FUNCTIONAL SERVICING & STORMWATER MANAGEMENT REPORT

HOME FARM
RENTAL DEVELOPMENT
TOWN OF THE BLUE MOUNTAINS

MACPHERSON BUILDERS (BLUE MOUNTAINS) LTD.

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MAY 2026

CFCA FILE NO. 721-3464

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CROZIER

Revision Number	Date	Comments
Rev.0	May 2026	Issued 1st Submission FSRSWM for ZBA

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1.0 INTRODUCTION

C.F. Crozier & Associates Inc. (Crozier) was retained by MacPherson Builders (Blue Mountains) Ltd. (MacPherson) to prepare a Functional Servicing & Stormwater Management Report and preliminary engineering drawings for the proposed Home Farm Rental Development in support of a Zoning By-Law Amendment. The rental development site, herein referred to as the "Subject Lands", is situated on the Home Farm property, located directly north of the Home Farm sanitary sewage pump station, north SWM pond, and Street C. The site is bound by the Town property to the west which is approved for development of a Fire Station, and future long-term facility (LTC) at the north end of the Town property (design by others). North and east of the rental development consist of open space lands on the Home Farm property owned by MacPherson to be conveyed to municipality as part of Phase 2 registration. Refer to **Figure 1** for the Site Location Plan.

The Site Concept Plan, prepared by RN Design (May 2026) is illustrated in **Figure 2**. The development will consist of 112 townhouse units that will have two units per townhouse, with one unit occupying the basement and one unit occupying the main and second floor. The site will include private roads and additional parking areas. The site will be a private development with easements for select public civil services to allow the acceptance of sanitary and storm flows from the LTC. The rental development will be serviced through the Home Farm Residential Development.

This report provides information about the proposed water and sanitary sewer servicing and stormwater management (SWM) systems designed to service the development to demonstrate development feasibility. This report has been prepared based on the design framework established through the detailed design of the Home Farm development.

2.0 BACKGROUND

The Subject Lands were initially rezoned as part of the Home Farm Residential Development Draft Plan of Subdivision, approved through the Ontario Land Tribunal (formerly Local Planning Appeal Tribunal "LPAT" at the time of approval). The Home Farm Residential Development Draft Plan is included as **Figure 3**. The Subject Lands were included in the Draft Plan as Block 238 and classified as lands to be retained for future development. The Home Farm Residential Development proceeded through the Subdivision Agreement process and received three pre-servicing agreements for tree removals, earthworks, and servicing and is in the process of finalizing the Subdivision Agreement.

To date, the Home Farm Residential Development has constructed the proposed sanitary pumping station, realigned the watercourse 7 channel and has graded the proposed stormwater management facilities. Civil services have not been installed, providing flexibility for potential required changes to the downstream system to accommodate the rental development and LTC.

In addition to the LTC facility, a Town fire hall has also been proposed on the Town property adjacent to the Subject Lands. The design of the fire hall is complete and construction has been initiated. Stormwater management for the fire hall is planned to drain to the north stormwater management facility within the Home Farm Residential Development, sanitary flows will drain to the sewer on Grey Road 19, and roadway access to the firehall is provided via Grey Road 19.

Previously completed studies and plans prepared in support of the Home Farm Residential Development accounted for development of the Town property where the LTC and Fire Hall are proposed, as well as a portion of the Subject Lands, and as such previous calculations and conclusions are referenced throughout this report. For further information regarding the Home Farm Residential Development, please refer to the Servicing & Stormwater Management Implementation Report (Crozier, December 2021), Water Distribution System Letter (Crozier, December 2022), and Stormwater

Management Update Memorandum (Crozier, March 2024).

As part of the Home Farm Residential Development, an existing watercourse "Watercourse 7" was realigned through a 60m wide block in the development. The proposed design contained a defined channel and cross section, and the realigned channel is proposed to receive flows from North Stormwater Management Pond. For further information regarding the hydraulic conditions of the watercourse realignment, refer to the Home Farm Residential Development – Hydraulic Modelling Update (Crozier, January 2024). The realignment and restoration of the channel is complete.

Existing zoning on the site (as per TOBM zoning map) denotes the Subject Lands as Development. Refer to **Figure 4** for the Town of The Blue Mountains zoning map of the site.

Additional external documents and plans were reviewed over the course of completing this engineering assessment. As such, the servicing and design considerations herein are dependent on the following:

- Functional Servicing and Stormwater Management Report by Higgins Engineering Ltd. – February 2015
- Geotechnical Investigation by Terraprobe - July 2011
- Natural Hazard Setback and Slope Stability Requirements by Terraprobe - May 2014
- Environmental Impact Study by SLR Consulting Ltd. – April 2015
- Cultural Heritage Documentation Report by Archaeological Services – March 2014
- Cultural Heritage Assessment Report, Build Heritage Resources and Cultural Heritage Landscapes – January 2014
- Traffic Impact Study by C.F. Crozier & Associates Inc. – December 2013
- Visual Impact Assessment Report by Seferin Design Group – June 2015
- Stage 1 & 2 Archaeological Assessment by Archaeological Services – December 2013
- Phase I Environmental Site Assessment by SLR Consulting Ltd. – November 2010
- Well Assessment by Terraprobe – March 2015
- Town of The Blue Mountains Fire Station 2 Replacement Final Design Report by J.L. Richards – April 2025
- Home Farm Issued for Subdivision Agreement Submission Materials by Crozier - June 2025

3.0 SITE DESCRIPTION

The Home Farm Residential Development comprises of 56.13 ha (138.7 acres) located east of Grey County Road 19 between Helen Street and extension of Craigleith Road. The west side of the property extends 610m along Grey County Road 19 and extends easterly approximately 1360m towards Highway 26. The development resides on two property parcels. The larger parcel is legally described as Concession 2 South, Part Lot 20, Town of The Blue Mountains. The second parcel north of the larger parcel, which hosts the Subject Lands, is legally described as Plan 529, Part Lot 159, Town of The Blue Mountains.

The Nipissing Ridge traverses the Home Farm property running from southeast to northwest dividing the site into two sections: an upper plateau and a lower plateau. The Subject Lands are situated on the upper plateau lands. A well-documented archaeological site known as Plater-Martin is located northeast of the upper plateau and east of, but not directly abutting, the Subject Lands.

The Subject Lands currently consist of cleared area which formerly contained thickets, and a portion that remains uncleared with sparce thickets.

The Subject Lands slopes southwest to northeast from the western boundary towards the Nipissing

Ridge. Elevations of the Plater-Martin archaeological area are generally level with the lower portion of the upper plateau and connects to the upper plateau via a narrow (60 m) isthmus. The upper plateau slopes at approximately 3% and drops about 21 m across the Nipissing Ridge to the lower terrace which slopes at approximately 2.4% to the northeast.

The native surficial soils within the main development area of the site are characterized on the OMAFRA Maps as Kemble Silty Clay (Hydrologic Soil Group C) and are considered to be slow draining. This is consistent with the Geotechnical Report by Terraprobe (July 2011) which confirmed in Boreholes 3, 4, and 7 the soils are primarily sandy silt glacial till with clay and traces of gravel. The soils traversing the Nipissing Ridge are characterized as Waterloo Sandy Loam (Hydrologic Soil Group A) and are considered to be well draining. Refer to **Figure 5** for the site Soil Map generated from OMAFRA Maps.

Investigations by Terraprobe found that the soil in the upper terrace is dense at a depth of approximately 3 m. Subsequent geotechnical investigations confirmed that at a depth of approximately 3 m to 3.5 m there is a layer of very dense hard pan clay where boreholes from the 2011 Geotechnical Investigation showed refusal. Additional geotechnical investigations will be completed to support the detailed design of the Subject Lands.

Archaeological Services Inc. (ASI) carried out a Cultural Heritage Assessment Report that included background historic research and review of secondary source as part of the Home Farm Residential Development. The study concluded that the Plater-Martin site and watercourse traversing the Home Farm lands will be protected.

4.0 ROAD STANDARD

The primary accesses to the property are proposed via the extension of Street "B" northeast of the sanitary pumping station as a private roadway and the extension of Street "A" north through the Town property as a public right-of-way (ROW) with a private roadway connection to Street "A". Primary access to the Subject Lands from external roadways is provided via Street "B" within the Home Farm Residential Development at the proposed connection to Grey Road 19. An additional access to the Home Farm Residential Development is provided via Helen St to Grey Road 19.

Roadways through the Subject Lands will consist of private roads which are proposed to be privately owned and maintained. Refer to **Figure 12** for the typical road cross sections proposed within this development.

The internal road network and parking areas will be constructed in accordance with geotechnical recommendations and in compliance with Accessibility for Ontarians with Disabilities Act (AODA).

4.1 Rental Development Trip Generation

The operations of the Home Farm site access were assessed in a Traffic Impact Study completed by Crozier in December 2013. The report assessed the 2018, 2023 and 2028 horizon years. The trip generation for the site was forecasted to be 180 a.m. and 228 p.m. two-way trips for 151 single detached homes and 132 townhouse/condo units. A transportation study of the affordable housing units, 56 regular and 56 additional dwelling units, will be prepared to support the proposed development.

A preliminary assessment, including a look at the long-term care facility (192 beds), was undertaken based on the previous study. Growing the 2028 volumes by 2% to 2038 yielded volumes that were reviewed by a signal warrant and left-turn lane warrant. It was concluded that a traffic signal was not warranted, but a 25m left-turn lane is. A left-turn lane was also found to be warranted in the 2013

report and as such is not a new warrant. Similar to the conclusions of the 2013 TIS, it is assumed that Grey Road 19 would be monitored and if a turn lane is deemed necessary would be implemented by the County or implemented as part of the County's master transportation plan.

There are no transit services currently in the area of the development. A transportation study may make recommendations for future services as determined through consultation with the Town. The Institute of Transportation Engineers Trip Generation Manual estimates 13 two-way multi-modal trips (walking, cycling and transit) in the p.m. peak hour for the proposed additional development within the Draft Plan. This is a modal split of 11% new p.m. peak hour trips, with auto vehicle trips comprising the other 89%.

5.0 SANITARY SERVICING

5.1 Existing Sanitary Infrastructure

Existing sanitary infrastructure near the site includes:

- 200mm diameter sewer along Grey Road 19 flowing north. The upstream terminus of the sewer is located at the projection of Comet Lane.
- Sanitary Pumping Station (SPS) on the Home Farm property.
- Future 200mm diameter sewers located along local right of ways in the Home Farm Residential Development, including fronting the Subject Lands, as well as the future forcemain connecting the SPS to Grey Road 19 gravity sewers.

Home Farm Residential Development sanitary flows will be directed to the new SPS. The SPS directs flows through a forcemain that follows the Street "B" road alignment to Grey Road 19, at which point it outlets to the existing 200mm diameter sewer. Flows from the gravity sewer travel north along Grey Road 19, then east to the Lakeshore Road Sewage Pumping Station (SPS). From the Lakeshore Rd Pumping Station, flows will continue to the Craigleith Wastewater Treatment Plant (WWTP).

The original Home Farm development sanitary design accounted for sanitary flows from the Town property and the Subject Lands draining to the new SPS. The fire hall located on the Town property will drain to Grey Rd 19. The LTC and rental developments will drain to the Home Farm SPS via connection to the gravity sanitary system north of the SPS and North SWM Pond.

Sanitary servicing capacity was reserved for the Home Farm Residential Development in the Lakeshore Road SPS and the Craigleith WWTP, which includes development of the Subject Lands.

5.2 Proposed Sanitary Servicing Strategy

The Subject Lands will be serviced by a network of gravity sewers that direct flows towards the Home Farm Residential Development SPS. Gravity sanitary services are proposed throughout the site, and as such gravity sewers along the private roadway will be constructed deep enough to provide gravity drainage of basements. Proposed sewers will also accept flow from the LTC Facility.

As noted in the Home Farm Residential Development Sanitary Pumping Station Design Brief (Crozier, May 2024), the design peak flow for the SPS is 18.15L/s. While these flows incorporated some flows from the Subject Lands, they did not account for the proposed land uses of the proposed development. Details regarding the revised SPS design can be found in the updated Home Farm Residential Development Sanitary Pumping Station Design Brief (Crozier, May 2026) submitted under a separate cover. According to the revised design brief, the SPS can adequately service the proposed developments with minor adjustments. Refer to **Figure 8** for details regarding the proposed sanitary

servicing layout.
Revised sanitary demands were estimated for the Home Farm Residential Development, LTC development, and Rental development using the following criteria as specified in the Town of The Blue Mountains Standards:

- Average Residential Flow Rate – 350 L/cap/day
- Infiltration – 0.28 L/s/ha
- Long Term Care Homes – 450 L/cap/day (per bed, OBC)
- Peaking Factor – 3.8-4.1 (Harmon Formula)
- Population Density – 2.15 Persons/Unit

Based on these values, sanitary demands for each of the developments were estimated and are shown in **Table 1** below.

Table 1: Preliminary Sanitary Demand

	Home Farm	Rental Development	LTC Development	Total Demands
Site Area (ha)	15.55	1.73	1.10	18.38
Population	475	241	192 (247[1])	908 (963)
Average Daily Flows (L/s)	1.92	0.98	1.00	3.90
Daily Peak Flow (L/s)	**12.03**	**4.5**	**4.42**	**20.01**
Percent share of Average Daily Peak Flows	**49.4%**	**25.0%**	**25.6%**	**-**

Note 1: Equivalent population based on prorating flow rate of 450 L/bed/day to 350 L/cap/day.

A detailed sanitary sewer design sheet has been created for the proposed gravity sanitary network within the site, and to confirm that the capacity of sewers within the Home Farn Residential Development are sized to take the revised sanitary flows. Based on the proposed flows from the Rental development and LTC facility, there is sufficient capacity in the Home Farm Residential Development sewer system to accommodate the proposed developments. Refer to **Appendix A** for the sanitary sewer design sheet and to **Figure 11** for the sanitary drainage area plan.

Sanitary sewer that accepts flows from the LTC is proposed to be public and owned and operated by the Town.

The external sanitary sewer design sheet was updated with the new proposed flows from the Home Farm SPS to ensure downstream capacity is available between the gravity sewer outlet on Grey Road 19 and the Lakeshore Road SPS. Please refer to the external design sheet included in **Appendix A** which demonstrates sufficient capacity is available.

6.0 WATER SERVICING

6.1 Existing Potable Water Supply Infrastructure

Existing water infrastructure near the site includes:

- 350 mm diameter watermain along Grey Road 19
- Future 200 mm diameter watermains located within the Home Farm Residential Development, including fronting the Subject Lands.

The proposed boundary watermain network also contains stubs at the terminuses of Street "A" and Street "C". Connection and extension of the watermain at these locations was previously contemplated as part of the Home Farm Residential Development and has been accounted for in

the design of the development.

6.2 Proposed Water Servicing Strategy

The Home Farm Residential Development will be serviced via two connections to the existing 350 mm diameter watermain along Grey Road 19 at Street "B" and Helen Street. The proposed rental development will connect to the proposed 200mm diameter watermain located on Street "C", as well as the future extension of the stub on Street "A" that will be completed as part of the firehall development. Connections will be made to the watermains, which are to be extended and looped through the proposed development.

Local watermain with individual service connections for each unit will follow the alignment of the internal roadways. Fire flows for the site will be provided by proposed fire hydrants throughout the development. The watermain will be public and will be owned and operated by the Town.

Revised domestic water demands were estimated for the Home Farm Residential Development, Fire Station, LTC development, and Rental development using the following criteria as specified in the Town of The Blue Mountains Standards and MECP Design Guidelines for Drinking Water Systems:

- Average Flow Rate – 350 L/cap/day
- Long Term Care Homes – 450 L/cap/day (per bed, OBC)
- Peak Factors: Peak Day/ Peak Hour – ranges based on population per MECP Guidelines
- Population Density – 2.15 Persons/Unit

Based on these values, water demands for each of the developments were estimated and are shown in **Table 2** below.

Table 2: Preliminary Water Demand

	Home Farm	Fire Station[1]	Rental Development	LTC Development	Total Demands
Population	**475**	**-**	**241**	**192**	**908**
Average Daily Flows (L/s)	1.92	2.50	0.98	1.00	3.92
Max Day Peak Factor	2.95	1.50	4.08	4.54	2.75
Max Day Demand (L/s)	**5.68**	**3.75**	**3.98**	**4.54**	**10.73**
Peak Hour Factor	4.40	2.70	6.13	6.84	4.13
Peak Hour Flow (L/s)	8.47	6.75	5.98	6.84	16.11
Fire Flow Demand (L/s)	233	200	233	150	233

Note 1: Information from the Town of The Blue Mountains Fire Station 2 Replacement Final Design Report

Maximum fire flows required to service the Subject Lands were determined to be 233 L/s per the Fire Underwriter's Survey. The total design flow (peak residential + fire flow) for the water distribution system is **243.73 L/s**. Refer to **Appendix B** for potable water servicing demand and fire flow calculations and **Figure 8** for the proposed watermain layout.

A watermain connection to the proposed LTC facility is also proposed through the proposed development at the northwest corner of the condominium roadway. Requirement for this connection will be confirmed through detailed design, or whether the LTC will be serviced via extension from Street "A". Coordination with the proposed LTC facility regarding water servicing is ongoing to ensure

adequate flows can be provided to the development.

An updated water model will be completed as part of detailed design of the proposed development, which will confirm the ability of the proposed Home Farm water distribution network to support the proposed demands. Boundary conditions will be provided by the Town's Water Model from JL Richards. In the event that demands cannot be met solely from connection to the Home Farm water distribution system, a connection to the watermain on the Fire Hall site can be evaluated.

7.0 UTILITIES

The proposed development will be serviced with natural gas, telephone, cable TV and hydro. The design of such utilities will be coordinated with the local utility companies servicing the Town. Utilities are proposed to follow the alignment of the internal private road network, with individual service connections to each proposed and future building.

A Composite Utility Plan will follow in future submissions which will outline the proposed utility alignments throughout the development.

8.0 STORMWATER MANAGEMENT & DRAINAGE

8.1 Stormwater Management Criteria

The management of stormwater and site drainage for the Subject Site will follow the policies and standards of the various agencies including: Town of The Blue Mountains (TOBM), Ministry of the Environment, Conservation and Parks (MECP), and Grey Sauble Conservation Authority (GSCA).

The stormwater management criteria for the proposed development includes:

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

- Water Quality Control
    - MECP "Enhanced Protection" (80% long-term TSS removal for 90% of the annual runoff) given Georgian Bay as ultimate receiver

- Erosion Control
    - Source control and extended detention required to respect natural geomorphic characteristics of receiving watercourses.
    - 24-hour drawdown of the 4 hour 25mm event.

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

8.2 Site Grading Criteria

The grading criteria that will be applied to the proposed residential development includes the following:

- All dwelling basements/crawl spaces will be sited above the existing bedrock surface;

- Minimum 0.5m separation of seasonally high groundwater level to underside of basement floor will be provided;
- Site grading to provide suitable cover over the storm sewer to prevent frost heave and provide overland flow routes for major storm runoff;
- The grading must match the existing elevations surrounding the property.
- Limits of grading shall not encroach into the stable slope area of adjacent ravines.

The preliminary grading plan is included as **Figure 9**.

8.3 Existing Drainage Conditions

The Subject Lands currently drain from southwest to the northeast.

The catchment for the Subject Lands was previously characterized in the Home Farm Residential Development pre-development drainage plan as part of catchment "2C" with a catchment area of 5.37 ha. The catchment included the properties that comprise of a portion of the Subject Lands, the town-owned firehall development, and the LTC. The pre-development catchment has been revised to include the entire area for the Subject Lands, along with the fire hall and the LTC, and now consists of 6.14 ha of drainage area. The revised pre-development plan has been included as **Figure 6** in this report. Refer to **Appendix C** for updated pre-development hydrologic parameter calculations.

Refer to the Home Farm Servicing & SWM Implementation Report for discussion on a historic land swap of areas between Watercourse 7 and Watercourse 8 drainage areas. Development of the Subject Lands and the Town property will complete the land swap.

8.4 Proposed Drainage Conditions

Following the requirements of the TOBM, the development will incorporate a "dual" drainage system consisting of minor and major stormwater flow routes. The development will consist of an urban cross section including mountable curb and gutter for the private roads, complete with storm sewers and catchbasins. Minor system flows will be collected by a series of catchbasins and conveyed to the North SWM Pond on the Home Farm development through a storm sewer system sized to convey up to the 5-year return rainfall event. Major system flows will be conveyed overland via the internal roadway network to the spillway into the North SWM pond.

The North SWM Pond and local storm sewers within the Home Farm Residential Development have been designed to accommodate flows from the Subject Lands, Firehall and LTC. As part of this application, the impact of flows from the proposed development on the surrounding Home Farm Residential Development storm sewer network was analyzed using a revised storm sewer design sheet. The Storm Sewer Design Sheet has been included in **Appendix E** and the storm drainage area plan is included in **Figure 10.**

Within the proposed development, storm sewers that accept drainage from the LTC will be publicly owned and maintained by the Town. Storm sewers that do not collect drainage from the LTC development, primarily located in the western portion of the proposed development, will be privately owned.

Major drainage will be conveyed to the North SWM Pond via the proposed road cross section. Flows will be contained via the curb and gutter system and will be conveyed along the proposed road grades to the north side of the North SWM Pond. The proposed road cross section's ability to convey major storm overland flows has been demonstrated through a FlowMaster model, included in **Appendix E.**

8.4.1. Drainage Catchment Areas

The development area of the Home Farm Residential Development site was previously broken into three main drainage areas for assessment of the Stormwater Management conditions. Post development flows entering the North SWM Pond included Catchments 2A, 2B, and 2C. Previously, catchment 2C partially included drainage area from the Subject Lands, as well as drainage from the proposed firehall and LTC developments. The post-development catchment plan has been revised to include the entire drainage area for the Subject Lands along with the firehall and LTC development. In the post development condition of the Subject Lands, Catchment 2C is further subdivided to differentiate stormwater contributions to the North SWM Pond from the firehall (2C-1), the LTC (2C-2) and the Subject Lands (2C-3). Refer to **Figure 7** for the revised post-development drainage plans and to **Appendix C** for updated hydrologic parameters calculations.

Post-development flows from the North SWM Pond catchment area have been controlled to match pre-development (point of interest #2). Overall flows for Watercourse 7 have also been assessed to ensure the entirety of the development does not increase local flows.

8.4.2. Stormwater Management Facility

Runoff generated from the Subject Lands will be collected, attenuated and treated by the Home Farm North SWM Pond "end-of-pipe" Stormwater Management facility. The location of the North SWM Pond is shown on **Figure 7**. Detailed drawings of the SWM Facility are included with the Home Farm Detailed Design set submitted to the Town in support of the subdivision agreement.

The North SWM Pond (SWM Facility #2) is a proposed wet pond at the north end of the Home Farm site, located north of the realigned Watercourse 7. Catchment areas draining to Stormwater Management Facility #2 consist of both pervious and impervious drainage areas (Catchments 2A, 2B, and 2C), with a portion of the Subject Lands being represented in Catchment 2C. SWM Facility #2 was originally designed with a forebay and main cell and sized to provide quality treatment and quantity control for Catchment Areas 2A, 2B & future development area 2C. The runoff generated from Catchment 2C was previously modeled based on an overall assumed impervious level of 44%, which was based on the previously proposed development concept of the parcel of land located within 2C, as laid out in the Higgins FSR & SWM Report (Feb 2015). Updated modelling has been completed to confirm the additional drainage area and increased impervious area can be received by the North SWM Pond.

Flows enter the North Pond via one storm sewer inlet located at the south side of the pond from Street "B". In major storm events, flows will enter the pond from the north and south sides from low points in the roadway adjacent the pond. The North Pond will outlet from the southeast side of the pond and will cross Street "B" prior to discharging to the realigned portion of Watercourse 7. The emergency spill route for the North Pond is via a culvert under Street "B" to Watercourse 7. Culvert sizing will be confirmed in detailed design. Earthworks have been completed for the North SWM pond which is currently acting as a temporary sediment basin. Inlet and outlet structures have not been installed.

8.5 Stormwater Quality Control

The North Pond consists of a permanent pool and extended detention capabilities to meet the water quality and erosion control criteria of the MECP "Enhanced Protection" to treat 80% long-term suspended solids removal prior to discharging to Watercourse 7 (Table 3.2 MOE SWM Planning & Design Manual). The stormwater management pond quality calculations have been updated to account for the increase in impervious area and confirm quality treatment is available for the

proposed development.

The greater of the MECP water quality control volume (40 m^3/ha) and the runoff volume generated during the 6-hour Kiefer Chu 25mm storm event was used to determine the minimum required extended detention volumes for the SWM Facility. The permanent pool volume was calculated based on Table 3.2 of the MECP SWM Planning & Design Manual for Water Quality Storage Requirements for enhanced protection of the North SWM Pond. Refer to **Table 3** below for a summary of the revised water quality volumes for the North SWM Pond. Updated calculations are included in **Appendix D**.

Table 3: SWM Facility Quality Volumes (m^3)

Drainage Area Stats	11.30 ha	54% impervious
Quality Volume	**Extended Detention**	**Permanent Pool**
Required	1515	1707
Provided	1741	2131

As shown in **Table 3**, the minimum water quality volumes for the North SWM Pond are still met in the post development condition. Water Quality requirement calculations and SWM Facility sizing are available in **Appendix D.** SWM Facility Design Details are further outlined in **Section 8.7**.

8.6 Stormwater Quantity Control

8.6.1. Hydrologic Model

Pre-development and post-development hydrologic modeling were completed using the latest version of the Stormwater Management Hydrologic Model (SWMHYMO) to determine the peak flows throughout the Home Farm Residential Development as well as the updated and divided Catchment 2C. For both pre- and post-development modeling rainfall distributions for the array of design storms (i.e. 2 to 100-Year) were simulated the 12-hour SCS storm distribution was also assessed for the 2 to 100-year storm events since this distribution produced the largest peak flows. The Timmins Storm event was used as the Regional storm for the study area. For further details regarding the set-up of the hydrologic model, refer to the Servicing & Stormwater Management Implementation Report completed as part of the Home Farm Residential Development (Crozier, December 2021). Additional storm distributions will be reviewed during detailed design.

The previously completed hydrologic model was updated to divide Catchment 2C to include updated site layouts for the proposed development, firehall, and LTC developments. The following analysis was completed to ensure the previously designed North SWM Pond can provide the necessary level of attenuation to peak flows. Areas used in the pre- and post-development overall Watercourse 7 flow portion of the model are summarized in **Table 4**.

Table 4: Area Summary - Overall Watercourse 7 Peak Flow Model

Catchment ID	Location	Pre-Development Area (ha)	Post-Development Area (ha)
701	Upstream of Grey Rd 19	146.70	137.80
702/7021	Downstream of Grey Rd 19 / Upstream of Lakeshore Rd	34.50	23.24
Site (Catchments 1, 2 & 3)	Proposed Developed Area of Site	0.00	19.76
Total	Watercourse 7 Upstream of Lakeshore Road	181.20	180.80

The North Pond captures and control flows from Catchment 2 and was sized to ensure that the runoff generated due to increased imperviousness is captured and treated adequately, ensuring peak flows do not exceed pre-development values for the 2-year through 100-year storm events. Flows from the 12-Hour SCS storm distribution model for Catchment 2 are summarized in this report. The following subsections highlight the peak flows into and out of the North SWM Pond.

8.6.2. North SWM Pond Operations

The North SWM Pond was designed to provide sufficient storage to ensure the post-development flows at each Home Farm hydrologic point of interest as shown on **Figure 6.** As completed in the revised hydrologic modelling, the North SWM Pond is adequately designed to attenuate flows from the proposed catchments with the revised land uses and increased drainage area. By still controlling the peak flows to Catchment 2 with the increased drainage area, the overall flow at Watercourse 7 at Home Farm Hydrologic Point of Interest #4 is also controlled to pre-development flow rates.

An updated stage-storage-discharge relationship was developed for the pond using the previously designed two orifices and a spillway to control flows. Refer to **Appendix D** for the updated pond sizing calculations.

Table 5 shows the peak flows in and out of each pond under post-development conditions during each storm event, as well as the storage volume used during each storm.

Table 5: SWM Pond Peak Flow Summary and Storage Requirements (12-Hour SCS)

Pond ID	Peak Flow (m^3/s)	Return Period						
		2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	Regional
SWMF #2 (North Pond)	Peak Flow In	1.10	1.66	2.02	2.55	2.93	3.39	1.25
	Peak Flow Out	0.15	0.31	0.34	0.39	0.46	0.79	0.91
	% Difference	-86%	-81%	-83%	-85%	-84%	-77%	-27%
	Storage Used (m^3)	2022	2714	3273	4168	4780	5150	5290

8.6.3. Summary of Peak Flows

The North SWM Pond was been designed to provide storage and attenuate the peak flows to the pre-development conditions for drainage Catchment #2. Similarly, Catchment 1 and 3 are controlled by

the South SWM Pond and Bioretention and Dry Pond, respectively, on the Home Farm Development. Refer to the Home Farm reports for further information on the other SWM Facilities. Through ensuring each catchment is separately controlled to pre-development conditions the pre-development overall flows in Watercourse 7 downstream of the development are also maintained, however this is also assessed separately.

The assessment of peak flows was compared to the pre-development peak flows to accurately determine the impact of the revised Catchment 2C. For the purpose of this analysis, only drainage conditions for Catchment 2 to Hydrologic POI #2 was affected, thus flows from Catchment 2 were assessed to confirm the revised Catchment 2C can be accommodated. **Table 6** summarizes the peak flows draining to Catchment 2 from the North Pond in pre- and post-development conditions.

Table 6: Summary of Peak Flows – Catchment 2 (12-Hour SCS)

Location	Return Period	Peak Flow (m^3/s)		% Difference
		Pre-Development	Post-Development	
Catchment 2 (North Pond) Hydrologic POI #2	2-Year	0.23	0.15	-34%
	5-Year	0.46	0.31	-32%
	10-Year	0.60	0.34	-43%
	25-Year	0.84	0.39	-54%
	50-Year	1.01	0.46	-55%
	100-Year	1.24	0.79	-36%
	Regional	0.99	0.91	-8%

As shown in **Table 6**, post-development peak flows do not exceed pre-development flows for the 2 though 100-year storms, and the Regional event at the Hydrologic POI #2.

Refer to **Appendix C** for the SWMHYMO model input and output files and to **Figure 6** and **Figure 7** for the pre- and post-development drainage area plans.

8.7 SWM Facility Design

As discussed in **Section 8.4**, the minor storm (sewer) and major storm (overland) drainage systems from the Home Farm, firehall, LTC, and proposed developments outlet to the North Pond (SWMF#2). This section consists of additional details regarding the updated design and operation values of the pond.

The North Pond was designed as a wet pond with main cell and forebay permanent pool depths of 1.5m. A summary of the water surface elevation at the utilized storage volume in each storm event (from **Table 5**) is included in **Table 7**.

Table 7: SWM Pond Operating Characteristics

Operating Level	SWMF #2 North Pond Catchment Area =11.49ha	
	Elevation (m)	Volume (m^3)
Bottom of Forebay	211.80	0
Bottom of Main Cell	211.80	0

Operating Level	SWMF #2 North Pond Catchment Area =11.49ha	
	Elevation (m)	Volume (m^3)
Permanent Pool[1,2]	213.30	2131 (1707)
Extended Detention[2]	214.00	1741 (1515)
2-Year WSE	214.09	2022
5-Year WSE	214.31	2714
10-Year WSE	214.48	3273
25-Year WSE	214.74	4168
50-Year WSE	214.92	4780
100-Year WSE	215.01	5150
Regional WSE	215.05	5290
Top of Berm	215.30	5870

1 Permanent Pool represents dead storage; all other volumes represent active storage.
2 Required Permanent Pool and Extended Detention volumes have been shown in brackets per the values outlined in **Table 3**.
3 Volumes for the 2- through 100-year storms represent the volumes used in each storm event in the 6-hr Keifer Chu model (from **Table 5**). Elevations are interpolated from the SWM Pond stage-storage table in **Appendix D**.

The internal grading of the North SWM Pond consists of a maximum 4:1 H:V side slopes below the permanent pool, and a maximum of 5:1 H:V side slopes above the permanent pool, which adhere to the MOE SWM Guidelines and Municipal Guidelines. Per **Table 7**, adequate Permanent Pool and Extended Detention volumes have been provided in the design of SWM Facility to accommodate the updated catchment information. The updated quality sizing, stage-storage-discharge relationship, forebay sizing, and extended detention calculations for the pond are included in **Appendix D.**

9.0 EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION

Erosion and sediment controls will be implemented prior to the commencement of any site servicing works and maintained throughout construction until the site is stabilized or as directed by the Engineer, GSCA and/or Town. Controls are to be inspected regularly, after each significant rainfall, and maintained in proper working condition. The proposed erosion and sediment controls include, silt fencing, flow check dams, dust suppression, mud mats. The need for additional controls will be based on the field conditions, at the discretion of the Engineer and implemented as necessary. An ESC Plan will be submitted with the detailed design.

- Silt Fencing

Heavy Duty Silt Fence will be constructed in accordance with the GSCA typical detail. It should be noted that additional silt fence may be added based on field decisions by the Engineer and Developer prior to, during and following the earthworks.

- Flow Check Dams

Temporary straw bale (OPSD 219.180) and rock check dams (OPSDs 219.210) will be utilized on-site as needed to prevent any silt migration off site during and after construction activities. These dams will promote settling of suspended solids and will reduce flow velocities. Sediment accumulation will be monitored and removed as necessary.

- Mud Mat

A mud mat will be maintained at the site construction entrance until base asphalt is placed to limit mud tracking from the site onto the surrounding road network. The Contractor shall ensure mud mat maintenance (cleaning / additional stone) is completed on an as needed basis to ensure proper operation.

- Dust Suppression

The Contractor will be responsible for ensuring dust suppression is maintained by the use of water or calcium chloride, or other methods approved by the Engineer.

10.0 CONCLUSIONS

Based on the foregoing we conclude that the proposed Home Farm development can be adequately serviced.

1. The servicing and stormwater management strategy presented herein is consistent with the design criteria of the Town and MECP.

2. Access to the site will be provided via the extensions of Street "A" and Street "B" into the proposed development. Internal roadways will be privately owned and maintained with select underground infrastructure being publicly owned and maintained.

3. Domestic water supply will be provided via a looped system with two proposed connections to the existing watermains along Street "C". The internal watermain will be publicly owned and operated by the Town.

4. The development will be serviced by public and private sanitary gravity sewer system discharging into the on-site public sewage pumping system within the Home Farm Residential Development.

5. All major utilities are available to the development, located in the boundary roadways and Home Farm Residential Development.

6. Stormwater Management will be accomplished via the use of the North SWM Pond in the Home Farm Residential Development. The North SWM Pond is a wet pond and consists of a permanent pool and extended detention capabilities to meet the water quality and erosion control criteria of the MECP "Enhanced Protection", as well as adequate quantity controls prior to discharging to the realigned Watercourse 7. The North SWM Pond will provide quality and quantity control and will reduce peak flows discharging to Watercourse 7 to pre-development conditions. The development will be serviced by a storm sewer system which will route minor storm flows (5-year event) into the pond. Major storm flows will be routed to the south via the proposed road corridors which provide positive drainage to the North SWM Pond.

Given the above noted conclusions, we support the development of the subject lands from the perspective of engineering servicing and stormwater management requirements.

Respectfully submitted,

C.F. CROZIER & ASSOCIATES INC.

Jessie Elder, P.Eng.
Project Manager

C.F. CROZIER & ASSOCIATES INC.

Nicholas Sproule, E.I.T.
Engineering Intern

JE/ns

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APPENDIX A

Sanitary Servicing Design Calculations

Sanitary Demand Calculations
Sanitary Sewer Design Sheet
External Sanitary Sewer Design Sheet

Project: Home Farm
File: 721-3464
Date: May 15, 2026
By: NS
Check By: JE

HOME FARM (Total) - SANITARY DEMAND CALCULATIONS

Note: This Scenario uses a projected flow for a future Long Term Care Facility as well as 112 Affordable Housing Units

		Home Farm	Rental	LTC	Total	
Developed Site Area		15.55	1.73	1.10	18.38	ha
Residential Population Calculation						
Number of Residential Units		221	112		333	units
Person Per Residential Unit	*(Town Development Standards)*	2.15	2.15		2.15	persons/unit
Residential Population		475	241	0	716	persons
Long Term Care Population		-		192	192	beds
	Total	**475**	**241**	**192**	**908**	persons
Total Population						
Total Population		**475**	**241**	**192**	**908**	**people**
Equivalent Total Population	*(Used in Harmon Formula)*	**475**	**241**	**247**	**963**	**people**
Sanitary Design Flows - Residential						
Residential	*(Town Development Standards)*	350	350	350	350	L/C-day
Average Residential Daily Flow		1.92	0.98	0.00	2.90	L/sec
Long Term Care Homes (per Bed)	*(OBC)*	-	450.00	450.00	450.00	L/C-day
Average LTC Flow			0.00	1.00	1.00	L/sec
Inflow & Infiltration						
Inflow & Infiltration Allowance	*(Town Development Standards)*	0.28	0.28	0.28	0.28	L/s/ha
Inflow & Infiltration Design Flow		4.35	0.48	0.31	5.15	L/sec
Total Sanitary Design Flows						
Total Average Daily Flow		1.92	0.98	1.00	3.90	L/sec
Max Day Peak Factor	*(Harmon Formula)*	4.0	4.1	4.1	3.8	
Max Day Flow		7.67	4.02	4.11	14.86	L/sec
Total Daily Peak Flow	*(Town Development Standards)*	***12.03***	***4.50***	***4.42***	***20.01***	**L/sec**

HOME FARM

721-3464

SANITARY SEWER DESIGN SHEET

CROZIER CONSULTING ENGINEERS

	Unit Type	PPU
Phase 1	SINGLE DETACHED	2.15
Phase 2	SEMI DETACHED	
Rental	TOWNHOUSE	2.15
	APARTMENT	

DESIGN PARAMETERS		
Mannings "n":	0.013	
Residential Peak Factor (M):	1+(14/[4+(P/1000)^0.5])	
Residential Avg. Daily Flow:	350	L/cap/day
LTC Avg. Daily Flow:	450	L/cap/day
Inflow & Infiltration:	0.28	L/s/ha

DESIGNED BY:	JE
CHECKED BY:	JE/RW
DATE:	2026-05-19
ISSUED FOR:	1st Sub

CATCHMENT I.D.	STREET	FROM MH	TO MH	AREA (Ha)	RESIDENTIAL			RESIDENTIAL			MAX FLOW	INFILT.	TOTAL INFILT.	TOTAL FLOW (q)	LENGTH	PIPE DIA.	SLOPE	PIPE INV ELEV.		PIPE OBV ELEV.		CAP. (Q)	CAP.	FULL FLOW VELOCITY (V)	GROUND ELEV.		COVER	
					UNITS	POP.	TOTAL TRIB. POP.	PEAK FACTOR	AVG. FLOW (L/s)	MAX FLOW (L/s)	(L/s)	(L/s)	(L/s)	(L/s)	(m)	(mm)	(%)	UPPER END	LOWER END	UPPER END	LOWER END	(L/s)	(%)	(m/s)	UPPER END	LOWER END	UPPER END	LOWER END
SOUTHERN AREA																												
212A	Helen St	MH13A	MH13	1.36	6	13	13	4.40	0.05	0.23	0.23	0.38	0.38	**0.61**	97.8	200	2.83%	226.02	223.26	226.22	223.46	**55.18**	**1.11%**	1.76	229.06	227.25	2.84	3.79
212	Helen St	MH13	MH12	0.34	5	11	24	4.37	0.10	0.42	0.42	0.10	0.48	**0.89**	100.5	200	1.69%	222.67	220.97	222.87	221.17	**42.64**	**2.10%**	1.36	227.25	224.48	4.38	3.31
221	Street F	MH19	MH12	0.50	9	19	19	4.38	0.08	0.34	0.34	0.14	0.14	**0.48**	62.8	200	1.00%	221.66	221.03	221.86	221.23	**32.80**	**1.47%**	1.04	225.28	224.48	3.42	3.25
211	Helen St	MH12	MH11	0.50	13	28	71	4.28	0.29	1.23	1.23	0.14	0.76	**1.99**	87.2	200	1.32%	220.94	219.79	221.14	219.99	**37.68**	**5.27%**	1.20	224.48	222.96	3.34	2.97
222	Street A	MH11	MH20	0.53	13	28	99	4.24	0.40	1.70	1.70	0.15	0.90	**2.61**	66.1	200	0.50%	219.35	219.02	219.55	219.22	**23.19**	**11.23%**	0.74	222.96	222.73	3.41	3.51
217	Street A	MH20	MH16	0.08	1	2	101	4.24	0.41	1.74	1.74	0.02	0.93	**2.66**	18.7	200	0.50%	218.97	218.88	219.17	219.08	**23.19**	**11.48%**	0.74	222.73	222.64	3.56	3.56
220	Street F	MH19	MH18	0.12	1	2	2	4.46	0.01	0.04	0.04	0.03	0.03	**0.07**	14.7	200	2.00%	221.74	221.45	221.94	221.65	**46.38**	**0.16%**	1.48	225.28	225.04	3.34	3.39
219	Street F	MH18	MH17	0.21	2	4	6	4.43	0.03	0.12	0.12	0.06	0.09	**0.21**	32.0	200	2.84%	221.40	220.49	221.60	220.69	**55.27**	**0.38%**	1.76	225.04	223.67	3.44	2.98
218	Street F	MH17	MH16	0.18	1	2	9	4.42	0.03	0.15	0.15	0.05	0.14	**0.30**	41.6	200	2.81%	220.44	219.27	220.64	219.47	**54.98**	**0.54%**	1.75	223.67	222.64	3.03	3.17
216	Street F	MH16	MH15	0.18	1	2	112	4.23	0.45	1.92	1.92	0.05	1.12	**3.04**	52.5	200	1.16%	218.80	218.19	219.00	218.39	**35.33**	**8.59%**	1.12	222.64	222.00	3.64	3.61
224	Street F	MH15	MH21	0.40	4	9	120	4.22	0.49	2.06	2.06	0.11	1.23	**3.29**	62.2	200	1.71%	218.14	217.08	218.34	217.28	**42.89**	**7.67%**	1.37	222.00	220.46	3.66	3.18
223	Street F	MH21	MH5	0.49	7	15	135	4.21	0.55	2.31	2.31	0.14	1.37	**3.68**	69.9	200	2.50%	217.05	215.30	217.25	215.50	**51.86**	**7.09%**	1.65	220.46	218.89	3.21	3.39
210	Helen St	MH11A	MH10	0.62	16	34	34	4.34	0.14	0.61	0.61	0.17	0.17	**0.78**	80.1	200	2.00%	219.17	217.57	219.37	217.77	**46.38**	**1.68%**	1.48	222.58	220.90	3.21	3.13
209	Helen St	MH10	MH9	0.81	20	43	77	4.27	0.31	1.34	1.34	0.23	0.40	**1.74**	89.4	200	2.30%	217.45	215.40	217.65	215.60	**49.74**	**3.50%**	1.58	220.90	218.97	3.25	3.37
239 (FM)**	Helen St	FM1	MH31	1.07	12	26	26	4.36	0.10	0.46	0.46	0.30	0.30	**0.76**	10.0	200	2.00%	214.25	214.05	214.45	214.25	**46.38**	**1.63%**	1.48	216.03	216.03	1.58	1.78
226A	Helen St	MH31	MH31A	0.09	3	6	32	4.35	0.13	0.57	0.57	0.03	0.32	**0.89**	15.0	200	1.00%	213.87	213.72	214.07	213.92	**32.80**	**2.72%**	1.04	216.03	216.51	1.96	2.59
226	Helen St	MH31A	MH9	0.72	17	37	69	4.28	0.28	1.19	1.19	0.20	0.53	**1.72**	77.9	200	0.50%	213.69	213.30	213.89	213.50	**23.19**	**7.42%**	0.74	216.51	218.97	2.62	5.47
208	Street E	MH9	MH8	0.04	0	0	146	4.19	0.59	2.48	2.48	0.01	0.94	**3.42**	49.7	200	0.51%	213.22	212.97	213.42	213.17	**23.42**	**14.61%**	0.75	218.97	219.04	5.55	5.87
207	Street E	MH8	MH7	0.04	0	0	146	4.19	0.59	2.48	2.48	0.01	0.95	**3.43**	48.3	200	0.51%	212.94	212.69	213.14	212.89	**23.42**	**14.66%**	0.75	219.04	218.52	5.90	5.63
238 (FM)**	Street G	FM2	MH28	1.48	13	28	28	4.36	0.11	0.49	0.49	0.41	0.41	**0.91**	10.0	200	2.00%	213.58	213.38	213.78	213.58	**46.38**	**1.96%**	1.48	215.45	215.45	1.67	1.87
225A	Steet G	MH28	MH28A	0.20	2	4	32	4.35	0.13	0.57	0.57	0.06	0.47	**1.04**	15.0	200	1.00%	213.22	213.07	213.42	213.27	**32.80**	**3.17%**	1.04	215.45	216.05	2.03	2.78
225	Street G	MH28A	MH7	0.69	10	22	54	4.31	0.22	0.94	0.94	0.19	0.66	**1.60**	62.2	200	0.49%	213.04	212.74	213.24	212.94	**22.96**	**6.98%**	0.73	216.05	218.52	2.81	5.58
214	Street G	MH15	MH14	0.53	10	22	22	4.38	0.09	0.38	0.38	0.15	0.15	**0.53**	90.6	200	2.00%	218.34	216.53	218.54	216.73	**46.38**	**1.14%**	1.48	222.00	219.92	3.46	3.19
213	Street G	MH14	MH7	0.32	5	11	32	4.35	0.13	0.57	0.57	0.09	0.24	**0.81**	52.6	200	1.48%	216.50	215.72	216.70	215.92	**39.90**	**2.02%**	1.27	219.92	218.52	3.22	2.60
206	Street E	MH7	MH6	0.02	0	0	232	4.12	0.94	3.88	3.88	0.01	1.86	**5.74**	24.2	200	0.49%	212.66	212.55	212.86	212.75	**22.96**	**24.98%**	0.73	218.52	218.58	5.66	5.83
205	Street E	MH6	MH5	0.24	2	4	237	4.12	0.96	3.95	3.95	0.07	1.92	**5.87**	61.4	200	0.50%	212.50	212.19	212.70	212.39	**23.19**	**25.32%**	0.74	218.58	218.89	5.88	6.50
204	Street E	MH5	MH4	0.20	2	4	376	4.03	1.52	6.15	6.15	0.06	3.35	**9.50**	42.2	200	0.49%	212.16	211.95	212.36	212.15	**22.96**	**41.37%**	0.73	218.89	218.29	6.53	6.14
203	Street E	MH4	MH3	0.11	0	0	376	4.03	1.52	6.15	6.15	0.03	3.38	**9.53**	70.0	200	0.50%	211.92	211.57	212.12	211.77	**23.19**	**41.09%**	0.74	218.29	216.66	6.17	4.89
NORTHERN AREA																												
231A	Street B	MH37	MH36	0.17	3	6	6	4.43	0.03	0.12	0.12	0.05	0.05	**0.16**	20.0	200	1.00%	222.81	222.61	223.01	222.81	**32.80**	**0.50%**	1.04	226.25	225.91	3.24	3.10
231	Street B	MH36	MH35	0.54	7	15	22	4.38	0.09	0.38	0.38	0.15	0.20	**0.58**	90.1	200	1.00%	222.06	221.16	222.26	221.36	**32.80**	**1.77%**	1.04	225.91	224.93	3.65	3.57
230	Street B	MH35	MH34	0.48	7	15	37	4.34	0.15	0.64	0.64	0.13	0.33	**0.98**	87.5	200	2.10%	221.11	219.27	221.31	219.47	**47.53**	**2.05%**	1.51	224.93	222.54	3.62	3.07
229	Street B	MH34	MH33	0.22	2	4	41	4.33	0.17	0.72	0.72	0.06	0.39	**1.11**	41.3	200	3.02%	219.22	217.97	219.42	218.17	**57.00**	**1.95%**	1.81	222.54	221.31	3.12	3.14
228	Street B	MH33	MH32	0.32	6	13	54	4.31	0.22	0.94	0.94	0.09	0.48	**1.42**	57.3	200	3.71%	217.94	215.82	218.14	216.02	**63.17**	**2.25%**	2.01	221.31	219.31	3.17	3.29
227	Street B	MH32	MH3	0.09	0	0	54	4.31	0.22	0.94	0.94	0.03	0.51	**1.45**	47.7	200	4.15%	215.78	213.80	215.98	214.00	**66.82**	**2.17%**	2.13	219.31	216.66	3.33	2.66
202	Street B	MH3	MH2	0.09	0	0	430	4.01	1.74	6.98	6.98	0.03	3.91	**10.89**	49.2	200	0.51%	211.49	211.24	211.69	211.44	**23.42**	**46.51%**	0.75	216.66	215.96	4.97	4.52
201	Street B	MH2	MH1	0.14	0	0	430	4.01	1.74	6.98	6.98	0.04	3.95	**10.93**	42.6	200	0.50%	211.16	210.95	211.36	211.15	**23.19**	**47.14%**	0.74	215.96	215.68	4.60	4.53
	SPS Block	MH1	Wet Well			0	963	3.81	3.90	14.87	14.87	0.00	5.14	**20.00**	3.5	200	2.00%	210.60	210.53	210.80	210.73	**46.38**	**43.12%**	1.48	215.68	210.75	4.88	0.02
237	Street C	MH42	MH41	0.22	3	6	6	4.43	0.03	0.12	0.12	0.06	0.06	**0.18**	27.6	200	2.42%	221.44	220.77	221.64	220.97	**51.02**	**0.35%**	1.62	224.69	224.10	3.05	3.13
236	Street C	MH41	MH40	0.09	1	2	9	4.42	0.03	0.15	0.15	0.03	0.09	**0.24**	16.8	200	1.73%	220.72	220.43	220.92	220.63	**43.14**	**0.56%**	1.37	224.10	223.75	3.18	3.12
235	Street C	MH40	MH39	0.55	11	24	32	4.35	0.13	0.57	0.57	0.15	0.24	**0.81**	102.4	200	2.06%	220.35	218.24	220.55	218.44	**47.07**	**1.72%**	1.50	223.75	222.11	3.20	3.67
233	Street C	MH39	MH38	0.35	6	13	45	4.32	0.18	0.79	0.79	0.10	0.34	**1.13**	73.8	200	3.17%	218.19	215.85	218.39	216.05	**58.40**	**1.93%**	1.86	222.11	218.69	3.72	2.64
232	Street C	MH38	MH44	0.07	0	0	45	4.32	0.18	0.79	0.79	0.02	0.36	**1.15**	45.4	200	4.33%	215.60	213.63	215.80	213.83	**68.25**	**1.68%**	2.17	218.69	216.48	2.90	2.65
232A	Street C	MH44	MH43	0.04	0	0	45	4.32	0.18	0.79	0.79	0.01	0.37	**1.16**	36.0	200	0.50%	211.92	211.74	212.12	211.94	**23.19**	**5.00%**	0.74	216.48	214.20	4.36	2.26

HOME FARM

721-3464

SANITARY SEWER DESIGN SHEET

CROZIER CONSULTING ENGINEERS

	Unit Type	PPU
Phase 1	SINGLE DETACHED	2.15
Phase 2	SEMI DETACHED	
Rental	TOWNHOUSE	2.15
	APARTMENT	

DESIGN PARAMETERS		
Mannings "n":	0.013	
Residential Peak Factor (M):	1+(14/[4+(P/1000)^0.5])	
Residential Avg. Daily Flow:	350	L/cap/day
LTC Avg. Daily Flow:	450	L/cap/day
Inflow & Infiltration:	0.28	L/s/ha

DESIGNED BY:	JE
CHECKED BY:	JE/RW
DATE:	2026-05-19
ISSUED FOR:	1st Sub

CATCHMENT I.D.	STREET	FROM MH	TO MH	AREA (Ha)	RESIDENTIAL			RESIDENTIAL			MAX FLOW	INFILT.	TOTAL INFILT.	TOTAL FLOW (q)	LENGTH	PIPE DIA.	SLOPE	PIPE INV ELEV.		PIPE OBV ELEV.		CAP. (Q)	CAP.	FULL FLOW VELOCITY (V)	GROUND ELEV.		COVER	
					UNITS	POP.	TOTAL TRIB. POP.	PEAK FACTOR	AVG. FLOW (L/s)	MAX FLOW (L/s)	(L/s)	(L/s)	(L/s)	(L/s)	(m)	(mm)	(%)	UPPER END	LOWER END	UPPER END	LOWER END	(L/s)	(%)	(m/s)	UPPER END	LOWER END	UPPER END	LOWER END
TOWN & RENTAL BLOCK																												
300	Rental Street	SAN MH (321)	SAN MH (338)	0.37	24	52	52	4.31	0.21	0.90	0.90	0.10	0.10	**1.00**	45.0	200	1.00%	215.93	215.48	216.13	215.68	**32.80**	**3.06%**	1.04	218.88	218.65	2.75	2.97
301	Rental Street	SAN MH (338)	SAN MH (320)	0.47	34	73	125	4.22	0.51	2.13	2.13	0.13	0.24	**2.36**	83.2	200	0.50%	215.45	215.03	215.65	215.23	**23.19**	**10.20%**	0.74	218.65	218.49	3.00	3.26
302*	Rental Street	SAN MH (319)	SAN MH (320)	1.23	123	264	264	4.10	1.07	4.39	4.39	0.34	0.34	**4.74**	31.4	200	1.00%	215.29	214.98	215.49	215.18	**32.80**	**14.45%**	1.04	218.70	218.49	3.21	3.31
303	Rental Street	SAN MH (320)	SAN MH (351)	0.12	6	13	402	4.02	1.63	6.55	6.55	0.03	0.61	**7.16**	31.8	200	0.50%	214.95	214.79	215.15	214.99	**23.19**	**30.88%**	0.74	218.49	218.27	3.34	3.28
304	Rental Street	SAN MH (351)	SAN MH (328)	0.05	0	0	402	4.02	1.63	6.55	6.55	0.01	0.63	**7.18**	29.2	200	0.50%	214.74	214.60	214.94	214.80	**23.19**	**30.94%**	0.74	218.27	218.10	3.33	3.30
305	Rental Street	SAN MH (328)	SAN MH (336)	0.04	0	0	402	4.02	1.63	6.55	6.55	0.01	0.64	**7.19**	10.1	200	0.50%	214.55	214.50	214.75	214.70	**23.19**	**30.99%**	0.74	218.10	218.02	3.35	3.32
306	Rental Street	SAN MH (336)	SAN MH (329)	0.50	40	86	488	3.98	1.98	7.87	7.87	0.14	0.78	**8.65**	83.6	200	0.54%	214.45	213.99	214.65	214.19	**24.10**	**35.87%**	0.77	218.02	217.45	3.37	3.26
307	Rental Street	SAN MH (329)	MH43	0.03	0	0	488	3.98	1.98	7.87	7.87	0.01	0.79	**8.65**	18.6	200	0.65%	213.91	213.79	214.11	213.99	**26.44**	**32.73%**	0.84	217.45	214.20	3.34	0.21
201A	Rental Street	MH43	SAN MH (349)	0.09	0	0	533	3.96	2.16	8.55	8.55	0.03	1.18	**9.73**	23.4	200	0.50%	211.60	211.48	211.80	211.68	**23.19**	**41.97%**	0.74	214.20	216.90	2.40	5.22
	SPS Block	SAN MH (349)	SAN STUB2	0.00	0	0	533	3.96	2.16	8.55	8.55	0.00	1.18	**9.73**	8.1	200	0.89%	211.43	211.36	211.63	211.56	**30.94**	**31.46%**	0.98	216.90	211.57	5.27	0.01
	SPS Block	SAN STUB2	MH1	0.00	0	0	533	3.96	2.16	8.55	8.55	0.00	1.18	**9.73**	22.4	200	0.89%	211.36	211.16	211.56	211.36	**30.94**	**31.46%**	0.98	211.57	215.68	0.01	4.32
	SPS Block	MH1	Wet Well	0.00	0	0	963	3.81	3.90	14.87	14.87	0.00	5.14	**20.00**	3.5	200	2.00%	210.60	210.53	210.80	210.73	**46.38**	**43.12%**	1.48	215.68	210.75	4.88	0.02

* - Includes flows from Long Term Care Facility

Downstream Sanitary Capacity Analysis
Home Farm
721-3464

CROZIER CONSULTING ENGINEERS

PPU:	2.15
L/C*D	350
Infiltration (L/ha*s)	0.28

Harmon Formula: (14/4+(P/1000)^0.5)

DESIGNED BY:	TM
CHECKED BY:	JE
DATE:	2026-05-15
REVISION NO.:	2

CATCHMENT DESCRIPTION	STREET	FROM MH NO	TO MH NO	Pop.	Total Trib Pop.	Residential Peaking Factor	Residential Avg Flows (L/s)	Max Flow (L/s)	INFILT. (L/s)	TOTAL INFILT. (L/s)	TOTAL FLOW (l/s)	LENGTH (m)	PIPE DIAM. (mm)	UPPER INV. EL.	LOWER INV. EL.	SLOPE (%)	CAP. (l/s)	CAP. (%)
Orchards Development	EXT-1-2	MHF_27	WWSTR873	271	271	4.10	1.10	4.49	3.91	3.91	8.40	19.2	200	221.36	220.68	3.54%	**61.72**	**13.60%**
Home Farm Site & Town Block	N/A	Home Farm Forcemain	WWSTR873	**963**	**963**	3.81	3.90	14.86	**5.15**	**5.15**	20.01				Forcemain			
Along Grey Rd 19	Grey Road 19	WWSTR873	WWSTR872	4	1238	3.74	5.01	18.74	0.17	9.22	27.97	94.3	200	220.66	219.1	1.65%	**42.19**	**66.29%**
	Grey Road 19	WWSTR872	WWSTR871	4	1242	3.74	5.03	18.80	0.18	9.40	28.21	85.9	200	219.08	217.54	1.79%	**43.93**	**64.21%**
	Grey Road 19	WWSTR871	WWSTR870	4	1246	3.74	5.05	18.86	0.23	9.63	28.49	85.97	200	217.5	215.07	2.83%	**55.14**	**51.67%**
Upstream of WWSTR939	Grey Road 19	WWSTR939	WWSTR870	92	92	4.25	0.37	1.58	2.24	2.24	3.82	96.4	200	218.05	215.08	3.08%	**57.58**	**6.63%**
(Craigleith Rd)	Grey Road 19	WWSTR870	WWSTR869	0	1338	3.71	5.42	20.13	0.00	11.87	32.00	107.4	250	214.50	212.69	1.69%	**77.21**	**41.45%**
Upstream of WWSTR879	Grey Road 19	WWSTR879	WWSTR869	4	4	4.45	0.02	0.07	1.10	1.10	1.17	21.1	200	213.14	213.04	0.47%	**22.57**	**5.18%**
(Alexandra Way)	Grey Road 19	WWSTR869	WWSTR868	1	1343	3.71	5.44	20.21	0.36	13.33	33.53	101.2	250	212.69	209.57	3.08%	**104.42**	**32.12%**
	Grey Road 19	WWSTR868	WWSTR867	11	1354	3.71	5.48	20.35	0.47	13.80	34.15	96.6	250	209.53	206.12	3.53%	**111.71**	**30.57%**
	Grey Road 19	WWSTR867	WWSTR878	4	1358	3.71	5.50	20.41	0.30	14.10	34.51	100.7	250	206.08	202.45	3.60%	**112.91**	**30.57%**
	Grey Road 19	WWSTR878	WWSTR877	4	1362	3.71	5.52	20.47	0.39	14.49	34.96	89.7	250	201.34	197.03	4.81%	**130.36**	**26.82%**
	Grey Road 19	WWSTR877	WWSTR876	4	1367	3.71	5.54	20.53	0.22	14.71	35.24	71.2	250	195.03	191.31	5.23%	**135.94**	**25.92%**
	Grey Road 19	WWSTR876	WWSTR875	3	1370	3.71	5.55	20.57	0.29	15.01	35.58	43.6	250	189.44	186.80	6.06%	**146.40**	**24.30%**
	Grey Road 19	WWSTR875	WWSTR839	4	1374	3.71	5.57	20.63	0.25	15.26	35.89	100.9	250	186.58	182.60	3.95%	**118.12**	**30.39%**
Upstream of WWSTR8383	Grey Road 19	WWSTR838	WWSTR839	731	731	3.88	2.96	11.49	27.03	27.03	38.52	50.0	200	184.59	182.64	3.90%	**64.78**	**59.46%**
(Sleepy Hollow Rd)	Lakeshore Road	WWSTR839	WWSTR866	17	2122	3.57	8.59	30.65	0.61	42.90	73.54	34.4	400	182.56	181.13	4.15%	**424.42**	**17.33%**
						4.50												
Upstream of WWSTR8365 (Blueski George / Aspen Way etc)	Lakeshore Road	WWSTR865	WWSTR866	622	622	3.92	2.52	9.89	17.09	17.09	26.98	11.9	450	179.99	179.98	0.08%	**83**	**32.68%**
S_RES_WWSTR866_1	Lakeshore Road	WWSTR866	WWSTR832	9	2752	3.47	11.15	38.73	0.30	60.29	99.02	124.0	525	179.92	179.54	0.31%	**238**	**41.59%**
		WWSTR832	WWSTR831	13	2765	3.47	11.20	38.89	0.33	60.62	99.51	113.0	525	179.52	179.28	0.21%	**198**	**50.21%**
Upstream of WWSTR836	Lakeshore Road	WWSTR836	WWSTR831	9	9	4.42	0.03	0.15	0.43	0.43	0.59	21.2	200	182.89	182.77	0.57%	**25**	**2.38%**
(Schoolhouse Ct)	Lakeshore Road	WWSTR831	WWSTR830	43	2816	3.47	11.41	39.53	0.61	61.67	101.20	162.8	525	179.28	178.98	0.18%	**185**	**54.81%**
	Lakeshore Road	WWSTR830	EX SAMH2 (WWSTR829)	2816	2816	3.47	7.51	26.02	62.27	62.27	88.29	100.0	525	178.94	178.31	0.63%	**341.35**	**25.86%**
Craigleith Ridge Site (WEST)	Lakeshore Road	SANMH1	EX SAMH2 (WWSTR829)	341	341	4.05	1.38	5.60	1.94	1.94	7.54	28.40	200	180.17	178.75	5.00%	**73.34**	**10.28%**
	Lakeshore Road	EX SAMH2 (WWSTR829)	WWSRE828	0	3157	3.42	12.79	43.78	0.00	64.21	108.00	104.18	525	178.3	178.08	0.21%	**197.63**	**54.65%**
	Lakeshore Road	WWSTR828	WWSTR833	0	3157	3.42	12.79	43.78	0.00	64.21	108.00	115.2	525	178.07	176.66	1.22%	**475.79**	**22.70%**
Lakeshore Road (east of Craigleith Ridge)	Lakeshore Road	XXXX000003	SAMH77	6	6	4.43	0.03	0.11	0.16	0.16	0.27	83.38	525	177.26	176.93	0.40%	**270.56**	**0.10%**
Craigleith Ridge Site (EAST)	SWM Pond Access Road	SAMH76	SAMH77	147	147	4.19	0.60	2.50	1.03	1.03	3.53	55.8	200	179.24	178.96	0.50%	**23.23**	**15.17%**
	Connection to Lakeshore Rd	SAMH77	WWSTR833	0	153	4.19	0.62	2.60	0.00	1.19	3.79	11.3	525			1.00%	**430.06**	**0.88%**
Lakeshore to Hwy 26	Between Lakeshore and HWY 26	WWSTR833	WWSTR827	0	3310	3.41	13.41	45.67	0.00	65.40	111.07	53.61	525	176.59	176.38	0.39%	**269.16**	**41.27%**
Hwy 26 (west of cross from Lakeshore)	HWY 26	XXXX000063	WWSTR827	45	45	4.32	0.18	0.78	0.77	0.77	1.55	88.32	200	177.52	176.75	0.87%	**30.62**	**0.59%**
S_RES_WWSTR827_1	HWY 26	WWSTR827	WWSTR826	15	3370	3.40	13.65	46.41	0.17	66.34	112.74	139.83	525	176.36	176.27	0.10%	**136.00**	**82.90%**
	HWY 26	WWSTR826	WWSTR825	0	3370	3.40	13.65	46.41	0.00	66.34	112.74	5.54	525	176.27	176.26	0.18%	**182.72**	**61.70%**
S_RES_WWSTR825_1	HWY 26	WWSTR825	WWSTR824	7	3377	3.40	13.68	46.49	0.13	66.47	112.96	130.44	525	176.25	176.01	0.18%	**184.47**	**61.23%**
S_RES_WWSTR824_1	HWY 26	WWSTR824	WWSTR823	13	3390	3.40	13.73	46.65	0.16	66.63	113.28	113.57	525	175.99	175.77	0.19%	**189.28**	**59.85%**
S_RES_WWSTR823_1	HWY 26	WWSTR823	WWSTR822	7	3397	3.40	13.76	46.74	0.16	66.79	113.53	88.17	525	175.76	175.56	0.23%	**204.83**	**55.43%**
	HWY 26	WWSTR822	WWSTR821	0	3397	3.40	13.76	46.74	0.00	66.79	113.53	86.44	525	175.54	175.4	0.16%	**173.08**	**65.59%**
	HWY 26	WWSTR821	WWSTR820	3	3400	3.40	13.77	46.77	0.00	66.79	113.56	22.32	525	175.34	175.31	0.13%	**157.67**	**72.03%**
EXT 2 - EAST	EXT-2	WWSTR813	WWSTR820	4804	4804	3.26	19.46	63.46	62.03	62.03	125.49	77.49	750	174.41	174.17	0.31%	**619.56**	**20.25%**
Pumping Station	N/A	WWSTR820	Craigleith_Main_SPS	0	8204	3.04	33.23	101.02	0.00	128.82	229.84	27.59	750	174.17	174.12	0.18%	**473.93**	**48.50%**

APPENDIX B

Potable Water Demand Calculations

Water Demand Calculations
Fire Flow Calculations

CROZIER
CONSULTING ENGINEERS

File: 721-3464
Date: 2026-05-15
By: NS
Check By: JE

Home Farm (Total) - Water Design Criteria

Note: This Scenario uses a projected demand for a future Long Term Care Facility as well as 112 Affordable Housing Units.
*Fire station flows based on Town of The Blue Mountains Fire Station 2 Replacement Final Design Report

			Home Farm	Fire Station*	Rental	LTC	Total	
Developed Site Area			15.55	2.60	1.73	1.10	18.38	ha
Population Calculation								
Number of Residential Units			221	-	112		333	units
Person Per Residential Unit	*(Town Development Standards)*		2.15	-	2.15		2.15	persons/unit
Residential Population			475	-	241	0	716	persons
Long Term Care Population			-	-		192	192	beds
		Total	**475**	**-**	**241**	**192**	**908**	persons
Total Population								
Total Population			**475**	**-**	**241**	**192**	**908**	**people**
Equivalent Total Population	*(Used in Harmon Formula)*		**475**	**-**	**241**	**247**	**963**	**people**
Domestic Water Design Flows								
Residential	*(Town Development Standards)*		350	-	350	-	350	L/C-day
Long Term Care Homes (per Bed)			-	-	-	450	450	L/C-day
Institutional/Commercial Demand Rate (per MECP Design Guidelines for Drinking Water Systems)			28	-	28	28	28	m^3/ha/day
Total Domestic Water Design Flows								
Average Daily Residential Demand			1.92	-	0.98	1.00	3.90	L/sec
Average Daily Institutional/Commercial Demand			0.00	-	0.00	0.00	0.00	L/sec
Average Daily Flow			1.92	2.50	0.98	1.00	3.90	L/sec
Max Day Peak Factor	*(MECP Design Guidelines for Drinking Water Systems)*		2.95	1.50	4.08	4.54	2.75	
Max Day Demand Flow			**5.68**	**3.75**	**3.98**	**4.54**	**10.73**	L/sec
Peak Hour Factor	*(MECP Design Guidelines for Drinking Water Systems)*		4.40	2.70	6.13	6.84	4.13	
Peak Hour Flow			**8.47**	**6.75**	**5.98**	**6.84**	**16.11**	L/sec
Fire Flow Demand (per FUS and OBC)			233.00	200.00	233.00	150.00	233.00	L/sec
Total Design Flow			**238.68**	**203.75**	**236.98**	**154.54**	**243.73**	L/sec

Home Farm
Project: Rentals
Project No.: 0721-3464
Created By: J.C.
Checked By: J.E.
Date: 2026.05.08

Fire Flow Determination Per Fire Underwriters Survey (2020)

Water Supply for Public Fire Protection - 2020
Fire Underwriters Survey
Part II - Guide for Determination of Fire Flows for Public Fire Protection in Canada

An estimate of fire flow required for a given area may be determined by the formula:

RFF = 220 * C * sqrt A

where:

RFF = the required fire flow in litres per minute (L/min)
C = the construction coefficient is related to the type of construction of the building
= 1.5 for Type V Wood Frame Construction
= 0.8 for Type IV-A Mass Timber Construction
= 0.9 for Type IV-B Mass Timber Construction
= 1.0 for Type IV-C Mass Timber Construction
= 1.5 for Type IV-D Mass Timber Construction
= 1.0 for Type III Ordinary Construction
= 0.8 for Type II Non-combustible Construction
= 0.6 for Type I Fire Resistive Construction
A = the total effective floor area (effective building area) in square metres (excluding basements at least 50 percent below grade) in the building considered

STEP A: Construction Coefficient (C) — 1.0 — Type III Ordinary Construction Assumed

STEP B: Total Effective Floor Area
Proposed Building — 8 Unit Townhouse In Central-West Portion of Development, Assume 2 Floors

	Yes/No/Unknown	
Is basement at least 50% below grade?	Yes	If yes, basement floor area excluded
Vertical openings protected?	No	*For consideration for effective area calculations

Calculate Effective Floor Area based on the highlighted cell
-C value from 1.0 to 1.5: 100% of all floor areas are used
-C value below 1 and vertical openings are not protected: Consider two largest floors plus 50% of all floor above to a max of eight
-C value below 1 and vertical openings are protected: Consider single largest floor plus 25% of the two immediately adjoining floors

*A building may be subdivided if there is a vertical firewall with a fire-resistance rating greater than 2 hours, and meets the requirements of the National Building Code.

Floors Above Grade	Total Floor Area (m^2)	% of Area Considered	Effective Floor Area (m^2)
Basement	808	0%	0.0
Ground Floor	808	100%	808.0
Level 2	808	100%	808.0
Level 3		100%	0.0
Level 4		100%	0.0
Level 5		100%	0.0
Level 6		100%	0.0
Level 7		100%	0.0
Level 8		100%	0.0
Total	**2424**		**1616.0**

Total Effective Floor Area — **1616** m^2

STEP C: Therefore RFF = **9,000** **L/min (rounded to nearest 1000 L/min)**

STEP D: Occupancy Contents Adjustment Factor

The required fire flow may be reduced by as much as -25% for occupancies having contents with very low fire hazard or may be increased by up to 25% surcharge for occupancies having a high fire hazard.

Occupancy and Contents Adjustment Factor	
Non-Combustible	-25%
Limited Combustible	-15%
Combustible	0%
Free Burning	15%
Rapid Burning	25%

*Refer to Table 3 for recommended Occupancy and Contents Charges by major occupancy examples.

Type of Occupancy		Adjustment Factor
Residential Occupancy	Combustible	0%

Total Reduction % — **0** **L/min surcharge**

RFF = **9,000** **L/min (not rounded)**

Note: The RFF flow 9000 L/min is used in Step E and F.

Home Farm
Project: Rentals
Project No.: 0721-3464
Created By: J.C.
Checked By: J.E.
Date: 2026.05.08

Fire Flow Determination Per Fire Underwriters Survey (2020)

STEP E: Automatic Sprinkler Protection

Sprinklers - The required fire flow may be reduced by up to 50% for complete automatic sprinkler protection depending upon adequacy of system.

	Yes/No/Unknown	*Possible Reduction Available	Actual Reduction Provided
Automatic sprinkler protection designed and installed in accordance with NFPA 13?	No	-30%	0%
Water supply is standard for both the system and Fire Department hose lines?	Yes	-10%	-10%
Fully supervised system?	No	-10%	0%

*Reduction available assumes complete building coverage
*30% reduction typical for building requiring sprinkler system

Total Reduction % **-10%** **(reduction)**

Total Reduced Flow **-900** **L/min (reduction, not rounded)**

STEP F: Exposure Adjustment Charge

Exposure - A percentage of water for the exposures should be added to the required fire flow for the subject building to provide adequate flow rates for hose streams used to reduce the spreading of fire from the subject building to exposed risks. The required fire flow of a subject building may be increased depending on the severity of exposed risks to the subject building and the distance between the exposed risks and the subject building. This charge considers the usage of water supplies to prevent exposed risks from igniting or being damaged during a major fire incident in the subject building.

Separation Distance	Maximum Exposure Adjustment Charge
0 to 3m	25%
3.1 to 10m	20%
10.1 to 20m	15%
20.1 to 30m	10%
Greater than 30m	0%

*If a vertical fire wall is properly constructed and has a rating of no less than 2 hours, then the boundary can be treated as protected with no exposure charge
*The maximum exposure adjustment charge to be applied to a subject building is 75%
*The distance in metres from the subject building facing wall to the exposed building facing wall, measured to the nearest metre, between the nearest points of the buildings. Where either the subject building or the exposed building is at a diagonal to the other building, the shortest distance should be increased by 3 metres and this adjusted value used as exposure distance.

Exposed buildings		Distance	Surcharge Factor	Surcharge (L/min)
North	Adjacent Dwelling	18.4	15%	1350
East	Adjacent Dwelling	14.9	15%	1350
South	Adjacent Dwelling	3.1	20%	1800
West	Adjacent Dwelling	22	10%	900

Total Reduced Flow **5,400** **L/min Surcharge (not rounded)**

STEP G: Final Required Fire Flow

Step D - Occupancy Adjusted Fire Flow Demand	9,000	L/min
Step E - Sprinkler (Reduction)	-900	L/min
Step F - Exposure Charge	5,400	L/min
Final Fire Flow:	**13,500**	**L/min**
	14,000	**L/min (rounded to nearest 1000L/min)**
or	**233**	**L/s**
or	**3,698**	**USGPM**
Required duration:	**2.50**	**hours**

Refer to Table 1 for Duration

Table 1 - FUS 2020

Required Duration of Fire Flow	
Flow Required (L/min)	**Duration (hours)**
2,000 or less	1.00
3,000	1.25
4,000	1.50
5,000	1.75
6,000	2.00
8,000	2.00
10,000	2.00
12,000	2.50
14,000	3.00
16,000	3.50
18,000	4.00
20,000	4.50
22,000	5.00
24,000	5.50
26,000	6.00
28,000	6.50
30,000	7.00
32,000	7.50
34,000	8.00
36,000	8.50
38,000	9.00
40,000 and over	9.50

Interpolate for intermediate figures

APPENDIX C

Hydrologic Modelling

MTO IDF Curve
Pre-Development Hydrologic Parameter Sheets
Post-Development Hydrologic Parameter Sheets
SWMHYMO Modelling

Ontario IDF CURVE LOOKUP

Active coordinate

44° 30' 45" N, 80° 19' 14" W (44.512500,-80.320833)

Retrieved: Mon, 30 Aug 2021 18:05:42 GMT



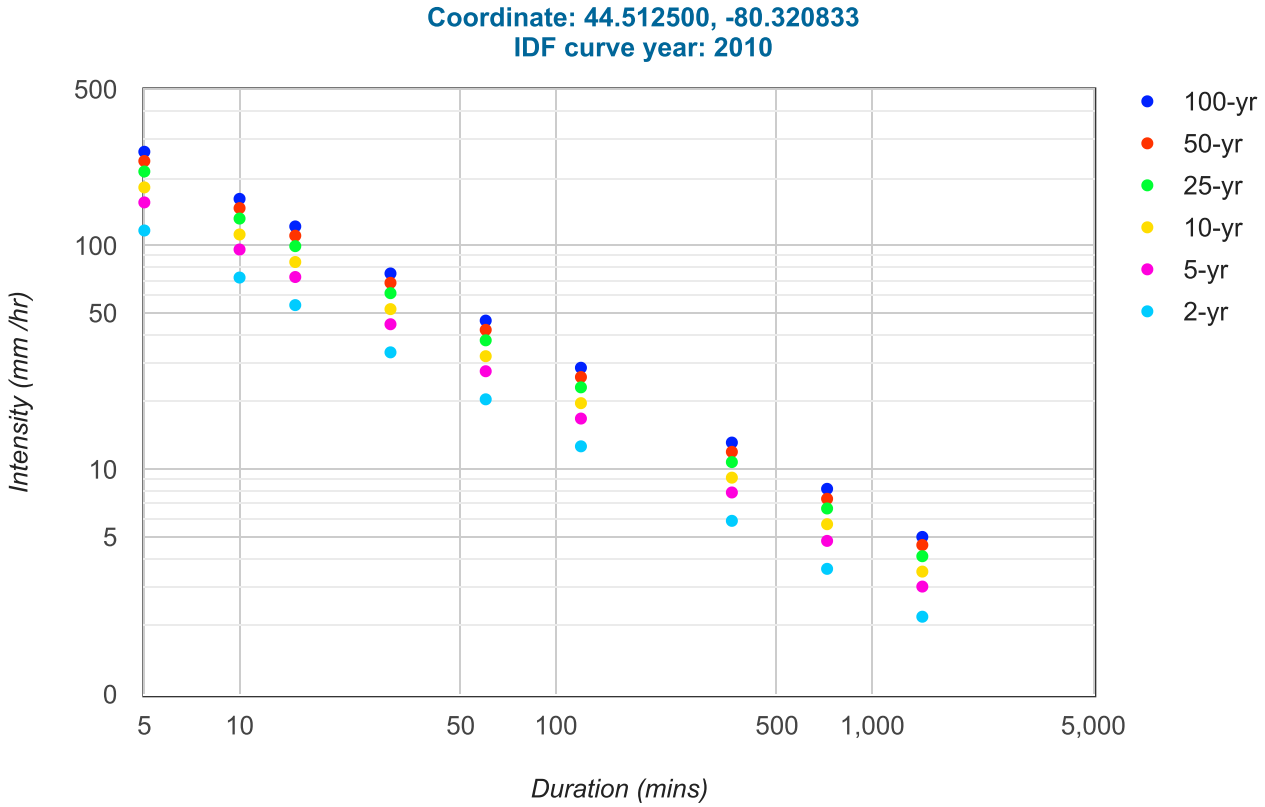
Location summary

These are the locations in the selection.

IDF Curve: 44° 30' 45" N, 80° 19' 14" W (44.512500,-80.320833)

Results

An IDF curve was found.



Coefficient summary

IDF Curve: 44° 30' 45" N, 80° 19' 14" W (44.512500,-80.320833)

Retrieved: Mon, 30 Aug 2021 18:05:42 GMT

Data year: 2010
IDF curve year: 2010

Return period	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
A	20.6	27.5	32.1	37.8	42.1	46.3
B	-0.699	-0.699	-0.699	-0.699	-0.699	-0.699

Statistics

Rainfall intensity (mm hr^{-1})

Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
2-yr	117.0	72.1	54.3	33.4	20.6	12.7	5.9	3.6	2.2
5-yr	156.2	96.2	72.5	44.6	27.5	16.9	7.9	4.8	3.0
10-yr	182.3	112.3	84.6	52.1	32.1	19.8	9.2	5.7	3.5
25-yr	214.7	132.3	99.6	61.4	37.8	23.3	10.8	6.7	4.1
50-yr	239.1	147.3	110.9	68.3	42.1	25.9	12.0	7.4	4.6
100-yr	263.0	162.0	122.0	75.2	46.3	28.5	13.2	8.2	5.0

Rainfall depth (mm)

Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
2-yr	9.8	12.0	13.6	16.7	20.6	25.4	35.3	43.5	53.6
5-yr	13.0	16.0	18.1	22.3	27.5	33.9	47.2	58.1	71.6
10-yr	15.2	18.7	21.1	26.1	32.1	39.5	55.0	67.8	83.6
25-yr	17.9	22.0	24.9	30.7	37.8	46.6	64.8	79.9	98.4
50-yr	19.9	24.6	27.7	34.2	42.1	51.9	72.2	88.9	109.6
100-yr	21.9	27.0	30.5	37.6	46.3	57.0	79.4	97.8	120.5

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Last Modified: September 2016

Project Name:	Home Farm	**D.A. NAME 1A-Pre**
Project Number:	0721-3464	**D.A. AREA (ha) 8.2**
Date:	2023-01-17	
By:	AC/JE	

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment 1A-Pre

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic	% Area	Area
Kemble Silt Clay	KSc	C	100	8.2
				0
				0
				0
Total Area				8.2

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
KSc	0.15	98		98		98		98		98	0.15	14.31
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0.146		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
KSc	5.64	73	2.42	76	0.000	50	0.00	79	0	82	8.05	595.19
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	5.64		2.42		0.00		0.00		0.00			

	Composite Area Calculations	Total Pervious Area	8.05
		Total Impervious Area	0.15
		% Impervious	1.78%
		Composite Curve Number	74.3
		Total Area Check	8.2

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Kemble Silt Clay		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	5.64	56.38	0.35	6		0		0		0	1.97
Meadow	8	2.42	19.33	0.40	2		0		0		0	0.97
Wetland	16	0	0		0		0		0		0	0
Lawn	5	0	0	0.15	0		0		0		0	0.00
Cultivated	7	0	0	0.55	0		0		0		0	0.00
Impervious	2	0.15	0.29	0.90	0		0		0		0	0.13
Composite		8.2	9.27	Composite Runoff Coefficient								0.37

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
SHEET	100	2.75	2.8%		0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.31	0.21	0.63	0.42
CHANNEL	400	11	2.8%		0	#DIV/0!	#DIV/0!	#DIV/0!				

Appropriate calculated time to peak:	0.42	Appropriate Method:	Airport

Project Name:	Home Farm	**D.A. NAME 2A-Pre**
Project Number:	0721-3464	**D.A. AREA (ha) 4.56**
Date:	May 19-2021	
By:	AC/JE	

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment 2A-Pre

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic	% Area	Area
Kemble Silt Clay	KSc	C	100	4.56
				0
				0
				0
Total Area				4.56

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

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
KSc	3.876	73	0.684	76	0		0.00	79	0	82	4.56	334.93
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	3.88		0.68		0.00		0.00		0.00			

Composite Area Calculations	Total Pervious Area	4.56	
	Total Impervious Area	0.00	
	% Impervious	0.00%	
	Composite Curve Number	**73.5**	
	Total Area Check	4.56	

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Kemble Silt Clay		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	3.876	38.76	0.35	4		0		0		0	1.36
Meadow	8	0.684	5.472	0.40	1		0		0		0	0.2736
Wetland	16	0	0		0		0		0		0	0
Lawn	5	0	0	0.15	0		0		0		0	0.00
Cultivated	7	0	0	0.55	0		0		0		0	0
Impervious	2	0	0	0.90	0		0		0		0	0.00
Composite		4.56	**9.70**	Composite Runoff Coefficient								0.36

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
SHEET	100	1.25	1.3%		0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.25	0.16	0.57	0.38
CHANNEL	260	7.5	2.9%		0	#DIV/0!	#DIV/0!	#DIV/0!				

Appropriate calculated time to peak:	**0.38**	Appropriate Method:	Airport

Project Name:	Home Farm	**D.A. NAME 2B-Pre**
Project Number:	0721-3464	**D.A. AREA (ha)** **0.87**
Date:	May 19-2021	
By:	AC/JE	

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment 2B-Pre

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic	% Area	Area
Kemble Silt Clay	KSc	C	100	0.87
				0
				0
				0
Total Area				0.87

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

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
KSc	0.609	73	0.261	76	0		0.00	79	0	82	0.87	64.29
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	0.61		0.26		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	0.87
	Total Impervious Area	0.00
	% Impervious	0.00%
	Composite Curve Number	**73.9**
	Total Area Check	0.87

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Kemble Silt Clay		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.609	6.09	0.35	1		0		0		0	0.21
Meadow	8	0.261	2.088	0.40	0		0		0		0	0.1044
Wetland	16	0	0		0		0		0		0	0
Lawn	5	0	0	0.15	0		0		0		0	0.00
Cultivated	7	0	0	0.55	0		0		0		0	0
Impervious	2	0	0	0.90	0		0		0		0	0.00
Composite		0.87	**9.40**	Composite Runoff Coefficient								0.37

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
SHEET	100	1.9	1.90%		0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.12	0.08	0.38	0.26
CHANNEL	35	0.55	2%		0	#DIV/0!	#DIV/0!	#DIV/0!				

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

Project Name:	Home Farm	**D.A. NAME 2C- Pre**
Project Number:	0721-3464	**D.A. AREA (ha) 6.14**
Date:	May 19-2021	
By:	AC/JE	

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment 2C- Pre

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic	% Area	Area
Kemble Silt Clay	KSc	C	100	6.14
				0
				0
				0
Total Area				6.14

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
KSc	0.02	98		98		98		98		98	0.02	2.35
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0.024		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
KSc	3.058	73	3.058	76	0		0.00	79	0	82	6.12	455.64
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	3.06		3.06		0.00		0.00		0.00			

	Composite Area Calculations	Total Pervious Area	6.12
		Total Impervious Area	0.02
		% Impervious	0.39%
		Composite Curve Number	**74.6**
		Total Area Check	6.14

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Kemble Silt Clay		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	3.058	30.58	0.35	3		0		0		0	1.07
Meadow	8	3.058	24.464	0.40	3		0		0		0	1.22
Wetland	16	0	0		0		0		0		0	0
Lawn	5	0	0	0.15	0		0		0		0	0.00
Cultivated	7	0	0	0.55	0		0		0		0	0
Impervious	2	0.024	0.048	0.90	0		0		0		0	0.02
Composite		6.14	**8.97**	Composite Runoff Coefficient								0.38

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
SHEET	100	2.25	2.3%		0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.21	0.14	0.51	0.34
CHANNEL	230	7	3.0%		0	#DIV/0!	#DIV/0!	#DIV/0!				

Appropriate calculated time to peak:	**0.34**	Appropriate Method:	Airport

Project Name:	Home Farm	**D.A. NAME 3A-Pre**
Project Number:	0721-3464	**D.A. AREA (ha)** **0.49**
Date:	May 19-2021	
By:	AC/JE	

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment 3A-Pre

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic	% Area	Area
Waterloo Sandy Loam	Wsl	A	100	0.49
				0
				0
				0
Total Area				0.49

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Wsl	0.05	98		98		98		98	0	98	0.052	5.096
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0.052		0		0		0		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Wsl	0.0876	32	0.3504	38	0	50	0.00	49	0	62	0.44	16.12
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	0.09		0.35		0.00		0.00		0.00			

Composite Area Calculations	Total Pervious Area	0.44	
	Total Impervious Area	0.05	
	% Impervious	10.61%	
	Composite Curve Number	**43.3**	
	Total Area Check	0.49	

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Waterloo Sandy		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.09	0.88	0.08	0		0		0		0	0.01
Meadow	8	0.35	2.80	0.10	0		0		0		0	0.04
Wetland	16	0	0	0.05	0		0		0		0	0
Lawn	5	0	0	0.13	0		0		0		0	0.00
Cultivated	7	0	0	0.22	0		0		0		0	0
Impervious	2	0.052	0.104	0.90	0		0		0		0	0.05
Composite		0.49	**7.72**	Composite Runoff Coefficient								0.18

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
SHEET	100	4.0	4.0%		0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.14	0.09	0.43	0.29
CHANNEL	71	2.0	2.8%		0	#DIV/0!	#DIV/0!	#DIV/0!				

Appropriate calculated time to peak:	**0.29**	Appropriate Method:	Airport

Project Name:	Home Farm	**D.A. NAME**	**1A**
Project Number:	0721-3464	**D.A. AREA (ha)**	**8.2**
Date:	May 19-2021		
By:	AC/JE		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment 1A

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic	% Area	Area
Kemble Silt Clay	KSc	C	100	8.2
				0
				0
				0
Total Area Check				8.2

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
KSc	1.53	98	0.26	98	1.05	98	1.89	98	0.23	98	4.96	486.08
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	1.53		0.26		1.05		1.89		0.23			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
KSc	0		0		0		3.24	79	0		3.24	255.96
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
Subtotal Area	0		0		0		3.24		0			

Pervious Area Calculations	Total Pervious Area	3.24	
	Composite Pervious Curve Number	79	
Impervious Area Calculations	Total Directly Connected Area	3.07	
	Total Indirectly Connected Area	1.89	
	Total Impervious Area	4.96	
	% X imp	37.4	
	% T imp	60.5	
	Total Area Check	8.2	

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	3.24	16.20
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	17	0.25
Impervious	2.0	2	234	0.013

Project Name:	Home Farm	**D.A. NAME**	**2A-1**
Project Number:	0721-3464	**D.A. AREA (ha)**	**3.85**
Date:	2023-09-26		
By:	HR		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment 2A-1

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic	% Area	Area
Kemble Silt Clay	KSc	C	100	3.85
				0
				0
				0
Total Area Check				3.85

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
KSc	1.21	98	0.13	98	0.43	98	0.58	98	0	98	2.35	230.3
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	1.21		0.13		0.43		0.58		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
KSc	0		0		0		1.50	79	0		1.50	118.5
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
Subtotal Area	0		0		0		1.50		0			

Pervious Area Calculations	Total Pervious Area	1.5	
	Composite Pervious Curve Number	79	
Impervious Area Calculations	Total Directly Connected Area	1.77	
	Total Indirectly Connected Area	0.58	
	Total Impervious Area	2.35	
	% X imp	46.0	
	% T imp	61.0	
	Total Area Check	3.85	

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	1.50	7.50
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	17	0.25
Impervious	2.0	2	160	0.013

Project Name:	Home Farm	**D.A. NAME**	**2A-4**
Project Number:	0721-3464	**D.A. AREA (ha)**	**0.70**
Date:	2023-01-17		
By:	AC/JE/TM		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment 2A-4

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic	% Area	Area
Kemble Silt Clay	KSc	C	100	0.7
				0
				0
				0
Total Area Check				0.7

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
KSc		98		98	0.08	98	0.002	98	0.17	98	0.25	24.735
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.00		0		0.08		0.00		0.17			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
KSc	0		0		0		0.45	79	0		0.45	35.36
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
Subtotal Area	0		0		0		0.45		0			

Pervious Area Calculations	Total Pervious Area	0.448
	Composite Pervious Curve Number	79
Impervious Area Calculations	Total Directly Connected Area	0.25
	Total Indirectly Connected Area	0.00
	Total Impervious Area	0.25
	% X imp	35.7
	% T imp	36.1
	Total Area Check	0.7

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	0.45	2.24
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	17	0.25
Impervious	2.0	2	68	0.013

Project Name:	Home Farm	**D.A. NAME**	**2B**
Project Number:	0721-3464	**D.A. AREA (ha)**	**0.87**
Date:	May 19-2021		
By:	AC/JE		

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment 2B

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic	% Area	Area
Kemble Silt Clay	KSc	C	100	0.87
				0
				0
				0
Total Area				0.87

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
KSc	0.05	98		98		98	0.10	98	0	98	0.15	14.7
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal	0.05		0		0		0.1		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
KSc	0.144		0		0		0.58	79	0		0.72	45.50
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal	0.14		0.00		0.00		0.58		0.00			

	Composite Area Calculations	Total Pervious Area	0.72
		Total Impervious Area	0.15
		% Impervious	17.24%
		Composite Curve Number	69.2
		Total Area Check	0.87

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Runoff Coefficient								
Landuse	IA (mm)	Area (ha)	A * IA	Kemble Silt Clay		0		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.144	1.44	0.35	0		0		0		0	0.05
Meadow	8	0	0		0		0		0		0	0
Wetland	16	0	0		0		0		0		0	0
Lawn	5	0.576	2.88	0.15	1		0		0		0	0.09
Cultivated	7	0	0		0		0		0		0	0
Impervious	2	0.15	0.3	0.90	0		0		0		0	0.14
Composite		0.87	5.31	Composite Runoff Coefficient								0.31

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
SHEET	100	1.5	1.50%		0.00	#DIV/0!	#DIV/0!	#DIV/0!	0.12	0.08	0.43	0.29
CHANNEL	35	0.6	2%		0	#DIV/0!	#DIV/0!	#DIV/0!				

Appropriate calculated time to peak:	0.29	Appropriate Method:	Airport

Project Name:	Home Farm	**D.A. NAME 3A**
Project Number:	0721-3464	**D.A. AREA (ha) 0.49**
Date:	May 19-2021	
By:	AC/JE	

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment 3A

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic	% Area	Area
Waterloo Sandy Loam	Wsl	A	100	0.49
				0
				0
				0
Total Area Check				0.49

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Wsl	0.21	98		98		98	0.106	98		98	0.32	30.97
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.21		0		0.00		0.106		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Wsl	0		0		0		0.17	49	0		0.17	8.53
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
Subtotal Area	0		0		0		0.17		0			

	Pervious Area Calculations	Total Pervious Area	0.17
		Composite Pervious Curve Number	49
	Impervious Area Calculations	Total Directly Connected Area	0.21
		Total Indirectly Connected Area	0.106
		Total Impervious Area	0.32
		% X imp	42.9
		% T imp	64.5
		Total Area Check	0.49

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	0.17	0.87
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	17	0.25
Impervious	2.0	2	57	0.013

Project Name:	Home Farm	**D.A. NAME**	**2C-1**
Project Number:	0721-3464	**D.A. AREA (ha)**	**3.14**
Date:	2026-05-07		
By:	NS		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment 2C-1
Firehall

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic	% Area	Area
Kemble Silt Clay	KSc	C	100	3.14
				0
				0
				0
Total Area Check				3.14

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
KSc	0.34	98	0.09	98	0.75	85	0.18	98		98	1.36	123.53
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.34		0.09		0.75		0.18		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
KSc	0		0		0		1.78	79	0		1.78	140.62
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
Subtotal Area	0		0		0		1.78		0			

Pervious Area Calculations	Total Pervious Area	1.78	
	Composite Pervious Curve Number	79	
Impervious Area Calculations	Total Directly Connected Area	1.36	
	Total Indirectly Connected Area	0.00	
	Total Impervious Area	1.36	
	% X imp	43.3	
	% T imp	43.3	
	Total Area Check	3.14	

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	1.78	8.90
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	80	0.25
Impervious	2.0	2	145	0.013

Project Name:	Home Farm	**D.A. NAME**	**2C-2**
Project Number:	0721-3464	**D.A. AREA (ha)**	**1.1**
Date:	2026-05-07		
By:	NS		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment 2C-2
Long Term Care Facility

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic	% Area	Area
Kemble Silt Clay	KSc	C	100	1.1
				0
				0
				0
Total Area Check				1.1

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
KSc		98		98	0.58	85	0.30	98		98	0.88	78.70
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.00		0		0.58		0.30		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
KSc	0		0		0		0.22	79	0		0.22	17.38
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
Subtotal Area	0		0		0		0.22		0			

Pervious Area Calculations	Total Pervious Area	0.22	
	Composite Pervious Curve Number	79	
Impervious Area Calculations	Total Directly Connected Area	0.88	
	Total Indirectly Connected Area	0.00	
	Total Impervious Area	0.88	
	% X imp	80.0	
	% T imp	80.0	
	Total Area Check	1.1	

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	0.22	1.10
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	30	0.25
Impervious	2.0	2	86	0.013

Project Name:	Home Farm	**D.A. NAME**	**2C-3**
Project Number:	0721-3464	**D.A. AREA (ha)**	**1.90**
Date:	2026-05-07		
By:	NS		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment 2C-3
Rental Housing Development

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic	% Area	Area
Kemble Silt Clay	KSc	C	100	1.9
				0
				0
				0
Total Area Check				1.9

Impervious Landuses Present:												
	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
KSc	0.37	98	0.06	98	0.23	85	0.61	98		98	1.27	121.47
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.37		0.06		0.23		0.61		0			

Pervious Landuses Present:												
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
KSc	0		0		0		0.63	79	0		0.63	49.77
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
Subtotal Area	0		0		0		0.63		0			

	Pervious Area Calculations	Total Pervious Area	0.63
		Composite Pervious Curve Number	79
	Impervious Area Calculations	Total Directly Connected Area	0.66
		Total Indirectly Connected Area	0.61
		Total Impervious Area	1.27
		% X imp	34.7
		% T imp	66.8
		Total Area Check	1.9

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	0.63	3.15
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	30	0.25
Impervious	2.0	2	113	0.013

```
2     Metric units
*#************************************************************************
*#  Project Name: [HOME FARM]    Project Number: [721-3464]
*#  Date        : 2021-10-25
*#  Modeller    : [JE]
*#  Company     : C.F. Crozier & Associates Inc.
*#  License #   : 3737016
*#************************************************************************
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[0],  NRUN=[0]
*%                   [  ] <--storm filename, one per line for NSTORM time
*#************************************************************************

*#************************************************************************
*#*****************************25mm storm*********************************
*#************************************************************************

READ STORM          STORM_FILENAME=["25mm.stm"]

*#************************************************************************
*#************************************************************************
*%-----------------|------------------------------------------------------|
*%-----------------|------------------------------------------------------|
*#-----------------|------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT------------------------------------- |
*#-----------------|-OVERALL WC 7 FLOWS---------------------------------- |
*#-----------------|------------------------------------------------------|
*#-----------------|-PRE-LAND SWAP--------------------------------------- |
*#-----------------|-LANDS UPSTREAM OF SITE------------------------------ |
*%-----------------|------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["701"], DT=[1]min, AREA=[146.70](ha),
                    DWF=[0](cms),  CN/C=[79.9], IA=[6.7](mm),
                    N=[3], TP=[1.35]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-SITE AND SURROUNDING AREA--------------------------- |
*%-----------------|------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["702"], DT=[1]min, AREA=[34.5](ha),
                    DWF=[0](cms),  CN/C=[69.1], IA=[7.4](mm),
                    N=[3], TP=[0.7]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------|
SHIFT HYD           IDout=[2], NHYD=[701Shift], IDin=[1], TLAG=[24](min)
*%-----------------|------------------------------------------------------|
*#-----------------|-WC7 TOTAL AT LAKESHORE RD--PRE DEV------------------ |
*%-----------------|------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["PreWC7"], IDs to add=[2,3]
*%-----------------|------------------------------------------------------|
*%-----------------|------------------------------------------------------|
SAVE HYD            ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
                    HYD_COMMENT=["PRE WC7"]
*#-----------------|------------------------------------------------------|
```

```
*%-----------------|------------------------------------------------------|
*%-----------------|------------------------------------------------------|
*#-----------------|------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT QUANTITY CONTROL MODEL-------------- |
*#-----------------|------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT SWM QUANTITY------------------------ |
*%-----------------|------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["1A-Pre"], DT=[1]min, AREA=[8.2](ha),
                    DWF=[0](cms),  CN/C=[74.3], IA=[9.27](mm),
                    N=[3], TP=[0.42]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["2A-Pre"], DT=[1]min, AREA=[4.56](ha),
                    DWF=[0](cms),  CN/C=[73.5],IA =[9.7](mm),
                    N=[3], TP=[0.38]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["2B-Pre"], DT=[1]min, AREA=[0.87](ha),
                    DWF=[0](cms),  CN/C=[73.9], IA=[9.4](mm),
                    N=[3], TP=[0.26]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["2C-Pre"], DT=[1]min, AREA=[6.14](ha),
                    DWF=[0](cms),  CN/C=[74.6], IA=[8.97](mm),
                    N=[3], TP=[0.34]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------|
*#-----------------|-North (Catchment 2) Internal------------------------ |
*%-----------------|------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["2A2B"], IDs to add=[2,3]
*%-----------------|------------------------------------------------------|
*#-----------------|-North (Catchment 2) Total--------------------------- |
*%-----------------|------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["2-Pre"], IDs to add=[2,3,5]
*%-----------------|------------------------------------------------------|
*%-----------------|------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["3A-Pre"], DT=[1]min, AREA=[.49](ha),
                    DWF=[0](cms),  CN/C=[43.3], IA=[7.72](mm),
                    N=[3], TP=[0.29]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|------------------------------------------------------|
```

```
*#-----------------|------------------------------------------------------|
*#-----------------|------------------------------------------------------|
*#-----------------|-POST-DEVELOPMENT QUANTITY CONTROL MODEL------------- |
```

```
*#-----------------|-------------------------------------------------------------|
*#-----------------|-LANDS DRAINING TO NORTH SWM POND-------------------------|
*#-----------------|-NORTH INLET-----------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[1], NHYD=["2A-1"], DT=[1](min), AREA=[3.85](ha),
                    XIMP=[0.460], TIMP=[0.610], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[160](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[3], NHYD=["2C-1"], DT=[1](min), AREA=[3.14](ha),
                    XIMP=[0.433], TIMP=[0.433], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[80](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[145](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[8], NHYD=["2C-2"], DT=[1](min), AREA=[1.1](ha),
                    XIMP=[0.800], TIMP=[0.800], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[86](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[9], NHYD=["2C-3"], DT=[1](min), AREA=[1.90](ha),
                    XIMP=[0.347], TIMP=[0.668], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[113](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1

*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[5], NHYD=["2A-4"], DT=[1](min), AREA=[0.7](ha),
                    XIMP=[0.357], TIMP=[0.361], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[68](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
```

```
CALIB NASHYD        ID=[6], NHYD=["2B"], DT=[1]min, AREA=[0.87](ha),
                    DWF=[0](cms),  CN/C=[69.2], IA=[5.31](mm),
                    N=[3], TP=[0.29]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1

*#-----------------|-NORTH SWMP NORTH INLET TOTAL-QUALITY CONTROL--------------|
ADD HYD             IDsum=[7], NHYD=["NSWM1"], IDs to add=[1,3,8,9,6]
*#-------------------------------------------------------------------------------|
*#-----------------|-NORTH SWMP NORTH TOTAL-----------------------------------|
ADD HYD             IDsum=[4], NHYD=["NSWM1"], IDs to add=[1,3,8,9,5,6]
*#-------------------------------------------------------------------------------|

ROUTE RESERVOIR     IDout=[3],   NHYD=["SWMF-N"],  IDin=[4],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [   0.008 , 0.021]
                                   [   0.024 , 0.066]
                                   [   0.033 , 0.116]
                                   [   0.040 , 0.174]
                                   [   0.285 , 0.236]
                                   [   0.326 , 0.300]
                                   [   0.363 , 0.367]
                                   [   0.396 , 0.437]
                                   [   0.411 , 0.473]
                                   [   1.081 , 0.548]
                                   [   1.800 , 0.587]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[5], NHYDovf=["NOvf"]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-NORTH CATCHMENT TOTAL------------------------------------|
ADD HYD             IDsum=[6], NHYD=["NORTH"], IDs to add=[3,5]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-SOUTHERN CATCHMENT---------------------------------------|
*#-----------------|-LANDS DRAINING TO SOUTH SWM POND-------------------------|
*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[5], NHYD=["1A"], DT=[1](min), AREA=[8.2](ha),
                    XIMP=[0.605], TIMP=[0.605], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[234](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-SOUTH SWM POND-------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[3],   NHYD=["SWMF-S"],  IDin=[5],
                    RDT=[1](min),
```

```
                        TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [   0.0 ,  0.0 ]
                                 [   0.008,  0.015]
                                 [   0.024 , 0.048]
                                 [   0.033 , 0.088]
                                 [   0.040 , 0.133]
                                 [   0.219 , 0.182]
                                 [   0.246 , 0.234]
                                 [   0.270 , 0.291]
                                 [   0.293 , 0.352]
                                 [   0.303 , 0.383]
                                 [   0.964 , 0.450]
                                 [   1.678 , 0.485]
                                 [   -1  ,  -1  ]  (max twenty pts)
                        IDovf=[7], NHYDovf=["SOvf"]
*#----------------|-------------------------------------------------------------|
*#----------------|-SOUTHEASTERN CATCHMENT----------------------------------------|
*%----------------|-------------------------------------------------------------|
CALIB STANDHYD     ID=[8], NHYD=["3A"], DT=[1](min), AREA=[0.49](ha),
                   XIMP=[0.645], TIMP=[0.645], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[49.0],
                   Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                        LGP=[17](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                        LGI=[57](m), MNI=[0.013], SCI=[0](min),
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|-----------Bioretention-------------------------------------|
ROUTE RESERVOIR    IDout=[9],   NHYD=["BIORET"],  IDin=[8],
                   RDT=[1](min),
                        TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [   0.0 ,  0.0 ]
                                 [   0.002 ,0.001]
                                 [   0.007, 0.004]
                                 [   0.011, 0.007]
                                 [   0.016 ,0.009]
                                 [   -1  ,  -1  ]  (max twenty pts)
                        IDovf=[5], NHYDovf=["BIOOvf"]
*%----------------|-------------------------------------------------------------|
*%----------------|-----------Dry Pond-----------------------------------------|
ROUTE RESERVOIR    IDout=[9],   NHYD=["DRYPOND"],  IDin=[5],
                   RDT=[1](min),
                        TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [   0.0 ,  0.0 ]
                                 [   0.005, 0.000]
                                 [   0.009, 0.003]
                                 [   0.010 ,0.006]
                                 [   0.012 ,0.010]
                                 [   0.014 ,0.017]
                                 [   0.014 ,0.020]
                                 [   0.040 ,0.028]
                                 [   0.043 ,0.040]
                                 [   -1  ,  -1  ]  (max twenty pts)
                        IDovf=[1], NHYDovf=["DRYOvf"]
*%----------------|-------------------------------------------------------------|
*#----------------|---------SITE TOTAL--------------------------------------------|
ADD HYD            IDsum=[10], NHYD=["POSTSITE"], IDs to add=[6,3,7,9,1]
*%----------------|-------------------------------------------------------------|


*%----------------|-------------------------------------------------------------|
*%----------------|-------------------------------------------------------------|
*#----------------|-------------------------------------------------------------|
*#----------------|-------------------------------------------------------------|
*#----------------|-------------------------------------------------------------|
*#----------------|-POST-DEVELOPMENT----------------------------------------------|
*#----------------|-OVERALL WC 7 FLOWS--------------------------------------------|
*#----------------|-------------------------------------------------------------|
*#----------------|-POST-LAND SWAP------------------------------------------------|
*#----------------|-LANDS UPSTREAM OF SITE----------------------------------------|
*%----------------|-------------------------------------------------------------|
CALIB NASHYD       ID=[1], NHYD=["701"], DT=[1]min, AREA=[137.8](ha),
                   DWF=[0](cms),  CN/C=[79.9], IA=[9.27](mm),
                   N=[3], TP=[1.35]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|-------------------------------------------------------------|
SHIFT HYD          IDout=[2], NHYD=["701Shift"], IDin=[1], TLAG=[24](min)
*#----------------|-------------------------------------------------------------|
*#----------------|-POST DEV UNDEVELOPED AREA-------------------------------------|
*%----------------|-------------------------------------------------------------|
CALIB NASHYD       ID=[3], NHYD=["7021"], DT=[1]min, AREA=[23.24](ha),
                   DWF=[0](cms),  CN/C=[69.1], IA=[7.1](mm),
                   N=[3], TP=[0.7]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#----------------|-------------------------------------------------------------|
*#----------------|-WC7 TOTAL AT DOWNSTREAM END--POST DEV-------------------------|
*%----------------|-------------------------------------------------------------|
ADD HYD            IDsum=[4], NHYD=["PosWC7"], IDs to add=[2,3,10]
*%----------------|-------------------------------------------------------------|
*%----------------|-------------------------------------------------------------|
SAVE HYD           ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
                   HYD_COMMENT=["POST WC7"]
*#----------------|-------------------------------------------------------------|



*#*****************************************************************************
```

```
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT---12hr SCS STORMS-------------------------|
*#-----------------|---------------------------------------------------------|

*#*************************************************************************
*#                              2yr SCS Storm (24hr)
*#*************************************************************************
*#*************************************************************************
MASS STORM          PTOTAL=[45.60](mm), CSDT=[1](min),
                    CURVE_FILENAME=["SCS12HII.mst"]
*#*************************************************************************
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT-------------------------------------------|
*#-----------------|-OVERALL WC 7 FLOWS----------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-PRE-LAND SWAP---------------------------------------------|
*#-----------------|-LANDS UPSTREAM OF SITE------------------------------------|
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["701"], DT=[1]min, AREA=[146.70](ha),
                    DWF=[0](cms),  CN/C=[79.9], IA=[6.7](mm),
                    N=[3], TP=[1.35]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-SITE AND SURROUNDING AREA---------------------------------|
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["702"], DT=[1]min, AREA=[34.5](ha),
                    DWF=[0](cms),  CN/C=[69.1], IA=[7.4](mm),
                    N=[3], TP=[0.7]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
SHIFT HYD           IDout=[2], NHYD=[701Shift], IDin=[1], TLAG=[24](min)
*%-----------------|---------------------------------------------------------|
*#-----------------|-WC7 TOTAL AT LAKESHORE RD--PRE DEV------------------------|
*%-----------------|---------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["PreWC7"], IDs to add=[2,3]
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
SAVE HYD            ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
                    HYD_COMMENT=["PRE WC7"]
*#-----------------|---------------------------------------------------------|


*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT QUANTITY CONTROL MODEL--------------------|
*#-----------------|---------------------------------------------------------|
```

```
*#-----------------|-PRE-DEVELOPMENT SWM QUANTITY------------------------------|
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["1A-Pre"], DT=[1]min, AREA=[8.2](ha),
                    DWF=[0](cms),  CN/C=[74.3], IA=[9.27](mm),
                    N=[3], TP=[0.42]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["2A-Pre"], DT=[1]min, AREA=[4.56](ha),
                    DWF=[0](cms),  CN/C=[73.5],IA =[9.7](mm),
                    N=[3], TP=[0.38]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["2B-Pre"], DT=[1]min, AREA=[0.87](ha),
                    DWF=[0](cms),  CN/C=[73.9], IA=[9.4](mm),
                    N=[3], TP=[0.26]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["2C-Pre"], DT=[1]min, AREA=[6.14](ha),
                    DWF=[0](cms),  CN/C=[74.6], IA=[8.97](mm),
                    N=[3], TP=[0.34]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
*#-----------------|-North (Catchment 2) Internal------------------------------|
*%-----------------|---------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["2A2B"], IDs to add=[2,3]
*%-----------------|---------------------------------------------------------|
*#-----------------|-North (Catchment 2) Total---------------------------------|
*%-----------------|---------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["2-Pre"], IDs to add=[2,3,5]
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["3A-Pre"], DT=[1]min, AREA=[.49](ha),
                    DWF=[0](cms),  CN/C=[43.3], IA=[7.72](mm),
                    N=[3], TP=[0.29]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|




*#-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-POST-DEVELOPMENT QUANTITY CONTROL MODEL-------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-LANDS DRAINING TO NORTH SWM POND--------------------------|
*#-----------------|-NORTH INLET-----------------------------------------------|
*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[1], NHYD=["2A-1"], DT=[1](min), AREA=[3.85](ha),
                    XIMP=[0.460], TIMP=[0.610], DWF=[0](cms), LOSS=[2],
```

```
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[160](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[3], NHYD=["2C-1"], DT=[1](min), AREA=[3.14](ha),
                    XIMP=[0.433], TIMP=[0.433], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[80](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[145](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[8], NHYD=["2C-2"], DT=[1](min), AREA=[1.1](ha),
                    XIMP=[0.800], TIMP=[0.800], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[86](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[9], NHYD=["2C-3"], DT=[1](min), AREA=[1.90](ha),
                    XIMP=[0.347], TIMP=[0.668], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[113](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1

*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[5], NHYD=["2A-4"], DT=[1](min), AREA=[0.7](ha),
                    XIMP=[0.357], TIMP=[0.361], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[68](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["2B"], DT=[1]min, AREA=[0.87](ha),
                    DWF=[0](cms),  CN/C=[69.2], IA=[5.31](mm),
                    N=[3], TP=[0.29]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1

*#-----------------|-NORTH SWMP NORTH INLET TOTAL-QUALITY CONTROL--------------|
```

```
ADD HYD             IDsum=[7], NHYD=["NSWM1"], IDs to add=[1,3,8,9,6]
*#-------------------------------------------------------------------------------|
*#-----------------|-NORTH SWMP NORTH TOTAL-----------------------------------|
ADD HYD             IDsum=[4], NHYD=["NSWM1"], IDs to add=[1,3,8,9,5,6]
*#-------------------------------------------------------------------------------|

ROUTE RESERVOIR     IDout=[3],   NHYD=["SWMF-N"],  IDin=[4],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [   0.008 , 0.021]
                                  [   0.024 , 0.066]
                                  [   0.033 , 0.116]
                                  [   0.040 , 0.174]
                                  [   0.285 , 0.236]
                                  [   0.326 , 0.300]
                                  [   0.363 , 0.367]
                                  [   0.396 , 0.437]
                                  [   0.411 , 0.473]
                                  [   1.081 , 0.548]
                                  [   1.800 , 0.587]
                                  [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[5], NHYDovf=["NOvf"]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-NORTH CATCHMENT TOTAL------------------------------------|
ADD HYD             IDsum=[6], NHYD=["NORTH"], IDs to add=[3,5]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-SOUTHERN CATCHMENT---------------------------------------|
*#-----------------|-LANDS DRAINING TO SOUTH SWM POND-------------------------|
*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[5], NHYD=["1A"], DT=[1](min), AREA=[8.2](ha),
                    XIMP=[0.605], TIMP=[0.605], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[234](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-SOUTH SWM POND-------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[3],   NHYD=["SWMF-S"],  IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [   0.008,  0.015]
                                  [   0.024 , 0.048]
                                  [   0.033 , 0.088]
```

```
                                [   0.040 , 0.133]
                                [   0.219 , 0.182]
                                [   0.246 , 0.234]
                                [   0.270 , 0.291]
                                [   0.293 , 0.352]
                                [   0.303 , 0.383]
                                [   0.964 , 0.450]
                                [   1.678 , 0.485]
                                [   -1  ,  -1  ]  (max twenty pts)
                        IDovf=[7], NHYDovf=["SOvf"]
*#----------------|-------------------------------------------------------|
*#----------------|-SOUTHEASTERN CATCHMENT-----------------------------------|
*%----------------|-------------------------------------------------------|
CALIB STANDHYD      ID=[8], NHYD=["3A"], DT=[1](min), AREA=[0.49](ha),
                    XIMP=[0.645], TIMP=[0.645], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[49.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[57](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|-----------Bioretention-------------------------------------|
ROUTE RESERVOIR     IDout=[9],   NHYD=["BIORET"],  IDin=[8],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.002 ,0.001]
                                [   0.007, 0.004]
                                [   0.011, 0.007]
                                [   0.016 ,0.009]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[5], NHYDovf=["BIOOvf"]
*%----------------|-------------------------------------------------------|
*%----------------|-----------Dry Pond-----------------------------------------|
ROUTE RESERVOIR     IDout=[9],   NHYD=["DRYPOND"],  IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.005, 0.000]
                                [   0.009, 0.003]
                                [   0.010 ,0.006]
                                [   0.012 ,0.010]
                                [   0.014 ,0.017]
                                [   0.014 ,0.020]
                                [   0.040 ,0.028]
                                [   0.043 ,0.040]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[1], NHYDovf=["DRYOvf"]
```

```
*%----------------|-------------------------------------------------------|
*#----------------|---------SITE TOTAL----------------------------------------|
ADD HYD             IDsum=[10], NHYD=["POSTSITE"], IDs to add=[6,3,7,9,1]
*%----------------|-------------------------------------------------------|



*%----------------|-------------------------------------------------------|
*%----------------|-------------------------------------------------------|
*#----------------|-------------------------------------------------------|
*#----------------|-------------------------------------------------------|
*#----------------|-------------------------------------------------------|
*#----------------|-POST-DEVELOPMENT-----------------------------------------|
*#----------------|-OVERALL WC 7 FLOWS---------------------------------------|
*#----------------|-------------------------------------------------------|
*#----------------|-POST-LAND SWAP-------------------------------------------|
*#----------------|-LANDS UPSTREAM OF SITE-----------------------------------|
*%----------------|-------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["701"], DT=[1]min, AREA=[137.8](ha),
                    DWF=[0](cms),  CN/C=[79.9], IA=[9.27](mm),
                    N=[3], TP=[1.35]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|-------------------------------------------------------|
SHIFT HYD           IDout=[2], NHYD=["701Shift"], IDin=[1], TLAG=[24](min)
*#----------------|-------------------------------------------------------|
*#----------------|-POST DEV UNDEVELOPED AREA--------------------------------|
*%----------------|-------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["7021"], DT=[1]min, AREA=[23.24](ha),
                    DWF=[0](cms),  CN/C=[69.1], IA=[7.1](mm),
                    N=[3], TP=[0.7]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#----------------|-------------------------------------------------------|
*#----------------|-WC7 TOTAL AT DOWNSTREAM END--POST DEV--------------------|
*%----------------|-------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["PosWC7"], IDs to add=[2,3,10]
*%----------------|-------------------------------------------------------|
*%----------------|-------------------------------------------------------|
SAVE HYD            ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
                    HYD_COMMENT=["POST WC7"]
*#----------------|-------------------------------------------------------|



*#*************************************************************************
*#*************************************************************************
*#                                5yr SCS Storm (24hr)
*#*************************************************************************
*#*************************************************************************
MASS STORM          PTOTAL=[62.4](mm), CSDT=[1](min),
                    CURVE_FILENAME=["SCS12HII.mst"]
```

```
*#************************************************************************
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT---------------------------------------|
*#-----------------|-OVERALL WC 7 FLOWS------------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-PRE-LAND SWAP-----------------------------------------|
*#-----------------|-LANDS UPSTREAM OF SITE--------------------------------|
*%-----------------|-------------------------------------------------------|
CALIB NASHYD       ID=[1], NHYD=["701"], DT=[1]min, AREA=[146.70](ha),
                   DWF=[0](cms),  CN/C=[79.9], IA=[6.7](mm),
                   N=[3], TP=[1.35]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-SITE AND SURROUNDING AREA-----------------------------|
*%-----------------|-------------------------------------------------------|
CALIB NASHYD       ID=[3], NHYD=["702"], DT=[1]min, AREA=[34.5](ha),
                   DWF=[0](cms),  CN/C=[69.1], IA=[7.4](mm),
                   N=[3], TP=[0.7]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------|
SHIFT HYD          IDout=[2], NHYD=[701Shift], IDin=[1], TLAG=[24](min)
*%-----------------|-------------------------------------------------------|
*#-----------------|-WC7 TOTAL AT LAKESHORE RD--PRE DEV--------------------|
*%-----------------|-------------------------------------------------------|
ADD HYD            IDsum=[4], NHYD=["PreWC7"], IDs to add=[2,3]
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
SAVE HYD           ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
                   HYD_COMMENT=["PRE WC7"]
*#-----------------|-------------------------------------------------------|


*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT QUANTITY CONTROL MODEL----------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT SWM QUANTITY--------------------------|
*%-----------------|-------------------------------------------------------|
CALIB NASHYD       ID=[1], NHYD=["1A-Pre"], DT=[1]min, AREA=[8.2](ha),
                   DWF=[0](cms),  CN/C=[74.3], IA=[9.27](mm),
                   N=[3], TP=[0.42]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------|
CALIB NASHYD       ID=[2], NHYD=["2A-Pre"], DT=[1]min, AREA=[4.56](ha),
                   DWF=[0](cms),  CN/C=[73.5],IA =[9.7](mm),
                   N=[3], TP=[0.38]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------|
```

```
CALIB NASHYD       ID=[3], NHYD=["2B-Pre"], DT=[1]min, AREA=[0.87](ha),
                   DWF=[0](cms),  CN/C=[73.9], IA=[9.4](mm),
                   N=[3], TP=[0.26]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------|
CALIB NASHYD       ID=[5], NHYD=["2C-Pre"], DT=[1]min, AREA=[6.14](ha),
                   DWF=[0](cms),  CN/C=[74.6], IA=[8.97](mm),
                   N=[3], TP=[0.34]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------|
*#-----------------|-North (Catchment 2) Internal--------------------------|
*%-----------------|-------------------------------------------------------|
ADD HYD            IDsum=[4], NHYD=["2A2B"], IDs to add=[2,3]
*%-----------------|-------------------------------------------------------|
*#-----------------|-North (Catchment 2) Total-----------------------------|
*%-----------------|-------------------------------------------------------|
ADD HYD            IDsum=[4], NHYD=["2-Pre"], IDs to add=[2,3,5]
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
CALIB NASHYD       ID=[6], NHYD=["3A-Pre"], DT=[1]min, AREA=[.49](ha),
                   DWF=[0](cms),  CN/C=[43.3], IA=[7.72](mm),
                   N=[3], TP=[0.29]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------|




*#-----------------|-------------------------------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-POST-DEVELOPMENT QUANTITY CONTROL MODEL---------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-LANDS DRAINING TO NORTH SWM POND----------------------|
*#-----------------|-NORTH INLET-------------------------------------------|
*%-----------------|-------------------------------------------------------|
CALIB STANDHYD     ID=[1], NHYD=["2A-1"], DT=[1](min), AREA=[3.85](ha),
                   XIMP=[0.460], TIMP=[0.610], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[79.0],
                   Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                        LGP=[17](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                        LGI=[160](m), MNI=[0.013], SCI=[0](min),
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------|
CALIB STANDHYD     ID=[3], NHYD=["2C-1"], DT=[1](min), AREA=[3.14](ha),
                   XIMP=[0.433], TIMP=[0.433], DWF=[0](cms),LOSS=[2],
                   SCS curve number CN=[79.0],
                   Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                        LGP=[80](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
```

```
                                    LGI=[145](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[8], NHYD=["2C-2"], DT=[1](min), AREA=[1.1](ha),
                    XIMP=[0.800], TIMP=[0.800], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[86](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[9], NHYD=["2C-3"], DT=[1](min), AREA=[1.90](ha),
                    XIMP=[0.347], TIMP=[0.668], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[113](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1

*%------------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[5], NHYD=["2A-4"], DT=[1](min), AREA=[0.7](ha),
                    XIMP=[0.357], TIMP=[0.361], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[68](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["2B"], DT=[1]min, AREA=[0.87](ha),
                    DWF=[0](cms),  CN/C=[69.2], IA=[5.31](mm),
                    N=[3], TP=[0.29]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1

*#------------------|-NORTH SWMP NORTH INLET TOTAL-QUALITY CONTROL--------------|
ADD HYD             IDsum=[7], NHYD=["NSWM1"], IDs to add=[1,3,8,9,6]
*#-------------------------------------------------------------------------------|
*#------------------|-NORTH SWMP NORTH TOTAL-----------------------------------|
ADD HYD             IDsum=[4], NHYD=["NSWM1"], IDs to add=[1,3,8,9,5,6]
*#-------------------------------------------------------------------------------|

ROUTE RESERVOIR     IDout=[3],   NHYD=["SWMF-N"],  IDin=[4],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.008 , 0.021]
                                [   0.024 , 0.066]
                                [   0.033 , 0.116]
                                [   0.040 , 0.174]
                                [   0.285 , 0.236]
                                [   0.326 , 0.300]
                                [   0.363 , 0.367]
                                [   0.396 , 0.437]
                                [   0.411 , 0.473]
                                [   1.081 , 0.548]
                                [   1.800 , 0.587]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[5], NHYDovf=["NOvf"]
*%------------------|-------------------------------------------------------------|
*#------------------|-NORTH CATCHMENT TOTAL------------------------------------|
ADD HYD             IDsum=[6], NHYD=["NORTH"], IDs to add=[3,5]
*#------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-SOUTHERN CATCHMENT---------------------------------------|
*#------------------|-LANDS DRAINING TO SOUTH SWM POND-------------------------|
*%------------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[5], NHYD=["1A"], DT=[1](min), AREA=[8.2](ha),
                    XIMP=[0.605], TIMP=[0.605], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[234](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#------------------|-SOUTH SWM POND-------------------------------------------|
*%------------------|-------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[3],   NHYD=["SWMF-S"],  IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.008,  0.015]
                                [   0.024 , 0.048]
                                [   0.033 , 0.088]
                                [   0.040 , 0.133]
                                [   0.219 , 0.182]
                                [   0.246 , 0.234]
                                [   0.270 , 0.291]
                                [   0.293 , 0.352]
                                [   0.303 , 0.383]
                                [   0.964 , 0.450]
                                [   1.678 , 0.485]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[7], NHYDovf=["SOvf"]
*#------------------|-------------------------------------------------------------|
*#------------------|-SOUTHEASTERN CATCHMENT-----------------------------------|
*%------------------|-------------------------------------------------------------|
```

```
CALIB STANDHYD      ID=[8], NHYD=["3A"], DT=[1](min), AREA=[0.49](ha),
                    XIMP=[0.645], TIMP=[0.645], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[49.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[57](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|----------Bioretention-----------------------------------|
ROUTE RESERVOIR     IDout=[9],   NHYD=["BIORET"],  IDin=[8],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [   0.002 ,0.001]
                                  [   0.007, 0.004]
                                  [   0.011, 0.007]
                                  [   0.016 ,0.009]
                                  [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[5], NHYDovf=["BIOOvf"]
*%-----------------|-------------------------------------------------------|
*%-----------------|----------Dry Pond-----------------------------------|
ROUTE RESERVOIR     IDout=[9],   NHYD=["DRYPOND"],  IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [   0.005, 0.000]
                                  [   0.009, 0.003]
                                  [   0.010 ,0.006]
                                  [   0.012 ,0.010]
                                  [   0.014 ,0.017]
                                  [   0.014 ,0.020]
                                  [   0.040 ,0.028]
                                  [   0.043 ,0.040]
                                  [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[1], NHYDovf=["DRYOvf"]
*%-----------------|-------------------------------------------------------|
*#-----------------|---------SITE TOTAL-----------------------------------|
ADD HYD             IDsum=[10], NHYD=["POSTSITE"], IDs to add=[6,3,7,9,1]
*%-----------------|-------------------------------------------------------|



*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-POST-DEVELOPMENT-------------------------------------|
```

```
*#-----------------|-OVERALL WC 7 FLOWS-----------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-POST-LAND SWAP---------------------------------------|
*#-----------------|-LANDS UPSTREAM OF SITE-------------------------------|
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["701"], DT=[1]min, AREA=[137.8](ha),
                    DWF=[0](cms),  CN/C=[79.9], IA=[9.27](mm),
                    N=[3], TP=[1.35]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------|
SHIFT HYD           IDout=[2], NHYD=["701Shift"], IDin=[1], TLAG=[24](min)
*#-----------------|-------------------------------------------------------|
*#-----------------|-POST DEV UNDEVELOPED AREA----------------------------|
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["7021"], DT=[1]min, AREA=[23.24](ha),
                    DWF=[0](cms),  CN/C=[69.1], IA=[7.1](mm),
                    N=[3], TP=[0.7]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|-WC7 TOTAL AT DOWNSTREAM END--POST DEV----------------|
*%-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["PosWC7"], IDs to add=[2,3,10]
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
SAVE HYD            ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
                    HYD_COMMENT=["POST WC7"]
*#-----------------|-------------------------------------------------------|



*#**************************************************************************
*#**************************************************************************
*#                              10yr SCS Storm (24hr)
*#**************************************************************************
*#**************************************************************************
MASS STORM          PTOTAL=[72.0](mm), CSDT=[1](min),
                    CURVE_FILENAME=["SCS12HII.mst"]
*#**************************************************************************
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT--------------------------------------|
*#-----------------|-OVERALL WC 7 FLOWS-----------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-PRE-LAND SWAP----------------------------------------|
*#-----------------|-LANDS UPSTREAM OF SITE-------------------------------|
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["701"], DT=[1]min, AREA=[146.70](ha),
                    DWF=[0](cms),  CN/C=[79.9], IA=[6.7](mm),
                    N=[3], TP=[1.35]hrs,
```

```
                  RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#----------------|-SITE AND SURROUNDING AREA-------------------------------|
*%----------------|-------------------------------------------------------------|
CALIB NASHYD       ID=[3], NHYD=["702"], DT=[1]min, AREA=[34.5](ha),
                   DWF=[0](cms),  CN/C=[69.1], IA=[7.4](mm),
                   N=[3], TP=[0.7]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|-------------------------------------------------------------|
SHIFT HYD          IDout=[2], NHYD=[701Shift], IDin=[1], TLAG=[24](min)
*%----------------|-------------------------------------------------------------|
*#----------------|-WC7 TOTAL AT LAKESHORE RD--PRE DEV----------------------|
*%----------------|-------------------------------------------------------------|
ADD HYD            IDsum=[4], NHYD=["PreWC7"], IDs to add=[2,3]
*%----------------|-------------------------------------------------------------|
*%----------------|-------------------------------------------------------------|
SAVE HYD           ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
                   HYD_COMMENT=["PRE WC7"]
*#----------------|-------------------------------------------------------------|



*%----------------|-------------------------------------------------------------|
*%----------------|-------------------------------------------------------------|
*#----------------|-------------------------------------------------------------|
*#----------------|-PRE-DEVELOPMENT QUANTITY CONTROL MODEL------------------|
*#----------------|-------------------------------------------------------------|
*#----------------|-PRE-DEVELOPMENT SWM QUANTITY----------------------------|
*%----------------|-------------------------------------------------------------|
CALIB NASHYD       ID=[1], NHYD=["1A-Pre"], DT=[1]min, AREA=[8.2](ha),
                   DWF=[0](cms),  CN/C=[74.3], IA=[9.27](mm),
                   N=[3], TP=[0.42]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|-------------------------------------------------------------|
CALIB NASHYD       ID=[2], NHYD=["2A-Pre"], DT=[1]min, AREA=[4.56](ha),
                   DWF=[0](cms),  CN/C=[73.5],IA =[9.7](mm),
                   N=[3], TP=[0.38]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|-------------------------------------------------------------|
CALIB NASHYD       ID=[3], NHYD=["2B-Pre"], DT=[1]min, AREA=[0.87](ha),
                   DWF=[0](cms),  CN/C=[73.9], IA=[9.4](mm),
                   N=[3], TP=[0.26]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|-------------------------------------------------------------|
CALIB NASHYD       ID=[5], NHYD=["2C-Pre"], DT=[1]min, AREA=[6.14](ha),
                   DWF=[0](cms),  CN/C=[74.6], IA=[8.97](mm),
                   N=[3], TP=[0.34]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|-------------------------------------------------------------|
*#----------------|-North (Catchment 2) Internal----------------------------|
*%----------------|-------------------------------------------------------------|
```

```
ADD HYD            IDsum=[4], NHYD=["2A2B"], IDs to add=[2,3]
*%----------------|-------------------------------------------------------------|
*#----------------|-North (Catchment 2) Total-------------------------------|
*%----------------|-------------------------------------------------------------|
ADD HYD            IDsum=[4], NHYD=["2-Pre"], IDs to add=[2,3,5]
*%----------------|-------------------------------------------------------------|
*%----------------|-------------------------------------------------------------|
CALIB NASHYD       ID=[6], NHYD=["3A-Pre"], DT=[1]min, AREA=[.49](ha),
                   DWF=[0](cms),  CN/C=[43.3], IA=[7.72](mm),
                   N=[3], TP=[0.29]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|-------------------------------------------------------------|



*#----------------|-------------------------------------------------------------|
*#----------------|-------------------------------------------------------------|
*#----------------|-POST-DEVELOPMENT QUANTITY CONTROL MODEL-----------------|
*#----------------|-------------------------------------------------------------|
*#----------------|-LANDS DRAINING TO NORTH SWM POND------------------------|
*#----------------|-NORTH INLET---------------------------------------------|
*%----------------|-------------------------------------------------------------|
CALIB STANDHYD     ID=[1], NHYD=["2A-1"], DT=[1](min), AREA=[3.85](ha),
                   XIMP=[0.460], TIMP=[0.610], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[79.0],
                   Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                        LGP=[17](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                        LGI=[160](m), MNI=[0.013], SCI=[0](min),
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|-------------------------------------------------------------|
CALIB STANDHYD     ID=[3], NHYD=["2C-1"], DT=[1](min), AREA=[3.14](ha),
                   XIMP=[0.433], TIMP=[0.433], DWF=[0](cms),LOSS=[2],
                   SCS curve number CN=[79.0],
                   Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                        LGP=[80](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                        LGI=[145](m), MNI=[0.013], SCI=[0](min),
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|-------------------------------------------------------------|
CALIB STANDHYD     ID=[8], NHYD=["2C-2"], DT=[1](min), AREA=[1.1](ha),
                   XIMP=[0.800], TIMP=[0.800], DWF=[0](cms),LOSS=[2],
                   SCS curve number CN=[79.0],
                   Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                        LGP=[30](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                        LGI=[86](m), MNI=[0.013], SCI=[0](min),
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
```

```
*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[9], NHYD=["2C-3"], DT=[1](min), AREA=[1.90](ha),
                    XIMP=[0.347], TIMP=[0.668], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[113](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1

*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[5], NHYD=["2A-4"], DT=[1](min), AREA=[0.7](ha),
                    XIMP=[0.357], TIMP=[0.361], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[68](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["2B"], DT=[1]min, AREA=[0.87](ha),
                    DWF=[0](cms),  CN/C=[69.2], IA=[5.31](mm),
                    N=[3], TP=[0.29]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1

*#-----------------|-NORTH SWMP NORTH INLET TOTAL-QUALITY CONTROL--------------|
ADD HYD             IDsum=[7], NHYD=["NSWM1"], IDs to add=[1,3,8,9,6]
*#-------------------------------------------------------------------------------|
*#-----------------|-NORTH SWMP NORTH TOTAL-----------------------------------|
ADD HYD             IDsum=[4], NHYD=["NSWM1"], IDs to add=[1,3,8,9,5,6]
*#-------------------------------------------------------------------------------|

ROUTE RESERVOIR     IDout=[3],   NHYD=["SWMF-N"],  IDin=[4],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.008 , 0.021]
                                [   0.024 , 0.066]
                                [   0.033 , 0.116]
                                [   0.040 , 0.174]
                                [   0.285 , 0.236]
                                [   0.326 , 0.300]
                                [   0.363 , 0.367]
                                [   0.396 , 0.437]
                                [   0.411 , 0.473]
                                [   1.081 , 0.548]
                                [   1.800 , 0.587]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[5], NHYDovf=["NOvf"]
```

```
*%-----------------|---------------------------------------------------------|
*#-----------------|-NORTH CATCHMENT TOTAL-------------------------------------|
ADD HYD             IDsum=[6], NHYD=["NORTH"], IDs to add=[3,5]
*#-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-SOUTHERN CATCHMENT----------------------------------------|
*#-----------------|-LANDS DRAINING TO SOUTH SWM POND--------------------------|
*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[5], NHYD=["1A"], DT=[1](min), AREA=[8.2](ha),
                    XIMP=[0.605], TIMP=[0.605], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[234](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-SOUTH SWM POND--------------------------------------------|
*%-----------------|---------------------------------------------------------|
ROUTE RESERVOIR     IDout=[3],   NHYD=["SWMF-S"],  IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.008,  0.015]
                                [   0.024 , 0.048]
                                [   0.033 , 0.088]
                                [   0.040 , 0.133]
                                [   0.219 , 0.182]
                                [   0.246 , 0.234]
                                [   0.270 , 0.291]
                                [   0.293 , 0.352]
                                [   0.303 , 0.383]
                                [   0.964 , 0.450]
                                [   1.678 , 0.485]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[7], NHYDovf=["SOvf"]
*#-----------------|---------------------------------------------------------|
*#-----------------|-SOUTHEASTERN CATCHMENT------------------------------------|
*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[8], NHYD=["3A"], DT=[1](min), AREA=[0.49](ha),
                    XIMP=[0.645], TIMP=[0.645], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[49.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[57](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-----------Bioretention---------------------------------|
ROUTE RESERVOIR     IDout=[9],   NHYD=["BIORET"],  IDin=[8],
                    RDT=[1](min),
```

```
                        TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [   0.0 ,  0.0 ]
                                 [   0.002 ,0.001]
                                 [   0.007, 0.004]
                                 [   0.011, 0.007]
                                 [   0.016 ,0.009]
                                 [   -1  ,  -1  ]  (max twenty pts)
                        IDovf=[5], NHYDovf=["BIOOvf"]
*%----------------|-------------------------------------------------------|
*%----------------|-----------Dry Pond-------------------------------------|
ROUTE RESERVOIR    IDout=[9],   NHYD=["DRYPOND"],  IDin=[5],
                   RDT=[1](min),
                        TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [   0.0 ,  0.0 ]
                                 [   0.005, 0.000]
                                 [   0.009, 0.003]
                                 [   0.010 ,0.006]
                                 [   0.012 ,0.010]
                                 [   0.014 ,0.017]
                                 [   0.014 ,0.020]
                                 [   0.040 ,0.028]
                                 [   0.043 ,0.040]
                                 [   -1  ,  -1  ]  (max twenty pts)
                        IDovf=[1], NHYDovf=["DRYOvf"]
*%----------------|-------------------------------------------------------|
*#----------------|---------SITE TOTAL----------------------------------|
ADD HYD            IDsum=[10], NHYD=["POSTSITE"], IDs to add=[6,3,7,9,1]
*%----------------|-------------------------------------------------------|


*%----------------|-------------------------------------------------------|
*%----------------|-------------------------------------------------------|
*#----------------|-------------------------------------------------------|
*#----------------|-------------------------------------------------------|
*#----------------|-------------------------------------------------------|
*#----------------|-POST-DEVELOPMENT-------------------------------------|
*#----------------|-OVERALL WC 7 FLOWS-----------------------------------|
*#----------------|-------------------------------------------------------|
*#----------------|-POST-LAND SWAP---------------------------------------|
*#----------------|-LANDS UPSTREAM OF SITE-------------------------------|
*%----------------|-------------------------------------------------------|
CALIB NASHYD       ID=[1], NHYD=["701"], DT=[1]min, AREA=[137.8](ha),
                   DWF=[0](cms),  CN/C=[79.9], IA=[9.27](mm),
                   N=[3], TP=[1.35]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|-------------------------------------------------------|
SHIFT HYD          IDout=[2], NHYD=["701Shift"], IDin=[1], TLAG=[24](min)
*#----------------|-------------------------------------------------------|
```

```
*#----------------|-POST DEV UNDEVELOPED AREA----------------------------|
*%----------------|-------------------------------------------------------|
CALIB NASHYD       ID=[3], NHYD=["7021"], DT=[1]min, AREA=[23.24](ha),
                   DWF=[0](cms),  CN/C=[69.1], IA=[7.1](mm),
                   N=[3], TP=[0.7]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#----------------|-------------------------------------------------------|
*#----------------|-WC7 TOTAL AT DOWNSTREAM END--POST DEV-----------------|
*%----------------|-------------------------------------------------------|
ADD HYD            IDsum=[4], NHYD=["PosWC7"], IDs to add=[2,3,10]
*%----------------|-------------------------------------------------------|
*%----------------|-------------------------------------------------------|
SAVE HYD           ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
                   HYD_COMMENT=["POST WC7"]
*#----------------|-------------------------------------------------------|



*#*****************************************************************************
*#*****************************************************************************
*#                              25yr SCS Storm (24hr)
*#*****************************************************************************
*#*****************************************************************************
MASS STORM         PTOTAL=[86.4](mm), CSDT=[1](min),
                   CURVE_FILENAME=["SCS12HII.mst"]
*#*****************************************************************************
*%----------------|-------------------------------------------------------|
*%----------------|-------------------------------------------------------|
*#----------------|-------------------------------------------------------|
*#----------------|-PRE-DEVELOPMENT--------------------------------------|
*#----------------|-OVERALL WC 7 FLOWS-----------------------------------|
*#----------------|-------------------------------------------------------|
*#----------------|-PRE-LAND SWAP----------------------------------------|
*#----------------|-LANDS UPSTREAM OF SITE-------------------------------|
*%----------------|-------------------------------------------------------|
CALIB NASHYD       ID=[1], NHYD=["701"], DT=[1]min, AREA=[146.70](ha),
                   DWF=[0](cms),  CN/C=[79.9], IA=[6.7](mm),
                   N=[3], TP=[1.35]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#----------------|-SITE AND SURROUNDING AREA----------------------------|
*%----------------|-------------------------------------------------------|
CALIB NASHYD       ID=[3], NHYD=["702"], DT=[1]min, AREA=[34.5](ha),
                   DWF=[0](cms),  CN/C=[69.1], IA=[7.4](mm),
                   N=[3], TP=[0.7]hrs,
                   RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|-------------------------------------------------------|
SHIFT HYD          IDout=[2], NHYD=[701Shift], IDin=[1], TLAG=[24](min)
*%----------------|-------------------------------------------------------|
*#----------------|-WC7 TOTAL AT LAKESHORE RD--PRE DEV-------------------|
*%----------------|-------------------------------------------------------|
```

```
ADD HYD             IDsum=[4], NHYD=["PreWC7"], IDs to add=[2,3]
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
SAVE HYD            ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
                    HYD_COMMENT=["PRE WC7"]
*#-----------------|---------------------------------------------------------|



*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT QUANTITY CONTROL MODEL--------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT SWM QUANTITY-----------------------------|
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["1A-Pre"], DT=[1]min, AREA=[8.2](ha),
                    DWF=[0](cms),  CN/C=[74.3], IA=[9.27](mm),
                    N=[3], TP=[0.42]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["2A-Pre"], DT=[1]min, AREA=[4.56](ha),
                    DWF=[0](cms),  CN/C=[73.5],IA =[9.7](mm),
                    N=[3], TP=[0.38]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["2B-Pre"], DT=[1]min, AREA=[0.87](ha),
                    DWF=[0](cms),  CN/C=[73.9], IA=[9.4](mm),
                    N=[3], TP=[0.26]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["2C-Pre"], DT=[1]min, AREA=[6.14](ha),
                    DWF=[0](cms),  CN/C=[74.6], IA=[8.97](mm),
                    N=[3], TP=[0.34]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
*#-----------------|-North (Catchment 2) Internal-----------------------------|
*%-----------------|---------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["2A2B"], IDs to add=[2,3]
*%-----------------|---------------------------------------------------------|
*#-----------------|-North (Catchment 2) Total--------------------------------|
*%-----------------|---------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["2-Pre"], IDs to add=[2,3,5]
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["3A-Pre"], DT=[1]min, AREA=[.49](ha),
                    DWF=[0](cms),  CN/C=[43.3], IA=[7.72](mm),
                    N=[3], TP=[0.29]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
```

```
*#-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-POST-DEVELOPMENT QUANTITY CONTROL MODEL-------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-LANDS DRAINING TO NORTH SWM POND-------------------------|
*#-----------------|-NORTH INLET-----------------------------------------------|
*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[1], NHYD=["2A-1"], DT=[1](min), AREA=[3.85](ha),
                    XIMP=[0.460], TIMP=[0.610], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[160](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[3], NHYD=["2C-1"], DT=[1](min), AREA=[3.14](ha),
                    XIMP=[0.433], TIMP=[0.433], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[80](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[145](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[8], NHYD=["2C-2"], DT=[1](min), AREA=[1.1](ha),
                    XIMP=[0.800], TIMP=[0.800], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[86](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[9], NHYD=["2C-3"], DT=[1](min), AREA=[1.90](ha),
                    XIMP=[0.347], TIMP=[0.668], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[113](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1

*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[5], NHYD=["2A-4"], DT=[1](min), AREA=[0.7](ha),
```

```
                    XIMP=[0.357], TIMP=[0.361], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[68](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["2B"], DT=[1]min, AREA=[0.87](ha),
                    DWF=[0](cms),  CN/C=[69.2], IA=[5.31](mm),
                    N=[3], TP=[0.29]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1

*#-----------------|-NORTH SWMP NORTH INLET TOTAL-QUALITY CONTROL--------------|
ADD HYD             IDsum=[7], NHYD=["NSWM1"], IDs to add=[1,3,8,9,6]
*#-------------------------------------------------------------------------------|
*#-----------------|-NORTH SWMP NORTH TOTAL-------------------------------------|
ADD HYD             IDsum=[4], NHYD=["NSWM1"], IDs to add=[1,3,8,9,5,6]
*#-------------------------------------------------------------------------------|

ROUTE RESERVOIR     IDout=[3],   NHYD=["SWMF-N"],  IDin=[4],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.008 , 0.021]
                                [   0.024 , 0.066]
                                [   0.033 , 0.116]
                                [   0.040 , 0.174]
                                [   0.285 , 0.236]
                                [   0.326 , 0.300]
                                [   0.363 , 0.367]
                                [   0.396 , 0.437]
                                [   0.411 , 0.473]
                                [   1.081 , 0.548]
                                [   1.800 , 0.587]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[5], NHYDovf=["NOvf"]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-NORTH CATCHMENT TOTAL--------------------------------------|
ADD HYD             IDsum=[6], NHYD=["NORTH"], IDs to add=[3,5]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-SOUTHERN CATCHMENT-----------------------------------------|
*#-----------------|-LANDS DRAINING TO SOUTH SWM POND---------------------------|
*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[5], NHYD=["1A"], DT=[1](min), AREA=[8.2](ha),
                    XIMP=[0.605], TIMP=[0.605], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[234](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-SOUTH SWM POND---------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[3],   NHYD=["SWMF-S"],  IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.008,  0.015]
                                [   0.024 , 0.048]
                                [   0.033 , 0.088]
                                [   0.040 , 0.133]
                                [   0.219 , 0.182]
                                [   0.246 , 0.234]
                                [   0.270 , 0.291]
                                [   0.293 , 0.352]
                                [   0.303 , 0.383]
                                [   0.964 , 0.450]
                                [   1.678 , 0.485]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[7], NHYDovf=["SOvf"]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-SOUTHEASTERN CATCHMENT-------------------------------------|
*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[8], NHYD=["3A"], DT=[1](min), AREA=[0.49](ha),
                    XIMP=[0.645], TIMP=[0.645], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[49.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[57](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-----------Bioretention-----------------------------------|
ROUTE RESERVOIR     IDout=[9],   NHYD=["BIORET"],  IDin=[8],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.002 ,0.001]
                                [   0.007, 0.004]
                                [   0.011, 0.007]
                                [   0.016 ,0.009]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[5], NHYDovf=["BIOOvf"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-----------Dry Pond-------------------------------------------|
ROUTE RESERVOIR     IDout=[9],   NHYD=["DRYPOND"],  IDin=[5],
```

```
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.005, 0.000]
                                [   0.009, 0.003]
                                [   0.010 ,0.006]
                                [   0.012 ,0.010]
                                [   0.014 ,0.017]
                                [   0.014 ,0.020]
                                [   0.040 ,0.028]
                                [   0.043 ,0.040]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[1], NHYDovf=["DRYOvf"]
*%-----------------|-------------------------------------------------------|
*#-----------------|---------SITE TOTAL------------------------------------|
ADD HYD             IDsum=[10], NHYD=["POSTSITE"], IDs to add=[6,3,7,9,1]
*%-----------------|-------------------------------------------------------|


*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-POST-DEVELOPMENT--------------------------------------|
*#-----------------|-OVERALL WC 7 FLOWS------------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-POST-LAND SWAP----------------------------------------|
*#-----------------|-LANDS UPSTREAM OF SITE--------------------------------|
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["701"], DT=[1]min, AREA=[137.8](ha),
                    DWF=[0](cms),  CN/C=[79.9], IA=[9.27](mm),
                    N=[3], TP=[1.35]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------|
SHIFT HYD           IDout=[2], NHYD=["701Shift"], IDin=[1], TLAG=[24](min)
*#-----------------|-------------------------------------------------------|
*#-----------------|-POST DEV UNDEVELOPED AREA-----------------------------|
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["7021"], DT=[1]min, AREA=[23.24](ha),
                    DWF=[0](cms),  CN/C=[69.1], IA=[7.1](mm),
                    N=[3], TP=[0.7]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|-WC7 TOTAL AT DOWNSTREAM END--POST DEV-----------------|
*%-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["PosWC7"], IDs to add=[2,3,10]
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
```

```
SAVE HYD            ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
                    HYD_COMMENT=["POST WC7"]
*#-----------------|-------------------------------------------------------|




*#*****************************************************************************
*#*****************************************************************************
*#                              50yr SCS Storm (24hr)
*#*****************************************************************************
*#*****************************************************************************
MASS STORM          PTOTAL=[96.0](mm), CSDT=[1](min),
                    CURVE_FILENAME=["SCS12HII.mst"]
*#*****************************************************************************
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT---------------------------------------|
*#-----------------|-OVERALL WC 7 FLOWS------------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-PRE-LAND SWAP-----------------------------------------|
*#-----------------|-LANDS UPSTREAM OF SITE--------------------------------|
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["701"], DT=[1]min, AREA=[146.70](ha),
                    DWF=[0](cms),  CN/C=[79.9], IA=[6.7](mm),
                    N=[3], TP=[1.35]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-SITE AND SURROUNDING AREA-----------------------------|
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["702"], DT=[1]min, AREA=[34.5](ha),
                    DWF=[0](cms),  CN/C=[69.1], IA=[7.4](mm),
                    N=[3], TP=[0.7]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------|
SHIFT HYD           IDout=[2], NHYD=[701Shift], IDin=[1], TLAG=[24](min)
*%-----------------|-------------------------------------------------------|
*#-----------------|-WC7 TOTAL AT LAKESHORE RD--PRE DEV--------------------|
*%-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["PreWC7"], IDs to add=[2,3]
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
SAVE HYD            ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
                    HYD_COMMENT=["PRE WC7"]
*#-----------------|-------------------------------------------------------|



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

```
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT QUANTITY CONTROL MODEL--------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT SWM QUANTITY----------------------------|
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["1A-Pre"], DT=[1]min, AREA=[8.2](ha),
                    DWF=[0](cms),  CN/C=[74.3], IA=[9.27](mm),
                    N=[3], TP=[0.42]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["2A-Pre"], DT=[1]min, AREA=[4.56](ha),
                    DWF=[0](cms),  CN/C=[73.5],IA =[9.7](mm),
                    N=[3], TP=[0.38]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["2B-Pre"], DT=[1]min, AREA=[0.87](ha),
                    DWF=[0](cms),  CN/C=[73.9], IA=[9.4](mm),
                    N=[3], TP=[0.26]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["2C-Pre"], DT=[1]min, AREA=[6.14](ha),
                    DWF=[0](cms),  CN/C=[74.6], IA=[8.97](mm),
                    N=[3], TP=[0.34]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
*#-----------------|-North (Catchment 2) Internal-----------------------------|
*%-----------------|---------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["2A2B"], IDs to add=[2,3]
*%-----------------|---------------------------------------------------------|
*#-----------------|-North (Catchment 2) Total--------------------------------|
*%-----------------|---------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["2-Pre"], IDs to add=[2,3,5]
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["3A-Pre"], DT=[1]min, AREA=[.49](ha),
                    DWF=[0](cms),  CN/C=[43.3], IA=[7.72](mm),
                    N=[3], TP=[0.29]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
```

```
*#-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-POST-DEVELOPMENT QUANTITY CONTROL MODEL-------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-LANDS DRAINING TO NORTH SWM POND--------------------------|
*#-----------------|-NORTH INLET-----------------------------------------------|
```

```
*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[1], NHYD=["2A-1"], DT=[1](min), AREA=[3.85](ha),
                    XIMP=[0.460], TIMP=[0.610], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[160](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[3], NHYD=["2C-1"], DT=[1](min), AREA=[3.14](ha),
                    XIMP=[0.433], TIMP=[0.433], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[80](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[145](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[8], NHYD=["2C-2"], DT=[1](min), AREA=[1.1](ha),
                    XIMP=[0.800], TIMP=[0.800], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[86](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[9], NHYD=["2C-3"], DT=[1](min), AREA=[1.90](ha),
                    XIMP=[0.347], TIMP=[0.668], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[113](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1

*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[5], NHYD=["2A-4"], DT=[1](min), AREA=[0.7](ha),
                    XIMP=[0.357], TIMP=[0.361], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[68](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["2B"], DT=[1]min, AREA=[0.87](ha),
                    DWF=[0](cms),  CN/C=[69.2], IA=[5.31](mm),
                    N=[3], TP=[0.29]hrs,
```

```
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1

*#-----------------|-NORTH SWMP NORTH INLET TOTAL-QUALITY CONTROL--------------|
ADD HYD             IDsum=[7], NHYD=["NSWM1"], IDs to add=[1,3,8,9,6]
*#-----------------------------------------------------------------------------|
*#-----------------|-NORTH SWMP NORTH TOTAL-----------------------------------|
ADD HYD             IDsum=[4], NHYD=["NSWM1"], IDs to add=[1,3,8,9,5,6]
*#-----------------------------------------------------------------------------|

ROUTE RESERVOIR     IDout=[3],   NHYD=["SWMF-N"],  IDin=[4],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.008 , 0.021]
                                [   0.024 , 0.066]
                                [   0.033 , 0.116]
                                [   0.040 , 0.174]
                                [   0.285 , 0.236]
                                [   0.326 , 0.300]
                                [   0.363 , 0.367]
                                [   0.396 , 0.437]
                                [   0.411 , 0.473]
                                [   1.081 , 0.548]
                                [   1.800 , 0.587]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[5], NHYDovf=["NOvf"]
*%-----------------|-------------------------------------------------------|
*#-----------------|-NORTH CATCHMENT TOTAL------------------------------------|
ADD HYD             IDsum=[6], NHYD=["NORTH"], IDs to add=[3,5]
*#-----------------|-------------------------------------------------------|
*#-----------------|-------------------------------------------------------|
*#-----------------|-SOUTHERN CATCHMENT---------------------------------------|
*#-----------------|-LANDS DRAINING TO SOUTH SWM POND-------------------------|
*%-----------------|-------------------------------------------------------|
CALIB STANDHYD      ID=[5], NHYD=["1A"], DT=[1](min), AREA=[8.2](ha),
                    XIMP=[0.605], TIMP=[0.605], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[234](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-SOUTH SWM POND-------------------------------------------|
*%-----------------|-------------------------------------------------------|
ROUTE RESERVOIR     IDout=[3],   NHYD=["SWMF-S"],  IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.008,  0.015]
                                [   0.024 , 0.048]
                                [   0.033 , 0.088]
                                [   0.040 , 0.133]
                                [   0.219 , 0.182]
                                [   0.246 , 0.234]
                                [   0.270 , 0.291]
                                [   0.293 , 0.352]
                                [   0.303 , 0.383]
                                [   0.964 , 0.450]
                                [   1.678 , 0.485]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[7], NHYDovf=["SOvf"]
*#-----------------|-------------------------------------------------------|
*#-----------------|-SOUTHEASTERN CATCHMENT-----------------------------------|
*%-----------------|-------------------------------------------------------|
CALIB STANDHYD      ID=[8], NHYD=["3A"], DT=[1](min), AREA=[0.49](ha),
                    XIMP=[0.645], TIMP=[0.645], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[49.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[57](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-----------Bioretention---------------------------------|
ROUTE RESERVOIR     IDout=[9],   NHYD=["BIORET"],  IDin=[8],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.002 ,0.001]
                                [   0.007, 0.004]
                                [   0.011, 0.007]
                                [   0.016 ,0.009]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[5], NHYDovf=["BIOOvf"]
*%-----------------|-------------------------------------------------------|
*%-----------------|-----------Dry Pond-------------------------------------|
ROUTE RESERVOIR     IDout=[9],   NHYD=["DRYPOND"],  IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.005, 0.000]
                                [   0.009, 0.003]
                                [   0.010 ,0.006]
                                [   0.012 ,0.010]
                                [   0.014 ,0.017]
                                [   0.014 ,0.020]
                                [   0.040 ,0.028]
```

```
                                [   0.043 ,0.040]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[1], NHYDovf=["DRYOvf"]
*%----------------|---------------------------------------------------------|
*#----------------|---------SITE TOTAL------------------------------------------|
ADD HYD           IDsum=[10], NHYD=["POSTSITE"], IDs to add=[6,3,7,9,1]
*%----------------|---------------------------------------------------------|



*%----------------|---------------------------------------------------------|
*%----------------|---------------------------------------------------------|
*#----------------|---------------------------------------------------------|
*#----------------|---------------------------------------------------------|
*#----------------|---------------------------------------------------------|
*#----------------|-POST-DEVELOPMENT--------------------------------------|
*#----------------|-OVERALL WC 7 FLOWS------------------------------------|
*#----------------|---------------------------------------------------------|
*#----------------|-POST-LAND SWAP----------------------------------------|
*#----------------|-LANDS UPSTREAM OF SITE--------------------------------|
*%----------------|---------------------------------------------------------|
CALIB NASHYD      ID=[1], NHYD=["701"], DT=[1]min, AREA=[137.8](ha),
                  DWF=[0](cms),  CN/C=[79.9], IA=[9.27](mm),
                  N=[3], TP=[1.35]hrs,
                  RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|---------------------------------------------------------|
SHIFT HYD         IDout=[2], NHYD=["701Shift"], IDin=[1], TLAG=[24](min)
*#----------------|---------------------------------------------------------|
*#----------------|-POST DEV UNDEVELOPED AREA-----------------------------|
*%----------------|---------------------------------------------------------|
CALIB NASHYD      ID=[3], NHYD=["7021"], DT=[1]min, AREA=[23.24](ha),
                  DWF=[0](cms),  CN/C=[69.1], IA=[7.1](mm),
                  N=[3], TP=[0.7]hrs,
                  RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#----------------|---------------------------------------------------------|
*#----------------|-WC7 TOTAL AT DOWNSTREAM END--POST DEV-----------------|
*%----------------|---------------------------------------------------------|
ADD HYD           IDsum=[4], NHYD=["PosWC7"], IDs to add=[2,3,10]
*%----------------|---------------------------------------------------------|
*%----------------|---------------------------------------------------------|
SAVE HYD          ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
                  HYD_COMMENT=["POST WC7"]
*#----------------|---------------------------------------------------------|



*#*************************************************************************
*#*************************************************************************
*#                            100yr SCS Storm (24hr)
*#*************************************************************************
```

```
*#*************************************************************************
MASS STORM        PTOTAL=[108.0](mm), CSDT=[1](min),
                  CURVE_FILENAME=["SCS12HII.mst"]
*#*************************************************************************
*%----------------|---------------------------------------------------------|
*%----------------|---------------------------------------------------------|
*#----------------|---------------------------------------------------------|
*#----------------|-PRE-DEVELOPMENT---------------------------------------|
*#----------------|-OVERALL WC 7 FLOWS------------------------------------|
*#----------------|---------------------------------------------------------|
*#----------------|-PRE-LAND SWAP-----------------------------------------|
*#----------------|-LANDS UPSTREAM OF SITE--------------------------------|
*%----------------|---------------------------------------------------------|
CALIB NASHYD      ID=[1], NHYD=["701"], DT=[1]min, AREA=[146.70](ha),
                  DWF=[0](cms),  CN/C=[79.9], IA=[6.7](mm),
                  N=[3], TP=[1.35]hrs,
                  RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#----------------|-SITE AND SURROUNDING AREA-----------------------------|
*%----------------|---------------------------------------------------------|
CALIB NASHYD      ID=[3], NHYD=["702"], DT=[1]min, AREA=[34.5](ha),
                  DWF=[0](cms),  CN/C=[69.1], IA=[7.4](mm),
                  N=[3], TP=[0.7]hrs,
                  RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|---------------------------------------------------------|
SHIFT HYD         IDout=[2], NHYD=[701Shift], IDin=[1], TLAG=[24](min)
*%----------------|---------------------------------------------------------|
*#----------------|-WC7 TOTAL AT LAKESHORE RD--PRE DEV--------------------|
*%----------------|---------------------------------------------------------|
ADD HYD           IDsum=[4], NHYD=["PreWC7"], IDs to add=[2,3]
*%----------------|---------------------------------------------------------|
*%----------------|---------------------------------------------------------|
SAVE HYD          ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
                  HYD_COMMENT=["PRE WC7"]
*#----------------|---------------------------------------------------------|



*%----------------|---------------------------------------------------------|
*%----------------|---------------------------------------------------------|
*#----------------|---------------------------------------------------------|
*#----------------|-PRE-DEVELOPMENT QUANTITY CONTROL MODEL-----------------|
*#----------------|---------------------------------------------------------|
*#----------------|-PRE-DEVELOPMENT SWM QUANTITY--------------------------|
*%----------------|---------------------------------------------------------|
CALIB NASHYD      ID=[1], NHYD=["1A-Pre"], DT=[1]min, AREA=[8.2](ha),
                  DWF=[0](cms),  CN/C=[74.3], IA=[9.27](mm),
                  N=[3], TP=[0.42]hrs,
                  RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%----------------|---------------------------------------------------------|
CALIB NASHYD      ID=[2], NHYD=["2A-Pre"], DT=[1]min, AREA=[4.56](ha),
                  DWF=[0](cms),  CN/C=[73.5],IA =[9.7](mm),
```

```
                    N=[3], TP=[0.38]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["2B-Pre"], DT=[1]min, AREA=[0.87](ha),
                    DWF=[0](cms),  CN/C=[73.9], IA=[9.4](mm),
                    N=[3], TP=[0.26]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["2C-Pre"], DT=[1]min, AREA=[6.14](ha),
                    DWF=[0](cms),  CN/C=[74.6], IA=[8.97](mm),
                    N=[3], TP=[0.34]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
*#------------------|-North (Catchment 2) Internal----------------------------|
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["2A2B"], IDs to add=[2,3]
*%------------------|-------------------------------------------------------------|
*#------------------|-North (Catchment 2) Total-------------------------------|
*%------------------|-------------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["2-Pre"], IDs to add=[2,3,5]
*%------------------|-------------------------------------------------------------|
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["3A-Pre"], DT=[1]min, AREA=[.49](ha),
                    DWF=[0](cms),  CN/C=[43.3], IA=[7.72](mm),
                    N=[3], TP=[0.29]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
```

```
*#------------------|-------------------------------------------------------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-POST-DEVELOPMENT QUANTITY CONTROL MODEL-----------------|
*#------------------|-------------------------------------------------------------|
*#------------------|-LANDS DRAINING TO NORTH SWM POND------------------------|
*#------------------|-NORTH INLET---------------------------------------------|
*%------------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[1], NHYD=["2A-1"], DT=[1](min), AREA=[3.85](ha),
                    XIMP=[0.460], TIMP=[0.610], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[160](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[3], NHYD=["2C-1"], DT=[1](min), AREA=[3.14](ha),
                    XIMP=[0.433], TIMP=[0.433], DWF=[0](cms),LOSS=[2],
```

```
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[80](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[145](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[8], NHYD=["2C-2"], DT=[1](min), AREA=[1.1](ha),
                    XIMP=[0.800], TIMP=[0.800], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[86](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[9], NHYD=["2C-3"], DT=[1](min), AREA=[1.90](ha),
                    XIMP=[0.347], TIMP=[0.668], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[113](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1

*%------------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[5], NHYD=["2A-4"], DT=[1](min), AREA=[0.7](ha),
                    XIMP=[0.357], TIMP=[0.361], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[68](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%------------------|-------------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["2B"], DT=[1]min, AREA=[0.87](ha),
                    DWF=[0](cms),  CN/C=[69.2], IA=[5.31](mm),
                    N=[3], TP=[0.29]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1

*#------------------|-NORTH SWMP NORTH INLET TOTAL-QUALITY CONTROL-------------|
ADD HYD             IDsum=[7], NHYD=["NSWM1"], IDs to add=[1,3,8,9,6]
*#------------------|-------------------------------------------------------------|
*#------------------|-NORTH SWMP NORTH TOTAL----------------------------------|
ADD HYD             IDsum=[4], NHYD=["NSWM1"], IDs to add=[1,3,8,9,5,6]
*#-------------------------------------------------------------------------------|

ROUTE RESERVOIR     IDout=[3],   NHYD=["SWMF-N"],  IDin=[4],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
```

```
                                  (cms) - (ha-m)
                               [   0.0 ,  0.0 ]
                               [   0.008 , 0.021]
                               [   0.024 , 0.066]
                               [   0.033 , 0.116]
                               [   0.040 , 0.174]
                               [   0.285 , 0.236]
                               [   0.326 , 0.300]
                               [   0.363 , 0.367]
                               [   0.396 , 0.437]
                               [   0.411 , 0.473]
                               [   1.081 , 0.548]
                               [   1.800 , 0.587]
                               [   -1  ,  -1  ]  (max twenty pts)
                         IDovf=[5], NHYDovf=["NOvf"]
*%-----------------|-------------------------------------------------------------|
*#-----------------|-NORTH CATCHMENT TOTAL-----------------------------------------|
ADD HYD             IDsum=[6], NHYD=["NORTH"], IDs to add=[3,5]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-------------------------------------------------------------|
*#-----------------|-SOUTHERN CATCHMENT--------------------------------------------|
*#-----------------|-LANDS DRAINING TO SOUTH SWM POND------------------------------|
*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[5], NHYD=["1A"], DT=[1](min), AREA=[8.2](ha),
                    XIMP=[0.605], TIMP=[0.605], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[234](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-SOUTH SWM POND------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     IDout=[3],   NHYD=["SWMF-S"],  IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                               [   0.0 ,  0.0 ]
                               [   0.008,  0.015]
                               [   0.024 , 0.048]
                               [   0.033 , 0.088]
                               [   0.040 , 0.133]
                               [   0.219 , 0.182]
                               [   0.246 , 0.234]
                               [   0.270 , 0.291]
                               [   0.293 , 0.352]
                               [   0.303 , 0.383]
                               [   0.964 , 0.450]
                               [   1.678 , 0.485]
                               [   -1  ,  -1  ]  (max twenty pts)
```

```
                         IDovf=[7], NHYDovf=["SOvf"]
*#-----------------|-------------------------------------------------------------|
*#-----------------|-SOUTHEASTERN CATCHMENT----------------------------------------|
*%-----------------|-------------------------------------------------------------|
CALIB STANDHYD      ID=[8], NHYD=["3A"], DT=[1](min), AREA=[0.49](ha),
                    XIMP=[0.645], TIMP=[0.645], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[49.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[57](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-----------Bioretention-------------------------------------|
ROUTE RESERVOIR     IDout=[9],   NHYD=["BIORET"],  IDin=[8],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                               [   0.0 ,  0.0 ]
                               [   0.002 ,0.001]
                               [   0.007, 0.004]
                               [   0.011, 0.007]
                               [   0.016 ,0.009]
                               [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[5], NHYDovf=["BIOOvf"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-----------Dry Pond-----------------------------------------|
ROUTE RESERVOIR     IDout=[9],   NHYD=["DRYPOND"],  IDin=[5],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                               [   0.0 ,  0.0 ]
                               [   0.005, 0.000]
                               [   0.009, 0.003]
                               [   0.010 ,0.006]
                               [   0.012 ,0.010]
                               [   0.014 ,0.017]
                               [   0.014 ,0.020]
                               [   0.040 ,0.028]
                               [   0.043 ,0.040]
                               [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[1], NHYDovf=["DRYOvf"]
*%-----------------|-------------------------------------------------------------|
*#-----------------|---------SITE TOTAL--------------------------------------------|
ADD HYD             IDsum=[10], NHYD=["POSTSITE"], IDs to add=[6,3,7,9,1]
*%-----------------|-------------------------------------------------------------|



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

```
*#-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-POST-DEVELOPMENT--------------------------------------|
*#-----------------|-OVERALL WC 7 FLOWS------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-POST-LAND SWAP----------------------------------------|
*#-----------------|-LANDS UPSTREAM OF SITE--------------------------------|
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["701"], DT=[1]min, AREA=[137.8](ha),
                    DWF=[0](cms),  CN/C=[79.9], IA=[9.27](mm),
                    N=[3], TP=[1.35]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
SHIFT HYD           IDout=[2], NHYD=["701Shift"], IDin=[1], TLAG=[24](min)
*#-----------------|---------------------------------------------------------|
*#-----------------|-POST DEV UNDEVELOPED AREA-----------------------------|
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["7021"], DT=[1]min, AREA=[23.24](ha),
                    DWF=[0](cms),  CN/C=[69.1], IA=[7.1](mm),
                    N=[3], TP=[0.7]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|---------------------------------------------------------|
*#-----------------|-WC7 TOTAL AT DOWNSTREAM END--POST DEV-----------------|
*%-----------------|---------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["PosWC7"], IDs to add=[2,3,10]
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
SAVE HYD            ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
                    HYD_COMMENT=["POST WC7"]
*#-----------------|---------------------------------------------------------|



*#*************************************************************************
*#*****************************Timmins storm*******************************
*#*************************************************************************

READ STORM          STORM_FILENAME=["tim.stm"]

*#*************************************************************************
*#*************************************************************************
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT---------------------------------------|
*#-----------------|-OVERALL WC 7 FLOWS------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-PRE-LAND SWAP-----------------------------------------|
*#-----------------|-LANDS UPSTREAM OF SITE--------------------------------|
```

```
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["701"], DT=[1]min, AREA=[146.70](ha),
                    DWF=[0](cms),  CN/C=[79.9], IA=[6.7](mm),
                    N=[3], TP=[1.35]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-SITE AND SURROUNDING AREA-----------------------------|
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["702"], DT=[1]min, AREA=[34.5](ha),
                    DWF=[0](cms),  CN/C=[69.1], IA=[7.4](mm),
                    N=[3], TP=[0.7]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
SHIFT HYD           IDout=[2], NHYD=[701Shift], IDin=[1], TLAG=[24](min)
*%-----------------|---------------------------------------------------------|
*#-----------------|-WC7 TOTAL AT LAKESHORE RD--PRE DEV--------------------|
*%-----------------|---------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["PreWC7"], IDs to add=[2,3]
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
SAVE HYD            ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
                    HYD_COMMENT=["PRE WC7"]
*#-----------------|---------------------------------------------------------|


*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT QUANTITY CONTROL MODEL-----------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-PRE-DEVELOPMENT SWM QUANTITY--------------------------|
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[1], NHYD=["1A-Pre"], DT=[1]min, AREA=[8.2](ha),
                    DWF=[0](cms),  CN/C=[74.3], IA=[9.27](mm),
                    N=[3], TP=[0.42]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[2], NHYD=["2A-Pre"], DT=[1]min, AREA=[4.56](ha),
                    DWF=[0](cms),  CN/C=[73.5],IA =[9.7](mm),
                    N=[3], TP=[0.38]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["2B-Pre"], DT=[1]min, AREA=[0.87](ha),
                    DWF=[0](cms),  CN/C=[73.9], IA=[9.4](mm),
                    N=[3], TP=[0.26]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[5], NHYD=["2C-Pre"], DT=[1]min, AREA=[6.14](ha),
                    DWF=[0](cms),  CN/C=[74.6], IA=[8.97](mm),
                    N=[3], TP=[0.34]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
```

```
*%-----------------|---------------------------------------------------------|
*#-----------------|-North (Catchment 2) Internal-----------------------------|
*%-----------------|---------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["2A2B"], IDs to add=[2,3]
*%-----------------|---------------------------------------------------------|
*#-----------------|-North (Catchment 2) Total--------------------------------|
*%-----------------|---------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["2-Pre"], IDs to add=[2,3,5]
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["3A-Pre"], DT=[1]min, AREA=[.49](ha),
                    DWF=[0](cms),  CN/C=[43.3], IA=[7.72](mm),
                    N=[3], TP=[0.29]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
```

```
*#-----------------|---------------------------------------------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-POST-DEVELOPMENT QUANTITY CONTROL MODEL-------------------|
*#-----------------|---------------------------------------------------------|
*#-----------------|-LANDS DRAINING TO NORTH SWM POND--------------------------|
*#-----------------|-NORTH INLET-----------------------------------------------|
*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[1], NHYD=["2A-1"], DT=[1](min), AREA=[3.85](ha),
                    XIMP=[0.460], TIMP=[0.610], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[160](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[3], NHYD=["2C-1"], DT=[1](min), AREA=[3.14](ha),
                    XIMP=[0.433], TIMP=[0.433], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[80](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[145](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[8], NHYD=["2C-2"], DT=[1](min), AREA=[1.1](ha),
                    XIMP=[0.800], TIMP=[0.800], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[86](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[9], NHYD=["2C-3"], DT=[1](min), AREA=[1.90](ha),
                    XIMP=[0.347], TIMP=[0.668], DWF=[0](cms),LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[30](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[113](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1

*%-----------------|---------------------------------------------------------|
CALIB STANDHYD      ID=[5], NHYD=["2A-4"], DT=[1](min), AREA=[0.7](ha),
                    XIMP=[0.357], TIMP=[0.361], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[79.0],
                    Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                         LGP=[17](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                         LGI=[68](m), MNI=[0.013], SCI=[0](min),
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|---------------------------------------------------------|
CALIB NASHYD        ID=[6], NHYD=["2B"], DT=[1]min, AREA=[0.87](ha),
                    DWF=[0](cms),  CN/C=[69.2], IA=[5.31](mm),
                    N=[3], TP=[0.29]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1

*#-----------------|-NORTH SWMP NORTH INLET TOTAL-QUALITY CONTROL--------------|
ADD HYD             IDsum=[7], NHYD=["NSWM1"], IDs to add=[1,3,8,9,6]
*#-----------------|---------------------------------------------------------|
*#-----------------|-NORTH SWMP NORTH TOTAL-----------------------------------|
ADD HYD             IDsum=[4], NHYD=["NSWM1"], IDs to add=[1,3,8,9,5,6]
*#-----------------|---------------------------------------------------------|

ROUTE RESERVOIR     IDout=[3],   NHYD=["SWMF-N"],  IDin=[4],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.008 , 0.021]
                                [   0.024 , 0.066]
                                [   0.033 , 0.116]
                                [   0.040 , 0.174]
                                [   0.285 , 0.236]
                                [   0.326 , 0.300]
                                [   0.363 , 0.367]
                                [   0.396 , 0.437]
                                [   0.411 , 0.473]
                                [   1.081 , 0.548]
```

```
                                  [   1.800 , 0.587]
                                  [   -1  ,  -1  ]  (max twenty pts)
                            IDovf=[5], NHYDovf=["NOvf"]
*%----------------|-------------------------------------------------------------|
*#----------------|-NORTH CATCHMENT TOTAL-----------------------------------------|
ADD HYD           IDsum=[6], NHYD=["NORTH"], IDs to add=[3,5]
*#----------------|-------------------------------------------------------------|
*#----------------|-------------------------------------------------------------|
*#----------------|-SOUTHERN CATCHMENT--------------------------------------------|
*#----------------|-LANDS DRAINING TO SOUTH SWM POND------------------------------|
*%----------------|-------------------------------------------------------------|
CALIB STANDHYD    ID=[5], NHYD=["1A"], DT=[1](min), AREA=[8.2](ha),
                  XIMP=[0.605], TIMP=[0.605], DWF=[0](cms), LOSS=[2],
                  SCS curve number CN=[79.0],
                  Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                       LGP=[17](m), MNP=[0.25], SCP=[0](min),
                  Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                       LGI=[234](m), MNI=[0.013], SCI=[0](min),
                  RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#----------------|-SOUTH SWM POND------------------------------------------------|
*%----------------|-------------------------------------------------------------|
ROUTE RESERVOIR   IDout=[3],   NHYD=["SWMF-S"],  IDin=[5],
                  RDT=[1](min),
                        TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [   0.008,  0.015]
                                  [   0.024 , 0.048]
                                  [   0.033 , 0.088]
                                  [   0.040 , 0.133]
                                  [   0.219 , 0.182]
                                  [   0.246 , 0.234]
                                  [   0.270 , 0.291]
                                  [   0.293 , 0.352]
                                  [   0.303 , 0.383]
                                  [   0.964 , 0.450]
                                  [   1.678 , 0.485]
                                  [   -1  ,  -1  ]  (max twenty pts)
                            IDovf=[7], NHYDovf=["SOvf"]
*#----------------|-------------------------------------------------------------|
*#----------------|-SOUTHEASTERN CATCHMENT----------------------------------------|
*%----------------|-------------------------------------------------------------|
CALIB STANDHYD    ID=[8], NHYD=["3A"], DT=[1](min), AREA=[0.49](ha),
                  XIMP=[0.645], TIMP=[0.645], DWF=[0](cms), LOSS=[2],
                  SCS curve number CN=[49.0],
                  Pervious   surfaces: IAper=[5.0](mm), SLPP=[2.0](%),
                                       LGP=[17](m), MNP=[0.25], SCP=[0](min),
                  Impervious surfaces: IAimp=[2.0](mm), SLPI=[2.0](%),
                                       LGI=[57](m), MNI=[0.013], SCI=[0](min),
                  RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
```

```
*%----------------|-----------Bioretention-------------------------------------|
ROUTE RESERVOIR   IDout=[9],   NHYD=["BIORET"],  IDin=[8],
                  RDT=[1](min),
                        TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [   0.002 ,0.001]
                                  [   0.007, 0.004]
                                  [   0.011, 0.007]
                                  [   0.016 ,0.009]
                                  [   -1  ,  -1  ]  (max twenty pts)
                            IDovf=[5], NHYDovf=["BIOOvf"]
*%----------------|-------------------------------------------------------------|
*%----------------|-----------Dry Pond-----------------------------------------|
ROUTE RESERVOIR   IDout=[9],   NHYD=["DRYPOND"],  IDin=[5],
                  RDT=[1](min),
                        TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [   0.005, 0.000]
                                  [   0.009, 0.003]
                                  [   0.010 ,0.006]
                                  [   0.012 ,0.010]
                                  [   0.014 ,0.017]
                                  [   0.014 ,0.020]
                                  [   0.040 ,0.028]
                                  [   0.043 ,0.040]
                                  [   -1  ,  -1  ]  (max twenty pts)
                            IDovf=[1], NHYDovf=["DRYOvf"]
*%----------------|-------------------------------------------------------------|
*#----------------|---------SITE TOTAL--------------------------------------------|
ADD HYD           IDsum=[10], NHYD=["POSTSITE"], IDs to add=[6,3,7,9,1]
*%----------------|-------------------------------------------------------------|
```

```
*%----------------|-------------------------------------------------------------|
*%----------------|-------------------------------------------------------------|
*#----------------|-------------------------------------------------------------|
*#----------------|-------------------------------------------------------------|
*#----------------|-------------------------------------------------------------|
*#----------------|-POST-DEVELOPMENT----------------------------------------------|
*#----------------|-OVERALL WC 7 FLOWS--------------------------------------------|
*#----------------|-------------------------------------------------------------|
*#----------------|-POST-LAND SWAP------------------------------------------------|
*#----------------|-LANDS UPSTREAM OF SITE----------------------------------------|
*%----------------|-------------------------------------------------------------|
CALIB NASHYD      ID=[1], NHYD=["701"], DT=[1]min, AREA=[137.8](ha),
                  DWF=[0](cms),  CN/C=[79.9], IA=[9.27](mm),
                  N=[3], TP=[1.35]hrs,
```

```
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*%-----------------|-------------------------------------------------------|
SHIFT HYD           IDout=[2], NHYD=["701Shift"], IDin=[1], TLAG=[24](min)
*#-----------------|-------------------------------------------------------|
*#-----------------|-POST DEV UNDEVELOPED AREA---------------------------------|
*%-----------------|-------------------------------------------------------|
CALIB NASHYD        ID=[3], NHYD=["7021"], DT=[1]min, AREA=[23.24](ha),
                    DWF=[0](cms),  CN/C=[69.1], IA=[7.1](mm),
                    N=[3], TP=[0.7]hrs,
                    RAINFALL=[ ,  ,  ,  , ](mm/hr),  END=-1
*#-----------------|-------------------------------------------------------|
*#-----------------|-WC7 TOTAL AT DOWNSTREAM END--POST DEV--------------------|
*%-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[4], NHYD=["PosWC7"], IDs to add=[2,3,10]
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
SAVE HYD            ID=[4],   # OF PCYCLES=[1],  ICASEsh=[1]
                    HYD_COMMENT=["POST WC7"]
*#-----------------|-------------------------------------------------------|



*#-----------------|-------------------------------------------------------|
FINISH
```

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

 SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO          222     000    11
77777 =========
 S       W W W   MM MM   H   H    Y Y    MM MM   O   O          2    0   0   11
7   7
 SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O          2    0   0   11
   7 Ver4.05.0
     S    W W    M   M   H   H     Y     M   M   O   O        222    0   0   11
  7  APR 2017
 SSSSS    W W    M   M   H   H     Y     M   M    OOO         2      0   0   11
 7   =========                                                 2      0   0   11
7    # 3737016
       StormWater Management HYdrologic Model                  222     000    11
7    =========


********************************************************************************
**************
 ************************************  SWMHYMO Ver4.05.0
**************************************
 ******************  A single event and continuous hydrologic simulation model
********************
 ******************     based on the principles of HYMO and its successors
********************
 ******************                 OTTHYMO-83 and OTTHYMO-89.
********************

********************************************************************************
**************
 ****************** Distributed by:  J.F. Sabourin and Associates Inc.
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********************
 ******************                  Gatineau, Quebec: (819) 243-6858
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 ******************                  E-Mail: swmhymo@jfsa.com
********************

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


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++
 ++++++++++++++++++ Licensed user: C.F. Crozier & Associates Inc.
++++++++++++++++++++
```

```
 ++++++++++++++++++                Collingwood           SERIAL#:3737016
++++++++++++++++++++

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++


********************************************************************************
**************
 ******************           ++++++ PROGRAM ARRAY DIMENSIONS ++++++
********************
 ******************           Maximum value for ID numbers  :     11
********************
 ******************           Max. number of rainfall points: 105408
********************
 ******************           Max. number of flow points    : 105408
********************

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


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

********************************************************************************
**************
 *                  RUN DATE: 2026-05-19     TIME: 12:05:35     RUN COUNTER: 000002
              *

********************************************************************************
**************
 * Input   file: J:\700\721 - MacPherson Builders\3464 - Home Farm
TIS\Design\_Rental\Civil_Water\*
 *               SWM\SWMHYMO\SCS12\SCS12.dat
              *
 * Output  file: J:\700\721 - MacPherson Builders\3464 - Home Farm
TIS\Design\_Rental\Civil_Water\*
 *               SWM\SWMHYMO\SCS12\SCS12.out
              *
 * Summary file: J:\700\721 - MacPherson Builders\3464 - Home Farm
TIS\Design\_Rental\Civil_Water\*
 *               SWM\SWMHYMO\SCS12\SCS12.sum
              *
 * User comments:
              *
 *
1:_____________________________________________________________________________
_____________*
 *
```

```
2:_____________________________________________________________________________
_____________*
 *
3:_____________________________________________________________________________
_____________*

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

#*******************************************************************************


#  Project Name: [HOME FARM]    Project Number: [721-3464]


#  Date        : 2021-10-25


#  Modeller    : [JE]


#  Company     : C.F. Crozier & Associates Inc.


#  License #   : 3737016


#*******************************************************************************


 RUN#:COMMAND#
R0001:C00001-----------------------------------------------------------------------
---------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0001 ]
#*******************************************************************************
```

```
#*******************************************************************************


#*****************************25mm storm*********************************


#*******************************************************************************


R0001:C00002-----------------------------------------------------------------------
---------------
     READ STORM
      Filename = 25mm.stm

      Comment  = 25mm 6 hr Kifer Chu Chicago Storm Event

      [SDT=60.00:SDUR=   6.00:PTOT=  25.00]
#*******************************************************************************


#*******************************************************************************


#-----------------|-------------------------------------------------------------|


#-----------------|-PRE-DEVELOPMENT-----------------------------------------|


#-----------------|-OVERALL WC 7 FLOWS--------------------------------------|


#-----------------|-------------------------------------------------------------|


#-----------------|-PRE-LAND SWAP-------------------------------------------|


#-----------------|-LANDS UPSTREAM OF SITE----------------------------------|
```

```
R0001:C00003------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:701          146.70     .482 No_date    4:26
4.07 .163     .000
      [CN= 79.9: N= 3.00: Tp= 1.35]
#-----------------|-SITE AND SURROUNDING AREA---------------------------------|



R0001:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:702           34.50     .102 No_date    3:35
2.36 .094     .000
      [CN= 69.1: N= 3.00: Tp=  .70]
R0001:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SHIFT HYD       ->    1.0 01:701          146.70     .482 No_date    4:26
4.07  n/a     .000
     [LAG= 24.0 min]<-    1.0 02:       701   146.70     .482 No_date    4:48
4.07  n/a     .000
#-----------------|-WC7 TOTAL AT LAKESHORE RD--PRE DEV------------------------|



R0001:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:       701   146.70     .482 No_date    4:48
4.07  n/a     .000
                  +     1.0 03:702           34.50     .102 No_date    3:35
2.36  n/a     .000
                 SUM=     1.0 04:PreWC7       181.20     .537 No_date    4:42
3.75  n/a     .000
R0001:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SAVE HYD              1.0 04:PreWC7       181.20     .537 No_date    4:42
3.75  n/a     .000
      fname :PreWC7.0001

      remark:PRE WC7

#-----------------|-------------------------------------------------------------|



#-----------------|-------------------------------------------------------------|
```

```
#-----------------|-PRE-DEVELOPMENT QUANTITY CONTROL MODEL--------------------|



#-----------------|-------------------------------------------------------------|



#-----------------|-PRE-DEVELOPMENT SWM QUANTITY-----------------------------|



R0001:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:1A-Pre         8.20     .034 No_date    3:17
2.39 .096     .000
      [CN= 74.3: N= 3.00: Tp=  .42]
R0001:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:2A-Pre         4.56     .019 No_date    3:15
2.19 .088     .000
      [CN= 73.5: N= 3.00: Tp=  .38]
R0001:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:2B-Pre          .87     .005 No_date    3:08
2.31 .092     .000
      [CN= 73.9: N= 3.00: Tp=  .26]
R0001:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:2C-Pre         6.14     .031 No_date    3:12
2.51 .100     .000
      [CN= 74.6: N= 3.00: Tp=  .34]
#-----------------|-North (Catchment 2) Internal-----------------------------|



R0001:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:2A-Pre         4.56     .019 No_date    3:15
2.19  n/a     .000
                    +     1.0 03:2B-Pre          .87     .005 No_date    3:08
2.31  n/a     .000
                  SUM=     1.0 04:2A2B           5.43     .023 No_date    3:13
2.21  n/a     .000
#-----------------|-North (Catchment 2) Total--------------------------------|



R0001:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
    ADD HYD               1.0 02:2A-Pre         4.56     .019 No_date    3:15
2.19  n/a     .000
                  +     1.0 03:2B-Pre          .87     .005 No_date    3:08
2.31  n/a     .000
                  +     1.0 05:2C-Pre         6.14     .031 No_date    3:12
2.51  n/a     .000
                SUM=    1.0 04:2-Pre         11.57     .054 No_date    3:12
2.37  n/a     .000
R0001:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:3A-Pre          .49     .001 No_date    3:09
.85 .034     .000
      [CN= 43.3: N= 3.00: Tp=  .29]
#-----------------|-----------------------------------------------------------|



#-----------------|-----------------------------------------------------------|



#-----------------|-POST-DEVELOPMENT QUANTITY CONTROL MODEL--------------------|



#-----------------|-----------------------------------------------------------|



#-----------------|-LANDS DRAINING TO NORTH SWM POND--------------------------|



#-----------------|-NORTH INLET-------------------------------------------------|



R0001:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 01:2A-1           3.85     .112 No_date    3:00
14.10 .564     .000
      [XIMP=.46:TIMP=.61]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 160.:MNI=.013:SCI=   .0]
R0001:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 03:2C-1           3.14     .069 No_date    3:00
12.55 .502     .000
      [XIMP=.43:TIMP=.43]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  80.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 145.:MNI=.013:SCI=   .0]
R0001:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 08:2C-2           1.10     .043 No_date    3:00
19.31 .773     .000
      [XIMP=.80:TIMP=.80]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  86.:MNI=.013:SCI=   .0]
R0001:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:2C-3           1.90     .054 No_date    3:00
13.78 .551     .000
      [XIMP=.35:TIMP=.67]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 113.:MNI=.013:SCI=   .0]
R0001:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 05:2A-4            .70     .016 No_date    3:00
11.17 .447     .000
      [XIMP=.36:TIMP=.36]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  68.:MNI=.013:SCI=   .0]
R0001:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:2B             .87     .006 No_date    3:07
2.92 .117     .000
      [CN= 69.2: N= 3.00: Tp=  .29]
#-----------------|-NORTH SWMP NORTH INLET TOTAL-QUALITY CONTROL--------------|



R0001:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 01:2A-1           3.85     .112 No_date    3:00
14.10  n/a     .000
                  +     1.0 03:2C-1           3.14     .069 No_date    3:00
12.55  n/a     .000
                  +     1.0 08:2C-2           1.10     .043 No_date    3:00
19.31  n/a     .000
                  +     1.0 09:2C-3           1.90     .054 No_date    3:00
13.78  n/a     .000
                  +     1.0 06:2B             .87      .006 No_date    3:07
2.92  n/a      .000
                SUM=    1.0 07:NSWM1         10.86     .283 No_date    3:00
13.23  n/a     .000
```

```
#------------------------------------------------------------------------------|


#-----------------|-NORTH SWMP NORTH TOTAL-----------------------------------|


R0001:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 01:2A-1           3.85     .112 No_date    3:00
14.10  n/a     .000
                  +     1.0 03:2C-1           3.14     .069 No_date    3:00
12.55  n/a     .000
                  +     1.0 08:2C-2           1.10     .043 No_date    3:00
19.31  n/a     .000
                  +     1.0 09:2C-3           1.90     .054 No_date    3:00
13.78  n/a     .000
                  +     1.0 05:2A-4            .70     .016 No_date    3:00
11.17  n/a     .000
                  +     1.0 06:2B              .87     .006 No_date    3:07
2.92  n/a     .000
                  SUM=     1.0 04:NSWM1         11.56     .299 No_date    3:00
13.10  n/a     .000
#------------------------------------------------------------------------------|


R0001:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 04:NSWM1         11.56     .299 No_date    3:00
13.10  n/a     .000
                 out <=    1.0 03:SWMF-N        11.56     .032 No_date    4:41
13.10  n/a     .000
           overflow <=    1.0 05:NOvf            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.1128E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|-NORTH CATCHMENT TOTAL-------------------------------------|


R0001:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:SWMF-N        11.56     .032 No_date    4:41
13.10  n/a     .000
                  +     1.0 05:NOvf            .00     .000 No_date    0:00
.00  n/a     .000
                  SUM=     1.0 06:NORTH         11.56     .032 No_date    4:41
13.10  n/a     .000
```

```
#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|-SOUTHERN CATCHMENT----------------------------------------|


#-----------------|-LANDS DRAINING TO SOUTH SWM POND--------------------------|


R0001:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 05:1A             8.20     .258 No_date    3:00
15.72 .629     .000
      [XIMP=.61:TIMP=.61]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 234.:MNI=.013:SCI=   .0]
#-----------------|-SOUTH SWM POND--------------------------------------------|


R0001:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:1A             8.20     .258 No_date    3:00
15.72  n/a     .000
                 out <=    1.0 03:SWMF-S        8.20     .034 No_date    4:10
15.72  n/a     .000
           overflow <=    1.0 07:SOvf            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.9355E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|-----------------------------------------------------------|


#-----------------|-SOUTHEASTERN CATCHMENT------------------------------------|


R0001:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 08:3A              .49     .015 No_date    3:00
15.33 .613     .000
```

```
      [XIMP=.64:TIMP=.64]
      [LOSS= 2 :CN= 49.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  57.:MNI=.013:SCI=   .0]
R0001:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 08:3A              .49     .015 No_date    3:00
15.33  n/a     .000
                out <=    1.0 09:BIORET          .49     .007 No_date    3:04
15.33  n/a     .000
           overflow <=    1.0 05:BIOOvf          .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.4102E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:BIOOvf          .00     .000 No_date    0:00
.00  n/a     .000
 *              out <=    1.0 09:DRYPOND         .00     .000 No_date    0:00
.00  n/a     .000
           overflow <=    1.0 01:DRYOvf         3.85     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.0000E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|---------SITE TOTAL-----------------------------------------|



R0001:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 06:NORTH         11.56     .032 No_date    4:41
13.10  n/a     .000
                    +     1.0 03:SWMF-S         8.20     .034 No_date    4:10
15.72  n/a     .000
                    +     1.0 07:SOvf            .00     .000 No_date    0:00
.00  n/a     .000
                    +     1.0 09:DRYPOND         .00     .000 No_date    0:00
.00  n/a     .000
                    +     1.0 01:DRYOvf         3.85     .000 No_date    0:00
.00  n/a     .000
                SUM=      1.0 10:POSTSITE      23.61     .066 No_date    4:19
11.88  n/a     .000
#-----------------|-------------------------------------------------------------|



#-----------------|-------------------------------------------------------------|
```

```
#-----------------|-------------------------------------------------------------|



#-----------------|-POST-DEVELOPMENT----------------------------------------|



#-----------------|-OVERALL WC 7 FLOWS--------------------------------------|



#-----------------|-------------------------------------------------------------|



#-----------------|-POST-LAND SWAP------------------------------------------|



#-----------------|-LANDS UPSTREAM OF SITE----------------------------------|



R0001:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:701          137.80     .336 No_date    4:34
3.11 .124     .000
      [CN= 79.9: N= 3.00: Tp= 1.35]
R0001:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SHIFT HYD       ->    1.0 01:701          137.80     .336 No_date    4:34
3.11  n/a     .000
     [LAG= 24.0 min]<-    1.0 02:701Shift     137.80     .336 No_date    4:57
3.11  n/a     .000
#-----------------|-------------------------------------------------------------|



#-----------------|-POST DEV UNDEVELOPED AREA-------------------------------|



R0001:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:7021          23.24     .071 No_date    3:35
2.44 .097     .000
      [CN= 69.1: N= 3.00: Tp=  .70]
#-----------------|-------------------------------------------------------------|
```

```
#-----------------|-WC7 TOTAL AT DOWNSTREAM END--POST DEV---------------------|


R0001:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 02:701Shift     137.80     .336 No_date    4:57
3.11  n/a     .000
                  +      1.0 03:7021          23.24     .071 No_date    3:35
2.44  n/a     .000
                  +      1.0 10:POSTSITE      23.61     .066 No_date    4:19
11.88  n/a     .000
                 SUM=    1.0 04:PosWC7       184.65     .436 No_date    4:50
4.14  n/a     .000
R0001:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SAVE HYD             1.0 04:PosWC7       184.65     .436 No_date    4:50
4.14  n/a     .000
      fname :PosWC7.0001

      remark:POST WC7

#-----------------|---------------------------------------------------------|


#*****************************************************************************


#-----------------|---------------------------------------------------------|


#-----------------|-PRE-DEVELOPMENT---12hr SCS STORMS-------------------------|


#-----------------|---------------------------------------------------------|


#*****************************************************************************


#                            2yr SCS Storm (24hr)
```

```
#*****************************************************************************


#*****************************************************************************


R0001:C00036-------------------------------------------------------------------
----------------
     MASS STORM
      Filename = J:\700\721 - MacPherson Builders\3464 - Home Farm
TIS\Design\_Renta
      Comment  = 12 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  12.00:PTOT=  45.60]
#*****************************************************************************


#-----------------|---------------------------------------------------------|


#-----------------|---------------------------------------------------------|


#-----------------|-PRE-DEVELOPMENT-------------------------------------------|


#-----------------|-OVERALL WC 7 FLOWS----------------------------------------|


#-----------------|---------------------------------------------------------|


#-----------------|-PRE-LAND SWAP---------------------------------------------|


#-----------------|-LANDS UPSTREAM OF SITE------------------------------------|
```

```
R0001:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:701          146.70    1.576 No_date    7:30
14.72 .323     .000
      [CN= 79.9: N= 3.00: Tp= 1.35]
#-----------------|-SITE AND SURROUNDING AREA---------------------------------|


R0001:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:702           34.50     .386 No_date    6:44
9.61 .211     .000
      [CN= 69.1: N= 3.00: Tp=  .70]
R0001:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SHIFT HYD       ->    1.0 01:701          146.70    1.576 No_date    7:30
14.72  n/a     .000
     [LAG= 24.0 min]<-    1.0 02:       701   146.70    1.576 No_date    7:53
14.72  n/a     .000
#-----------------|-WC7 TOTAL AT LAKESHORE RD--PRE DEV------------------------|


R0001:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:       701   146.70    1.576 No_date    7:53
14.72  n/a     .000
                  +     1.0 03:702           34.50     .386 No_date    6:44
9.61  n/a     .000
                SUM=     1.0 04:PreWC7       181.20    1.772 No_date    7:44
13.75  n/a     .000
R0001:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SAVE HYD              1.0 04:PreWC7       181.20    1.772 No_date    7:44
13.75  n/a     .000
      fname :PreWC7.0001

      remark:PRE WC7

#-----------------|-------------------------------------------------------------|


#-----------------|-------------------------------------------------------------|


#-----------------|-PRE-DEVELOPMENT QUANTITY CONTROL MODEL--------------------|
```

```
#-----------------|-------------------------------------------------------------|


#-----------------|-PRE-DEVELOPMENT SWM QUANTITY-----------------------------|


R0001:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:1A-Pre         8.20     .145 No_date    6:23
10.63 .233     .000
      [CN= 74.3: N= 3.00: Tp=  .42]
R0001:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:2A-Pre         4.56     .081 No_date    6:20
10.11 .222     .000
      [CN= 73.5: N= 3.00: Tp=  .38]
R0001:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:2B-Pre          .87     .021 No_date    6:11
10.41 .228     .000
      [CN= 73.9: N= 3.00: Tp=  .26]
R0001:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:2C-Pre         6.14     .130 No_date    6:16
10.90 .239     .000
      [CN= 74.6: N= 3.00: Tp=  .34]
#-----------------|-North (Catchment 2) Internal-----------------------------|


R0001:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:2A-Pre         4.56     .081 No_date    6:20
10.11  n/a     .000
                   +     1.0 03:2B-Pre          .87     .021 No_date    6:11
10.41  n/a     .000
                 SUM=     1.0 04:2A2B           5.43     .100 No_date    6:17
10.16  n/a     .000
#-----------------|-North (Catchment 2) Total--------------------------------|


R0001:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:2A-Pre         4.56     .081 No_date    6:20
10.11  n/a     .000
```

```
                  +     1.0 03:2B-Pre          .87     .021 No_date    6:11
10.41  n/a     .000
                  +     1.0 05:2C-Pre         6.14     .130 No_date    6:16
10.90  n/a     .000
                SUM=    1.0 04:2-Pre         11.57     .230 No_date    6:17
10.55  n/a     .000
R0001:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:3A-Pre          .49     .004 No_date    6:13
3.87 .085     .000
      [CN= 43.3: N= 3.00: Tp=  .29]
#-----------------|-----------------------------------------------------------|



#-----------------|-----------------------------------------------------------|



#-----------------|-POST-DEVELOPMENT QUANTITY CONTROL MODEL--------------------|



#-----------------|-----------------------------------------------------------|



#-----------------|-LANDS DRAINING TO NORTH SWM POND---------------------------|



#-----------------|-NORTH INLET------------------------------------------------|



R0001:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 01:2A-1           3.85     .419 No_date    6:00
30.55 .670     .000
      [XIMP=.46:TIMP=.61]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 160.:MNI=.013:SCI=   .0]
R0001:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 03:2C-1           3.14     .249 No_date    6:00
27.52 .604     .000
      [XIMP=.43:TIMP=.43]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  80.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 145.:MNI=.013:SCI=   .0]
R0001:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 08:2C-2           1.10     .154 No_date    6:00
37.93 .832     .000
      [XIMP=.80:TIMP=.80]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  86.:MNI=.013:SCI=   .0]
R0001:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:2C-3           1.90     .203 No_date    6:00
30.77 .675     .000
      [XIMP=.35:TIMP=.67]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 113.:MNI=.013:SCI=   .0]
R0001:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 05:2A-4            .70     .063 No_date    6:00
25.42 .557     .000
      [XIMP=.36:TIMP=.36]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  68.:MNI=.013:SCI=   .0]
R0001:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:2B              .87     .020 No_date    6:12
10.59 .232     .000
      [CN= 69.2: N= 3.00: Tp=  .29]
#-----------------|-NORTH SWMP NORTH INLET TOTAL-QUALITY CONTROL--------------|



R0001:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 01:2A-1           3.85     .419 No_date    6:00
30.55  n/a     .000
                  +     1.0 03:2C-1           3.14     .249 No_date    6:00
27.52  n/a     .000
                  +     1.0 08:2C-2           1.10     .154 No_date    6:00
37.93  n/a     .000
                  +     1.0 09:2C-3           1.90     .203 No_date    6:00
30.77  n/a     .000
                  +     1.0 06:2B              .87     .020 No_date    6:12
10.59  n/a     .000
                SUM=    1.0 07:NSWM1         10.86    1.038 No_date    6:00
28.86  n/a     .000
#-------------------------------------------------------------------------------|
```

```
#-----------------|-NORTH SWMP NORTH TOTAL-------------------------------------|


R0001:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:2A-1           3.85     .419 No_date    6:00
30.55  n/a     .000
                   +     1.0 03:2C-1           3.14     .249 No_date    6:00
27.52  n/a     .000
                   +     1.0 08:2C-2           1.10     .154 No_date    6:00
37.93  n/a     .000
                   +     1.0 09:2C-3           1.90     .203 No_date    6:00
30.77  n/a     .000
                   +     1.0 05:2A-4            .70     .063 No_date    6:00
25.42  n/a     .000
                   +     1.0 06:2B              .87     .020 No_date    6:12
10.59  n/a     .000
                 SUM=    1.0 04:NSWM1         11.56    1.101 No_date    6:00
28.65  n/a     .000
#-------------------------------------------------------------------------------|


R0001:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 04:NSWM1         11.56    1.101 No_date    6:00
28.65  n/a     .000
                 out <=   1.0 03:SWMF-N        11.56     .151 No_date    6:40
28.65  n/a     .000
           overflow <=    1.0 05:NOvf            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.2022E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|-NORTH CATCHMENT TOTAL--------------------------------------|


R0001:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 03:SWMF-N         11.56     .151 No_date    6:40
28.65  n/a     .000
                   +     1.0 05:NOvf            .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=    1.0 06:NORTH          11.56     .151 No_date    6:40
28.65  n/a     .000
#-----------------|-------------------------------------------------------------|
```

```
#-----------------|-------------------------------------------------------------|


#-----------------|-SOUTHERN CATCHMENT-------------------------------------------|


#-----------------|-LANDS DRAINING TO SOUTH SWM POND---------------------------|


R0001:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD       1.0 05:1A             8.20     .925 No_date    6:00
32.40 .711     .000
      [XIMP=.61:TIMP=.61]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 234.:MNI=.013:SCI=   .0]
#-----------------|-SOUTH SWM POND-----------------------------------------------|


R0001:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:1A             8.20     .925 No_date    6:00
32.40  n/a     .000
                 out <=   1.0 03:SWMF-S         8.20     .138 No_date    6:34
32.40  n/a     .000
           overflow <=    1.0 07:SOvf            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.1598E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|-------------------------------------------------------------|


#-----------------|-SOUTHEASTERN CATCHMENT---------------------------------------|


R0001:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD       1.0 08:3A              .49     .055 No_date    6:00
30.04 .659     .000
      [XIMP=.64:TIMP=.64]
      [LOSS= 2 :CN= 49.0]
```

```
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  57.:MNI=.013:SCI=   .0]
R0001:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 08:3A              .49     .055 No_date    6:00
30.04  n/a     .000
                 out <=    1.0 09:BIORET          .49     .011 No_date    6:07
30.04  n/a     .000
           overflow <=    1.0 05:BIOOvf          .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.6930E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
R0001:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:BIOOvf          .00     .000 No_date    0:00
.00  n/a     .000
 *              out <=    1.0 09:DRYPOND         .00     .000 No_date    0:00
.00  n/a     .000
           overflow <=    1.0 01:DRYOvf         3.85     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.0000E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|---------SITE TOTAL-----------------------------------------|



R0001:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 06:NORTH         11.56     .151 No_date    6:40
28.65  n/a     .000
                    +     1.0 03:SWMF-S         8.20     .138 No_date    6:34
32.40  n/a     .000
                    +     1.0 07:SOvf            .00     .000 No_date    0:00
.00  n/a     .000
                    +     1.0 09:DRYPOND         .00     .000 No_date    0:00
.00  n/a     .000
                    +     1.0 01:DRYOvf         3.85     .000 No_date    0:00
.00  n/a     .000
                SUM=      1.0 10:POSTSITE      23.61     .288 No_date    6:37
25.28  n/a     .000
#-----------------|-------------------------------------------------------------|



#-----------------|-------------------------------------------------------------|



#-----------------|-------------------------------------------------------------|
```

```
#-----------------|-POST-DEVELOPMENT-----------------------------------------|



#-----------------|-OVERALL WC 7 FLOWS---------------------------------------|



#-----------------|-------------------------------------------------------------|



#-----------------|-POST-LAND SWAP-------------------------------------------|



#-----------------|-LANDS UPSTREAM OF SITE-----------------------------------|



R0001:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:701          137.80    1.294 No_date    7:33
13.17 .289     .000
      [CN= 79.9: N= 3.00: Tp= 1.35]
R0001:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SHIFT HYD       ->    1.0 01:701          137.80    1.294 No_date    7:33
13.17  n/a     .000
     [LAG= 24.0 min]<-    1.0 02:701Shift     137.80    1.294 No_date    7:56
13.17  n/a     .000
#-----------------|-------------------------------------------------------------|



#-----------------|-POST DEV UNDEVELOPED AREA--------------------------------|



R0001:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:7021          23.24     .265 No_date    6:44
9.75 .214     .000
      [CN= 69.1: N= 3.00: Tp=  .70]
#-----------------|-------------------------------------------------------------|
```

```
#-----------------|-WC7 TOTAL AT DOWNSTREAM END--POST DEV---------------------|


R0001:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 02:701Shift     137.80    1.294 No_date    7:56
13.17  n/a     .000
                  +      1.0 03:7021          23.24     .265 No_date    6:44
9.75  n/a     .000
                  +      1.0 10:POSTSITE      23.61     .288 No_date    6:37
25.28  n/a     .000
                  SUM=   1.0 04:PosWC7       184.65    1.595 No_date    7:44
14.29  n/a     .000
R0001:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SAVE HYD             1.0 04:PosWC7       184.65    1.595 No_date    7:44
14.29  n/a     .000
      fname :PosWC7.0001

      remark:POST WC7

#-----------------|-----------------------------------------------------------|


#*****************************************************************************


#*****************************************************************************


#                            5yr SCS Storm (24hr)


#*****************************************************************************


#*****************************************************************************


R0001:C00070-----------------------------------------------------------------------
----------------
     MASS STORM
      Filename = J:\700\721 - MacPherson Builders\3464 - Home Farm
```

```
TIS\Design\_Renta
      Comment  = 12 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  12.00:PTOT=  62.40]
#*****************************************************************************


#-----------------|-----------------------------------------------------------|


#-----------------|-PRE-DEVELOPMENT---------------------------------------------|


#-----------------|-OVERALL WC 7 FLOWS------------------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|-PRE-LAND SWAP-----------------------------------------------|


#-----------------|-LANDS UPSTREAM OF SITE--------------------------------------|


R0001:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:701          146.70    2.847 No_date    7:27
25.94 .416     .000
      [CN= 79.9: N= 3.00: Tp= 1.35]
#-----------------|-SITE AND SURROUNDING AREA-----------------------------------|


R0001:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:702           34.50     .743 No_date    6:42
17.94 .288     .000
      [CN= 69.1: N= 3.00: Tp=  .70]
R0001:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SHIFT HYD       ->   1.0 01:701          146.70    2.847 No_date    7:27
25.94  n/a     .000
```

```
     [LAG= 24.0 min]<-    1.0 02:       701   146.70    2.847 No_date    7:50
25.94  n/a     .000
#-----------------|-WC7 TOTAL AT LAKESHORE RD--PRE DEV-----------------------|



R0001:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 02:       701   146.70    2.847 No_date    7:50
25.94  n/a     .000
                   +     1.0 03:702           34.50     .743 No_date    6:42
17.94  n/a     .000
                 SUM=    1.0 04:PreWC7       181.20    3.220 No_date    7:41
24.42  n/a     .000
R0001:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SAVE HYD             1.0 04:PreWC7       181.20    3.220 No_date    7:41
24.42  n/a     .000
      fname :PreWC7.0001

      remark:PRE WC7

#-----------------|-------------------------------------------------------------|



#-----------------|-------------------------------------------------------------|



#-----------------|-PRE-DEVELOPMENT QUANTITY CONTROL MODEL--------------------|



#-----------------|-------------------------------------------------------------|



#-----------------|-PRE-DEVELOPMENT SWM QUANTITY-----------------------------|



R0001:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 01:1A-Pre         8.20     .286 No_date    6:21
20.02 .321     .000
      [CN= 74.3: N= 3.00: Tp=  .42]
R0001:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 02:2A-Pre         4.56     .163 No_date    6:18
19.25 .308     .000
      [CN= 73.5: N= 3.00: Tp=  .38]
R0001:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 03:2B-Pre          .87     .042 No_date    6:10
19.68 .315     .000
      [CN= 73.9: N= 3.00: Tp=  .26]
R0001:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 05:2C-Pre         6.14     .254 No_date    6:15
20.40 .327     .000
      [CN= 74.6: N= 3.00: Tp=  .34]
#-----------------|-North (Catchment 2) Internal-----------------------------|



R0001:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 02:2A-Pre         4.56     .163 No_date    6:18
19.25  n/a     .000
                   +     1.0 03:2B-Pre          .87     .042 No_date    6:10
19.68  n/a     .000
                 SUM=    1.0 04:2A2B           5.43     .201 No_date    6:16
19.32  n/a     .000
#-----------------|-North (Catchment 2) Total--------------------------------|



R0001:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 02:2A-Pre         4.56     .163 No_date    6:18
19.25  n/a     .000
                   +     1.0 03:2B-Pre          .87     .042 No_date    6:10
19.68  n/a     .000
                   +     1.0 05:2C-Pre         6.14     .254 No_date    6:15
20.40  n/a     .000
                 SUM=    1.0 04:2-Pre         11.57     .455 No_date    6:16
19.89  n/a     .000
R0001:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:3A-Pre          .49     .008 No_date    6:12
7.72 .124     .000
      [CN= 43.3: N= 3.00: Tp=  .29]
#-----------------|-------------------------------------------------------------|



#-----------------|-------------------------------------------------------------|
```

```
#-----------------|-POST-DEVELOPMENT QUANTITY CONTROL MODEL--------------------|


#-----------------|-------------------------------------------------------------|


#-----------------|-LANDS DRAINING TO NORTH SWM POND-------------------------|


#-----------------|-NORTH INLET----------------------------------------------|


R0001:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 01:2A-1           3.85     .635 No_date    6:00
45.14 .723     .000
      [XIMP=.46:TIMP=.61]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 160.:MNI=.013:SCI=   .0]
R0001:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 03:2C-1           3.14     .374 No_date    6:00
41.11 .659     .000
      [XIMP=.43:TIMP=.43]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  80.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 145.:MNI=.013:SCI=   .0]
R0001:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 08:2C-2           1.10     .218 No_date    6:00
53.60 .859     .000
      [XIMP=.80:TIMP=.80]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  86.:MNI=.013:SCI=   .0]
R0001:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:2C-3           1.90     .314 No_date    6:00
45.80 .734     .000
      [XIMP=.35:TIMP=.67]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 113.:MNI=.013:SCI=   .0]
R0001:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 05:2A-4            .70     .099 No_date    6:00
38.59 .618     .000
      [XIMP=.36:TIMP=.36]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  68.:MNI=.013:SCI=   .0]
R0001:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:2B              .87     .037 No_date    6:12
19.16 .307     .000
      [CN= 69.2: N= 3.00: Tp=  .29]
#-----------------|-NORTH SWMP NORTH INLET TOTAL-QUALITY CONTROL--------------|


R0001:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 01:2A-1           3.85     .635 No_date    6:00
45.14  n/a     .000
                  +     1.0 03:2C-1           3.14     .374 No_date    6:00
41.11  n/a     .000
                  +     1.0 08:2C-2           1.10     .218 No_date    6:00
53.60  n/a     .000
                  +     1.0 09:2C-3           1.90     .314 No_date    6:00
45.80  n/a     .000
                  +     1.0 06:2B              .87     .037 No_date    6:12
19.16  n/a     .000
                SUM=    1.0 07:NSWM1         10.86    1.565 No_date    6:00
42.86  n/a     .000
#-------------------------------------------------------------------------------|


#-----------------|-NORTH SWMP NORTH TOTAL-----------------------------------|


R0001:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 01:2A-1           3.85     .635 No_date    6:00
45.14  n/a     .000
                  +     1.0 03:2C-1           3.14     .374 No_date    6:00
41.11  n/a     .000
                  +     1.0 08:2C-2           1.10     .218 No_date    6:00
53.60  n/a     .000
                  +     1.0 09:2C-3           1.90     .314 No_date    6:00
45.80  n/a     .000
                  +     1.0 05:2A-4            .70     .099 No_date    6:00
38.59  n/a     .000
```

```
                  +     1.0 06:2B              .87     .037 No_date    6:12
19.16  n/a     .000
                SUM=    1.0 04:NSWM1         11.56    1.664 No_date    6:00
42.60  n/a     .000
#-------------------------------------------------------------------------------|


R0001:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 04:NSWM1         11.56    1.664 No_date    6:00
42.60  n/a     .000
                out <=    1.0 03:SWMF-N        11.56     .308 No_date    6:32
42.60  n/a     .000
           overflow <=    1.0 05:NOvf            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.2714E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|-NORTH CATCHMENT TOTAL-----------------------------------|


R0001:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:SWMF-N        11.56     .308 No_date    6:32
42.60  n/a     .000
                  +     1.0 05:NOvf            .00     .000 No_date    0:00
.00  n/a     .000
                SUM=    1.0 06:NORTH         11.56     .308 No_date    6:32
42.60  n/a     .000
#-----------------|-------------------------------------------------------------|



#-----------------|-------------------------------------------------------------|


#-----------------|-SOUTHERN CATCHMENT--------------------------------------|


#-----------------|-LANDS DRAINING TO SOUTH SWM POND------------------------|


R0001:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 05:1A             8.20    1.365 No_date    6:00
46.96 .753     .000
```

```
      [XIMP=.61:TIMP=.61]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 234.:MNI=.013:SCI=   .0]
#-----------------|-SOUTH SWM POND------------------------------------------|


R0001:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:1A             8.20    1.365 No_date    6:00
46.96  n/a     .000
                out <=    1.0 03:SWMF-S         8.20     .237 No_date    6:30
46.96  n/a     .000
           overflow <=    1.0 07:SOvf            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.2164E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|-------------------------------------------------------------|



#-----------------|-SOUTHEASTERN CATCHMENT----------------------------------|



R0001:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 08:3A             .49     .077 No_date    6:00
42.59 .683     .000
      [XIMP=.64:TIMP=.64]
      [LOSS= 2 :CN= 49.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  57.:MNI=.013:SCI=   .0]
R0001:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 08:3A             .49     .077 No_date    6:00
42.59  n/a     .000
                out <=    1.0 09:BIORET         .47     .016 No_date    6:01
42.59  n/a     .000
           overflow <=    1.0 05:BIOOvf         .02     .055 No_date    6:01
42.59  n/a     .000
     {MxStoUsed=.9001E-02  m3, TotOvfVol=.7107E-03  m3, N-Ovf=    2, TotDurOvf=
0.hrs}
R0001:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:BIOOvf         .02     .055 No_date    6:01
42.59  n/a     .000
                out <=    1.0 09:DRYPOND        .02     .006 No_date    6:04
42.76  n/a     .000
```

```
          overflow <=    1.0 01:DRYOvf          .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.5802E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|---------SITE TOTAL-----------------------------------------|



R0001:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 06:NORTH         11.56     .308 No_date    6:32
42.60  n/a     .000
                  +     1.0 03:SWMF-S         8.20     .237 No_date    6:30
46.96  n/a     .000
                  +     1.0 07:SOvf            .00     .000 No_date    0:00
.00  n/a     .000
                  +     1.0 09:DRYPOND         .02     .006 No_date    6:04
42.76  n/a     .000
                  +     1.0 01:DRYOvf          .00     .000 No_date    0:00
.00  n/a     .000
                SUM=    1.0 10:POSTSITE      19.78     .547 No_date    6:22
44.41  n/a     .000
#-----------------|---------------------------------------------------------|



#-----------------|---------------------------------------------------------|



#-----------------|---------------------------------------------------------|



#-----------------|-POST-DEVELOPMENT--------------------------------------|



#-----------------|-OVERALL WC 7 FLOWS------------------------------------|



#-----------------|---------------------------------------------------------|



#-----------------|-POST-LAND SWAP----------------------------------------|
```

```
#-----------------|-LANDS UPSTREAM OF SITE--------------------------------|



R0001:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:701          137.80    2.462 No_date    7:29
24.12 .387     .000
      [CN= 79.9: N= 3.00: Tp= 1.35]
R0001:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SHIFT HYD       ->    1.0 01:701          137.80    2.462 No_date    7:29
24.12  n/a     .000
     [LAG= 24.0 min]<-    1.0 02:701Shift     137.80    2.462 No_date    7:52
24.12  n/a     .000
#-----------------|---------------------------------------------------------|



#-----------------|-POST DEV UNDEVELOPED AREA-----------------------------|



R0001:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:7021          23.24     .506 No_date    6:42
18.11 .290     .000
      [CN= 69.1: N= 3.00: Tp=  .70]
#-----------------|---------------------------------------------------------|



#-----------------|-WC7 TOTAL AT DOWNSTREAM END--POST DEV-----------------|



R0001:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:701Shift     137.80    2.462 No_date    7:52
24.12  n/a     .000
                  +     1.0 03:7021          23.24     .506 No_date    6:42
18.11  n/a     .000
                  +     1.0 10:POSTSITE      19.78     .547 No_date    6:22
44.41  n/a     .000
                SUM=    1.0 04:PosWC7       180.82    3.083 No_date    7:35
25.57  n/a     .000
R0001:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SAVE HYD              1.0 04:PosWC7       180.82    3.083 No_date    7:35
25.57  n/a     .000
```

```
      fname :PosWC7.0001

      remark:POST WC7

#-----------------|------------------------------------------------------------|


#*****************************************************************************


#*****************************************************************************


#                              10yr SCS Storm (24hr)


#*****************************************************************************


#*****************************************************************************


R0001:C00104-------------------------------------------------------------------------
----------------
     MASS STORM
      Filename = J:\700\721 - MacPherson Builders\3464 - Home Farm
TIS\Design\_Renta
      Comment  = 12 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  12.00:PTOT=  72.00]
#*****************************************************************************


#-----------------|------------------------------------------------------------|


#-----------------|-PRE-DEVELOPMENT----------------------------------------------|


#-----------------|-OVERALL WC 7 FLOWS-------------------------------------------|
```

```
#-----------------|------------------------------------------------------------|


#-----------------|-PRE-LAND SWAP------------------------------------------------|


#-----------------|-LANDS UPSTREAM OF SITE---------------------------------------|


R0001:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:701          146.70    3.653 No_date    7:26
33.00 .458     .000
      [CN= 79.9: N= 3.00: Tp= 1.35]
#-----------------|-SITE AND SURROUNDING AREA------------------------------------|


R0001:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:702           34.50     .980 No_date    6:42
23.42 .325     .000
      [CN= 69.1: N= 3.00: Tp=  .70]
R0001:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SHIFT HYD       ->    1.0 01:701          146.70    3.653 No_date    7:26
33.00  n/a     .000
     [LAG= 24.0 min]<-    1.0 02:       701   146.70    3.653 No_date    7:49
33.00  n/a     .000
#-----------------|-WC7 TOTAL AT LAKESHORE RD--PRE DEV-----------------------|


R0001:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:       701   146.70    3.653 No_date    7:49
33.00  n/a     .000
                  +     1.0 03:702           34.50     .980 No_date    6:42
23.42  n/a     .000
                  SUM=     1.0 04:PreWC7       181.20    4.145 No_date    7:39
31.18  n/a     .000
R0001:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SAVE HYD              1.0 04:PreWC7       181.20    4.145 No_date    7:39
31.18  n/a     .000
```

```
      fname :PreWC7.0001

      remark:PRE WC7

#-----------------|-------------------------------------------------------------|



#-----------------|-------------------------------------------------------------|



#-----------------|-PRE-DEVELOPMENT QUANTITY CONTROL MODEL--------------------|



#-----------------|-------------------------------------------------------------|



#-----------------|-PRE-DEVELOPMENT SWM QUANTITY-----------------------------|



R0001:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:1A-Pre         8.20     .378 No_date    6:21
26.13 .363     .000
      [CN= 74.3: N= 3.00: Tp=  .42]
R0001:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:2A-Pre         4.56     .217 No_date    6:18
25.22 .350     .000
      [CN= 73.5: N= 3.00: Tp=  .38]
R0001:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:2B-Pre          .87     .055 No_date    6:10
25.73 .357     .000
      [CN= 73.9: N= 3.00: Tp=  .26]
R0001:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:2C-Pre         6.14     .336 No_date    6:15
26.57 .369     .000
      [CN= 74.6: N= 3.00: Tp=  .34]
#-----------------|-North (Catchment 2) Internal----------------------------|



R0001:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:2A-Pre         4.56     .217 No_date    6:18
25.22  n/a     .000
                  +     1.0 03:2B-Pre          .87     .055 No_date    6:10
25.73  n/a     .000
                SUM=    1.0 04:2A2B           5.43     .267 No_date    6:16
25.30  n/a     .000
#-----------------|-North (Catchment 2) Total-------------------------------|



R0001:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:2A-Pre         4.56     .217 No_date    6:18
25.22  n/a     .000
                  +     1.0 03:2B-Pre          .87     .055 No_date    6:10
25.73  n/a     .000
                  +     1.0 05:2C-Pre         6.14     .336 No_date    6:15
26.57  n/a     .000
                SUM=    1.0 04:2-Pre         11.57     .603 No_date    6:15
25.98  n/a     .000
R0001:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:3A-Pre          .49     .011 No_date    6:12
10.41 .145     .000
      [CN= 43.3: N= 3.00: Tp=  .29]
#-----------------|-------------------------------------------------------------|



#-----------------|-------------------------------------------------------------|



#-----------------|-POST-DEVELOPMENT QUANTITY CONTROL MODEL-------------------|



#-----------------|-------------------------------------------------------------|



#-----------------|-LANDS DRAINING TO NORTH SWM POND-------------------------|



#-----------------|-NORTH INLET-----------------------------------------------|



R0001:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
```

```
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 01:2A-1           3.85     .770 No_date    6:00
53.76 .747     .000
      [XIMP=.46:TIMP=.61]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 160.:MNI=.013:SCI=   .0]
R0001:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 03:2C-1           3.14     .455 No_date    6:00
49.23 .684     .000
      [XIMP=.43:TIMP=.43]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  80.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 145.:MNI=.013:SCI=   .0]
R0001:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 08:2C-2           1.10     .255 No_date    6:00
62.67 .870     .000
      [XIMP=.80:TIMP=.80]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  86.:MNI=.013:SCI=   .0]
R0001:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:2C-3           1.90     .383 No_date    6:00
54.64 .759     .000
      [XIMP=.35:TIMP=.67]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 113.:MNI=.013:SCI=   .0]
R0001:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 05:2A-4            .70     .122 No_date    6:00
46.53 .646     .000
      [XIMP=.36:TIMP=.36]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  68.:MNI=.013:SCI=   .0]
R0001:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:2B              .87     .049 No_date    6:11
24.74 .344     .000
      [CN= 69.2: N= 3.00: Tp=  .29]
#-----------------|-NORTH SWMP NORTH INLET TOTAL-QUALITY CONTROL-------------|



R0001:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 01:2A-1           3.85     .770 No_date    6:00
53.76  n/a     .000
                  +     1.0 03:2C-1           3.14     .455 No_date    6:00
49.23  n/a     .000
                  +     1.0 08:2C-2           1.10     .255 No_date    6:00
62.67  n/a     .000
                  +     1.0 09:2C-3           1.90     .383 No_date    6:00
54.64  n/a     .000
                  +     1.0 06:2B              .87     .049 No_date    6:11
24.74  n/a     .000
                SUM=    1.0 07:NSWM1         10.86    1.894 No_date    6:00
51.18  n/a     .000
#-------------------------------------------------------------------------------|



#-----------------|-NORTH SWMP NORTH TOTAL-----------------------------------|



R0001:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 01:2A-1           3.85     .770 No_date    6:00
53.76  n/a     .000
                  +     1.0 03:2C-1           3.14     .455 No_date    6:00
49.23  n/a     .000
                  +     1.0 08:2C-2           1.10     .255 No_date    6:00
62.67  n/a     .000
                  +     1.0 09:2C-3           1.90     .383 No_date    6:00
54.64  n/a     .000
                  +     1.0 05:2A-4            .70     .122 No_date    6:00
46.53  n/a     .000
                  +     1.0 06:2B              .87     .049 No_date    6:11
24.74  n/a     .000
                SUM=    1.0 04:NSWM1         11.56    2.016 No_date    6:00
50.90  n/a     .000
#-------------------------------------------------------------------------------|



R0001:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 04:NSWM1         11.56    2.016 No_date    6:00
50.90  n/a     .000
                 out <=   1.0 03:SWMF-N        11.56     .341 No_date    6:33
50.90  n/a     .000
            overflow <=   1.0 05:NOvf            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.3273E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
```

```
#-----------------|-NORTH CATCHMENT TOTAL-----------------------------------|


R0001:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:SWMF-N        11.56     .341 No_date    6:33
50.90  n/a     .000
                  +     1.0 05:NOvf            .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=     1.0 06:NORTH         11.56     .341 No_date    6:33
50.90  n/a     .000
#-----------------|-------------------------------------------------------|



#-----------------|-------------------------------------------------------|



#-----------------|-SOUTHERN CATCHMENT--------------------------------------|



#-----------------|-LANDS DRAINING TO SOUTH SWM POND-------------------------|


R0001:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 05:1A             8.20    1.634 No_date    6:00
55.53 .771     .000
      [XIMP=.61:TIMP=.61]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 234.:MNI=.013:SCI=   .0]
#-----------------|-SOUTH SWM POND-------------------------------------------|


R0001:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:1A             8.20    1.634 No_date    6:00
55.53  n/a     .000
                out <=    1.0 03:SWMF-S         8.20     .256 No_date    6:32
55.53  n/a     .000
          overflow <=     1.0 07:SOvf            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.2586E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
```

```
#-----------------|-------------------------------------------------------|


#-----------------|-SOUTHEASTERN CATCHMENT----------------------------------|


R0001:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 08:3A             .49     .090 No_date    6:00
49.96 .694     .000
      [XIMP=.64:TIMP=.64]
      [LOSS= 2 :CN= 49.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  57.:MNI=.013:SCI=   .0]
R0001:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 08:3A             .49     .090 No_date    6:00
49.96  n/a     .000
                out <=    1.0 09:BIORET         .44     .016 No_date    5:57
49.96  n/a     .000
          overflow <=     1.0 05:BIOOvf         .05     .074 No_date    6:00
49.96  n/a     .000
     {MxStoUsed=.8999E-02  m3, TotOvfVol=.2540E-02  m3, N-Ovf=    3, TotDurOvf=
0.hrs}
R0001:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:BIOOvf         .05     .074 No_date    6:00
49.96  n/a     .000
                out <=    1.0 09:DRYPOND        .05     .008 No_date    6:05
49.97  n/a     .000
          overflow <=     1.0 01:DRYOvf         .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.2088E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|---------SITE TOTAL----------------------------------------|


R0001:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 06:NORTH         11.56     .341 No_date    6:33
50.90  n/a     .000
                  +     1.0 03:SWMF-S          8.20     .256 No_date    6:32
55.53  n/a     .000
                  +     1.0 07:SOvf            .00     .000 No_date    0:00
.00  n/a     .000
                  +     1.0 09:DRYPOND         .05     .008 No_date    6:05
49.97  n/a     .000
```

```
                  +     1.0 01:DRYOvf          .00     .000 No_date    0:00
.00  n/a     .000
                SUM=     1.0 10:POSTSITE      19.81     .604 No_date    6:32
52.81  n/a     .000
#-----------------|---------------------------------------------------------|


#-----------------|---------------------------------------------------------|


#-----------------|---------------------------------------------------------|


#-----------------|-POST-DEVELOPMENT----------------------------------------|


#-----------------|-OVERALL WC 7 FLOWS--------------------------------------|


#-----------------|---------------------------------------------------------|


#-----------------|-POST-LAND SWAP------------------------------------------|


#-----------------|-LANDS UPSTREAM OF SITE----------------------------------|


R0001:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:701          137.80    3.212 No_date    7:27
31.08 .432     .000
      [CN= 79.9: N= 3.00: Tp= 1.35]
R0001:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SHIFT HYD       ->    1.0 01:701          137.80    3.212 No_date    7:27
31.08  n/a     .000
     [LAG= 24.0 min]<-    1.0 02:701Shift     137.80    3.212 No_date    7:50
31.08  n/a     .000
#-----------------|---------------------------------------------------------|
```

```
#-----------------|-POST DEV UNDEVELOPED AREA-------------------------------|


R0001:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:7021          23.24     .665 No_date    6:41
23.60 .328     .000
      [CN= 69.1: N= 3.00: Tp=  .70]
#-----------------|---------------------------------------------------------|


#-----------------|-WC7 TOTAL AT DOWNSTREAM END--POST DEV-------------------|


R0001:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:701Shift     137.80    3.212 No_date    7:50
31.08  n/a     .000
                  +     1.0 03:7021          23.24     .665 No_date    6:41
23.60  n/a     .000
                  +     1.0 10:POSTSITE      19.81     .604 No_date    6:32
52.81  n/a     .000
                SUM=     1.0 04:PosWC7       180.85    4.064 No_date    7:41
32.50  n/a     .000
R0001:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SAVE HYD              1.0 04:PosWC7       180.85    4.064 No_date    7:41
32.50  n/a     .000
      fname :PosWC7.0001

      remark:POST WC7

#-----------------|---------------------------------------------------------|


#*****************************************************************************


#*****************************************************************************


#                              25yr SCS Storm (24hr)
```

```
#******************************************************************************



#******************************************************************************



R0001:C00138-------------------------------------------------------------------------
----------------
     MASS STORM
      Filename = J:\700\721 - MacPherson Builders\3464 - Home Farm
TIS\Design\_Renta
      Comment  = 12 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  12.00:PTOT=  86.40]
#******************************************************************************



#-----------------|---------------------------------------------------------|



#-----------------|-PRE-DEVELOPMENT-------------------------------------------|



#-----------------|-OVERALL WC 7 FLOWS----------------------------------------|



#-----------------|---------------------------------------------------------|



#-----------------|-PRE-LAND SWAP---------------------------------------------|



#-----------------|-LANDS UPSTREAM OF SITE------------------------------------|



R0001:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:701          146.70    4.938 No_date    7:24
44.24 .512     .000
      [CN= 79.9: N= 3.00: Tp= 1.35]
#-----------------|-SITE AND SURROUNDING AREA---------------------------------|



R0001:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:702           34.50    1.370 No_date    6:41
32.41 .375     .000
      [CN= 69.1: N= 3.00: Tp=  .70]
R0001:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SHIFT HYD       ->    1.0 01:701          146.70    4.938 No_date    7:24
44.24  n/a     .000
     [LAG= 24.0 min]<-    1.0 02:       701   146.70    4.938 No_date    7:47
44.24  n/a     .000
#-----------------|-WC7 TOTAL AT LAKESHORE RD--PRE DEV------------------------|



R0001:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:       701   146.70    4.938 No_date    7:47
44.24  n/a     .000
                    +     1.0 03:702           34.50    1.370 No_date    6:41
32.41  n/a     .000
                  SUM=    1.0 04:PreWC7       181.20    5.626 No_date    7:37
41.98  n/a     .000
R0001:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SAVE HYD              1.0 04:PreWC7       181.20    5.626 No_date    7:37
41.98  n/a     .000
      fname :PreWC7.0001

      remark:PRE WC7

#-----------------|---------------------------------------------------------|



#-----------------|---------------------------------------------------------|



#-----------------|-PRE-DEVELOPMENT QUANTITY CONTROL MODEL--------------------|



#-----------------|---------------------------------------------------------|
```

```
#-----------------|-PRE-DEVELOPMENT SWM QUANTITY-----------------------------|


R0001:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:1A-Pre         8.20     .529 No_date    6:20
36.06 .417     .000
      [CN= 74.3: N= 3.00: Tp=  .42]
R0001:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:2A-Pre         4.56     .305 No_date    6:17
34.96 .405     .000
      [CN= 73.5: N= 3.00: Tp=  .38]
R0001:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:2B-Pre          .87     .077 No_date    6:10
35.57 .412     .000
      [CN= 73.9: N= 3.00: Tp=  .26]
R0001:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:2C-Pre         6.14     .468 No_date    6:15
36.58 .423     .000
      [CN= 74.6: N= 3.00: Tp=  .34]
#-----------------|-North (Catchment 2) Internal-----------------------------|


R0001:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:2A-Pre         4.56     .305 No_date    6:17
34.96  n/a     .000
                  +       1.0 03:2B-Pre          .87     .077 No_date    6:10
35.57  n/a     .000
                  SUM=    1.0 04:2A2B           5.43     .376 No_date    6:15
35.06  n/a     .000
#-----------------|-North (Catchment 2) Total--------------------------------|


R0001:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:2A-Pre         4.56     .305 No_date    6:17
34.96  n/a     .000
                  +       1.0 03:2B-Pre          .87     .077 No_date    6:10
35.57  n/a     .000
                  +       1.0 05:2C-Pre         6.14     .468 No_date    6:15
36.58  n/a     .000
                  SUM=    1.0 04:2-Pre         11.57     .843 No_date    6:15
35.86  n/a     .000
R0001:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:3A-Pre          .49     .016 No_date    6:12
15.05 .174     .000
      [CN= 43.3: N= 3.00: Tp=  .29]
#-----------------|--------------------------------------------------------|


#-----------------|--------------------------------------------------------|


#-----------------|-POST-DEVELOPMENT QUANTITY CONTROL MODEL-------------------|


#-----------------|--------------------------------------------------------|


#-----------------|-LANDS DRAINING TO NORTH SWM POND--------------------------|


#-----------------|-NORTH INLET-----------------------------------------------|


R0001:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 01:2A-1           3.85     .966 No_date    6:00
66.96 .775     .000
      [XIMP=.46:TIMP=.61]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 160.:MNI=.013:SCI=   .0]
R0001:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 03:2C-1           3.14     .586 No_date    6:00
61.77 .715     .000
      [XIMP=.43:TIMP=.43]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  80.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 145.:MNI=.013:SCI=   .0]
R0001:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 08:2C-2           1.10     .312 No_date    6:00
```

```
76.42 .884     .000
      [XIMP=.80:TIMP=.80]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  86.:MNI=.013:SCI=   .0]
R0001:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:2C-3           1.90     .482 No_date    6:00
68.14 .789     .000
      [XIMP=.35:TIMP=.67]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 113.:MNI=.013:SCI=   .0]
R0001:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 05:2A-4            .70     .158 No_date    6:00
58.84 .681     .000
      [XIMP=.36:TIMP=.36]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  68.:MNI=.013:SCI=   .0]
R0001:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:2B              .87     .067 No_date    6:11
33.87 .392     .000
      [CN= 69.2: N= 3.00: Tp=  .29]
#-----------------|-NORTH SWMP NORTH INLET TOTAL-QUALITY CONTROL--------------|



R0001:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 01:2A-1           3.85     .966 No_date    6:00
66.96  n/a     .000
                  +     1.0 03:2C-1           3.14     .586 No_date    6:00
61.77  n/a     .000
                  +     1.0 08:2C-2           1.10     .312 No_date    6:00
76.42  n/a     .000
                  +     1.0 09:2C-3           1.90     .482 No_date    6:00
68.14  n/a     .000
                  +     1.0 06:2B              .87     .067 No_date    6:11
33.87  n/a     .000
                SUM=    1.0 07:NSWM1         10.86    2.391 No_date    6:00
63.97  n/a     .000
#-------------------------------------------------------------------------------|



#-----------------|-NORTH SWMP NORTH TOTAL-----------------------------------|
```

```
R0001:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 01:2A-1           3.85     .966 No_date    6:00
66.96  n/a     .000
                  +     1.0 03:2C-1           3.14     .586 No_date    6:00
61.77  n/a     .000
                  +     1.0 08:2C-2           1.10     .312 No_date    6:00
76.42  n/a     .000
                  +     1.0 09:2C-3           1.90     .482 No_date    6:00
68.14  n/a     .000
                  +     1.0 05:2A-4            .70     .158 No_date    6:00
58.84  n/a     .000
                  +     1.0 06:2B              .87     .067 No_date    6:11
33.87  n/a     .000
                SUM=    1.0 04:NSWM1         11.56    2.549 No_date    6:00
63.66  n/a     .000
#-------------------------------------------------------------------------------|



R0001:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 04:NSWM1         11.56    2.549 No_date    6:00
63.66  n/a     .000
                 out <=   1.0 03:SWMF-N        11.56     .386 No_date    6:34
63.66  n/a     .000
           overflow <=    1.0 05:NOvf            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.4168E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|-NORTH CATCHMENT TOTAL-----------------------------------|



R0001:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:SWMF-N        11.56     .386 No_date    6:34
63.66  n/a     .000
                  +     1.0 05:NOvf            .00     .000 No_date    0:00
.00  n/a     .000
                SUM=    1.0 06:NORTH         11.56     .386 No_date    6:34
63.66  n/a     .000
#-----------------|-------------------------------------------------------------|



#-----------------|-------------------------------------------------------------|
```

```
#-----------------|-SOUTHERN CATCHMENT-----------------------------------------|


#-----------------|-LANDS DRAINING TO SOUTH SWM POND--------------------------|


R0001:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 05:1A             8.20    2.051 No_date    6:00
68.64 .794     .000
      [XIMP=.61:TIMP=.61]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 234.:MNI=.013:SCI=   .0]
#-----------------|-SOUTH SWM POND---------------------------------------------|


R0001:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:1A             8.20    2.051 No_date    6:00
68.64  n/a     .000
               out <=    1.0 03:SWMF-S         8.20     .283 No_date    6:33
68.64  n/a     .000
          overflow <=    1.0 07:SOvf            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.3255E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|-----------------------------------------------------------|


#-----------------|-SOUTHEASTERN CATCHMENT-------------------------------------|


R0001:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 08:3A              .49     .111 No_date    6:00
61.24 .709     .000
      [XIMP=.64:TIMP=.64]
      [LOSS= 2 :CN= 49.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  57.:MNI=.013:SCI=   .0]
R0001:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 08:3A              .49     .111 No_date    6:00
61.24  n/a     .000
               out <=    1.0 09:BIORET          .40     .016 No_date    5:53
61.24  n/a     .000
          overflow <=    1.0 05:BIOOvf          .09     .095 No_date    6:00
61.24  n/a     .000
     {MxStoUsed=.9000E-02  m3, TotOvfVol=.5670E-02  m3, N-Ovf=    4, TotDurOvf=
1.hrs}
R0001:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:BIOOvf          .09     .095 No_date    6:00
61.24  n/a     .000
               out <=    1.0 09:DRYPOND         .09     .010 No_date    6:03
61.34  n/a     .000
          overflow <=    1.0 01:DRYOvf          .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.4627E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|---------SITE TOTAL-----------------------------------------|


R0001:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 06:NORTH         11.56     .386 No_date    6:34
63.66  n/a     .000
                     +     1.0 03:SWMF-S         8.20     .283 No_date    6:33
68.64  n/a     .000
                     +     1.0 07:SOvf            .00     .000 No_date    0:00
.00  n/a     .000
                     +     1.0 09:DRYPOND         .09     .010 No_date    6:03
61.34  n/a     .000
                     +     1.0 01:DRYOvf          .00     .000 No_date    0:00
.00  n/a     .000
                  SUM=     1.0 10:POSTSITE      19.85     .679 No_date    6:33
65.71  n/a     .000
#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|-POST-DEVELOPMENT-------------------------------------------|
```

```
#-----------------|-OVERALL WC 7 FLOWS-----------------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|-POST-LAND SWAP---------------------------------------------|


#-----------------|-LANDS UPSTREAM OF SITE-------------------------------------|


R0001:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:701          137.80    4.415 No_date    7:26
42.18 .488     .000
      [CN= 79.9: N= 3.00: Tp= 1.35]
R0001:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SHIFT HYD       ->    1.0 01:701          137.80    4.415 No_date    7:26
42.18  n/a     .000
     [LAG= 24.0 min]<-    1.0 02:701Shift     137.80    4.415 No_date    7:49
42.18  n/a     .000
#-----------------|-----------------------------------------------------------|


#-----------------|-POST DEV UNDEVELOPED AREA----------------------------------|


R0001:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:7021          23.24     .929 No_date    6:41
32.60 .377     .000
      [CN= 69.1: N= 3.00: Tp=  .70]
#-----------------|-----------------------------------------------------------|


#-----------------|-WC7 TOTAL AT DOWNSTREAM END--POST DEV----------------------|


R0001:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:701Shift     137.80    4.415 No_date    7:49
42.18  n/a     .000
                  +     1.0 03:7021          23.24     .929 No_date    6:41
32.60  n/a     .000
                  +     1.0 10:POSTSITE      19.85     .679 No_date    6:33
65.71  n/a     .000
                SUM=    1.0 04:PosWC7       180.89    5.482 No_date    7:40
43.53  n/a     .000
R0001:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SAVE HYD              1.0 04:PosWC7       180.89    5.482 No_date    7:40
43.53  n/a     .000
      fname :PosWC7.0001

      remark:POST WC7

#-----------------|-----------------------------------------------------------|


#*****************************************************************************


#*****************************************************************************


#                             50yr SCS Storm (24hr)


#*****************************************************************************


#*****************************************************************************


R0001:C00172-----------------------------------------------------------------------
----------------
     MASS STORM
      Filename = J:\700\721 - MacPherson Builders\3464 - Home Farm
TIS\Design\_Renta
      Comment  = 12 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  12.00:PTOT=  96.00]
```

```
#*******************************************************************************

#-----------------|---------------------------------------------------------|

#-----------------|-PRE-DEVELOPMENT-----------------------------------------|

#-----------------|-OVERALL WC 7 FLOWS--------------------------------------|

#-----------------|---------------------------------------------------------|

#-----------------|-PRE-LAND SWAP-------------------------------------------|

#-----------------|-LANDS UPSTREAM OF SITE----------------------------------|

R0001:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:701          146.70    5.835 No_date    7:24
52.05 .542     .000
      [CN= 79.9: N= 3.00: Tp= 1.35]
#-----------------|-SITE AND SURROUNDING AREA-------------------------------|

R0001:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:702           34.50    1.650 No_date    6:40
38.83 .404     .000
      [CN= 69.1: N= 3.00: Tp=  .70]
R0001:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SHIFT HYD       ->    1.0 01:701          146.70    5.835 No_date    7:24
52.05  n/a     .000
     [LAG= 24.0 min]<-    1.0 02:       701   146.70    5.835 No_date    7:47
52.05  n/a     .000
#-----------------|-WC7 TOTAL AT LAKESHORE RD--PRE DEV-----------------------|

R0001:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:       701   146.70    5.835 No_date    7:47
52.05  n/a     .000
                  +     1.0 03:702           34.50    1.650 No_date    6:40
38.83  n/a     .000
                SUM=    1.0 04:PreWC7       181.20    6.663 No_date    7:36
49.53  n/a     .000
R0001:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SAVE HYD              1.0 04:PreWC7       181.20    6.663 No_date    7:36
49.53  n/a     .000
      fname :PreWC7.0001

      remark:PRE WC7

#-----------------|---------------------------------------------------------|

#-----------------|---------------------------------------------------------|

#-----------------|-PRE-DEVELOPMENT QUANTITY CONTROL MODEL--------------------|

#-----------------|---------------------------------------------------------|

#-----------------|-PRE-DEVELOPMENT SWM QUANTITY----------------------------|

R0001:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:1A-Pre         8.20     .636 No_date    6:20
43.08 .449     .000
      [CN= 74.3: N= 3.00: Tp=  .42]
R0001:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:2A-Pre         4.56     .368 No_date    6:17
41.87 .436     .000
      [CN= 73.5: N= 3.00: Tp=  .38]
R0001:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
    CALIB NASHYD          1.0 03:2B-Pre          .87     .093 No_date    6:09
42.54 .443     .000
      [CN= 73.9: N= 3.00: Tp=  .26]
R0001:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:2C-Pre         6.14     .561 No_date    6:14
43.65 .455     .000
      [CN= 74.6: N= 3.00: Tp=  .34]
#-----------------|-North (Catchment 2) Internal-----------------------------|



R0001:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:2A-Pre         4.56     .368 No_date    6:17
41.87  n/a     .000
                  +     1.0 03:2B-Pre          .87     .093 No_date    6:09
42.54  n/a     .000
                SUM=    1.0 04:2A2B           5.43     .453 No_date    6:15
41.98  n/a     .000
#-----------------|-North (Catchment 2) Total--------------------------------|



R0001:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:2A-Pre         4.56     .368 No_date    6:17
41.87  n/a     .000
                  +     1.0 03:2B-Pre          .87     .093 No_date    6:09
42.54  n/a     .000
                  +     1.0 05:2C-Pre         6.14     .561 No_date    6:14
43.65  n/a     .000
                SUM=    1.0 04:2-Pre         11.57    1.014 No_date    6:15
42.87  n/a     .000
R0001:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:3A-Pre          .49     .020 No_date    6:12
18.52 .193     .000
      [CN= 43.3: N= 3.00: Tp=  .29]
#-----------------|-------------------------------------------------------------|



#-----------------|-------------------------------------------------------------|



#-----------------|-POST-DEVELOPMENT QUANTITY CONTROL MODEL--------------------|
```

```
#-----------------|-------------------------------------------------------------|



#-----------------|-LANDS DRAINING TO NORTH SWM POND-------------------------|



#-----------------|-NORTH INLET----------------------------------------------|



R0001:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 01:2A-1           3.85    1.110 No_date    6:00
75.89 .791     .000
      [XIMP=.46:TIMP=.61]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 160.:MNI=.013:SCI=   .0]
R0001:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 03:2C-1           3.14     .679 No_date    6:00
70.32 .733     .000
      [XIMP=.43:TIMP=.43]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  80.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 145.:MNI=.013:SCI=   .0]
R0001:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 08:2C-2           1.10     .349 No_date    6:00
85.65 .892     .000
      [XIMP=.80:TIMP=.80]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  86.:MNI=.013:SCI=   .0]
R0001:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:2C-3           1.90     .554 No_date    6:00
77.25 .805     .000
      [XIMP=.35:TIMP=.67]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 113.:MNI=.013:SCI=   .0]
R0001:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 05:2A-4            .70     .181 No_date    6:00
67.25 .701     .000
      [XIMP=.36:TIMP=.36]
```

```
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  68.:MNI=.013:SCI=   .0]
R0001:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:2B              .87     .081 No_date    6:11
40.37 .420     .000
      [CN= 69.2: N= 3.00: Tp=  .29]
#-----------------|-NORTH SWMP NORTH INLET TOTAL-QUALITY CONTROL--------------|



R0001:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 01:2A-1           3.85    1.110 No_date    6:00
75.89  n/a     .000
                  +     1.0 03:2C-1           3.14     .679 No_date    6:00
70.32  n/a     .000
                  +     1.0 08:2C-2           1.10     .349 No_date    6:00
85.65  n/a     .000
                  +     1.0 09:2C-3           1.90     .554 No_date    6:00
77.25  n/a     .000
                  +     1.0 06:2B              .87     .081 No_date    6:11
40.37  n/a     .000
                 SUM=     1.0 07:NSWM1         10.86    2.747 No_date    6:00
72.66  n/a     .000
#-------------------------------------------------------------------------------|



#-----------------|-NORTH SWMP NORTH TOTAL-----------------------------------|



R0001:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 01:2A-1           3.85    1.110 No_date    6:00
75.89  n/a     .000
                  +     1.0 03:2C-1           3.14     .679 No_date    6:00
70.32  n/a     .000
                  +     1.0 08:2C-2           1.10     .349 No_date    6:00
85.65  n/a     .000
                  +     1.0 09:2C-3           1.90     .554 No_date    6:00
77.25  n/a     .000
                  +     1.0 05:2A-4            .70     .181 No_date    6:00
67.25  n/a     .000
                  +     1.0 06:2B              .87     .081 No_date    6:11
40.37  n/a     .000
                 SUM=     1.0 04:NSWM1         11.56    2.928 No_date    6:00
72.33  n/a     .000
```

```
#-------------------------------------------------------------------------------|



R0001:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 04:NSWM1         11.56    2.928 No_date    6:00
72.33  n/a     .000
                out <=    1.0 03:SWMF-N        11.56     .456 No_date    6:33
72.33  n/a     .000
           overflow <=    1.0 05:NOvf            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.4780E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|-NORTH CATCHMENT TOTAL--------------------------------------|



R0001:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:SWMF-N        11.56     .456 No_date    6:33
72.33  n/a     .000
                  +     1.0 05:NOvf            .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=     1.0 06:NORTH         11.56     .456 No_date    6:33
72.33  n/a     .000
#-----------------|-------------------------------------------------------------|



#-----------------|-------------------------------------------------------------|



#-----------------|-SOUTHERN CATCHMENT-----------------------------------------|



#-----------------|-LANDS DRAINING TO SOUTH SWM POND---------------------------|



R0001:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 05:1A             8.20    2.325 No_date    6:00
77.50 .807     .000
      [XIMP=.61:TIMP=.61]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 234.:MNI=.013:SCI=   .0]
```

```
#-----------------|-SOUTH SWM POND-------------------------------------------|


R0001:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:1A             8.20    2.325 No_date    6:00
77.50  n/a     .000
                out <=    1.0 03:SWMF-S         8.20     .299 No_date    6:33
77.50  n/a     .000
           overflow <=    1.0 07:SOvf            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.3714E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|-------------------------------------------------------------|


#-----------------|-SOUTHEASTERN CATCHMENT-----------------------------------|


R0001:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 08:3A              .49     .125 No_date    6:00
68.90 .718     .000
      [XIMP=.64:TIMP=.64]
      [LOSS= 2 :CN= 49.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  57.:MNI=.013:SCI=   .0]
R0001:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 08:3A              .49     .125 No_date    6:00
68.90  n/a     .000
                out <=    1.0 09:BIORET          .37     .016 No_date    5:51
68.90  n/a     .000
           overflow <=    1.0 05:BIOOvf          .12     .109 No_date    6:00
68.90  n/a     .000
     {MxStoUsed=.9005E-02  m3, TotOvfVol=.7958E-02  m3, N-Ovf=    3, TotDurOvf=
1.hrs}
R0001:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:BIOOvf          .12     .109 No_date    6:00
68.90  n/a     .000
                out <=    1.0 09:DRYPOND         .12     .010 No_date    6:07
68.99  n/a     .000
           overflow <=    1.0 01:DRYOvf          .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.6441E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
```

```
#-----------------|---------SITE TOTAL---------------------------------------|


R0001:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 06:NORTH         11.56     .456 No_date    6:33
72.33  n/a     .000
                      +     1.0 03:SWMF-S         8.20     .299 No_date    6:33
77.50  n/a     .000
                      +     1.0 07:SOvf            .00     .000 No_date    0:00
.00  n/a     .000
                      +     1.0 09:DRYPOND         .12     .010 No_date    6:07
68.99  n/a     .000
                      +     1.0 01:DRYOvf          .00     .000 No_date    0:00
.00  n/a     .000
                   SUM=     1.0 10:POSTSITE      19.88     .765 No_date    6:33
74.45  n/a     .000
#-----------------|-------------------------------------------------------------|


#-----------------|-------------------------------------------------------------|


#-----------------|-------------------------------------------------------------|


#-----------------|-POST-DEVELOPMENT-----------------------------------------|


#-----------------|-OVERALL WC 7 FLOWS---------------------------------------|


#-----------------|-------------------------------------------------------------|


#-----------------|-POST-LAND SWAP-------------------------------------------|


#-----------------|-LANDS UPSTREAM OF SITE-----------------------------------|
```

```
R0001:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:701          137.80    5.257 No_date    7:25
49.94 .520     .000
      [CN= 79.9: N= 3.00: Tp= 1.35]
R0001:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SHIFT HYD       ->    1.0 01:701          137.80    5.257 No_date    7:25
49.94  n/a     .000
     [LAG= 24.0 min]<-    1.0 02:701Shift     137.80    5.257 No_date    7:48
49.94  n/a     .000
#-----------------|-------------------------------------------------------------|


#-----------------|-POST DEV UNDEVELOPED AREA-------------------------------------|


R0001:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:7021          23.24    1.118 No_date    6:40
39.03 .407     .000
      [CN= 69.1: N= 3.00: Tp=  .70]
#-----------------|-------------------------------------------------------------|


#-----------------|-WC7 TOTAL AT DOWNSTREAM END--POST DEV-----------------------|


R0001:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:701Shift     137.80    5.257 No_date    7:48
49.94  n/a     .000
                    +     1.0 03:7021          23.24    1.118 No_date    6:40
39.03  n/a     .000
                    +     1.0 10:POSTSITE      19.88     .765 No_date    6:33
74.45  n/a     .000
                  SUM=    1.0 04:PosWC7       180.92    6.466 No_date    7:39
51.23  n/a     .000
R0001:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SAVE HYD              1.0 04:PosWC7       180.92    6.466 No_date    7:39
51.23  n/a     .000
      fname :PosWC7.0001

      remark:POST WC7
```

```
#-----------------|-------------------------------------------------------------|


#*****************************************************************************


#*****************************************************************************


#                              100yr SCS Storm (24hr)


#*****************************************************************************


#*****************************************************************************


R0001:C00206------------------------------------------------------------------------
---------------
     MASS STORM
      Filename = J:\700\721 - MacPherson Builders\3464 - Home Farm
TIS\Design\_Renta
      Comment  = 12 hour SCS II storm mass curve

      [SDT= 1.00:SDUR=  12.00:PTOT= 108.00]
#*****************************************************************************


#-----------------|-------------------------------------------------------------|


#-----------------|-PRE-DEVELOPMENT-----------------------------------------|


#-----------------|-OVERALL WC 7 FLOWS--------------------------------------|


#-----------------|-------------------------------------------------------------|
```

```
#-----------------|-PRE-LAND SWAP-----------------------------------------------|


#-----------------|-LANDS UPSTREAM OF SITE--------------------------------------|


R0001:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:701          146.70    6.989 No_date    7:23
62.12 .575     .000
      [CN= 79.9: N= 3.00: Tp= 1.35]
#-----------------|-SITE AND SURROUNDING AREA-----------------------------------|


R0001:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:702           34.50    2.019 No_date    6:40
47.25 .438     .000
      [CN= 69.1: N= 3.00: Tp=  .70]
R0001:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SHIFT HYD       ->    1.0 01:701          146.70    6.989 No_date    7:23
62.12  n/a     .000
     [LAG= 24.0 min]<-    1.0 02:       701   146.70    6.989 No_date    7:46
62.12  n/a     .000
#-----------------|-WC7 TOTAL AT LAKESHORE RD--PRE DEV-------------------------|


R0001:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:       701   146.70    6.989 No_date    7:46
62.12  n/a     .000
                    +     1.0 03:702           34.50    2.019 No_date    6:40
47.25  n/a     .000
                  SUM=    1.0 04:PreWC7       181.20    8.003 No_date    7:35
59.29  n/a     .000
R0001:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SAVE HYD              1.0 04:PreWC7       181.20    8.003 No_date    7:35
59.29  n/a     .000
      fname :PreWC7.0001

      remark:PRE WC7
```

```
#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|-PRE-DEVELOPMENT QUANTITY CONTROL MODEL----------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|-PRE-DEVELOPMENT SWM QUANTITY--------------------------------|


R0001:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:1A-Pre         8.20     .775 No_date    6:20
52.24 .484     .000
      [CN= 74.3: N= 3.00: Tp=  .42]
R0001:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 02:2A-Pre         4.56     .450 No_date    6:17
50.89 .471     .000
      [CN= 73.5: N= 3.00: Tp=  .38]
R0001:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:2B-Pre          .87     .114 No_date    6:09
51.63 .478     .000
      [CN= 73.9: N= 3.00: Tp=  .26]
R0001:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 05:2C-Pre         6.14     .683 No_date    6:14
52.86 .489     .000
      [CN= 74.6: N= 3.00: Tp=  .34]
#-----------------|-North (Catchment 2) Internal--------------------------------|


R0001:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:2A-Pre         4.56     .450 No_date    6:17
50.89  n/a     .000
                    +     1.0 03:2B-Pre          .87     .114 No_date    6:09
51.63  n/a     .000
```

```
                SUM=     1.0 04:2A2B           5.43     .554 No_date    6:15
51.01  n/a     .000
#-----------------|-North (Catchment 2) Total---------------------------------|



R0001:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 02:2A-Pre         4.56     .450 No_date    6:17
50.89  n/a     .000
                   +     1.0 03:2B-Pre          .87     .114 No_date    6:09
51.63  n/a     .000
                   +     1.0 05:2C-Pre         6.14     .683 No_date    6:14
52.86  n/a     .000
                SUM=     1.0 04:2-Pre         11.57    1.236 No_date    6:15
51.99  n/a     .000
R0001:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:3A-Pre          .49     .025 No_date    6:12
23.23 .215     .000
      [CN= 43.3: N= 3.00: Tp=  .29]
#-----------------|-----------------------------------------------------------|



#-----------------|-----------------------------------------------------------|



#-----------------|-POST-DEVELOPMENT QUANTITY CONTROL MODEL--------------------|



#-----------------|-----------------------------------------------------------|



#-----------------|-LANDS DRAINING TO NORTH SWM POND---------------------------|



#-----------------|-NORTH INLET------------------------------------------------|



R0001:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD       1.0 01:2A-1           3.85    1.280 No_date    6:00
87.18 .807     .000
      [XIMP=.46:TIMP=.61]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 160.:MNI=.013:SCI=   .0]
R0001:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD       1.0 03:2C-1           3.14     .799 No_date    6:00
81.17 .752     .000
      [XIMP=.43:TIMP=.43]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  80.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 145.:MNI=.013:SCI=   .0]
R0001:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD       1.0 08:2C-2           1.10     .397 No_date    6:00
97.24 .900     .000
      [XIMP=.80:TIMP=.80]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  86.:MNI=.013:SCI=   .0]
R0001:C00222------------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD       1.0 09:2C-3           1.90     .639 No_date    6:00
88.73 .822     .000
      [XIMP=.35:TIMP=.67]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 113.:MNI=.013:SCI=   .0]
R0001:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD       1.0 05:2A-4            .70     .212 No_date    6:00
77.96 .722     .000
      [XIMP=.36:TIMP=.36]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  68.:MNI=.013:SCI=   .0]
R0001:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD         1.0 06:2B              .87     .098 No_date    6:11
48.88 .453     .000
      [CN= 69.2: N= 3.00: Tp=  .29]
#-----------------|-NORTH SWMP NORTH INLET TOTAL-QUALITY CONTROL--------------|



R0001:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD              1.0 01:2A-1           3.85    1.280 No_date    6:00
87.18  n/a     .000
                   +     1.0 03:2C-1           3.14     .799 No_date    6:00
81.17  n/a     .000
```

```
                  +     1.0 08:2C-2           1.10     .397 No_date    6:00
97.24  n/a     .000
                  +     1.0 09:2C-3           1.90     .639 No_date    6:00
88.73  n/a     .000
                  +     1.0 06:2B              .87     .098 No_date    6:11
48.88  n/a     .000
                SUM=    1.0 07:NSWM1         10.86    3.181 No_date    6:00
83.67  n/a     .000
#-----------------------------------------------------------------------------|


#-----------------|-NORTH SWMP NORTH TOTAL-----------------------------------|


R0001:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD             1.0 01:2A-1           3.85    1.280 No_date    6:00
87.18  n/a     .000
                  +     1.0 03:2C-1           3.14     .799 No_date    6:00
81.17  n/a     .000
                  +     1.0 08:2C-2           1.10     .397 No_date    6:00
97.24  n/a     .000
                  +     1.0 09:2C-3           1.90     .639 No_date    6:00
88.73  n/a     .000
                  +     1.0 05:2A-4            .70     .212 No_date    6:00
77.96  n/a     .000
                  +     1.0 06:2B              .87     .098 No_date    6:11
48.88  n/a     .000
                SUM=    1.0 04:NSWM1         11.56    3.392 No_date    6:00
83.32  n/a     .000
#-----------------------------------------------------------------------------|


R0001:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->  1.0 04:NSWM1         11.56    3.392 No_date    6:00
83.32  n/a     .000
                out <=  1.0 03:SWMF-N        11.56     .786 No_date    6:20
83.32  n/a     .000
          overflow <=   1.0 05:NOvf            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.5150E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|-NORTH CATCHMENT TOTAL------------------------------------|
```

```
R0001:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD             1.0 03:SWMF-N        11.56     .786 No_date    6:20
83.32  n/a     .000
                  +     1.0 05:NOvf            .00     .000 No_date    0:00
.00  n/a     .000
                SUM=    1.0 06:NORTH         11.56     .786 No_date    6:20
83.32  n/a     .000
#-----------------|-----------------------------------------------------------|


#-----------------|-----------------------------------------------------------|


#-----------------|-SOUTHERN CATCHMENT---------------------------------------|


#-----------------|-LANDS DRAINING TO SOUTH SWM POND-------------------------|


R0001:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD      1.0 05:1A             8.20    2.690 No_date    6:00
88.70 .821     .000
      [XIMP=.61:TIMP=.61]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 234.:MNI=.013:SCI=   .0]
#-----------------|-SOUTH SWM POND-------------------------------------------|


R0001:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->  1.0 05:1A             8.20    2.690 No_date    6:00
88.70  n/a     .000
                out <=  1.0 03:SWMF-S         8.20     .530 No_date    6:16
88.70  n/a     .000
          overflow <=   1.0 07:SOvf            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.4060E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|-----------------------------------------------------------|
```

```
#-----------------|-SOUTHEASTERN CATCHMENT-----------------------------------|


R0001:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 08:3A              .49     .143 No_date    6:00
78.62 .728     .000
      [XIMP=.64:TIMP=.64]
      [LOSS= 2 :CN= 49.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  57.:MNI=.013:SCI=   .0]
R0001:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 08:3A              .49     .143 No_date    6:00
78.62  n/a     .000
               out <=     1.0 09:BIORET          .35     .016 No_date    5:49
78.62  n/a     .000
          overflow <=     1.0 05:BIOOvf          .14     .126 No_date    6:00
78.62  n/a     .000
     {MxStoUsed=.8991E-02  m3, TotOvfVol=.1090E-01  m3, N-Ovf=    3, TotDurOvf=
1.hrs}
R0001:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:BIOOvf          .14     .126 No_date    6:00
78.62  n/a     .000
               out <=     1.0 09:DRYPOND         .14     .011 No_date    6:11
78.72  n/a     .000
          overflow <=     1.0 01:DRYOvf          .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.8742E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|---------SITE TOTAL-----------------------------------------|


R0001:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 06:NORTH         11.56     .786 No_date    6:20
83.32  n/a     .000
                    +     1.0 03:SWMF-S         8.20     .530 No_date    6:16
88.70  n/a     .000
                    +     1.0 07:SOvf            .00     .000 No_date    0:00
.00  n/a     .000
                    +     1.0 09:DRYPOND         .14     .011 No_date    6:11
78.72  n/a     .000
                    +     1.0 01:DRYOvf          .00     .000 No_date    0:00
.00  n/a     .000
                  SUM=    1.0 10:POSTSITE      19.90    1.324 No_date    6:18
85.51  n/a     .000
```

```
#-----------------|-------------------------------------------------------------|

#-----------------|-------------------------------------------------------------|

#-----------------|-------------------------------------------------------------|

#-----------------|-POST-DEVELOPMENT-----------------------------------------|

#-----------------|-OVERALL WC 7 FLOWS---------------------------------------|

#-----------------|-------------------------------------------------------------|

#-----------------|-POST-LAND SWAP-------------------------------------------|

#-----------------|-LANDS UPSTREAM OF SITE-----------------------------------|


R0001:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:701          137.80    6.343 No_date    7:24
59.94 .555     .000
      [CN= 79.9: N= 3.00: Tp= 1.35]
R0001:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SHIFT HYD       ->    1.0 01:701          137.80    6.343 No_date    7:24
59.94  n/a     .000
     [LAG= 24.0 min]<-    1.0 02:701Shift     137.80    6.343 No_date    7:47
59.94  n/a     .000
#-----------------|-------------------------------------------------------------|


#-----------------|-POST DEV UNDEVELOPED AREA--------------------------------|
```

```
R0001:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:7021          23.24    1.366 No_date    6:40
47.47 .440     .000
      [CN= 69.1: N= 3.00: Tp=  .70]
#-----------------|-------------------------------------------------------------|


#-----------------|-WC7 TOTAL AT DOWNSTREAM END--POST DEV---------------------|


R0001:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:701Shift     137.80    6.343 No_date    7:47
59.94  n/a     .000
                +     1.0 03:7021          23.24    1.366 No_date    6:40
47.47  n/a     .000
                +     1.0 10:POSTSITE      19.90    1.324 No_date    6:18
85.51  n/a     .000
                SUM=     1.0 04:PosWC7       180.94    7.693 No_date    7:38
61.15  n/a     .000
R0001:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SAVE HYD              1.0 04:PosWC7       180.94    7.693 No_date    7:38
61.15  n/a     .000
      fname :PosWC7.0001

      remark:POST WC7

#-----------------|-------------------------------------------------------------|


#*****************************************************************************


#*****************************Timmins storm*********************************


#*****************************************************************************


R0001:C00240------------------------------------------------------------------
----------------
```

```
     READ STORM
      Filename = tim.stm

      Comment  = Timmins Storm Event

      [SDT=60.00:SDUR=  12.00:PTOT= 193.00]
#*****************************************************************************


#*****************************************************************************


#-----------------|-------------------------------------------------------------|


#-----------------|-PRE-DEVELOPMENT---------------------------------------------|


#-----------------|-OVERALL WC 7 FLOWS------------------------------------------|


#-----------------|-------------------------------------------------------------|


#-----------------|-PRE-LAND SWAP-----------------------------------------------|


#-----------------|-LANDS UPSTREAM OF SITE--------------------------------------|


R0001:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:701          146.70    8.752 No_date    8:33
138.72 .719     .000
      [CN= 79.9: N= 3.00: Tp= 1.35]
#-----------------|-SITE AND SURROUNDING AREA-----------------------------------|


R0001:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:702           34.50    2.219 No_date    7:25
```

```
115.14 .597     .000
      [CN= 69.1: N= 3.00: Tp=  .70]
R0001:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SHIFT HYD       ->    1.0 01:701          146.70    8.752 No_date    8:33
138.72  n/a     .000
     [LAG= 24.0 min]<-    1.0 02:       701   146.70    8.752 No_date    8:56
138.72  n/a     .000
#-----------------|-WC7 TOTAL AT LAKESHORE RD--PRE DEV------------------------|



R0001:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD             1.0 02:       701   146.70    8.752 No_date    8:56
138.72  n/a     .000
                   +     1.0 03:702           34.50    2.219 No_date    7:25
115.14  n/a     .000
                SUM=     1.0 04:PreWC7       181.20   10.463 No_date    8:59
134.23  n/a     .000
R0001:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SAVE HYD            1.0 04:PreWC7       181.20   10.463 No_date    8:59
134.23  n/a     .000
      fname :PreWC7.0001

      remark:PRE WC7

#-----------------|-------------------------------------------------------------|



#-----------------|-------------------------------------------------------------|



#-----------------|-PRE-DEVELOPMENT QUANTITY CONTROL MODEL--------------------|



#-----------------|-------------------------------------------------------------|



#-----------------|-PRE-DEVELOPMENT SWM QUANTITY-----------------------------|



R0001:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
```

```
    CALIB NASHYD        1.0 01:1A-Pre         8.20     .681 No_date    7:08
124.29 .644     .000
      [CN= 74.3: N= 3.00: Tp=  .42]
R0001:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD        1.0 02:2A-Pre         4.56     .381 No_date    7:06
122.23 .633     .000
      [CN= 73.5: N= 3.00: Tp=  .38]
R0001:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD        1.0 03:2B-Pre          .87     .078 No_date    7:02
123.34 .639     .000
      [CN= 73.9: N= 3.00: Tp=  .26]
R0001:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD        1.0 05:2C-Pre         6.14     .536 No_date    7:05
125.20 .649     .000
      [CN= 74.6: N= 3.00: Tp=  .34]
#-----------------|-North (Catchment 2) Internal-----------------------------|



R0001:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD             1.0 02:2A-Pre         4.56     .381 No_date    7:06
122.23  n/a     .000
                   +     1.0 03:2B-Pre          .87     .078 No_date    7:02
123.34  n/a     .000
                SUM=     1.0 04:2A2B           5.43     .458 No_date    7:05
122.41  n/a     .000
#-----------------|-North (Catchment 2) Total--------------------------------|



R0001:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD             1.0 02:2A-Pre         4.56     .381 No_date    7:06
122.23  n/a     .000
                   +     1.0 03:2B-Pre          .87     .078 No_date    7:02
123.34  n/a     .000
                   +     1.0 05:2C-Pre         6.14     .536 No_date    7:05
125.20  n/a     .000
                SUM=     1.0 04:2-Pre         11.57     .994 No_date    7:05
123.89  n/a     .000
R0001:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD        1.0 06:3A-Pre          .49     .022 No_date    7:04
66.29 .343     .000
      [CN= 43.3: N= 3.00: Tp=  .29]
#-----------------|-------------------------------------------------------------|
```

```
#-----------------|-------------------------------------------------------------|


#-----------------|-POST-DEVELOPMENT QUANTITY CONTROL MODEL-------------------|


#-----------------|-------------------------------------------------------------|


#-----------------|-LANDS DRAINING TO NORTH SWM POND--------------------------|


#-----------------|-NORTH INLET-----------------------------------------------|


R0001:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 01:2A-1           3.85     .434 No_date    7:00
169.19 .877     .000
      [XIMP=.46:TIMP=.61]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 160.:MNI=.013:SCI=   .0]
R0001:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 03:2C-1           3.14     .328 No_date    7:00
161.13 .835     .000
      [XIMP=.43:TIMP=.43]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  80.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 145.:MNI=.013:SCI=   .0]
R0001:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 08:2C-2           1.10     .127 No_date    7:00
180.46 .935     .000
      [XIMP=.80:TIMP=.80]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  86.:MNI=.013:SCI=   .0]
R0001:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 09:2C-3           1.90     .217 No_date    7:00
171.65 .889     .000
      [XIMP=.35:TIMP=.67]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  30.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 113.:MNI=.013:SCI=   .0]
R0001:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 05:2A-4            .70     .075 No_date    7:00
157.29 .815     .000
      [XIMP=.36:TIMP=.36]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  68.:MNI=.013:SCI=   .0]
R0001:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 06:2B              .87     .072 No_date    7:03
117.14 .607     .000
      [CN= 69.2: N= 3.00: Tp=  .29]
#-----------------|-NORTH SWMP NORTH INLET TOTAL-QUALITY CONTROL--------------|


R0001:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 01:2A-1           3.85     .434 No_date    7:00
169.19  n/a     .000
                  +     1.0 03:2C-1           3.14     .328 No_date    7:00
161.13  n/a     .000
                  +     1.0 08:2C-2           1.10     .127 No_date    7:00
180.46  n/a     .000
                  +     1.0 09:2C-3           1.90     .217 No_date    7:00
171.65  n/a     .000
                  +     1.0 06:2B              .87     .072 No_date    7:03
117.14  n/a     .000
                 SUM=     1.0 07:NSWM1         10.86    1.177 No_date    7:00
164.26  n/a     .000
#-------------------------------------------------------------------------------|


#-----------------|-NORTH SWMP NORTH TOTAL----------------------------------|


R0001:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 01:2A-1           3.85     .434 No_date    7:00
169.19  n/a     .000
                  +     1.0 03:2C-1           3.14     .328 No_date    7:00
161.13  n/a     .000
```

```
                  +     1.0 08:2C-2           1.10     .127 No_date    7:00
180.46  n/a     .000
                  +     1.0 09:2C-3           1.90     .217 No_date    7:00
171.65  n/a     .000
                  +     1.0 05:2A-4            .70     .075 No_date    7:00
157.29  n/a     .000
                  +     1.0 06:2B              .87     .072 No_date    7:03
117.14  n/a     .000
                 SUM=   1.0 04:NSWM1         11.56    1.252 No_date    7:00
163.84  n/a     .000
#-------------------------------------------------------------------------------|


R0001:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 04:NSWM1         11.56    1.252 No_date    7:00
163.84  n/a     .000
                out <=    1.0 03:SWMF-N        11.56     .911 No_date    7:08
163.84  n/a     .000
          overflow <=     1.0 05:NOvf            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.5290E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|-NORTH CATCHMENT TOTAL-----------------------------------|


R0001:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 03:SWMF-N        11.56     .911 No_date    7:08
163.84  n/a     .000
                  +     1.0 05:NOvf            .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=   1.0 06:NORTH         11.56     .911 No_date    7:08
163.84  n/a     .000
#-----------------|-------------------------------------------------------------|



#-----------------|-------------------------------------------------------------|



#-----------------|-SOUTHERN CATCHMENT--------------------------------------|



#-----------------|-LANDS DRAINING TO SOUTH SWM POND------------------------|
```

```
R0001:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 05:1A             8.20     .914 No_date    7:00
170.19 .882     .000
      [XIMP=.61:TIMP=.61]
      [LOSS= 2 :CN= 79.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI= 234.:MNI=.013:SCI=   .0]
#-----------------|-SOUTH SWM POND------------------------------------------|


R0001:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:1A             8.20     .914 No_date    7:00
170.19  n/a     .000
                out <=    1.0 03:SWMF-S         8.20     .607 No_date    7:10
170.19  n/a     .000
          overflow <=     1.0 07:SOvf            .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.4139E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|-------------------------------------------------------------|



#-----------------|-SOUTHEASTERN CATCHMENT----------------------------------|


R0001:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB STANDHYD        1.0 08:3A              .49     .048 No_date    7:00
150.93 .782     .000
      [XIMP=.64:TIMP=.64]
      [LOSS= 2 :CN= 49.0]
      [Pervious     area: IAper= 5.00:SLPP=2.00:LGP=  17.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 2.00:SLPI=2.00:LGI=  57.:MNI=.013:SCI=   .0]
R0001:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 08:3A              .49     .048 No_date    7:00
150.93  n/a     .000
                out <=    1.0 09:BIORET          .38     .016 No_date    6:12
150.93  n/a     .000
          overflow <=     1.0 05:BIOOvf          .11     .032 No_date    7:00
150.93  n/a     .000
     {MxStoUsed=.9000E-02  m3, TotOvfVol=.1589E-01  m3, N-Ovf=    2, TotDurOvf=
3.hrs}
```

```
R0001:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 05:BIOOvf          .11     .032 No_date    7:00
150.93  n/a     .000
                out <=    1.0 09:DRYPOND         .11     .010 No_date    7:10
150.98  n/a     .000
           overflow <=    1.0 01:DRYOvf          .00     .000 No_date    0:00
.00  n/a     .000
     {MxStoUsed=.6730E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=
0.hrs}
#-----------------|---------SITE TOTAL-----------------------------------------|



R0001:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 06:NORTH         11.56     .911 No_date    7:08
163.84  n/a     .000
                    +     1.0 03:SWMF-S         8.20     .607 No_date    7:10
170.19  n/a     .000
                    +     1.0 07:SOvf            .00     .000 No_date    0:00
.00  n/a     .000
                    +     1.0 09:DRYPOND         .11     .010 No_date    7:10
150.98  n/a     .000
                    +     1.0 01:DRYOvf          .00     .000 No_date    0:00
.00  n/a     .000
                 SUM=     1.0 10:POSTSITE      19.87    1.528 No_date    7:09
166.39  n/a     .000
#-----------------|---------------------------------------------------------|



#-----------------|---------------------------------------------------------|



#-----------------|---------------------------------------------------------|



#-----------------|-POST-DEVELOPMENT-------------------------------------------|



#-----------------|-OVERALL WC 7 FLOWS-----------------------------------------|



#-----------------|---------------------------------------------------------|
```

```
#-----------------|-POST-LAND SWAP---------------------------------------------|



#-----------------|-LANDS UPSTREAM OF SITE-------------------------------------|



R0001:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 01:701          137.80    8.157 No_date    8:35
136.32 .706     .000
      [CN= 79.9: N= 3.00: Tp= 1.35]
R0001:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SHIFT HYD       ->    1.0 01:701          137.80    8.157 No_date    8:35
136.32  n/a     .000
     [LAG= 24.0 min]<-    1.0 02:701Shift     137.80    8.157 No_date    8:58
136.32  n/a     .000
#-----------------|---------------------------------------------------------|



#-----------------|-POST DEV UNDEVELOPED AREA----------------------------------|



R0001:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    CALIB NASHYD          1.0 03:7021          23.24    1.497 No_date    7:24
115.40 .598     .000
      [CN= 69.1: N= 3.00: Tp=  .70]
#-----------------|---------------------------------------------------------|



#-----------------|-WC7 TOTAL AT DOWNSTREAM END--POST DEV----------------------|



R0001:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    ADD HYD               1.0 02:701Shift     137.80    8.157 No_date    8:58
136.32  n/a     .000
                    +     1.0 03:7021          23.24    1.497 No_date    7:24
115.40  n/a     .000
                    +     1.0 10:POSTSITE      19.87    1.528 No_date    7:09
166.39  n/a     .000
```

```
                SUM=     1.0 04:PosWC7       180.91   10.512 No_date    9:01
136.93  n/a     .000
R0001:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
mm-R.C.---DWFcms
    SAVE HYD             1.0 04:PosWC7       180.91   10.512 No_date    9:01
136.93  n/a     .000
      fname :PosWC7.0001

      remark:POST WC7

#-----------------|------------------------------------------------------------|



#-----------------|------------------------------------------------------------|



R0001:C00274------------------------------------------------------------------------
---------------
    FINISH
--------------------------------------------------------------------------------
---------------
********************************************************************************
***************
     WARNINGS / ERRORS / NOTES
     -------------------------
R0001:C00029  ROUTE RESERVOIR

*** WARNING: Inflow hydrograph is dry.

R0001:C00063  ROUTE RESERVOIR

*** WARNING: Inflow hydrograph is dry.

   Simulation ended on 2026-05-19     at 12:05:41
================================================================================
================
```

APPENDIX D

Stormwater Management Facility Design

North Pond (SWMF#2) Quality Requirements, SSD, ED, Forebay

Water Quality Requirements

Project #: 721-3464
Project: Home Farm
Date: May 19, 2026
By: AC/JE/NS

Post-Development Scenario Water Quality Requirements

SWM Facility #2 - North Pond

Quality Calculations

Parameter	Impervious Areas	All Areas	Units
Area Statistics			
Contributing Areas	2A-1, 2A-4, 2C	2A-1, 2A-4, 2C, 2B	-
Area	10.69	11.56	ha
% Impervious	57.2%	54%	%
MOE Volumes (per Table 3.2)			
MOE Total Water Quality (WQ) Volume	195	188	m^3/ha
MOE Extended Detention (ED) Volume	40	40	m^3/ha
Extended Detention (ED)			
25mm Runoff Depth	13.9	13.1	mm
25mm Runoff Volume	1489	**1515**	m^3
MOE ED Volume	428	**462**	m^3
Permanent Pool (PP)			
MOE Permanent Pool (PP) Volume	155	148	m^3/ha
MOE PP Volume	1657	**1709**	m^3

Required Volumes

ED Volume - 25mm RV for All Areas governs	**1515**	m^3
PP Volume - All Areas governs	**1709**	m^3
Total WQ Volume - ED + PP	**3224**	m^3

CROZIER
CONSULTING ENGINEERS

11-Dec-23

Project: 721-3464
Project No.: Home Farm
File: Stage Storage Discharge
Design by: AC/NS
Checked by: JE/BH
Date: May 19, 2026

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

Outlet Structure Dimensions

Extended Detention Orifice		**Spillway**	
E.D. Orifice Diameter:	0.150 m	Spillway Elev.	214.90 m
E.D. Orifice Invert Elevation:	213.30 m	Spillway Bot. Width	3.00 m
Orifice Coeff (plate):	0.64	Trap. Side Slopes	6:1
Orifice - Second Outlet			
DICB Inflow Elevation:	214.10 m		
Orifice Invert Elevation:	213.40 m		
Orifice Plate Diameter:	0.370 m		
Orifice Coefficient:	0.64		

Pond Dimensions				Outlet Structure Discharge						Total		
Elev.	Depth Above PP	Area	Storage Volume	ED Orifice Discharge	Head above Orifice #2	Orifice #2 Discharge	Spillway Avg. Weir Width	Spillway Discharge	Total Discharge	ED Draw-down time	Total Discharge	Storage
(m)	(m)	(sqm)	(cu.m)	(cu.m/s)	(m)	(cu.m/s)	(m)	(cu.m/s)	(cu.m/s)	(hrs)	(cu.m/s)	(ha-m)
213.30	0.00	*2048*	0	0.000	0.000	0.000	0.00	0.000	0.000	0.0	0.000	0.000
213.40	0.10	2147	210	0.008	0.000	0.000	0.00	0.000	0.008	14.7	**0.008**	**0.021**
213.50	0.20	2246	429	0.018	0.000	0.000	0.00	0.000	0.018	4.8	0.018	0.043
213.60	*0.30*	2346	*659*	0.024	0.000	0.000	0.00	0.000	0.024	3.1	**0.024**	**0.066**
213.70	*0.40*	2445	*899*	0.029	0.000	0.000	0.00	0.000	0.029	2.5	0.029	0.090
213.80	*0.50*	2781	*1160*	0.033	0.000	0.000	0.00	0.000	0.033	2.4	**0.033**	**0.116**
213.90	0.60	2927	1445	0.036	0.000	0.000	0.00	0.000	0.036	2.3	0.036	0.145
214.00	0.70	2998	1741	0.040	0.000	0.000	0.00	0.000	0.040	2.2	**0.040**	**0.174**
214.10	0.80	3069	2045	0.043	0.000	0.000	0.00	0.000	0.043		0.043	0.204
214.20	0.90	3139	2355	0.046	0.615	0.239	0.00	0.000	0.285		**0.285**	**0.236**
214.30	1.00	3210	2673	0.048	0.715	0.258	0.00	0.000	0.306		0.306	0.267
214.40	1.10	3281	2997	0.051	0.815	0.275	0.00	0.000	0.326		**0.326**	**0.300**
214.50	1.20	3352	3329	0.053	0.915	0.292	0.00	0.000	0.345		0.345	0.333
214.60	1.30	3423	3668	0.055	1.015	0.307	0.00	0.000	0.363		**0.363**	**0.367**
214.70	1.40	3493	4013	0.058	1.115	0.322	0.00	0.000	0.380		0.380	0.401
214.80	1.50	3564	4366	0.060	1.215	0.336	0.00	0.000	0.396		**0.396**	**0.437**
214.90	1.60	3635	4726	0.062	1.315	0.350	3.00	0.000	0.411		**0.411**	**0.473**
215.00	1.70	3750	5095	0.064	1.415	0.363	3.60	0.194	0.621		0.621	0.510
215.10	1.80	3864	5476	0.066	1.515	0.375	4.20	0.640	1.081		**1.081**	**0.548**
215.20	1.90	3979	5868	0.068	1.615	0.387	4.80	1.345	1.800		**1.800**	**0.587**

Total ED Draw Down Time (hrs) 31.9

Project:	721-3464
Project No.:	Home Farm
File:	Extended Detention
11-Dec-23 Design by:	JE
Date:	May 19, 2026

EXTENDED DETENTION SPECIFICATIONS - NORTH POND - SWMF#2

(Per MOECC)

Extended Detention Volume Required (Area x runoff from 25mm event)		1515	m^3
Extended Detention Volume Provided		1741	m^3
t (drawdown time - seconds, *hours in italics*)	*24.0 hours*	86400	s
Ao (cross section area of orifice - sqm, as designed)		0.018	m^2
h (maximum water elevation above orifice for extended detention- m)		0.70	m
C (discharge coefficient)		0.64	
Ap (average surface area for extended detention - sqm)		2927	m^2

t = 2*Ap*(h^0.5)/(C*Ao*(g*2)^0.5)

Ao = 0.020 sqm d = 160 mm

Extended Detention Orifice Diameter (as designed)	d =	**150**	mm
Drawdown Time Provided (per SSD)	t =	31.9	hrs

CROZIER CONSULTING ENGINEERS

Project # 721-3464
Project Name: Home Farm
Prepared by: JE,TM,NS
Date: 2026.05.12

NORTH POND - SWMF#2 - FOREBAY DESIGN CALCULATIONS

Parameter	*Variable*	*south inlet*
Forebay Settling Length	Length of forebay bottom (m)	17.2
	Length of forebay top (m)	29.0
	Width of forebay bottom (m)	4.0
	Length-to-width ratio of forebay	4.3
	Peak flow rate from forebay in quality event (m^3/s)	0.032
	Settling velocity (m/s)	0.0003
	Average Forebay Length Provided (m)	23.1
	Required Average Forebay Length (m)	**21.4**
Dispersion Length	Inlet flowrate in 5 year event (m^3/s)	1.66
	Depth of the permanent pool in the forebay (m)	1.50
	Desired velocity in the forebay (m/s)	0.5
	Length of dispersion (m)	**17.7**
Velocity in forebay check	Stage of Pond in 10 Year Event (m)	214.48
	Cross sectional area (m^2)	16.3
	Inlet flowrate in 10 year event (m3/s)	2.02
	Velocity in forebay (m/s)*	**0.124**
DESIGN FOREBAY LENGTH (m)		**29**

* Desired maximum average velocity in the forebay is 0.15m/s, per MOE, 2003, Page 4-56

APPENDIX E

Stormwater Design Calculations

Storm Sewer Design Sheet
Overland Flow FlowMaster Calculation

Home Farm Residential Development
721-3464
STORM SEWER DESIGN SHEET

CROZIER CONSULTING ENGINEERS

Phase 1
Phase 2
Rental

FREQUENCY - 5 YEAR - MTO LOOKUP TOOL					
Coef. A=	27.5	Coef. B=	-0.699	Coef. C=	
FREQUENCY - 100 YEAR - MTO LOOKUP TOOL					
Coef. A=		Coef. B=		Coef. C=	

MATERIAL	MANNINGS "n"
PVC	0.013
CONC.	0.013
CSP	0.024

DESIGNED BY: JE
CHECKED BY: JE
DATE: 2026-05-15
ISSUED FOR: Rental 1st submission

INITIAL TIME OF CONCENTRATION: 10.00

CATCHMENT I.D.	STREET	FROM MH	TO MH	AREA (A) (Ha)	5 YEAR RUN-OFF COEFF (C_5)	DESIGN STORM	A x C	5 YEAR CUMUL. A x C_5	100 YEAR CUMUL. A x C_{100}	TIME OF CONC. (min.)	5 YEAR I (mm/hr)	100 YEAR I (mm/hr)	DESIGN FLOW (L/sec)	SLOPE (%)	PIPE DIA. (mm)	MANNING'S "n"	VEL. (m/sec)	LENGTH (m)	TIME OF FLOW (min)	PIPE CAPACITY (L/sec)	CAPACITY (%)	PIPE INV ELEV. UPPER END	PIPE INV ELEV. LOWER END	PIPE OBV ELEV. UPPER END	PIPE OBV ELEV. LOWER END	GROUND ELEV. UPPER END	GROUND ELEV. LOWER END	COVER UPPER END	COVER LOWER END
SOUTHERN DRAINAGE AREA (TO SOUTH POND)																													
SOUTH LEG																													
112A	Helen St	CBMH17B	MH12	0.30	0.62	5 year	0.19	0.19	0.00	10.00	96.22	0.00	**49.75**	2.00%	300	0.013	1.9	6.7	0.06	**136.76**	**36%**	222.78	222.65	223.08	222.95	224.24	224.27	1.16	1.32
112	Helen St	MH12	CBMH11	0.22	0.62	5 year	0.14	0.32	0.00	10.06	95.83	0.00	**85.89**	2.05%	300	0.013	2.0	50.2	0.43	**138.45**	**62%**	222.57	221.54	222.87	221.84	224.27	223.34	1.40	1.50
111	Helen St	CBMH11	MH10B	0.23	0.62	5 year	0.14	0.47	0.00	10.48	93.09	0.00	**120.33**	1.13%	375	0.013	1.7	30.3	0.30	**186.38**	**65%**	221.48	221.13	221.85	221.51	223.34	222.93	1.49	1.42
110	Helen St	MH10B	CBMH9	0.08	0.62	5 year	0.05	0.51	0.00	10.78	91.27	0.00	**130.57**	2.00%	375	0.013	2.2	44.8	0.33	**247.95**	**53%**	221.10	220.21	221.48	220.58	222.93	222.06	1.45	1.48
109A	Lane H	DCBMH9C	CBMH9	0.20	0.62	5 year	0.12	0.12	0.00	10.00	96.22	0.00	**33.17**	1.46%	300	0.013	1.7	8.5	0.09	**116.84**	**28%**	220.37	220.25	220.67	220.55	222.05	222.06	1.38	1.51
109	Helen St	CBMH9	CBMH8	0.30	0.62	5 year	0.19	0.82	0.00	11.12	89.36	0.00	**204.84**	2.00%	375	0.013	2.2	89.5	0.66	**247.95**	**83%**	220.18	218.39	220.55	218.76	222.06	220.14	1.51	1.38
108	Helen St	CBMH8	STMH7	0.56	0.62	5 year	0.35	1.17	0.00	11.78	85.80	0.00	**279.51**	2.93%	450	0.013	3.1	53.7	0.29	**488.02**	**57%**	218.31	216.73	218.76	217.18	220.14	218.99	1.38	1.81
107	Street E	DCBMH15	STMH7	0.20	0.62	5 year	0.12	0.12	0.00	10.00	96.22	0.00	**33.17**	3.53%	300	0.013	2.6	8.5	0.06	**181.68**	**18%**	217.18	216.88	217.48	217.18	218.79	218.99	1.31	1.81
138	Helen St	DICB7A	STMH7	0.28	0.62	5 year	0.17	0.17	0.00	10.00	96.22	0.00	**46.44**	2.92%	300	0.013	2.3	39.4	0.28	**165.24**	**28%**	218.00	216.85	218.30	217.15	219.83	218.99	1.53	1.84
	Helen St	STMH7	CBMH6	0.00	0.62	5 year	0.00	1.47	0.00	12.07	84.35	0.00	**344.56**	2.51%	450	0.013	2.8	89.9	0.53	**451.69**	**76%**	216.70	214.45	217.15	214.90	218.99	216.18	1.84	1.28
118	Lane I	CBMH18	DCBMH17	0.38	0.62	5 year	0.24	0.24	0.00	10.00	96.22	0.00	**63.02**	2.29%	300	0.013	2.1	48.7	0.39	**146.33**	**43%**	218.20	217.09	218.50	217.39	220.04	218.88	1.54	1.49
117	Lane I	DCBMH17	CBMH20A	0.27	0.62	5 year	0.17	0.40	0.00	10.39	93.67	0.00	**104.94**	2.03%	300	0.013	1.9	83.4	0.71	**137.78**	**76%**	217.01	215.32	217.31	215.62	218.88	217.14	1.57	1.52
115A	Lane I	CBMH20A	CBMH20	0.16	0.62	5 year	0.10	0.50	0.00	11.11	89.42	0.00	**124.84**	2.00%	375	0.013	2.2	16.8	0.12	**247.95**	**50%**	215.24	214.90	215.61	215.28	217.14	216.68	1.53	1.40
115	Lane I	CBMH20	CBMH19	0.12	0.62	5 year	0.07	0.58	0.00	11.23	88.73	0.00	**142.22**	1.00%	375	0.013	1.6	26.5	0.28	**175.33**	**81%**	214.85	214.59	215.23	214.96	216.68	216.13	1.45	1.17
106	Lane I	CBMH19	CBMH6	0.22	0.62	5 year	0.14	0.71	0.00	11.51	87.22	0.00	**172.88**	0.50%	450	0.013	1.3	7.7	0.10	**201.60**	**86%**	214.49	214.45	214.94	214.90	216.13	216.18	1.19	1.28
105	Helen St	CBMH6	MH5	0.30	0.62	5 year	0.19	2.37	0.00	12.60	81.86	0.00	**539.00**	2.98%	525	0.013	3.4	75.1	0.36	**742.40**	**73%**	214.37	212.13	214.90	212.66	216.18	213.77	1.28	1.12
	Helen St	MH5	CBMH3	0.00	0.62	5 year	0.00	2.37	0.00	12.97	80.25	0.00	**528.35**	3.82%	525	0.013	3.9	9.5	0.04	**840.55**	**63%**	212.06	211.69	212.58	212.22	213.77	213.35	1.19	1.13
103 & 104	Helen St	CBMH3	DCBMH#2	0.47	0.66	5 year	0.31	2.68	0.00	13.01	80.07	0.00	**595.80**	0.88%	675	0.013	2.2	35.0	0.26	**788.54**	**76%**	211.54	211.24	212.22	211.91	213.35	212.77	1.13	0.86
NORTH LEG																													
111A	Lane J	DCB11B	CBMH30A	0.06	0.62	5 year	0.04	0.04	0.00	10.00	96.22	0.00	**9.95**	0.50%	300	0.013	1.0	51.3	0.88	**68.38**	**15%**	221.92	221.67	222.22	221.97	223.62	223.62	1.40	1.65
126	Lane J	CBMH30A	CBMH30	0.14	0.62	5 year	0.09	0.12	0.00	10.88	90.69	0.00	**31.26**	0.50%	300	0.013	1.0	11.4	0.20	**68.38**	**46%**	221.62	221.56	221.92	221.86	223.62	223.30	1.70	1.44
126A	Street F	CBMH30	DCBMH29	0.11	0.62	5 year	0.07	0.19	0.00	11.08	89.56	0.00	**47.85**	1.53%	300	0.013	1.7	26.7	0.26	**119.61**	**40%**	221.48	221.07	221.78	221.37	223.30	222.51	1.52	1.14
125	Street F	DCBMH29	CBMH28	0.42	0.62	5 year	0.26	0.45	0.00	11.34	88.10	0.00	**110.86**	1.00%	375	0.013	1.6	21.5	0.23	**175.33**	**63%**	220.99	220.77	221.36	221.15	222.51	222.45	1.15	1.30
132	Street F	CBMH28	CBMH27	0.20	0.62	5 year	0.12	0.58	0.00	11.57	86.90	0.00	**139.30**	1.13%	375	0.013	1.7	41.7	0.41	**186.38**	**75%**	220.72	220.25	221.10	220.63	222.45	221.96	1.35	1.34
124	Street F	DCBMH27B	CBMH27	0.11	0.62	5 year	0.07	0.07	0.00	10.00	96.22	0.00	**18.24**	0.50%	300	0.013	1.0	10.5	0.18	**68.38**	**27%**	220.33	220.28	220.63	220.58	222.04	221.96	1.41	1.38
131	Street G	CBMH27	CBMH35	0.04	0.62	5 year	0.02	0.67	0.00	11.98	84.80	0.00	**157.85**	1.82%	375	0.013	2.1	29.8	0.23	**236.53**	**67%**	220.21	219.66	220.58	220.04	221.96	221.36	1.38	1.32
131A & 123	Street G	CBMH35	CBMH34	0.14	0.68	5 year	0.10	0.77	0.00	12.21	83.67	0.00	**177.99**	2.70%	375	0.013	2.6	92.6	0.59	**288.10**	**62%**	219.63	217.14	220.01	217.51	221.36	218.75	1.35	1.24
130	Street G	CBMH34	CBMH33	0.34	0.62	5 year	0.21	0.98	0.00	12.80	80.95	0.00	**219.64**	0.50%	525	0.013	1.4	12.1	0.14	**304.10**	**72%**	216.99	216.93	217.51	217.45	218.75	218.78	1.24	1.33
129	Street E	CBMH33	CBMH32	0.04	0.70	5 year	0.03	1.00	0.00	12.95	80.32	0.00	**224.19**	0.50%	525	0.013	1.4	53.6	0.64	**304.10**	**74%**	216.85	216.58	217.37	217.10	218.78	218.52	1.41	1.42
128	Street E	CBMH32	CBMH31	0.07	0.70	5 year	0.05	1.05	0.00	13.58	77.67	0.00	**227.38**	0.50%	525	0.013	1.4	16.4	0.19	**304.10**	**75%**	216.53	216.45	217.05	216.97	218.52	218.44	1.47	1.47
127	Street E	CBMH31	CBMH24	0.03	0.70	5 year	0.02	1.07	0.00	13.78	76.91	0.00	**229.62**	0.50%	525	0.013	1.4	16.9	0.20	**304.10**	**76%**	216.40	216.31	216.92	216.84	218.44	218.08	1.52	1.24
122	Street G	CBMH26	DCBMH25	0.26	0.62	5 year	0.16	0.16	0.00	10.00	96.22	0.00	**43.12**	3.49%	300	0.013	2.6	49.7	0.32	**180.65**	**24%**	218.38	216.65	218.68	216.95	220.18	218.32	1.50	1.37
121	Street G	DCBMH25	CBMH24	0.46	0.62	5 year	0.29	0.45	0.00	10.32	94.10	0.00	**116.77**	1.00%	375	0.013	1.6	22.7	0.24	**175.33**	**67%**	216.58	216.35	216.96	216.73	218.32	218.08	1.36	1.35
137	Street G	CBMH24	CBMH23	0.04	0.70	5 year	0.03	1.55	0.00	13.98	76.13	0.00	**327.72**	4.00%	525	0.013	4.0	63.1	0.26	**860.12**	**38%**	216.23	213.71	216.76	214.23	218.08	215.52	1.32	1.29
120	Street G	CBMH23	CBMH22	0.34	0.62	5 year	0.21	1.76	0.00	14.24	75.14	0.00	**367.48**	0.50%	600	0.013	1.5	59.0	0.64	**434.17**	**85%**	212.16	211.86	212.76	212.46	215.52	213.43	2.76	0.97
136	Street G	CBMH22	MH21	0.08	0.70	5 year	0.06	1.82	0.00	14.88	72.87	0.00	**367.70**	0.49%	600	0.013	1.5	33.2	0.36	**429.81**	**86%**	211.83	211.67	212.43	212.27	213.43	213.06	1.00	0.79
119	Street G	MH21	DCBMH#2	0.18	0.70	5 year	0.13	1.94	0.00	15.25	71.65	0.00	**386.64**	0.59%	600	0.013	1.7	48.1	0.48	**471.63**	**82%**	211.59	211.31	212.19	211.91	213.06	212.77	0.87	0.86
102	SWM POND	DCBMH#2	OUTLET1	0.20	0.70	5 year	0.14	4.76	0.00	15.73	70.11	0.00	**927.31**	0.58%	825	0.013	2.0	15.6	0.13	**1093.20**	**85%**	211.09	211.00	211.92	211.83	212.77	212.09	0.86	0.27
AREA TO WATERCOURSE 7 AT HELEN STREET																													
113	Helen St	DCB87	DCBMH88	0.59	0.62	5 year	0.37	0.37	0.00	10.00	96.22	0.00	**97.85**	1.30%	300	0.013	1.6	22.7	0.24	**110.26**	**89%**	224.82	224.53	225.12	224.83	226.92	226.38	1.80	1.55
		DCBMH88	Outlet89			5 year	0.00	0.37	0.00	10.24	94.62	0.00	**96.22**	4.39%	300	0.013	2.9	15.4	0.09	**202.61**	**47%**	224.48	223.80	224.78	224.10	226.38	224.31	1.60	0.21
SOUTHEAST DRAINAGE AREA (TO INFILTRATION BASIN)																													
133	Street G	CBMH40	MH39	0.19	0.70	5 year	0.13	0.13	0.00	10.00	96.22	0.00	**35.58**	1.25%	300	0.013	1.5	70.2	0.76	**108.11**	**33%**	208.04	207.16	208.34	207.46	210.01	208.51	1.67	1.05
135	Street G	DCB39A	MH39	0.06	0.90	5 year	0.05	0.05	0.00	10.00	96.22	0.00	**14.44**	2.00%	300	0.013	1.9	15.0	0.13	**136.76**	**11%**	207.46	207.16	207.76	207.46	208.44	208.51	0.68	1.05
135	Street G	MH39	DCBMH37	0.00	0.90	5 year	0.00	0.19	0.00	10.76	91.39	0.00	**47.51**	0.80%	300	0.013	1.2	15.0	0.20	**86.49**	**55%**	207.08	206.96	207.38	207.26	208.51	208.33	1.13	1.07
134	Street G	DCBMH37	OUTLET 36	0.18	0.70	5 year	0.13	0.31	0.00	10.97	90.19	0.00	**78.48**	0.65%	375	0.013	1.3	15.3	0.20	**141.36**	**56%**	206.88	206.78	207.26	207.16	208.33	207.83	1.08	0.68

Home Farm Residential Development
721-3464
STORM SEWER DESIGN SHEET

CROZIER CONSULTING ENGINEERS

Phase 1
Phase 2
Rental

FREQUENCY - 5 YEAR - MTO LOOKUP TOOL					
Coef. A=	27.5	Coef. B=	-0.699	Coef. C=	
FREQUENCY - 100 YEAR - MTO LOOKUP TOOL					
Coef. A=		Coef. B=		Coef. C=	

MATERIAL	MANNINGS "n"
PVC	0.013
CONC.	0.013
CSP	0.024

DESIGNED BY: JE
CHECKED BY: JE
DATE: 2026-05-15
ISSUED FOR: Rental 1st submission

INITIAL TIME OF CONCENTRATION: 10.00

CATCHMENT I.D.	STREET	FROM MH	TO MH	AREA (A) (Ha)	5 YEAR RUN-OFF COEFF (C_5)	DESIGN STORM	A x C	5 YEAR CUMUL. A x C_5	100 YEAR CUMUL. A x C_{100}	TIME OF CONC. (min.)	5 YEAR I (mm/hr)	100 YEAR I (mm/hr)	DESIGN FLOW (L/sec)	SLOPE (%)	PIPE DIA. (mm)	MANNING'S "n"	VEL. (m/sec)	LENGTH (m)	TIME OF FLOW (min)	PIPE CAPACITY (L/sec)	CAPACITY (%)	PIPE INV ELEV. UPPER END	PIPE INV ELEV. LOWER END	PIPE OBV ELEV. UPPER END	PIPE OBV ELEV. LOWER END	GROUND ELEV. UPPER END	GROUND ELEV. LOWER END	COVER UPPER END	COVER LOWER END
NORTHERN DRAINAGE AREA (TO NORTH POND)																													
SOUTH LEG																													
146	Street B	CBMH74	CBMH72	0.21	0.62	5 year	0.13	0.13	0.00	10.00	96.22	0.00	**34.83**	0.85%	300	0.013	1.3	77.8	1.03	**89.15**	**39%**	223.70	223.04	224.00	223.34	225.44	224.77	1.44	1.43
145	Street B	CBMH72	MH71	0.23	0.62	5 year	0.14	0.27	0.00	11.03	89.86	0.00	**68.15**	3.45%	300	0.013	2.5	69.6	0.46	**179.61**	**38%**	223.00	220.60	223.30	220.90	224.77	222.78	1.47	1.88
143	Street A	DCBMH77	MH71	0.14	0.90	5 year	0.13	0.13	0.00	10.00	96.22	0.00	**33.70**	1.13%	300	0.013	1.5	11.2	0.13	**102.79**	**33%**	220.73	220.60	221.03	220.90	222.50	222.78	1.47	1.88
160	Street A	CBMH76A	CBMH76	0.42	0.62	5 year	0.26	0.26	0.00	10.00	96.22	0.00	**69.65**	0.50%	375	0.013	1.1	9.7	0.14	**123.98**	**56%**	220.62	220.58	221.00	220.95	222.43	222.29	1.43	1.34
161A	Street A	CBMH76	CBMH75	0.08	0.50	5 year	0.04	0.30	0.00	10.14	95.26	0.00	**79.55**	0.50%	375	0.013	1.1	29.0	0.43	**123.98**	**64%**	220.53	220.38	220.90	220.76	222.29	222.42	1.39	1.66
144	Street A	CBMH75	MH71	0.20	0.62	5 year	0.12	0.42	0.00	10.57	92.53	0.00	**109.17**	0.50%	375	0.013	1.1	14.0	0.21	**123.98**	**88%**	220.35	220.28	220.73	220.66	222.42	222.78	1.69	2.13
	Street B	MH71	CBMH70B	0.00	0.62	5 year	0.00	0.82	0.00	11.48	87.35	0.00	**199.89**	1.70%	375	0.013	2.1	32.1	0.26	**228.60**	**87%**	220.21	219.66	220.58	220.04	222.78	221.65	2.20	1.62
142A	Street B	CBMH70B	CBMH70	0.04	0.62	5 year	0.02	0.85	0.00	11.74	86.00	0.00	**202.73**	3.20%	375	0.013	2.8	73.9	0.43	**313.64**	**65%**	219.63	217.26	220.01	217.64	221.65	219.03	1.65	1.39
NORTH LEG																													
159	Street D	CBMH54	CBMH53	0.19	0.50	5 year	0.10	0.10	0.00	10.00	96.22	0.00	**25.41**	0.50%	300	0.013	1.0	15.2	0.26	**68.38**	**37%**	223.53	223.45	223.83	223.75	224.70	224.95	0.87	1.20
158	Street D	CBMH53	CBMH52	0.16	0.62	5 year	0.10	0.19	0.00	10.26	94.50	0.00	**51.02**	0.50%	300	0.013	1.0	35.5	0.61	**68.38**	**75%**	223.40	223.22	223.70	223.52	224.95	224.79	1.25	1.27
157	Street D	CBMH52	CBMH51	0.07	0.62	5 year	0.04	0.24	0.00	10.87	90.75	0.00	**59.94**	1.73%	300	0.013	1.8	14.1	0.13	**127.19**	**47%**	223.17	222.93	223.47	223.23	224.79	224.56	1.32	1.33
156	Street C	CBMH51	CBMH50	0.18	0.90	5 year	0.16	0.40	0.00	11.00	89.99	0.00	**99.97**	1.70%	300	0.013	1.8	24.2	0.23	**126.08**	**79%**	222.88	222.47	223.18	222.77	224.56	224.09	1.38	1.32
155	Street C	CBMH50	CBMH49	0.06	0.62	5 year	0.04	0.44	0.00	11.23	88.72	0.00	**107.74**	1.72%	300	0.013	1.8	12.9	0.12	**126.82**	**85%**	222.42	222.20	222.72	222.50	224.09	223.81	1.37	1.31
154	Street C	CBMH49	CBMH48	0.05	0.62	5 year	0.03	0.47	0.00	11.35	88.07	0.00	**114.53**	1.98%	300	0.013	1.9	11.3	0.10	**136.07**	**84%**	222.15	221.93	222.45	222.23	223.81	223.63	1.36	1.40
153	Street C	CBMH48	CBMH47	0.06	0.62	5 year	0.04	0.51	0.00	11.45	87.54	0.00	**122.90**	1.90%	375	0.013	2.2	87.1	0.66	**241.68**	**51%**	221.81	220.16	222.19	220.53	223.63	221.93	1.44	1.40
150A	Street C	DICB47B	CBMH47	0.29	0.15	5 year	0.04	0.04	0.00	10.00	96.22	0.00	**11.64**	1.00%	300	0.013	1.4	13.7	0.17	**96.70**	**12%**	220.10	219.97	220.40	220.27	220.61	221.93	0.21	1.66
152	Street C	CBMH47	MH45	0.32	0.62	5 year	0.20	0.75	0.00	12.11	84.16	0.00	**174.75**	1.60%	375	0.013	2.0	18.5	0.15	**221.78**	**79%**	219.89	219.59	220.27	219.97	221.93	221.88	1.67	1.91
150	Street A	CBMH46	MH45	0.02	0.90	5 year	0.02	0.02	0.00	10.00	96.22	0.00	**4.81**	3.65%	300	0.013	2.6	8.6	0.05	**184.75**	**3%**	220.15	219.84	220.45	220.14	221.91	221.88	1.46	1.74
151	Street A	CB45A	MH45	0.05	0.70	5 year	0.04	0.04	0.00	10.00	96.22	0.00	**9.36**	2.01%	300	0.013	1.9	7.1	0.06	**137.10**	**7%**	219.98	219.84	220.28	220.14	221.77	221.88	1.49	1.74
	Street C	MH45	CBMH43	0.00	0.62	5 year	0.00	0.80	0.00	12.26	83.42	0.00	**185.51**	3.94%	375	0.013	3.2	62.0	0.33	**348.02**	**53%**	219.41	216.97	219.79	217.34	221.88	218.74	2.10	1.40
300	Rental	CBMH (341)	CBMH (343)	0.17	0.70	5 year	0.12	0.12	0.00	10.00	96.22	0.00	**31.83**	0.50%	300	0.013	1.0	65.2	1.12	**68.38**	**47%**	217.29	216.97	217.59	217.27	218.85	218.50	1.26	1.23
301	Rental	CBMH (343)	DCBMH (330)	0.29	0.70	5 year	0.20	0.32	0.00	10.00	96.22	0.00	**86.13**	0.50%	375	0.013	1.1	50.6	0.75	**123.98**	**69%**	216.89	216.63	217.26	217.01	218.50	218.24	1.24	1.23
302	Rental	DCBMH (330)	CBMH (323)	0.27	0.70	5 year	0.19	0.51	0.00	10.00	96.22	0.00	**136.69**	0.50%	450	0.013	1.3	19.0	0.25	**201.60**	**68%**	216.55	216.46	217.00	216.91	218.24	218.40	1.24	1.49
LTC	Rental	STM MH (324)	CBMH (323)	1.10	0.75	5 year	0.83	0.83	0.00	10.00	96.22	0.00	**220.68**	0.50%	525	0.013	1.4	34.7	0.41	**304.10**	**73%**	216.56	216.39	217.09	216.91	218.63	218.40	1.54	1.49
303	Rental	CBMH (323)	CBMH (352)	0.08	0.70	5 year	0.06	1.39	0.00	10.41	93.54	0.00	**361.99**	0.50%	600	0.013	1.5	29.1	0.32	**434.17**	**83%**	216.31	216.16	216.91	216.76	218.40	218.22	1.49	1.46
304	Rental	CBMH (352)	CBMH (326)	0.06	0.70	5 year	0.04	1.43	0.00	10.73	91.61	0.00	**365.20**	0.50%	600	0.013	1.5	34.3	0.37	**434.17**	**84%**	216.11	215.94	216.71	216.54	218.22	218.00	1.51	1.46
310	Rental	CBMH (326)	CBMH (337)	0.03	0.70	5 year	0.02	1.46	0.00	11.10	89.45	0.00	**361.82**	0.50%	675	0.013	1.7	10.6	0.11	**594.39**	**61%**	215.86	215.81	216.54	216.48	218.00	217.95	1.46	1.47
305	Rental	CBMH (337)	CBMH (346)	0.10	0.70	5 year	0.07	1.53	0.00	11.21	88.86	0.00	**376.71**	0.50%	675	0.013	1.7	43.9	0.44	**594.39**	**63%**	215.76	215.54	216.44	216.22	217.95	217.67	1.51	1.45
306	Rental	CBMH (346)	CBMH (345)	0.35	0.70	5 year	0.25	1.77	0.00	11.65	86.49	0.00	**425.60**	0.50%	675	0.013	1.7	30.8	0.31	**594.39**	**72%**	215.51	215.36	216.19	216.03	217.67	217.46	1.48	1.43
307	Rental	CBMH (345)	CBMH (327)	0.07	0.70	5 year	0.05	1.82	0.00	11.96	84.92	0.00	**429.45**	0.50%	675	0.013	1.7	16.7	0.17	**594.39**	**72%**	215.33	215.24	216.00	215.92	217.46	217.32	1.46	1.40
308	Rental	CBMH (327)	DCBMH42	0.31	0.70	5 year	0.22	2.04	0.00	12.12	84.10	0.00	**476.03**	0.50%	675	0.013	1.7	32.6	0.33	**594.39**	**80%**	215.16	215.00	215.84	215.68	217.32	218.25	1.48	2.57
149	Street C	DCBMH42	CBMH43	0.25	0.70	5 year	0.18	2.21	0.00	12.45	82.55	0.00	**507.41**	0.50%	675	0.013	1.7	37.8	0.38	**594.39**	**85%**	214.97	214.78	215.65	215.46	218.25	218.74	2.60	3.28
Town to confirm contributing area, RC and TOC from fire hall for detailed design																													
FIREHALL	FIREHALL	STUB	CBMH43	2.56	0.55	5 year	1.40	1.40	0.00	15.00	72.47	0.00	**282.87**	2.00%	450	0.013	2.5	4.0	0.03	**403.20**	**70%**	215.08	215.00	215.53	215.45	215.56	218.74	0.03	3.29
148A	Street C	CBMH43	MH65	0.03	0.90	5 year	0.03	4.44	0.00	12.83	80.84	0.00	**998.23**	0.50%	900	0.013	2.0	44.6	0.37	**1280.08**	**78%**	214.55	214.33	215.45	215.23	218.74	216.57	3.29	1.34
147	POND BLOCK	CBMH66	MH65	0.30	0.62	5 year	0.19	0.19	0.00	10.00	96.22	0.00	**49.75**	2.00%	300	0.013	1.9	9.1	0.08	**136.76**	**36%**	215.09	214.91	215.39	215.21	220.53	216.57	5.14	1.36
	POND BLOCK	MH65	CBMH70	0.00	0.62	5 year	0.00	4.63	0.00	13.20	79.25	0.00	**1019.60**	0.50%	900	0.013	2.0	49.2	0.41	**1280.08**	**80%**	214.30	214.06	215.20	214.96	216.57	219.03	1.37	4.07
slopes to be refined in detailed design to maintain 900mm dia with acceptable % full																													
142	Street B	CBMH70	CBMH68	0.29	0.62	5 year	0.18	5.66	0.00	13.61	77.58	0.00	**1219.83**	0.50%	900	0.013	2.0	52.1	0.43	**1280.08**	**95%**	213.98	213.72	214.88	214.62	219.03	216.34	4.15	1.72
141	Street E	CBMH69	CBMH68	0.19	0.90	5 year	0.17	0.17	0.00	10.00	96.22	0.00	**45.74**	2.83%	300	0.013	2.3	13.9	0.10	**162.68**	**28%**	214.50	214.11	214.80	214.41	216.41	216.34	1.61	1.93
140	Street B	CBMH68	MH79	0.05	0.90	5 year	0.05	5.87	0.00	14.04	75.91	0.00	**1239.08**	1.00%	900	0.013	2.8	10.8	0.06	**1810.31**	**68%**	213.64	213.53	214.54	214.43	216.34	215.25	1.80	0.82
161 & 309	Street B	DCB78B	MH79	0.42	0.84	5 year	0.35	0.35	0.00	10.00	96.22	0.00	**94.34**	2.17%	300	0.013	2.0	28.6	0.24	**142.45**	**66%**	214.15	213.53	214.45	213.83	215.75	215.25	1.30	1.42
	POND BLOCK	MH79	Outlet 67	0.00	0.70	5 year	0.00	6.22	0.00	14.10	75.67	0.00	**1309.39**	1.00%	900	0.013	2.8	17.9	0.10	**1810.31**	**72%**	213.48	213.30	214.38	214.20	215.25	214.31	0.87	0.11

Worksheet for Overland Flow Route

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00500	m/m
Discharge	0.50	m³/s

Section Definitions

Station (m)	Elevation (m)
0+00	218.44
0+04	218.33
0+04	218.27
0+07	218.34
0+11	218.27
0+11	218.33
0+15	218.44

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 218.44)	(0+04, 218.33)	0.030
(0+04, 218.33)	(0+11, 218.33)	0.013
(0+11, 218.33)	(0+15, 218.44)	0.030

Options

Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results

Normal Depth	0.13	m
Elevation Range	218.27 to 218.44 m	
Flow Area	0.85	m²
Wetted Perimeter	11.95	m

Worksheet for Overland Flow Route

Results

Hydraulic Radius		0.07	m
Top Width		11.93	m
Normal Depth		0.13	m
Critical Depth		0.11	m
Critical Slope		0.01084	m/m
Velocity		0.59	m/s
Velocity Head		0.02	m
Specific Energy		0.15	m
Froude Number		0.70	
Flow Type	Subcritical		

GVF Input Data

Downstream Depth	0.00	m
Length	0.00	m
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	m
Profile Description		
Profile Headloss	0.00	m
Downstream Velocity	Infinity	m/s
Upstream Velocity	Infinity	m/s
Normal Depth	0.13	m
Critical Depth	0.11	m
Channel Slope	0.00500	m/m
Critical Slope	0.01084	m/m

Cross Section for Overland Flow

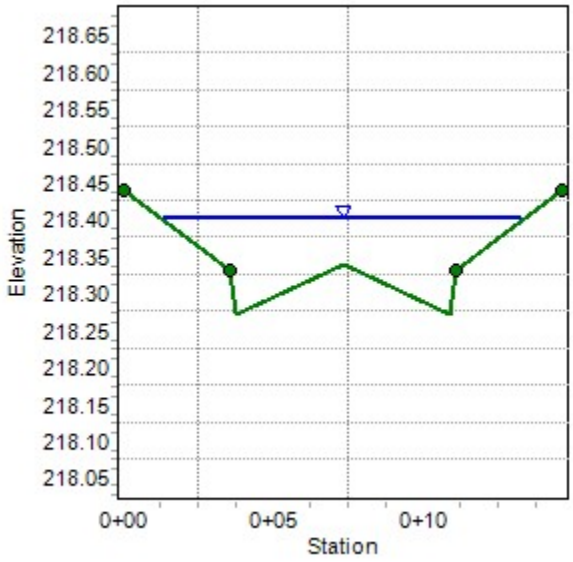
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

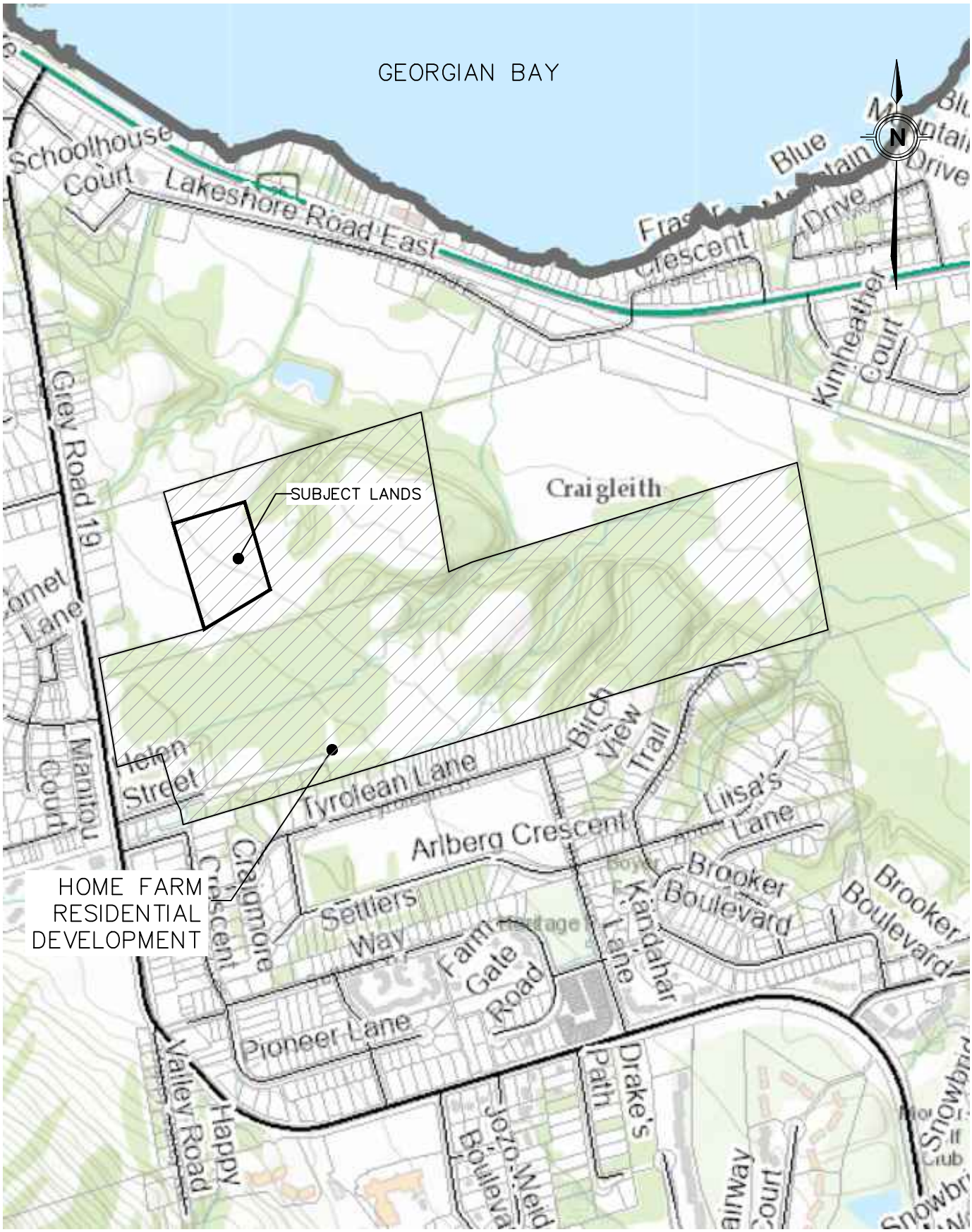
Channel Slope	0.00500	m/m
Normal Depth	0.13	m
Discharge	0.50	m³/s

Cross Section Image



FIGURES

Figure 1: Site Location Plan
Figure 2: Site Concept Plan
Figure 3: Home Farm Residential Development Draft Plan
Figure 4: Site Zoning Map
Figure 5: Soil Map
Figure 6: Pre-Development Drainage Plan
Figure 7: Post-Development Drainage Plan
Figure 8: General Servicing Plan
Figure 9: Preliminary Grading Plan
Figure 10: Storm Area Drainage Plan
Figure 11: Sanitary Area Drainage Plan
Figure 12: Typical Road Cross Sections



Legend

= SUBJECT LANDS

Project

HOME FARM RENTAL DEVELOPMENT
TOWN OF THE BLUE MOUNTAINS

Drawing

SITE LOCATION

CROZIER

Drawn By	Design By	Project
BB	NS/JE	721-3464

Scale	Date	Check By	Drawing
N.T.S.	05/15/2026	JE/RW	FIG. 1

THESE DRAWINGS ARE NOT TO BE SCALED:
ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES MUST BE REPORTED DIRECTLY TO ARCHITECT.

PROJECT CONSULTANTS:

LEGEND

FSE	FINISHED SECOND FLOOR ELEVATION
FFE	FINISHED FLOOR ELEVATION
TFW	TOP OF FOUNDATION WALL
TBS	TOP OF BASEMENT SLAB
USF	UNDER SIDE FOOTING
USFR	UNDER SIDE FOOTING @ REAR
USFG	UNDER SIDE FOOTING @ GARAGE
#	NUMBER OF RISERS TO GRADE
WOD	WALKOUT DECK
LOB	LOOKOUT BASEMENT
WOB	WALK OUT BASEMENT
WUB	WALK UP BASEMENT
REV	REVISED PLAN
STD	STANDARD PLAN
	DOOR
	WINDOW
	BELL PEDESTAL
	CABLE PEDESTAL
	CATCH BASIN
	DBL. CATCH BASIN
	ENGINEERED FILL
	HYDRO CONNECTION
	FIRE HYDRANT
	STREET LIGHT
	MAIL BOX
	TRANSFORMER
	SEWER CONNECTIONS (2 LOTS)
	SEWER CONNECTIONS (1 LOT)
	AIR CONDITIONING
	DOWN SPOUT TO SPLASH PAD
	SWALE DIRECTION
	SUMP PUMP
	WATER CONNECTION
	WATER VALVE CHAMBER
	HYDRANT AND VALVE
	HYDRO METER
	GAS METER
	DOWN LIGHT
	14' POLE LIGHTING
	12' POLE LIGHTING
	BOLLARD LIGHTING
	STOP SIGN
	NO PARKING
	NO PARKING IN LANEWAY
	FIRE ROUTE
	3HRS PARKING (RIGHT)
	3HRS PARKING (LEFT)
100.000 PROPOSED	PROPOSED SPOT GRADE
100.000 EXISTING	EXISTING SPOT GRADE
	EXISTING TREE (TO BE REMOVED)
	EXISTING TREE (TO BE RETAINED)
##	MUNICIPAL ADDRESS
	RETAINING WALL BY OTHERS/ BY SEPARATE PERMIT
	SNOW STORAGE AREAS
	CHAINLINK FENCE
	PRIVACY FENCE
	SOUND BARRIER
	TOT LOT TO BE EXTENDED TO CONNECT TO BELOW GRADE
	FIRE FIGHTER TRAVEL PATH
	REVERSE CHECK FOUNDATION

ISSUED OR REVISION COMMENTS

NO.	DESCRIPTION	DATE	DWN	CHK
1	ISSUED FOR REVIEW	18-FEB-26	PP	RP
2	REVISED PER COMMENTS	25-FEB-26	PP	RP
3	ADDED ZONING STATS	04-MAY-26	PP	RP
4	REVISED ROADS	13-MAY-26	PP	RP
5	REVISED PER COMMENTS	19-MAY-26	PP	

SITE STATISTICS

LOT AREA	5.01 Ha
TOTAL NO. OF UNITS	56

ZONE STANDARDS: R2 — MULTIPLE DWELLINGS

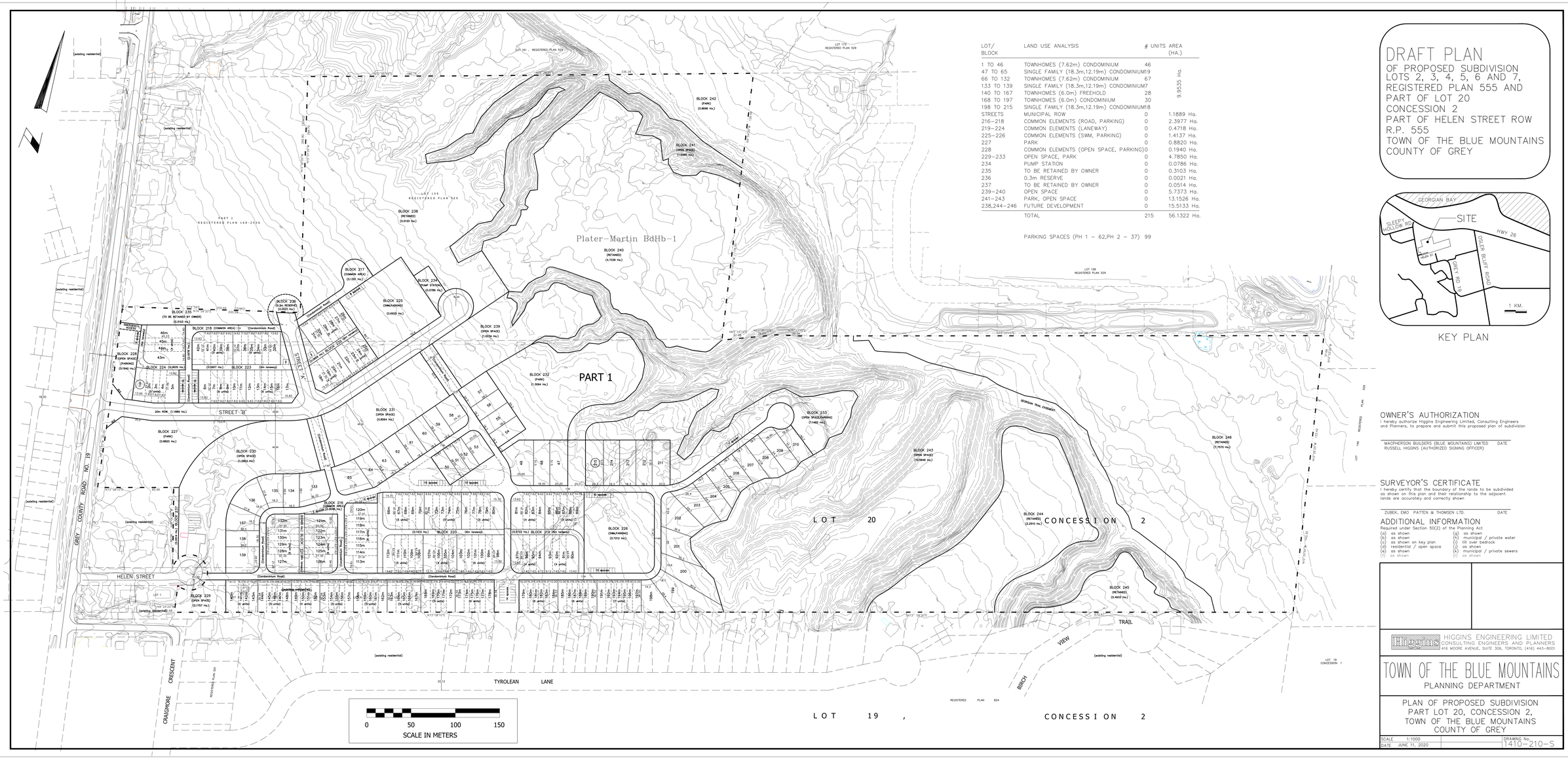
ZONING MATRIX	REQUIRED	PROPOSED
MIN. LOT AREA (m2)	600.00	50123.00
MIN/ LOT FRONTAGE (m)	20.00	40.00
MIN. FRONT YARD (m)	7.50	69.93
MIN. INTERIOR SIDE YARD (m)	2.40	4.00
MIN. REAR YARD (m)	7.50	55.50
MAX. HEIGHT (m) (FINISHED GRADE @FRONT)	11.00	13.00
MAX. HEIGHT (STOREYS)	3.00	3.00
MIN. AMENITY AREA (m2)	10.00	18.00

PARKING STATS	REQUIRED	PROPOSED
RESIDENTIAL	3 BDRM UNITS(2.25 SPACE/UNIT) 1 BDRM UNITS(1.25 SPACES/UNIT)	3 / 4 BDRM UNITS(2.0 SPACE/UNIT) 1 BDRM UNITS(1.00 SPACES/UNIT)

RN DESIGN
WWW.RNDESIGN.COM
T:905-738-3177
WWW.THEPLUSGROUP.CA

CLIENT: Macpherson
PROJECT/LOCATION: PROJECT
DRAWING: CONCEPT 3

DATE	SCALE
14-MAY-26	1:500
DRAWN BY: PP	CHECKED BY:
PROJECT NUMBER: 23051	DRAWING NUMBER: CON-3



LOT/ BLOCK	LAND USE ANALYSIS	#	UNITS	AREA (HA.)
1 TO 46	TOWNHOMES (7.62m) CONDOMINIUM	46		
47 TO 65	SINGLE FAMILY (18.3m,12.19m) CONDOMINIUM	19		
66 TO 132	TOWNHOMES (7.62m) CONDOMINIUM	67		
133 TO 139	SINGLE FAMILY (18.3m,12.19m) CONDOMINIUM	7		9.9535 Ha.
140 TO 167	TOWNHOMES (6.0m) FREEHOLD	28		
168 TO 197	TOWNHOMES (6.0m) CONDOMINIUM	30		
198 TO 215	SINGLE FAMILY (18.3m,12.19m) CONDOMINIUM	18		
STREETS	MUNICIPAL ROW	0		1.1889 Ha.
216–218	COMMON ELEMENTS (ROAD, PARKING)	0		2.3977 Ha.
219–224	COMMON ELEMENTS (LANEWAY)	0		0.4718 Ha.
225–226	COMMON ELEMENTS (SWM, PARKING)	0		1.4137 Ha.
227	PARK	0		0.8820 Ha.
228	COMMON ELEMENTS (OPEN SPACE, PARKING)	0		0.1940 Ha.
229–233	OPEN SPACE, PARK	0		4.7850 Ha.
234	PUMP STATION	0		0.0786 Ha.
235	TO BE RETAINED BY OWNER	0		0.3103 Ha.
236	0.3m RESERVE	0		0.0021 Ha.
237	TO BE RETAINED BY OWNER	0		0.0514 Ha.
239–240	OPEN SPACE	0		5.7373 Ha.
241–243	PARK, OPEN SPACE	0		13.1526 Ha.
238,244–246	FUTURE DEVELOPMENT	0		15.5133 Ha.
	TOTAL	215		56.1322 Ha.

PARKING SPACES (PH 1 – 62,PH 2 – 37) 99

DRAFT PLAN
OF PROPOSED SUBDIVISION
LOTS 2, 3, 4, 5, 6 AND 7,
REGISTERED PLAN 555 AND
PART OF LOT 20
CONCESSION 2
PART OF HELEN STREET ROW
R.P. 555
TOWN OF THE BLUE MOUNTAINS
COUNTY OF GREY

KEY PLAN

OWNER'S AUTHORIZATION
I hereby authorize Higgins Engineering Limited, Consulting Engineers and Planners, to prepare and submit this proposed plan of subdivision

MACPHERSON BUILDERS (BLUE MOUNTAINS) LIMITED — DATE
RUSSELL HIGGINS (AUTHORIZED SIGNING OFFICER)

SURVEYOR'S CERTIFICATE
I hereby certify that the boundary of the lands to be subdivided as shown on this plan and their relationship to the adjacent lands are accurately and correctly shown

ZUBEK, EMO PATTEN & THOMSEN LTD. — DATE

ADDITIONAL INFORMATION
Required under Section 50(2) of the Planning Act

(a) as shown
(b) as shown
(c) as shown on key plan
(d) residential / open space
(e) as shown
(f) as shown
(g) as shown
(h) municipal / private water
(i) till over bedrock
(j) as shown
(k) municipal / private sewers
(l) as shown

HIGGINS ENGINEERING LIMITED
CONSULTING ENGINEERS AND PLANNERS
416 MOORE AVENUE, SUITE 306, TORONTO, (416) 443-8001

TOWN OF THE BLUE MOUNTAINS
PLANNING DEPARTMENT

PLAN OF PROPOSED SUBDIVISION
PART LOT 20, CONCESSION 2,
TOWN OF THE BLUE MOUNTAINS
COUNTY OF GREY

SCALE 1:1000
DATE JUNE 11, 2020
DRAWING No. 1410-210-S

Home Farm Zoning

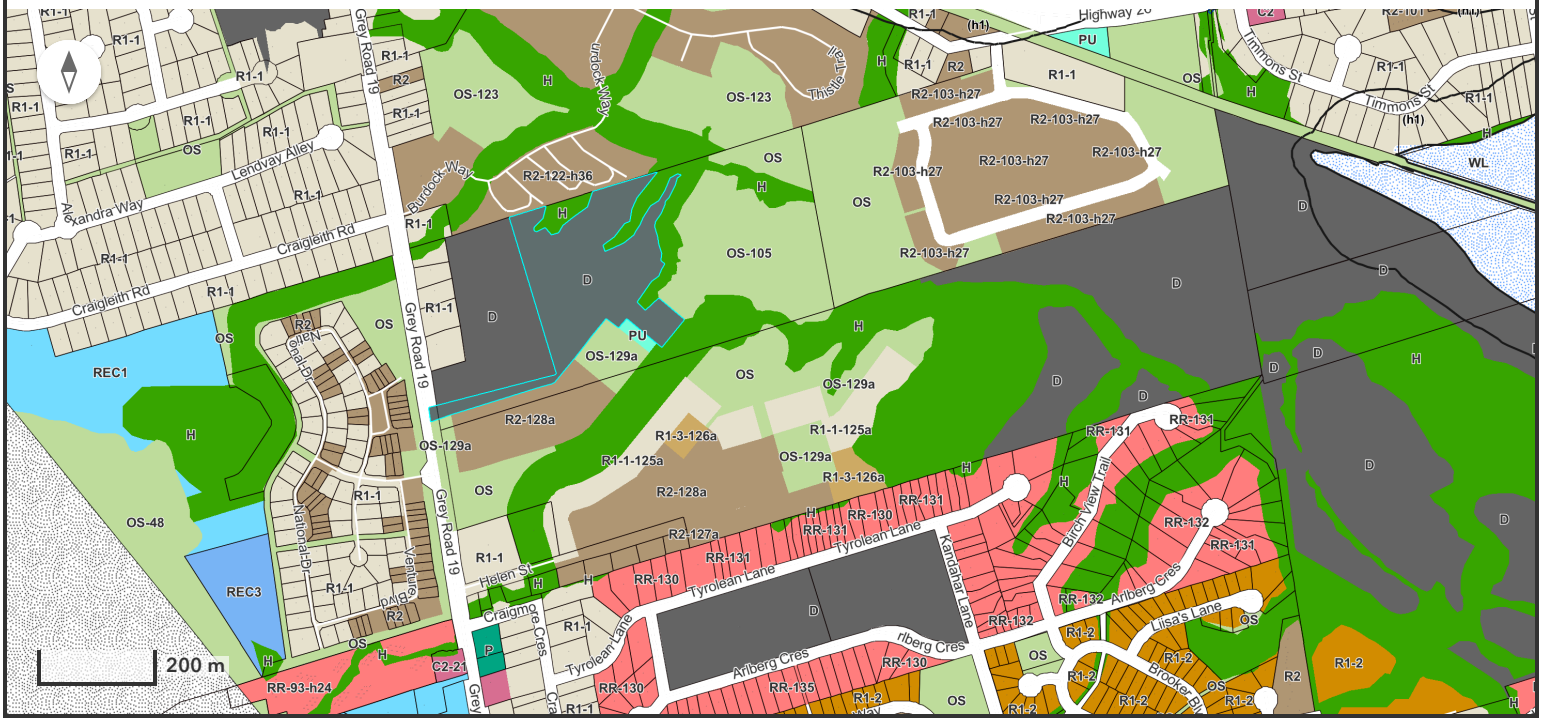


Figure 4

Bruce St Marsh St Corridor **Building Envelope**

h Provision Overlay

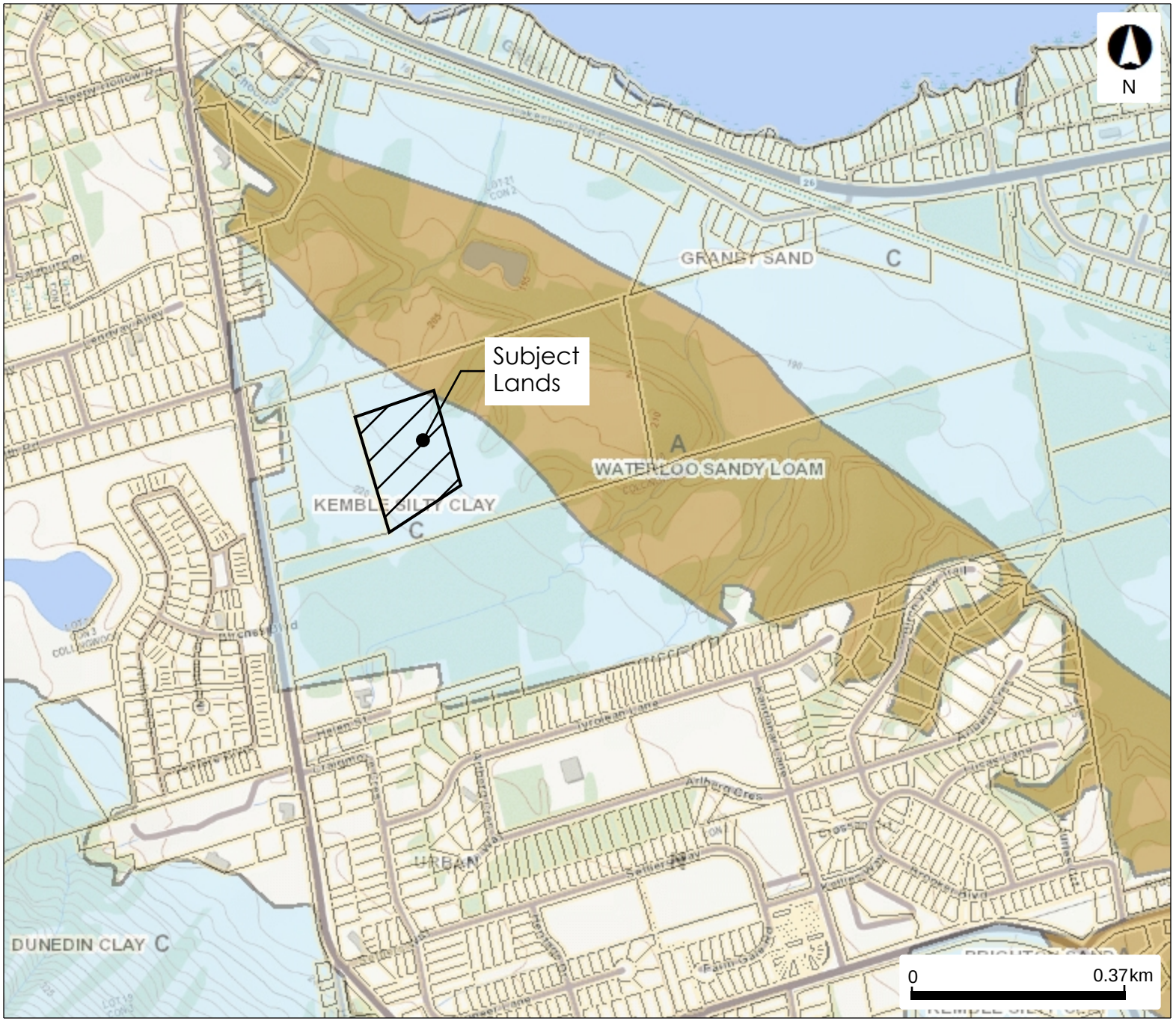
(h1) Wetland	(h2) ANSI	(h3) Landfill	(h5) STP	(h4a) Source Water Protection	(h4b) Source Water Protection

177.9 GSCA Elevation (100 yr Flood line) **NEC Development Control**

TheBlueMountains_LandUse - Zoning Bylaw 2018-65 - Realign

Residential One (R1-1)	Residential One (R1-2)	Residential One (R1-3)	Residential One (R1-4)	Residential One (R1-5)
Residential Two (R2)	Residential Three (R3)	Resort Residential	Rural (R)	Village Commercial (C1)
General Commercial (C2)	Resort Commercial (C3)	Harbour Commercial (C4)	Blue Mountain Village Commercial (C5)	
Craigleith Village Commercial (C6)	Rural Commercial (C7)	Recreation One (REC1)	Recreation Two (REC2)	
Recreation Three (REC3)	General Employment (M1)	Rural Employment (M2)	Extractive Industrial (M3)	
Development (D)	Public Utilities (PU)	Institutional (I)	Open Space (OS)	Wetland (WL)
Hazard (H)	Parking (P)	Agricultural (A)	Special Agricultural (SA)	See Section 1.5

Home Farm Soil Map



Legend

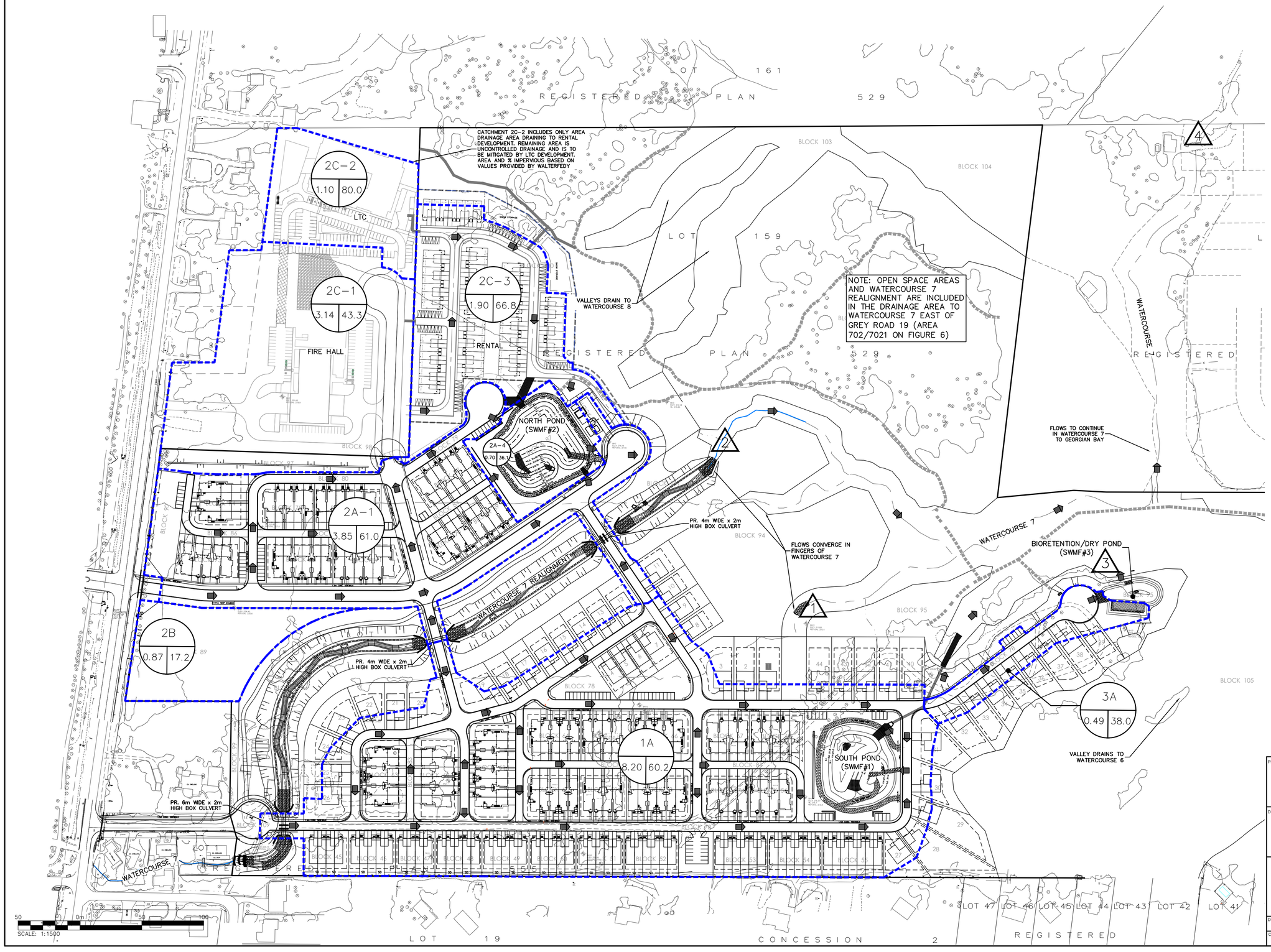
- @ language-layer-assessment-parcel
- @language-layer-soil-name
- @ language-layer-hydrologic-soil-group
  - A - High
  - B - Moderate
  - C - Slow
  - D - Very Slow

Figure 5

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) shall not be liable in any way for the use or any information on this map. of, or reliance upon, this map.

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Map Created: 10/4/2021
Map Center: 44.51649 N, -80.31729 W



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TEMPORARY BENCHMARKS

TBM#1–
TBM#2–
TBM#3–

***ADD REFERENCE TO SURVEY/SOURCE

No.	ISSUE	DATE: MMM/DD/YYYY
0	ISSUED FOR 1st SUBMISSION FSR	05/19/2026

Engineer

Engineer

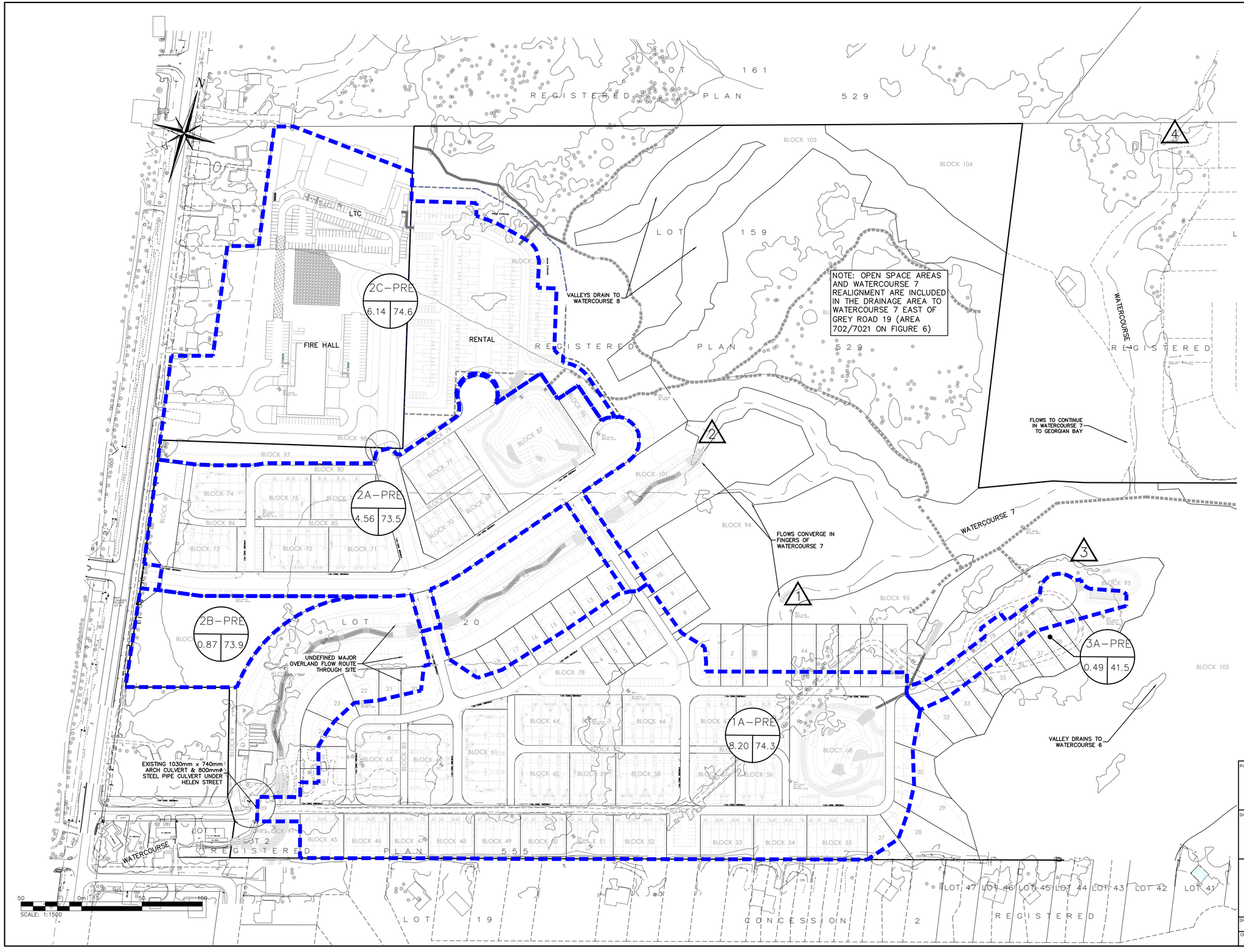
PRELIMINARY
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Project
HOME FARM RENTAL DEVELOPMENT
TOWN OF THE BLUE MOUNTAINS

Drawing
POST–DEVELOPMENT DRAINAGE PLAN

CROZIER
CONSULTING ENGINEERS

Drawn By	Design By	Project	
B.B.	B.B.		721–3464
Check By	Check By	Scale	Drawing
J.E.	B.H.	1:1500	FIG 7



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TEMPORARY BENCHMARKS

TBM#1–
TBM#2–
TBM#3–

***ADD REFERENCE TO SURVEY/SOURCE

No.	ISSUE	DATE: MMM/DD/YYYY
0	ISSUED FOR 1st SUBMISSION FSR	05/19/2026

Engineer

Engineer

PRELIMINARY
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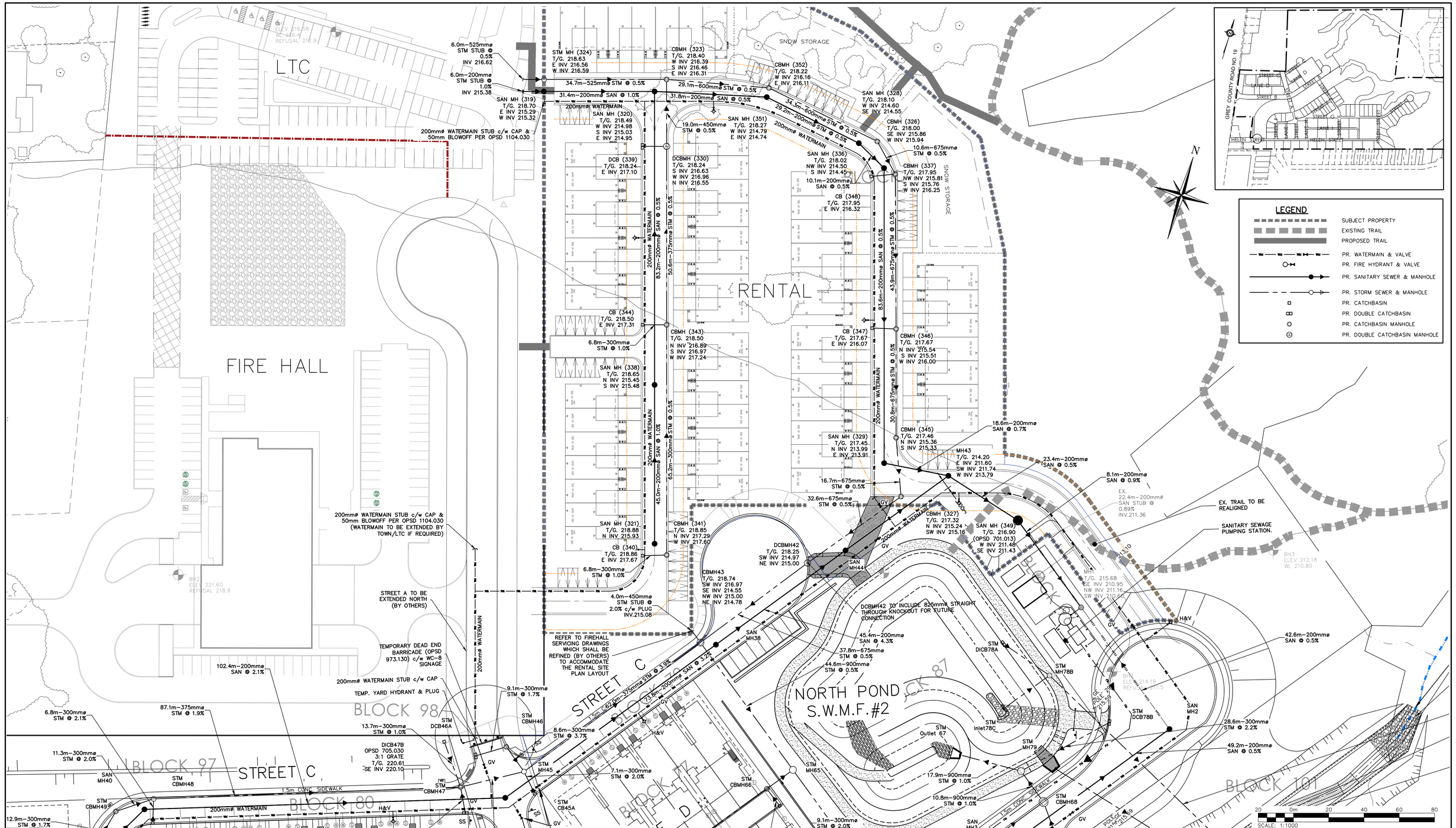
HOME FARM RENTAL DEGVELOPMENT
TOWN OF THE BLUE MOUNTAINS

Drawing

PRE–DEVELOPMENT DRAINAGE PLAN

CROZIER
CONSULTING ENGINEERS

Drawn By	B.B.	Design By	B.B.	Project	721–3464
Check By	J.E.	Check By	B.H.	Scale 1:1500	Drawing FIG 6



LEGEND

- SUBJECT PROPERTY
- EXISTING TRAIL
- PROPOSED TRAIL
- PR. WATERMAIN & VALVE
- PR. FIRE HYDRANT & VALVE
- PR. SANITARY SEWER & MANHOLE
- PR. STORM SEWER & MANHOLE
- PR. CATCHBASIN
- PR. DOUBLE CATCHBASIN
- PR. CATCHBASIN MANHOLE
- PR. DOUBLE CATCHBASIN MANHOLE

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TEMPORARY BENCHMARKS

SBM#1–ELEVATION: 227.78
CONCRETE PIN IN HYDRO POLE AT SOUTH EAST CORNER OF GREY ROAD No. 19 AND STREET B INTERSECTION.

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
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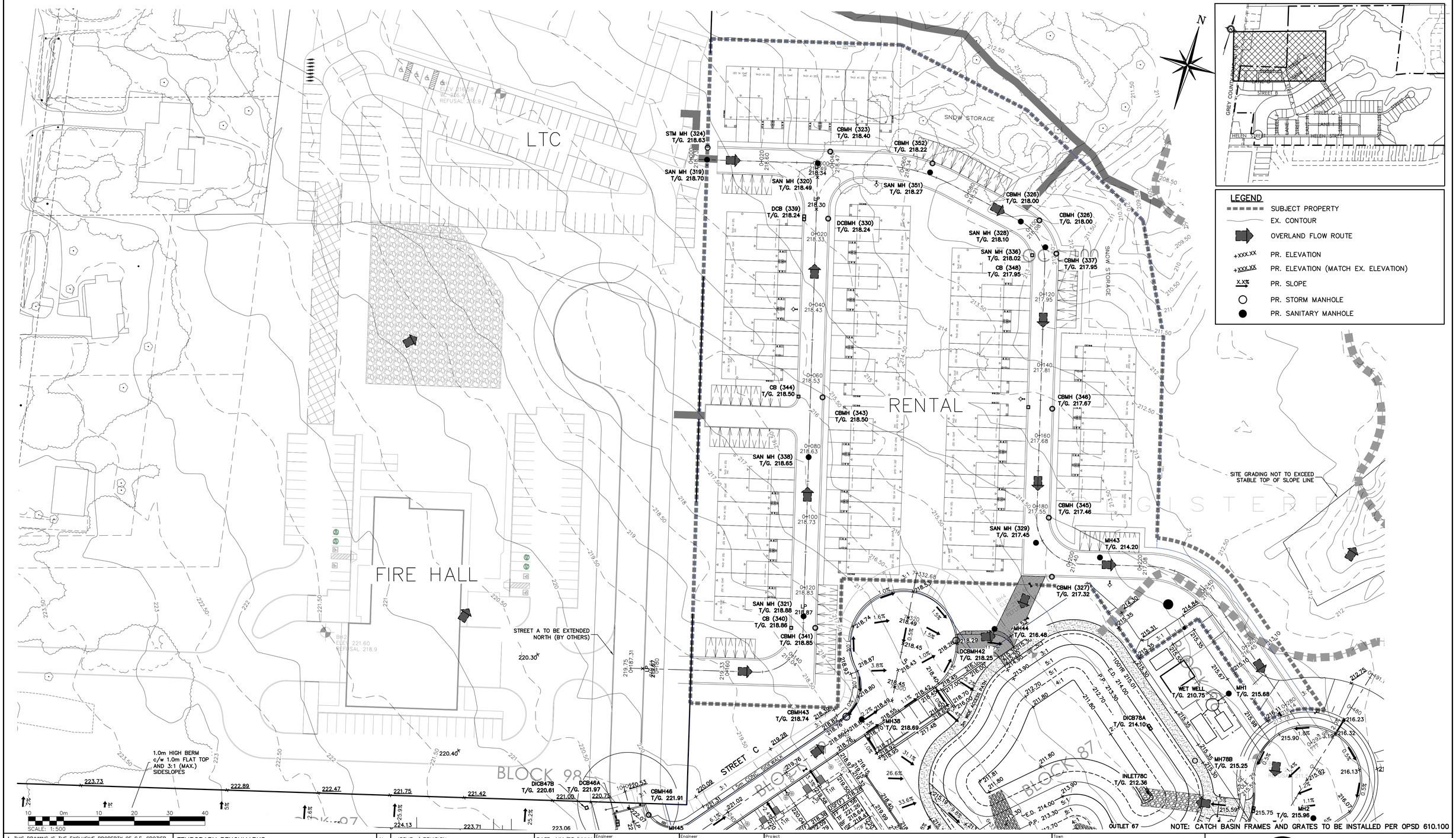
Project
HOME FARM RENTAL DEVELOPMENT
TOWN OF THE BLUE MOUNTAINS

Drawing
GENERAL SERVICING PLAN

Town

CROZIER CONSULTING ENGINEERS

Drawn By	Design By	Project
B.B.	B.B.	721–3464
Scale: 1:1000	Date: MAY 19, 2026	Check By: J.E./B.H.
		Drawing: FIG 8



NOTE: CATCH BASIN FRAMES AND GRATES TO BE INSTALLED PER OPSD 610.100

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TEMPORARY BENCHMARKS

SBM#1–ELEVATION: 227.78
CONCRETE PIN IN HYDRO POLE AT SOUTH EAST CORNER OF GREY ROAD No. 19 AND STREET B INTERSECTION.

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	ISSUED FOR 1st SUBMISSION FSR	05/19/2026

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PRELIMINARY
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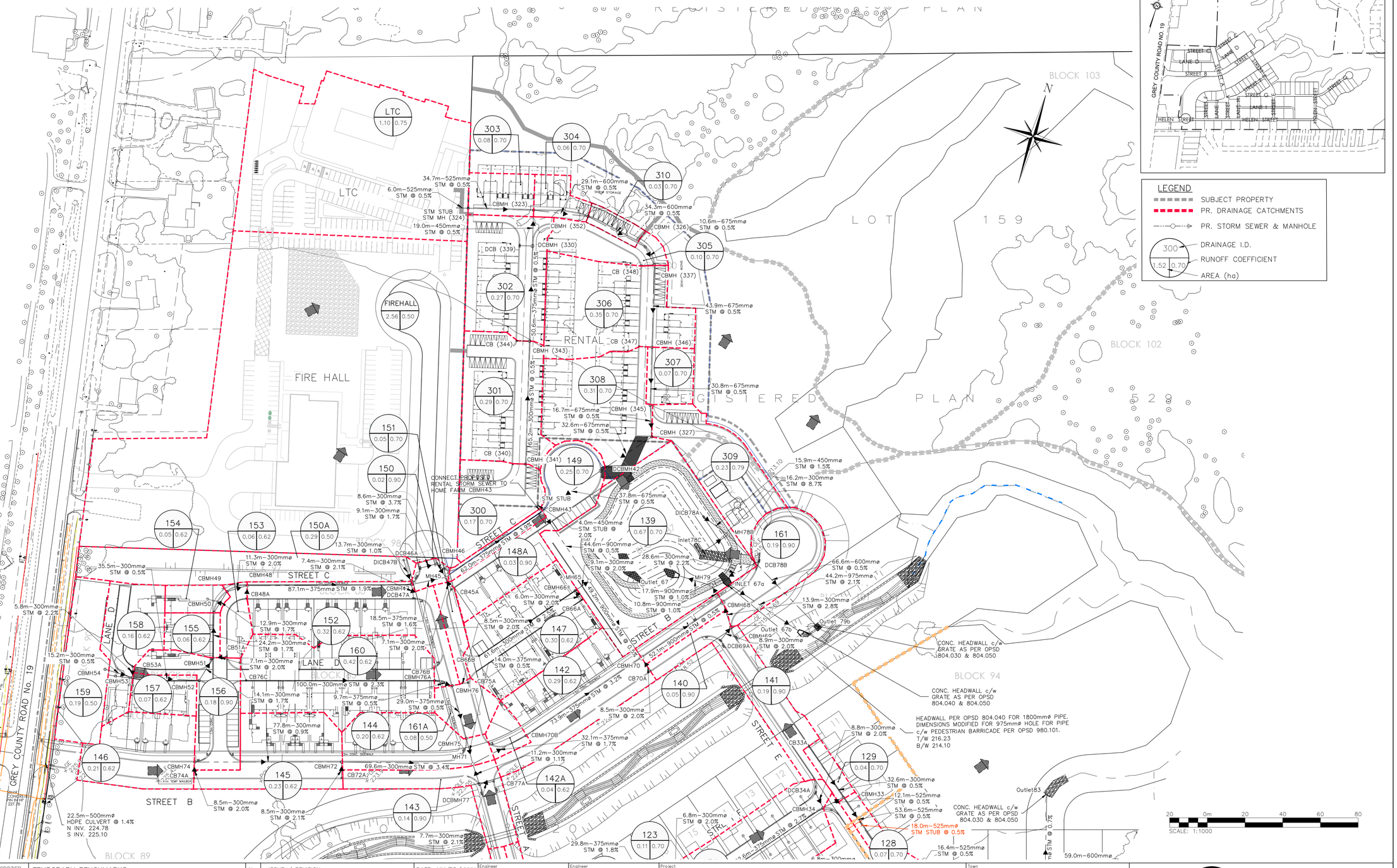
Project
HOME FARM RENTAL DEVELOPMENT
TOWN OF THE BLUE MOUNTAINS

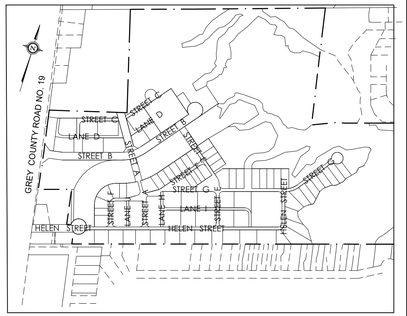
Drawing
PRELIMINARY GRADING PLAN

Town

CROZIER
CONSULTING ENGINEERS

Drawn By B.B.	Design By B.B.	Project	721–3464
Scale 1:500	Date MAY 19, 2026	Check By J.E./B.H.	Drawing FIG 9





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TEMPORARY BENCHMARKS

SBM#1–ELEVATION: 227.78
CONCRETE PIN IN HYDRO POLE AT SOUTH EAST CORNER OF GREY ROAD No. 19 AND STREET B INTERSECTION.

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	ISSUED FOR 1st SUBMISSION FSR	05/19/2026

Engineer

Engineer

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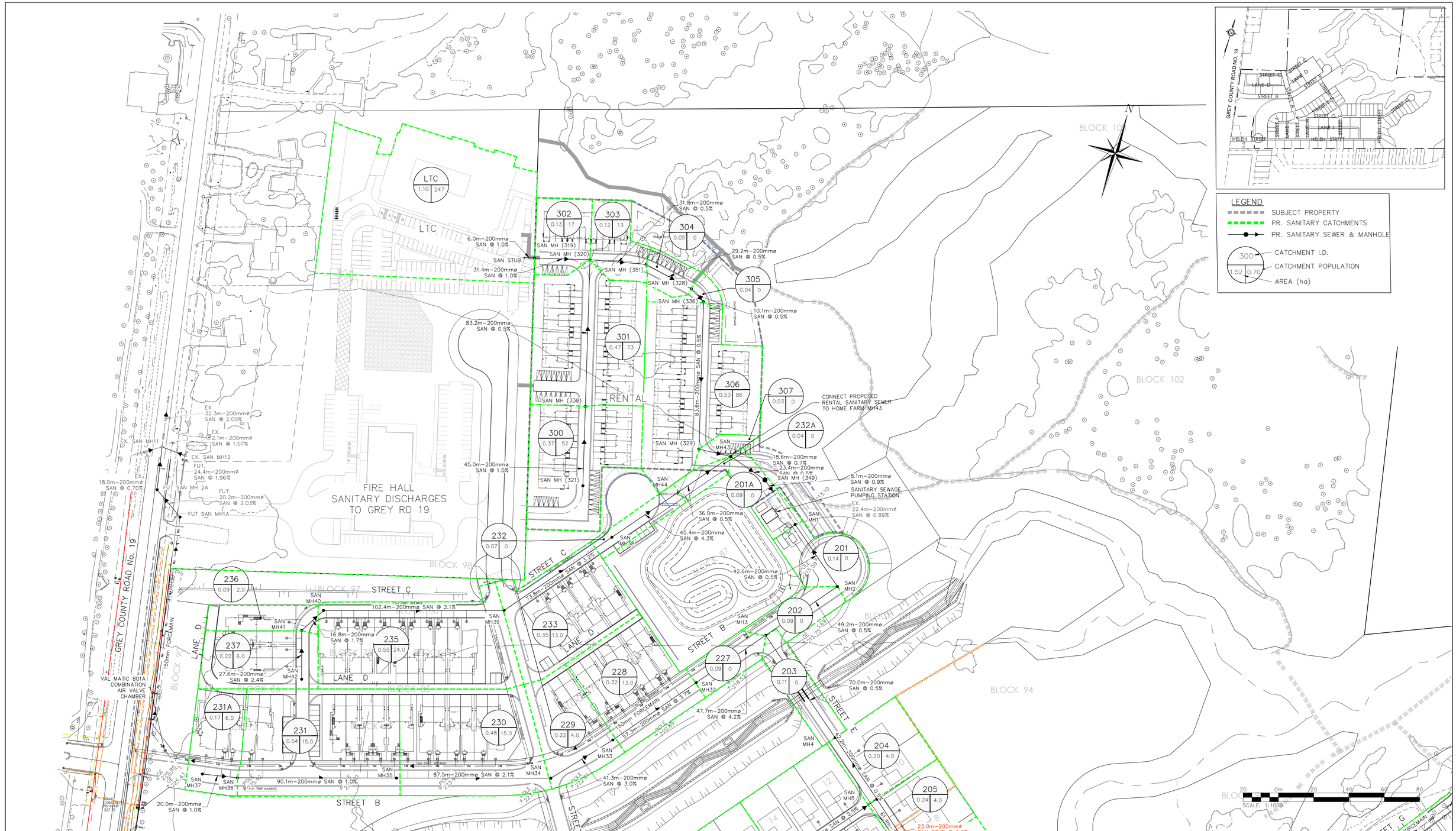
Project
HOME FARM RENTAL DEVELOPMENT
TOWN OF THE BLUE MOUNTAINS

Drawing
STORM AREA DRAINAGE PLAN

Town

CROZIER
CONSULTING ENGINEERS

Drawn By	Design By	Project
B.B.	B.B.	721–3464
Scale	Date	Check By	Drawing
1:1000	MAY 19, 2026	J.E./B.H.	FIG 10



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TEMPORARY BENCHMARKS

SBM#1–ELEVATION: 227.78
CONCRETE PIN IN HYDRO POLE AT SOUTH EAST CORNER OF GREY ROAD No. 19 AND STREET B INTERSECTION.

No.	ISSUE / REVISION	DATE: MM/DD/YYYY
0	ISSUED FOR 1st SUBMISSION FSR	05/19/2026

Engineer

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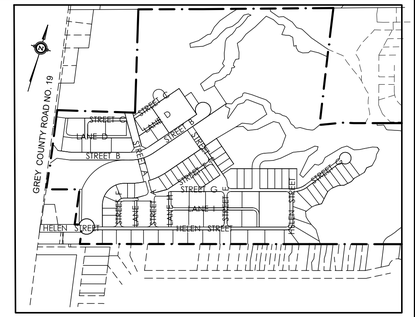
Project
HOME FARM RENTAL DEVELOPMENT
TOWN OF THE BLUE MOUNTAINS

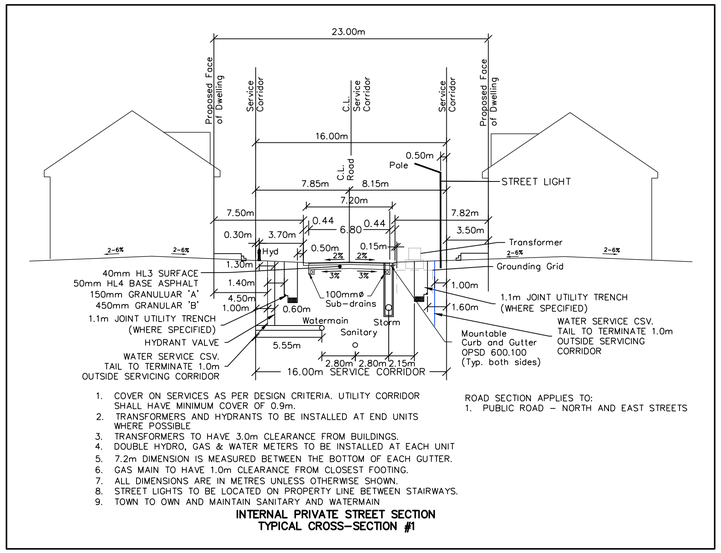
Drawing
SANITARY AREA DRAINAGE PLAN

Town

CROZIER
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Drawn By	Design By	Project
B.B.	B.B.	721–3464
Scale: 1:1000	Date: MAY 19, 2026	Check By: J.E./B.H.
		Drawing: FIG 11

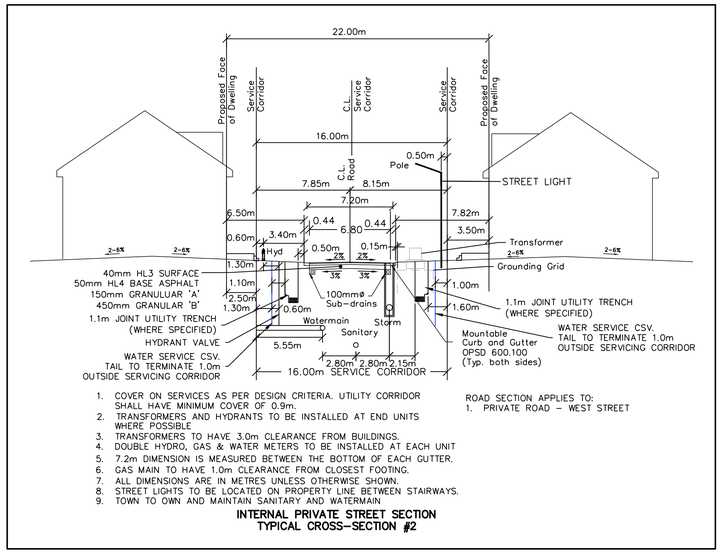




1. COVER ON SERVICES AS PER DESIGN CRITERIA. UTILITY CORRIDOR SHALL HAVE MINIMUM COVER OF 0.9m.
2. TRANSFORMERS AND HYDRANTS TO BE INSTALLED AT END UNITS WHERE POSSIBLE
3. TRANSFORMERS TO HAVE 3.0m CLEARANCE FROM BUILDINGS.
4. DOUBLE HYDRO, GAS & WATER METERS TO BE INSTALLED AT EACH UNIT
5. 7.2m DIMENSION IS MEASURED BETWEEN THE BOTTOM OF EACH GUTTER.
6. GAS MAIN TO HAVE 1.0m CLEARANCE FROM CLOSEST FOOTING.
7. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SHOWN.
8. STREET LIGHTS TO BE LOCATED ON PROPERTY LINE BETWEEN STAIRWAYS.
9. TOWN TO OWN AND MAINTAIN SANITARY AND WATERMAIN

ROAD SECTION APPLIES TO:
1. PUBLIC ROAD – NORTH AND EAST STREETS

INTERNAL PRIVATE STREET SECTION
TYPICAL CROSS–SECTION #1



1. COVER ON SERVICES AS PER DESIGN CRITERIA. UTILITY CORRIDOR SHALL HAVE MINIMUM COVER OF 0.9m.
2. TRANSFORMERS AND HYDRANTS TO BE INSTALLED AT END UNITS WHERE POSSIBLE
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7. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SHOWN.
8. STREET LIGHTS TO BE LOCATED ON PROPERTY LINE BETWEEN STAIRWAYS.
9. TOWN TO OWN AND MAINTAIN SANITARY AND WATERMAIN

ROAD SECTION APPLIES TO:
1. PRIVATE ROAD – WEST STREET

INTERNAL PRIVATE STREET SECTION
TYPICAL CROSS–SECTION #2

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HOME FARM RENTAL DEVELOPMENT
TOWN OF THE BLUE MOUNTAINS

Drawing
TYPICAL ROAD CROSS SECTIONS

Town

CROZIER CONSULTING ENGINEERS

Drawn By	Design By	Project
B.B.	B.B.	721–3464
Scale: NTS	Date: MAY 19, 2026	Check By: J.E./B.H.
		Drawing: FIG 12