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11476 Highway 26

STORMWATER MANAGEMENT REPORT

Integricon Property Restoration and Construction Group Inc.

File 120232 | June 26, 2025

Document Control

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Date: **June 26, 2025**		

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Issue	Date	Description
1	February 17, 2023	Issued for SPA – 1st Submission
2	June 26, 2025	Issued for SPA 2nd Submission

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1 Introduction

Tatham Engineering Limited (Tatham) has been retained by Integricon Property Restoration and Construction Group Inc. to complete a Stormwater Management Report in support of a proposed condominium development (formerly the Beacon Glow Motel) located in the Town of Collingwood (Town).

1.1 OBJECTIVES

The primary object of this report is to demonstrate how the proposed SWM plan will address any potentially adverse impacts the development may have on surrounding water resources, specifically, local surface water features and surface water quality.

1.2 BACKGROUND & GUIDANCE REPORTS

The proposed SWM plan was developed in recognition of applicable Municipal and Provincial guidelines and relevant background documents including:

- Ministry of the Environment, Conservation and Parks (MECP), formerly the Ministry of the Environment (MOE), *Stormwater Management Practices and Design Manual* 2003*;*
- Sustainable Technologies Evaluation Program (STEP), *Low Impact Development Stormwater Management Planning and Design Guide*, 2010;
- Corporation of the Town of Collingwood, *Development Standards* (July 2007 Version, August 2022 amendments);
- Nottawasaga Valley Conservation Authority (NVCA), *Stormwater Technical Guide:* December 2013*;* and
- Ainley and Associates Ltd., *Lighthouse Point (Collingwood) 'As-Constructed' Engineering Drawings*, 1991.

This report was also prepared utilizing the following site-specific background reports and studies:

- DS Consultants Ltd. (DS Consultants), *Geotechnical Investigation Proposed Residential Buildings 11476 Highway 26 Collingwood, Ontario, 2022*;
- DS Consultants Ltd., *Preliminary Hydrogeological Investigation, Proposed Residential and Commercial Development 11476 Highway 26, Collingwood, Ontario*, dated February 15, 2023;
- DS Consultants Ltd., *Surface Water and Groundwater Level Monitoring, 11476 Highway 26, Collingwood, Ontario*, dated October 18, 2024;

- DS Consultants Ltd., *Surface Water and Groundwater Level Monitoring, Wetland Risk Evaluation and Feature Based Water Balance Study, 11476 Highway 26, Collingwood, Ontario*, dated April 21, 2025;
- LGL Limited Environmental Research Associates, *Environmental Impact Study Report*, June 2025;
- Tatham Engineering Limited, *Functional Servicing Report*, February 2023;
- Tatham Engineering Limited, *Traffic Impact Study*, February 2023;
- Tatham Engineering Limited, *Parking Justification Study*, February 2023;
- Tatham Engineering Limited, *Water Taking and Discharge Plan*, June 2025;
- Tatham Engineering Limited, *Soil Management Plan*, June 2025; and
- Tatham Engineering Limited, *Construction Management Plan*, June 2025.

2 Development Site

2.1 SITE LOCATION

The site is located on Highway 26 approximately 0.8 km east of Princeton Shore Boulevard in the Town of Collingwood, County of Simcoe. The legal description of the site is Part 1 of plan 51R-27666. More specifically, the property is approximately 2.7 hectares (ha) and is surrounded by the Lighthouse Point Development on all sides excluding Highway 26. The site is bounded by Highway 26 to the South, Johnston Park Avenue to the North, Waterfalls Lane to the East and existing medium density residential properties to the west as illustrated in Figure 1.

2.2 SITE CONDITIONS

The site was formerly known as the Beacon Glow Motel and consisted of approximately two dozen motel units, an office, modest amenities, and parking. The property has since been vacant for several years and is covered in tall grass, moderate vegetation, and trees as well as coastal shoreline wetlands in the north portion. The *Environmental Impact Study Report* was completed and provides a detailed description of the existing wetland and adjacent environmental features.

The topography of the site generally slopes to the northeast and northwest corners of the site, directing storm runoff towards Johnston Park Avenue. Due to existing grades, it is expected that some of the flow will drain internally due to low areas. Overland flow from the property travels North and eventually drains to Georgian Bay located approximately 200 m from the site.

2.3 SUBSURFACE CONDITIONS

A geotechnical investigation prepared by DS Consulting revealed the underlying soils to consist of topsoil, silty sand, sandy gravel before reaching bedrock at approximately 0.9 metres to 1.6 metres below grade. Ground water elevations are estimated to be approximately 0.7 metres and 0.9 metres below grade.

2.4 PROPOSED BUILDING

The proposed building features two 6-storey, 100 and 94-unit residential buildings connected by a ground floor common area including a pub, lounge, exercise facilities and changerooms. The roof will consist of mechanical rooms, a lounge, and washrooms. Site access will be provided by a private driveway access from Highway 26. The majority of the property will remain in its current state in order to preserve the designated coastal wetland as identified above in Section 2.2.

3 Existing Drainage Conditions

3.1 BACKGROUND INFORMATION

Information relating to existing topography, land cover and drainage patterns was obtained through a review of available plans and base mapping followed by a detailed topographic survey of the property in 2014.

3.2 LAND COVER & DRAINAGE PATTERNS

As mentioned, the site is currently vacant and consists of the surface-water fed coastal shoreline wetlands, pasture, and woodland areas, as well as remnants of building foundations and driveway areas from the Beacon Glow Motel. The site is approximately 2.7 ha, however, due to the wetland and its associated 30.0 m buffer, approximately 0.87 ha has been deemed developable.

Site runoff is understood to drain overland towards an existing drainage easement along the western property boundary which was constructed in the late 1980's as part of the Lighthouse Point Development. The drainage easement drains to an existing 800 mm dia. CSP culvert at the northwest corner of the site which is connected to a series of 800 mm dia. CSP culverts which outlet directly to Georgian Bay, approximately 200 m from the site. Original design drawings for the drainage channel and culverts are provided in Appendix B for reference. Based on review of previous work Tatham completed for the site, approximately 5.9 ha of external area also currently drains to this culvert.

Based on review of the topographic survey, due to an existing berm, the existing 500 mm dia. culvert at the northeast quadrant of the site, crossing Johnston Park Avenue, is not utilized. As such, site runoff is understood to be captured within the existing wetlands. Runoff from approximately 1.9 ha of external area is believed to be conveyed within existing ditching along Lighthouse Lane and drain through this culvert bypassing the site and, therefore, has been excluded from the hydrologic assessment.

The site is located within the Nottawasaga Valley Conservation Authority (NVCA) watershed and due to the existing wetland, is partially located within the NVCA's regulated area.

3.3 EXISTING HYDROLOGY

A hydrologic model was developed to quantify pre-development peak flows and estimate storage volumes within the existing wetland for the 1:2-year through 1:100-year design storms and Regional (Timmins) storm for the site using Visual OTTHYMO (VO 6.2) modelling software. The 4 hour Chicago (CHI) and 24 hour SCS Type II distributions were modelled using rainfall data

taken form the Owen Sound Atmospheric Environment Services in accordance with NVCA and Town standards.

The site has been modelled as two drainage catchments (Catchment 101 and Catchment 102) and assessed at one drainage point of interest (POI) location defined as the existing 800 mm dia. CSP culvert at the northwestern corner of the site (Outlet #1). Catchment 101 is approximately 0.87 ha and has an impervious ratio of 24%. Catchment 102 is approximately 2.23 ha and has an impervious ratio of 26%. Runoff from Catchment 101 and 102 drains north towards Outlet #1. External drainage areas have been modelled as nine drainage Catchments (Catchments 1, 3, 4, 5, 9, 20, 21, 22 and 23). Existing site drainage patterns are illustrated on the Pre-Development Drainage Plan (Drawing DP-1), provided in Appendix G while overall drainage patterns are illustrated on the Overall Drainage Plan (Drawing ODP-1) also provided in Appendix G for reference.

A summary of existing discharge rates for catchments 101, 102, and the downstream 800mm dia. Culvert at Outlet #1 are provided in Table 1 below while detailed model results are provided in Appendix B for reference.

Table 1: Discharge Rates Summary – Existing Conditions

STORM	DISCHARGE RATE (m^3/s) (CATCHMENT 101)		DISCHARGE RATE (m^3/s) (CATCHMENT 102)		DISCHARGE RATE (m^3/s) (OUTLET #1)	
	4-HR CHI	24-HR SCS	4-HR CHI	24-HR SCS	4-HR CHI	24-HR SCS
25 mm 4 -hour Chicago	0.006		0.014		0.080	
1:2-Year	0.012	0.014	0.028	0.026	0.200	0.291
1:5-Year	0.019	0.026	0.039	0.051	0.335	0.460
1:10-Year	0.027	0.034	0.053	0.070	0.442	0.568
1:25-Year	0.040	0.046	0.081	0.098	0.596	0.734
1:50-Year	0.051	0.057	0.106	0.120	0.724	0.862
1:100-Year	0.063	0.067	0.132	0.145	0.824	0.989
Regional (Timmins)	0.073		0.175		0.835	

4 Stormwater Management Plan

The proposed SWM plan has been developed to address any potentially adverse impacts the development may have on the local surface water features and on surface water quality to achieve the design criteria specified below.

4.1 STORMWATER MANAGEMENT DESIGN CRITERIA

This SWM report is subject to the review and approval of the Town and NVCA. The following design criteria are to be satisfied in the proposed SWM plan:

- Water quantity controls must be provided to ensure post-development peak flow rates do not exceed pre-development rates at any drainage outlet to ensure no adverse impacts to downstream landowners or surface water conditions;
- Water quality controls must be provided to satisfy the MECP SWM Planning and Design Manual. As such, "Enhanced" Level 1 water quality treatment is required which corresponds to 80% long-term total suspended solids (TSS) removal;
- Safe Conveyance of the Regulatory Storm event through the site to a sufficient outlet;
- In accordance with NVCA requirements, the equivalent runoff volume generated from impervious areas during the 5 mm storm must be retained on-site for erosion control;
- Pre and Post development water balance calculations with a target of achieving pre-development annual infiltration volumes through best-efforts strategies;
- A phosphorous budget analysis must be completed and where necessary, mitigation efforts be provided to ensure post-development phosphorous loads match pre-development loads; and
- A detailed siltation and erosion control strategy must be provided for implementation during all construction activities.

4.2 PROPOSED HYDROLOGY

The SWM Plan was developed recognizing the wetland portion of the site should not be used as storm water attenuation. Under proposed conditions, drainage for the developed portion of the site (Catchment 201) will be directed through an underground storm water retention chamber and then be pumped/drained west towards the existing drainage easement, before draining through the existing culvert at the northwest of the property. In the undeveloped portion of the site (Catchment 202), existing foundation and asphalt will be removed and the area restored to wetland buffer, existing draining patterns will continue.

The site has been modelled as two drainage catchments (Catchment 201 and Catchment 202) and assessed at one drainage point of interest (POI) location defined as the existing 800 mm dia. CSP culvert at the northwestern corner of the site (Outlet #1). Catchment 201 is approximately 0.87 ha and has an impervious ratio of 73%. Catchment 202 is approximately 2.23 ha and has an impervious ratio of 14%. Runoff from Catchment 201 and 202 drains northwest towards Outlet #1. External drainage will continue to be conveyed through the existing drainage easement along the western property boundary to Outlet #1. Post-development drainage patterns are illustrated on the Post-Development Catchment Plan (Drawing DP-2) provided in Appendix G for reference.

4.3 WATER QUANTITY CONTROL

An underground storm water attenuation chamber will be implemented to provide the requisite water quantity control for the development. The chamber will contain a pump that will discharge stormwater at a constant rate, as well as an overflow orifice near the top of the tank to provide discharge during high volume storm events. The design parameters of the proposed chamber can be found in Table 2. Detailed design calculations and the stage-storage-discharge relationship can be found in Appendix C for reference.

Table 2: Stormwater Attenuation Chamber Design Parameters

PARAMETER	VALUE
Base of Module Elevation (masl)	177.50
Module Footprint (m^2)	150
Module Height (m)	2
Module Volume (m^3)	300
Invert of Pump (from base of module) (m)	0.05
Pump rate (L/s)	10
Overflow Orifice dia. (mm)	250
Invert of Overflow Orifice (from base of module) (m)	1.5

A summary of peak flows and storage volumes at the outlet of Catchment 201, 202 (outlet of storage chamber), and Outlet #1 under existing and proposed conditions is provided in Table 3 below while detailed model results are provided in Appendix C for reference.

Table 3: Discharge Rates and Chamber Storage Volumes Summary – Proposed Conditions

STORM	DISCHARGE RATE (m^3/s) (CATCHMENT 201/NODE 401)		DISCHARGE RATE (m^3/s) (CATCHMENT 202)		DISCHARGE RATE (m^3/s) (OUTLET #1)		STORAGE VOLUME REQUIRED (m^3) (CHAMBER/NODE 401)	
	4-HR CHI	24-HR SCS	4-HR CHI	24-HR SCS	4-HR CHI	24-HR SCS	4-HR CHI	24-HR SCS
25 mm 4 -hour Chicago	0.010 (0.006)		0.005 *(0.014)*		0.076 *(0.070)*		70	
1:2-Year	0.010 *(0.012)*	0.010 *(0.014)*	0.013 *(0.028)*	0.022 *(0.026)*	0.183 *(0.200)*	0.276 *(0.291)*	120	110
1:5-Year	0.010 *(0.019)*	0.010 *(0.026)*	0.029 *(0.039)*	0.043 *(0.051)*	0.308 *(0.335)*	0.430 *(0.460)*	190	160
1:10-Year	0.012 *(0.027)*	0.010 *(0.034)*	0.044 *(0.053)*	0.059 *(0.070)*	0.408 *(0.442)*	0.529 *(0.568)*	230	190
1:25-Year	0.028 *(0.040)*	0.015 *(0.046)*	0.068 *(0.081)*	0.086 *(0.098)*	0.553 *(0.596)*	0.683 *(0.734)*	250	230
1:50-Year	0.043 *(0.051)*	0.025 *(0.057)*	0.090 *(0.106)*	0.107 *(0.120)*	0.673 *(0.724)*	0.798 *(0.862)*	260	250
1:100-Year	0.059 *(0.063)*	0.037 *(0.067)*	0.113 *(0.132)*	0.130 *(0.145)*	0.765 *(0.824)*	0.914 *(0.989)*	270	260
Regional (Timmins)	0.089 *(0.073)*		0.165 *(0.175)*		0.836 *(0.835)*		300	

Note 1: Values in italics denote existing condition discharge rates, storage volumes and water surface

As shown, the proposed stormwater attenuation chamber provides adequate peak flow attenuation for the majority of storm events. It is noted that proposed peak flows are marginally higher at the outlet culvert during the Timmins storm event; however, however this represents an increase of less than 1% from the pre-development peak discharge.

4.4 NVCA EROSION CONTROL CRITERIA

In developing the site, NVCA requires retaining 5 mm from all surfaces on the site for erosion control. The existing impervious areas being removed account for roughly 0.58 ha of existing hardscape. With removing and restoring the concrete and asphalt onsite within the 30 m wetland buffer, 0.37 ha of hardscape will be removed and restored. This will change the initial abstraction from 2 mm to 10 mm (assuming woods/transition), this will result in an additional 29.6 m^3 of initial abstraction provided for the site. This will offset the proposed 0.63 ha of new proposed impervious that requires retaining 5 mm (31.5 m^3 of storage). With this offset, and the 2 mm retained on the proposed hardscape (12.6 m^3), we note that the 42.2 m^3 retained on the site in the proposed condition exceeds the 31.5 m^3 required. Although the Water Balance Study prepared by GBS Ltd includes sections describing LID strategies, these measures to retain water on site cannot be implemented due to the high groundwater from the wetland and the constrained footprint of the underground parking area.

4.5 MINOR FLOW CONVEYANCE

Minor event runoff up to and including the 1:100-year storm event from the majority of the developed area within Catchment 201 will be collected via the internal storm sewer system and be conveyed to an oil grit separator (OGS) unit, see Appendix C for reference. Outflow from the OGS will be conveyed into an underground storm water chamber then discharge into the existing drainage easement along the west side of the property and flow north towards Outlet #1. Approximately 0.3 ha of rooftop area will be directly conveyed to the underground stormwater chamber.

Detailed end treatment calculations have been completed to adequately size erosion controls at the underground storm chamber discharge point and are provided in Appendix C for reference. Detailed sections are provided on the Details Plan (Drawing DE-1) provided in the engineering drawing set.

4.6 MAJOR FLOW CONVEYANCE

Parking Lot

The stormwater pipes for the rooftops and the parking lot have been sized for the 100-year storm event. In the event the inlets become clogged, runoff will pond up to the top of curb and then

proceed to overflow to the ditch along Highway 26. Maximum ponding depths will not exceed 0.3 m per the attached grading plan (Drawing SG-01).

West Drainage Easement

Under the proposed conditions all drainage from the developed portion of the site will discharge into the drainage easement on the west side of the property. Major and minor flow conveyance from Catchment 202 will continue to drain overland towards Outlet #1. Using available survey data the peak conveyance of the swale at the south end of the drainage easement was calculated to be 0.69 m^3/s. The existing contributing flow to the swale with the proposed development area during the Timmins storm is 0.68m^3/s. The existing swale will provide adequate capacity for the post development runoff of the developed site (0.07 m^3/s) to convey runoff for the regional storm event. Detailed calculations are provided in Appendix C for reference. Although the proposed development will decrease flows during all rainfall events slightly, it is expected the downstream culvert will continue to operate as it does currently with events overtopping the culvert and being conveyed along Johnston Park Avenue and directed to the lake.

4.7 WATER BALANCE

To evaluate the site's impact on the wetland and to assess the change in post-development to pre-development water balance, Geobase Solutions (GBS) has prepared a Feature Water Balance Study for the site (May 2025). Please refer to the report for the water balance assessment.

In summary, the GBS report includes sections which reference LIDs. However, the installation of LIDs outside of the wetland buffer were explored and initially thought to be a plausible approach, however, were eliminated due to the constrained developable limit, high groundwater table, shallow bedrock and underground parking limits.

Furthermore, the GBS report states the overall infiltration water balance deficiency is 435 cu.m/yr, which is relatively small and therefore negligible when considering the total annual volume of infiltration is 11,303 cu.m/yr and the total runoff is estimated at 24,557 cu.m/yr.

Additional water balance approaches can be further explored (i.e. grassed roof tops, deeper topsoil depths), however, as noted above, will not likely achieve the desired impacts to the overall assessment.

5 Water Quality Control

Enhanced level water quality control corresponding to 80% TSS removal is required for developed areas of the site. Water quality controls for the developed portion of Catchment 201 (exclusive of areas undisturbed by the proposed development) will be provided via a treatment train comprised of an OGS unit and the vegetated drainage easement.

The OGS unit is located downstream of CBMH-1 and upstream of the proposed stormwater storage chamber and will be used to treat only the run-off from the parking lot. It is specified as a Stormceptor EF04 unit which has been sized to provide up to 92% TSS removal for a contributing drainage of 0.25 ha and associated imperviousness of 100%. This area includes the entire surface parking area. It is noted that typically, water quality controls are not required for rooftop areas, as runoff generated from these areas are typically considered to be "clean". The location of the OGS and contributing drainage area is illustrated on Drawing DP-2 for reference.

With respect to the water quality treatment provided by the drainage easement, considering the shallow bottom slopes are between 0.1% to 0.3%, a TSS removal rate of 50% has been applied. Based on review of the Low Impact Development Stormwater Management Planning and Design Guide prepared by the Credit Valley Conservation (CVC) Authority, enhanced swales have been found to provide up to 76% TSS removal. However, as no rock check dams can be implemented due to conveyance requirements, sufficient contact time is anticipated to be provided within the ditch and easement to justify the reduced treatment level. As shown in Table 4, the proposed site controls will result in a total removal efficiency of 91.3%.

Table 4: Water Quality TSS Removal Summary

DESCRIPTION	AREA (ha)	OIL GRIT SEPARATOR	CONVEYANCE CONTROL	SWALE/ VEGETATED FILTER	TSS PERCENT REMOVAL
Parking Area	0.25	89%	-	50%	94.5%
Roof Tops and landscaping	0.62	-	80%	50%	90%
Total	0.87				91.3%

6 Phosphorous Mitigation

A preliminary phosphorus loading assessment has been completed for the site using loading rates and removal efficiency values from the NVCA Database Tool. Results are summarized below.

6.1 EXISTING CONDITIONS

Under existing conditions, the old motel site has been modelled as Transition, Wetland, Transportation, Open Water, Low-Intensity Residential, and High-Intensity Residential land uses. The corresponding loading rates are 0.07 kg/ha/year, 0.05 kg/ha/year, 1.82 kg/ha/year, 0.26 kg/ha/year, and 0.13 kg/ha/year, and 1.32 kg/ha/yr respectively. Applying this loading rate, the annual pre-development phosphorous load is 1.73 kg/year.

6.2 PROPOSED CONDITIONS

Under proposed conditions, the pavement, parking lot, and building areas have been modelled as High-Intensity Residential with a phosphorous loading rate of 1.32 kg/ha/year. The remaining site area has been modelled as Transition, Wetland, and Transportation. Applying this loading rate, the annual post-development phosphorous load is 1.47 kg/year.

Due to the constrained developable limit, high groundwater table, and underground parking limits, LID's were explored but ultimately could not be implemented within the developable area. Best efforts are proposed with an oil-grit separator, underground storage tank, and utilizing the 30m buffer from the wetland to the drainage easement to filter runoff before entering the easement and wetland. Therefore, the total annual post-development phosphorous load is reduced to 1.14 kg/year. A summary of the phosphorous loading for the pre-development, post-development without mitigation, and post-development with mitigation is provided in Table 3 below. Additional details are provided in Appendix E.

Table 5: Phosphorous Loading Summary

SCENARIO	AREA (ha)	PHOSPHOROUS LOADING (kg/year)
Pre-development	3.1	1.73
Post-Development (without mitigation)	3.1	1.47
Post-development (with mitigation)	3.1	1.14

7 Erosion & Sediment Control

7.1 EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION

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

- Minimize disturbance activities where possible;
- Expose the smallest possible land area to erosion for the shortest amount of time;
- Institute erosion control measures as required immediately;
- Implement sediment control measures before the outset of construction activities; and
- Carry out regular inspection of erosion/sediment control measures and repair or maintain, as necessary.

Erosion and Sediment Control measures shall be implemented in accordance with the Erosion Sediment Control Best Management Practices Guide and the Town of Collingwood Development Standards. As illustrated on the Erosion Control and Construction Coordination Plan (Drawing EC-1) provided in the engineering drawing set, the following erosion and sediment control practices will be implemented on site:

- Double-walled wired-backed sediment control fence;
- Construction access mat; and
- Heavy-duty silt fence surrounding the material stockpile area.

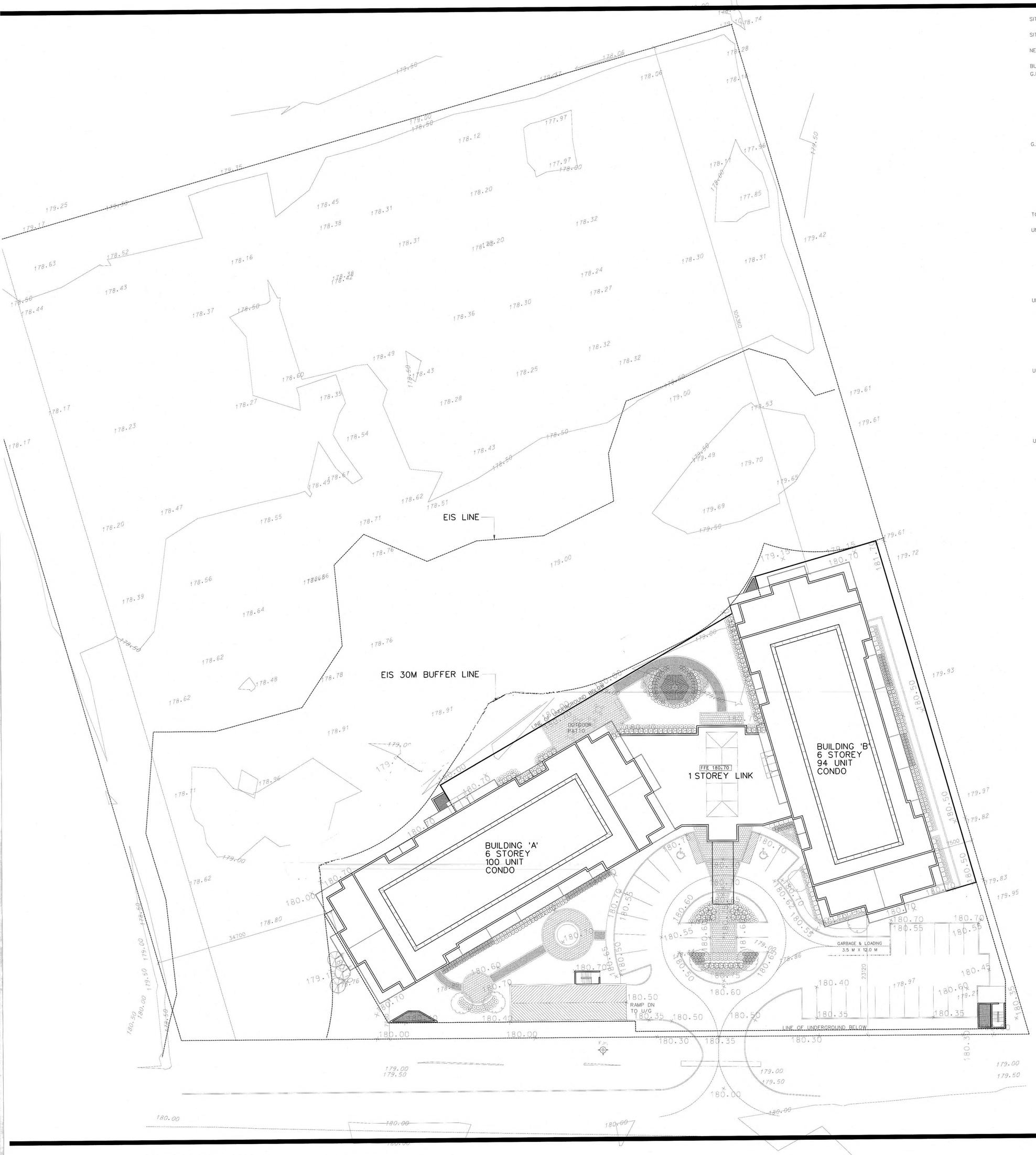
8 Summary

This SWM plan demonstrates that the proposed development will not negatively impact local surface water conditions. All developed site generated runoff will be directed to proposed stormwater attenuation chamber which will provide the required water quantity controls. Enhanced level water quality treatment will be provided via treatment train comprised of an OGS unit, the Highway 26th roadside ditch and the drainage easement.

Finally, a series of siltation and erosion controls including heavy duty silt fence, mud mat, will be implemented for all construction activities.

Figure 1: Site Location Map

Appendix A:
Site Plan



SITE STATISTICS

SITE AREA	28,144.97 M2 (302,960 FT2)	
LESS ENVIROMENTAL	19,434.53 M2 (209,198 FT2)	
NET SITE AREA	8,710.44 M2 (93,762 FT2)	
BUILDING COVERAGE (NET)	3,481.65 M2 (37,477 FT2)	- 39.97%

G.F.A. BUILDING 'A' (INCLUDING LINK)		T.S.A. BUILDING 'A'	
GROUND FLOOR	1,962.38 M2 (21,124 FT2)	1,110.76 M2 (11,957 FT2)	- 56.60%
2ND FLOOR	1,436.32 M2 (15,460 FT2)	1,277.98 M2 (13,757 FT2)	- 88.98%
3RD FLOOR	1,436.32 M2 (15,460 FT2)	1,277.98 M2 (13,757 FT2)	- 88.98%
4TH FLOOR	1,436.32 M2 (15,460 FT2)	1,277.98 M2 (13,757 FT2)	- 88.98%
5TH FLOOR	1,436.32 M2 (15,460 FT2)	1,277.98 M2 (13,757 FT2)	- 88.98%
6TH FLOOR	1,118.29 M2 (12,038 FT2)	967.77 M2 (10,417 FT2)	- 86.54%
TOTAL	8,825.95 M2 (95,005 FT2)	7,190.45 M2 (77,400 FT2)	- 81.47%

G.F.A. BUILDING 'B'		T.S.A. BUILDING 'B'	
GROUND FLOOR	1,458.96 M2 (15,705 FT2)	675.30 M2 (7,269 FT2)	- 46.29%
2ND FLOOR	1,436.32 M2 (15,460 FT2)	1,277.98 M2 (13,757 FT2)	- 88.98%
3RD FLOOR	1,436.32 M2 (15,460 FT2)	1,277.98 M2 (13,757 FT2)	- 88.98%
4TH FLOOR	1,436.32 M2 (15,460 FT2)	1,277.98 M2 (13,757 FT2)	- 88.98%
5TH FLOOR	1,436.32 M2 (15,460 FT2)	1,277.98 M2 (13,757 FT2)	- 88.98%
6TH FLOOR	1,118.29 M2 (12,038 FT2)	967.77 M2 (10,417 FT2)	- 86.54%
TOTAL	8,322.53 M2 (89,586 FT2)	6,754.99 M2 (72,712 FT2)	- 81.16%
TOTAL G.F.A.	17,148.48 M2 (184,591 FT2)	13,945.44 M2 (150,112 FT2)	- 81.32%

UNIT COUNT	BUILDING 'A'	BUILDING 'B'	TOTAL
GROUND FLOOR	16 UNITS	10 UNITS	26 UNITS
2ND FLOOR	18 UNITS	18 UNITS	36 UNITS
3RD FLOOR	18 UNITS	18 UNITS	36 UNITS
4TH FLOOR	18 UNITS	18 UNITS	36 UNITS
5TH FLOOR	18 UNITS	18 UNITS	36 UNITS
6TH FLOOR	12 UNITS	12 UNITS	24 UNITS
TOTAL	100 UNITS	94 UNITS	194 UNITS

UNIT BREAKDOWN BUILDING 'A'	STUDIO	1 BED	1 + DEN	2 BED	2 + DEN	TOTAL
GROUND FLOOR	0	2	9	4	1	16
2ND FLOOR	0	1	11	5	1	18
3RD FLOOR	0	1	11	5	1	18
4TH FLOOR	0	1	11	5	1	18
5TH FLOOR	0	1	11	5	1	18
6TH FLOOR	0	1	5	1	5	12
TOTAL	0	7	58	25	10	100

UNIT BREAKDOWN BUILDING 'B'	STUDIO	1 BED	1 + DEN	2 BED	2 + DEN	TOTAL
GROUND FLOOR	0	1	6	2	1	10
2ND FLOOR	0	1	11	5	1	18
3RD FLOOR	0	1	11	5	1	18
4TH FLOOR	0	1	11	5	1	18
5TH FLOOR	0	1	11	5	1	18
6TH FLOOR	0	1	5	1	5	12
TOTAL	0	6	55	23	10	94

UNIT BREAKDOWN TOTAL	STUDIO	1 BED	1 + DEN	2 BED	2 + DEN	TOTAL
TOTAL	0	13	113	48	20	194

R4 ZONE	REQUIRED - APARTMENTS	PROVIDED
MINIMUM LOT AREA	NIL	8,710.44 M2
MINIMUM LOT FRONTAGE	30 M	152.47 M
MINIMUM FRONT YARD	7.5 M	7.5 M
MINIMUM EXTERIOR SIDE YARD	7.5 M	N/A
MINIMUM INTERIOR SIDE YARD	7.5 M	7.5 M, 34.70 M
MINIMUM REAR YARD	7.5 M	105.36 M
MAXIMUM HEIGHT	18 M	
MAXIMUM LOT COVERAGE	40%	3,481.65 M2 (39.97%)
MINIMUM LANDSCAPED OPEN SPACE	40%	3,633.03 M2 (39,107 FT2) 41.71%
PARKING	1 SPACE PER UNIT, PLUS AN ADDITIONAL 0.20 SPACE PER UNIT FOR VISITOR PARKING 194 X 1.20 = 233 SPACES AND ANY TYPE OF COMMERICAL WILL REQUIRE PARKING. WE WOULD USE A GENERAL CATEGORY FOR NOW (3 SPACES PER 100 SQM)	U/G - 202 SPACES SURFACE - 32 SPACES TOTAL - 234 SPACES
COMMERICAL USES	6.2.3 FOOTNOTE (B) ACCESSORY COMMERICAL USES 6.2.3.1 ACCESSORY COMMERICAL USES SHALL BE LIMITED TO A CONVENIENCE STORE, A DAY-CARE CENTRE, A DRY-CLEANER'S ESTABLISHMENT, A LAUNDROMAT AND A PERSONAL SERVICE SHOP THESE USES SHALL ONLY BE LOCATED ON THE FIRST STOREY OF THE MAIN BUILDING AND SHALL NOT OCCUPY AN AREA GREATER THEN 25% OF THE GROSS FLOOR AREA OF THE FIRST STOREY	
BICYCLE SPACES	0.5 BICYCLE SPACES PER DWELLING UNIT TO A MAX OF 20	20 PROVIDED

LEGEND

▲	MAIN ENTRANCE	CB	CATCH BASIN
△	ENTRANCE	H.P.	HYDRO POLE
▲	EXIT	MH	MANHOLE
▲	SERVICE	F.H.	FIRE HYDRANT
178.00	EXISTING ELEVATION	L.S.	LIGHT STANDARD
178.00	PROPOSED ELEVATION	♿	HANDICAPPED PARKING

TATHAM: SWM REPORT JUNE 2025

DATE

No Date

CONTRACTOR MUST CHEC AND BE RESPONSIBLE I DISCREPANCIES TO THI WORK.

ALL DRAWINGS, PRINTS THE PROPERTY OF THE RETURNED TO HIM ON I

LATEST APPROVED DRAI CONSTRUCTION.

PRINTS ARE NOT TO BI

ONTARIO ASSOCIATE OF ARCHITECTS

DAVID M. ARSENAULT LICENCE 5152

Tel (416).255.4378
Fax (416).255.4351

ARCHITECT :

JOB CAPTAIN :

DRAWN BY :

DATE OF PLOT :

SCALE :

CLIENT'S NAME :
INTEGRICON DE
219 WESTBROOK DI
WOODBRIDGE ONTAI

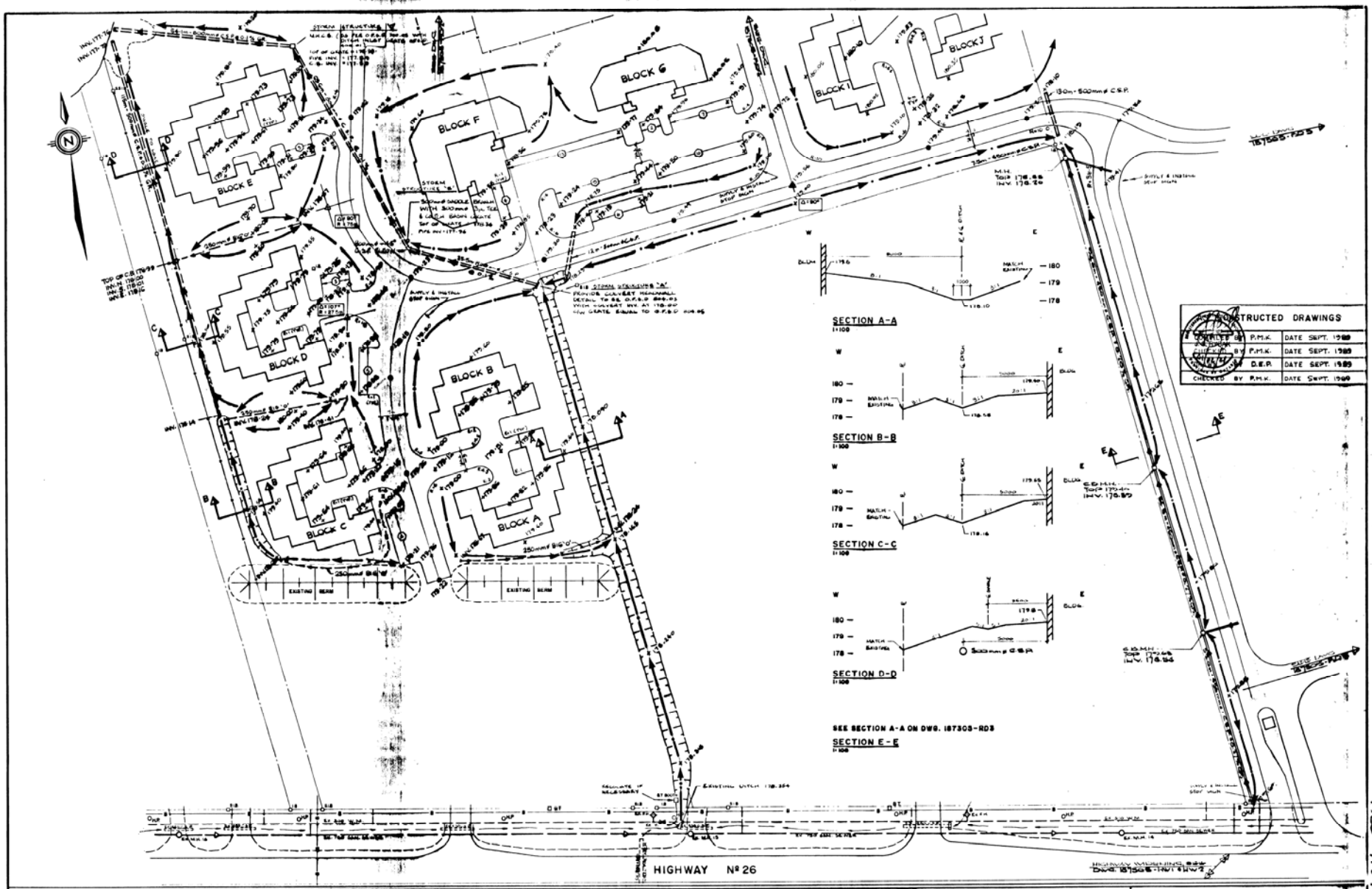
PROJECT NAME :
COLLINGWOOD
11476 HIGHWAY 2
COLLINGWOOD ONT.

DRAWING TITLE :
SITE PLA
6 STOREY

PROJECT NO. :
20-109

Appendix B:
Existing Drainage Conditions

187305 001 HD 1



Notes:

LEGEND

- DRAINAGE SWALE
- DRAINAGE DITCH
- STORM SEWER
- 178.69 FINAL GRADE ELEVATION
- @ 178.60 FINAL S. ROAD ELEVATION
- (6) NO OF PARKING SPACES (5.75m x 8.0m EACH)
- POINT OF INTERSECTION

NO.	REVISIONS	DATE	INITIAL
4	REVISED 'AS CONSTRUCTED'	MAR/91	P.M.
3	REVISED 'AS CONSTRUCTED'	OCT/89	P.M.
2	REVISED 'AS CONSTRUCTED'	SEPT/89	R.M.
1	600mm C.S.P. & STORM STRUCTURE 'B'	JAN/89	G.L.

Approved

R. B. McNALLY

LIGHTHOUSE POINT (COLLINGWOOD)
YACHT AND TENNIS CLUB
R.B. INVESTMENTS LTD.

LOT GRADING AND ROAD ALIGNMENT PLAN

Ainley and Associates Ltd.
Consulting Engineers and Planners
Collingwood — Barrie — Belleville

SCALE 1:500	METRIC	CONTRACT Nº 1	
DESIGN RM/SL	CHECKED CKK	DWG. Nº 187305-RD1	
DRAWN D.E.	DATE JULY 1988		

RD-4 of 4

TATHAM ENGINEERING

PROJECT	11476 Highway 26	FILE	120232
		DATE	6/24/2024
SUBJECT	Land Use Allocation - StandHyd - Existing	NAME	PNW
		PAGE	1 OF 1

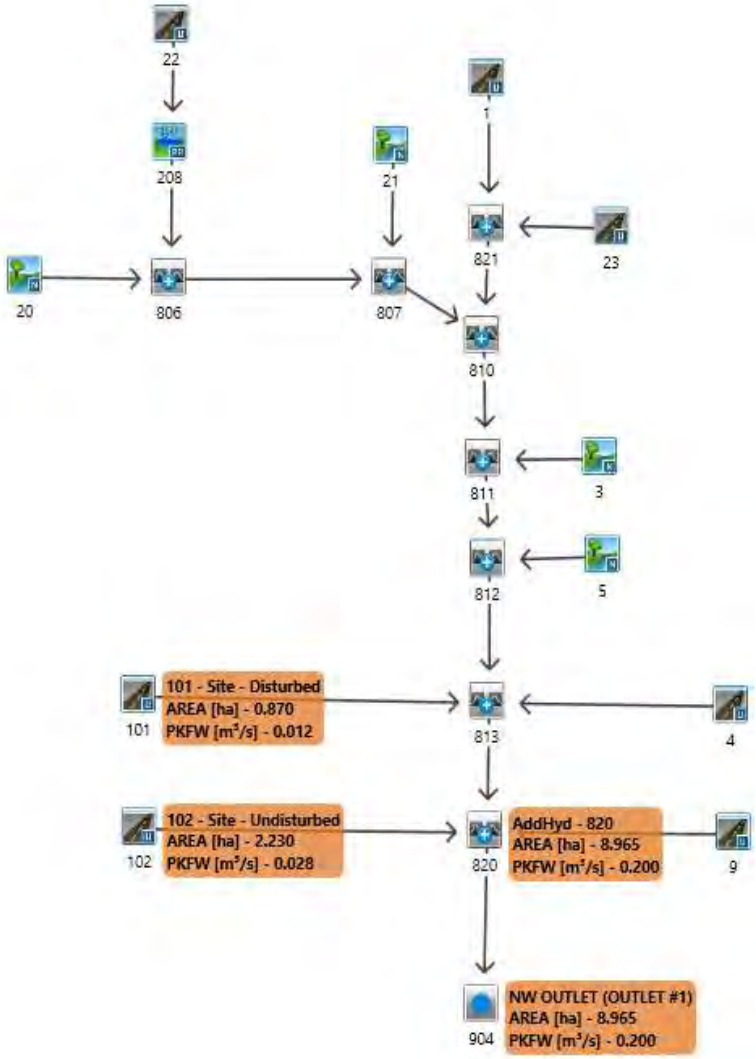
CATCHMENT 101

Land Use Category	Total Area	Total Impervious (TIMP)	Total Impervious Area	Directly Connected Impervious (XIMP)	Total Directly Connected Impervious Area	Pervious Area	Pervious CN	Pervious IA
	ha	%	ha	%	ha	ha		
Grass	0.61	0%	0.00	0%	0.00	0.61	74	5
Hardscape	0.21	100%	0.21	24%	0.05	0.00	100	2
Woodland	0.05	0%	0.00	0%	0.00	0.05	67	10
Total	**0.87**	**24%**	**0.21**	**6%**	**0.05**	**0.66**	**73.5**	**5.4**

CATCHMENT 102

Land Use Category	Total Area	Total Impervious (TIMP)	Total Impervious Area	Directly Connected Impervious (XIMP)	Total Directly Connected Impervious Area	Pervious Area	Pervious CN	Pervious IA
	ha	%	ha	%	ha	ha		
Grass	0.60	0%	0.00	0%	0.00	0.60	74	5
Hardscape	0.37	100%	0.37	35%	0.13	0.00	100	2
Woodland	1.06	0%	0.00	0%	0.00	1.06	67	10
Waterbody	0.20	100%	0.20	0%	0.00	0.00	50	12
Total	**2.23**	**26%**	**0.57**	**6%**	**0.13**	**1.66**	**69.5**	**8.2**

PROJECT	11476 Highway 26	FILE	120232
		DATE	6/24/2025
SUBJECT	Existing Conditions VO Schematic	NAME	PNW
		PAGE	1 OF 1



NASHYD

ROUTE PIPE

DUHYD

STANDHYD

ROUTE CHANNEL

DIVERT HYD

ADDHYD

ROUTE RESERVOIR

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


       V    V   I    SSSSS  U   U    A    L             (v 6.2.2015)
       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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94-89ea-4be3-9533-51ca98e23d1e\scena


DATE: 06/24/2025                          TIME: 03:07:16

USER:


COMMENTS: _____________________________________________________________


  ************************************************
  ** SIMULATION : Run 01 - 2yr 4hr 10min Chicag **
  ************************************************

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

      START @  0.00 hrs
      --------------------
    CHIC STORM                10.0
```

```
    [ Ptot= 33.75 mm ]
*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.00  1.38   5.06 0.15   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.06  1.33  20.04 0.59   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:              0208  1  1.0    0.51    0.01  2.02  19.70  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.01  1.42  17.10  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00  1.40   3.63 0.11   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.01  1.42  16.68  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.03  1.40  18.24 0.54   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.02  1.33  13.41 0.40   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.05  1.37  16.03  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.06  1.37  16.33  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.04  1.35   8.22 0.24   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.09  1.35  13.48  n/a   0.000
```

```
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.04  1.55   6.45 0.19   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.11  1.37  10.02  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.02  1.35  11.34 0.34   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 *  CALIB STANDHYD       0101  1  2.0    0.87    0.01  1.33   9.78 0.29   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0101+  0004]  0813  3  1.0    1.56    0.03  1.33  10.47  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.14  1.37  10.14  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.04  1.53  15.83 0.47   0.000
    [I%=10.0:S%= 1.00]
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 *  CALIB STANDHYD       0102  1  2.0    2.23    0.03  1.33   8.04 0.24   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0102+  0813]  0820  3  1.0    8.05    0.17  1.37   9.56  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.20  1.37  10.19  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L             (v 6.2.2015)
       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
```

```
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       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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95-03d4-412d-b54a-6c7b3b6424ef\scena


DATE: 06/24/2025                          TIME: 03:07:17

USER:


COMMENTS: _____________________________________________________


  ************************************************
  ** SIMULATION : Run 02 - 5yr 4hr 10min Chicag **
  ************************************************

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

      START @  0.00 hrs
      --------------------
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.00  1.38   9.20 0.21   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
```

```
*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.08  1.33  27.74 0.63   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:              0208  1  1.0    0.51    0.01  2.12  27.40  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.01  1.40  24.17  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00  1.38   6.76 0.15   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.01  1.40  23.63  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.05  1.38  26.72 0.61   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.03  1.33  19.66 0.45   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.07  1.37  23.49  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.09  1.37  23.55  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.06  1.35  13.79 0.31   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.15  1.35  20.12  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.08  1.53  11.30 0.26   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
```

```
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.19  1.37  15.78  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.03  1.55  17.55 0.40   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 *  CALIB STANDHYD       0101  1  2.0    0.87    0.02  2.00  15.58 0.35   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0101+  0004]  0813  3  1.0    1.56    0.04  1.35  16.45  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.24  1.37  15.96  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.07  1.50  23.63 0.54   0.000
    [I%=10.0:S%= 1.00]
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 *  CALIB STANDHYD       0102  1  2.0    2.23    0.04  1.33  13.18 0.30   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0102+  0813]  0820  3  1.0    8.05    0.27  1.37  15.19  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.33  1.37  16.05  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
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        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
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       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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```

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


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DATE: 06/24/2025                          TIME: 03:07:16

USER:


COMMENTS: _____________________________________________________


  ************************************************
  ** SIMULATION : Run 03 - 10yr 4hr 10min Chica **
  ************************************************

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

      START @  0.00 hrs
      --------------------
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.01  1.38  12.26 0.24   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.10  1.33  32.82 0.65   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:              0208  1  1.0    0.51    0.01  2.20  32.48  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.01  1.40  28.89  n/a   0.000
```

```
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00  1.38   9.12 0.18   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.01  1.38  28.27  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.07  1.38  32.32 0.64   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.03  1.33  23.93 0.47   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.10  1.37  28.48  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.11  1.37  28.39  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.09  1.35  17.74 0.35   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.19  1.35  24.65  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.11  1.53  14.82 0.29   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.26  1.37  19.81  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.04  1.53  21.85 0.43   0.000
    [I%=10.0:S%= 2.00]
*
```

```
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 *  CALIB STANDHYD       0101  1  2.0    0.87    0.03  1.87  19.65 0.39   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0101+  0004]  0813  3  1.0    1.56    0.06  1.53  20.62  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.31  1.37  20.03  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.09  1.47  28.86 0.57   0.000
    [I%=10.0:S%= 1.00]
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 *  CALIB STANDHYD       0102  1  2.0    2.23    0.05  2.00  16.84 0.33   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0102+  0813]  0820  3  1.0    8.05    0.36  1.37  19.14  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.44  1.37  20.13  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 6.2\VO2\voin.dat
```

```
  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\bd4cfb
56-e5af-41c3-9acf-474773df155b\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\bd4cfb
56-e5af-41c3-9acf-474773df155b\scena


DATE: 06/24/2025                          TIME: 03:07:17

USER:


COMMENTS: _____________________________________________________


  ************************************************
  ** SIMULATION : Run 04 - 25yr 4hr 10min Chica **
  ************************************************

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

      START @  0.00 hrs
      -------------------
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.01  1.38  16.68 0.28   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.12  1.33  39.64 0.67   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:              0208  1  1.0    0.51    0.01  2.25  39.30  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.02  1.38  35.28  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00  1.38  12.59 0.21   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
```

```
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.02  1.38  34.57  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.08  1.38  39.83 0.67   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.04  1.35  29.80 0.50   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.12  1.37  35.24  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.14  1.37  34.94  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.11  1.35  23.29 0.39   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.25  1.35  30.85  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.15  1.52  19.82 0.34   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.35  1.37  25.42  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.06  1.52  27.79 0.47   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 *  CALIB STANDHYD       0101  1  2.0    0.87    0.04  1.80  25.31 0.43   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0101+  0004]  0813  3  1.0    1.56    0.08  1.53  26.41  n/a   0.000
*
```

```
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.42  1.37  25.68  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.12  1.40  35.94 0.61   0.000
    [I%=10.0:S%= 1.00]
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 *  CALIB STANDHYD       0102  1  2.0    2.23    0.08  1.87  22.01 0.37   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0102+  0813]  0820  3  1.0    8.05    0.48  1.37  24.67  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.60  1.37  25.81  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\e5ae6c
d5-cc19-4645-8c3d-ec3ab2276a41\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\e5ae6c
d5-cc19-4645-8c3d-ec3ab2276a41\scena
```

```
DATE: 06/24/2025                          TIME: 03:07:17

USER:


COMMENTS: _____________________________________________________________


  ************************************************
  ** SIMULATION : Run 05 - 50yr 4hr 10min Chica **
  ************************************************

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

      START @  0.00 hrs
      --------------------
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 ** CALIB NASHYD        0020  1  1.0    0.11    0.01  1.38  20.39 0.31   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 ** CALIB STANDHYD      0022  1  1.0    0.51    0.14  1.33  45.05 0.69   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0208  1  1.0    0.51    0.01  2.33  44.71  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.02  1.38  40.39  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 ** CALIB NASHYD        0021  1  1.0    0.02    0.00  1.38  15.55 0.24   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.02  1.38  39.62  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.10  1.37  45.76 0.70   0.000
    [I%=10.0:S%= 2.00]
*
```

```
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 *  CALIB STANDHYD       0102  1  2.0    2.23    0.11  1.83  26.28 0.40   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0102+  0813]  0820  3  1.0    8.05    0.58  1.37  29.19  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.72  1.37  30.45  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\4532cc
99-aa56-4120-a980-634f1ac35850\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\4532cc
99-aa56-4120-a980-634f1ac35850\scena


DATE: 06/24/2025                          TIME: 03:07:16

USER:


COMMENTS: _____________________________________________________________
```

```
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.05  1.35  34.54 0.53   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.15  1.37  40.63  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.17  1.37  40.17  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.14  1.35  27.85 0.42   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.31  1.35  35.84  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.18  1.52  23.97 0.37   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.42  1.37  30.00  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.07  1.50  32.62 0.50   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 *  CALIB STANDHYD       0101  1  2.0    0.87    0.05  1.77  29.94 0.46   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0101+  0004]  0813  3  1.0    1.56    0.11  1.52  31.13  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.52  1.37  30.30  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.15  1.40  41.57 0.63   0.000
    [I%=10.0:S%= 1.00]
*
```

```
  ************************************************
  ** SIMULATION : Run 06 - 100yr 4hr 10min Chic **
  ************************************************

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

      START @  0.00 hrs
      --------------------
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 ** CALIB NASHYD        0020  1  1.0    0.11    0.01  1.37  24.04 0.34   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 ** CALIB STANDHYD      0022  1  1.0    0.51    0.16  1.33  50.17 0.70   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0208  1  1.0    0.51    0.01  2.38  49.83  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.02  1.38  45.26  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 ** CALIB NASHYD        0021  1  1.0    0.02    0.00  1.38  18.50 0.26   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.02  1.38  44.42  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.08  1.47  51.34 0.72   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.06  1.35  39.09 0.54   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.13  1.38  45.74  n/a   0.000
*
```

```
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.15  1.38  45.14  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.16  1.35  32.26 0.45   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.31  1.35  40.62  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.22  1.52  28.03 0.39   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.45  1.38  34.42  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.09  1.48  37.26 0.52   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 *  CALIB STANDHYD       0101  1  2.0    0.87    0.06  1.73  34.41 0.48   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0101+  0004]  0813  3  1.0    1.56    0.13  1.50  35.67  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.57  1.38  34.75  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.18  1.40  46.92 0.65   0.000
    [I%=10.0:S%= 1.00]
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 *  CALIB STANDHYD       0102  1  2.0    2.23    0.13  1.77  30.43 0.42   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0102+  0813]  0820  3  1.0    8.05    0.65  1.37  33.56  n/a   0.000
*
```

```
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.82  1.38  34.91  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L             (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\b3ceec
72-5b40-4a58-aabe-5961693b89c9\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\b3ceec
72-5b40-4a58-aabe-5961693b89c9\scena


DATE: 06/24/2025                          TIME: 03:07:17

USER:


COMMENTS: _____________________________________________________


  ************************************************
  ** SIMULATION : Run 07 - 25mm                 **
  ************************************************

  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                10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.00  1.68   2.37 0.09   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    READ STORM                10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.03  1.50  13.94 0.56   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0208  1  1.0    0.51    0.01  2.15  13.60  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.01  2.05  11.60  n/a   0.000
*
    READ STORM                10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00  1.68   1.65 0.07   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.01  2.05  11.29  n/a   0.000
*
    READ STORM                10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI
```

```
*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.01  1.67  11.63 0.46   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.01  1.50   8.71 0.35   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.02  1.53  10.29  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.02  1.53  10.75  n/a   0.000
*
    READ STORM                10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.01  1.52   4.35 0.17   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.03  1.52   8.50  n/a   0.000
*
    READ STORM                10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.01  1.77   3.20 0.13   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.04  1.53   5.89  n/a   0.000
*
    READ STORM                10.0
    [ Ptot= 25.02 mm ]
    fname :
```

```
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.01  1.52   6.82 0.27   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 *  CALIB STANDHYD       0101  1  2.0    0.87    0.01  1.50   5.63 0.22   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0101+  0004]  0813  3  1.0    1.56    0.01  1.50   6.15  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.05  1.53   5.96  n/a   0.000
*
    READ STORM                 10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.01  1.85   9.88 0.39   0.000
    [I%=10.0:S%= 1.00]
*
    READ STORM                 10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 *  CALIB STANDHYD       0102  1  2.0    2.23    0.01  1.50   4.47 0.18   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0102+  0813]  0820  3  1.0    8.05    0.07  1.52   5.55  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.08  1.53   5.99  n/a   0.000
*
================================================================================
```

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


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\f100dd
e6-4c3e-4108-8a5f-a63b86403441\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\f100dd
e6-4c3e-4108-8a5f-a63b86403441\scena


DATE: 06/24/2025                          TIME: 03:07:18

USER:


COMMENTS: _____________________________________________________


  ************************************************
  ** SIMULATION : Run 08 - 2yr 24hr 15min SCS T **
  ************************************************

  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                 15.0
    [ Ptot= 46.83 mm ]
```

```
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD        0020  1  1.0    0.11    0.00 12.27   8.06 0.17   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.05 12.25  29.87 0.64   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0208  1  1.0    0.51    0.01 12.80  29.53  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.01 12.27  26.15  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD        0021  1  1.0    0.02    0.00 12.27   5.91 0.13   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.01 12.27  25.58  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.04 12.28  29.08 0.62   0.000
    [I%=10.0:S%= 2.00]
```

```
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.02 12.25  21.44 0.46   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.05 12.27  25.58  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.07 12.27  25.58  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.05 12.25  12.31 0.26   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.12 12.25  22.02  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.07 12.33   9.92 0.21   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.18 12.27  17.46  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)
```

```
*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.02 12.28  19.34 0.41   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0101  1  2.0    0.87    0.01 12.93  17.27 0.37   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0101+  0004]  0813  3  1.0    1.56    0.04 12.27  18.18  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.21 12.27  17.65  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.05 12.30  25.83 0.55   0.000
    [I%=10.0:S%= 1.00]
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0102  1  2.0    2.23    0.03 13.03  14.70 0.31   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0102+  0813]  0820  3  1.0    8.05    0.24 12.27  16.83  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.29 12.27  17.75  n/a   0.000
*
================================================================================
======================
```

```
        V    V   I    SSSSS  U   U    A    L             (v 6.2.2015)
        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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\ed0f9d
62-292a-4944-9e3b-2dd5db5345f6\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\ed0f9d
62-292a-4944-9e3b-2dd5db5345f6\scena


DATE: 06/24/2025                          TIME: 03:07:18

USER:


COMMENTS: _____________________________________________________


  ************************************************
  ** SIMULATION : Run 09 - 5yr 24hr 15min SCS T **
  ************************************************

  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                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\61b7ea09-942
4-429a-a7c7-8d1a
```

```
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD        0020  1  1.0    0.11    0.01 12.27  13.47 0.22   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.07 12.25  40.30 0.67   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0208  1  1.0    0.51    0.01 12.83  39.96  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.01 12.27  35.91  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD        0021  1  1.0    0.02    0.00 12.27  10.09 0.17   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.01 12.27  35.19  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.05 12.27  40.55 0.68   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
```

```
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.03 12.27  30.37 0.51   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.08 12.27  35.89  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.10 12.27  35.57  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.08 12.25  19.31 0.32   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.17 12.25  31.45  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.12 12.33  16.10 0.27   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.28 12.27  25.97  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.04 12.30  28.38 0.47   0.000
```

```
    [I%=10.0:S%= 2.00]
*
    READ STORM                15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0101  1  2.0    0.87    0.03 12.73  25.87 0.43   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0101+  0004]  0813  3  1.0    1.56    0.06 12.28  26.98  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.34 12.27  26.24  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.08 12.30  36.62 0.61   0.000
    [I%=10.0:S%= 1.00]
*
    READ STORM                15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0102  1  2.0    2.23    0.05 12.80  22.53 0.38   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0102+  0813]  0820  3  1.0    8.05    0.38 12.27  25.21  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.46 12.27  26.37  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\4b595f
0e-dbbf-46b1-865f-e90211bcd7cc\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\4b595f
0e-dbbf-46b1-865f-e90211bcd7cc\scena


DATE: 06/24/2025                          TIME: 03:07:19

USER:


COMMENTS: _____________________________________________________


  ************************************************
  ** SIMULATION : Run 10 - 10yr 24hr 15min SCS  **
  ************************************************

  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                15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
```

```
 ** CALIB NASHYD         0020  1  1.0    0.11    0.01 12.27  17.05 0.25   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    READ STORM                15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.08 12.25  46.60 0.69   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:              0208  1  1.0    0.51    0.01 12.85  46.26  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.02 12.27  41.86  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00 12.27  12.90 0.19   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.02 12.27  41.07  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.06 12.27  47.45 0.70   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\9c3df5b9-296
b-47e9-810d-a488
```

```
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.03 12.27  35.91 0.53   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.10 12.27  42.17  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.11 12.27  41.67  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.09 12.25  23.78 0.35   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.21 12.25  37.28  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.15 12.33  20.12 0.30   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.34 12.27  31.33  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.05 12.30  34.02 0.50   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                15.0
```

```
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0101  1  2.0    0.87    0.03 12.67  31.28 0.46   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0101+  0004]  0813  3  1.0    1.56    0.08 12.28  32.49  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.42 12.27  31.64  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.10 12.30  43.19 0.64   0.000
    [I%=10.0:S%= 1.00]
*
    READ STORM                15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0102  1  2.0    2.23    0.07 12.73  27.52 0.41   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0102+  0813]  0820  3  1.0    8.05    0.47 12.27  30.50  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.57 12.27  31.79  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\7a07ef
5c-f14e-4877-b433-95d8ccaaa4f9\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\7a07ef
5c-f14e-4877-b433-95d8ccaaa4f9\scena


DATE: 06/24/2025                          TIME: 03:07:19

USER:


COMMENTS: _____________________________________________________


  ************************************************
  ** SIMULATION : Run 11 - 25yr 24hr 15min SCS  **
  ************************************************

  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                15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.01 12.27  22.44 0.29   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
```

```
*
    READ STORM                15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.10 12.25  55.56 0.71   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:              0208  1  1.0    0.51    0.01 12.87  55.22  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.02 12.27  50.39  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00 12.27  17.22 0.22   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.02 12.27  49.50  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.08 12.27  57.20 0.73   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
```

```
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.04 12.27  43.93 0.56   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.12 12.27  51.13  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.14 12.27  50.39  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.12 12.25  30.37 0.39   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.26 12.25  45.68  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.19 12.33  26.11 0.33   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.43 12.27  39.14  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.07 12.30  42.19 0.54   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\b95ee7a7-0d8
```

```
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0101  1  2.0    0.87    0.05 12.63  39.17 0.50   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0101+  0004]  0813  3  1.0    1.56    0.10 12.28  40.51  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.53 12.27  39.50  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.13 12.28  52.53 0.67   0.000
    [I%=10.0:S%= 1.00]
*
    READ STORM                15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0102  1  2.0    2.23    0.10 12.67  34.87 0.45   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0102+  0813]  0820  3  1.0    8.05    0.61 12.27  38.22  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.73 12.27  39.68  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\5cd798
cd-8240-463a-9c29-96a58d4e2428\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\5cd798
cd-8240-463a-9c29-96a58d4e2428\scena


DATE: 06/24/2025                          TIME: 03:07:19

USER:


COMMENTS: _____________________________________________________


  ************************************************
  ** SIMULATION : Run 12 - 50yr 24hr 15min SCS  **
  ************************************************

  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                15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.01 12.27  26.43 0.31   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    READ STORM                15.0
    [ Ptot= 85.42 mm ]
```

```
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.11 12.25  61.90 0.72   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:              0208  1  1.0    0.51    0.01 12.88  61.56  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.02 12.27  56.46  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00 12.27  20.46 0.24   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.02 12.27  55.50  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.09 12.27  64.06 0.75   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.05 12.27  49.68 0.58   0.000
    [I%=25.0:S%= 2.00]
*
```

```
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.14 12.27  57.48  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.16 12.27  56.58  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.14 12.25  35.16 0.41   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.30 12.25  51.68  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.22 12.32  30.51 0.36   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.50 12.27  44.77  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.08 12.28  48.07 0.56   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)
```

```
*
 *  CALIB STANDHYD       0101  1  2.0    0.87    0.06 12.57  44.87 0.53   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0101+  0004]  0813  3  1.0    1.56    0.13 12.28  46.28  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.62 12.27  45.17  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.15 12.28  59.14 0.69   0.000
    [I%=10.0:S%= 1.00]
*
    READ STORM                15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0102  1  2.0    2.23    0.12 12.63  40.22 0.47   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0102+  0813]  0820  3  1.0    8.05    0.71 12.27  43.80  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.86 12.27  45.36  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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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```

```
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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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\22a35f
f5-8ac4-47cf-9f52-6e9f19551000\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\22a35f
f5-8ac4-47cf-9f52-6e9f19551000\scena


DATE: 06/24/2025                          TIME: 03:07:20

USER:


COMMENTS: _____________________________________________________


  ************************************************
  ** SIMULATION : Run 13 - 100yr 24hr 15min SCS **
  ************************************************

  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                15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.02 12.27  30.68 0.33   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    READ STORM                15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\e0e15cc0-105
6-48ad-bf8b-bb30
```

```
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.12 12.25  68.44 0.74   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:              0208  1  1.0    0.51    0.01 12.92  68.10  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.02 12.27  62.74  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00 12.27  23.95 0.26   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.03 12.27  61.72  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.10 12.27  71.09 0.77   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.06 12.27  55.66 0.60   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.16 12.27  64.03  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.18 12.27  62.98  n/a   0.000
```

```
*
    READ STORM                15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.16 12.25  40.19 0.43   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.34 12.25  57.90  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.26 12.32  35.15 0.38   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.57 12.27  50.65  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.10 12.28  54.18 0.58   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0101  1  2.0    0.87    0.07 12.57  50.81 0.55   0.000
    [I%= 6.0:S%= 1.00]
```

```
*
    ADD [  0101+  0004]  0813  3  1.0    1.56    0.15 12.28  52.30  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.71 12.27  51.09  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.17 12.28  65.95 0.71   0.000
    [I%=10.0:S%= 1.00]
*
    READ STORM                 15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0102  1  2.0    2.23    0.15 12.60  45.82 0.49   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0102+  0813]  0820  3  1.0    8.05    0.82 12.27  49.63  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.99 12.27  51.29  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\e5bf50
af-90ea-46f0-a753-17b9815b96c5\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\e5bf50
af-90ea-46f0-a753-17b9815b96c5\scena


DATE: 06/24/2025                          TIME: 03:07:20

USER:


COMMENTS: _____________________________________________________


  ************************************************
  ** SIMULATION : Run 14 - TIMMINS.STM          **
  ************************************************

  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                 15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.01  7.00 117.89 0.61   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    READ STORM                 15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
```

```
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.05  7.00 161.02 0.83   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:               0208  1  1.0    0.51    0.05  7.02 160.68  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.06  7.00 153.09  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00  7.00 100.40 0.52   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.07  7.00 151.44  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.05  7.00 168.22 0.87   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.03  7.00 143.59 0.74   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.08  7.00 156.95  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.15  7.00 154.44  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot=193.00 mm ]
```

```
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.08  7.00 136.32 0.71   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.22  7.00 148.08  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.20  7.02 127.57 0.66   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.42  7.00 137.98  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.07  7.00 143.69 0.74   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 *  CALIB STANDHYD       0101  1  2.0    0.87    0.07  7.03 138.84 0.72   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0101+  0004]  0813  3  1.0    1.56    0.14  7.00 140.98  n/a   0.000
*
```

```
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.56  7.00 138.78  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.10  7.00 161.34 0.84   0.000
    [I%=10.0:S%= 1.00]
*
    READ STORM                 15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\3328741d-ab34-45ff-bf3a-53ac27d33ca3\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 *  CALIB STANDHYD       0102  1  2.0    2.23    0.18  7.03 130.77 0.68   0.000
    [I%= 6.0:S%= 1.00]
*
    ADD [  0102+  0813]  0820  3  1.0    8.05    0.74  7.00 136.57  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.84  7.00 139.08  n/a   0.000
*
 FINISH

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

Appendix C:
Proposed Drainage Conditions

TATHAM ENGINEERING

PROJECT	11476 Highway 26	FILE	120232
		DATE	6/24/2022
SUBJECT	Land Use Allocation - StandHyd - Proposed	NAME	PNW
		PAGE	1 OF 1

CATCHMENT 201

Land Use Category	Total Area	Total Impervious (TIMP)	Total Impervious Area	Directly Connected Impervious (XIMP)	Total Directly Connected Impervious Area	Pervious Area	Pervious CN	Pervious IA
	ha	%	ha	%	ha	ha		
Grass	0.24	0%	0.00	0%	0.00	0.24	74	5
Rooftop & Patio	0.39	100%	0.39	100%	0.39	0.00	100	2
Hardscape	0.25	100%	0.25	80%	0.20	0.00	100	2
Total	**0.87**	**73%**	**0.64**	**67%**	**0.59**	**0.24**	**74.0**	**5.0**

CATCHMENT 102

Land Use Category	Total Area	Total Impervious (TIMP)	Total Impervious Area	Directly Connected Impervious (XIMP)	Total Directly Connected Impervious Area		Pervious Area	Pervious CN	Pervious IA
	ha	%	ha	%	ha		ha		
Grass	0.86	0%	0.00	0%	0.00		0.86	74	5
Hardscape	0.11	100%	0.11	35%	0.04		0.00	100	2
Woodland	1.06	0%	0.00	0%	0.00		1.06	67	10
Waterbody	0.20	100%	0.20	0%	0.00		0.00	50	12
Total	**2.23**	**14%**	**0.31**	**2%**	**0.04**		**1.92**	**70.1**	**7.8**

TATHAM ENGINEERING

PROJECT	11476 Highway 26	FILE	421391
		DATE	17-Jun-25
SUBJECT	Underground Quantity Storage	NAME	PNW
		PAGE	1 OF 4

Stage Storage Table Underground Quantity Storage Volume

Unit:
Module Footprint: 150 m^2
Height of Module: 2 m
Void Ratio per module: 1.00
Void Ratio of stone: 0.40

Note: Incremental volume calculated per incremental depth, footprint area of system and applicable void ratio for StormTank module.

Elevation	Elevation Reference	Incremental Depth (m)	Incremental Volume (m^3)	Cumulative Volume - Dead (m^3)	Cumulative Volume - Live (m^3)
177.40	**Base of Stone**	0.00	-	0	0
177.45		0.05	-	0	0
177.50	**Base of Module**	0.05	-	0	0
177.60		0.10	15	15	0
177.70		0.10	15	30	0
177.80		0.10	15	45	0
177.90		0.10	15	60	0
178.00		0.10	15	75	0
178.10		0.10	15	90	0
178.20		0.10	15	105	0
178.30		0.10	15	120	0
178.40		0.10	15	135	0
178.50		0.10	15	150	0
178.60		0.10	15	165	0
178.70		0.10	15	180	0
178.80		0.10	15	195	0
178.90		0.10	15	210	0
179.00	**Outlet Pipe Invert**	0.10	15	225	0
179.10		0.10	15	225	15
179.20		0.10	15	225	30
179.30		0.10	15	225	45
179.40		0.10	15	225	60
179.50	**Top of Module**	0.10	15	225	75
179.60					75
179.70					75
179.80					75
179.90	**Top of Stone**				75

TATHAM ENGINEERING

PROJECT	11476 Highway 26	FILE	421391
		DATE	17-Jun-25
SUBJECT	Total Quantity Storage Summary	NAME	PNW
		PAGE	2 OF 4

Quantity Storage Summary Table

Elevation	U/G Storage (m^3)
177.60	15
177.70	30
177.80	45
177.90	60
178.00	75
178.10	90
178.20	105
178.30	120
178.40	135
178.50	150
178.60	165
178.70	180
178.80	195
178.90	210
179.00	225
179.10	240
179.20	255
179.30	270
179.40	285
179.50	300

TATHAM ENGINEERING

PROJECT	11476 Highway 26	FILE	421391
		DATE	17-Jun-25
SUBJECT	Partially Full Orifice Control - Chamber #1	NAME	PNW
		PAGE	3 OF 4

Primary Orifice Control - for Pipes Flowing Full or Partially Full

Orifice Equation

$Q = C \times A \times (2gH)^{0.5}$

Q = flow rate (m^3)

C = constant

A = area of opening (m^2)

H = net head on the orifice

g = Acceleration due to

Orifice Constant (C): **0.63**

Depth Increment (m): **0.10**

Minimum Elevation (Invert of Control) (m): **179.00**

Maximum Elevation (Top of Ponding) (m): **179.50**

Control Features

Orifice Diameter (m): **0.250**

Mannings Value: **0.013**

Invert Elevation: **179.00**

Inlet Type: **2**

1 = Projecting

2 = Flush

Inlet Control Equation (Smith) Projecting Inlet

MMF Model y=(a*b+c*x^d)/(b+x^d)

Coefficient Data

a = 0.0168

b = 1.77

c = 3.06

d = 2.27

Inlet Control Equation (Smith) Flush Inlet

MMF Model y=(a*b+c*x^d)/(b+x^d)

Coefficient Data

a = -1.08E-03

b = 2.30E+00

c = 3.95

d = 2.08

Water Elevation	Depth from Min. Elevation	Pipe Partially Full Inlet Control Flow
m	m	m^3/s
179.00	0.00	0.000
179.10	0.10	0.007
179.20	0.20	0.026
179.30	0.30	0.048
179.40	0.40	0.072
179.50	0.50	0.084

TATHAM ENGINEERING

PROJECT	11476 Highway 26	FILE	421391
		DATE	17-Jun-25
SUBJECT	Stage Storage Discharge Summary	NAME	PNW
		PAGE	4 OF 4

Stage Storage Discharge Summary Table

Orifice Control

Orifice Dia. (mm)	250
Orifice Invert (m)	179.00
Orifice Area (m)	0.049
Orifice Coefficient	0.63

Orifice Equation

$Q = C \times A \times (2gH)^{0.5}$

Q = flow rate (m^3)

C = constant

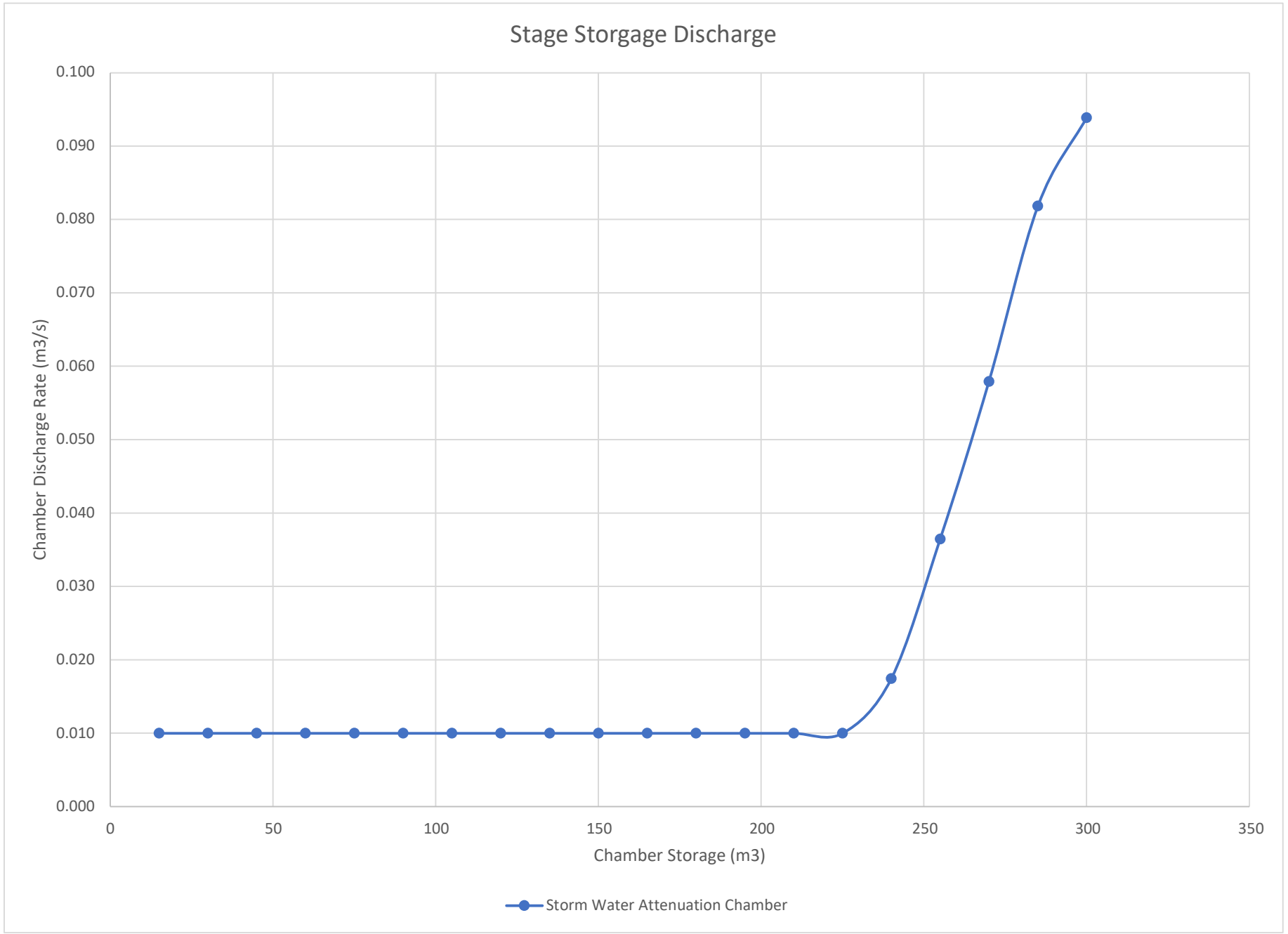
A = area of opening (m^2)

H = net head on the orifice

g = Acceleration due to gravity

Note: Shaded cells have been calculated using partially full orifice equations (Hydraulic Structures, C.D. Smith, University of Saskatchewan)

Elevation	Head (m)	Orifice Discharge (m^3/s)	Total Discharge (m^3/s)	Total Storage ($m^{3)}$)
177.60	0.00	0.000	0.010	15
177.70	0.00	0.000	0.010	30
177.80	0.00	0.000	0.010	45
177.90	0.00	0.000	0.010	60
178.00	0.00	0.000	0.010	75
178.10	0.00	0.000	0.010	90
178.20	0.00	0.000	0.010	105
178.30	0.00	0.000	0.010	120
178.40	0.00	0.000	0.010	135
178.50	0.00	0.000	0.010	150
178.60	0.00	0.000	0.010	165
178.70	0.00	0.000	0.010	180
178.80	0.00	0.000	0.010	195
178.90	0.00	0.000	0.010	210
179.00	0.00	0.000	0.010	225
179.10	0.00	0.007	0.017	240
179.20	0.07	0.026	0.036	255
179.30	0.17	0.048	0.058	270
179.40	0.27	0.072	0.082	285
179.50	0.38	0.084	0.094	300


Stage Storgage Discharge
0.100
0.090
0.080
0.070
0.060
0.050
0.040
0.030
0.020
0.010
0.000
Chamber Discharge Rate (m3/s)
0
50
100
150
200
250
300
350
Chamber Storage (m3)
Storm Water Attenuation Chamber

TATHAM ENGINEERING

Manning's Equation Flow Calculations

Project Details	
11476 Hwy 26	120232

Prepared By	
PNW	6/10/2024

Manning's Equation: $Q = \frac{1}{n} \cdot A \cdot R^{\frac{2}{3}} \cdot S^{\frac{1}{2}}$

Where:

Q = flow (m^3/s)

n = Manning's roughness coefficient

A = area of flow (m^2)

R = hydraulic radius (m) equal to flow area divided by wetted perimeter

S = channel slope (m/m)

West Channel/Ditch - Pre Dev

Manning's n =	0.030				
Slope =	0.002	m/m			
Right Side Slope =	8.0	:1 (H:V)	Area =	0.720	m^2
Left Side Slope =	8.0	:1 (H:V)	Wetted Perimeter =	4.837	m
Depth =	0.30	m	Hydraulic Radius =	0.149	m
Bottom Width =	0.00	m	Flow =	0.322	m^3/s

PROJECT	11476 Highway 26	FILE	120232
		DATE	11-28-2022
SUBJECT	ESC End Treatment	NAME	LB
		PAGE	1 OF 1

Storm Sewer Outlet End Treatment Riprap and Apron Sizing

$D_{50} = 0.2\ D\ (Q / (\sqrt{g}\ D^{2.5}))^{4/3}\ (D / TW)$

(U.S. Department of Transportation, Federal Highway Administration, HEC-14, Equation 10.4)

Where:

D_{50}	=	riprap size	(mm)
D	=	culvert diameter	(m)
Q	=	design discharge	(m^3/s)
g	=	acceleration due to gravity, 9.81	(m/s^2)
TW	=	tailwater depth	(m) limited between 0.4D and 1D

Outlet #3 End Treatment (1:100-year Flow)

D = 0.375 m

Q = 0.087 (m^3/s)

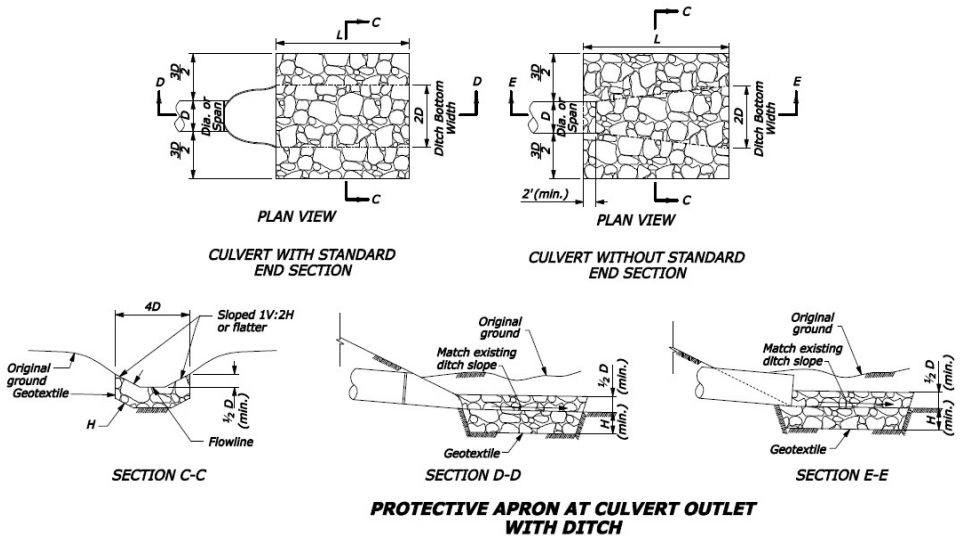
TW* = 0.15 m

D_{50} = 0.041 m Round to 125mm

Apron Bottom Length = 2.50 m

Apron Bottom Depth = 0.438 m

*minimum tailwater assumed to yield maximum D_{50}

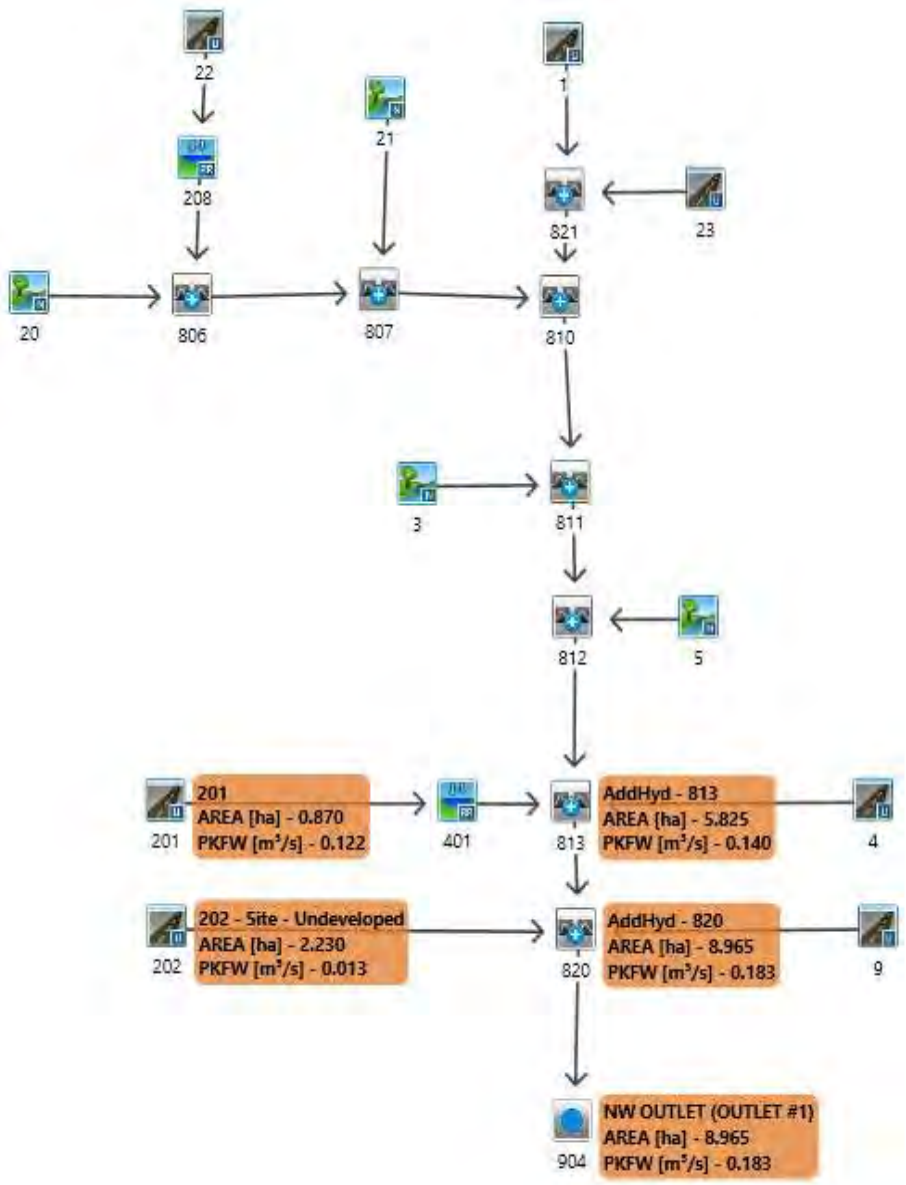


PROTECTIVE APRON AT CULVERT OUTLET WITH DITCH

Class	D_{50} (mm)	Apron Length (L)	Apron Depth (H)
1	125	4D	$3.5D_{50}$
2	150	4D	$3.3D_{50}$
3	250	5D	$2.4D_{50}$
4	350	6D	$2.2D_{50}$
5	500	7D	$2.0D_{50}$
6	550	8D	$2.0D_{50}$

TATHAM ENGINEERING

PROJECT	11476 Highway 26	FILE	120232
		DATE	6/24/2025
SUBJECT	Proposed Conditions VO Schematic	NAME	PNW
		PAGE	1 OF 1



NASHYD

ROUTE PIPE

DUHYD

STANDHYD

ROUTE CHANNEL

DIVERT HYD

ADDHYD

ROUTE RESERVOIR

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


       V    V   I    SSSSS  U   U    A    L             (v 6.2.2015)
       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  *****


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DATE: 06/25/2025                          TIME: 02:34:45

USER:


COMMENTS: ________________________________________________________


  ***********************************************
  ** SIMULATION : Run 01 - 2yr 4hr 10min Chicag **
  ***********************************************

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

      START @  0.00 hrs
      --------------------
    CHIC STORM                10.0
```

```
    [ Ptot= 33.75 mm ]
*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.00  1.38   5.06 0.15   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.06  1.33  20.04 0.59   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:              0208  1  1.0    0.51    0.01  2.02  19.70  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.01  1.42  17.10  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00  1.40   3.63 0.11   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.01  1.42  16.68  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.03  1.40  18.24 0.54   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.02  1.33  13.41 0.40   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.05  1.37  16.03  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.06  1.37  16.33  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.04  1.35   8.22 0.24   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.09  1.35  13.48  n/a   0.000
```

```
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.04  1.55   6.45 0.19   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.11  1.37  10.02  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.02  1.35  11.34 0.34   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 *  CALIB STANDHYD       0201  1  1.0    0.87    0.12  1.33  24.73 0.73   0.000
    [I%=67.0:S%= 1.00]
*
 ** Reservoir
    OUTFLOW:              0401  1  1.0    0.87    0.01  1.20  24.68  n/a   0.000
*
    ADD [  0004+  0401]  0813  3  1.0    1.56    0.03  1.35  18.78  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.14  1.37  12.37  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.04  1.53  15.83 0.47   0.000
    [I%=10.0:S%= 1.00]
*
    CHIC STORM                10.0
    [ Ptot= 33.75 mm ]
*
 *  CALIB STANDHYD       0202  1  2.0    2.23    0.01  2.57   6.19 0.18   0.000
    [I%= 2.0:S%= 1.00]
*
    ADD [  0202+  0813]  0820  3  1.0    8.05    0.15  1.37  10.66  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.18  1.37  11.18  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L             (v 6.2.2015)
```

```
       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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DATE: 06/25/2025                          TIME: 02:34:46

USER:


COMMENTS: ________________________________________________________


  ***********************************************
  ** SIMULATION : Run 02 - 5yr 4hr 10min Chicag **
  ***********************************************

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

      START @  0.00 hrs
      --------------------
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.00  1.38   9.20 0.21   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
```

```
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.08  1.33  27.74 0.63   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:              0208  1  1.0    0.51    0.01  2.12  27.40  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.01  1.40  24.17  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00  1.38   6.76 0.15   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.01  1.40  23.63  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.05  1.38  26.72 0.61   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.03  1.33  19.66 0.45   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.07  1.37  23.49  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.09  1.37  23.55  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.06  1.35  13.79 0.31   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.15  1.35  20.12  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.08  1.53  11.30 0.26   0.000
```

```
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.19  1.37  15.78  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.03  1.55  17.55 0.40   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 *  CALIB STANDHYD       0201  1  1.0    0.87    0.16  1.33  33.49 0.76   0.000
    [I%=67.0:S%= 1.00]
*
 ** Reservoir
    OUTFLOW:              0401  1  1.0    0.87    0.01  1.13  33.44  n/a   0.000
*
    ADD [  0004+  0401]  0813  3  1.0    1.56    0.04  1.55  26.41  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.23  1.37  18.63  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.07  1.50  23.63 0.54   0.000
    [I%=10.0:S%= 1.00]
*
    CHIC STORM                10.0
    [ Ptot= 44.06 mm ]
*
 *  CALIB STANDHYD       0202  1  2.0    2.23    0.03  2.27  10.74 0.24   0.000
    [I%= 2.0:S%= 1.00]
*
    ADD [  0202+  0813]  0820  3  1.0    8.05    0.24  1.37  16.44  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.31  1.38  17.17  n/a   0.000
*
================================================================================
======================


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        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL
```

```
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      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  *****


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35-287b-4815-bcac-afee6428fade\scena


DATE: 06/25/2025                          TIME: 02:34:47

USER:


COMMENTS: _____________________________________________________________


  ************************************************
  ** SIMULATION : Run 03 - 10yr 4hr 10min Chica **
  ************************************************

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

      START @  0.00 hrs
      --------------------
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.01  1.38  12.26 0.24   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.10  1.33  32.82 0.65   0.000
```

```
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:              0208  1  1.0    0.51    0.01  2.20  32.48  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.01  1.40  28.89  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00  1.38   9.12 0.18   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.01  1.38  28.27  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.07  1.38  32.32 0.64   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.03  1.33  23.93 0.47   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.10  1.37  28.48  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.11  1.37  28.39  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.09  1.35  17.74 0.35   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.19  1.35  24.65  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.11  1.53  14.82 0.29   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.26  1.37  19.81  n/a   0.000
*
```

```
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.04  1.53  21.85 0.43   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 *  CALIB STANDHYD       0201  1  1.0    0.87    0.19  1.33  39.16 0.77   0.000
    [I%=67.0:S%= 1.00]
*
 ** Reservoir
    OUTFLOW:             0401  1  1.0    0.87    0.01  2.72  39.11  n/a   0.000
*
    ADD [  0004+  0401]  0813  3  1.0    1.56    0.05  1.53  31.47  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.31  1.37  22.93  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.09  1.47  28.86 0.57   0.000
    [I%=10.0:S%= 1.00]
*
    CHIC STORM                10.0
    [ Ptot= 50.58 mm ]
*
 *  CALIB STANDHYD       0202  1  2.0    2.23    0.04  2.10  14.04 0.28   0.000
    [I%= 2.0:S%= 1.00]
*
    ADD [  0202+  0813]  0820  3  1.0    8.05    0.32  1.37  20.47  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.41  1.38  21.32  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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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```

```
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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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\9091be
be-8911-4297-bc86-2293bde7a543\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\9091be
be-8911-4297-bc86-2293bde7a543\scena


DATE: 06/25/2025                          TIME: 02:34:47

USER:


COMMENTS: _____________________________________________________


  ************************************************
  ** SIMULATION : Run 04 - 25yr 4hr 10min Chica **
  ************************************************

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

     START @  0.00 hrs
     --------------------
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.01  1.38  16.68 0.28   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.12  1.33  39.64 0.67   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0208  1  1.0    0.51    0.01  2.25  39.30  n/a   0.000
*
```

```
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.02  1.38  35.28  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00  1.38  12.59 0.21   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.02  1.38  34.57  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.08  1.38  39.83 0.67   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.04  1.35  29.80 0.50   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.12  1.37  35.24  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.14  1.37  34.94  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.11  1.35  23.29 0.39   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.25  1.35  30.85  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.15  1.52  19.82 0.34   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.35  1.37  25.42  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.06  1.52  27.79 0.47   0.000
    [I%=10.0:S%= 2.00]
```

```
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 *  CALIB STANDHYD       0201  1  1.0    0.87    0.22  1.33  46.68 0.79   0.000
    [I%=67.0:S%= 1.00]
*
 ** Reservoir
    OUTFLOW:             0401  1  1.0    0.87    0.03  2.05  46.62  n/a   0.000
*
    ADD [  0004+  0401]  0813  3  1.0    1.56    0.07  1.52  38.29  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.41  1.38  28.87  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.12  1.40  35.94 0.61   0.000
    [I%=10.0:S%= 1.00]
*
    CHIC STORM                10.0
    [ Ptot= 59.07 mm ]
*
 *  CALIB STANDHYD       0202  1  2.0    2.23    0.07  1.97  18.77 0.32   0.000
    [I%= 2.0:S%= 1.00]
*
    ADD [  0202+  0813]  0820  3  1.0    8.05    0.43  1.37  26.07  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.55  1.38  27.07  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\4012e7
80-235d-4bfa-9cf5-4b6a782b6f9a\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\4012e7
80-235d-4bfa-9cf5-4b6a782b6f9a\scena


DATE: 06/25/2025                          TIME: 02:34:45

USER:


COMMENTS: ____________________________________________________________


  ************************************************
  ** SIMULATION : Run 05 - 50yr 4hr 10min Chica **
  ************************************************

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

      START @  0.00 hrs
      --------------------
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 ** CALIB NASHYD        0020  1  1.0    0.11    0.01  1.38  20.39 0.31   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.14  1.33  45.05 0.69   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:              0208  1  1.0    0.51    0.01  2.33  44.71  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.02  1.38  40.39  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
```

```
 ** CALIB NASHYD        0021  1  1.0    0.02    0.00  1.38  15.55 0.24   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.02  1.38  39.62  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.10  1.37  45.76 0.70   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.05  1.35  34.54 0.53   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.15  1.37  40.63  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.17  1.37  40.17  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.14  1.35  27.85 0.42   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.31  1.35  35.84  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.18  1.52  23.97 0.37   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.42  1.37  30.00  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.07  1.50  32.62 0.50   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 *  CALIB STANDHYD       0201  1  1.0    0.87    0.25  1.33  52.58 0.80   0.000
```

```
    [I%=67.0:S%= 1.00]
*
 ** Reservoir
    OUTFLOW:              0401  1  1.0    0.87    0.04  1.85  52.53  n/a   0.000
*
    ADD [  0004+  0401]  0813  3  1.0    1.56    0.09  1.67  43.72  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.50  1.37  33.67  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.15  1.40  41.57 0.63   0.000
    [I%=10.0:S%= 1.00]
*
    CHIC STORM                10.0
    [ Ptot= 65.64 mm ]
*
 *  CALIB STANDHYD       0202  1  2.0    2.23    0.09  1.87  22.71 0.35   0.000
    [I%= 2.0:S%= 1.00]
*
    ADD [  0202+  0813]  0820  3  1.0    8.05    0.53  1.37  30.64  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.67  1.38  31.75  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 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 6.2\VO2\voin.dat

  Output  filename:
```

```
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\ea3a46
9c-8dee-42cc-9366-96a098ec4ab3\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\ea3a46
9c-8dee-42cc-9366-96a098ec4ab3\scena


DATE: 06/25/2025                          TIME: 02:34:48

USER:


COMMENTS: ____________________________________________________________


  ************************************************
  ** SIMULATION : Run 06 - 100yr 4hr 10min Chic **
  ************************************************

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

      START @  0.00 hrs
      --------------------
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 ** CALIB NASHYD        0020  1  1.0    0.11    0.01  1.37  24.04 0.34   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.16  1.33  50.17 0.70   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:              0208  1  1.0    0.51    0.01  2.38  49.83  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.02  1.38  45.26  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 ** CALIB NASHYD        0021  1  1.0    0.02    0.00  1.38  18.50 0.26   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.02  1.38  44.42  n/a   0.000
```

```
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.08  1.47  51.34 0.72   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.06  1.35  39.09 0.54   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.13  1.38  45.74  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.15  1.38  45.14  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.16  1.35  32.26 0.45   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.31  1.35  40.62  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.22  1.52  28.03 0.39   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.45  1.38  34.42  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.09  1.48  37.26 0.52   0.000
    [I%=10.0:S%= 2.00]
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 *  CALIB STANDHYD       0201  1  1.0    0.87    0.27  1.33  58.13 0.81   0.000
    [I%=67.0:S%= 1.00]
*
 ** Reservoir
    OUTFLOW:             0401  1  1.0    0.87    0.06  1.73  58.07  n/a   0.000
*
```

```
    ADD [  0004+  0401]  0813  3  1.0    1.56    0.13  1.57  48.87  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.55  1.50  38.29  n/a   0.000
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.18  1.40  46.92 0.65   0.000
    [I%=10.0:S%= 1.00]
*
    CHIC STORM                10.0
    [ Ptot= 71.75 mm ]
*
 *  CALIB STANDHYD       0202  1  2.0    2.23    0.11  1.83  26.56 0.37   0.000
    [I%= 2.0:S%= 1.00]
*
    ADD [  0202+  0813]  0820  3  1.0    8.05    0.61  1.52  35.04  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.76  1.38  36.25  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\5dcc2c
09-384e-4e2b-b08b-75e6c1b49cd2\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\5dcc2c
09-384e-4e2b-b08b-75e6c1b49cd2\scena
```

```
DATE: 06/25/2025                          TIME: 02:34:46

USER:


COMMENTS: _____________________________________________________________


  ************************************************
  ** SIMULATION : Run 07 - 25mm                  **
  ************************************************

  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                10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.00  1.68   2.37 0.09   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    READ STORM                10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.03  1.50  13.94 0.56   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0208  1  1.0    0.51    0.01  2.15  13.60  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.01  2.05  11.60  n/a   0.000
*
    READ STORM                10.0
    [ Ptot= 25.02 mm ]
    fname :
```

```
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00  1.68   1.65 0.07   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.01  2.05  11.29  n/a   0.000
*
    READ STORM                10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.01  1.67  11.63 0.46   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.01  1.50   8.71 0.35   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.02  1.53  10.29  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.02  1.53  10.75  n/a   0.000
*
    READ STORM                10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.01  1.52   4.35 0.17   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.03  1.52   8.50  n/a   0.000
```

```
*
    READ STORM                 10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.01  1.77   3.20 0.13   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.04  1.53   5.89  n/a   0.000
*
    READ STORM                 10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.01  1.52   6.82 0.27   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 *  CALIB STANDHYD       0201  1  1.0    0.87    0.06  1.50  17.59 0.70   0.000
    [I%=67.0:S%= 1.00]
*
 ** Reservoir
    OUTFLOW:             0401  1  1.0    0.87    0.01  1.42  17.53  n/a   0.000
*
    ADD [  0004+  0401]  0813  3  1.0    1.56    0.02  1.52  12.79  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.06  1.53   7.74  n/a   0.000
*
    READ STORM                 10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI
```

```
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.01  1.85   9.88 0.39   0.000
    [I%=10.0:S%= 1.00]
*
    READ STORM                 10.0
    [ Ptot= 25.02 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\09aa03fb-6ec
e-4043-8200-70c7
    remark: 25MMCHI

*
 *  CALIB STANDHYD       0202  1  2.0    2.23    0.00  1.50   3.15 0.13   0.000
    [I%= 2.0:S%= 1.00]
*
    ADD [  0202+  0813]  0820  3  1.0    8.05    0.06  1.53   6.47  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.08  1.53   6.81  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\d24bef
c3-ba67-478f-ba07-e0e712f47f2b\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\d24bef
c3-ba67-478f-ba07-e0e712f47f2b\scena
```

```
DATE: 06/25/2025                          TIME: 02:34:50

USER:


COMMENTS: _____________________________________________________________


  ************************************************
  ** SIMULATION : Run 08 - 2yr 24hr 15min SCS T **
  ************************************************

  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                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.00 12.27   8.06 0.17   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.05 12.25  29.87 0.64   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0208  1  1.0    0.51    0.01 12.80  29.53  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.01 12.27  26.15  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
```

```
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00 12.27   5.91 0.13   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.01 12.27  25.58  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.04 12.28  29.08 0.62   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.02 12.25  21.44 0.46   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.05 12.27  25.58  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.07 12.27  25.58  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.05 12.25  12.31 0.26   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.12 12.25  22.02  n/a   0.000
```

```
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.07 12.33   9.92 0.21   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.18 12.27  17.46  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.02 12.28  19.34 0.41   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0201  1  1.0    0.87    0.09 12.25  35.88 0.77   0.000
    [I%=67.0:S%= 1.00]
*
 ** Reservoir
    OUTFLOW:             0401  1  1.0    0.87    0.01 11.98  35.83  n/a   0.000
*
    ADD [  0004+  0401]  0813  3  1.0    1.56    0.03 12.28  28.53  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.21 12.27  20.42  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)
```

```
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.05 12.30  25.83 0.55   0.000
    [I%=10.0:S%= 1.00]
*
    READ STORM                 15.0
    [ Ptot= 46.83 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\a826bf6c-8ba
9-4d22-8a5d-78df
    remark: 2yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0202  1  2.0    2.23    0.02 13.13  12.10 0.26   0.000
    [I%= 2.0:S%= 1.00]
*
    ADD [  0202+  0813]  0820  3  1.0    8.05    0.22 12.27  18.12  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.28 12.27  18.90  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\97a235
8f-5787-4efc-8103-17cb318aa025\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\97a235
8f-5787-4efc-8103-17cb318aa025\scena
```

```
DATE: 06/25/2025                          TIME: 02:34:49

USER:


COMMENTS: _____________________________________________________________


  ************************************************
  ** SIMULATION : Run 09 - 5yr 24hr 15min SCS T **
  ************************************************

  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                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.01 12.27  13.47 0.22   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.07 12.25  40.30 0.67   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0208  1  1.0    0.51    0.01 12.83  39.96  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.01 12.27  35.91  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
    fname :
```

```
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00 12.27  10.09 0.17   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.01 12.27  35.19  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.05 12.27  40.55 0.68   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.03 12.27  30.37 0.51   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.08 12.27  35.89  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.10 12.27  35.57  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.08 12.25  19.31 0.32   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.17 12.25  31.45  n/a   0.000
```

```
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.12 12.33  16.10 0.27   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.28 12.27  25.97  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.04 12.30  28.38 0.47   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0201  1  1.0    0.87    0.12 12.25  47.40 0.79   0.000
    [I%=67.0:S%= 1.00]
*
 ** Reservoir
    OUTFLOW:             0401  1  1.0    0.87    0.01 11.88  47.34  n/a   0.000
*
    ADD [  0004+  0401]  0813  3  1.0    1.56    0.05 12.30  38.95  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.33 12.27  29.45  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)
```

```
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.08 12.30  36.62 0.61   0.000
    [I%=10.0:S%= 1.00]
*
    READ STORM                 15.0
    [ Ptot= 59.88 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\61b7ea09-942
4-429a-a7c7-8d1a
    remark: 5yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0202  1  2.0    2.23    0.04 12.93  19.24 0.32   0.000
    [I%= 2.0:S%= 1.00]
*
    ADD [  0202+  0813]  0820  3  1.0    8.05    0.35 12.27  26.62  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.43 12.27  27.64  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\5cbadd
eb-e517-4944-867a-69d94b47d878\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\5cbadd
eb-e517-4944-867a-69d94b47d878\scena
```

```
DATE: 06/25/2025                          TIME: 02:34:49

USER:


COMMENTS: _____________________________________________________________


  ************************************************
  ** SIMULATION : Run 10 - 10yr 24hr 15min SCS  **
  ************************************************

  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                 15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.01 12.27  17.05 0.25   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    READ STORM                 15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.08 12.25  46.60 0.69   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0208  1  1.0    0.51    0.01 12.85  46.26  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.02 12.27  41.86  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 67.50 mm ]
    fname :
```

```
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00 12.27  12.90 0.19   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.02 12.27  41.07  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.06 12.27  47.45 0.70   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.03 12.27  35.91 0.53   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.10 12.27  42.17  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.11 12.27  41.67  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.09 12.25  23.78 0.35   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.21 12.25  37.28  n/a   0.000
```

```
*
    READ STORM                 15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.15 12.33  20.12 0.30   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.34 12.27  31.33  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.05 12.30  34.02 0.50   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0201  1  1.0    0.87    0.14 12.25  54.26 0.80   0.000
    [I%=67.0:S%= 1.00]
*
 ** Reservoir
    OUTFLOW:             0401  1  1.0    0.87    0.01 11.85  54.20  n/a   0.000
*
    ADD [  0004+  0401]  0813  3  1.0    1.56    0.06 12.30  45.27  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.40 12.27  35.06  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)
```

```
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.10 12.30  43.19 0.64   0.000
    [I%=10.0:S%= 1.00]
*
    READ STORM                 15.0
    [ Ptot= 67.50 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\9c3df5b9-296
b-47e9-810d-a488
    remark: 10yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0202  1  2.0    2.23    0.06 12.80  23.86 0.35   0.000
    [I%= 2.0:S%= 1.00]
*
    ADD [  0202+  0813]  0820  3  1.0    8.05    0.43 12.27  31.96  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.53 12.27  33.10  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\c419fc
4e-dac9-418f-b42e-1f7247b9f5ef\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\c419fc
4e-dac9-418f-b42e-1f7247b9f5ef\scena
```

```
DATE: 06/25/2025                          TIME: 02:34:50

USER:


COMMENTS: _____________________________________________________________


  ************************************************
  ** SIMULATION : Run 11 - 25yr 24hr 15min SCS  **
  ************************************************

  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                 15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.01 12.27  22.44 0.29   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    READ STORM                 15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.10 12.25  55.56 0.71   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0208  1  1.0    0.51    0.01 12.87  55.22  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.02 12.27  50.39  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 78.08 mm ]
    fname :
```

```
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00 12.27  17.22 0.22   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.02 12.27  49.50  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.08 12.27  57.20 0.73   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.04 12.27  43.93 0.56   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.12 12.27  51.13  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.14 12.27  50.39  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.12 12.25  30.37 0.39   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.26 12.25  45.68  n/a   0.000
```

```
*
    READ STORM                 15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.19 12.33  26.11 0.33   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.43 12.27  39.14  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.07 12.30  42.19 0.54   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0201  1  1.0    0.87    0.16 12.25  63.91 0.82   0.000
    [I%=67.0:S%= 1.00]
*
 ** Reservoir
    OUTFLOW:             0401  1  1.0    0.87    0.01 13.33  63.86  n/a   0.000
*
    ADD [  0004+  0401]  0813  3  1.0    1.56    0.08 12.30  54.28  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.51 12.27  43.19  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)
```

```
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.13 12.28  52.53 0.67   0.000
    [I%=10.0:S%= 1.00]
*
    READ STORM                 15.0
    [ Ptot= 78.08 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\b95ee7a7-0d8
9-4f7c-9b0c-3a65
    remark: 25yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0202  1  2.0    2.23    0.09 12.73  30.72 0.39   0.000
    [I%= 2.0:S%= 1.00]
*
    ADD [  0202+  0813]  0820  3  1.0    8.05    0.55 12.27  39.74  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.68 12.27  41.04  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L             (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\d39713
85-d7c6-4109-8d5d-57bb9c361fdf\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\d39713
85-d7c6-4109-8d5d-57bb9c361fdf\scena
```

```
DATE: 06/25/2025                          TIME: 02:34:51

USER:


COMMENTS: _____________________________________________________________


  ************************************************
  ** SIMULATION : Run 12 - 50yr 24hr 15min SCS  **
  ************************************************

  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                 15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.01 12.27  26.43 0.31   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    READ STORM                 15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.11 12.25  61.90 0.72   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0208  1  1.0    0.51    0.01 12.88  61.56  n/a   0.000
*
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.02 12.27  56.46  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 85.42 mm ]
    fname :
```

```
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00 12.27  20.46 0.24   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.02 12.27  55.50  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.09 12.27  64.06 0.75   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.05 12.27  49.68 0.58   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.14 12.27  57.48  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.16 12.27  56.58  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0003  1  1.0    0.76    0.14 12.25  35.16 0.41   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.30 12.25  51.68  n/a   0.000
```

```
*
    READ STORM                 15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.22 12.32  30.51 0.36   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.50 12.27  44.77  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.08 12.28  48.07 0.56   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0201  1  1.0    0.87    0.18 12.25  70.69 0.83   0.000
    [I%=67.0:S%= 1.00]
*
 ** Reservoir
    OUTFLOW:             0401  1  1.0    0.87    0.02 12.88  70.63  n/a   0.000
*
    ADD [  0004+  0401]  0813  3  1.0    1.56    0.09 12.28  60.65  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.59 12.27  49.02  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)
```

```
*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.15 12.28  59.14 0.69   0.000
    [I%=10.0:S%= 1.00]
*
    READ STORM                 15.0
    [ Ptot= 85.42 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\1be03e5a-93a
3-4cc2-beb5-c60f
    remark: 50yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0202  1  2.0    2.23    0.11 12.67  35.74 0.42   0.000
    [I%= 2.0:S%= 1.00]
*
    ADD [  0202+  0813]  0820  3  1.0    8.05    0.65 12.27  45.35  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.80 12.27  46.75  n/a   0.000
*
 FINISH

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

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


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
```

```
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\34f911
0e-3ea4-4969-a7af-2bb762781192\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\34f911
0e-3ea4-4969-a7af-2bb762781192\scena


DATE: 06/25/2025                          TIME: 02:34:48

USER:


COMMENTS: _____________________________________________________


  ************************************************
  ** SIMULATION : Run 13 - 100yr 24hr 15min SCS **
  ************************************************

  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                 15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.02 12.27  30.68 0.33   0.000
    [CN=70.7         ]
    [ N = 3.0:Tp 0.08]
*
    READ STORM                 15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.12 12.25  68.44 0.74   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0208  1  1.0    0.51    0.01 12.92  68.10  n/a   0.000
*
```

```
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.02 12.27  62.74  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00 12.27  23.95 0.26   0.000
    [CN=62.0         ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.03 12.27  61.72  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.10 12.27  71.09 0.77   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.06 12.27  55.66 0.60   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.16 12.27  64.03  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.18 12.27  62.98  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
```

```
 *  CALIB NASHYD         0003  1  1.0    0.76    0.16 12.25  40.19 0.43   0.000
    [CN=78.2        ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.34 12.25  57.90  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.26 12.32  35.15 0.38   0.000
    [CN=74.8        ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.57 12.27  50.65  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.10 12.28  54.18 0.58   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0201  1  1.0    0.87    0.19 12.25  77.63 0.84   0.000
    [I%=67.0:S%= 1.00]
*
 ** Reservoir
    OUTFLOW:             0401  1  1.0    0.87    0.04 12.80  77.57  n/a   0.000
*
    ADD [  0004+  0401]  0813  3  1.0    1.56    0.11 12.28  67.23  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.67 12.27  55.09  n/a   0.000
*
    READ STORM                 15.0
```

```
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.17 12.28  65.95 0.71   0.000
    [I%=10.0:S%= 1.00]
*
    READ STORM                 15.0
    [ Ptot= 92.89 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\e0e15cc0-105
6-48ad-bf8b-bb30
    remark: 100yr 24hr 15min SCS Type II (MTO)

*
 *  CALIB STANDHYD       0202  1  2.0    2.23    0.13 12.63  41.05 0.44   0.000
    [I%= 2.0:S%= 1.00]
*
    ADD [  0202+  0813]  0820  3  1.0    8.05    0.74 12.27  51.20  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.91 12.27  52.70  n/a   0.000
*
================================================================================
======================


       V    V   I    SSSSS  U   U    A    L              (v 6.2.2015)
       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 6.2\VO2\voin.dat

  Output  filename:
```

```
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\2fde71
fc-6cfb-4127-af10-8c3223686fa3\scena
  Summary filename:
C:\Users\pwalsh\AppData\Local\Civica\VH5\1282ccf0-8c55-4f1e-b555-6d670b64a25d\2fde71
fc-6cfb-4127-af10-8c3223686fa3\scena


DATE: 06/25/2025                          TIME: 02:34:48

USER:


COMMENTS: _____________________________________________________________


  ************************************************
  ** SIMULATION : Run 14 - TIMMINS.STM          **
  ************************************************

  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                 15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 ** CALIB NASHYD         0020  1  1.0    0.11    0.01  7.00 117.89 0.61   0.000
    [CN=70.7        ]
    [ N = 3.0:Tp 0.08]
*
    READ STORM                 15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 ** CALIB STANDHYD       0022  1  1.0    0.51    0.05  7.00 161.02 0.83   0.000
    [I%=50.0:S%= 2.00]
*
 ** Reservoir
    OUTFLOW:             0208  1  1.0    0.51    0.05  7.02 160.68  n/a   0.000
*
```

```
    ADD [  0020+  0208]  0806  3  1.0    0.62    0.06  7.00 153.09  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 ** CALIB NASHYD         0021  1  1.0    0.02    0.00  7.00 100.40 0.52   0.000
    [CN=62.0        ]
    [ N = 3.0:Tp 0.08]
*
    ADD [  0021+  0806]  0807  3  1.0    0.64    0.07  7.00 151.44  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 *  CALIB STANDHYD       0023  1  1.0    0.42    0.05  7.00 168.22 0.87   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                 15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 *  CALIB STANDHYD       0001  1  1.0    0.35    0.03  7.00 143.59 0.74   0.000
    [I%=25.0:S%= 2.00]
*
    ADD [  0001+  0023]  0821  3  1.0    0.77    0.08  7.00 156.95  n/a   0.000
*
    ADD [  0807+  0821]  0810  3  1.0    1.41    0.15  7.00 154.44  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
```

```
 *  CALIB NASHYD         0003  1  1.0    0.76    0.08  7.00 136.32 0.71   0.000
    [CN=78.2         ]
    [ N = 3.0:Tp 0.05]
*
    ADD [  0003+  0810]  0811  3  1.0    2.17    0.22  7.00 148.08  n/a   0.000
*
    READ STORM                15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 *  CALIB NASHYD         0005  1  1.0    2.10    0.20  7.02 127.57 0.66   0.000
    [CN=74.8         ]
    [ N = 3.0:Tp 0.17]
*
    ADD [  0005+  0811]  0812  3  1.0    4.26    0.42  7.00 137.98  n/a   0.000
*
    READ STORM                15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 *  CALIB STANDHYD       0004  1  1.0    0.69    0.07  7.00 143.69 0.74   0.000
    [I%=10.0:S%= 2.00]
*
    READ STORM                15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 *  CALIB STANDHYD       0201  1  1.0    0.87    0.09  7.00 173.58 0.90   0.000
    [I%=67.0:S%= 1.00]
*
 ** Reservoir
    OUTFLOW:             0401  1  1.0    0.87    0.09  7.03 173.53  n/a   0.000
*
    ADD [  0004+  0401]  0813  3  1.0    1.56    0.16  7.02 160.33  n/a   0.000
*
    ADD [  0813+  0812]  0813  1  1.0    5.82    0.58  7.00 143.97  n/a   0.000
*
    READ STORM                15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 *  CALIB STANDHYD       0009  1  1.0    0.91    0.10  7.00 161.34 0.84   0.000
    [I%=10.0:S%= 1.00]
*
    READ STORM                15.0
    [ Ptot=193.00 mm ]
    fname :
C:\Users\pwalsh\AppData\Local\Temp\696549e9-f595-46d6-8d76-a9e328798eb9\3552f2f3-01d
0-4883-bda1-cabd
    remark: TIMMINS.STM

*
 *  CALIB STANDHYD       0202  1  2.0    2.23    0.17  7.20 123.12 0.64   0.000
    [I%= 2.0:S%= 1.00]
*
    ADD [  0202+  0813]  0820  3  1.0    8.05    0.74  7.00 138.19  n/a   0.000
*
    ADD [  0820+  0009]  0820  1  1.0    8.96    0.84  7.00 140.54  n/a   0.000
*
```

TATHAM ENGINEERING

Storm Sewer Design Sheet

Project Information

11476 Highway 26	120232

Drawing Reference

SG-01	June 19/25

Prepared By

ANF	June 19/25

Reviewed By

KRS	-

Municipality

Town of Collingwood

Runoff Coefficient Adjustment

Equation	3	
Year	A	B
10	1.00	0.00
25	1.10	0.00
50	1.20	0.00
100	1.25	0.00

Time of Concentration

10 mins

IDF Curve Coefficients

Year	A	B	C
2	807.44	6.75	0.83
5	1135.40	7.50	0.84
10	1387.00	7.97	0.85
25	1676.20	8.30	0.86
50	1973.10	9.00	0.87
100	2193.10	9.04	0.87

Manning's Coefficient

Material	Value
CSP	0.024
Concrete	0.013
PVC	0.013

Notes

Version Date: June 20, 2025

Version Number: 0

Engineer Stamp

Street Name	Area ID / Label	Upstream Maintenance Hole	Downstream Maintenance Hole	Area (ha)	5 Year Runoff Coefficient (C)	Design Storm (Year)	Adjusted Runoff Coefficient (C)	Area × Runoff Coefficient	Cumulative Area (ha)	Cumulative Area × Adjusted Runoff Coefficient	Time of Concentration (min)	Rainfall Intensity (mm/hr)	Peak Flow (m^3/s)	Manning's Roughness Coefficient	Sewer Length (m)	Sewer Slope (%)	Actual Sewer Diameter (mm)	Full Flow Velocity (m/s)	Full Flow Capacity (m^3/s)	Actual Velocity (m/s)	Travel Time (min)	Calculated Sewer Diameter (mm)	Percentage of Full Flow Capacity (%)	Total Time of Travel (min)
	A	CB-2	CBMH-3	0.03	0.90	100	1.00	0.03	0.03	0.03	10.00	168.45	0.014	0.013	28.0	0.5%	300	0.92	0.065	0.68	0.68	169	21.6%	10.68
	B	CBMH-3	CBMH-1	0.03	0.90	100	1.00	0.03	0.06	0.06	10.68	163.35	0.027	0.013	14.0	0.5%	300	0.97	0.068	0.85	0.28	212	39.8%	10.96
	C	CBMH-1	CBMH-2	0.05	0.90	100	1.00	0.05	0.11	0.11	10.96	161.39	0.049	0.013	12.0	0.5%	300	0.97	0.068	0.97	0.21	265	72.1%	11.17
	D	CBMH-2	OGS	0.06	0.90	100	1.00	0.06	0.17	0.17	11.17	159.95	0.076	0.013	12.5	0.5%	375	1.12	0.124	1.10	0.19	311	60.9%	11.35
	E	OGS	TANK	0.37	0.90	100	1.00	0.37	0.54	0.54	11.35	158.66	0.238	0.013	45.0	0.5%	525	1.40	0.304	1.40	0.53	479	78.3%	11.89
	-	TANK	OUTLET	0.00	0.90	100	1.00	0.00	0.54	0.54	11.89	155.13	0.233	0.013	3.0	0.5%	525	1.40	0.304	1.40	0.04	475	76.7%	11.92
				-			#N/A	0.00	-	-	10.00	168.45	0.180											

Appendix D:
Water Quality Control

Stormceptor®

Rinker MATERIALS™

Stormceptor® EF Sizing Report

Imbrium® Systems
ESTIMATED NET ANNUAL SEDIMENT (TSS) LOAD REDUCTION

06/16/2025

Province:	Ontario
City:	Collingwood
Nearest Rainfall Station:	BARRIE-ORO
Climate Station Id:	6117700
Years of Rainfall Data:	14

Site Name:	

Drainage Area (ha):	0.25
% Imperviousness:	100.00

Runoff Coefficient 'c': 0.90

Particle Size Distribution:	Fine
Target TSS Removal (%):	80.0

Required Water Quality Runoff Volume Capture (%):	
Estimated Water Quality Flow Rate (L/s):	7.33
Oil / Fuel Spill Risk Site?	Yes
Upstream Flow Control?	No
Peak Conveyance (maximum) Flow Rate (L/s):	35.60
Influent TSS Concentration (mg/L):	100
Estimated Average Annual Sediment Load (kg/yr):	147
Estimated Average Annual Sediment Volume (L/yr):	119

Project Name:	11476 Hwy 26
Project Number:	120232
Designer Name:	Patrick Walsh
Designer Company:	Tatham Engineering
Designer Email:	pwalsh@tathameng.com
Designer Phone:	705-444-2565
EOR Name:	Patrick Walsh
EOR Company:	Tatham Engineering
EOR Email:	pwalsh@tathameng.com
EOR Phone:	705-444-2565

Net Annual Sediment (TSS) Load Reduction Sizing Summary

Stormceptor Model	TSS Removal Provided (%)
EFO4	92
EFO5	95
EFO6	97
EFO8	99
EFO10	100
EFO12	100

Recommended Stormceptor EFO Model: EFO4

Estimated Net Annual Sediment (TSS) Load Reduction (%): 92

Water Quality Runoff Volume Capture (%): > 90

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THIRD-PARTY TESTING AND VERIFICATION

►**Stormceptor® EF and Stormceptor® EFO** are the latest evolutions in the Stormceptor® oil-grit separator (OGS) technology series, and are designed to remove a wide variety of pollutants from stormwater and snowmelt runoff. These technologies have been third-party tested in accordance with the Canadian ETV **Procedure for Laboratory Testing of Oil-Grit Separators** and performance has been third-party verified in accordance with the **ISO 14034 Environmental Technology Verification (ETV)** protocol.

PERFORMANCE

►**Stormceptor® EF and EFO** remove stormwater pollutants through gravity separation and floatation, and feature a patent-pending design that generates positive removal of total suspended solids (TSS) throughout each storm event, including high-intensity storms. Captured pollutants include sediment, free oils, and sediment-bound pollutants such as nutrients, heavy metals, and petroleum hydrocarbons. Stormceptor is sized to remove a high level of TSS from the frequent rainfall events that contribute the vast majority of annual runoff volume and pollutant load. The technology incorporates an internal bypass to convey excessive stormwater flows from high-intensity storms through the device without resuspension and washout (scour) of previously captured pollutants. Proper routine maintenance ensures high pollutant removal performance and protection of downstream waterwavs.

PARTICLE SIZE DISTRIBUTION (PSD)

►The **Canadian ETV PSD** shown in the table below was used, or in part, for this sizing. This is the identical PSD that is referenced in the Canadian ETV ***Procedure for Laboratory Testing of Oil-Grit Separators*** for both sediment removal testing and scour testing. The Canadian ETV PSD contains a wide range of particle sizes in the sand and silt fractions, and is considered reasonably representative of the particle size fractions found in typical urban stormwater runoff.

Particle Size (µm)	Percent Less Than	Particle Size Fraction (µm)	Percent
1000	100	500-1000	5
500	95	250-500	5
250	90	150-250	15
150	75	100-150	15
100	60	75-100	10
75	50	50-75	5
50	45	20-50	10
20	35	8-20	15
8	20	5-8	10
5	10	2-5	5
2	5	<2	5

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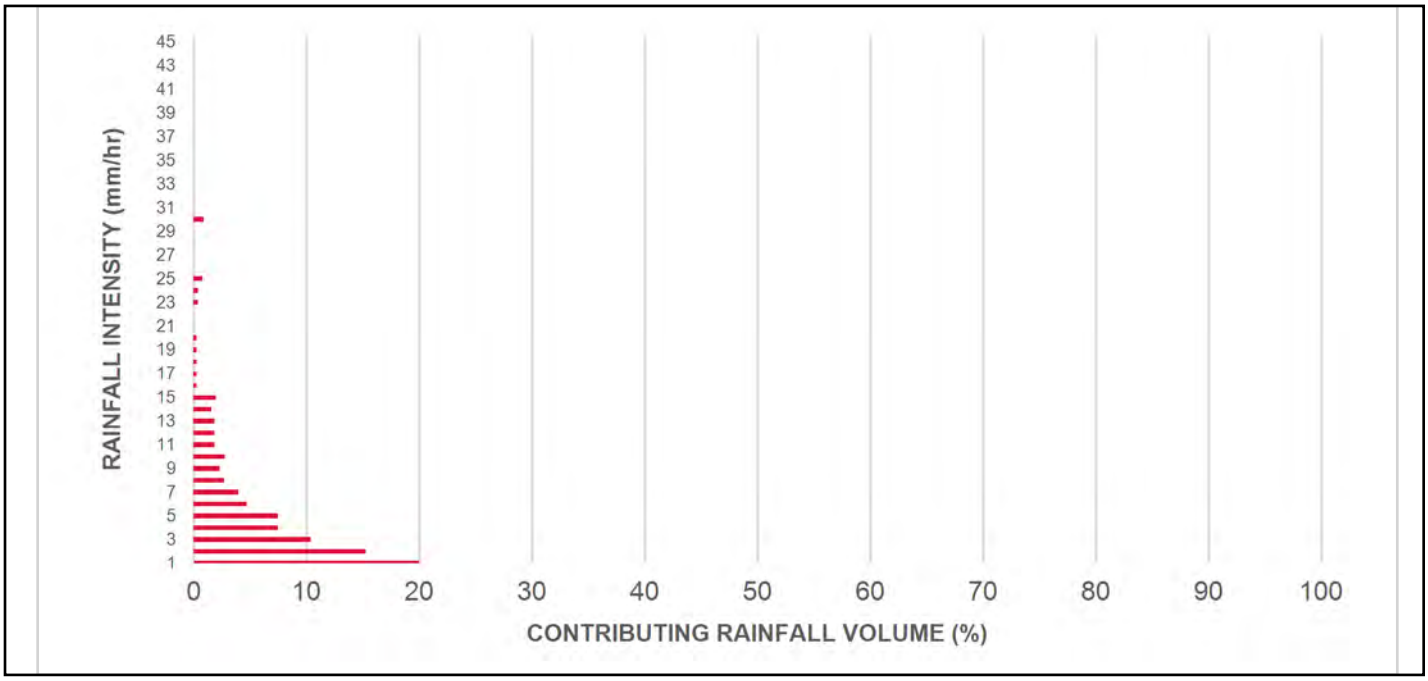
Stormceptor® EF Sizing Report

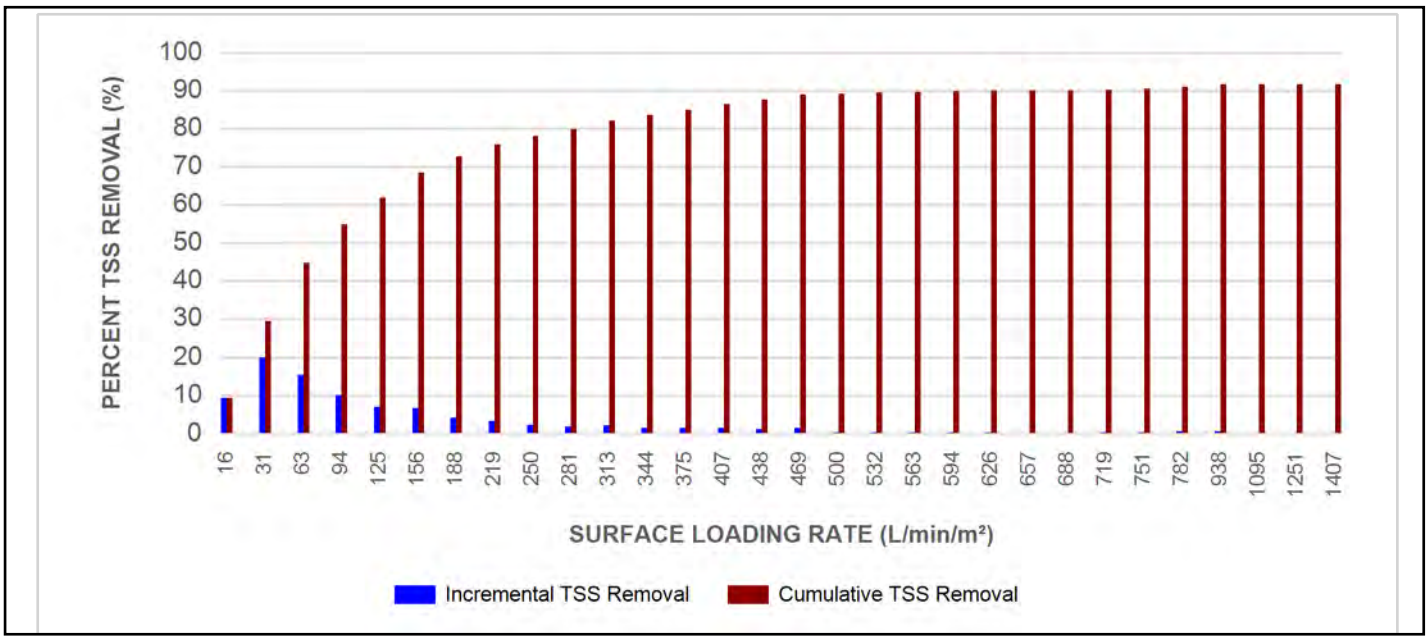
Rainfall Intensity (mm / hr)	Percent Rainfall Volume (%)	Cumulative Rainfall Volume (%)	Flow Rate (L/s)	Flow Rate (L/min)	Surface Loading Rate (L/min/m²)	Removal Efficiency (%)	Incremental Removal (%)	Cumulative Removal (%)
0.50	9.4	9.4	0.31	19.0	16.0	100	9.4	9.4
1.00	20.0	29.4	0.63	38.0	31.0	100	20.0	29.4
2.00	15.3	44.7	1.25	75.0	63.0	100	15.3	44.7
3.00	10.4	55.1	1.88	113.0	94.0	97	10.1	54.8
4.00	7.5	62.6	2.50	150.0	125.0	93	7.0	61.8
5.00	7.5	70.1	3.13	188.0	156.0	89	6.7	68.5
6.00	4.7	74.9	3.75	225.0	188.0	86	4.0	72.6
7.00	4.0	78.8	4.38	263.0	219.0	83	3.3	75.9
8.00	2.7	81.6	5.00	300.0	250.0	81	2.2	78.1
9.00	2.3	83.9	5.63	338.0	281.0	79	1.8	79.9
10.00	2.8	86.6	6.26	375.0	313.0	78	2.2	82.1
11.00	1.9	88.6	6.88	413.0	344.0	77	1.5	83.6
12.00	1.9	90.5	7.51	450.0	375.0	75	1.5	85.0
13.00	1.9	92.4	8.13	488.0	407.0	74	1.4	86.4
14.00	1.6	94.0	8.76	525.0	438.0	72	1.2	87.6
15.00	2.0	96.0	9.38	563.0	469.0	71	1.4	89.0
16.00	0.3	96.3	10.01	600.0	500.0	69	0.2	89.2
17.00	0.3	96.6	10.63	638.0	532.0	68	0.2	89.4
18.00	0.3	96.9	11.26	676.0	563.0	66	0.2	89.6
19.00	0.3	97.2	11.88	713.0	594.0	65	0.2	89.8
20.00	0.3	97.5	12.51	751.0	626.0	64	0.2	90.0
21.00	0.0	97.5	13.14	788.0	657.0	64	0.0	90.0
22.00	0.0	97.5	13.76	826.0	688.0	64	0.0	90.0
23.00	0.4	97.9	14.39	863.0	719.0	64	0.2	90.2
24.00	0.4	98.3	15.01	901.0	751.0	63	0.3	90.5
25.00	0.8	99.1	15.64	938.0	782.0	63	0.5	91.0
30.00	0.9	100.0	18.77	1126.0	938.0	62	0.6	91.6
35.00	0.0	100.0	21.89	1314.0	1095.0	59	0.0	91.6
40.00	0.0	100.0	25.02	1501.0	1251.0	56	0.0	91.6
45.00	0.0	100.0	28.15	1689.0	1407.0	52	0.0	91.6
Estimated Net Annual Sediment (TSS) Load Reduction =								**92 %**

Climate Station ID: 6117700 *Years of Rainfall Data*: 14

RAINFALL DATA FROM BARRIE-ORO RAINFALL STATION



INCREMENTAL AND CUMULATIVE TSS REMOVAL FOR THE RECOMMENDED STORMCEPTOR® MODEL



Maximum Pipe Diameter / Peak Conveyance

Stormceptor EF / EFO	Model Diameter		Min Angle Inlet / Outlet Pipes	Max Inlet Pipe Diameter		Max Outlet Pipe Diameter		Peak Conveyance Flow Rate	
	(m)	(ft)		(mm)	(in)	(mm)	(in)	(L/s)	(cfs)
EF4 / EFO4	1.2	4	90	609	24	609	24	425	15
EF5 / EFO5	1.5	5	90	762	30	762	30	710	25
EF6 / EFO6	1.8	6	90	914	36	914	36	990	35
EF8 / EFO8	2.4	8	90	1219	48	1219	48	1700	60
EF10 / EFO10	3.0	10	90	1828	72	1828	72	2830	100
EF12 / EFO12	3.6	12	90	1828	72	1828	72	2830	100

SCOUR PREVENTION AND ONLINE CONFIGURATION

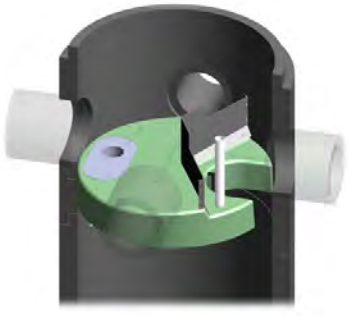
►**Stormceptor® EF and EFO** feature an internal bypass and superior scour prevention technology that have been demonstrated in third-party testing according to the scour testing provisions of the Canadian ETV **Procedure for Laboratory Testing of Oil-Grit Separators**, and the exceptional scour test performance has been third-party verified in accordance with the ISO 14034 ETV protocol. As a result, Stormceptor EF and EFO are approved for online installation, eliminating the need for costly additional bypass structures, piping, and installation expense.

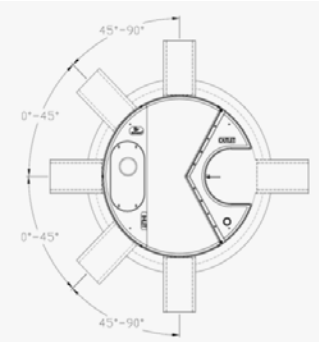
DESIGN FLEXIBILITY

►**Stormceptor® EF** and **EFO** offers design flexibility in one simplified platform, accepting stormwater flow from a single inlet pipe or multiple inlet pipes, and/or surface runoff through an inlet grate. The device can also serve as a junction structure, accommodate a 90-degree inlet-to-outlet bend angle, and can be modified to ensure performance in submerged conditions.

OIL CAPTURE AND RETENTION

►While Stormceptor® EF will capture and retain oil from dry weather spills and low intensity runoff, **Stormceptor® EFO** has demonstrated superior oil capture and greater than 99% oil retention in third-party testing according to the light liquid re-entrainment testing provisions of the Canadian ETV **Procedure for Laboratory Testing of Oil-Grit Separators**. Stormceptor EFO is recommended for sites where oil capture and retention is a requirement.





INLET-TO-OUTLET DROP

Elevation differential between inlet and outlet pipe inverts is dictated by the angle at which the inlet pipe(s) enters the unit.

0° - 45° : The inlet pipe is 1-inch (25mm) higher than the outlet pipe.

45° - 90° : The inlet pipe is 2-inches (50mm) higher than the outlet pipe.

HEAD LOSS

The head loss through Stormceptor EF is similar to that of a 60-degree bend structure. The applicable K value for calculating minor losses through the unit is 1.1. For submerged conditions the applicable K value is 3.0.

Pollutant Capacity

Stormceptor EF / EFO	Model Diameter		Depth (Outlet Pipe Invert to Sump Floor)		Oil Volume		Recommended Sediment Maintenance Depth *		Maximum Sediment Volume *		Maximum Sediment Mass **	
	(m)	(ft)	(m)	(ft)	(L)	(Gal)	(mm)	(in)	(L)	(ft^3)	(kg)	(lb)
EF4 / EFO4	1.2	4	1.52	5.0	265	70	203	8	1190	42	1904	5250
EF5 / EFO5	1.5	5	1.62	5.3	420	111	305	10	2124	75	2612	5758
EF6 / EFO6	1.8	6	1.93	6.3	610	160	305	12	3470	123	5552	15375
EF8 / EFO8	2.4	8	2.59	8.5	1070	280	610	24	8780	310	14048	38750
EF10 / EFO10	3.0	10	3.25	10.7	1670	440	610	24	17790	628	28464	78500
EF12 / EFO12	3.6	12	3.89	12.8	2475	655	610	24	31220	1103	49952	137875

*Increased sump depth may be added to increase sediment storage capacity

** Average density of wet packed sediment in sump = 1.6 kg/L (100 lb/ft^3)

Feature	Benefit	Feature Appeals To
Patent-pending enhanced flow treatment and scour prevention technology	Superior, verified third-party performance	Regulator, Specifying & Design Engineer
Third-party verified light liquid capture and retention for EFO version	Proven performance for fuel/oil hotspot locations	Regulator, Specifying & Design Engineer, Site Owner
Functions as bend, junction or inlet structure	Design flexibility	Specifying & Design Engineer
Minimal drop between inlet and outlet	Site installation ease	Contractor
Large diameter outlet riser for inspection and maintenance	Easy maintenance access from grade	Maintenance Contractor & Site Owner

STANDARD STORMCEPTOR EF/EFO DRAWINGS

For standard details, please visit http://www.imbriumsystems.com/stormwater-treatment-solutions/stormceptor-ef

STANDARD STORMCEPTOR EF/EFO SPECIFICATION

For specifications, please visit http://www.imbriumsystems.com/stormwater-treatment-solutions/stormceptor-ef

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STANDARD PERFORMANCE SPECIFICATION FOR "OIL GRIT SEPARATOR" (OGS) STORMWATER QUALITY TREAMENT DEVICE

PART 1 – GENERAL

1.1 WORK INCLUDED

This section specifies requirements for selecting, sizing, and designing an underground Oil Grit Separator (OGS) device for stormwater quality treatment, with third-party testing results and a Statement of Verification in accordance with ISO 14034 Environmental Management – Environmental Technology Verification (ETV).

1.2 REFERENCE STANDARDS & PROCEDURES

ISO 14034:2016 Environmental management – Environmental technology verification (ETV)

Canadian Environmental Technology Verification (ETV) Program's **Procedure for Laboratory Testing of Oil-Grit Separators**

1.3 SUBMITTALS

1.3.1 All submittals, including sizing reports & shop drawings, shall be submitted upon request with each order to the contractor then forwarded to the Engineer of Record for review and acceptance. Shop drawings shall detail all OGS components, elevations, and sequence of construction.

1.3.2 Alternative devices shall have features identical to or greater than the specified device, including: treatment chamber diameter, treatment chamber wet volume, sediment storage volume, and oil storage volume.

1.3.3 Unless directed otherwise by the Engineer of Record, OGS stormwater quality treatment product substitutions or alternatives submitted within ten days prior to project bid shall not be accepted. All alternatives or substitutions submitted shall be signed and sealed by a local registered Professional Engineer, based on the exact same criteria detailed in Section 3, in entirety, subject to review and approval by the Engineer of Record.

PART 2 – PRODUCTS

2.1 OGS POLLUTANT STORAGE

The OGS device shall include a sump for sediment storage, and a protected volume for the capture and storage of petroleum hydrocarbons and buoyant gross pollutants. The minimum sediment & petroleum hydrocarbon storage capacity shall be as follows:

2.1.1	4 ft (1219 mm) Diameter OGS Units:	1.19 m^3 sediment / 265 L oil
	5 ft (1524 mm) Diameter OGS Units:	1.95 m^3 sediment / 420 L oil
	6 ft (1829 mm) Diameter OGS Units:	3.48 m^3 sediment / 609 L oil
	8 ft (2438 mm) Diameter OGS Units:	8.78 m^3 sediment / 1,071 L oil
	10 ft (3048 mm) Diameter OGS Units:	17.78 m^3 sediment / 1,673 L oil
	12 ft (3657 mm) Diameter OGS Units:	31.23 m^3 sediment / 2,476 L oil

PART 3 – PERFORMANCE & DESIGN

3.1 GENERAL

The OGS stormwater quality treatment device shall be verified in accordance with ISO 14034:2016 Environmental management – Environmental technology verification (ETV). The OGS stormwater quality treatment device shall remove oil, sediment and gross pollutants from stormwater runoff during frequent wet weather events, and retain these pollutants during less frequent high flow wet weather events below the insert within the OGS for later removal during maintenance. The Manufacturer shall have at least ten (10) years of local experience, history and success in engineering design, manufacturing and production and supply of OGS stormwater quality treatment device systems, acceptable to the Engineer of Record.

3.2 SIZING METHODOLOGY

The OGS device shall be engineered, designed and sized to provide stormwater quality treatment based on treating a minimum of 90 percent of the average annual runoff volume and a minimum removal of an annual average 60% of the sediment (TSS) load based on the Particle Size Distribution (PSD) specified in the sizing report for the specified device. Sizing of the OGS shall be determined by use of a minimum ten (10) years of local historical rainfall data provided by Environment Canada. Sizing shall also be determined by use of the sediment removal performance data derived from the ISO 14034 ETV third-party verified laboratory testing data from testing conducted in accordance with the Canadian ETV protocol Procedure for Laboratory Testing of Oil-Grit Separators, as follows:

3.2.1 Sediment removal efficiency for a given surface loading rate and its associated flow rate shall be based on sediment removal efficiency demonstrated at the seven (7) tested surface loading rates specified in the protocol, ranging 40 L/min/m^2 to 1400 L/min/m^2, and as stated in the ISO 14034 ETV Verification Statement for the OGS device.

3.2.2 Sediment removal efficiency for surface loading rates between 40 L/min/m^2 and 1400 L/min/m^2 shall be based on linear interpolation of data between consecutive tested surface loading rates.

3.2.3 Sediment removal efficiency for surface loading rates less than the lowest tested surface loading rate of 40 L/min/m^2 shall be assumed to be identical to the sediment removal efficiency at 40 L/min/m^2. No extrapolation shall be allowed that results in a sediment removal efficiency that is greater than that demonstrated at 40 L/min/m^2.

3.2.4 Sediment removal efficiency for surface loading rates greater than the highest tested surface loading rate of 1400 L/min/m^2 shall assume zero sediment removal for the portion of flow that exceeds 1400 L/min/m^2, and shall be calculated using a simple proportioning formula, with 1400 L/min/m^2 in the numerator and the higher surface loading rate in the denominator, and multiplying the resulting fraction times the sediment removal efficiency at 1400 L/min/m^2.

The OGS device shall also have sufficient annual sediment storage capacity as specified and calculated in Section 2.1.

3.3 CANADIAN ETV or ISO 14034 ETV VERIFICATION OF SCOUR TESTING

The OGS device shall have Canadian ETV or ISO 14034 ETV Verification of third-party scour testing conducted in accordance with the Canadian ETV Program's **Procedure for Laboratory Testing of Oil-Grit Separators.**

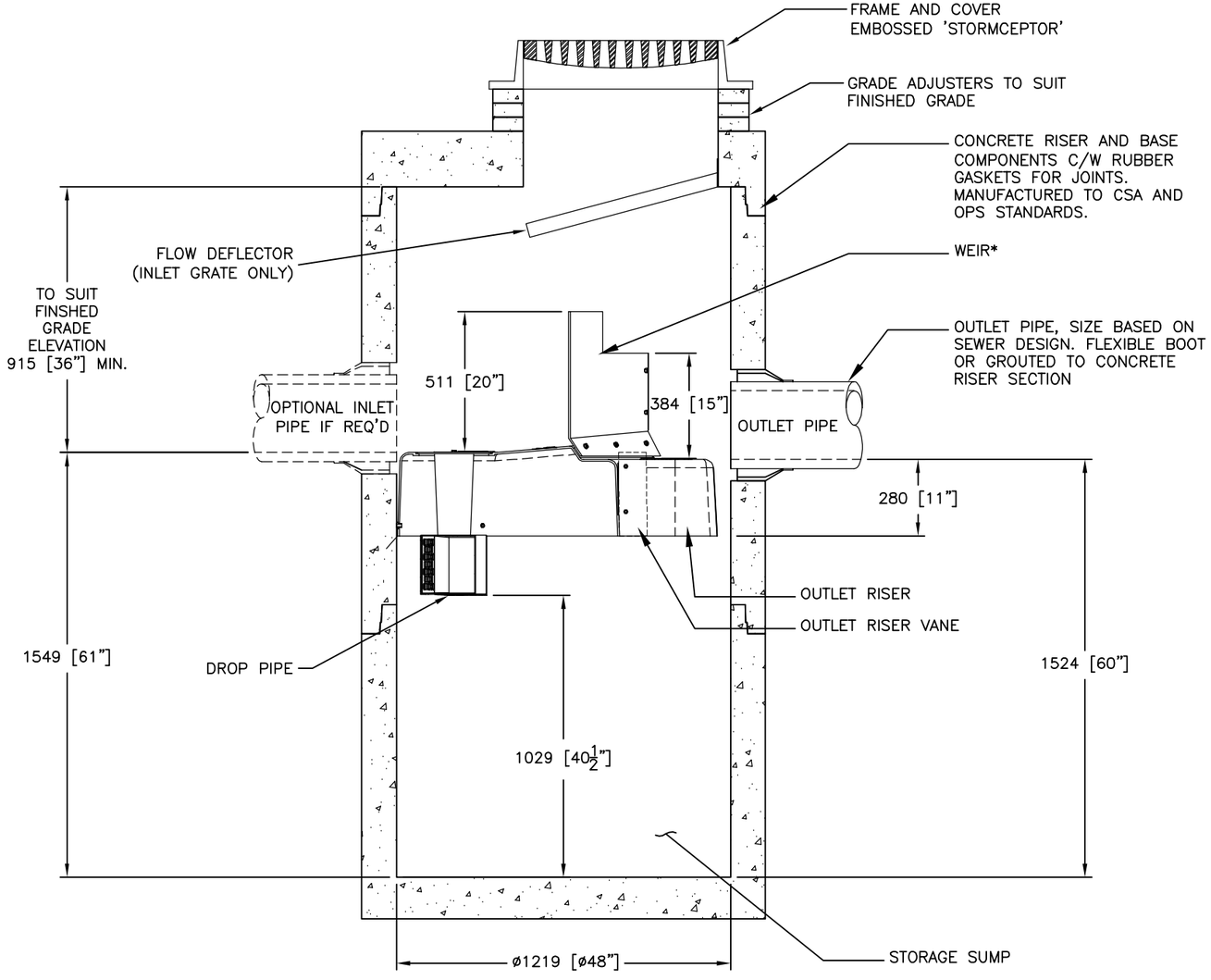
3.3.1 To be acceptable for on-line installation, the OGS device must demonstrate an average scour test effluent concentration less than 10 mg/L at each surface loading rate tested, up to and including 2600 L/min/m^2.

3.4 LIGHT LIQUID RE-ENTRAINMENT SIMULATION TESTING

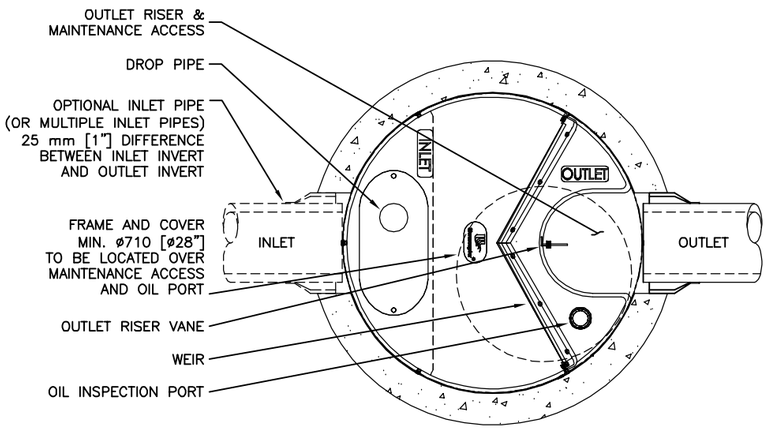
The OGS device shall have Canadian ETV or ISO 14034 ETV Verification of completed third-party Light Liquid

Re-entrainment Simulation Testing in accordance with the Canadian ETV **Program's Procedure for Laboratory Testing of Oil-Grit Separators,** with results reported within the Canadian ETV or ISO 14034 ETV verification. This re-entrainment testing is conducted with the device pre-loaded with low density polyethylene (LDPE) plastic beads as a surrogate for light liquids such as oil and fuel. Testing is conducted on the same OGS unit tested for sediment removal to assess whether light liquids captured after a spill are effectively retained at high flow rates.

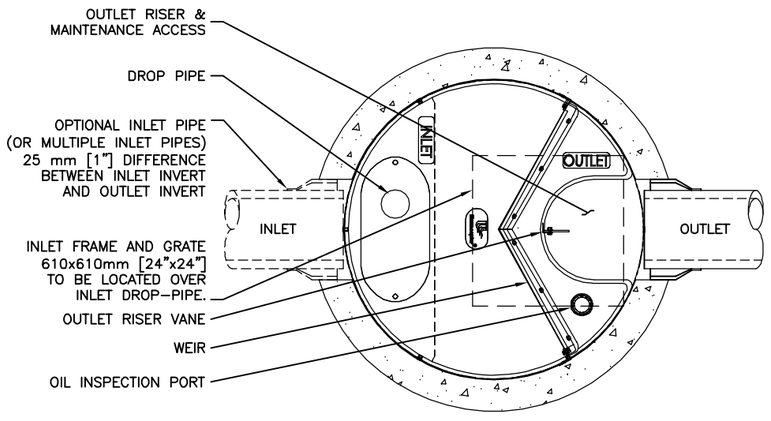
3.4.1 For an OGS device to be an acceptable stormwater treatment device on a site where vehicular traffic occurs and the potential for an oil or fuel spill exists, the OGS device must have reported verified performance results of greater than 99% cumulative retention of LDPE plastic beads for the five specified surface loading rates (ranging 200 L/min/m^2 to 2600 L/min/m^2) in accordance with the Light Liquid Re-entrainment Simulation Testing within the Canadian ETV Program's **Procedure for Laboratory Testing of Oil-Grit Separators.** However, an OGS device shall not be allowed if the Light Liquid Re-entrainment Simulation Testing was performed with screening components within the OGS device that are effective at retaining the LDPE plastic beads, but would not be expected to retain light liquids such as oil and fuel.



SECTION VIEW



PLAN VIEW (STANDARD)



PLAN VIEW (INLET TOP)

FOR SITE SPECIFIC DRAWINGS PLEASE CONTACT YOUR LOCAL STORMCEPTOR REPRESENTATIVE. SITE SPECIFIC DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME. SOME FIELD REVISIONS TO THE SYSTEM LOCATION OR CONNECTION PIPING MAY BE NECESSARY BASED ON AVAILABLE SPACE OR SITE CONFIGURATION REVISIONS. ELEVATIONS SHOULD BE MAINTAINED EXCEPT WHERE NOTED ON BYPASS STRUCTURE (IF REQUIRED).

GENERAL NOTES:

* MAXIMUM SURFACE LOADING RATE (SLR) INTO LOWER CHAMBER THROUGH DROP PIPE IS 1135 L/min/m^2 (27.9 gpm/ft^2) FOR STORMCEPTOR EF4 AND 535 L/min/m^2 (13.1 gpm/ft^2) FOR STORMCEPTOR EFO4 (OIL CAPTURE CONFIGURATION). WEIR HEIGHT IS 150 mm (6 INCH) FOR EF04.

1. ALL DIMENSIONS INDICATED ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SPECIFIED.
2. STORMCEPTOR STRUCTURE INLET AND OUTLET PIPE SIZE AND ORIENTATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.
3. UNLESS OTHERWISE NOTED, BYPASS INFRASTRUCTURE, SUCH AS ALL UPSTREAM DIVERSION STRUCTURES, CONNECTING STRUCTURES, OR PIPE CONDUITS CONNECTING TO COMPLETE THE STORMCEPTOR SYSTEM SHALL BE PROVIDED AND ADDRESSED SEPARATELY.
4. DRAWING FOR INFORMATION PURPOSES ONLY. REFER TO ENGINEER'S SITE/UTILITY PLAN FOR STRUCTURE ORIENTATION.
5. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED)
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
D. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT THE DEVICE FROM CONSTRUCTION-RELATED EROSION RUNOFF.
E. DEVICE ACTIVATION, BY CONTRACTOR, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE STORMCEPTOR UNIT IS CLEAN AND FREE OF DEBRIS.

STANDARD DETAIL
NOT FOR CONSTRUCTION

SITE SPECIFIC DATA REQUIREMENTS

STORMCEPTOR MODEL	EF4
STRUCTURE ID	*
WATER QUALITY FLOW RATE (L/s)	*
PEAK FLOW RATE (L/s)	*
RETURN PERIOD OF PEAK FLOW (yrs)	*
DRAINAGE AREA (HA)	*
DRAINAGE AREA IMPERVIOUSNESS (%)	*

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	*	*	*	*	*

* PER ENGINEER OF RECORD

MARK	DATE	REVISION DESCRIPTION	BY
1	6/8/18	UPDATES	JSK
0	5/26/17	INITIAL RELEASE	JSK

Stormceptor® EF

SCALE = NTS

imbrium®
7007 RIDGE ROAD, SUITE 350, HANOVER, MD 21076
USA: 888-279-9828 CA: 800-386-4801 INTL: +1-416-960-9900

DATE: 5/26/2017

DESIGNED:	DRAWN:
JSK	JSK
CHECKED:	APPROVED:
BSF	SP
PROJECT No.:	SEQUENCE No.:
EF4	*

SHEET: 1 OF 1

Appendix E:
Phosphorous Loading Assessment

TATHAM ENGINEERING

PROJECT	11476 Highway 26	FILE	120232
		DATE	6/19/2025
SUBJECT	Phosphorous Loading Assessment	NAME	PNW
		PAGE	1 OF 1

Phosphorus Loading

		Existing		Proposed	
Land Use Category	Phosphorous Loading Rate (kg/ha/year)	Area (ha)	Phosphorous Load (kg/year)	Area (ha)	Phosphorous Load (kg/year)
Transition	0.07	0.64	0.04	0.80	0.06
Wetland	0.05	1.11	0.06	1.32	0.07
Transportation	1.82	0.11	0.20	0.11	0.20
Open Water	0.26	0.20	0.05	0.00	0.00
Low-Intensity Residential	0.13	0.00	0.00	0.00	0.00
High-Intensity Residential	1.32	1.04	1.37	0.87	1.15
Total		3.10	1.73	3.10	1.47

Controls

	Removal Efficiency (%)		Applied Removal Efficiency (%)	Mitigation	
Area contributing to Mitigation Feature	Hydro Dynamic Device (OGS)	Buffer Strip		Area (ha)	Phosphorous Load (kg/year)
High-Intensity Residential (Rooftop)		65%	65%	0.25	0.12
High-Intensity Residential	0%	65%	0%	0.62	0.82

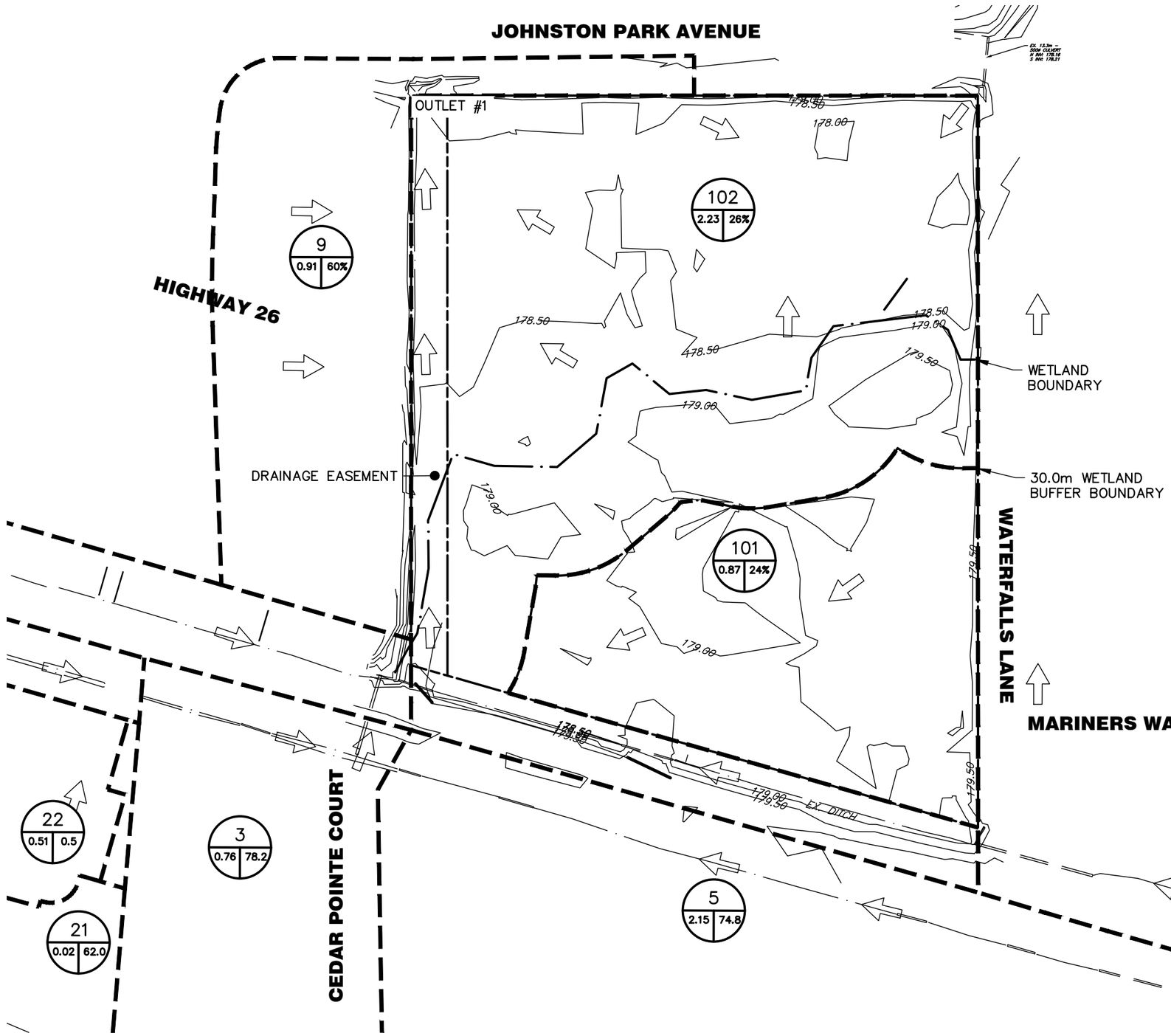
Note: Residential Phosphorous Export Rates per Table 2 of the MECP Phosphorous Budget Tool (2012), All remaining land use export rates taken from Table 1 of the NVCA Phosphorous Budget Tool (2014)

Note: Removal Rate of 65% applied to buffer strip as it is fully vegetated before it enters drainage easement, swale, and wetland.

Summary

Existing Phosphorous Load	1.73	kg/year
Post-Development Phosphorous Load (no mitigation)	1.47	kg/year
Post-Development Phosphorous Load (with mitigation)	1.14	kg/year

Appendix F: Drawings



LEGEND

- 180.00 — EXISTING CONTOUR
- CATCHMENT BOUNDARY
- OVERLAND FLOW DIRECTION
- 101 / 2.19 / 25% — CATCHMENT ID; CURVE NUMBER/IMP (%); AREA (ha)

REFER TO OVERALL DRAINAGE PLAN (DRAWING ODP–1)
FOR EXTERNAL CATCHMENT AREAS.

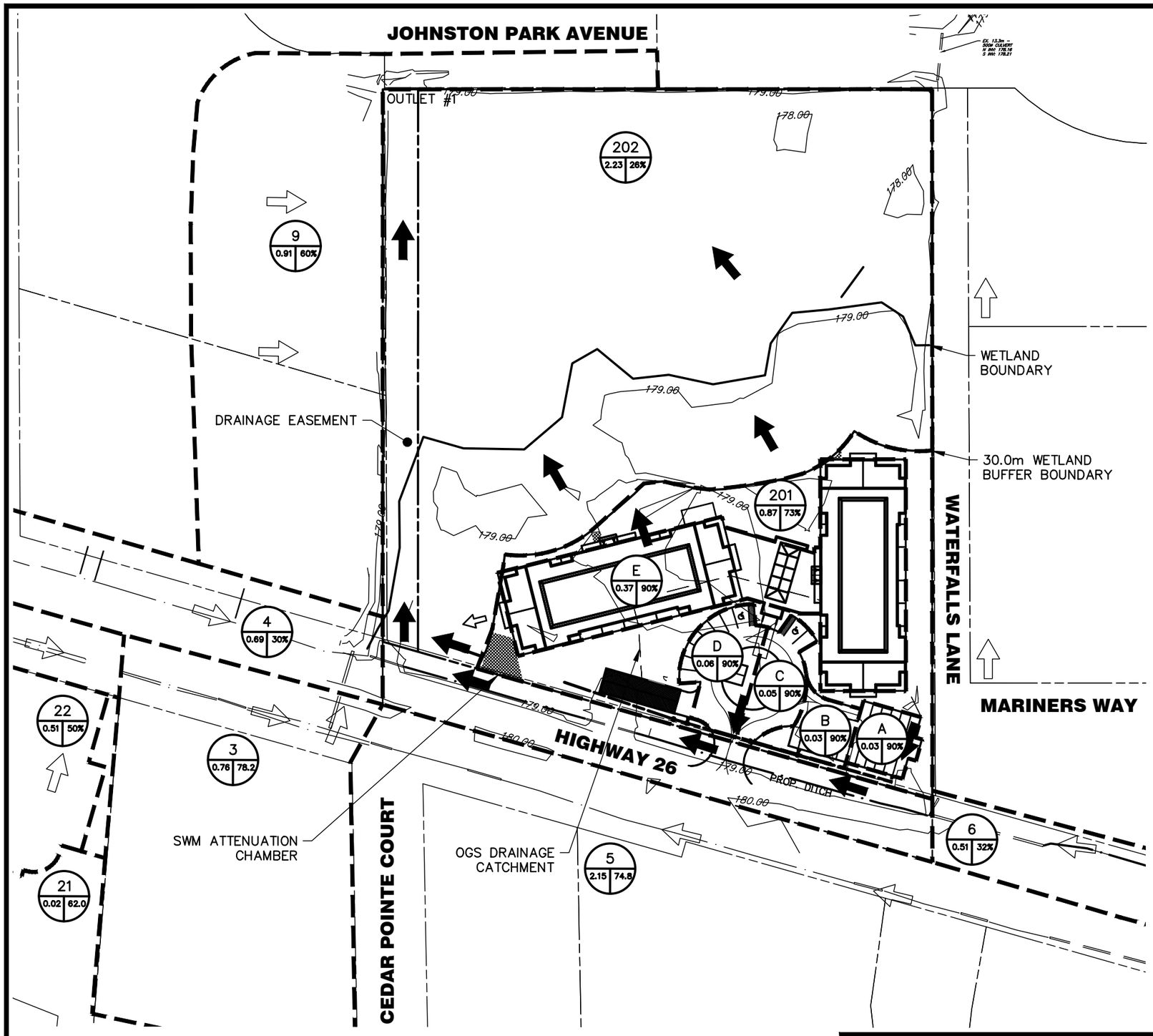
TATHAM ENGINEERING

11476 HIGHWAY 26
TOWN OF COLLINGWOOD

DWG. No. **DP-1**

SCALE: 1:1,250	DRAWN: KRL	DATE: JUN 2025	JOB NO. 120232

Drawing Name: 120232–DP01.dwg, Plotted: Jun 26, 2025



LEGEND

- 180.00 — EXISTING CONTOUR
- CATCHMENT BOUNDARY
- EX. OVERLAND FLOW DIRECTION
- PROP. OVERLAND FLOW DIRECTION
- 201 / 2.02 / 31% — CATCHMENT ID / CURVE NUMBER/IMP (%) / AREA (ha)

REFER TO OVERALL DRAINAGE PLAN (DRAWING ODP–1) FOR EXTERNAL CATCHMENT AREAS.

TATHAM ENGINEERING

11476 HIGHWAY 26
TOWN OF COLLINGWOOD

DWG. No. **DP-2**

SCALE: 1:1,250	DRAWN: KRL	DATE: JUN 2025	JOB NO. 120232

Drawing Name: 120232–DP02–Overflow Chamber.dwg, Plotted: Jun 26, 2025

GEORGIAN BAY

EX. 800ø CSP CULVERT
SE INV: 178.00

EX. 500ø CSP CULVERT
N INV: 178.16
S INV: 178.21

JOHNSTON PARK AVENUE

CEDAR POINTE COURT

HIGHWAY 26

WATERFALLS LANE

MARINERS WAY

WETLAND BOUNDARY

30.0m WETLAND BUFFER BOUNDARY

178.50

178.50

178.50

178.50

179.50

179.00

179.00

179.00

1	0.35	25%	
23	0.42	50%	
4	0.69	30%	
9	0.91	60%	
102	2.23	26%	
20	0.11	70.7	
101	0.87	24%	
22	0.51	50%	
21	0.02	62.0	
3	0.76	78.2	
6	0.51	32%	
5	2.15	74.8	

LEGEND

- 180.00 — EXISTING CONTOUR
- CATCHMENT BOUNDARY
- OVERLAND FLOW DIRECTION
- 101 — PRE-DEVELOPMENT CATCHMENT ID
- 2.19 | 77.1 — CURVE NUMBER/IMP (%)
- PRE-DEVELOPMENT AREA (ha)

TATHAM ENGINEERING

11476 HWY 26
TOWN OF COLLINGWOOD

DWG. No. **ODP-1**

SCALE: 1:2000	DRAWN: LJC	DATE: NOV/22	JOB NO. 120232