25.50     .627 No_date    4:15   30.15  n/a
00169>       [DT= 1.00]  SUM=  11:NodeB     569.67    5.642 No_date   11:30   78.98  n/a
00170>  001:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00171>      SAVE HYD           11:NodeB     569.67    5.642 No_date   11:30   78.98  n/a
00172>       fname :C:\218-2659\030420~1\PONDDE~1\H-NodeB.001
00173>       remark:NodeB
00174>  001:0018----------------------------------------------------------------------
00175>      FINISH
00176> ----------------------------------------------------------------------
00177> ********************************************************************************
00178>      WARNINGS / ERRORS / NOTES
00179>      -------------------------
00180>   Simulation ended on 2012-04-03     at 13:41:23
00181> ================================================================================
00182>
```

```
00001> ================================================================================
00002>
00003>  SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO         999    999  =========
00004>  S      W W W  MM MM  H   H   Y Y   MM MM  O   O       9   9  9   9
00005>  SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##   9   9  9   9  Ver. 4.02
00006>      S   W W   M   M  H   H    Y    M   M  O   O       9999   9999  July 1999
00007>  SSSSS   W W   M   M  H   H    Y    M   M   OOO            9      9  =========
00008>                                                          9   9  9   9  # 3737016
00009>       StormWater Management HYdrologic Model              999    999  ========
00010>
00011>  ********************************************************************************
00012>  ************************** SWMHYMO-99 Ver/4.02 ********************************
00013>  ******* A single event and continuous hydrologic simulation model  *******
00014>  *******     based on the principles of HYMO and its successors      *******
00015>  *******                 OTTHYMO-83 and OTTHYMO-89.                  *******
00016>  ********************************************************************************
00017>  ******* Distributed by:  J.F. Sabourin and Associates Inc.           *******
00018>  *******                 Ottawa, Ontario: (613) 727-5199             *******
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:  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, (ft^3/s) or (m^3/s).      ***
00041>  *** TpeakDate_hh:mm is the date and time of the peak flow.               ***
00042>  ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).        ***
00043>  ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).        ***
00044>  ***    *:  see WARNING or NOTE message printed at end of run.           ***
00045>  ***   **:  see  ERROR  message printed at end of run.                   ***
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049>  ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  *********************   S U M M A R Y   O U T P U T   **********************
00054>  ********************************************************************************
00055>  *        DATE: 2012-04-03       TIME: 13:42:17       RUN COUNTER: 000241      *
00056>  ********************************************************************************
00057>  * Input   filename: C:\218-2659\030420~1\PONDDE~1\100YR_~1.DAT                 *
00058>  * Output  filename: C:\218-2659\030420~1\PONDDE~1\100YR_~1.out                 *
00059>  * Summary filename: C:\218-2659\030420~1\PONDDE~1\100YR_~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    : 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>       [NSTORM=   0 ]
00081>       [NRUN  =   1 ]
00082>  #*******************************************************************************
00083>  #*************COMBINED POND POST-DEVELOPMENT - 100yr 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>  #----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)---------|
00094>  001:0003---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00095>      READ HYD           01:100yr7   178.10    7.393 No_date    3:30   99.77  n/a
00096>       Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\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.-R.C.
00100>      DIVERT HYD      -> 01:100yr7   178.10    7.393 No_date    3:30   99.77  n/a
00101>             diverted <= 03:H-7022   169.75    6.000 No_date    3:30   99.77  n/a
00102>             diverted <= 02:H-600      8.35    1.393 No_date    3:30   99.77  n/a
00103>  #----------------|-----------------EDEN OAK SITE 6062--------------------|
00104>  001:0005---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>      CALIB STANDHYD     03:6062      13.50    1.444 No_date    3:00   56.35 .587
00106>       [XIMP=.35:TIMP=.52]
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.-R.C.
00112>      CALIB NASHYD       04:6063      26.30    1.214 No_date    3:20   33.60 .350
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.-R.C.
00117>      CALIB STANDHYD     05:6064       7.50     .657 No_date    3:00   47.76 .497
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.-R.C.
00124>      CALIB STANDHYD     06:6065       5.60     .586 No_date    3:00   53.64 .559
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.-R.C.
00131>      ADD HYD            02:H-600      8.35    1.393 No_date    3:30   99.77  n/a
00132>                       + 03:6062      13.50    1.444 No_date    3:00   56.35  n/a
00133>                       + 04:6063      26.30    1.214 No_date    3:20   33.60  n/a
00134>                       + 05:6064       7.50     .657 No_date    3:00   47.76  n/a
00135>                       + 06:6065       5.60     .586 No_date    3:00   53.64  n/a
00136>       [DT= 1.00]  SUM=  07:GTRAIL    61.25    4.333 No_date    3:03   51.20  n/a
00137>  001:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00138>      SAVE HYD           07:GTRAIL    61.25    4.333 No_date    3:03   51.20  n/a
00139>       fname :C:\218-2659\030420~1\PONDDE~1\H-GTRAIL.001
00140>       remark:NodeA
00141>  001:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00142>      ROUTE RESERVOIR -> 07:GTRAIL    61.25    4.333 No_date    3:03   51.20  n/a
00143>       [RDT= 1.00] out<- 03:POND      61.25    3.689 No_date    3:22   51.20  n/a
00144>                  overflow <= 04:OVERFL      .00     .000 No_date    0:00     .00  n/a
00145>       |MxStoUsed=.6193E+00, TotOvfVol=.0000E+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.-R.C.
00148>      READ HYD           08:100yr6   489.80    6.517 No_date   11:15   98.18  n/a
00149>       Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\100yr6.HYD
00150>       Comment  = 100-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.-R.C.
00153>      ADD HYD            03:POND      61.25    3.689 No_date    3:22   51.20  n/a
00154>                       + 08:100yr6   489.80    6.517 No_date   11:15   98.18  n/a
00155>       [DT= 1.00]  SUM=  09:Trail    551.05    6.559 No_date   11:15   92.96  n/a
00156>  001:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00157>      SAVE HYD           09:Trail    551.05    6.559 No_date   11:15   92.96  n/a
00158>       fname :C:\218-2659\030420~1\PONDDE~1\H-Trail.001
00159>       remark:Trail
00160>  #----------------|-----------------------AREA 6071-------------------------|
00161>  001:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00162>      CALIB NASHYD       10:6071      25.50     .797 No_date    4:15   38.11 .397
00163>       [CN= 68.8: N= 3.00]
00164>       [Tp= 1.36:DT= 5.00]
00165>  #----------------|-------TOTAL CONTROLLED-DEVELOPMENT FLOW TO HWY 26---------|
00166>  001:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00167>      ADD HYD            09:Trail    551.05    6.559 No_date   11:15   92.96  n/a
00168>                       + 10:6071      25.50     .797 No_date    4:15   38.11  n/a
00169>       [DT= 1.00]  SUM=  11:NodeB    576.55    6.562 No_date   11:15   90.54  n/a
00170>  001:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00171>      SAVE HYD           11:NodeB    576.55    6.562 No_date   11:15   90.54  n/a
00172>       fname :C:\218-2659\030420~1\PONDDE~1\H-NodeB.001
00173>       remark:NodeB
00174>  001:0018-------------------------------------------------------------------------
00175>      FINISH
00176>  -------------------------------------------------------------------------------
00177>  ********************************************************************************
00178>      WARNINGS / ERRORS / NOTES
00179>      -------------------------
00180>    Simulation ended on 2012-04-03      at 13:42:18
00181>  ================================================================================
00182>
```

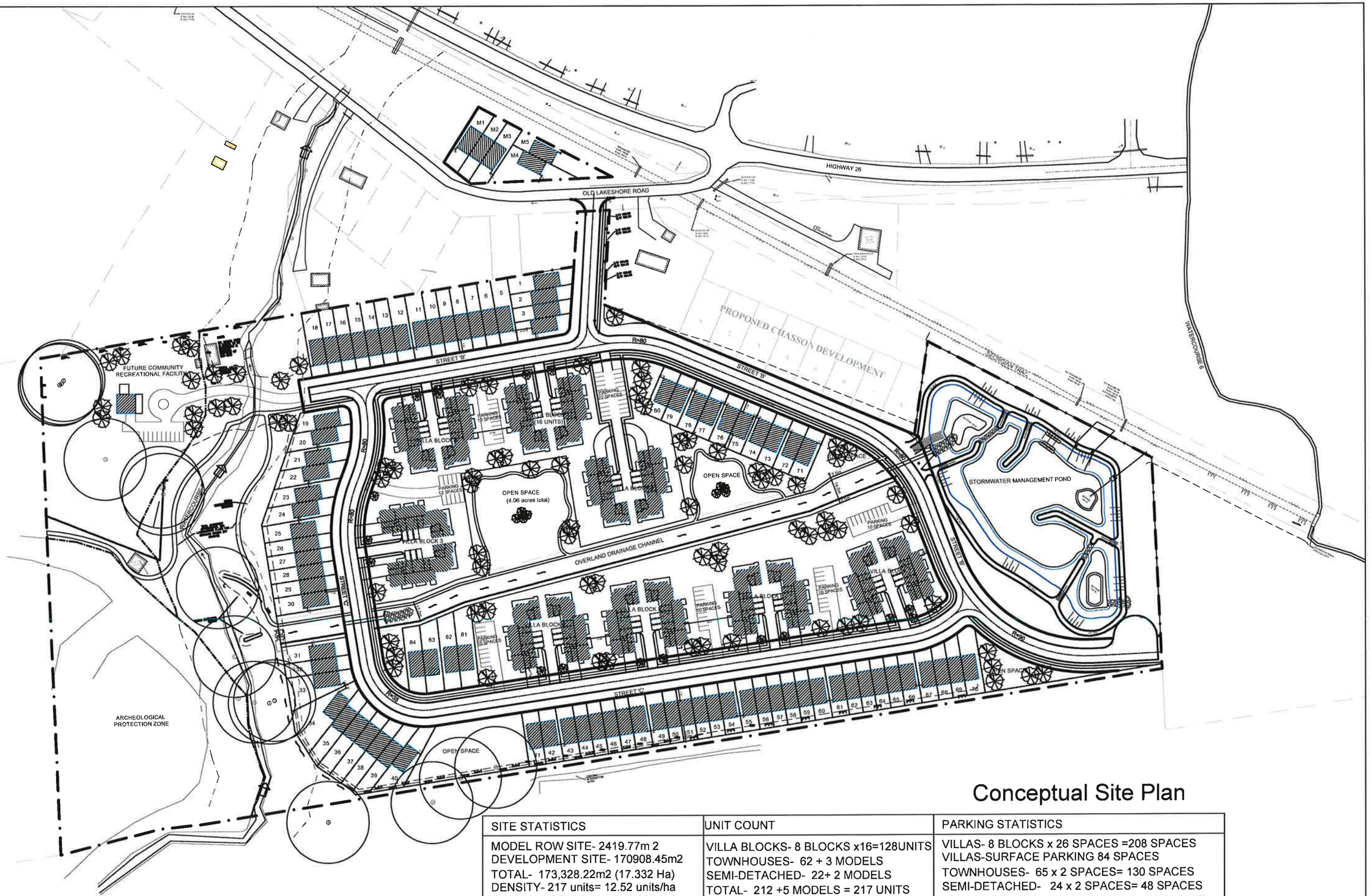
```
00001> ================================================================================
00002>
00003>  SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999  ========
00004>  S      W W W  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
00005>  SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9  Ver. 4.02
00006>      S  W W W  M   M  H   H    Y    M   M  O   O       9999   9999  July 1999
00007>  SSSSS  W W W  M   M  H   H    Y    M   M   OOO            9      9  =========
00008>                                                        9   9  9   9  # 3737016
00009>       StormWater Management HYdrologic Model            999    999  ========
00010>
00011>  ********************************************************************************
00012>  ***********************  SWMHYMO-99 Ver/4.02 ***************************************
00013>  *******  A single event and continuous hydrologic simulation model  ********
00014>  *******     based on the principles of HYMO and its successors       ********
00015>  *******              OTTHYMO-83 and OTTHYMO-89.                      ********
00016>  ********************************************************************************
00017>  ******* Distributed by:  J.F. Sabourin and Associates Inc.           ********
00018>  *******                  Ottawa, Ontario: (613) 727-5199            ********
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:  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, (ft^3/s) or (m^3/s).     ***
00041>  *** TpeakDate_hh:mm is the date and time of the peak flow.              ***
00042>  ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).       ***
00043>  ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).       ***
00044>  ***    *:   see WARNING or NOTE message printed at end of run.          ***
00045>  ***   **:   see  ERROR  message printed at end of run.                  ***
00046>  ********************************************************************************
00047>  ********************************************************************************
00048>
00049> ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
00050>
00051>  ********************************************************************************
00052>
00053>  ********************  S U M M A R Y   O U T P U T  ********************
00054>  ********************************************************************************
00055>  *       DATE: 2012-04-03     TIME: 13:43:02      RUN COUNTER: 000242        *
00056>  ********************************************************************************
00057>  * Input   filename: C:\218-2659\030420~1\PONDDE~1\tim_pst.dat                  *
00058>  * Output  filename: C:\218-2659\030420~1\PONDDE~1\tim_pst.out                  *
00059>  * Summary filename: C:\218-2659\030420~1\PONDDE~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
00070> #  Modified     : 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>        [NSTORM=   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 = C:\218-2659\03 04 2012 HYMO\Pond Design\tim.stm
00091>        Comment  = Timmins Storm Event
00092>        [SDT=60.00:SDUR=  12.00:PTOT= 193.00]
00093> #-----------------|------QHM HYDROGRAPH FROM WATERSHED 7 (701, 702.1)---------|
00094>  001:0003----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00095>       READ HYD           01:tim7     178.10    9.720 No_date    9:15  198.01  n/a
00096>        Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\tim7.hyd
00097>        Comment  = Timmins 15-min storm hydrograph at ID702 new, updated 070820
00098> #-----------------|-----------------SPILL FLOW TO W/C 6-----------------------|
00099>  001:0004----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00100>       DIVERT HYD       -> 01:tim7     178.10    9.720 No_date    9:15  198.01  n/a
00101>                 diverted <= 03:H-7022  147.49    6.000 No_date    9:15  198.01  n/a
00102>                 diverted <= 02:H-600    30.61    3.720 No_date    9:15  198.01  n/a
00103> #-----------------|-----------------EDEN OAK SITE 6062----------------------|
00104>  001:0005----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00105>       CALIB STANDHYD     03:6062      13.50    1.212 No_date    7:00  136.77 .709
00106>        [XIMP=.35:TIMP=.52]
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.-R.C.
00112>       CALIB NASHYD       04:6063      26.30    1.569 No_date    7:20  104.47 .541
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.-R.C.
00117>       CALIB STANDHYD     05:6064       7.50     .590 No_date    7:00  122.31 .634
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.-R.C.
00124>       CALIB STANDHYD     06:6065       5.60     .502 No_date    7:00  135.50 .702
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.-R.C.
00131>       ADD HYD            02:H-600     30.61    3.720 No_date    9:15  198.01  n/a
00132>                        + 03:6062      13.50    1.212 No_date    7:00  136.77  n/a
00133>                        + 04:6063      26.30    1.569 No_date    7:20  104.47  n/a
00134>                        + 05:6064       7.50     .590 No_date    7:00  122.31  n/a
00135>                        + 06:6065       5.60     .502 No_date    7:00  135.50  n/a
00136>       [DT= 1.00]  SUM=  07:GTRAIL     83.51    6.266 No_date    9:00  147.66  n/a
00137>  001:0010----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00138>       SAVE HYD           07:GTRAIL     83.51    6.266 No_date    9:00  147.66  n/a
00139>        fname :C:\218-2659\030420~1\PONDDE~1\H-GTRAIL.001
00140>        remark:NodeA
00141>  001:0011----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00142>       ROUTE RESERVOIR -> 07:GTRAIL     83.51    6.266 No_date    9:00  147.66  n/a
00143>        [RDT= 1.00] out<- 03:POND       83.51    6.167 No_date    9:08  147.66  n/a
00144>                  overflow <= 04:OVERFL    .00     .000 No_date    0:00     .00  n/a
00145>       (MxStoUsed=.0188E+00, TotOvfVol=.0000E+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.-R.C.
00148>       READ HYD           08:tim6     489.80   13.332 No_date   15:30  194.65  n/a
00149>        Filename = C:\218-2659\03 04 2012 HYMO\Pond Design\tim6.HYD
00150>        Comment  = Timmins 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.-R.C.
00153>       ADD HYD            03:POND      83.51    6.167 No_date    9:08  147.66  n/a
00154>                        + 08:tim6     489.80   13.332 No_date   15:30  194.65  n/a
00155>       [DT= 1.00]  SUM=  09:Trail     573.31   14.037 No_date   12:06  187.81  n/a
00156>  001:0014----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00157>       SAVE HYD           09:Trail     573.31   14.037 No_date   12:06  187.81  n/a
00158>        fname :C:\218-2659\030420~1\PONDDE~1\H-Trail.001
00159>        remark:Trail
00160> #-----------------|-----------------------AREA 6071-------------------------|
00161>  001:0015----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00162>       CALIB NASHYD       10:6071      25.50    1.269 No_date    9:05  114.01 .591
00163>        [CN= 68.8: N= 3.00]
00164>        [Tp= 1.36:DT= 5.00]
00165> #-----------------|-------TOTAL CONTROLLED-DEVELOPMENT FLOW TO HWY 26---------|
00166>  001:0016----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00167>       ADD HYD            09:Trail     573.31   14.037 No_date   12:06  187.81  n/a
00168>                        + 10:6071      25.50    1.269 No_date    9:05  114.01  n/a
00169>       [DT= 1.00]  SUM=  11:NodeB     598.81   14.823 No_date   12:03  184.67  n/a
00170>  001:0017----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.
00171>       SAVE HYD           11:NodeB     598.81   14.823 No_date   12:03  184.67  n/a
00172>        fname :C:\218-2659\030420~1\PONDDE~1\H-NodeB.001
00173>        remark:NodeB
00174>  001:0018----------------------------------------------------------------------
00175>       FINISH
00176>  ----------------------------------------------------------------------
00177>  ********************************************************************************
00178>       WARNINGS / ERRORS / NOTES
00179>       -------------------------
00180>    Simulation ended on 2012-04-03      at 13:43:02
00181>  ================================================================================
00182>
```

FIGURES



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	SITE LOCATION PLAN		
Drawn By L.W.	Check By K.M.	Project No. 218-2659	
Scale N.T.S.	Date 04/26/2012	Drawing No. FIG.1	

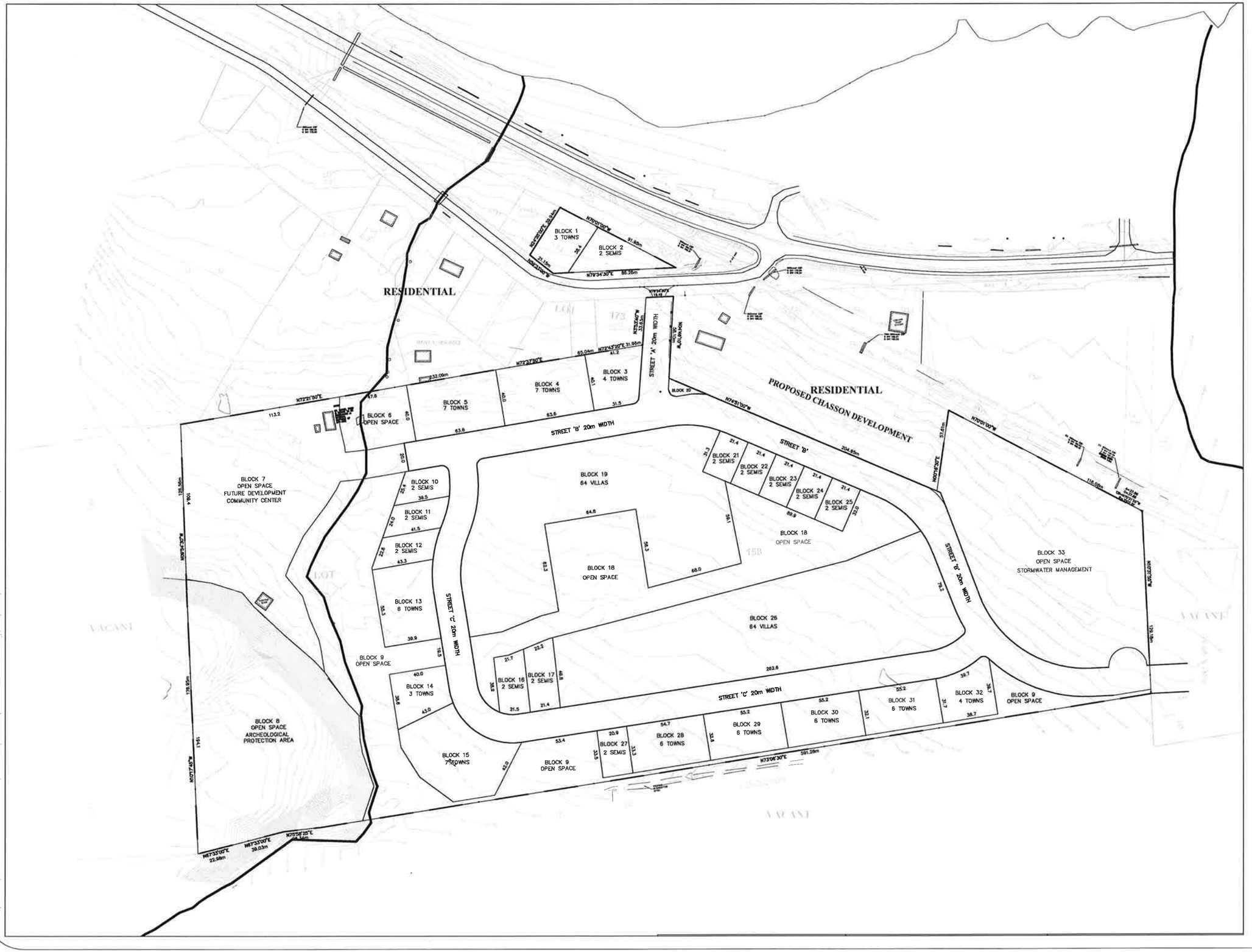
J:\200\218 - Eden Oak\2659\CAD\2659_700-705, 707.dwg, 4/30/2012 1:37:57 PM, iR-ADV C5045

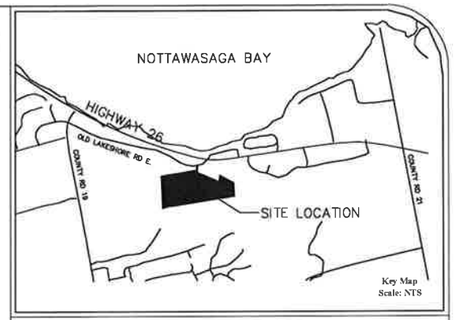


Conceptual Site Plan

SITE STATISTICS	UNIT COUNT	PARKING STATISTICS
MODEL ROW SITE- 2419.77m 2 DEVELOPMENT SITE- 170908.45m2 TOTAL- 173,328.22m2 (17.332 Ha) DENSITY- 217 units= 12.52 units/ha OPEN SPACE- 82517m2 (8.251 Ha)	VILLA BLOCKS- 8 BLOCKS x16=128UNITS TOWNHOUSES- 62 + 3 MODELS SEMI-DETACHED- 22+ 2 MODELS TOTAL- 212 +5 MODELS = 217 UNITS	VILLAS- 8 BLOCKS x 26 SPACES =208 SPACES VILLAS-SURFACE PARKING 84 SPACES TOWNHOUSES- 65 x 2 SPACES= 130 SPACES SEMI-DETACHED- 24 x 2 SPACES= 48 SPACES TOTAL PROVIDED- 470 SPACES (2.165 per UNIT)

FIG. 2





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.

APRIL 9, 2012 _____ O.L.S.
PAUL THOMSEN, OLS
ZUBEK, EMO, PATTEN & THOMSEN LTD.
ONTARIO LAND SURVEYOR
TOWN OF COLLINGWOOD

OWNER'S CERTIFICATE

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

APRIL 9, 2012 _____
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 - TOWNHOUSES	3	0.1236 ha.
BLOCK 2 - SEMIS	2	0.1179 ha.
BLOCK 3 - TOWNHOUSES	4	0.1451 ha.
BLOCK 4 - TOWNHOUSES	7	0.2552 ha.
BLOCK 5 - TOWNHOUSES	7	0.2546 ha.
BLOCK 6 - OPEN SPACE (SETBACK FROM CREEK)		0.1992 ha.
BLOCK 7 - OPEN SPACE (COMMUNITY CENTER)		1.4374 ha.
BLOCK 8 - OPEN SPACE (ARCHAEOLOGICAL AREA)		1.7187 ha.
BLOCK 9 - OPEN SPACE		1.6157 ha.
BLOCK 10 - SEMIS	2	0.0781 ha.
BLOCK 11 - SEMIS	2	0.0865 ha.
BLOCK 12 - SEMIS	2	0.0887 ha.
BLOCK 13 - TOWNHOUSES	6	0.2249 ha.
BLOCK 14 - TOWNHOUSES	3	0.1343 ha.
BLOCK 15 - TOWNHOUSES	7	0.3484 ha.
BLOCK 16 - SEMIS	2	0.0904 ha.
BLOCK 17 - SEMIS	2	0.1018 ha.
BLOCK 18 - OPEN SPACE		1.2769 ha.
BLOCK 19 - VILLAS	64	1.6807 ha.
BLOCK 20 - OPEN SPACE		0.0163 ha.
BLOCK 21 - SEMIS	2	0.0673 ha.
BLOCK 22 - SEMIS	2	0.0673 ha.
BLOCK 23 - SEMIS	2	0.0673 ha.
BLOCK 24 - SEMIS	2	0.0673 ha.
BLOCK 25 - SEMIS	2	0.0673 ha.
BLOCK 26 - VILLAS	64	1.8233 ha.
BLOCK 27 - SEMIS	2	0.0705 ha.
BLOCK 28 - TOWNHOUSES	6	0.1828 ha.
BLOCK 29 - TOWNHOUSES	6	0.1806 ha.
BLOCK 30 - TOWNHOUSES	6	0.1783 ha.
BLOCK 31 - TOWNHOUSES	6	0.1761 ha.
BLOCK 32 - TOWNHOUSES	4	0.1345 ha.
BLOCK 33 - OPEN SPACE (STORMWATER MANAGEMENT)		1.7445 ha.
ROADS		2.5513 ha.
TOTAL	217	17.3328 ha.

25 0 25 50 75 100 125m
SCALE = 1:1250

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: MARCH 28/2011

DWG: 573-06-DP17 **FIG. 3**

D.C. Slade Consultants INC.
Planning & Development
843 Hurontario Street, Collingwood, ON Phone: 705.444.1830

LEGEND

- SUBJECT PROPERTY LIMITS
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- EXISTING SANITARY FORCEMAIN

INDIVIDUAL SERVICES TO EACH PROPOSED UNIT FROM SEWER EXTENSION

525mmø TRUNK SANITARY SEWER

750mmø TRUNK SANITARY SEWER

CONNECT TO EX. TRUNK SANITARY MANHOLE INV. 177.5 ±

300mmø FORCEMAIN

PUMP STATION

PROPOSED CHASSON DEVELOPMENT

STREET 'B'

STREET 'C'

HIGHWAY 26

WATERCOURSE

50 0m 50 100 150

SCALE: 1:2000

Project	EDEN OAK TOWN of THE BLUE MOUNTAINS
Drawing	SANITARY SERVICING PLAN

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

Drawn By	Design By	Project
L.W.	K.M.	218-2659
Scale: 1:2000	Date: 04/28/2012	Checks By: K.M.
		Drawing: FIG. 4

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LEGEND

- SUBJECT PROPERTY LIMITS
- PROPOSED WATERMAIN
- EXISTING WATERMAIN

INDIVIDUAL SERVICES TO EACH PROPOSED UNIT FROM EXISTING MAIN

CONNECT TO EXISTING 150mmø W/M

CONNECT TO EXISTING 200mmø W/M

PROPOSED CHASSON DEVELOPMENT

OLD LAKESHORE ROAD

HIGHWAY 26

STREET 'B'

STREET 'C'

50 0m 50 100 150

SCALE: 1:2000

Project	EDEN OAK TOWN of THE BLUE MOUNTAINS
Drawing	WATER DISTRIBUTION PLAN

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

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

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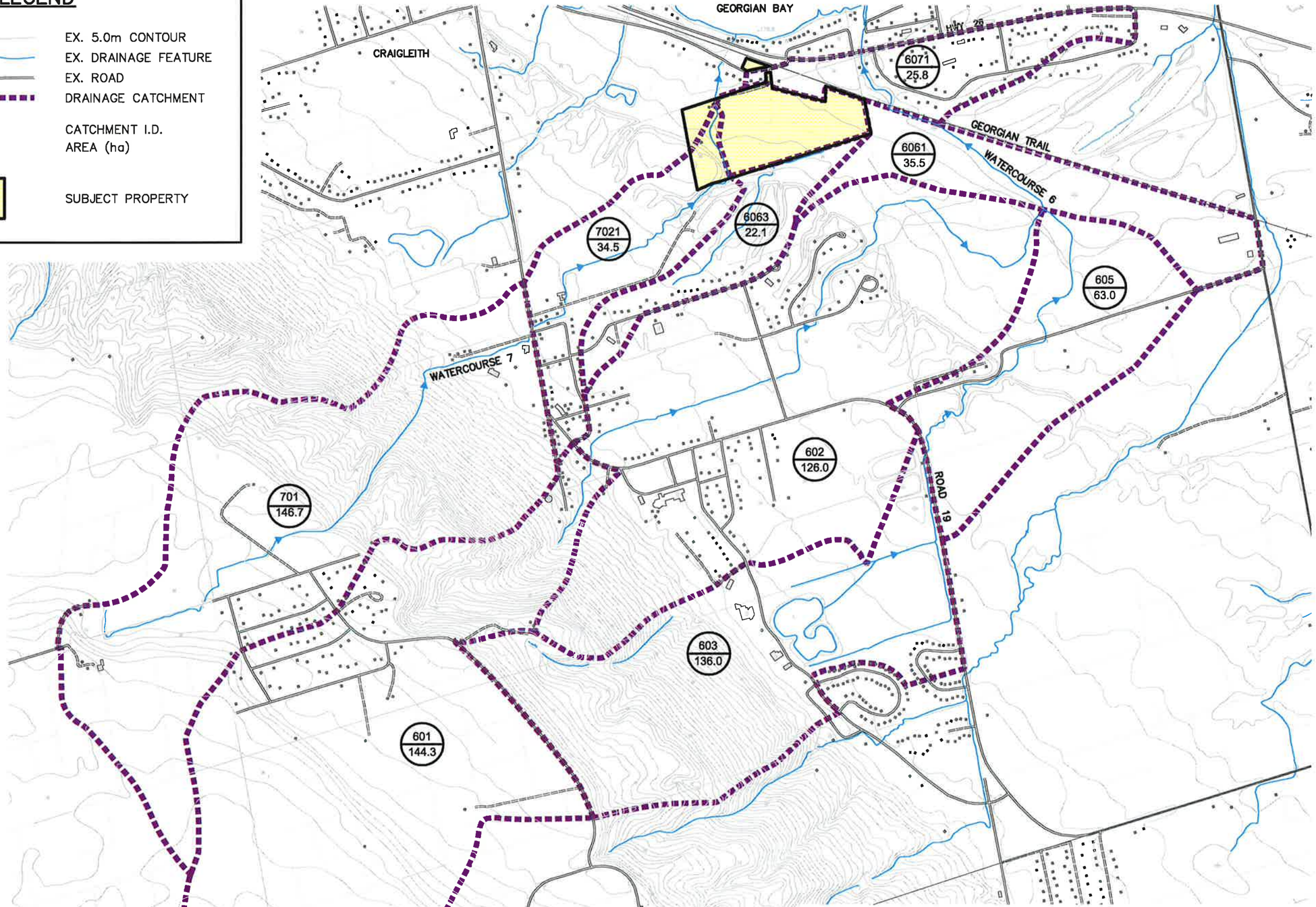
LEGEND

- EX. 5.0m CONTOUR
- EX. DRAINAGE FEATURE
- EX. ROAD
- DRAINAGE CATCHMENT
- 701 / 146.7 — CATCHMENT I.D. / AREA (ha)
- SUBJECT PROPERTY



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

Drawing: GSCA DELINEATION OF SUBWATERSHEDS 6 & 7

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3
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705-445-3520 F
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INFO@CFCROZIER.CA

Drawn By	J.R.S.	Check By	N.M.	Project No.	218-2659
Scale	1:15 000	Date	01/28/2008	Drawing No.	FIG. 6

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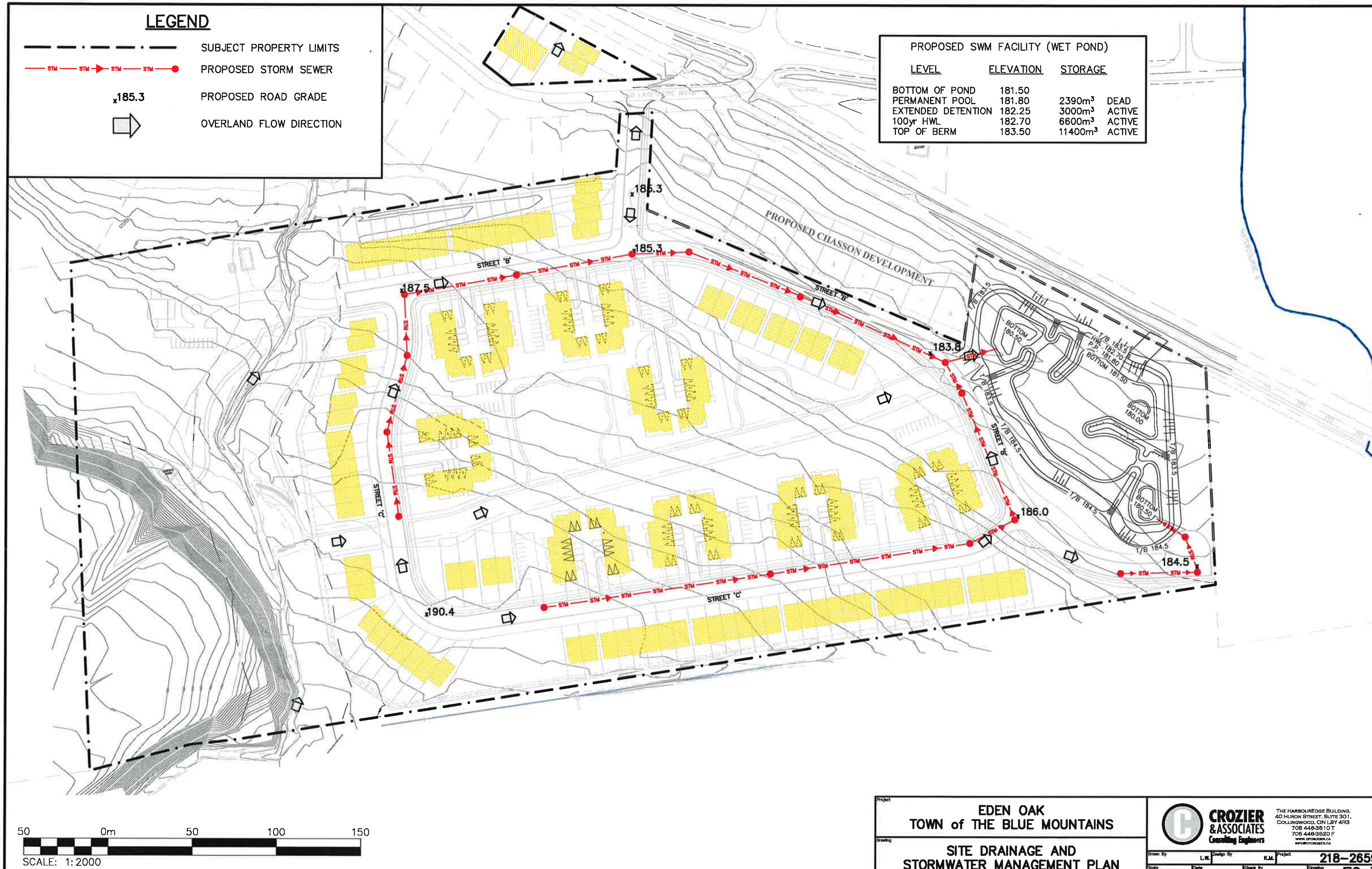

PROPOSED SWM FACILITY (WET POND)

LEVEL	ELEVATION	STORAGE	
BOTTOM OF POND	181.50		
PERMANENT POOL	181.80	2390m³	DEAD
EXTENDED DETENTION	182.25	3000m³	ACTIVE
100yr HWL	182.70	6600m³	ACTIVE
TOP OF BERM	183.50	11400m³	ACTIVE

Project: EDEN OAK
TOWN of THE BLUE MOUNTAINS

Drawing: SITE DRAINAGE AND
STORMWATER MANAGEMENT PLAN

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

Drawn By	Design By	Project
L.W.	K.M.	218-2659

Scale	Date	Check By	Drawing
1:2000	04/26/2012	K.M.	FIG. 7

LEGEND

- EX. 5.0m CONTOUR
- EX. DRAINAGE FEATURE
- EX. ROAD
- DRAINAGE CATCHMENT
- 701 / 146.7 — CATCHMENT I.D. / AREA (ha)
- SUBJECT PROPERTY

GEORGIAN BAY
CRAIGLEITH
HWY 26
NODE 'B'
NODE 'A'
REFER TO FIG. 7 FOR INTERNAL DRAINAGE PLAN
GEORGIAN TRAIL
WATERCOURSE 6
WATERCOURSE 7
ROAD 19
6071 / 25.8
6062 / 13.5
6065 / 5.6
6064 / 7.5
6063 / 26.3
7021 / 34.5
6061 / 23.5
605 / 63.0
602 / 123.0
603 / 136.0
701 / 146.7
601 / 144.3
N

NOTES:

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

Project: EDEN OAK
TOWN of THE BLUE MOUNTAINS

Drawing: CFCA REVISED DELINEATION OF SUBWATERSHEDS 6 & 7

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOURFRONT BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3
705-446-3510 T
705-445-3520 F
www.CFCROZIER.CA
INFO@CFCROZIER.CA

Drawn By	J.R.S.	Check By	N.M.	Project No.	218-2659
Scale	1:15 000	Date	01/28/2008	Drawing No.	FIG. 8

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Project

EDEN OAK
TOWN of THE BLUE MOUNTAINS

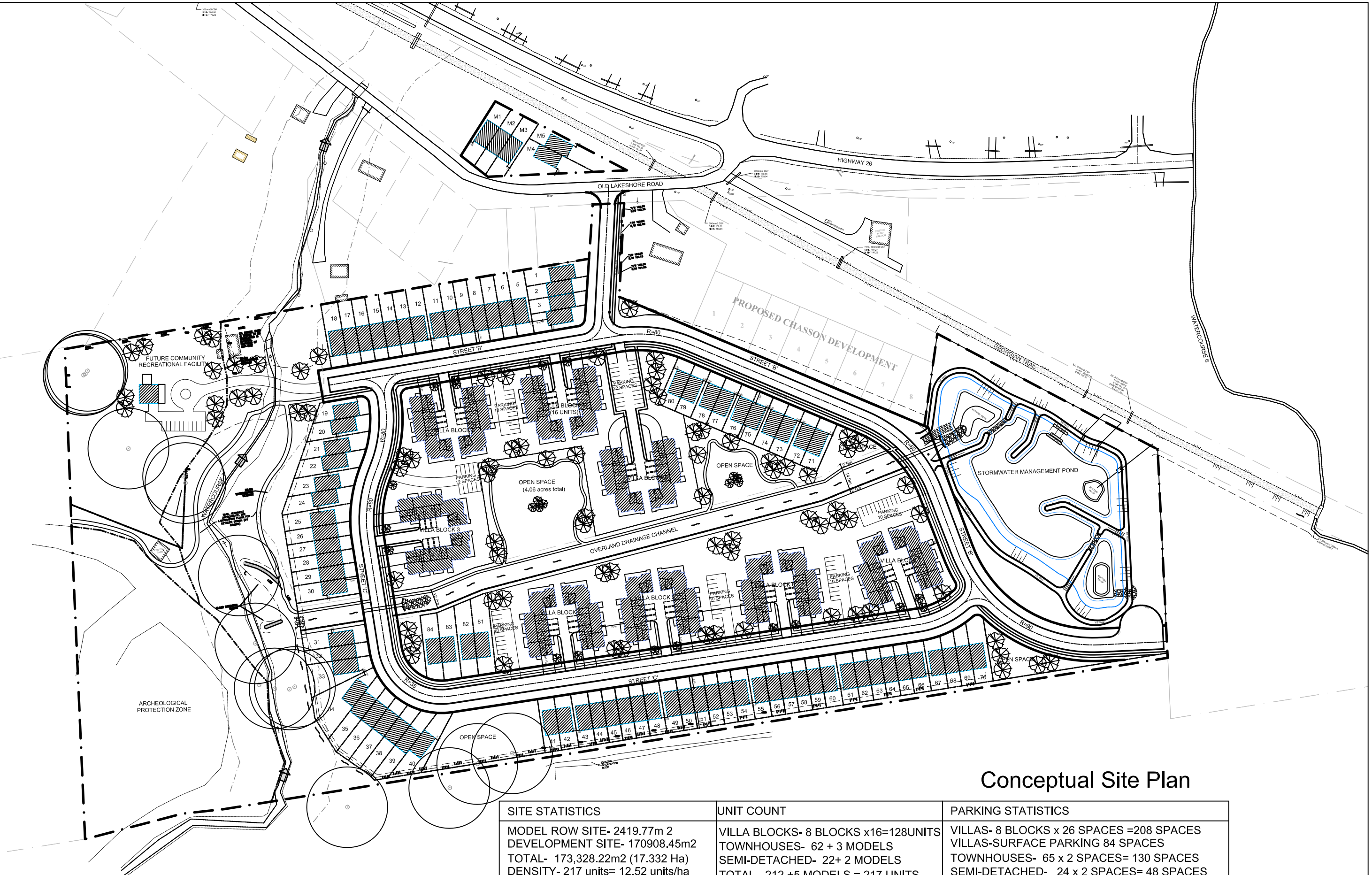
Drawing

SITE LOCATION PLAN

CROZIER & ASSOCIATES Consulting Engineers

The HarbourEdge Building,
40 Huron Street, Suite 301,
Collingwood, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
www.cfcrozier.ca
info@cfcrozier.ca

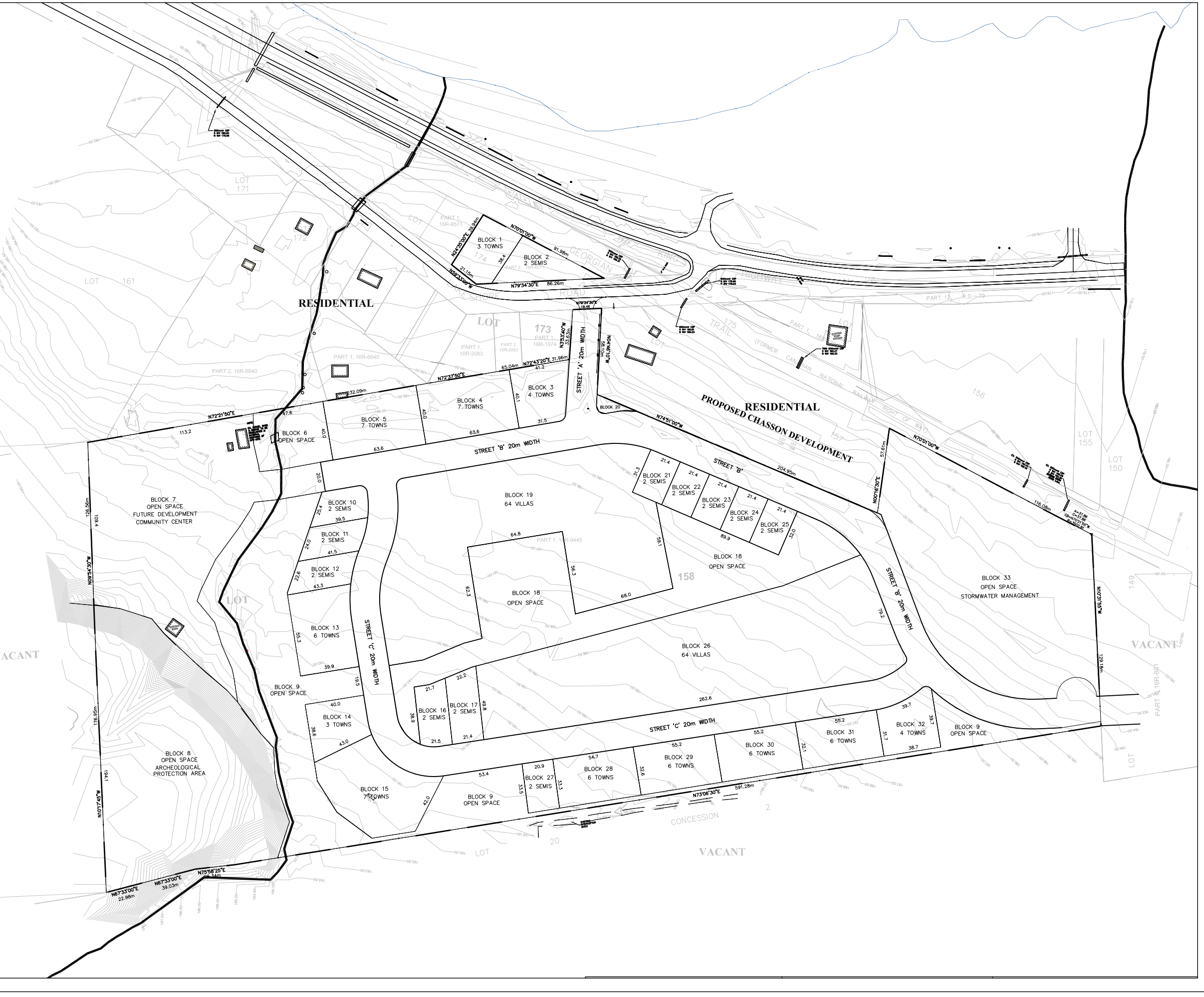
Drawn By	L.W.	Check By	K.M.	Project No.	218-2659
Scale	N.T.S.	Date	04/26/2012	Drawing No.	FIG.1

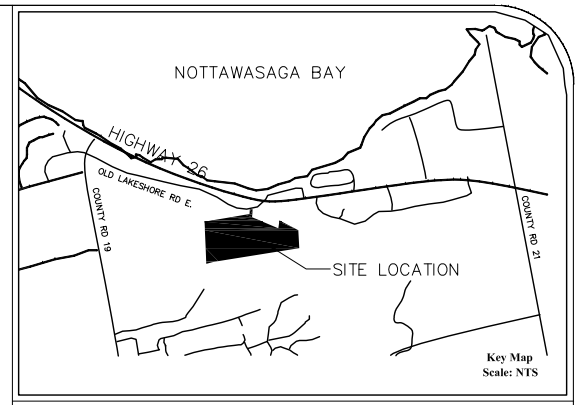


Conceptual Site Plan

SITE STATISTICS	UNIT COUNT	PARKING STATISTICS
MODEL ROW SITE- 2419.77m 2 DEVELOPMENT SITE- 170908.45m2 TOTAL- 173,328.22m2 (17.332 Ha) DENSITY- 217 units= 12.52 units/ha OPEN SPACE- 82517m2 (8.251 Ha)	VILLA BLOCKS- 8 BLOCKS x16=128UNITS TOWNHOUSES- 62 + 3 MODELS SEMI-DETACHED- 22+ 2 MODELS TOTAL- 212 +5 MODELS = 217 UNITS	VILLAS- 8 BLOCKS x 26 SPACES =208 SPACES VILLAS-SURFACE PARKING 84 SPACES TOWNHOUSES- 65 x 2 SPACES= 130 SPACES SEMI-DETACHED- 24 x 2 SPACES= 48 SPACES TOTAL PROVIDED- 470 SPACES (2.165 per UNIT)

FIG. 2





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.

APRIL 9, 2012 _____ O.L.S.

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

OWNER'S CERTIFICATE

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

APRIL 9, 2012 _____.

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 - TOWNHOUSES	3	0.1236 ha.
BLOCK 2 - SEMIS	2	0.1179 ha.
BLOCK 3 - TOWNHOUSES	4	0.1451 ha.
BLOCK 4 - TOWNHOUSES	7	0.2552 ha.
BLOCK 5 - TOWNHOUSES	7	0.2546 ha.
BLOCK 6 - OPEN SPACE (SETBACK FROM CREEK)		0.1992 ha.
BLOCK 7 - OPEN SPACE (COMMUNITY CENTER)		1.4374 ha.
BLOCK 8 - OPEN SPACE (ARCHAEOLOGICAL AREA)		1.7187 ha.
BLOCK 9 - OPEN SPACE		1.6157 ha.
BLOCK 10 - SEMIS	2	0.0781 ha.
BLOCK 11 - SEMIS	2	0.0865 ha.
BLOCK 12 - SEMIS	2	0.0887 ha.
BLOCK 13 - TOWNHOUSES	6	0.2249 ha.
BLOCK 14 - TOWNHOUSES	3	0.1343 ha.
BLOCK 15 - TOWNHOUSES	7	0.3484 ha.
BLOCK 16 - SEMIS	2	0.0904 ha.
BLOCK 17 - SEMIS	2	0.1018 ha.
BLOCK 18 - OPEN SPACE		1.2769 ha.
BLOCK 19 - VILLAS	64	1.6807 ha.
BLOCK 20 - OPEN SPACE		0.0163 ha.
BLOCK 21 - SEMIS	2	0.0673 ha.
BLOCK 22 - SEMIS	2	0.0673 ha.
BLOCK 23 - SEMIS	2	0.0673 ha.
BLOCK 24 - SEMIS	2	0.0673 ha.
BLOCK 25 - SEMIS	2	0.0673 ha.
BLOCK 26 - VILLAS	64	1.8233 ha.
BLOCK 27 - SEMIS	2	0.0705 ha.
BLOCK 28 - TOWNHOUSES	6	0.1828 ha.
BLOCK 29 - TOWNHOUSES	6	0.1806 ha.
BLOCK 30 - TOWNHOUSES	6	0.1783 ha.
BLOCK 31 - TOWNHOUSES	6	0.1761 ha.
BLOCK 32 - TOWNHOUSES	4	0.1345 ha.
BLOCK 33 - OPEN SPACE (STORMWATER MANAGEMENT)		1.7445 ha.
ROADS		2.5513 ha.
TOTAL	217	17.3328 ha.

25 0 25 50 75 100 125m

SCALE = 1:1250

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: MARCH 28/2011

DWG: 573-06-DP17 FIG. 3

D.C. Slade Consultants INC.
Planning & Development
243 Hurontario Street, Collingwood, ON Phone: 705.4441830

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LEGEND

- SUBJECT PROPERTY LIMITS
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- EXISTING SANITARY FORCEMAIN

INDIVIDUAL SERVICES TO EACH PROPOSED UNIT FROM SEWER EXTENSION

525mmø TRUNK SANITARY SEWER

750mmø TRUNK SANITARY SEWER

CONNECT TO EX. TRUNK SANITARY MANHOLE INV. 177.5 ±

300mmø FORCEMAIN

PUMP STATION

PROPOSED CHASSON DEVELOPMENT

1 2 3 4 5 6 7 8

STREET 'B'

STREET 'C'

HIGHWAY 26

WATERCOURSE 7

WATERCOURSE 6

50 0m 50 100 150

SCALE: 1:2000

Project
EDEN OAK
TOWN of THE BLUE MOUNTAINS

Drawing
SANITARY SERVICING PLAN

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

Drawn By	L.W.	Design By	K.M.	Project	218-2659
Scale	1:2000	Date	04/26/2012	Check By	K.M.	Drawing	FIG. 4

LEGEND

- SUBJECT PROPERTY LIMITS
- PROPOSED WATERMAIN
- EXISTING WATERMAIN

INDIVIDUAL SERVICES TO EACH PROPOSED UNIT FROM EXISTING MAIN

CONNECT TO EXISTING 150mmø W/M

CONNECT TO EXISTING 200mmø W/M

OLD LAKESHORE ROAD

HIGHWAY 26

EX. 150mmø W/M

EX. 200mmø W/M

PROPOSED CHASSON DEVELOPMENT

1 2 3 4 5 6 7 8

STREET 'B'

STREET 'C'

WATERCOURSE 6

WATERCOURSE 7

EXISTING BARN

EXISTING PUMP STATION

EX. 17m - 400mmø (WALL THICKNESS 11.1mm) PIPE ENCASEMENT FOR WATERMAIN.

50 0m 50 100 150

SCALE: 1:2000

Project
EDEN OAK
TOWN of THE BLUE MOUNTAINS

Drawing
WATER DISTRIBUTION PLAN

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
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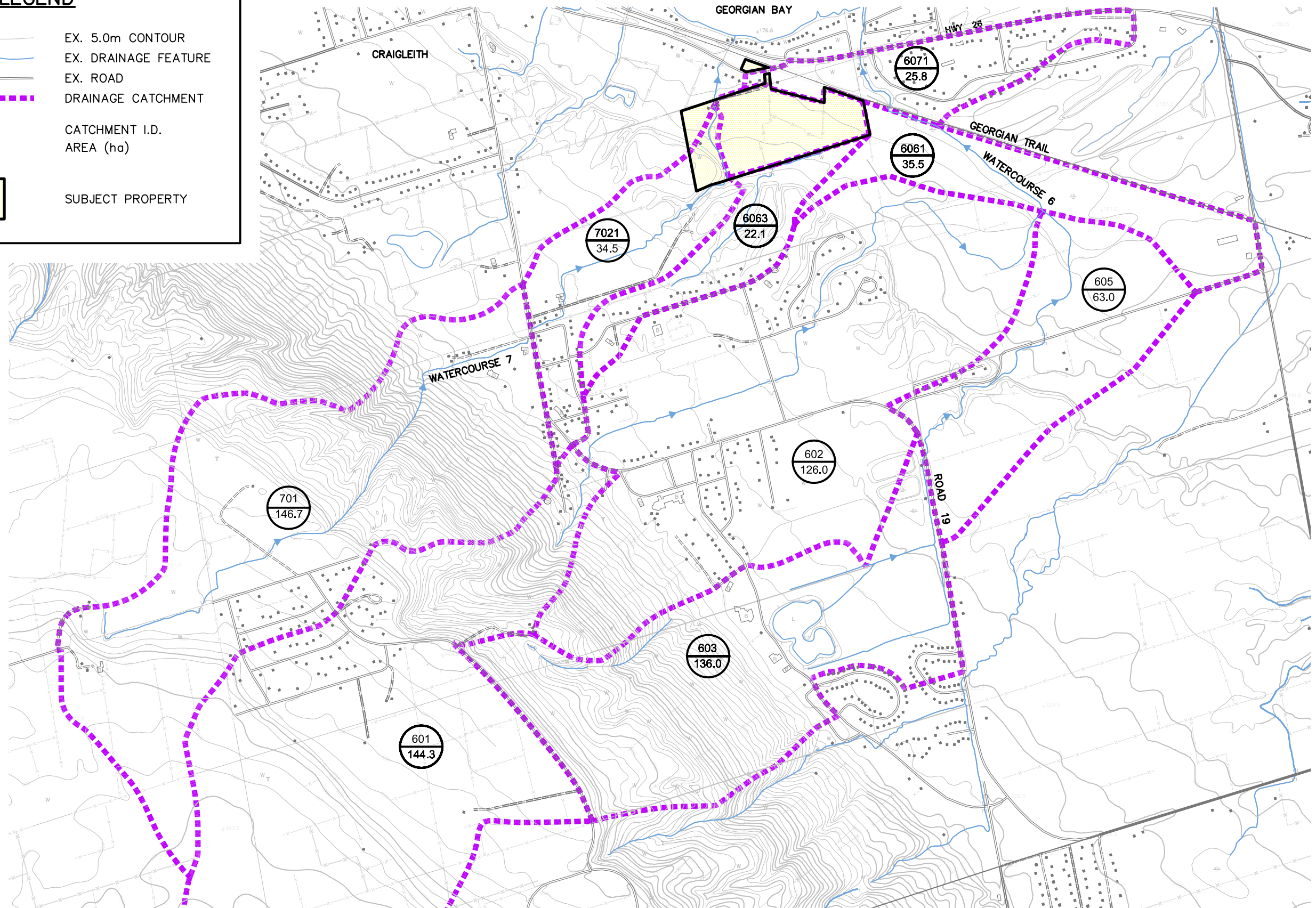
Drawn By	Design By	Project
L.W.	K.M.	218-2659
Scale	Date	Check By	Drawing
1:2000	04/26/2012	K.M.	FIG. 5

LEGEND

- EX. 5.0m CONTOUR
- EX. DRAINAGE FEATURE
- EX. ROAD
- DRAINAGE CATCHMENT
- 701 / 146.7 — CATCHMENT I.D. / AREA (ha)
- SUBJECT PROPERTY



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

Drawing: GSCA DELINEATION OF SUBWATERSHEDS 6 & 7

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3
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Drawn By	J.R.S.	Check By	N.M.	Project No.	218-2659
Scale	1:15 000	Date	01/28/2008	Drawing No.	FIG. 6

LEGEND

- SUBJECT PROPERTY LIMITS
- PROPOSED STORM SEWER
- x185.3 PROPOSED ROAD GRADE
- OVERLAND FLOW DIRECTION

PROPOSED SWM FACILITY (WET POND)

LEVEL	ELEVATION	STORAGE	
BOTTOM OF POND	181.50		
PERMANENT POOL	181.80	2390m³	DEAD
EXTENDED DETENTION	182.25	3000m³	ACTIVE
100yr HWL	182.70	6600m³	ACTIVE
TOP OF BERM	183.50	11400m³	ACTIVE

OLD LAKESHORE ROAD

PROPOSED CHASSON DEVELOPMENT

WATERCOURSE 6

STREET 'B'

STREET 'C'

x185.3

x187.5

183.8

186.0

184.5

x190.4

BOTTOM 180.50

T/B 183.5

HWL 182.70

P.P. 181.80

BOTTOM 181.50

BOTTOM 180.00

T/B 184.5

50 0m 50 100 150

SCALE: 1:2000

Project	EDEN OAK TOWN of THE BLUE MOUNTAINS
Drawing	SITE DRAINAGE AND STORMWATER MANAGEMENT PLAN

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING,
40 HURON STREET, SUITE 301,
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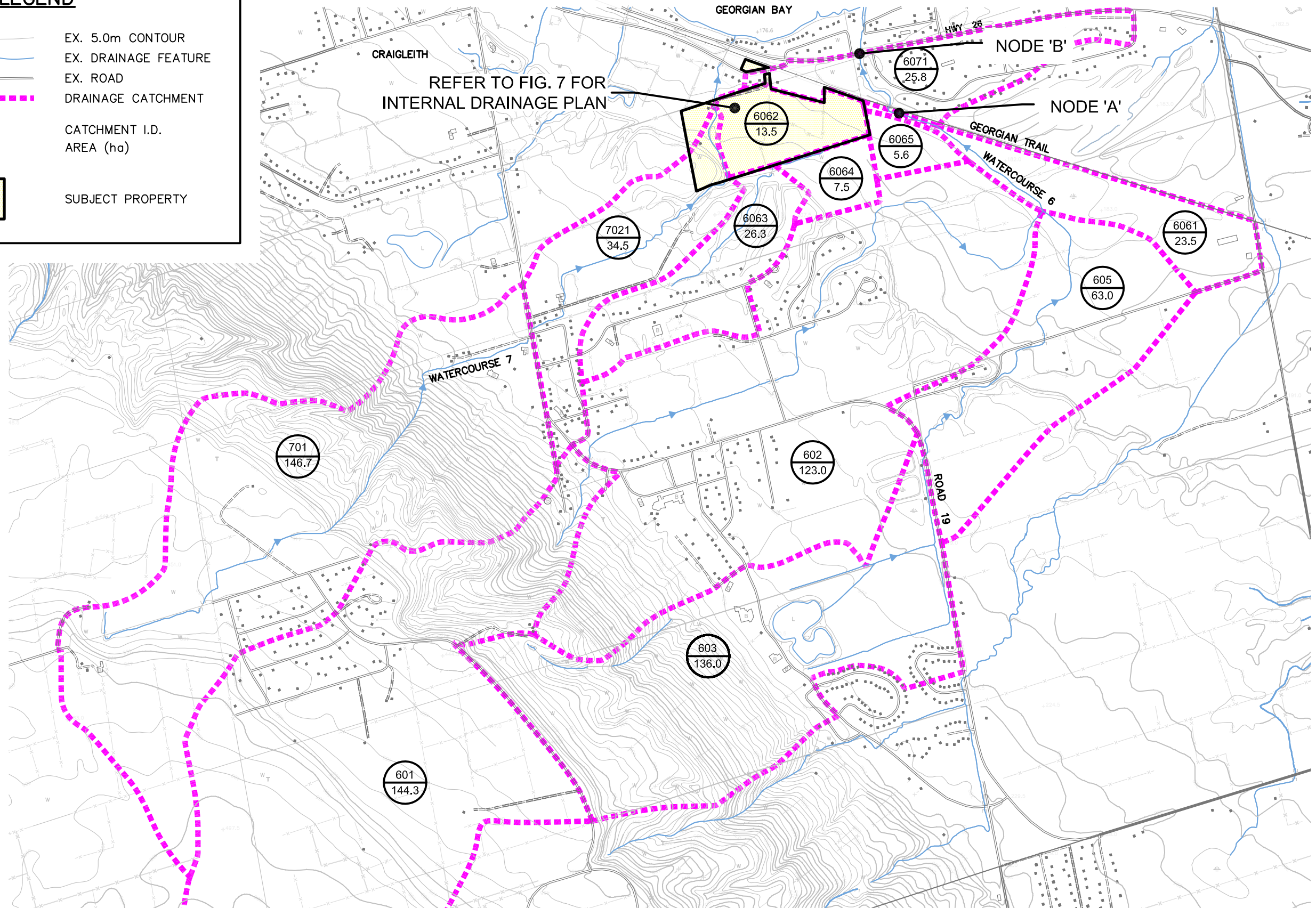
Drawn By	L.W.	Design By	K.M.	Project	218-2659
Scale	1:2000	Date	04/26/2012	Check By	K.M.	Drawing	FIG. 7

LEGEND

- EX. 5.0m CONTOUR
- EX. DRAINAGE FEATURE
- EX. ROAD
- DRAINAGE CATCHMENT
- 701 / 146.7 — 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

Drawing: CFCA REVISED DELINEATION OF SUBWATERSHEDS 6 & 7

CROZIER & ASSOCIATES Consulting Engineers
THE HARBOUREDGE BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3
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Drawn By	J.R.S.	Check By	N.M.	Project No.	218-2659
Scale	1:15 000	Date	01/28/2008	Drawing No.	FIG. 8