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Woodview Golf Subdivision

PRELIMINARY STORMWATER MANAGEMENT REPORT

Eric Challenger

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Issue	Date	Description
0	May 26, 2023	Draft Preliminary Report
1	May 30, 2023	Preliminary Report

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1 Introduction

Tatham Engineering Limited (Tatham) has been retained by Eric Challenger to prepare a Preliminary Stormwater Management (SWM) Report in support of a Zoning By-Law Amendment (ZBA) and a Draft Plan of Subdivision located east of the Highway 28 and Northey's Bay Road intersection, in the Township of North Kawartha, County of Peterborough. The subject site is legally described as Part of Lots 6 & 7, Concession 6, (Geographic Township of Burleigh), Township of North Kawartha, County of Peterborough.

The proposed Woodview Golf subdivision consists of approximately 32.2 ha that is to be severed from a 122.5 ha property, municipally known as 37 Northey's Bay Road and 65 Northey's Bay Road. An application of consent for severance has been filed and is pending approval. The retained portion of the overall property (90.3 ha) consists of an existing residence, which will continue to be accessed from Northey's Bay Road via Otis Northey Road. The subdivision lands specifically, herein referred to as the site, consists of 58 residential lots, one (1) commercial block, a SWM block, two (2) environmentally protected blocks, and 20.0 m wide municipal road allowances. The location of the proposed development is illustrated on the key plan of the drawings attached at the back of this report. The Draft Plan of Subdivision was prepared by EcoVue Consulting Services Inc. and is included at the back of this report.

The purpose of this report is to address the internal and external servicing requirements related to SWM associated with the proposed development.

2 Hydrogeological and Geotechnical Investigations

Hydrogeological and geotechnical investigations were completed at the site by Cambium Inc. on November 4, 2022, and are documented in their reports dated February 28, 2023 and March 2, 2023, respectively.

The site investigations included a subsurface exploration program by means of excavating 33 test pits to refusal on underlying bedrock. The test pits were advanced to depths ranging from surface refusal to 1.4 mbgs (metres below ground surface).

Topsoil was encountered at the surface in the majority of test pit locations (23 of the test pits). The thickness of the topsoil ranges from 100 to 450 mm.

Non-cohesive deposits were encountered at nine test pit locations (TP108-22, TP118-22, TP122-22, and TP127-22 through TP132-22). The deposits generally range from predominantly silty sand to sandy silt. The thickness of the sand and silt deposits ranges from 0.2 to 1.0 m.

Cohesive deposits were encountered at three test pit locations (TP102-22, TP116-22, and TP117-22) and are composed of brown clayey silt with trace sand and trace gravel in some locations. The thickness of the clayey silt deposits ranges from 0.1 to 0.8 m.

Native deposits of glacial till were encountered at eight test pit locations (TP103-22, TP116-22 through TP119-22, and TP124-22 through TP126-22). The glacial till at this site is predominantly sandy silt, with varying amounts of gravel and clay. The thickness of the glacial till deposits ranges from 0.3 to 0.9 m.

No groundwater seepage was noted during the course of the investigations. However, groundwater flow through underlying bedrock was established.

Additional details related to the hydrogeological and geotechnical investigations, conclusions and recommendations and can be found in each respective report which have been submitted under separate cover.

3 Internal Roadways and Transportation

A traffic impact study was completed for the proposed development by Tatham dated January 18, 2023 and is provided under separate cover.

Access to the subdivision will be provided via a new entrance from Northey's Bay Road. The proposed internal local roads will follow a typical 20.0 m wide rural road cross section having a 6.5 m wide asphalt surface, 1.0 m wide granular shoulders and grassed ditches, as shown on Drawing DET-1, included at the back of this report.

The future driveway approaches will consist of a light duty pavement structure whereas the proposed internal roads will consist of a heavy-duty pavement structure. The pavement structure recommendations are provided in the geotechnical investigation report and are summarized in Table 1 below.

Table 1: Proposed Pavement Structures

	DRIVEWAY APPROACHES (LIGHT DUTY ASPHALT)	INTERNAL ROAD (HEAVY DUTY ASPHALT)
HL-3 Asphaltic Concrete	50 mm	40 mm
HL-8 Asphaltic Concrete	-	50 mm
Granular 'A'	150 mm	150 mm
Granular 'B'	200 mm	300 mm

In the future, the internal roads will be assumed by the Township who will undertake routine maintenance and snow plowing.

4 Grading

A preliminary road grading design was developed to match the existing road and ground elevations at the connection to Northey's Bay Road. The internal road and road ditch grading design matches the existing drainage patterns and outlets as closely as possible and directs the majority of stormwater runoff from the road and driveway surfaces to the proposed stormwater management facility.

Individual lot grading will direct the front portion of each lot to the road ditches. The side and rear yard areas will only be graded immediately around the future dwellings to good engineering standards (minimum 2.0% away from the future dwelling) thus allowing a portion of the lots to remain undisturbed and reducing the need for large earthworks and land clearing operations.

The proposed development will be graded in a manner which will satisfy the following goals:

- Minimum road and ditch grade: 0.5%;
- Maximum road and ditch grade: 5.0%;
- Minimum lot grade around the future dwellings: 2.0%;
- Maximum lot grade around the future dwellings: 7.0%;
- Minimize rock excavation and imported fill requirements; and
- Minimize the volume of earth to be moved and balance cut with fill within the site to the extent that is practical.

The preliminary site grading is shown on the Preliminary Site Grading plan, Drawing SG-1, included at the back of this report.

5 Stormwater Management

The primary objective of the preliminary SWM plan is to demonstrate that the proposed development will not adversely impact the hydrologic cycle and surface water runoff characteristics of the area. This will be accomplished by evaluating the effect of the proposed development on local drainage conditions. Where necessary, solutions will be provided to mitigate any adverse impacts. Issues to be addressed and criteria to be met regarding drainage and SWM are summarized as follows:

- The site will be developed in accordance with all relevant Municipal, Provincial and Agency SWM criteria;
- MECP 'Enhanced' water quality treatment will be provided, to ensure the proposed development will have no negative impacts on the downstream receivers;
- All post development peak flows directed to each existing outlet will be reduced at or below existing condition peak flow rates during the 2- to 100-year design storm events based on the 4-hour Chicago and 24-hour SCS Type II design storms;
- Safe conveyance of storm flows from all storms up to and including the 100-year storm event; and
- Implementation of erosion and sediment control measures during and following construction until the ultimate build-out of the site to minimize erosion and sediment transport off-site.

The preliminary SWM plan was prepared recognizing provincial guidelines on water resources and the environment, including the following publications:

- Design Criteria for Sanitary Sewers, Storm Sewers and Forcemains for Alterations Authorized under Environmental Compliance Approval (The Ministry of the Environment, Conservation and Parks, 2022);
- Provincial Policy Statement (Ministry of Municipal Affairs and Housing, 2020);
- Low Impact Development Stormwater Management Planning and Design Guide (CVC and TRCA, 2010);
- Erosion and Sediment Control Guide for Urban Construction (Toronto and Region Conservation Authority, 2019); and
- MTO Drainage Management Manual (Ministry of Transportation, 1997).

5.1 EXISTING SITE DRAINAGE CONDITIONS

The existing topography, ground cover, and drainage patterns were obtained through a review of relevant background studies, available plans, and the Land Information Ontario (LIO) topographic data set.

In the existing condition, the site consists of undeveloped green space, treed areas and golf course area. The existing condition catchments within the site were delineated according to two existing surface water outlets which are described below.

Outlet 1

Outlet 1, which includes Catchment 101 (4.2 ha), consists of runoff from the western portion of the proposed subdivision lands.

Runoff from Catchment 101 drains overland southwesterly into an existing wetland located within the southwest portion of the site, and eventually to Stoney Lake.

Outlet 2

Outlet 2, which includes Catchment 102 (21.6 ha), consists of the balance of the proposed subdivision lands.

Runoff from Catchment 102 drains overland to the east into an existing wetland located immediately beyond the subdivision lands, and eventually to Stoney Lake.

The existing conditions drainage patterns and outlets are illustrated on the Drawing DP-1, included at the back of this report.

5.2 EXTERNAL DRAINAGE CONDITIONS

Based on contour information available from the LIO topographic data set, it was confirmed no external area drains into the site.

5.3 EXISTING CONDITION HYDROLOGIC ANALYSIS

A hydrologic analysis of the existing condition was completed utilizing the single event Visual OTTHYMO Hydrologic Model Version 6 (VO6). Peak flow rates for storms up to and including the 100-year storm were calculated for the 4-hour Chicago and 24-hour SCS Type II design storms generated using historic rainfall data from the Peterborough Airport gauge for the site location. The IDF data used in the hydraulic modelling is attached in Appendix A.

The catchment delineations were completed based on the site area proposed for development, existing ground contour information, and the environmental constraint boundaries. Land uses were established based on field reconnaissance and a review of online aerial photography. The

soil information was determined based on the Ontario Soil Survey Maps and confirmed using the information gathered as part of the geotechnical investigation. The soil information was used to establish the curve numbers (CN) and other catchment parameters used in the hydrologic model. The CN values were converted to modified CN values (CN*) for use in the Otthymo model. The time to peak values for the catchments were calculated using the Bransby Williams and Airport Methods for runoff coefficients 'C' greater than and less than 0.4 respectively.

A summary of all catchment parameters established for the existing and proposed condition hydrologic model are included in Appendix A.

Detailed calculations and Visual Otthymo modeling output are included in Appendix A with the results summarized below in Tables 2 and 3.

Table 2: Existing Conditions Peak Flow Summary – Outlet 1

DESIGN STORM	CATCHMENT 101 4.5 ha (m^3/s)	
	4-hr CHI	24-hr SCS Type II
25 mm	0.008	-
2-Year	0.016	0.029
5-Year	0.034	0.054
10-Year	0.049	0.073
25-Year	0.072	0.101
50-Year	0.091	0.124
100-Year	0.112	0.148

Table 3: Existing Conditions Peak Flow Summary – Outlet 2

DESIGN STORM	CATCHMENT 102 21.6 ha (m^3/s)	
	4-hr CHI	24-hr SCS Type II
25 mm	0.035	-
2-Year	0.070	0.130
5-Year	0.150	0.239
10-Year	0.219	0.326
25-Year	0.320	0.450
50-Year	0.407	0.554
100-Year	0.500	0.663

5.4 STORMWATER MANAGEMENT ALTERNATIVES

The preliminary SWM plan is subject to the review and approval of the Township and the County. For intensive development SWM practices to provide both quantity and quality control of stormwater runoff are required. The MECP SWM design guidelines recommend using the following methods of stormwater management:

5.4.1 Lot Level Source Controls

Lot level controls include measures such as roof leader soak away pits, rear yard ponding areas, reduced grading, rear and side yard swales and other localized lot grading. Other methods of at-source stormwater management controls include Low impact development (LID) practices including rainwater harvesting, green roofs, roof downspout disconnection, infiltration trenches and chambers, vegetated filter strips and permeable pavement. These methods of stormwater control are beneficial since they reduce runoff close to the source. However, the above practices are site specific based on the existing soil, groundwater and bedrock conditions and require regular maintenance to be effective. Use of these practices are recommended but only to an extent that is achievable without requiring excessive maintenance.

5.4.2 Conveyance Controls

Infiltration trenches and perforated pipes are two examples of conveyance controls. Typically, these controls attempt to reduce runoff volume and attenuate peak flows on route to the downstream watershed by allowing the stormwater to infiltrate into the existing soil. These methods of controlling stormwater are only effective if the native soil has good drainage capabilities, and if groundwater and bedrock conditions allow for them to be implemented in an effective and practical manner. Poor construction practices also reduce the effectiveness of these stormwater management controls. Conveyance controls are not recommended due to the shallow bedrock conditions throughout the site.

5.4.3 End-of-Pipe Facilities

End-of-pipe facilities are typically wet ponds, dry ponds or wetlands that control stormwater runoff from larger development areas. These facilities allow stormwater to be retained and released at a controlled rate and can provide effective quality and quantity control of storm events. The major negative attributes of these facilities are that they require significant land area to provide the treatment controls thus the larger the development the greater the required pond size.

5.5 STORMWATER MANAGEMENT PLAN

The preliminary SWM plan has been developed recognizing the overall SWM criteria for the subdivision. The proposed internal roads and overall lot grading will be constructed to follow the existing topography of the land to the extent that is practical to maintain the pre-development drainage patterns, while still directing major flows overland to the proposed end-of-pipe SWM facilities and the existing surface water outlets. Due to the shallow bedrock that exists across the site, the preliminary SWM plan must also reduce bedrock excavation to the extent possible by providing stormwater treatment and controls as close to the existing ground surface and above, as possible.

The internal road design will be constructed to a typical municipal road cross section standard with all minor and major system flows from the road right of way and front lot areas draining to the road ditches. The side and rear yard areas will only be graded immediately around the future dwellings thus allowing a portion of the lots to remain undisturbed thereby further promoting water quality enhancement of runoff.

The proposed condition catchment delineations within the subdivision were completed utilizing the Draft Plan of Subdivision and the preliminary site grading design in combination with the LIO topographic information data.

The proposed condition drainage patterns and outlets are illustrated on the Proposed Condition Drainage Plan, Drawing DP-2, included at the back of this report.

Separate SWM plans have been developed for each outlet and are described below.

Outlet 1

Catchment 202 (1.9 ha) consists of a portion of residential lots 20 to 27, which are proposed to drain uncontrolled to Outlet 1. Specifically, runoff from a portion of lots 20 to 24 will drain uncontrolled, generally from northeast to southwest, and is intercepted by a proposed rear yard swale, which will drain southward, discharging into the wetland at Outlet 1. Runoff from a portion of lots 25 to 27 will drain uncontrolled, generally from northeast to southwest, discharging directly into the wetland at Outlet 1.

Runoff from Catchment 201 (1.4 ha), which consists of a commercial block, will drain into and be controlled by a proposed private SWM facility. The private SWM facility is shown conceptually at the south limit of the commercial block adjacent to Outlet 1. The commercial block, including the private SWM facility, will be designed and approved following the site plan control process. The facility will be designed to overcontrol flows from Catchments 201 up to and including the 100-year storm such that the uncontrolled peak flows from Catchments 202 combined with the controlled flows from Catchment 201 are reduced at or below the existing condition peak flow rates at Outlet 1. The facility will also provide MECP enhanced water quality treatment prior to discharging into the wetland at Outlet 1. An emergency overflow will be incorporated into the design of the private SWM facility to safely convey all emergency flows to the downstream receiver.

Outlet 2

Catchment 204 (4.8 ha) consists of a portion of residential lots 1 to 16. Runoff from a portion of lots 1 to 14 will drain uncontrolled to the north and northeast eventually discharging into the wetland at Outlet 2. Runoff from a portion of lots 15 and 16 will drain uncontrolled, generally eastward, discharging directly into wetland at Outlet 2.

Runoff from Catchment 205 (1.6 ha), which consists of a portion of residential lots 48 to 53, will drain uncontrolled, generally from west to east, discharging directly into the existing wetland at Outlet 2.

Runoff from Catchment 206 (1.2 ha), which consists of a portion of residential lots 54 to 56, will drain uncontrolled, generally from north to south, discharging directly into the existing wetland at Outlet 2.

Runoff from Catchment 203 (14.9 ha), which consists of the majority of the subdivision lands including the Street 'A' and Street 'B' internal roads, drains to a proposed wet SWM facility (Block 2), located in the east portion of the subdivision, via the proposed roadside ditches, and a ditch within a 9.0 m wide drainage easement between lots 16 and 17. The wet SWM facility is intended to provide water quality treatment and water quantity control for runoff from Catchment 203. It will be designed to overcontrol flows from Catchment 203 such that the uncontrolled peak flows from Catchments 204, 205, and 206 combined with the controlled flows from Catchment 203 are reduced at or below existing condition peak flow rates at Outlet 2 during all storms up to and including the 100-year storm. MECP enhanced level water quality treatment (80% TSS removal) including 24 hour extended detention will also be provided within the facility. An emergency overflow will be incorporated into the design of the wet SWM facility to safely convey all emergency flows to the downstream receiver.

5.5.1 SWM Plan Design Criteria

The overall SWM plan for the site will consider the following:

- Post development peak runoff rates from the site are to be reduced at or below existing conditions at each outlet;
- MECP 'enhanced' level water quality treatment and erosion control is to be provided in accordance with the criteria contained in the MECP SWM design guidelines, upstream of each outlet;
- Safe conveyance of major storm peak flows and emergency flows through the site to the downstream receiver must be demonstrated including properly designed road ditches and culverts and emergency overflow weirs as part of the SWM facility;
- Optimization of suspended solids and heavy metal removal efficiencies by locating minor system inlets and SWM facility outlets as far apart as possible to prevent short circuiting;
- Optimize nutrient uptake potential and diversity of plantings to enhance local aquatic and wildlife habitats; and
- Consider operation and maintenance requirements and frequency and include as part of the design process.

5.5.2 Water Quantity Control

A hydrologic analysis of the post development condition was completed utilizing the single event Visual OTTHYMO Hydrologic Model (VO6). Peak flow rates for storms up to and including the 100-year storm were calculated for the 4-hour Chicago and 24-hour SCS Type II design storms generated using historic rainfall data as described in Section 5.3 above.

The catchment delineation for the contributing lands was completed utilizing the Draft Plan of Subdivision and the preliminary site grading design in combination with the LIO topographic information data. The total impervious (TIMP) for the future lot development was calculated based on 200 m^2 average dwelling footprint areas and 17.0 m long, 6 m wide, driveways. The commercial block area was assumed to have a total imperviousness of 80%. A summary of all catchment parameters established for the post development hydrologic model have been included in Appendix A.

The time to peak values for the individual catchment areas were calculated using either the Bransby Williams and Airport Methods for runoff coefficient "C" values greater than and less than 0.4 respectively.

Preliminary stage-storage-discharge data was input into the 'route reservoir' commands of the hydrologic model to confirm the quantity control storage requirements and that the corresponding land allocation for the SWM facility block is appropriate. The stage discharge data assumed free flow outlet conditions. A preliminary review of the adjacent wetland area and the contributing drainage area to it was completed and it was confirmed that the SWM pond outlet elevation will be sufficiently elevated above any potential tailwater elevation in the wetland during all storms up to and including the 100-year storm. Specific details relating to the pond outlet control structures will be determined at the detailed design stage.

Detailed calculations and Visual Otthymo modeling output are included in Appendix A with the results summarized below in Tables 4 and 5.

Table 4: Proposed Conditions Peak Flow Summary – Outlet 1

DESIGN STORM	CATCHMENT 201 1.4 ha CONTROLLED (m^3/s)		CATCHMENT 202 1.9 ha UNCONTROLLED (m^3/s)		TOTAL OUTLET 1 3.3 ha (m^3/s)	
	4-hr CHI	24-hr SCS Type II	4-hr CHI	24-hr SCS Type II	4-hr CHI	24-hr SCS Type II
25 mm	0.003	-	0.006	-	0.009 (0.008)	-
2-Year	0.005	0.005	0.011	0.021	0.015 (0.016)	0.025 (0.029)
5-Year	0.006	0.008	0.023	0.037	0.028 (0.034)	0.043 (0.054)
10-Year	0.009	0.011	0.033	0.049	0.039 (0.049)	0.058 (0.073)
25-Year	0.013	0.015	0.048	0.067	0.056 (0.072)	0.080 (0.101)
50-Year	0.016	0.019	0.060	0.082	0.072 (0.091)	0.099 (0.124)
100-Year	0.020	0.023	0.074	0.098	0.088 (0.112)	0.118 (0.148)

Table 5: Proposed Conditions Peak Flow Summary – Outlet 2

DESIGN STORM	CATCHMENT 203 14.9 ha CONTROLLED (m^3/s)		CATCHMENT 204 4.8 ha UNCONTROLLED (m^3/s)		CATCHMENT 205 1.6 ha UNCONTROLLED (m^3/s)		CATCHMENT 206 1.2 ha UNCONTROLLED (m^3/s)		TOTAL OUTLET 2 22.5 ha (m^3/s)	
	4-hr CHI	24-hr SCS Type II	4-hr CHI	24-hr SCS Type II	4-hr CHI	24-hr SCS Type II	4-hr CHI	24-hr SCS Type II	4-hr CHI	24-hr SCS Type II
25 mm	0.011	-	0.012	-	0.008	-	0.005	-	0.020 (0.035)	-
2-Year	0.020	0.031	0.023	0.040	0.015	0.029	0.010	0.019	0.038 (0.070)	0.075 (0.130)
5-Year	0.044	0.066	0.046	0.071	0.031	0.051	0.020	0.034	0.078 (0.150)	0.135 (0.239)
10-Year	0.068	0.096	0.066	0.095	0.045	0.068	0.029	0.045	0.112 (0.219)	0.183 (0.326)
25-Year	0.106	0.140	0.095	0.130	0.065	0.093	0.042	0.062	0.162 (0.320)	0.250 (0.450)
50-Year	0.139	0.178	0.120	0.159	0.082	0.113	0.053	0.075	0.204 (0.407)	0.306 (0.554)
100-Year	0.175	0.218	0.146	0.189	0.100	0.134	0.065	0.089	0.249 (0.500)	0.364 (0.663)

A comparison of the tables above showing the post-development peak flow summaries with the pre-development peak flows confirms the SWM plans for each outlet can attenuate the 2-year through 100-year post-development peak flows at or below existing peak flow rates.

The wet SWM facility within Block 2 has approximately 2,542 m^3 of active storage and an additional 0.3 m of freeboard as illustrated on Drawing DET-1, whereas 2,029 m^3 of active storage is required during the 100-year 24-hour SCS design storm. A preliminary stage-volume table for the wet SWM facility is included in Appendix A.

The private SWM facility located within the commercial block will be designed and approved following the site plan control process. At this stage, the private facility has been modelled and sized on a conceptual basis to ensure overcontrolled peak flows from Catchments 201 combined with uncontrolled peak flows from Catchment 202 can be reduced in accordance with Table 4 above, thereby confirming the water quantity control plan for Outlet 2.

5.5.3 Water Quality Control

Water quality control for the development will be provided in the proposed SWM facilities and will be designed to remove a minimum of 80% TSS from runoff prior to off-site discharge. Further water quality enhancement of runoff will be achieved along the conveyance route via filtration and sedimentation within the proposed road ditches and within the drainage easement. In addition, within each individual lot, all roof leaders will be directed to pervious front and rear lot areas further promoting filtration of runoff and infiltration upstream of the conveyance routes.

The water quality control design calculations are attached in Appendix A. It is noted that the water quality control calculations do not consider the additional water quality treatment from the road ditches and within the drainage easement and by directing roof leaders to pervious front and rear lot areas and thus are conservative as it relates to the water quality treatment of runoff from the proposed development.

Outlet 1

Private SWM Facility

The private SWM facility located within the commercial block will be approved following the site plan control process. The private facility will be designed to provide MECP 'enhanced' level water quality treatment.

Outlet 2

Wet SWM Facility

Catchment 203 (14.9 ha) has a weighted level of imperviousness of approximately 18%. As per MECP Table 3.2 104.6 m^3/ha of which 64.6 m^3/ha is required for the permanent pool volume and the larger of 40 m^3/ha or the 25 mm runoff volume released over a minimum of 24 hours is required for extended detention. The corresponding permanent pool and extended detention volumes required for water quality control are 963 m^3 and 596 m^3 respectively whereas 2,792 m^3 of permanent pool and 2,542 m^3 (at an active storage depth of 0.7 m) of active storage are provided. It is noted that the extended detention volume makes up a small portion of the overall pond active storage volume.

Vehicular access to the wet SWM facility will be provided via a maintenance access road which has been allowed for in the SWM block sizing and in the 9.0 m wide drainage easement and which are depicted on Drawings SG-1 and DP-2.

5.6 STORMWATER CONVEYANCE

Minor and major system drainage will be conveyed in the road ditches, culverts and the SWM blocks to the intended outlets. The road ditches will be sized to convey peak flows from all storms up to and including the 100-year storm. The ditch capacity calculations are included in Appendix A.

The proposed road cross culverts will be sized to convey the peak runoff rate from storms up to and including the 25-year storm prior to overtopping. The proposed driveway culverts will be designed with minimum 5-year storm peak flow rate capacity. The proposed culvert sizing calculations will be provided at the detailed design stage.

6 Siltation and Erosion Control

Siltation and erosion control measures will be implemented for all construction activities within the site including vegetation clearing, topsoil stripping, grading, and stockpiling of materials. The basic principles considered to minimize erosion and sedimentation and resultant negative environmental impacts include:

- All erosion control devices to be specified in accordance with the Erosion and Sediment Control Guide for Urban Construction (Toronto and Region Conservation Authority, 2019);
- Silt control fences to be erected before the commencement of any grading operations to control sediment movement;
- A designated construction vehicle entrance(s) with a stone mud mat will be specified to reduce off-site tracking of material;
- Temporary swales, and earth berms will be constructed to control runoff during construction by lowering velocities and promoting settling of particulates;
- All topsoil and fill piles are to be surrounded with heavy duty silt fence and are to be seeded immediately upon completion of earthworks;
- Expose the smallest possible land area to erosion for the shortest possible time;
- Long term siltation and erosion control will be enhanced with a re-vegetation strategy for disturbed areas;
- Confine refuelling and servicing of equipment to areas well away from the drainage systems; and
- Regular inspection of control measures to be instituted through a monitoring and mitigation plan and repairs will be made as necessary. Bi-weekly inspections of the site erosion and sediment control should be completed.

A detailed erosion and sediment control plan will be prepared with the detailed engineering design.

7 Utilities

Hydro One, Bell, and Canada Post have been contacted to confirm their capability to provide services to the site.

Hydro service along Northey's Bay Road Drive is currently provided overhead by Hydro One. Hydro One will be consulted during the detailed design stage to confirm any required service upgrades.

Bell Canada is the telephone service provider in the vicinity of the site. Existing telephone infrastructure in the area is not capable of supporting the proposed development in its current state. Bell has indicated the expansion of their infrastructure to support the proposed development should be discussed during the detailed design stage of the development.

Rogers Cable will also be consulted to confirm if the site is within their service area and to confirm if any additional infrastructure is required. Since cable TV is not an essential service, extending new cable service to the site would be at the discretion of the developer and the cable service provider.

Canada Post has been contacted and will service the proposed development with community mailboxes. Further coordination will be completed with Canada Post during the detailed design stage.

Additional details from each provider will be provided in the future at the detailed design stage.

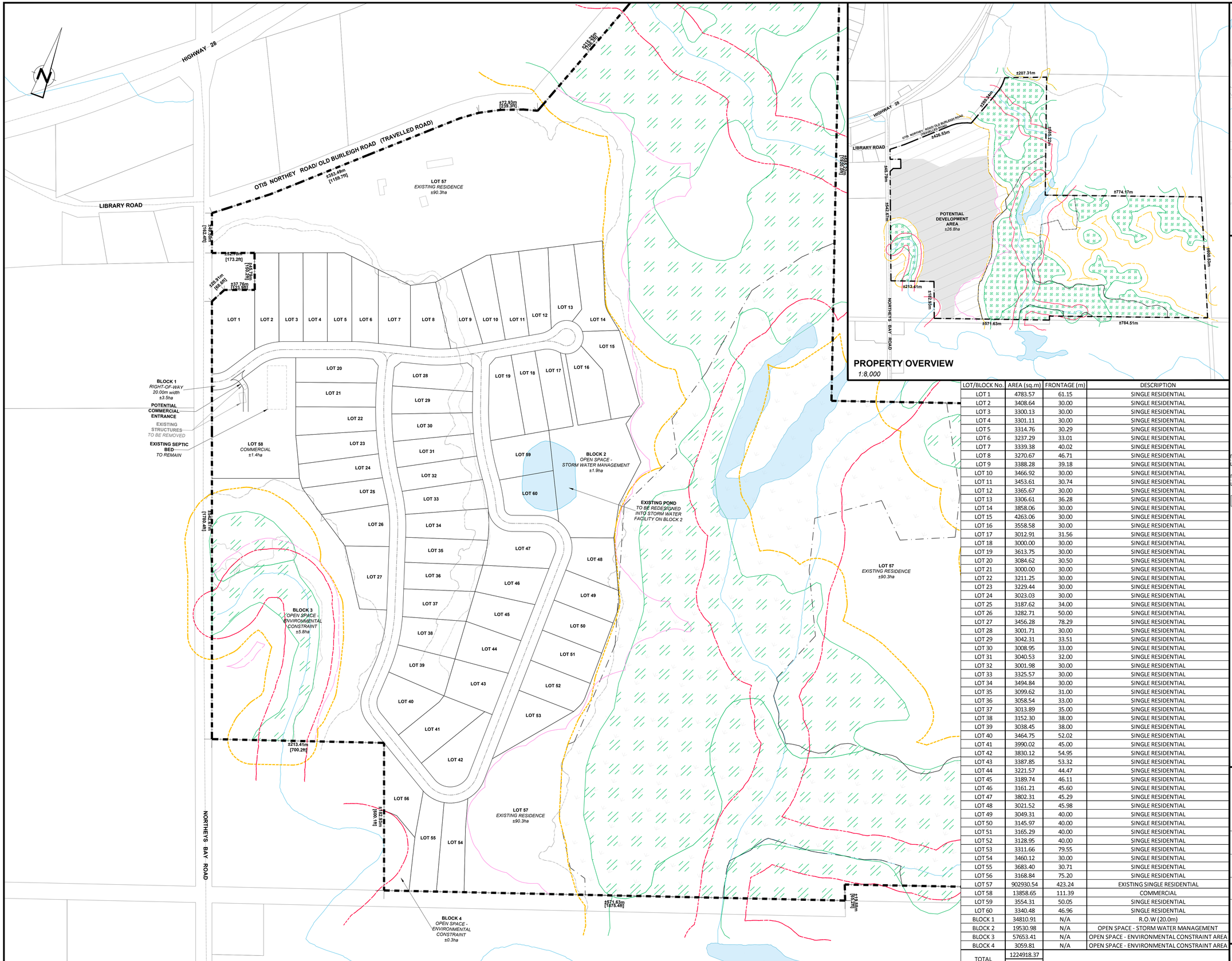
8 Summary

The proposed SWM plan demonstrates how existing drainage patterns will generally be maintained to the existing surface water outlets. SWM facilities are proposed and will provide enhanced level water quality treatment for the proposed development. Post development peak flows will be reduced at or below existing condition peak flow rates at each outlet by means of the proposed SWM facilities. At-source and conveyance type LID practices consisting of roof leaders directed to pervious areas and filtering of runoff within the road ditches and within the drainage easement will also be provided thereby providing a treatment train approach to water quality control. The details of these systems will be provided at the detail design stage, however, the preliminary SWM plan confirms that appropriate stormwater management can be provided.

Siltation and erosion control will be provided with the proper construction mitigation efforts. Long-term erosion control will be enhanced with an effective revegetation strategy.

The availability of existing utilities (hydro, telephone, and cable) has been confirmed with each provider. Bell confirmed their existing infrastructure in the area is not capable of supporting the proposed development in its current state and therefore further coordination is required and will be completed during the detail design stage. Final utility designs will be coordinated as the project proceeds and plans are finalized.

We trust this report demonstrates the feasibility of the proposed subdivision as it relates to stormwater management and is sufficient to support the proposed ZBA and Draft Plan of subdivision applications.



LOT/BLOCK No.	AREA (sq.m)	FRONTAGE (m)	DESCRIPTION
LOT 1	4783.57	61.15	SINGLE RESIDENTIAL
LOT 2	3408.64	30.00	SINGLE RESIDENTIAL
LOT 3	3300.13	30.00	SINGLE RESIDENTIAL
LOT 4	3301.11	30.00	SINGLE RESIDENTIAL
LOT 5	3314.76	30.29	SINGLE RESIDENTIAL
LOT 6	3237.29	33.01	SINGLE RESIDENTIAL
LOT 7	3339.38	40.02	SINGLE RESIDENTIAL
LOT 8	3270.67	46.71	SINGLE RESIDENTIAL
LOT 9	3388.28	39.18	SINGLE RESIDENTIAL
LOT 10	3466.92	30.00	SINGLE RESIDENTIAL
LOT 11	3453.61	30.74	SINGLE RESIDENTIAL
LOT 12	3365.67	30.00	SINGLE RESIDENTIAL
LOT 13	3306.61	36.28	SINGLE RESIDENTIAL
LOT 14	3858.06	30.00	SINGLE RESIDENTIAL
LOT 15	4263.06	30.00	SINGLE RESIDENTIAL
LOT 16	3558.58	30.00	SINGLE RESIDENTIAL
LOT 17	3012.91	31.56	SINGLE RESIDENTIAL
LOT 18	3000.00	30.00	SINGLE RESIDENTIAL
LOT 19	3613.75	30.00	SINGLE RESIDENTIAL
LOT 20	3084.62	30.50	SINGLE RESIDENTIAL
LOT 21	3000.00	30.00	SINGLE RESIDENTIAL
LOT 22	3211.25	30.00	SINGLE RESIDENTIAL
LOT 23	3229.44	30.00	SINGLE RESIDENTIAL
LOT 24	3023.03	30.00	SINGLE RESIDENTIAL
LOT 25	3187.62	34.00	SINGLE RESIDENTIAL
LOT 26	3282.71	50.00	SINGLE RESIDENTIAL
LOT 27	3456.28	78.29	SINGLE RESIDENTIAL
LOT 28	3001.71	30.00	SINGLE RESIDENTIAL
LOT 29	3042.31	33.51	SINGLE RESIDENTIAL
LOT 30	3008.95	33.00	SINGLE RESIDENTIAL
LOT 31	3040.53	32.00	SINGLE RESIDENTIAL
LOT 32	3001.98	30.00	SINGLE RESIDENTIAL
LOT 33	3325.57	30.00	SINGLE RESIDENTIAL
LOT 34	3494.84	30.00	SINGLE RESIDENTIAL
LOT 35	3099.62	31.00	SINGLE RESIDENTIAL
LOT 36	3058.54	33.00	SINGLE RESIDENTIAL
LOT 37	3013.89	35.00	SINGLE RESIDENTIAL
LOT 38	3152.30	38.00	SINGLE RESIDENTIAL
LOT 39	3038.45	38.00	SINGLE RESIDENTIAL
LOT 40	3464.75	52.02	SINGLE RESIDENTIAL
LOT 41	3990.02	45.00	SINGLE RESIDENTIAL
LOT 42	3830.12	54.95	SINGLE RESIDENTIAL
LOT 43	3387.85	53.32	SINGLE RESIDENTIAL
LOT 44	3221.57	44.47	SINGLE RESIDENTIAL
LOT 45	3189.74	46.11	SINGLE RESIDENTIAL
LOT 46	3161.21	45.60	SINGLE RESIDENTIAL
LOT 47	3802.31	45.29	SINGLE RESIDENTIAL
LOT 48	3021.52	45.98	SINGLE RESIDENTIAL
LOT 49	3049.31	40.00	SINGLE RESIDENTIAL
LOT 50	3145.97	40.00	SINGLE RESIDENTIAL
LOT 51	3165.29	40.00	SINGLE RESIDENTIAL
LOT 52	3128.95	40.00	SINGLE RESIDENTIAL
LOT 53	3311.66	79.55	SINGLE RESIDENTIAL
LOT 54	3460.12	30.00	SINGLE RESIDENTIAL
LOT 55	3683.40	30.71	SINGLE RESIDENTIAL
LOT 56	3168.84	75.20	SINGLE RESIDENTIAL
LOT 57	902930.54	423.24	EXISTING SINGLE RESIDENTIAL
LOT 58	13858.65	111.39	COMMERCIAL
LOT 59	3554.31	50.05	SINGLE RESIDENTIAL
LOT 60	3340.48	46.96	SINGLE RESIDENTIAL
BLOCK 1	34810.91	N/A	R.O.W (20.0m)
BLOCK 2	19530.98	N/A	OPEN SPACE - STORM WATER MANAGEMENT
BLOCK 3	57653.41	N/A	OPEN SPACE - ENVIRONMENTAL CONSTRAINT AREA
BLOCK 4	3059.81	N/A	OPEN SPACE - ENVIRONMENTAL CONSTRAINT AREA
TOTAL	1224918.37		
	121.9ha		

LEGEND

- EXISTING SUBJECT PROPERTY
- EXISTING PARCEL FABRIC
- EXISTING UNEVALUATED WETLAND *(RETRIEVED FROM LIO)*
- EXISTING DRIVEWAY
- EXISTING STRUCTURE
- EXISTING WATERCOURSE
- EXISTING WETLAND BUFFER (30m)
- WETLAND SETBACK (30m) *(PROVIDED BY PALMER ENVIRONMENTAL CONSULTING - EIS)*
- EXISTING WATERBODY (30m) AND WATERCOURSE (30m) BUFFER
- TOP OF BANK (APPROX.)
- BOTTOM OF BANK (APPROX.)
- EXISTING HAMLET DESIGNATION
- EXISTING ENVIRONMENTAL CONSTRAINT DESIGNATION
- POTENTIAL DEVELOPMENT AREA

NOTES:

1. Property boundaries are approximate
2. Potential development area: ±26.8ha

EcoVue Consulting Services Inc.

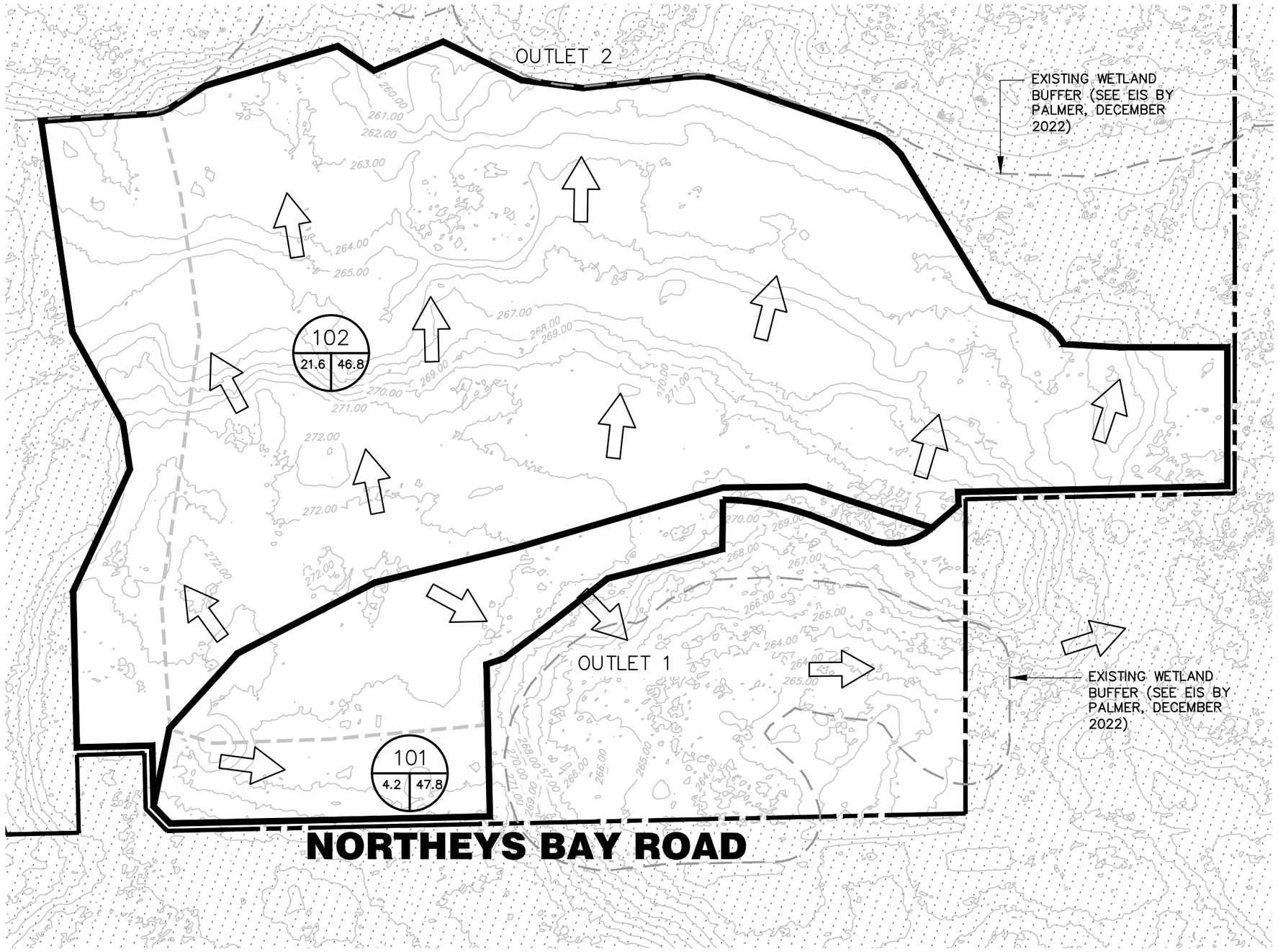
311 George St. N., Suite 200
Peterborough ON K9J 3H3
Tel: 705-876-8340 Fax: 705-742-8343
www.ecovueconsulting.com

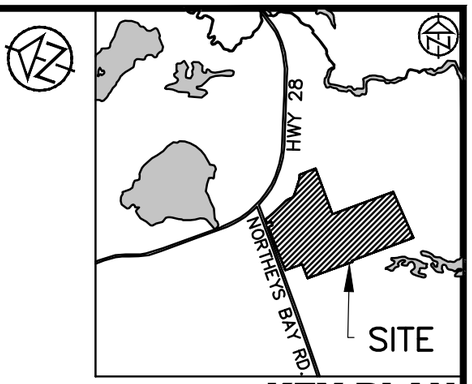
DRAWN BY: MC/TB	PROJECT No.: 21-2207
APPROVED BY:	HORIZ. SCALE: 1:2000
REVISION DATE: MAY 02, 2023	PLOT DATE: MAY 02, 2023

WOODVIEW GOLF SUBDIVISION
ERIC CHALLENGER
65 NORTHEY'S BAY ROAD
PART OF LOTS 6 AND 7, CON 6 SOUTHERN DIVISION
GEOG. TWP. OF BURLEIGH
TOWNSHIP OF NORTH KAWARTHA
COUNTY OF PETERBOROUGH

CONCEPT DRAFT PLAN

CP1





KEY PLAN

LEGEND

- SUBJECT PROPERTY BOUNDARY
- DRAINAGE AREA BOUNDARY
- DRAINAGE AREA FLOW PATH
- LAND TO BE RETAINED
- EXISTING CONDITION DRAINAGE DIRECTION
- 101 — DRAINAGE AREA ID
- 4.2 / 47.8 — CURVE NUMBER CN* / AREA (ha.)

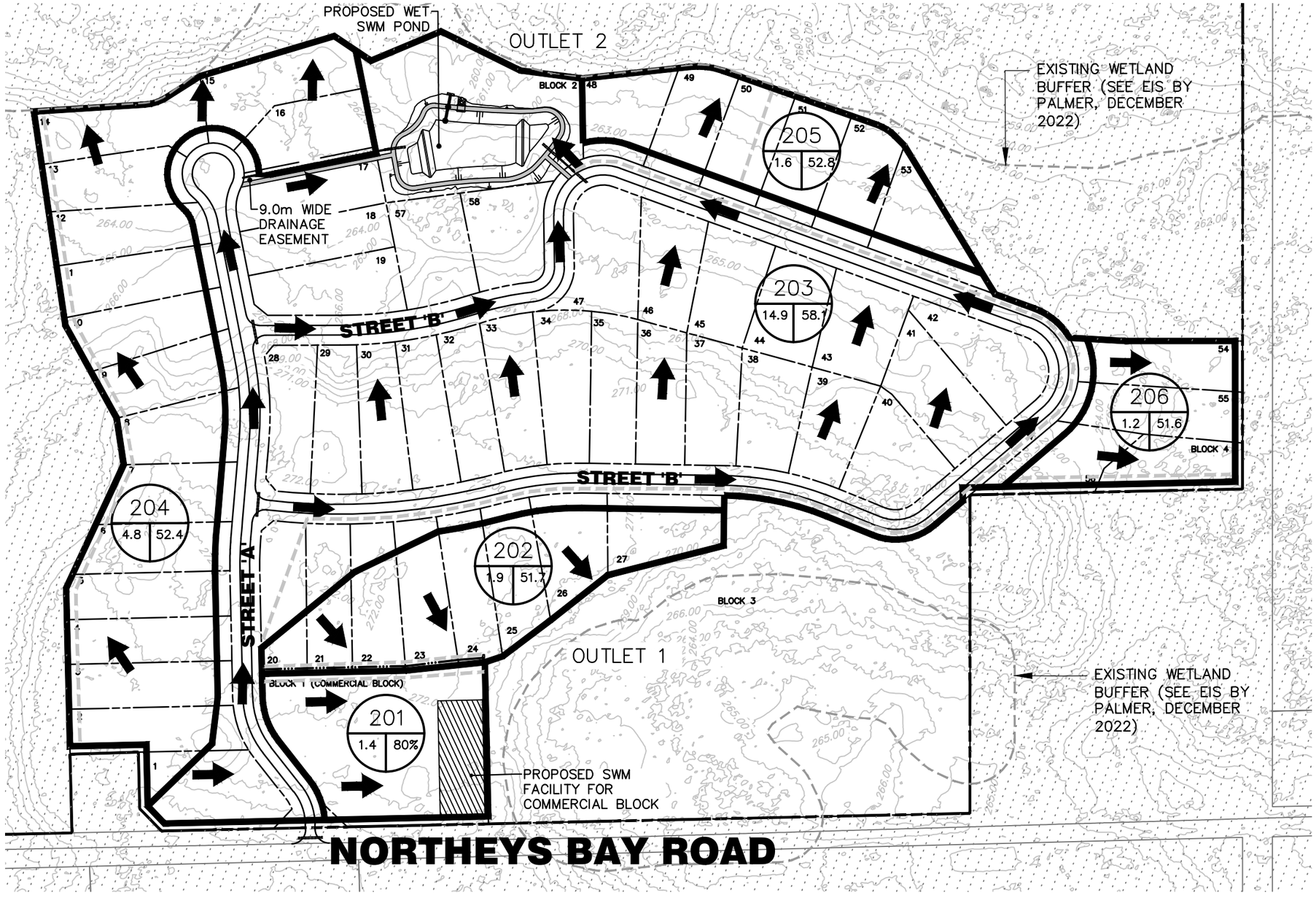
TOPOGRAPHIC INFORMATION FROM LIO
(LAND INFORMATION ONTARIO, SCOOP 2013, PACKAGE F)

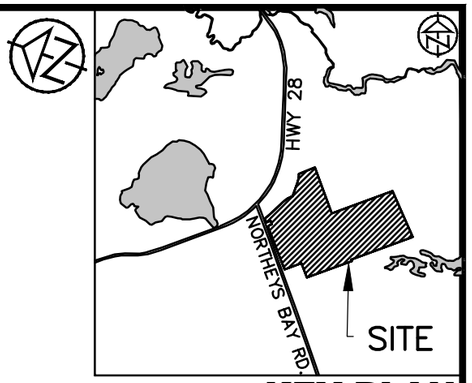
TATHAM ENGINEERING

WOODVIEW GOLF SUBDIVISION
TOWNSHIP OF NORTH KAWARTHA
COUNTY OF PETERBOROUGH
EXISTING CONDITION DRAINAGE PLAN

DWG. No. **DP-1**

SCALE: 1:3000	DRAWN: DVF	DATE: APR, 2023	JOB NO. 523656





KEY PLAN

LEGEND

- SUBJECT PROPERTY BOUNDARY
- DRAINAGE AREA BOUNDARY
- DRAINAGE AREA FLOW PATH
- LAND TO BE RETAINED
- PROPOSED CONDITION DRAINAGE DIRECTION
- 202 / 1.9 / 51.7 — DRAINAGE AREA ID; CURVE NUMBER CN*/% IMPERVIOUS; AREA (ha.)

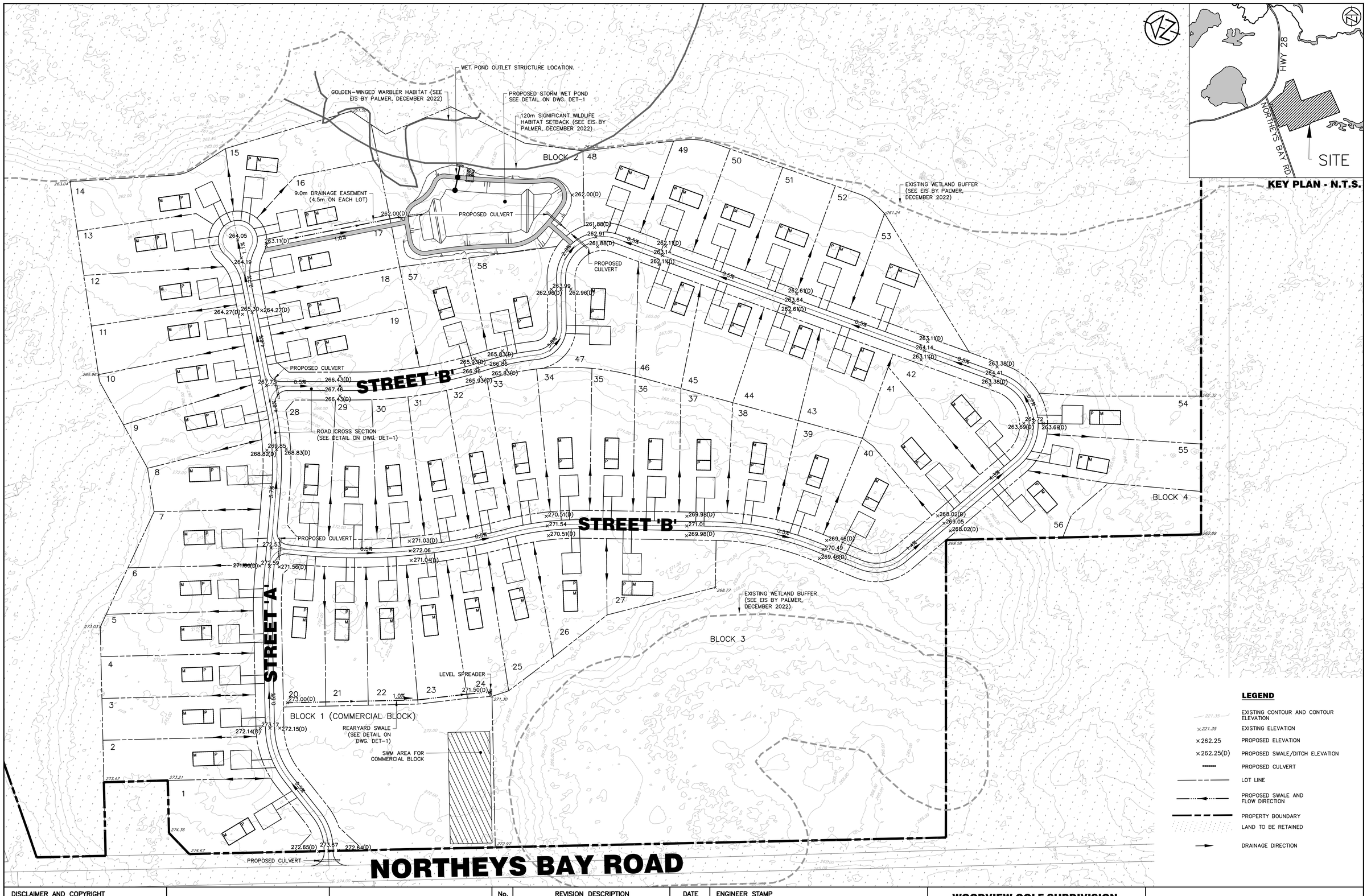
TOPOGRAPHIC INFORMATION FROM LIO
(LAND INFORMATION ONTARIO, SCOOP 2013, PACKAGE F)

TATHAM ENGINEERING

WOODVIEW GOLF SUBDIVISION
TOWNSHIP OF NORTH KAWARTHA
COUNTY OF PETERBOROUGH
PROPOSED CONDITION DRAINAGE PLAN

DWG. No. **DP-2**

SCALE: 1:3000	DRAWN: HY	DATE: APR, 2023	JOB NO. 523656



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CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

TOPOGRAPHIC INFORMATION FROM LIO (LAND INFORMATION ONTARIO, SCOOP 2013, PACKAGE F)

No.	REVISION DESCRIPTION	DATE

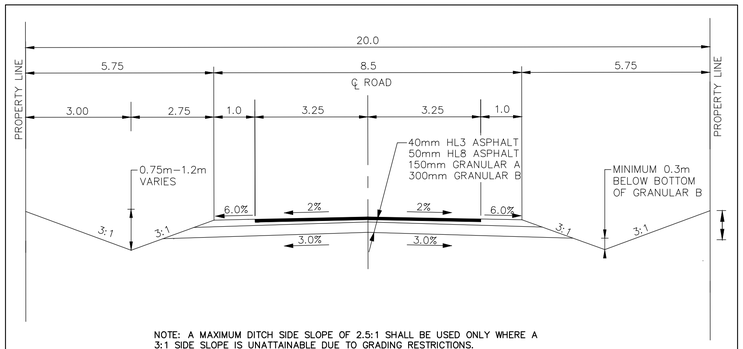
ENGINEER STAMP

WOODVIEW GOLF SUBDIVISION
TOWNSHIP OF NORTH KAWARTHA
COUNTY OF PETERBOROUGH

PRELIMINARY SITE GRADING PLAN

TATHAM ENGINEERING

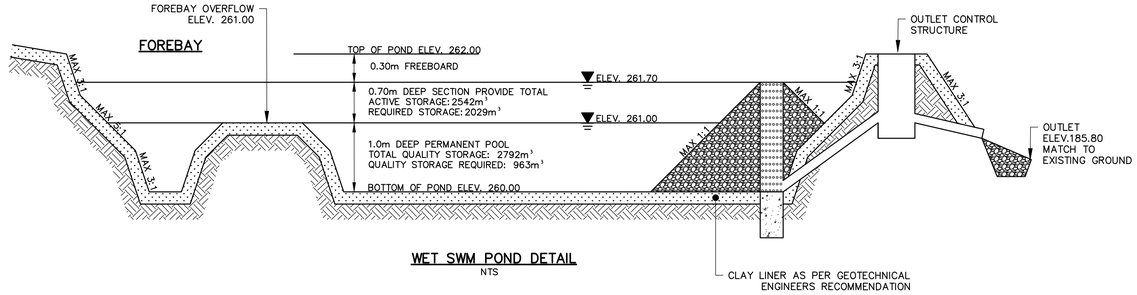
DESIGN: HY	FILE: 523656	DWG: SG-1
DRAWN: HY	DATE: APR 2023	
CHECK: JA	SCALE: 1:1250	



NOTE: A MAXIMUM DITCH SIDE SLOPE OF 2.5:1 SHALL BE USED ONLY WHERE A 3:1 SIDE SLOPE IS UNATTAINABLE DUE TO GRADING RESTRICTIONS.

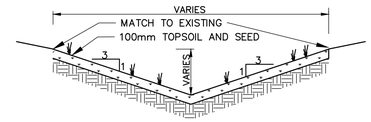
TYPICAL ROAD CROSS SECTION (20m R.O.W)

NTS



WET SWM POND DETAIL

NTS



GRASSED SWALE DETAIL

NTS

No.	REVISION DESCRIPTION	DATE

ENGINEER STAMP

WOODVIEW GOLF SUBDIVISION
TOWNSHIP OF NORTH KAWARTHA
COUNTY OF PETERBOROUGH

DETAILS

TATHAM ENGINEERING

DESIGN: HY	FILE: 523656	DWG: **DET-1**
DRAWN: HY	DATE: APR 2023	
CHECK: JA	SCALE: 1:1250	

Appendix A:
SWM Calculations

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (NasHYD)

Project Details

Project Name	523656

Prepared By

Name	HY

Data Sources

Detailed Soil Survey Reports for Ontario, MTO
Drainage Management Manual (1997)

Pre-Development Condition

Watershed:	Not within CA
Catchment ID:	101
Catchment Area (ha):	4.20
Impervious %:	

Average Curve Number (CN), Runoff Coefficient (C) and Initial Abstraction (IA)

Soil Symbol		**Brs**											
Soil Series		Brighton											
Hydrologic Soils Group		A											
Soil Texture		Sand											
Runoff Coefficient Type		1											
Area (ha)		4.20											
Percentage of Catchment		100%											
Land Cover Category	**IA**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**
Impervious	2		100	0.95									
Gravel	3	0.30	89	0.09									
Woodland	10	1.00	32	0.08									
Pasture/Lawns	5	2.90	49	0.10									
Meadows	8		38	0.09									
Cultivated	7		62	0.22									
Waterbody	12		50	0.05									
Average CN		47.81											
Average C		0.09											
Average IA		6.05											

Time to Peak Calculations

Max. Catchment Elev. (m):	273.66
Min. Catchment Elev. (m):	271.00
Catchment Length (m):	212
Catchment Slope (%):	1.25%
Method: Airport Method	
Time of Concentration (mins):	44.28

Summary

Catchment CN:	47.8
Catchment C:	0.09
Catchment IA (mm):	6.05
Time of Concentration (hrs):	0.74
Catchment Time to Peak (hrs):	0.49
Catchment Time Step (mins):	5.90

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (NasHYD)

Project Details

Project Name	523656

Prepared By

Name	HY

Data Sources

Detailed Soil Survey Reports for Ontario, MTO
Drainage Management Manual (1997)

Pre-Development Condition

Watershed:	Not within CA
Catchment ID:	102
Catchment Area (ha):	21.60
Impervious %:	

Average Curve Number (CN), Runoff Coefficient (C) and Initial Abstraction (IA)

Soil Symbol		**Brs**											
Soil Series		Brighton											
Hydrologic Soils Group		A											
Soil Texture		Sand											
Runoff Coefficient Type		1											
Area (ha)		21.60											
Percentage of Catchment		100%											
Land Cover Category	**IA**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**
Impervious	2		100	0.95									
Gravel	3		89	0.09									
Woodland	10	2.90	32	0.08									
Pasture/Lawns	5	16.90	49	0.10									
Meadows	8		38	0.09									
Cultivated	7		62	0.22									
Waterbody	12	1.80	50	0.05									
Average CN		46.80											
Average C		0.09											
Average IA		6.25											

Time to Peak Calculations

Max. Catchment Elev. (m):	273.36
Min. Catchment Elev. (m):	263.63
Catchment Length (m):	421
Catchment Slope (%):	2.31%
Method: Airport Method	
Time of Concentration (mins):	51.08

Summary

Catchment CN:	46.8
Catchment C:	0.09
Catchment IA (mm):	6.25
Time of Concentration (hrs):	0.85
Catchment Time to Peak (hrs):	0.57
Catchment Time Step (mins):	6.81

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (NasHYD)

Project Details

Project Name	523656

Prepared By

Name	HY

Data Sources

Detailed Soil Survey Reports for Ontario, MTO
Drainage Management Manual (1997)

Pre-Development Condition

Watershed:	Not within CA
Catchment ID:	201
Catchment Area (ha):	1.40
Impervious %:	80%

Average Curve Number (CN), Runoff Coefficient (C) and Initial Abstraction (IA)

Soil Symbol		**Brs**											
Soil Series		Brighton											
Hydrologic Soils Group		A											
Soil Texture		Sand											
Runoff Coefficient Type		1											
Area (ha)		1.40											
Percentage of Catchment		100%											
Land Cover Category	**IA**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**
Impervious	2	1.12	100	0.95									
Gravel	3		89	0.09									
Woodland	10		32	0.08									
Pasture/Lawns	5	0.28	49	0.10									
Meadows	8		38	0.09									
Cultivated	7		62	0.22									
Waterbody	12		50	0.05									
Average CN		89.80											
Average C		0.78											
Average IA		2.60											

Time to Peak Calculations

Max. Catchment Elev. (m):	273.89
Min. Catchment Elev. (m):	272.00
Catchment Length (m):	150
Catchment Slope (%):	1.26%
Method: Bransby-Williams Formula	
Time of Concentration (mins):	7.89

Summary

Catchment CN:	89.8
Catchment C:	0.78
Catchment IA (mm):	2.60
Time of Concentration (hrs):	0.13
Catchment Time to Peak (hrs):	0.09
Catchment Time Step (mins):	1.05

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (NasHYD)

Project Details

Project Name	523656

Prepared By

Name	HY

Data Sources

Detailed Soil Survey Reports for Ontario, MTO
Drainage Management Manual (1997)

Pre-Development Condition

Watershed:	Not within CA
Catchment ID:	202
Catchment Area (ha):	1.90
Impervious %:	5%

Average Curve Number (CN), Runoff Coefficient (C) and Initial Abstraction (IA)

Soil Symbol		**Brs**											
Soil Series		Brighton											
Hydrologic Soils Group		A											
Soil Texture		Sand											
Runoff Coefficient Type		1											
Area (ha)		1.90											
Percentage of Catchment		100%											
Land Cover Category	**IA**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**
Impervious	2	0.10	100	0.95									
Gravel	3		89	0.09									
Woodland	10		32	0.08									
Pasture/Lawns	5	1.80	49	0.10									
Meadows	8		38	0.09									
Cultivated	7		62	0.22									
Waterbody	12		50	0.05									
Average CN		51.68											
Average C		0.14											
Average IA		4.84											

Time to Peak Calculations

Max. Catchment Elev. (m):	273.00
Min. Catchment Elev. (m):	270.50
Catchment Length (m):	148
Catchment Slope (%):	1.69%
Method: Airport Method	
Time of Concentration (mins):	31.87

Summary

Catchment CN:	51.7
Catchment C:	0.14
Catchment IA (mm):	4.84
Time of Concentration (hrs):	0.53
Catchment Time to Peak (hrs):	0.35
Catchment Time Step (mins):	4.25

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (NasHYD)

Project Details

Project Name	523656

Prepared By

Name	HY

Data Sources

Detailed Soil Survey Reports for Ontario, MTO
Drainage Management Manual (1997)

Pre-Development Condition

Watershed:	Not within CA
Catchment ID:	203
Catchment Area (ha):	14.90
Impervious %:	18%

Average Curve Number (CN), Runoff Coefficient (C) and Initial Abstraction (IA)

Soil Symbol		**Brs**											
Soil Series		Brighton											
Hydrologic Soils Group		A											
Soil Texture		Sand											
Runoff Coefficient Type		1											
Area (ha)		14.90											
Percentage of Catchment		100%											
Land Cover Category	**IA**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**
Impervious	2	2.65	100	0.95									
Gravel	3		89	0.09									
Woodland	10		32	0.08									
Pasture/Lawns	5	12.25	49	0.10									
Meadows	8		38	0.09									
Cultivated	7		62	0.22									
Waterbody	12		50	0.05									
Average CN		58.08											
Average C		0.25											
Average IA		4.47											

Time to Peak Calculations

Max. Catchment Elev. (m):	273.70
Min. Catchment Elev. (m):	262.00
Catchment Length (m):	1130
Catchment Slope (%):	1.04%
Method: Airport Method	
Time of Concentration (mins):	91.95

Summary

Catchment CN:	58.1
Catchment C:	0.25
Catchment IA (mm):	4.47
Time of Concentration (hrs):	1.53
Catchment Time to Peak (hrs):	1.02
Catchment Time Step (mins):	12.26

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (NasHYD)

Project Details

Project Name	523656

Prepared By

Name	HY

Data Sources

Detailed Soil Survey Reports for Ontario, MTO
Drainage Management Manual (1997)

Pre-Development Condition

Watershed:	Not within CA
Catchment ID:	204
Catchment Area (ha):	4.80
Impervious %:	7%

Average Curve Number (CN), Runoff Coefficient (C) and Initial Abstraction (IA)

Soil Symbol		**Brs**											
Soil Series		Brighton											
Hydrologic Soils Group		A											
Soil Texture		Sand											
Runoff Coefficient Type		1											
Area (ha)		4.80											
Percentage of Catchment		100%											
Land Cover Category	**IA**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**
Impervious	2	0.32	100	0.95									
Gravel	3		89	0.09									
Woodland	10		32	0.08									
Pasture/Lawns	5	4.48	49	0.10									
Meadows	8		38	0.09									
Cultivated	7		62	0.22									
Waterbody	12		50	0.05									
Average CN		52.40											
Average C		0.16											
Average IA		4.80											

Time to Peak Calculations

Max. Catchment Elev. (m):	273.50
Min. Catchment Elev. (m):	262.90
Catchment Length (m):	437
Catchment Slope (%):	2.43%
Method: Airport Method	
Time of Concentration (mins):	47.99

Summary

Catchment CN:	52.4
Catchment C:	0.16
Catchment IA (mm):	4.80
Time of Concentration (hrs):	0.80
Catchment Time to Peak (hrs):	0.53
Catchment Time Step (mins):	6.40

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (NasHYD)

Project Details

Project Name	523656

Prepared By

Name	HY

Data Sources

Detailed Soil Survey Reports for Ontario, MTO
Drainage Management Manual (1997)

Pre-Development Condition

Watershed:	Not within CA
Catchment ID:	205
Catchment Area (ha):	1.60
Impervious %:	8%

Average Curve Number (CN), Runoff Coefficient (C) and Initial Abstraction (IA)

Soil Symbol		**Brs**											
Soil Series		Brighton											
Hydrologic Soils Group		A											
Soil Texture		Sand											
Runoff Coefficient Type		1											
Area (ha)		1.60											
Percentage of Catchment		100%											
Land Cover Category	**IA**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**
Impervious	2	0.12	100	0.95									
Gravel	3		89	0.09									
Woodland	10		32	0.08									
Pasture/Lawns	5	1.48	49	0.10									
Meadows	8		38	0.09									
Cultivated	7		62	0.22									
Waterbody	12		50	0.05									
Average CN		52.83											
Average C		0.16											
Average IA		4.78											

Time to Peak Calculations

Max. Catchment Elev. (m):	263.48
Min. Catchment Elev. (m):	261.15
Catchment Length (m):	62
Catchment Slope (%):	3.76%
Method: Airport Method	
Time of Concentration (mins):	15.53

Summary

Catchment CN:	52.8
Catchment C:	0.16
Catchment IA (mm):	4.78
Time of Concentration (hrs):	0.26
Catchment Time to Peak (hrs):	0.17
Catchment Time Step (mins):	2.07

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (NasHYD)

Project Details

Project Name	523656

Prepared By

Name	HY

Data Sources

Detailed Soil Survey Reports for Ontario, MTO
Drainage Management Manual (1997)

Pre-Development Condition

Watershed:	Not within CA
Catchment ID:	206
Catchment Area (ha):	1.20
Impervious %:	5%

Average Curve Number (CN), Runoff Coefficient (C) and Initial Abstraction (IA)

Soil Symbol		**Brs**											
Soil Series		Brighton											
Hydrologic Soils Group		A											
Soil Texture		Sand											
Runoff Coefficient Type		1											
Area (ha)		1.20											
Percentage of Catchment		100%											
Land Cover Category	**IA**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**
Impervious	2	0.06	100	0.95									
Gravel	3		89	0.09									
Woodland	10		32	0.08									
Pasture/Lawns	5	1.14	49	0.10									
Meadows	8		38	0.09									
Cultivated	7		62	0.22									
Waterbody	12		50	0.05									
Average CN		51.55											
Average C		0.14											
Average IA		4.85											

Time to Peak Calculations

Max. Catchment Elev. (m):	266.01
Min. Catchment Elev. (m):	262.30
Catchment Length (m):	140
Catchment Slope (%):	2.65%
Method: Airport Method	
Time of Concentration (mins):	26.78

Summary

Catchment CN:	51.6
Catchment C:	0.14
Catchment IA (mm):	4.85
Time of Concentration (hrs):	0.45
Catchment Time to Peak (hrs):	0.30
Catchment Time Step (mins):	3.57

Project :	Woodview Subdivision
File No.	523656
Date:	Apr-23
Designed By:	HY
Checked By:	JA
Subject:	Impervious Area Calculations

Impervious Area Calculations

201	**Area (ha)**
Asphalt	0.000
House	0.000
Driveway	0.00
Commercial Block	1.12
Total Impervious Area (ha)	**1.12**

202	**Area (ha)**
Asphalt	0.000
House	0.10
Driveway	0.00
Total Impervious Area (ha)	**0.10**

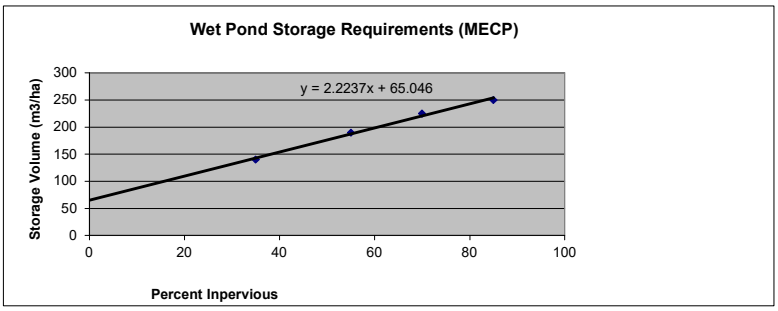
203	**Area (ha)**
Asphalt	1.500
House	0.560
Driveway	0.59
Total Impervious Area (ha)	**2.65**

204	**Area (ha)**
Asphalt	0.000
House	0.320
Driveway	0.00
Total Impervious Area (ha)	**0.32**

205	**Area (ha)**
Asphalt	0.000
House	0.120
Driveway	0.00
Total Impervious Area (ha)	**0.12**

206	**Area (ha)**
Asphalt	0.000
House	0.060
Driveway	0.00
Total Impervious Area (ha)	**0.06**

TATHAM ENGINEERING	Project:	Woodview Subdivision	Date: Apr-23
	File No.:	523656	Designed By: HY
	Subject:	Wet SWM Pond Water Quality Calculations	Checked By: JA



MECP Water Quality Storage Volumes

Table 3.2 Values

% imp	Storage (m^3/ha)
35	140
55	190
70	225
85	250

(Enahnced 80% long-term TSS Removal)

WET POND (Catchment 203)

Drainage Area (ha):	14.90
% imp:	17.8%
MECP Storage Volume Required (m^3/ha):	104.6
Permanent Pool Storage Volume Required (m^3):	962.8
Extended Detention Storage Volume (m^3):	596.0
25 mm Runoff Volume (m^3):	308.3
Permanent Pool Storage Volume Provided (m^3):	2792

TATHAM ENGINEERING

Project :	Woodview Subdivision
File No.	523656
Date:	Apr-23
Designed By:	HY
Checked By:	JA
Subject:	Wet SWM Facility Stage Storage

Wet SWM Facility Stage Storage

Elevation	Depth	Increasing Area	Accum Area	Volume	Quantity Volume	Quality Volume
(m)	(m)	(m^2)	(m^2)	(m^3)	(m^3)	(m^3)
260.00	0.00	0.00	2342.00	0.00	0.00	0.00
260.05	0.05	42.63	2384.63	118.16	118.16	0.00
260.10	0.10	43.01	2427.64	120.31	238.47	0.00
260.15	0.15	43.40	2471.04	122.47	360.93	0.00
260.20	0.20	43.78	2514.82	124.64	485.58	0.00
260.25	0.25	44.17	2558.98	126.84	612.42	0.00
260.30	0.30	44.55	2603.54	129.06	741.48	0.00
260.35	0.35	44.93	2648.47	131.30	872.78	0.00
260.40	0.40	45.32	2693.79	133.55	1006.34	0.00
260.45	0.45	45.70	2739.49	135.83	1142.17	0.00
260.50	0.50	46.09	2785.58	138.13	1280.29	0.00
260.55	0.55	46.47	2832.05	140.44	1420.73	0.00
260.60	0.60	46.86	2878.91	142.77	1563.51	0.00
260.65	0.65	47.24	2926.15	145.12	1708.63	0.00
260.70	0.70	47.63	2973.78	147.50	1856.13	0.00
260.75	0.75	48.01	3021.79	149.89	2006.01	0.00
260.80	0.80	48.39	3070.18	152.30	2158.31	0.00
260.85	0.85	48.78	3118.96	154.73	2313.04	0.00
260.90	0.90	49.16	3168.13	157.18	2470.21	0.00
260.95	0.95	49.55	3217.68	159.64	2629.86	0.00
261.00	1.00	49.93	3267.61	162.13	2791.99	0.00
261.05	1.05	50.32	3317.93	164.64	0.00	164.64
261.10	1.10	50.70	3368.63	167.16	0.00	331.80
261.15	1.15	51.09	3419.71	169.71	0.00	501.51
261.20	1.20	51.47	3471.18	172.27	0.00	673.78
261.25	1.25	51.86	3523.04	174.85	0.00	848.63
261.30	1.30	52.24	3575.28	177.46	0.00	1026.09
261.35	1.35	52.62	3627.90	180.08	0.00	1206.16
261.40	1.40	53.01	3680.91	182.72	0.00	1388.88
261.45	1.45	53.39	3734.30	185.38	0.00	1574.26
261.50	1.50	53.78	3788.08	188.06	0.00	1762.32
261.55	1.55	54.16	3842.24	190.76	0.00	1953.08
261.60	1.60	54.55	3896.79	193.47	0.00	2146.55
261.65	1.65	54.93	3951.72	196.21	0.00	2342.76
261.70	1.70	55.32	4007.04	198.97	0.00	2541.73
261.75	1.75	55.70	4062.73	201.74	0.00	2743.47
261.80	1.80	56.08	4118.82	204.54	0.00	2948.01
261.85	1.85	56.47	4175.29	207.35	0.00	3155.36
261.90	1.90	56.85	4232.14	210.18	0.00	3365.54
261.95	1.95	57.24	4289.38	213.04	0.00	3578.58
262.00	2.00	57.62	4347.00	215.91	0.00	3794.49

TATHAM ENGINEERING				
	Project:	Woodview Subdivision	**Date:**	April-2023
	File No.:	523656	**Designed By:**	HY
	Subject:	Rearyard Swale Calculation	**Checked By:**	GC

Catchment 202 Rearyard Swale Capacity Calculation

Swale Characteristics

Design Storms
100yr storm (m^3/s)
0.098

(24 hr SCS Type II)

Channel Depth	Channel Type	Manning's N	Base Width	Side Slopes	Min. Slope	Total Area (ha)	Area Contributing (ha)
0.30 m	Grass Ditch	0.035	0.00 m	3H : 1V	1.00%	1.9	1.9

Storm Conditions		**Swale Flow Conditions**					
Return Period	**Peak Flow (m^3/s)**	**Flow Depth**	**Area (m^2)**	**WP**	**R**	**Q (m^3/s)**	**V (m/s)**
100-year storm	**0.098**	**0.300**	**0.27**	**1.90**	**0.14**	**0.210**	**0.78**
Comments:							

Mannings Equation

$$Q = (1.00/n)AR^{2/3}S^{1/2}$$

Where Q = Peak Flow (m^3)
n = Roughness Coefficient
A = Cross Sectional Area (m^2)
R = Hydraulic Radius
S = Channel Slope (m/m)

MTO Pro-rating Methodology for Obtaining Peak Flow

$$Q_2 = Q_1(A_2/A_1)^{0.75}$$

Where Q_1 = Total Peak Flow for Catchment
Q_2 = Pro-Rated Peak Flow
A_1 = Total Area
A_2 = Area Contributing

TATHAM ENGINEERING	**Project:**	Woodview Subdivision	**Date:**	April-2023
	File No.:	523656	**Designed By:**	HY
	Subject:	Swale Calculation	**Checked By:**	GC

Catchment 203 Pond Conveyance Swale Capacity Calculatoin

Swale Characteristics

Design Storms
100yr storm (m^3/s)
0.432

(24 hr SCS Type II)

Channel Depth	Channel Type	Manning's N	Base Width	Side Slopes	Min. Slope	Total Area (ha)	Area Contributing (ha)
0.50 m	Grass Ditch	0.035	0.00 m	3H : 1V	1.00%	14.9	14.9

Storm Conditions		**Swale Flow Conditions**					
Return Period	**Peak Flow (m^3/s)**	**Flow Depth (m)**	**Area (m^2)**	**WP**	**R**	**Q (m^3/s)**	**V (m/s)**
100-year storm	**0.432**	**0.500**	**0.75**	**3.16**	**0.24**	**0.821**	**1.09**
Comments:							

Swale capacity applies to swale within drainage easement located between lots 16 and 17, and swales on the north and south sides of the pond.

Mannings Equation

$$Q = (1.00/n)AR^{2/3}S^{1/2}$$

Where Q = Peak Flow (m^3)
n = Roughness Coefficient
A = Cross Sectional Area (m^2)
R = Hydraulic Radius
S = Channel Slope (m/m)

MTO Pro-rating Methodology for Obtaining Peak Flow

$$Q_2 = Q_1(A_2/A_1)^{0.75}$$

Where Q_1 = Total Peak Flow for Catchment
Q_2 = Pro-Rated Peak Flow
A_1 = Total Area
A_2 = Area Contributing

PRE SCS
==========
==========

```
       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
```


***** S U M M A R Y O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

Output filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\9b087371-c44a-4590-9ba2-e9cfdd6269de\scenario
Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\9b087371-c44a-4590-9ba2-e9cfdd6269de\scenario

DATE: 05/30/2023 TIME: 10:57:41

USER:

COMMENTS: _____

****
** SIMULATION : Run 01 **
****

W/E	COMMAND	HYD ID	DT	AREA	Qpeak	Tpeak	R.V.	R.C.	Qbase
			min	ha	cms	hrs	mm		cms

START @ 0.00 hrs

```
    READ STORM                  5.0
    [ Ptot= 49.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\35428c5a-19e8-4
113-a0ad-897a637
    remark: 2yr24hr

*
 ** CALIB NASHYD         0029  1  5.0   21.60    0.13 12.58   5.51 0.11   0.000
    [CN=46.8         ]
    [ N = 3.0:Tp 0.57]
*
    READ STORM                  5.0
    [ Ptot= 49.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\35428c5a-19e8-4
113-a0ad-897a637
    remark: 2yr24hr

*
 ** CALIB NASHYD         0038  1  5.0    4.20    0.03 12.50   5.76 0.12   0.000
    [CN=47.8         ]
    [ N = 3.0:Tp 0.49]
*
    READ STORM                  5.0
    [ Ptot= 49.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\35428c5a-19e8-4
113-a0ad-897a637
    remark: 2yr24hr

*
 ** CALIB NASHYD         0039  1  5.0  114.80    0.22 14.17   4.31 0.09   0.000
    [CN=41.2         ]
    [ N = 3.0:Tp 1.81]
*
================================================================================
=======================


       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
```

***** S U M M A R Y O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

Output filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\efda57b1-7d81-438b-9546-6d9c538588d4\scenario
Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\efda57b1-7d81-438b-9546-6d9c538588d4\scenario

DATE: 05/30/2023 TIME: 10:57:41

USER:

COMMENTS: _____

****
** SIMULATION : Run 02 **
****

W/E	COMMAND	HYD ID	DT min	AREA ha	Qpeak cms	Tpeak hrs	R.V. mm	R.C.	Qbase cms
	START @ 0.00 hrs								
	READ STORM	5.0							
	[Ptot= 65.00 mm]								
	fname : C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\e8edd2e3-6c74-4d99-80d1-7dec53d								
	remark: 5yr24hr								
*									
**	CALIB NASHYD	0029 1	5.0	21.60	0.24	12.58	9.93	0.15	0.000
	[CN=46.8]								
	[N = 3.0:Tp 0.57]								
*									
	READ STORM	5.0							
	[Ptot= 65.00 mm]								
	fname :								

```
C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\e8edd2e3-6c74-4
d99-80d1-7dec53d
    remark: 5yr24hr

*
 ** CALIB NASHYD         0038  1  5.0    4.20    0.05 12.50  10.33 0.16   0.000
    [CN=47.8         ]
    [ N = 3.0:Tp 0.49]
*
    READ STORM                  5.0
    [ Ptot= 65.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\e8edd2e3-6c74-4
d99-80d1-7dec53d
    remark: 5yr24hr

*
 ** CALIB NASHYD         0039  1  5.0  114.80    0.42 14.17   7.93 0.12   0.000
    [CN=41.2         ]
    [ N = 3.0:Tp 1.81]
*
================================================================================
=======================


       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                 *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\5227c69f-
fd58-46d3-8225-12d54fb57f35\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\5227c69f-
```

fd58-46d3-8225-12d54fb57f35\scenario

DATE: 05/30/2023 TIME: 10:57:41

USER:

COMMENTS: _____

```
  ************************************************
  ** SIMULATION : Run 03                        **
  ************************************************

  W/E COMMAND             HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                  min     ha   '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                   5.0
    [ Ptot= 75.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\0fe05169-1840-4
eb0-b15c-76b6101
    remark: 10yr24hr

*
 ** CALIB NASHYD         0029  1  5.0   21.60    0.33 12.58  13.43 0.18   0.000
    [CN=46.8         ]
    [ N = 3.0:Tp 0.57]
*
    READ STORM                   5.0
    [ Ptot= 75.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\0fe05169-1840-4
eb0-b15c-76b6101
    remark: 10yr24hr

*
 ** CALIB NASHYD         0038  1  5.0    4.20    0.07 12.50  13.94 0.18   0.000
    [CN=47.8         ]
    [ N = 3.0:Tp 0.49]
*
    READ STORM                   5.0
    [ Ptot= 75.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\0fe05169-1840-4
eb0-b15c-76b6101
    remark: 10yr24hr
```

```
*
 ** CALIB NASHYD         0039  1  5.0  114.80    0.58 14.08  10.83 0.14   0.000
    [CN=41.2         ]
    [ N = 3.0:Tp 1.81]
*
================================================================================
=======================


       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\f717fb84-
7430-45f9-9e47-e3b8dbf6e93c\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\f717fb84-
7430-45f9-9e47-e3b8dbf6e93c\scenario


DATE: 05/30/2023                          TIME: 10:57:41

USER:


COMMENTS: _____________________________________________________________


  ********************************************
  ** SIMULATION : Run 04                     **
  ********************************************
```

```
  W/E COMMAND             HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                  min     ha   '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                  5.0
    [ Ptot= 88.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\f2ba4e69-fa81-4
f12-b64d-4101129
    remark: 25yr24hr

*
 ** CALIB NASHYD         0029  1  5.0   21.60    0.45 12.58  18.40 0.21   0.000
    [CN=46.8         ]
    [ N = 3.0:Tp 0.57]
*
    READ STORM                  5.0
    [ Ptot= 88.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\f2ba4e69-fa81-4
f12-b64d-4101129
    remark: 25yr24hr

*
 ** CALIB NASHYD         0038  1  5.0    4.20    0.10 12.50  19.06 0.21   0.000
    [CN=47.8         ]
    [ N = 3.0:Tp 0.49]
*
    READ STORM                  5.0
    [ Ptot= 88.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\f2ba4e69-fa81-4
f12-b64d-4101129
    remark: 25yr24hr

*
 ** CALIB NASHYD         0039  1  5.0  114.80    0.81 14.08  15.01 0.17   0.000
    [CN=41.2         ]
    [ N = 3.0:Tp 1.81]
*
 FINISH

================================================================================
======================

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

```
       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\648a76b3-
680e-458d-b1a5-92f1a772c010\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\648a76b3-
680e-458d-b1a5-92f1a772c010\scenario


DATE: 05/30/2023                          TIME: 10:57:41

USER:


COMMENTS: _____________________________________________________________


  ********************************************
  ** SIMULATION : Run 05                     **
  ********************************************

  W/E COMMAND            HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                 min     ha   '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                 5.0
    [ Ptot= 98.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\5c090dce-cf72-4
4cf-bcdd-0ce858f
```

```
    remark: 50yr24hr

*
 ** CALIB NASHYD         0029  1  5.0   21.60    0.55 12.58  22.52 0.23   0.000
    [CN=46.8         ]
    [ N = 3.0:Tp 0.57]
*
    READ STORM                  5.0
    [ Ptot= 98.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\5c090dce-cf72-4
4cf-bcdd-0ce858f
    remark: 50yr24hr

*
 ** CALIB NASHYD         0038  1  5.0    4.20    0.12 12.50  23.29 0.24   0.000
    [CN=47.8         ]
    [ N = 3.0:Tp 0.49]
*
    READ STORM                  5.0
    [ Ptot= 98.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\5c090dce-cf72-4
4cf-bcdd-0ce858f
    remark: 50yr24hr

*
 ** CALIB NASHYD         0039  1  5.0  114.80    1.00 14.08  18.49 0.19   0.000
    [CN=41.2         ]
    [ N = 3.0:Tp 1.81]
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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```

***** S U M M A R Y O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

Output filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\d3e45c40-4655-454a-8978-39328b504bbb\scenario
Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\d3e45c40-4655-454a-8978-39328b504bbb\scenario

DATE: 05/30/2023 TIME: 10:57:41

USER:

COMMENTS: _____

****
** SIMULATION : Run 06 **
****

W/E	COMMAND	HYD ID	DT min	AREA ha	Qpeak cms	Tpeak hrs	R.V. mm	R.C.	Qbase cms
	START @ 0.00 hrs								
	READ STORM	5.0							
	[Ptot=108.68 mm]								
	fname : C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\a49e86be-ba47-4e08-bed9-d687f5c								
	remark: 100yr24hr								
*									
**	CALIB NASHYD	0029 1	5.0	21.60	0.66	12.58	26.82	0.25	0.000
	[CN=46.8]								
	[N = 3.0:Tp 0.57]								
*									
	READ STORM	5.0							
	[Ptot=108.68 mm]								
	fname : C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\a49e86be-ba47-4e08-bed9-d687f5c								
	remark: 100yr24hr								
*									

```
 ** CALIB NASHYD         0038  1  5.0    4.20    0.15 12.50  27.72 0.26   0.000
    [CN=47.8         ]
    [ N = 3.0:Tp 0.49]
*
    READ STORM                  5.0
    [ Ptot=108.68 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\13abedd2-1cee-4e65-9c31-2b9894dfe914\a49e86be-ba47-4
e08-bed9-d687f5c
    remark: 100yr24hr

*
 ** CALIB NASHYD         0039  1  5.0  114.80    1.20 14.08  22.16 0.20   0.000
    [CN=41.2         ]
    [ N = 3.0:Tp 1.81]
*
```

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```
       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
```


***** S U M M A R Y O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

Output filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\e202b3bb-eac1-4705-be1d-e095e66e326b\scenario
Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\e202b3bb-eac1-4705-be1d-e095e66e326b\scenario

DATE: 05/30/2023 TIME: 10:45:50

USER:

COMMENTS: _____

```
**********************************************
** SIMULATION : 25MM4HR                      **
**********************************************
```

W/E	COMMAND	HYD ID	DT min	AREA ha	' Qpeak ' cms	Tpeak hrs	R.V. mm	R.C.	Qbase cms
	START @ 0.00 hrs								

```
    READ STORM                10.0
    [ Ptot= 25.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\578b8256-516a-4
0f4-b627-32a6acd
    remark: 25MM4HR

*
 ** CALIB NASHYD         0038  1  5.0    4.20    0.01  2.00   1.21 0.05   0.000
    [CN=47.8         ]
    [ N = 3.0:Tp 0.49]
*
    READ STORM                10.0
    [ Ptot= 25.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\578b8256-516a-4
0f4-b627-32a6acd
    remark: 25MM4HR

*
 ** CALIB NASHYD         0041  1  5.0  114.80    0.06  4.00   0.83 0.03   0.000
    [CN=41.2         ]
    [ N = 3.0:Tp 1.81]
*
    READ STORM                10.0
    [ Ptot= 25.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\578b8256-516a-4
0f4-b627-32a6acd
    remark: 25MM4HR

*
 ** CALIB NASHYD         0029  1  5.0   21.60    0.04  2.17   1.14 0.05   0.000
    [CN=46.8         ]
    [ N = 3.0:Tp 0.57]
*
================================================================================
=======================


       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
```

***** S U M M A R Y O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

Output filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\14cfd26b-6b93-47e0-9983-a73ad4541230\scenario
Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\14cfd26b-6b93-47e0-9983-a73ad4541230\scenario

DATE: 05/30/2023 TIME: 10:45:50

USER:

COMMENTS: _____

```
  ************************************************
  ** SIMULATION : Run 02                        **
  ************************************************

  W/E COMMAND             HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                  min     ha   '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                  5.0
    [ Ptot= 33.20 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\62e80b00-2fcf-4ea9-ad12-a44a7b3
    remark: Peterborough Airport 2 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0038  1  5.0    4.20    0.02  2.08   2.42 0.07   0.000
    [CN=47.8         ]
    [ N = 3.0:Tp 0.49]
*
    READ STORM                  5.0
    [ Ptot= 33.20 mm ]
    fname :
```

```
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\62e80b00-2fcf-4
ea9-ad12-a44a7b3
    remark: Peterborough Airport 2 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0041  1  5.0  114.80    0.14  4.08   1.73 0.05   0.000
    [CN=41.2         ]
    [ N = 3.0:Tp 1.81]
*
    READ STORM                  5.0
    [ Ptot= 33.20 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\62e80b00-2fcf-4
ea9-ad12-a44a7b3
    remark: Peterborough Airport 2 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0029  1  5.0   21.60    0.07  2.17   2.30 0.07   0.000
    [CN=46.8         ]
    [ N = 3.0:Tp 0.57]
*
================================================================================
=======================


       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                 *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\2f56975c-
d8e9-422b-aa8f-adb5875138be\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\2f56975c-
```

d8e9-422b-aa8f-adb5875138be\scenario

DATE: 05/30/2023 TIME: 10:45:50

USER:

COMMENTS: _____

```
  ************************************************
  ** SIMULATION : Run 03                        **
  ************************************************

  W/E COMMAND             HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                  min     ha   '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                  5.0
    [ Ptot= 45.90 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\29ca7899-0fbe-4
fc1-b8f8-f0d0c75
    remark: Peterborough Airport 5 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0038  1  5.0    4.20    0.03  2.00   5.01 0.11   0.000
    [CN=47.8         ]
    [ N = 3.0:Tp 0.49]
*
    READ STORM                  5.0
    [ Ptot= 45.90 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\29ca7899-0fbe-4
fc1-b8f8-f0d0c75
    remark: Peterborough Airport 5 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0041  1  5.0  114.80    0.29  3.92   3.72 0.08   0.000
    [CN=41.2         ]
    [ N = 3.0:Tp 1.81]
*
    READ STORM                  5.0
    [ Ptot= 45.90 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\29ca7899-0fbe-4
fc1-b8f8-f0d0c75
    remark: Peterborough Airport 5 year 4 hr CHICAGO Type Storm
```

```
*
 ** CALIB NASHYD         0029  1  5.0   21.60    0.15  2.17   4.79 0.10   0.000
    [CN=46.8         ]
    [ N = 3.0:Tp 0.57]
*
================================================================================
=======================


       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\e0b9d448-
b539-4606-9a9b-eb268dc2976c\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\e0b9d448-
b539-4606-9a9b-eb268dc2976c\scenario


DATE: 05/30/2023                          TIME: 10:45:50

USER:


COMMENTS: _____________________________________________________________


  ********************************************
  ** SIMULATION : Run 04                     **
  ********************************************
```

```
  W/E COMMAND             HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                  min     ha   '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                  5.0
    [ Ptot= 54.30 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\ce13382f-25c6-4
05e-9a3e-e0e8b61
    remark: Peterborough Airport 10 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0038  1  5.0    4.20    0.05  2.00   7.15 0.13   0.000
    [CN=47.8         ]
    [ N = 3.0:Tp 0.49]
*
    READ STORM                  5.0
    [ Ptot= 54.30 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\ce13382f-25c6-4
05e-9a3e-e0e8b61
    remark: Peterborough Airport 10 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0041  1  5.0  114.80    0.42  3.92   5.40 0.10   0.000
    [CN=41.2         ]
    [ N = 3.0:Tp 1.81]
*
    READ STORM                  5.0
    [ Ptot= 54.30 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\ce13382f-25c6-4
05e-9a3e-e0e8b61
    remark: Peterborough Airport 10 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0029  1  5.0   21.60    0.22  2.08   6.85 0.13   0.000
    [CN=46.8         ]
    [ N = 3.0:Tp 0.57]
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL
```

```
        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
```


***** S U M M A R Y O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

Output filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\7a0e78b7-925c-41c6-8ecb-64cad5346d23\scenario
Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\7a0e78b7-925c-41c6-8ecb-64cad5346d23\scenario

DATE: 05/30/2023 TIME: 10:45:50

USER:

COMMENTS: _____

****
** SIMULATION : Run 05 **
****

W/E	COMMAND	HYD ID	DT min	AREA ha	Qpeak cms	Tpeak hrs	R.V. mm	R.C.	Qbase cms
	START @ 0.00 hrs								
	READ STORM	5.0							
	[Ptot= 64.90 mm]								
	fname : C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\75fc0934-50a5-486e-a73a-6dd38a8								
	remark: Peterborough Airport 25 year 4 hr CHICAGO Type Storm								
*									
**	CALIB NASHYD	0038 1	5.0	4.20	0.07	2.00	10.30	0.16	0.000
	[CN=47.8]								

```
    [ N = 3.0:Tp 0.49]
*
    READ STORM                  5.0
    [ Ptot= 64.90 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\75fc0934-50a5-4
86e-a73a-6dd38a8
    remark: Peterborough Airport 25 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0041  1  5.0  114.80    0.62  3.83   7.90 0.12   0.000
    [CN=41.2         ]
    [ N = 3.0:Tp 1.81]
*
    READ STORM                  5.0
    [ Ptot= 64.90 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\75fc0934-50a5-4
86e-a73a-6dd38a8
    remark: Peterborough Airport 25 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0029  1  5.0   21.60    0.32  2.08   9.90 0.15   0.000
    [CN=46.8         ]
    [ N = 3.0:Tp 0.57]
*
================================================================================
=======================


       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                 *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat
```

Output filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\5459e5d5-e773-433d-b0e8-297126ad52fc\scenario
Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\5459e5d5-e773-433d-b0e8-297126ad52fc\scenario

DATE: 05/30/2023 TIME: 10:45:50

USER:

COMMENTS: _____

****
** SIMULATION : Run 06 **
****

W/E	COMMAND	HYD ID	DT min	AREA ha	Qpeak cms	Tpeak hrs	R.V. mm	R.C.	Qbase cms
	START @ 0.00 hrs								
	READ STORM	5.0							
	[Ptot= 72.80 mm]								
	fname : C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\3e1160c3-aa9b-45a0-8628-dee695e								
	remark: Peterborough Airport 50 year 4 hr CHICAGO Type Storm								
*									
**	CALIB NASHYD	0038 1	5.0	4.20	0.09	2.00	12.95	0.18	0.000
	[CN=47.8]								
	[N = 3.0:Tp 0.49]								
*									
	READ STORM	5.0							
	[Ptot= 72.80 mm]								
	fname : C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\3e1160c3-aa9b-45a0-8628-dee695e								
	remark: Peterborough Airport 50 year 4 hr CHICAGO Type Storm								
*									
**	CALIB NASHYD	0041 1	5.0	114.80	0.79	3.83	10.03	0.14	0.000
	[CN=41.2]								
	[N = 3.0:Tp 1.81]								
*									
	READ STORM	5.0							

```
    [ Ptot= 72.80 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\3e1160c3-aa9b-4
5a0-8628-dee695e
    remark: Peterborough Airport 50 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0029  1  5.0   21.60    0.41  2.08  12.47 0.17   0.000
    [CN=46.8         ]
    [ N = 3.0:Tp 0.57]
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\4d4c5e11-
d2c4-4d2e-b73b-7a6aede096f7\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\4d4c5e11-
d2c4-4d2e-b73b-7a6aede096f7\scenario


DATE: 05/30/2023                          TIME: 10:45:50

USER:


COMMENTS: _____________________________________________________________
```

```
  ********************************************
  ** SIMULATION : Run 07                     **
  ********************************************

  W/E COMMAND             HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                  min     ha   '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                  5.0
    [ Ptot= 80.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\3d8ae32e-4e61-4
a22-9db3-85f0eb5
    remark: Peterborough Airport 100 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0038  1  5.0    4.20    0.11  2.00  15.79 0.20   0.000
    [CN=47.8         ]
    [ N = 3.0:Tp 0.49]
*
    READ STORM                  5.0
    [ Ptot= 80.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\3d8ae32e-4e61-4
a22-9db3-85f0eb5
    remark: Peterborough Airport 100 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0041  1  5.0  114.80    0.97  3.83  12.34 0.15   0.000
    [CN=41.2         ]
    [ N = 3.0:Tp 1.81]
*
    READ STORM                  5.0
    [ Ptot= 80.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\3d8ae32e-4e61-4
a22-9db3-85f0eb5
    remark: Peterborough Airport 100 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0029  1  5.0   21.60    0.50  2.08  15.22 0.19   0.000
    [CN=46.8         ]
    [ N = 3.0:Tp 0.57]
*
================================================================================
======================
```

```
       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\f87017e8-
0581-4295-93a0-27888a081a68\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\f87017e8-
0581-4295-93a0-27888a081a68\scenario


DATE: 05/30/2023                          TIME: 10:45:50

USER:


COMMENTS: _____________________________________________________________


  ********************************************
  ** SIMULATION : Run 08                     **
  ********************************************

  W/E COMMAND            HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                 min     ha   '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                 6.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\4f654bc3-dac8-4
e39-b67a-93ec785
```

```
    remark: Timmins Storm  event   mm/hr

*
 ** CALIB NASHYD         0038  1  5.0    4.20    0.19  7.17  75.27 0.39   0.000
    [CN=47.8         ]
    [ N = 3.0:Tp 0.49]
*
    READ STORM                  6.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\4f654bc3-dac8-4
e39-b67a-93ec785
    remark: Timmins Storm  event   mm/hr

*
 ** CALIB NASHYD         0041  1  5.0  114.80    2.95  9.92  62.92 0.33   0.000
    [CN=41.2         ]
    [ N = 3.0:Tp 1.81]
*
    READ STORM                  6.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\66270f18-3fd3-43cc-9f2a-5d0dd08b528b\4f654bc3-dac8-4
e39-b67a-93ec785
    remark: Timmins Storm  event   mm/hr

*
 ** CALIB NASHYD         0029  1  5.0   21.60    0.92  7.25  73.35 0.38   0.000
    [CN=46.8         ]
    [ N = 3.0:Tp 0.57]
*
 FINISH

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

POST SCS
==
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```
       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
```


***** S U M M A R Y O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

Output filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\5725c382-d9ab-4a9a-83f3-08e07b87beac\scenario
Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\5725c382-d9ab-4a9a-83f3-08e07b87beac\scenario

DATE: 05/30/2023 TIME: 10:58:46

USER:

COMMENTS: _____

```
**********************************************
** SIMULATION : Run 01                       **
**********************************************
```

W/E	COMMAND	HYD ID	DT min	AREA ha	' Qpeak ' cms	Tpeak hrs	R.V. mm	R.C.	Qbase cms
	START @ 0.00 hrs								

```
    READ STORM                  5.0
    [ Ptot= 49.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\35428c5a-19e8-4
113-a0ad-897a637
    remark: 2yr24hr

*
 ** CALIB NASHYD         0127  1  5.0    1.90    0.02 12.33   6.93 0.14   0.000
    [CN=51.7         ]
    [ N = 3.0:Tp 0.35]
*
    READ STORM                  5.0
    [ Ptot= 49.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\35428c5a-19e8-4
113-a0ad-897a637
    remark: 2yr24hr

*
 *  CALIB STANDHYD       0128  1  5.0    1.40    0.17 12.08  39.65 0.81   0.000
    [I%=80.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0132  1  5.0    1.40    0.01 14.25  38.33  n/a   0.000
*
    ADD [  0127+  0132]  0133  3  5.0    3.30    0.03 12.33  20.25  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 49.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\35428c5a-19e8-4
113-a0ad-897a637
    remark: 2yr24hr

*
 *  CALIB NASHYD         0116  1  5.0   14.90    0.10 13.08   8.71 0.18   0.000
    [CN=58.1         ]
    [ N = 3.0:Tp 1.02]
*
 ** Reservoir
    OUTFLOW:             0134  1  5.0   14.90    0.03 15.50   8.68  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 49.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\35428c5a-19e8-4
113-a0ad-897a637
    remark: 2yr24hr
```

```
*
 *  CALIB NASHYD         0129  1  5.0    4.80    0.04 12.50   7.11 0.15   0.000
    [CN=52.4         ]
    [ N = 3.0:Tp 0.53]
*
    READ STORM                  5.0
    [ Ptot= 49.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\35428c5a-19e8-4
113-a0ad-897a637
    remark: 2yr24hr

*
 *  CALIB NASHYD         0130  1  5.0    1.60    0.03 12.08   7.18 0.15   0.000
    [CN=52.8         ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                  5.0
    [ Ptot= 49.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\35428c5a-19e8-4
113-a0ad-897a637
    remark: 2yr24hr

*
 *  CALIB NASHYD         0131  1  5.0    1.20    0.01 12.25   6.90 0.14   0.000
    [CN=51.6         ]
    [ N = 3.0:Tp 0.30]
*
    ADD [  0129+  0130]  0136  3  5.0    6.40    0.05 12.25   7.12  n/a   0.000
*
    ADD [  0136+  0131]  0136  1  5.0    7.60    0.07 12.25   7.09  n/a   0.000
*
    ADD [  0134+  0136]  0137  3  5.0   22.50    0.07 12.25   8.14  n/a   0.000
*
================================================================================
=======================


       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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```

***** S U M M A R Y O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

Output filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\19d75ca9-59ff-4413-83f6-9c84a5c4f66e\scenario
Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\19d75ca9-59ff-4413-83f6-9c84a5c4f66e\scenario

DATE: 05/30/2023 TIME: 10:58:46

USER:

COMMENTS: _____

****
** SIMULATION : Run 02 **
****

W/E	COMMAND	HYD ID	DT min	AREA ha	Qpeak cms	Tpeak hrs	R.V. mm	R.C.	Qbase cms
	START @ 0.00 hrs								
	READ STORM	5.0							
	[Ptot= 65.00 mm]								
	fname : C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\e8edd2e3-6c74-4d99-80d1-7dec53d								
	remark: 5yr24hr								
*									
**	CALIB NASHYD	0127 1	5.0	1.90	0.04	12.33	12.17	0.19	0.000
	[CN=51.7]								
	[N = 3.0:Tp 0.35]								
*									
	READ STORM	5.0							
	[Ptot= 65.00 mm]								
	fname : C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\e8edd2e3-6c74-4								

```
d99-80d1-7dec53d
    remark: 5yr24hr

*
 *  CALIB STANDHYD       0128  1  5.0    1.40    0.23 12.08  53.42 0.82   0.000
    [I%=80.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0132  1  5.0    1.40    0.01 14.25  52.10  n/a   0.000
*
    ADD [  0127+  0132]  0133  3  5.0    3.30    0.04 12.33  29.11  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 65.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\e8edd2e3-6c74-4
d99-80d1-7dec53d
    remark: 5yr24hr

*
 *  CALIB NASHYD         0116  1  5.0   14.90    0.17 13.08  15.04 0.23   0.000
    [CN=58.1         ]
    [ N = 3.0:Tp 1.02]
*
 ** Reservoir
    OUTFLOW:             0134  1  5.0   14.90    0.07 15.08  15.01  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 65.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\e8edd2e3-6c74-4
d99-80d1-7dec53d
    remark: 5yr24hr

*
 *  CALIB NASHYD         0129  1  5.0    4.80    0.07 12.50  12.46 0.19   0.000
    [CN=52.4         ]
    [ N = 3.0:Tp 0.53]
*
    READ STORM                  5.0
    [ Ptot= 65.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\e8edd2e3-6c74-4
d99-80d1-7dec53d
    remark: 5yr24hr

*
 *  CALIB NASHYD         0130  1  5.0    1.60    0.05 12.08  12.58 0.19   0.000
    [CN=52.8         ]
    [ N = 3.0:Tp 0.17]
```

```
*
    READ STORM                  5.0
    [ Ptot= 65.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\e8edd2e3-6c74-4
d99-80d1-7dec53d
    remark: 5yr24hr

*
 *  CALIB NASHYD         0131  1  5.0    1.20    0.03 12.25  12.12 0.19   0.000
    [CN=51.6         ]
    [ N = 3.0:Tp 0.30]
*
    ADD [  0129+  0130]  0136  3  5.0    6.40    0.10 12.17  12.49  n/a   0.000
*
    ADD [  0136+  0131]  0136  1  5.0    7.60    0.12 12.25  12.43  n/a   0.000
*
    ADD [  0134+  0136]  0137  3  5.0   22.50    0.13 12.25  14.14  n/a   0.000
*
================================================================================
=======================


       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\b56f6703-
d099-449d-acc7-f34b1d76e52a\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\b56f6703-
d099-449d-acc7-f34b1d76e52a\scenario
```

DATE: 05/30/2023 TIME: 10:58:46

USER:

COMMENTS: _____

```
  ********************************************
  ** SIMULATION : Run 03                     **
  ********************************************

  W/E COMMAND             HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                  min     ha   '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                  5.0
    [ Ptot= 75.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\0fe05169-1840-4
eb0-b15c-76b6101
    remark: 10yr24hr

*
 ** CALIB NASHYD         0127  1  5.0    1.90    0.05 12.33  16.25 0.21   0.000
    [CN=51.7         ]
    [ N = 3.0:Tp 0.35]
*
    READ STORM                  5.0
    [ Ptot= 75.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\0fe05169-1840-4
eb0-b15c-76b6101
    remark: 10yr24hr

*
 *  CALIB STANDHYD       0128  1  5.0    1.40    0.27 12.08  62.66 0.83   0.000
    [I%=80.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0132  1  5.0    1.40    0.01 14.17  61.34  n/a   0.000
*
    ADD [  0127+  0132]  0133  3  5.0    3.30    0.06 12.33  35.38  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 75.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\0fe05169-1840-4
```

```
eb0-b15c-76b6101
    remark: 10yr24hr

*
 *  CALIB NASHYD         0116  1  5.0   14.90    0.22 13.08  19.90 0.26   0.000
    [CN=58.1         ]
    [ N = 3.0:Tp 1.02]
*
 ** Reservoir
    OUTFLOW:             0134  1  5.0   14.90    0.10 14.92  19.87  n/a   0.000
*
    READ STORM                   5.0
    [ Ptot= 75.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\0fe05169-1840-4
eb0-b15c-76b6101
    remark: 10yr24hr

*
 *  CALIB NASHYD         0129  1  5.0    4.80    0.10 12.50  16.62 0.22   0.000
    [CN=52.4         ]
    [ N = 3.0:Tp 0.53]
*
    READ STORM                   5.0
    [ Ptot= 75.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\0fe05169-1840-4
eb0-b15c-76b6101
    remark: 10yr24hr

*
 *  CALIB NASHYD         0130  1  5.0    1.60    0.07 12.08  16.77 0.22   0.000
    [CN=52.8         ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                   5.0
    [ Ptot= 75.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\0fe05169-1840-4
eb0-b15c-76b6101
    remark: 10yr24hr

*
 *  CALIB NASHYD         0131  1  5.0    1.20    0.03 12.25  16.19 0.21   0.000
    [CN=51.6         ]
    [ N = 3.0:Tp 0.30]
*
    ADD [  0129+  0130]  0136  3  5.0    6.40    0.13 12.17  16.66  n/a   0.000
*
    ADD [  0136+  0131]  0136  1  5.0    7.60    0.17 12.25  16.59  n/a   0.000
```

```
*
    ADD [  0134+  0136]  0137  3  5.0   22.50    0.17 12.25  18.76  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\450e6a51-
2bcd-4cb3-b302-ad53180f1496\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\450e6a51-
2bcd-4cb3-b302-ad53180f1496\scenario


DATE: 05/30/2023                          TIME: 10:58:46

USER:


COMMENTS: _____________________________________________________________


  ************************************************
  ** SIMULATION : Run 04                         **
  ************************************************

  W/E COMMAND            HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                 min     ha   '  cms   hrs     mm          cms
```

```
      START @  0.00 hrs
      --------------------
    READ STORM                  5.0
    [ Ptot= 88.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\f2ba4e69-fa81-4
f12-b64d-4101129
    remark: 25yr24hr

*
 ** CALIB NASHYD         0127  1  5.0    1.90    0.07 12.33  21.99 0.25   0.000
    [CN=51.7         ]
    [ N = 3.0:Tp 0.35]
*
    READ STORM                  5.0
    [ Ptot= 88.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\f2ba4e69-fa81-4
f12-b64d-4101129
    remark: 25yr24hr

*
 *  CALIB STANDHYD       0128  1  5.0    1.40    0.32 12.08  74.38 0.84   0.000
    [I%=80.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0132  1  5.0    1.40    0.02 13.08  73.06  n/a   0.000
*
    ADD [  0127+  0132]  0133  3  5.0    3.30    0.08 12.33  43.66  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 88.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\f2ba4e69-fa81-4
f12-b64d-4101129
    remark: 25yr24hr

*
 *  CALIB NASHYD         0116  1  5.0   14.90    0.30 13.08  26.65 0.30   0.000
    [CN=58.1         ]
    [ N = 3.0:Tp 1.02]
*
 ** Reservoir
    OUTFLOW:             0134  1  5.0   14.90    0.14 14.75  26.62  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 88.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\f2ba4e69-fa81-4
f12-b64d-4101129
```

```
    remark: 25yr24hr

*
 *  CALIB NASHYD         0129  1  5.0    4.80    0.13 12.50  22.47 0.25   0.000
    [CN=52.4         ]
    [ N = 3.0:Tp 0.53]
*
    READ STORM                  5.0
    [ Ptot= 88.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\f2ba4e69-fa81-4
f12-b64d-4101129
    remark: 25yr24hr

*
 *  CALIB NASHYD         0130  1  5.0    1.60    0.09 12.08  22.66 0.25   0.000
    [CN=52.8         ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                  5.0
    [ Ptot= 88.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\f2ba4e69-fa81-4
f12-b64d-4101129
    remark: 25yr24hr

*
 *  CALIB NASHYD         0131  1  5.0    1.20    0.05 12.25  21.92 0.25   0.000
    [CN=51.6         ]
    [ N = 3.0:Tp 0.30]
*
    ADD [  0129+  0130]  0136  3  5.0    6.40    0.18 12.17  22.52  n/a   0.000
*
    ADD [  0136+  0131]  0136  1  5.0    7.60    0.23 12.25  22.43  n/a   0.000
*
    ADD [  0134+  0136]  0137  3  5.0   22.50    0.24 12.25  25.20  n/a   0.000
*
================================================================================
=======================


       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
```

```
       OOO     T      T    H   H    Y    M   M   OOO
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```


```
                  *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\04a8c273-
2168-45d1-9467-8f5da93279a5\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\04a8c273-
2168-45d1-9467-8f5da93279a5\scenario


DATE: 05/30/2023                            TIME: 10:58:46

USER:


COMMENTS: _____________________________________________________________


  ************************************************
  ** SIMULATION : Run 05                         **
  ************************************************

  W/E COMMAND             HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                  min     ha   '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                  5.0
    [ Ptot= 98.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\5c090dce-cf72-4
4cf-bcdd-0ce858f
    remark: 50yr24hr

*
 ** CALIB NASHYD         0127  1  5.0    1.90    0.08 12.33  26.71 0.27   0.000
    [CN=51.7         ]
    [ N = 3.0:Tp 0.35]
*
    READ STORM                  5.0
    [ Ptot= 98.92 mm ]
```

```
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\5c090dce-cf72-4
4cf-bcdd-0ce858f
    remark: 50yr24hr

*
 *  CALIB STANDHYD       0128  1  5.0    1.40    0.36 12.08  83.26 0.84   0.000
    [I%=80.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0132  1  5.0    1.40    0.02 13.08  81.95  n/a   0.000
*
    ADD [  0127+  0132]  0133  3  5.0    3.30    0.10 12.33  50.14  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 98.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\5c090dce-cf72-4
4cf-bcdd-0ce858f
    remark: 50yr24hr

*
 *  CALIB NASHYD         0116  1  5.0   14.90    0.37 13.08  32.13 0.32   0.000
    [CN=58.1         ]
    [ N = 3.0:Tp 1.02]
*
 ** Reservoir
    OUTFLOW:             0134  1  5.0   14.90    0.18 14.67  32.10  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 98.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\5c090dce-cf72-4
4cf-bcdd-0ce858f
    remark: 50yr24hr

*
 *  CALIB NASHYD         0129  1  5.0    4.80    0.16 12.50  27.27 0.28   0.000
    [CN=52.4         ]
    [ N = 3.0:Tp 0.53]
*
    READ STORM                  5.0
    [ Ptot= 98.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\5c090dce-cf72-4
4cf-bcdd-0ce858f
    remark: 50yr24hr

*
 *  CALIB NASHYD         0130  1  5.0    1.60    0.11 12.08  27.49 0.28   0.000
```

```
    [CN=52.8         ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                  5.0
    [ Ptot= 98.92 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\5c090dce-cf72-4
4cf-bcdd-0ce858f
    remark: 50yr24hr

*
 *  CALIB NASHYD         0131  1  5.0    1.20    0.06 12.25  26.62 0.27   0.000
    [CN=51.6         ]
    [ N = 3.0:Tp 0.30]
*
    ADD [  0129+  0130]  0136  3  5.0    6.40    0.22 12.17  27.32  n/a   0.000
*
    ADD [  0136+  0131]  0136  1  5.0    7.60    0.28 12.25  27.21  n/a   0.000
*
    ADD [  0134+  0136]  0137  3  5.0   22.50    0.29 12.25  30.45  n/a   0.000
*
================================================================================
=======================


       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                 *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\dfd8aad1-
d354-47dc-9e1e-a9b506846281\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\dfd8aad1-
```

d354-47dc-9e1e-a9b506846281\scenario

DATE: 05/30/2023 TIME: 10:58:46

USER:

COMMENTS: _____

```
  ************************************************
  ** SIMULATION : Run 06                        **
  ************************************************

  W/E COMMAND             HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                  min     ha   '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                  5.0
    [ Ptot=108.68 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\a49e86be-ba47-4
e08-bed9-d687f5c
    remark: 100yr24hr

*
 ** CALIB NASHYD         0127  1  5.0    1.90    0.10 12.33  31.60 0.29   0.000
    [CN=51.7         ]
    [ N = 3.0:Tp 0.35]
*
    READ STORM                  5.0
    [ Ptot=108.68 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\a49e86be-ba47-4
e08-bed9-d687f5c
    remark: 100yr24hr

*
 *  CALIB STANDHYD       0128  1  5.0    1.40    0.40 12.08  91.98 0.85   0.000
    [I%=80.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0132  1  5.0    1.40    0.02 13.08  90.67  n/a   0.000
*
    ADD [  0127+  0132]  0133  3  5.0    3.30    0.12 12.33  56.66  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot=108.68 mm ]
```

```
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\a49e86be-ba47-4
e08-bed9-d687f5c
    remark: 100yr24hr

*
 *  CALIB NASHYD         0116  1  5.0   14.90    0.43 13.08  37.79 0.35   0.000
    [CN=58.1         ]
    [ N = 3.0:Tp 1.02]
*
 ** Reservoir
    OUTFLOW:             0134  1  5.0   14.90    0.22 14.58  37.76  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot=108.68 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\a49e86be-ba47-4
e08-bed9-d687f5c
    remark: 100yr24hr

*
 *  CALIB NASHYD         0129  1  5.0    4.80    0.19 12.50  32.25 0.30   0.000
    [CN=52.4         ]
    [ N = 3.0:Tp 0.53]
*
    READ STORM                  5.0
    [ Ptot=108.68 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\a49e86be-ba47-4
e08-bed9-d687f5c
    remark: 100yr24hr

*
 *  CALIB NASHYD         0130  1  5.0    1.60    0.13 12.08  32.49 0.30   0.000
    [CN=52.8         ]
    [ N = 3.0:Tp 0.17]
*
    READ STORM                  5.0
    [ Ptot=108.68 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\874603d1-4561-4072-8010-cf1e29847aed\a49e86be-ba47-4
e08-bed9-d687f5c
    remark: 100yr24hr

*
 *  CALIB NASHYD         0131  1  5.0    1.20    0.07 12.25  31.50 0.29   0.000
    [CN=51.6         ]
    [ N = 3.0:Tp 0.30]
*
    ADD [  0129+  0130]  0136  3  5.0    6.40    0.26 12.17  32.31  n/a   0.000
```

```
*
    ADD [  0136+  0131]  0136  1  5.0    7.60    0.33 12.25  32.18  n/a   0.000
*
    ADD [  0134+  0136]  0137  3  5.0   22.50    0.35 12.25  35.87  n/a   0.000
*
 FINISH

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

POST CHI
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======================

```
       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
```


***** S U M M A R Y O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

Output filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\00a2b5d3-9879-4291-aa67-44dd459ab86b\scenario
Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\00a2b5d3-9879-4291-aa67-44dd459ab86b\scenario

DATE: 05/30/2023 TIME: 10:58:22

USER:

COMMENTS: _____

```
  ********************************************
  ** SIMULATION : Run 01                     **
  ********************************************
```

W/E	COMMAND	HYD ID	DT min	AREA ha	' Qpeak ' cms	Tpeak hrs	R.V. mm	R.C.	Qbase cms
	START @ 0.00 hrs								

```
    READ STORM                 10.0
    [ Ptot= 25.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\578b8256-516a-4
0f4-b627-32a6acd
    remark: 25MM4HR

*
 ** CALIB NASHYD         0428  1  5.0    1.90    0.01  1.75   1.58 0.06   0.000
    [CN=51.7         ]
    [ N = 3.0:Tp 0.35]
*
    READ STORM                 10.0
    [ Ptot= 25.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\578b8256-516a-4
0f4-b627-32a6acd
    remark: 25MM4HR

*
 *  CALIB STANDHYD       0430  1  5.0    1.40    0.18  1.33  19.46 0.78   0.000
    [I%=80.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0425  1  5.0    1.40    0.00  4.00  18.14  n/a   0.000
*
    ADD [  0425+  0428]  0421  3  5.0    3.30    0.01  1.83   8.61  n/a   0.000
*
    READ STORM                 10.0
    [ Ptot= 25.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\578b8256-516a-4
0f4-b627-32a6acd
    remark: 25MM4HR

*
 *  CALIB NASHYD         0420  1  5.0    1.20    0.00  1.67   1.57 0.06   0.000
    [CN=51.6         ]
    [ N = 3.0:Tp 0.30]
*
    READ STORM                 10.0
    [ Ptot= 25.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\578b8256-516a-4
0f4-b627-32a6acd
    remark: 25MM4HR

*
 *  CALIB NASHYD         0422  1  5.0    4.80    0.01  2.00   1.63 0.07   0.000
    [CN=52.4         ]
```

```
    [ N = 3.0:Tp 0.53]
*
    READ STORM                 10.0
    [ Ptot= 25.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\578b8256-516a-4
0f4-b627-32a6acd
    remark: 25MM4HR

*
 *  CALIB NASHYD         0423  1  5.0    1.60    0.01  1.50   1.65 0.07   0.000
    [CN=52.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0420+  0422]  0426  3  5.0    6.00    0.02  1.92   1.61  n/a   0.000
*
    ADD [  0426+  0423]  0426  1  5.0    7.60    0.02  1.75   1.62  n/a   0.000
*
    READ STORM                 10.0
    [ Ptot= 25.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\578b8256-516a-4
0f4-b627-32a6acd
    remark: 25MM4HR

*
 *  CALIB NASHYD         0429  1  5.0   14.90    0.03  2.75   2.07 0.08   0.000
    [CN=58.1         ]
    [ N = 3.0:Tp 1.02]
*
 ** Reservoir
    OUTFLOW:             0424  1  5.0   14.90    0.01  4.92   2.04  n/a   0.000
*
    ADD [  0424+  0426]  0427  3  5.0   22.50    0.02  1.83   1.90  n/a   0.000
*
================================================================================
=======================


       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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```

***** S U M M A R Y O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

Output filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\0ec74478-469b-47e3-beae-d7fbfb08ed61\scenario
Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\0ec74478-469b-47e3-beae-d7fbfb08ed61\scenario

DATE: 05/30/2023 TIME: 10:58:21

USER:

COMMENTS: _____

```
  ********************************************
  ** SIMULATION : Run 02                     **
  ********************************************

  W/E COMMAND             HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                  min     ha   '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                  5.0
    [ Ptot= 33.20 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\984828e2-3cd6-4
604-9746-f9995f4
    remark: Peterborough Airport 2 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0428  1  5.0    1.90    0.01  1.83   3.03 0.09   0.000
    [CN=51.7         ]
    [ N = 3.0:Tp 0.35]
*
    READ STORM                  5.0
    [ Ptot= 33.20 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\984828e2-3cd6-4
```

```
604-9746-f9995f4
    remark: Peterborough Airport 2 year 4 hr CHICAGO Type Storm

*
 *  CALIB STANDHYD       0430  1  5.0    1.40    0.29  1.33  26.30 0.79   0.000
    [I%=80.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0425  1  5.0    1.40    0.00  4.00  24.98  n/a   0.000
*
    ADD [  0425+  0428]  0421  3  5.0    3.30    0.01  1.83  12.34  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 33.20 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\984828e2-3cd6-4
604-9746-f9995f4
    remark: Peterborough Airport 2 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0420  1  5.0    1.20    0.01  1.75   3.01 0.09   0.000
    [CN=51.6         ]
    [ N = 3.0:Tp 0.30]
*
    READ STORM                  5.0
    [ Ptot= 33.20 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\984828e2-3cd6-4
604-9746-f9995f4
    remark: Peterborough Airport 2 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0422  1  5.0    4.80    0.02  2.08   3.11 0.09   0.000
    [CN=52.4         ]
    [ N = 3.0:Tp 0.53]
*
    READ STORM                  5.0
    [ Ptot= 33.20 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\984828e2-3cd6-4
604-9746-f9995f4
    remark: Peterborough Airport 2 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0423  1  5.0    1.60    0.01  1.58   3.15 0.09   0.000
    [CN=52.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0420+  0422]  0426  3  5.0    6.00    0.03  2.00   3.09  n/a   0.000
*
```

```
    ADD [  0426+  0423]  0426  1  5.0    7.60    0.04  1.83   3.10  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 33.20 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\984828e2-3cd6-4
604-9746-f9995f4
    remark: Peterborough Airport 2 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0429  1  5.0   14.90    0.06  2.75   3.89 0.12   0.000
    [CN=58.1         ]
    [ N = 3.0:Tp 1.02]
*
 ** Reservoir
    OUTFLOW:             0424  1  5.0   14.90    0.02  5.00   3.86  n/a   0.000
*
    ADD [  0424+  0426]  0427  3  5.0   22.50    0.04  1.92   3.61  n/a   0.000
*
================================================================================
=======================


       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                 *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\81ca3c71-
7470-4455-bed2-ca423fab7cc7\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\81ca3c71-
7470-4455-bed2-ca423fab7cc7\scenario
```

DATE: 05/30/2023 TIME: 10:58:21

USER:

COMMENTS: _____

```
  ********************************************
  ** SIMULATION : Run 03                     **
  ********************************************

  W/E COMMAND             HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                  min     ha   '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                  5.0
    [ Ptot= 45.90 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\31176508-2741-4
8fe-bb9d-463d4a0
    remark: Peterborough Airport 5 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0428  1  5.0    1.90    0.02  1.83   6.06 0.13   0.000
    [CN=51.7         ]
    [ N = 3.0:Tp 0.35]
*
    READ STORM                  5.0
    [ Ptot= 45.90 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\31176508-2741-4
8fe-bb9d-463d4a0
    remark: Peterborough Airport 5 year 4 hr CHICAGO Type Storm

*
 *  CALIB STANDHYD       0430  1  5.0    1.40    0.42  1.33  37.01 0.81   0.000
    [I%=80.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0425  1  5.0    1.40    0.01  4.00  35.70  n/a   0.000
*
    ADD [  0425+  0428]  0421  3  5.0    3.30    0.03  1.83  18.63  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 45.90 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\31176508-2741-4
```

```
8fe-bb9d-463d4a0
    remark: Peterborough Airport 5 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0420  1  5.0    1.20    0.02  1.75   6.03 0.13   0.000
    [CN=51.6         ]
    [ N = 3.0:Tp 0.30]
*
    READ STORM                  5.0
    [ Ptot= 45.90 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\31176508-2741-4
8fe-bb9d-463d4a0
    remark: Peterborough Airport 5 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0422  1  5.0    4.80    0.05  2.08   6.21 0.14   0.000
    [CN=52.4         ]
    [ N = 3.0:Tp 0.53]
*
    READ STORM                  5.0
    [ Ptot= 45.90 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\31176508-2741-4
8fe-bb9d-463d4a0
    remark: Peterborough Airport 5 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0423  1  5.0    1.60    0.03  1.50   6.28 0.14   0.000
    [CN=52.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0420+  0422]  0426  3  5.0    6.00    0.06  1.92   6.18  n/a   0.000
*
    ADD [  0426+  0423]  0426  1  5.0    7.60    0.08  1.75   6.20  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 45.90 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\31176508-2741-4
8fe-bb9d-463d4a0
    remark: Peterborough Airport 5 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0429  1  5.0   14.90    0.12  2.75   7.64 0.17   0.000
    [CN=58.1         ]
    [ N = 3.0:Tp 1.02]
*
 ** Reservoir
    OUTFLOW:             0424  1  5.0   14.90    0.04  4.83   7.61  n/a   0.000
```

```
*
    ADD [  0424+  0426]  0427  3  5.0   22.50    0.08  1.83   7.13  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\bd767fcd-
8d3c-4301-be1a-90c6a19a780b\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\bd767fcd-
8d3c-4301-be1a-90c6a19a780b\scenario


DATE: 05/30/2023                          TIME: 10:58:22

USER:


COMMENTS: _____________________________________________________________


  ********************************************
  ** SIMULATION : Run 04                     **
  ********************************************

  W/E COMMAND            HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                 min     ha   '  cms   hrs     mm          cms
```

```
      START @  0.00 hrs
      --------------------
    READ STORM                  5.0
    [ Ptot= 54.30 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\444df6c5-7041-4
2b5-aa35-71661f7
    remark: Peterborough Airport 10 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0428  1  5.0    1.90    0.03  1.75   8.53 0.16   0.000
    [CN=51.7         ]
    [ N = 3.0:Tp 0.35]
*
    READ STORM                  5.0
    [ Ptot= 54.30 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\444df6c5-7041-4
2b5-aa35-71661f7
    remark: Peterborough Airport 10 year 4 hr CHICAGO Type Storm

*
 *  CALIB STANDHYD       0430  1  5.0    1.40    0.50  1.33  44.18 0.81   0.000
    [I%=80.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0425  1  5.0    1.40    0.01  4.00  42.87  n/a   0.000
*
    ADD [  0425+  0428]  0421  3  5.0    3.30    0.04  1.83  23.10  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 54.30 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\444df6c5-7041-4
2b5-aa35-71661f7
    remark: Peterborough Airport 10 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0420  1  5.0    1.20    0.02  1.75   8.49 0.16   0.000
    [CN=51.6         ]
    [ N = 3.0:Tp 0.30]
*
    READ STORM                  5.0
    [ Ptot= 54.30 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\444df6c5-7041-4
2b5-aa35-71661f7
    remark: Peterborough Airport 10 year 4 hr CHICAGO Type Storm

*
```

```
 *  CALIB NASHYD         0422  1  5.0    4.80    0.07  2.00   8.74 0.16   0.000
    [CN=52.4         ]
    [ N = 3.0:Tp 0.53]
*
    READ STORM                  5.0
    [ Ptot= 54.30 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\444df6c5-7041-4
2b5-aa35-71661f7
    remark: Peterborough Airport 10 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0423  1  5.0    1.60    0.04  1.50   8.83 0.16   0.000
    [CN=52.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0420+  0422]  0426  3  5.0    6.00    0.08  1.92   8.69  n/a   0.000
*
    ADD [  0426+  0423]  0426  1  5.0    7.60    0.11  1.75   8.72  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 54.30 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\444df6c5-7041-4
2b5-aa35-71661f7
    remark: Peterborough Airport 10 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0429  1  5.0   14.90    0.16  2.75  10.65 0.20   0.000
    [CN=58.1         ]
    [ N = 3.0:Tp 1.02]
*
 ** Reservoir
    OUTFLOW:             0424  1  5.0   14.90    0.07  4.75  10.62  n/a   0.000
*
    ADD [  0424+  0426]  0427  3  5.0   22.50    0.11  1.83   9.98  n/a   0.000
*
================================================================================
=======================


       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
```

```
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\90090db7-
fd6f-4851-9834-be4eeedd493c\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\90090db7-
fd6f-4851-9834-be4eeedd493c\scenario


DATE: 05/30/2023                           TIME: 10:58:21

USER:


COMMENTS: _____________________________________________________________


  ************************************************
  ** SIMULATION : Run 05                         **
  ************************************************

  W/E COMMAND             HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                  min     ha   '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                  5.0
    [ Ptot= 64.90 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\4b6bb582-fe46-4
960-ae22-bb3b5f8
    remark: Peterborough Airport 25 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0428  1  5.0    1.90    0.05  1.75  12.13 0.19   0.000
    [CN=51.7         ]
    [ N = 3.0:Tp 0.35]
*
    READ STORM                  5.0
    [ Ptot= 64.90 mm ]
```

```
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\4b6bb582-fe46-4
960-ae22-bb3b5f8
    remark: Peterborough Airport 25 year 4 hr CHICAGO Type Storm

*
 *  CALIB STANDHYD       0430  1  5.0    1.40    0.62  1.33  53.33 0.82   0.000
    [I%=80.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0425  1  5.0    1.40    0.01  3.92  52.02  n/a   0.000
*
    ADD [  0425+  0428]  0421  3  5.0    3.30    0.06  1.83  29.05  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 64.90 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\4b6bb582-fe46-4
960-ae22-bb3b5f8
    remark: Peterborough Airport 25 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0420  1  5.0    1.20    0.03  1.75  12.08 0.19   0.000
    [CN=51.6         ]
    [ N = 3.0:Tp 0.30]
*
    READ STORM                  5.0
    [ Ptot= 64.90 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\4b6bb582-fe46-4
960-ae22-bb3b5f8
    remark: Peterborough Airport 25 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0422  1  5.0    4.80    0.10  2.00  12.42 0.19   0.000
    [CN=52.4         ]
    [ N = 3.0:Tp 0.53]
*
    READ STORM                  5.0
    [ Ptot= 64.90 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\4b6bb582-fe46-4
960-ae22-bb3b5f8
    remark: Peterborough Airport 25 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0423  1  5.0    1.60    0.06  1.50  12.54 0.19   0.000
    [CN=52.8         ]
    [ N = 3.0:Tp 0.17]
*
```

```
    ADD [  0420+  0422]  0426  3  5.0    6.00    0.12  1.92  12.35  n/a   0.000
*
    ADD [  0426+  0423]  0426  1  5.0    7.60    0.16  1.75  12.39  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 64.90 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\4b6bb582-fe46-4
960-ae22-bb3b5f8
    remark: Peterborough Airport 25 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0429  1  5.0   14.90    0.23  2.67  14.99 0.23   0.000
    [CN=58.1         ]
    [ N = 3.0:Tp 1.02]
*
 ** Reservoir
    OUTFLOW:             0424  1  5.0   14.90    0.11  4.58  14.96  n/a   0.000
*
    ADD [  0424+  0426]  0427  3  5.0   22.50    0.16  1.83  14.09  n/a   0.000
*
================================================================================
=======================


       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\2c25e632-
fae0-4196-8664-e7a47128efe9\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\2c25e632-
```

fae0-4196-8664-e7a47128efe9\scenario

DATE: 05/30/2023 TIME: 10:58:21

USER:

COMMENTS: _____

```
  ************************************************
  ** SIMULATION : Run 06                        **
  ************************************************

  W/E COMMAND             HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                  min     ha   '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                   5.0
    [ Ptot= 72.80 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\5bc2df2a-c1d0-4
dbd-aa2d-eba09b6
    remark: Peterborough Airport 50 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0428  1  5.0    1.90    0.06  1.75  15.13 0.21   0.000
    [CN=51.7         ]
    [ N = 3.0:Tp 0.35]
*
    READ STORM                   5.0
    [ Ptot= 72.80 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\5bc2df2a-c1d0-4
dbd-aa2d-eba09b6
    remark: Peterborough Airport 50 year 4 hr CHICAGO Type Storm

*
 *  CALIB STANDHYD       0430  1  5.0    1.40    0.70  1.33  60.21 0.83   0.000
    [I%=80.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0425  1  5.0    1.40    0.02  3.58  58.89  n/a   0.000
*
    ADD [  0425+  0428]  0421  3  5.0    3.30    0.07  1.83  33.69  n/a   0.000
*
    READ STORM                   5.0
    [ Ptot= 72.80 mm ]
```

```
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\5bc2df2a-c1d0-4
dbd-aa2d-eba09b6
    remark: Peterborough Airport 50 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0420  1  5.0    1.20    0.04  1.67  15.07 0.21   0.000
    [CN=51.6         ]
    [ N = 3.0:Tp 0.30]
*
    READ STORM                  5.0
    [ Ptot= 72.80 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\5bc2df2a-c1d0-4
dbd-aa2d-eba09b6
    remark: Peterborough Airport 50 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0422  1  5.0    4.80    0.12  2.00  15.48 0.21   0.000
    [CN=52.4         ]
    [ N = 3.0:Tp 0.53]
*
    READ STORM                  5.0
    [ Ptot= 72.80 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\5bc2df2a-c1d0-4
dbd-aa2d-eba09b6
    remark: Peterborough Airport 50 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0423  1  5.0    1.60    0.08  1.50  15.62 0.21   0.000
    [CN=52.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0420+  0422]  0426  3  5.0    6.00    0.15  1.92  15.40  n/a   0.000
*
    ADD [  0426+  0423]  0426  1  5.0    7.60    0.20  1.75  15.44  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 72.80 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\5bc2df2a-c1d0-4
dbd-aa2d-eba09b6
    remark: Peterborough Airport 50 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0429  1  5.0   14.90    0.29  2.67  18.56 0.25   0.000
    [CN=58.1         ]
    [ N = 3.0:Tp 1.02]
*
```

```
 ** Reservoir
    OUTFLOW:             0424  1  5.0   14.90    0.14  4.42  18.53  n/a   0.000
*
    ADD [  0424+  0426]  0427  3  5.0   22.50    0.20  1.83  17.49  n/a   0.000
*
================================================================================
=======================


       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\406be1db-
a0f7-477f-9234-49b2b23f2654\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\406be1db-
a0f7-477f-9234-49b2b23f2654\scenario


DATE: 05/30/2023                          TIME: 10:58:21

USER:


COMMENTS: _____________________________________________________________


  ************************************************
  ** SIMULATION : Run 07                         **
  ************************************************

  W/E COMMAND            HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
```

```
                                 min     ha    '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                  5.0
    [ Ptot= 80.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\0ae3e89b-d461-4
d83-8c55-6f30300
    remark: Peterborough Airport 100 year 4 hr CHICAGO Type Storm

*
 ** CALIB NASHYD         0428  1  5.0    1.90    0.07  1.75  18.33 0.23   0.000
    [CN=51.7         ]
    [ N = 3.0:Tp 0.35]
*
    READ STORM                  5.0
    [ Ptot= 80.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\0ae3e89b-d461-4
d83-8c55-6f30300
    remark: Peterborough Airport 100 year 4 hr CHICAGO Type Storm

*
 *  CALIB STANDHYD       0430  1  5.0    1.40    0.78  1.33  67.04 0.83   0.000
    [I%=80.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0425  1  5.0    1.40    0.02  3.42  65.72  n/a   0.000
*
    ADD [  0425+  0428]  0421  3  5.0    3.30    0.09  1.83  38.44  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 80.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\0ae3e89b-d461-4
d83-8c55-6f30300
    remark: Peterborough Airport 100 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0420  1  5.0    1.20    0.05  1.67  18.27 0.23   0.000
    [CN=51.6         ]
    [ N = 3.0:Tp 0.30]
*
    READ STORM                  5.0
    [ Ptot= 80.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\0ae3e89b-d461-4
d83-8c55-6f30300
    remark: Peterborough Airport 100 year 4 hr CHICAGO Type Storm
```

```
*
 *  CALIB NASHYD         0422  1  5.0    4.80    0.15  2.00  18.74 0.23   0.000
    [CN=52.4         ]
    [ N = 3.0:Tp 0.53]
*
    READ STORM                  5.0
    [ Ptot= 80.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\0ae3e89b-d461-4
d83-8c55-6f30300
    remark: Peterborough Airport 100 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0423  1  5.0    1.60    0.10  1.50  18.91 0.23   0.000
    [CN=52.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0420+  0422]  0426  3  5.0    6.00    0.19  1.92  18.65  n/a   0.000
*
    ADD [  0426+  0423]  0426  1  5.0    7.60    0.24  1.75  18.70  n/a   0.000
*
    READ STORM                  5.0
    [ Ptot= 80.60 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\0ae3e89b-d461-4
d83-8c55-6f30300
    remark: Peterborough Airport 100 year 4 hr CHICAGO Type Storm

*
 *  CALIB NASHYD         0429  1  5.0   14.90    0.35  2.67  22.35 0.28   0.000
    [CN=58.1         ]
    [ N = 3.0:Tp 1.02]
*
 ** Reservoir
    OUTFLOW:             0424  1  5.0   14.90    0.17  4.42  22.32  n/a   0.000
*
    ADD [  0424+  0426]  0427  3  5.0   22.50    0.25  1.75  21.10  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
```

```
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  S U M M A R Y   O U T P U T  *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

  Output  filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\0f620a2c-
789c-471c-aeea-84d29185194b\scenario
  Summary filename:
C:\Users\hyu\AppData\Local\Civica\VH5\02affa9e-94d9-4ab3-ac39-951dc9cd4f54\0f620a2c-
789c-471c-aeea-84d29185194b\scenario


DATE: 05/30/2023                          TIME: 10:58:22

USER:


COMMENTS: _____________________________________________________________


  ************************************************
  ** SIMULATION : Run 08                         **
  ************************************************

  W/E COMMAND             HYD ID   DT    AREA  ' Qpeak Tpeak   R.V. R.C.   Qbase
                                  min     ha   '  cms   hrs     mm          cms

      START @  0.00 hrs
      --------------------
    READ STORM                  6.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\4f654bc3-dac8-4
e39-b67a-93ec785
    remark: Timmins Storm  event   mm/hr

*
 ** CALIB NASHYD         0428  1  5.0    1.90    0.11  7.08  83.20 0.43   0.000
    [CN=51.7         ]
    [ N = 3.0:Tp 0.35]
*
```

```
    READ STORM                  6.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\4f654bc3-dac8-4
e39-b67a-93ec785
    remark: Timmins Storm  event   mm/hr

*
 *  CALIB STANDHYD       0430  1  5.0    1.40    0.15  7.00 169.22 0.88   0.000
    [I%=80.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0425  1  5.0    1.40    0.06  9.08 167.90  n/a   0.000
*
    ADD [  0425+  0428]  0421  3  5.0    3.30    0.15  7.08 119.13  n/a   0.000
*
    READ STORM                  6.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\4f654bc3-dac8-4
e39-b67a-93ec785
    remark: Timmins Storm  event   mm/hr

*
 *  CALIB NASHYD         0420  1  5.0    1.20    0.07  7.00  82.99 0.43   0.000
    [CN=51.6         ]
    [ N = 3.0:Tp 0.30]
*
    READ STORM                  6.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\4f654bc3-dac8-4
e39-b67a-93ec785
    remark: Timmins Storm  event   mm/hr

*
 *  CALIB NASHYD         0422  1  5.0    4.80    0.24  7.25  84.54 0.44   0.000
    [CN=52.4         ]
    [ N = 3.0:Tp 0.53]
*
    READ STORM                  6.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\4f654bc3-dac8-4
e39-b67a-93ec785
    remark: Timmins Storm  event   mm/hr

*
 *  CALIB NASHYD         0423  1  5.0    1.60    0.10  7.00  84.98 0.44   0.000
    [CN=52.8         ]
```

```
    [ N = 3.0:Tp 0.17]
*
    ADD [  0420+  0422]  0426  3  5.0    6.00    0.31  7.17  84.23  n/a   0.000
*
    ADD [  0426+  0423]  0426  1  5.0    7.60    0.40  7.08  84.39  n/a   0.000
*
    READ STORM                  6.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\hyu\AppData\Local\Temp\bd657ac2-bf5e-416a-a22d-609b9f756a9b\4f654bc3-dac8-4
e39-b67a-93ec785
    remark: Timmins Storm  event   mm/hr

*
 *  CALIB NASHYD         0429  1  5.0   14.90    0.67  7.92  95.62 0.50   0.000
    [CN=58.1         ]
    [ N = 3.0:Tp 1.02]
*
 ** Reservoir
    OUTFLOW:             0424  1  5.0   14.90    0.54 10.08  95.59  n/a   0.000
*
    ADD [  0424+  0426]  0427  3  5.0   22.50    0.78  9.08  91.81  n/a   0.000
*
 FINISH

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