EAST TRIBUTARY – HYDRAULIC ANALYSIS REPORT

12245 TORBRAM ROAD
TULLAMORE LANDS

TOWN OF CALEDON
REGION OF PEEL

PREPARED FOR:

TULLAMORE INDUSTRIAL GP LIMITED

PREPARED BY:

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2800 HIGH POINT DRIVE, SUITE 100
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CFCA FILE NO. 2022-5842

CROZIER
CONSULTING ENGINEERS

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1.0 Introduction

1.1 Project Description

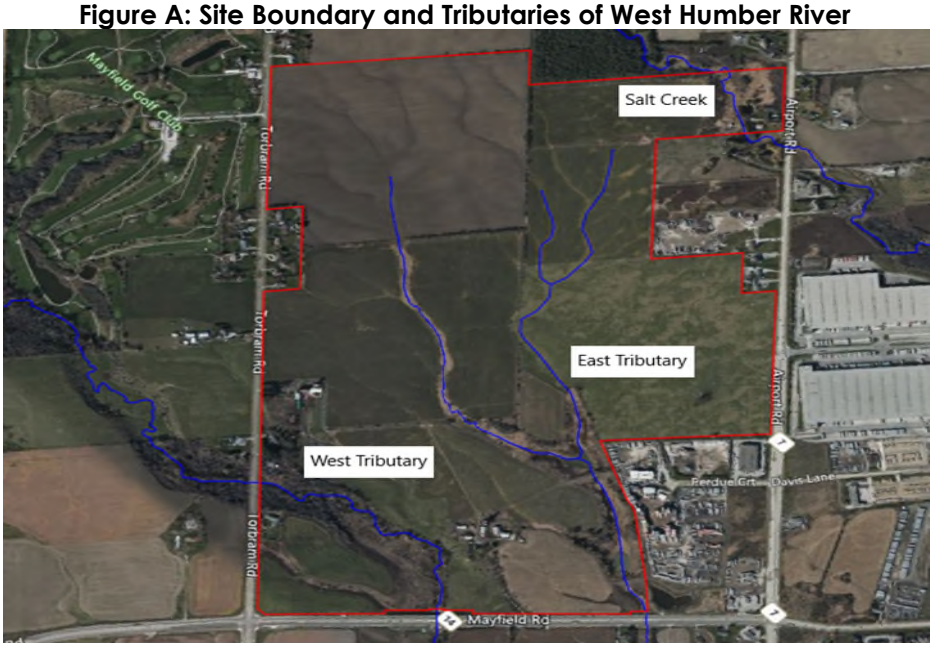
C.F. Crozier & Associates Inc. (Crozier) was retained by Rice Group to complete a Hydraulic Analysis Report supporting a Plan of Subdivision Application for the property known as Tullamore Lands in the Town of Caledon. The purpose of this report is to document the methodology of the floodplain analysis for the east tributary of Campbell's Creek.

1.2 Background

The Site is primarily a greenfield area covering approximately 202.9 ha and is currently zoned as industrial per the MZO. The Site is bounded by Mayfield Road (Regional Road 14) to the south, Airport Road (Regional Road 7) to the east, greenfield lands to the north, and Torbram Road to the west.

The Site consists of primarily agricultural land and contains a Greenbelt area as well as two tributaries of the West Humber River. The Greenbelt area of the Site is located northeast of the Torbram Road and Mayfield Road intersection and a tributary of the West Humber River (Salt Creek) is conveyed through this Greenbelt area. A second tributary of the West Humber River passes through the middle of the Site in two locations. Both tributaries convey drainage southwards through existing culverts under Mayfield Road and are tributaries of Campbell's Creek, making the site part of the TRCA Regulated Area of the West Humber River Watershed. The larger tributary is in the southwest corner of the property and, for the purposes of this Report, will be referred to as the west tributary. The second water course is a smaller tributary, which flows through the middle of Site and will be referred to as the east tributary.

Figure A: Site Boundary and Tributaries of West Humber River



As shown on the Draft Landscape Setting Figure 1 (GEI Consultants dated November 2021) attached, the area surrounding the west tributary is identified as greenbelt. No development is proposed within this area.

The preservation of this area will ensure that the flow conveyance in this area will be maintained. For this report, only the hydraulic function of the channel corridor and proposed crossings is being analyzed.

Similarly, the area surrounding Salt Creek in the northeast corner of the site is identified as greenbelt. Drainage to this watercourse will be maintained in post-development, so no hydraulic analysis is required.

2.0 Background Information

2.1 Topographic Survey

A Topographic Survey of the site was completed by Young & Young Surveying Inc. in October 2021 and has been included in Appendix A of this report. Additional contour information was obtained through the Ontario Classified Point Cloud Data (accessed via Equator Software on April 8, 2021).

2.2 Hydraulic Model

Based on correspondence with the TRCA, it has been confirmed that the west tributary has an engineered floodplain model which is accepted by TRCA, so further analysis of the west tributary is not required. TRCA has an estimated floodplain model prepared for the east tributary and not an engineered floodplain model. Figure B shows the floodplain for the engineered west tributary and the estimated east tributary.

Figure B: Floodplain Mapping from TRCA (received April 6, 2021)

TRCA indicated that the information provided in the estimated model is the best available but is not appropriate for land development approvals. TRCA specified that the estimated model does not include crossing structures, refined Manning's n values or detailed crossing geometry. As a result, the TRCA staff advised that the available modeling and mapping be used to conduct the hydraulic analysis for the project, with the appropriate refinements, to create an engineered HEC-RAS model. Therefore, additional analysis of the east tributary must be undertaken and refinements to the estimated model shall be made to create an engineered HEC-RAS model. TRCA provided both the estimated and engineered HEC-RAS models of the three tributaries.

3.0 Methodology

3.1 Modified Existing Conditions Hydraulic Model

The following steps were undertaken to create the engineered HEC-RAS model used to represent the modified existing conditions for this analysis:

- Review of the Final West Humber River engineered hydraulic (HEC-RAS) model, prepared by Cole Engineering in May 2019, provided by the TRCA. This model includes Salt Creek, the west tributary and the downstream sections of the West Humber River.

- Review of the West Humber River estimated hydraulic (HEC-RAS) model, provided by TRCA in May 2021. This model includes the east tributary on the site.

- Tributary drainage areas for the east tributary were reviewed using both a topographic survey and LiDAR generated topography to validate external upstream drainage areas that are conveyed to the east tributary on site.

- Updated the hydrological inputs for the HEC-RAS model by delineating predevelopment drainage areas and creating a Visual OTTHYMO model.

- The eastern tributary was added to the engineered hydraulic model. This includes the east and west branch of the eastern tributary (the estimated model only included the western branch of the eastern tributary), the model geometry was based on the topographic survey and LiDAR generated topography.

- Established existing Regional flood elevations on the site based on the combined HEC-RAS model with updated hydrology and updated sections based on the recent topographic survey completed for the area.

- Calculate the flood storage provided in the floodplain for the East Tributary.

- Analyze the impacts of the proposed development on the conveyance capacity of the culvert under Mayfield Road.

4.0 Hydrology

4.1 Existing Conditions - TRCA Flows

The estimated hydraulic (HEC-RAS) model provided by TRCA included Regional Storm flows for the east tributary (Campbell's Trib A). However, given that the East Branch of the eastern tributary was added to the hydraulic model as part of this analysis, the TRCA flows were altered to reflect the addition of the East Branch (Reach 6, Reach 8 and Reach 6-Lower).

To account for the fork in the tributary, the pre-development drainage areas were reviewed to determine the percentage of external flows directed to each branch of the tributary. Figure 2 shows that 60% of the external flows are directed to the west branch, while the other 40% is directed to the east branch. The original TRCA hydraulic model has a total Regional flow of 14.57 m^3/ for the east tributary. The total flow provided by the TRCA was split accordingly and assigned to each branch of the east tributary, while the total flow remained assigned where the two branches meet.

Table 1 summarizes the modifications made to the TRCA flows within the HEC-RAS model. For further details on Site Hydrology, please refer to the Servicing and Stormwater Management Report prepared by Crozier (December 2021).

Table 1: Pre-Development TRCA Flows

Outlet Location	Regional Flow Rate (m^3/s)	HEC-RAS River	HEC-RAS Reach	HEC-RAS Station ID
West Branch	8.74	Campbell's TribA	Reach 5	2480.223
East Branch	5.83		Reach 6	1154.71
North Pond	14.57		Reach 4	1254.43

4.2 Modified Existing Conditions

According to the topographic survey (Young & Young Surveying Inc., May 2021), the site generally slopes towards the west and east tributaries, with majority of the stormwater runoff directed towards the east tributary.

The northeast portion of the site gently slopes towards Airport Road. Pre-development drainage areas have been delineated based on the existing Site topography and are shown on Figure 2.

Under existing conditions, the site is occupied by a cattle farm which has two man-made berms obstructing the east tributary. The two berms have culverts which control the flow of the east tributary to create ponds upstream of the berms. The berms/culverts result in backwater to create the ponds, which impacts the flood elevations on site.

The site also has an existing culvert on the southeast corner of the site that conveys flows from the east tributary. Under pre-development conditions there are three stormwater outlets for the site, the west tributary, east tributary and an outlet on Airport Road. Most of the flows from the site and all external areas outlet to the east tributary on the property.

To gain a better understanding of the flow contributions to the different branches of the east tributary, primary outlet locations for each catchment were identified and Figure 2 displays the pre-development drainage areas. Majority of the drainage from the Site is directed towards the east tributary. Table 2 summarizes the pre-development drainage catchments.

Table 2: Pre-Development Catchments

Catchment ID	Area (ha)	Runoff Coefficient	Curve Number (CN)[1]	Outlet
101	34.5	0.25	79	West Tributary
102	46.7	0.25	82	East Tributary
103	17.0	0.25	84	
104	32.3	0.25	84	
105	13.4	0.28	80	
106	31.1	0.25	79	
107	1.8	0.25	84	Airport Road
108	11.5	0.25	84	
109	4.9	0.25	82	Southeast Neighbors
110	9.7	0.25	84	Salt Creek
111	0.1	0.25	84	
Total Site	**202.9**	**-**	**-**	**-**
EXT1	0.6	0.36	79	West Tributary
EXT2	1.3	0.35	79	
EXT3	3.4	0.49	79	East Tributary
EXT4	4.9	0.25	79	
EXT5	0.9	0.25	84	
EXT6	0.5	0.25	84	
EXT7	1.4	0.60	84	Airport Road
EXT8	1.4	0.60	79	East Tributary
EXT9	0.9	0.58	79	
Total External	**15.3**	**-**	**-**	**-**

1. CN values determined for each catchment based on existing land use and soils on Site. CN values were converted to CNIII within VO for the Regional model to better represent the available soil moisture storage volume during a storm event.

Visual OTTHYMO (VO) was used to determine the pre-development peak runoff directed towards the east tributary. The catchment results have been combined based on the primary outlet locations indicated in Table 2 and include flows from the neighbouring property through the SWM pond. The HEC-RAS station IDs where flows were added to represent the primary outlets are included in Table 3 along with the VO flow results. The VO model inputs and results are included as part of Appendix B.

Table 3: Pre-Development Peak Runoff Directed to the East Tributary

HEC-RAS Cross-Section	Flow Rates (m^3/s)						
	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	Regional
2480.223 (West Branch)	0.625	1.099	1.447	1.919	2.287	2.655	5.882
25105 (East Branch)	0.286	0.498	0.652	0.857	1.015	1.174	2.058
1154.71 (East Branch)	0.728	1.27	1.66	2.177	2.576	2.982	5.613
1254.43 (North Pond)	1.337	2.38	3.174	4.266	5.154	6.08	12.92
879 (South Pond)	1.636	2.91	3.881	5.219	6.3	7.43	16.284
692.338 (Mayfield Culvert)	1.729	3.074	4.192	5.626	6.774	7.988	16.505

The hydrology model has been updated since the completion of this analysis and there are minor discrepancies between the hydrologic modelling and the numbers presented in this table. As flows have been reduced, the results presented in this report are conservative estimates of the storage.

5.0 Hydraulics

5.1 Modified Existing Conditions (Update to TRCA Existing Conditions model)

To accurately model the flood elevations through the subject property, the East Branch of the east tributary was added to the HEC-RAS model (River Campbell's TribA), as previously discussed. The East Branch is comprised of a forked tributary, with the new reaches being represented as Reach 6, Reach 8 & Reach 6-Lower. These new reaches are located upstream of the forked north pond on Site. A total of twenty-four (24) cross-sections were added along the new reaches.

As a result of the new reach, the existing reach was split into two; Reach 5 represents the west branch upstream of the forked pond and Reach 4 represents the remainder of the tributary where both branches merge. The upstream station of Reach 5 within the Site is cross-section 2247.605 and existing cross-section 1345.871 represents the downstream-most section. Section 1316.219 was removed and replaced with an additional section (station 1281.581), which represents the downstream section of the reach. A total of twenty-one (21) cross-sections are included along Reach 5 within the Site. Figures 4 and 5 (following the report) show the location of the cross-sections.

The upstream cross-section of Reach 4 is station 1254.43 and the analysis is carried out to the station downstream of the Mayfield Road crossing at cross-section 638.543. A total of eighteen (18) cross-sections are included along Reach 4 within the Site.

The following changes were made to the provided model:

- Added one cross section upstream of the north berm (stations 1190).
    - Cross-section 1190 was altered slightly to lower the bottom of the channel to the elevation of the culvert invert. The bottom of the channel was at an elevation of 233.97 masl and the upstream invert of the culvert was identified as 233.10 masl.
- Added 1 m diameter culvert at the north berm based on the topographic survey completed by Young & Young (May 2021).
- Removed cross-sections 1191.774 and 1158.102 from the model as they are located directly on the north berm.
- Added two cross sections downstream of the north berm (stations 1132 and 1125).
- Added four (4) additional sections between the two berms on Site.
- Added two cross sections upstream of the south berm (stations 861 and 846).
    - Cross-section 846 was altered slightly to lower the bottom of the channel to the elevation of the culvert invert. The bottom of the channel was at an elevation of 229.274 masl and the upstream invert of the culvert was identified as 228.26 masl.
- Added 600 mm diameter culvert at the south berm based on the topographic survey completed by Young & Young (May 2021).

- Removed cross-sections 821.4014 and 822.8878 from the model as they are located directly on the south berm.
- Added two cross sections downstream of the south berm (stations 790 and 763).
    - Cross-section 790 was altered slightly to lower the bottom of the channel to the elevation of the culvert invert. The bottom of the channel was at an elevation of 228.964 masl and the upstream invert of the culvert was identified as 228.57 masl.
- Added one (1) additional section between the south berm and Mayfield Road.
- Added two cross sections upstream of the Mayfield Road crossing (stations 727 and 692.338).
- Added 6706 mm by 1829 mm culvert at the Mayfield Road crossing based on the Issued for Tender drawings by IBI Group (March 2017).
- Removed cross-sections 689.3702, 669.7656 and 665.2351 from the model as they are located directly on Mayfield Road.
- Added one cross section downstream of the Mayfield Road crossing (station 638.888).

As requested by TRCA the existing sections were updated with a new surface comprising of LiDAR and the topo survey completed for the site by Young & Young (October 2021). A comparison of the TRCA cross-section profiles and the updated sections are attached (Appendix C).

In addition, Manning's n coefficients have been assigned based on existing Site conditions. A Manning's n coefficient of 0.035 was applied for the main channel, while the floodplain was assigned a Manning's n coefficient of 0.045 representing agricultural lands. Note that a Manning's n coefficient of 0.035 was used for the channel and banks of the west and east branches (Reaches 5, 6, 8 and 6-Lower) since these areas do not consist of defined channels.

Details for the culvert at the north and south berms are shown in Table 4. The north berm overtops during the 25-year storm event and all larger storm events (25-Year to regional) while the south berm overtops during all storm events (2-Year to Regional). The east tributary experiences significant backwater effect due to the two berms/culverts, which is discussed in Section 6.3.

Table 4: Existing Conditions - Berm Culvert Dimensions

	Berm 1	**Berm 2**
Type	Circular	Circular
Diameter (m)	1.0	0.6
U/S Invert (masl)	233.1	229.26
D/S Invert (masl)	232.7	228.57
Length (m)	35	35
Slope (%)	1.14%	1.97%

Culvert details for the east tributary crossing at Mayfield Road is outlined in Table 5. The Mayfield Road culvert conveys the Regional and all other storm events and flooding does not overtop Mayfield Road.

Table 5: Existing Mayfield Road Culvert Dimensions

	Existing Culvert
Type	Open Bottom Box Culvert
Size	1,829 mm x 6,706 mm
U/S Invert (masl)	227.80
D/S Invert (masl)	227.35
Length (m)	52.0
Slope (%)	0.87%
Road Low Elevation Point (masl)	230.59

The modified existing conditions Regional flood elevations for the with berms and without berms scenarios are shown in Figure 4A and Figure 4B, respectively. Existing flood elevations for the east tributary are provided in Tables 6, 7 and 8, which were obtained using the VO generated flows. Detailed output from the HEC-RAS model is in Appendix C. Results obtained using the provided TRCA flows are also available in Appendix C.

Table 6: Existing Regional Flood Elevations for Reach 8, Reach 6 and Reach 6-Lower

River Reach	River Station	Modified Existing Conditions with Berms (m)	Modified Existing Conditions with Berms Removed (m)
Reach 8	25105[1]	245.96	245.96
	25101[1]	245.48	245.48
	25005[1]	244.87	244.87
	24932.1[1]	244.25	244.25
	24932[1]	243.74	243.74
	24406[1]	243.31	243.31
	24152[1]	242.57	242.57
	24151[1]	241.43	241.43
Reach 6	1154.71[1]	247.20	247.20
	1064.02[1]	245.93	245.92
	962.05[1]	244.68	244.69
	881.96[1]	243.87	243.86
	808.88[1]	243.11	243.12
	744.83[1]	242.26	242.25
	688[1]	241.51	241.55
Reach 6-Lower	629[1]	240.97	240.93
	581.37[1]	240.56	240.62
	522.55[1]	240.13	240.06
	379.80[1]	238.79	238.88
	289.21[1]	238.77	238.24
	217.29[1]	238.77	237.28
	175.22[1]	238.77	236.08
	75.62[1]	238.77	235.00
	17.67[1]	238.77	234.94

Note: 1 - Station located within the Site.

Table 7: Existing Regional Flood Elevations for Reach 5

River Station	Modified Existing Conditions with Berms	Modified Existing Conditions with Berms Removed
	(m)	(m)
2307.004	246.54	246.54
2247.605[1]	245.98	245.98
2193.192[1]	245.65	245.65
2136.188[1]	245.39	245.39
2075.723[1]	244.71	244.71
2020.589[1]	243.92	243.92
1969.241[1]	243.29	243.29
1907.204[1]	242.83	242.83
1865.536[1]	242.19	242.19
1835.732[1]	241.62	241.62
1759.197[1]	240.82	240.82
1684.856[1]	240.39	240.39
1614.867[1]	240.09	240.10
1534.323[1]	239.40	239.35
1499.019[1]	238.89	238.97
1374.339[1]	238.76	238.55
1345.871[1]	238.77	237.67
1281.581[2]	238.77	236.98

Note: 1: Station located within the Site.
2: Station added, Station located within the Site.

Table 8: Existing Regional Flood Elevations for Reach 4

River Station	Location	Modified Existing Conditions with Berms (m)	Modified Existing Conditions with Berms Removed (m)
1254.43	Within the Site	238.77	234.85
1190	U/S of north berm	238.77	234.64
North Berm			
1132	D/S of north berm	234.86	232.74
1125	Within the Site	234.88	232.72
1105.427	Within the Site	234.88	232.61
1064.597	Within the Site	234.88	232.18
1047.971	Within the Site	234.88	231.71
1000.841	Within the Site	234.88	231.16
961.311	Within the Site	234.88	230.43
914	Within the Site	234.88	230.00
899	Within the Site	234.88	229.99
879	Within the Site	234.88	229.96
861	Within the Site	234.88	229.92
846	U/S of south berm	234.86	229.75
South Berm			
790	D/S of south berm	229.99	229.68
763	Within the Site	229.66	229.66
727	Within the Site	229.64	229.64
692.338	U/S of Mayfield Rd	229.20	229.20
638.888	D/S of Mayfield Rd	228.51	228.51
638.543	D/S of the Site	228.27	228.27

5.2 Modified Existing Conditions Backwater Analysis

To better understand the backwater effects from the two berms on site, an additional HEC-RAS scenario was created to determine the flood elevations without the berms. The man-made berms were constructed downstream of the north and south ponds by the previous owners. Culverts pass through both berms, which controls the flow out of the ponds, and consequently impacts the flood elevation on site. In this scenario, the two berms and associated culverts were removed from the modified existing conditions HEC-RAS model.

The flood elevation results shown in Tables 6, 7 and 8 shows the flood elevations for modified existing conditions with the two berms and culverts removed. The berms/culverts result in backwater effect directly upstream of the two berms. The north berm/culvert causes an upstream backwater approximately 300 m upstream of the north berm. The south berm/culvert causes upstream backwater effect all the way up to the north berm.

As shown in Figure 4B, the flood elevation decreases by as much as 3 m in the area around the north and south ponds when the berms are removed. Removal of the man-made berms decreases the portion of the Site that is within the Regional flooding.

5.3 Creek Crossings and Hydraulic Structures

There are no changes to the existing culvert at Mayfield Road. A summary of the details for the existing east tributary crossing at Mayfield Road is outlined above in Table 9.

Table 9: Existing Mayfield Road Culvert Dimensions

	Existing Culvert
Type	Open Bottom Box Culvert
Size	1,829 mm x 6,706 mm
U/S Invert (masl)	227.80
D/S Invert (masl)	227.35
Length (m)	52.0
Slope (%)	0.87%
Road Low Elevation Point (masl)	230.59
Hydraulic Summary	Culvert conveys the Regional and all other storm events and flooding does not overtop the road.

6.0 Hydraulic Analysis

6.1 Proposed Conditions

In proposed conditions, the reaches of Campbell's Creek upstream of the south berm will be removed and the flood storage will be provided on site in the form of a wetland designed with a low-flow channel. The required flood storage volume from existing conditions is approximately 26,000 m^3. A downstream capacity analysis for this site is on-going and a control structure may be added to reduce the regional flows downstream of the site.

6.2 Hydraulic Assessment of Crossing Structures

As per Town of Caledon standards, road crossings of major watercourses under collector roads must be designed to convey the 1:50 year event and crossings under arterial roads must be designed to convey the 1:100 year to Regional storm event. For all major events (1:100 year to Regional) transverse water crossings shall have a maximum water depth at the crown of the road of 0.15 m.

The design and hydraulic performance of road crossings is defined by criteria from the MTO Highway Drainage Design Standards (2008). The relevant criteria include design flows, minimum freeboard, allowable overtopping frequency, clearance, and flow depth at culvert inlets. Mayfield Road is designated as an Industrial Connector in the 2013 Peel Road Characterization Study. This is assumed to be a major arterial road. The applicable hydraulic criteria for are summarized as follows.

Design Flow: For freeway and urban arterial roads, the 50-yr design flow is used for sizing all required structures with spans less than or equal to 6.0 m and the 100-yr design flow is used for sizing all required structures with spans exceeding 6.0 m. For rural arterial and collector roads, the 25-yr design flow is used for sizing all required structures with spans less than or equal to 6.0 m and the 50-yr design flow is used for sizing all required structures with spans exceeding 6.0 m. For local roads, the 10-yr design flow is used for sizing all required structures with spans less than or equal to 6.0 m and the 25-yr design flow is used for sizing all required structures with spans exceeding 6.0 m.

Freeboard: The minimum freeboard is measured vertically from the high-water level for the design flow to the edge of the travelled lane. The minimum freeboard at road crossings shall be greater than or equal to 1.0 m for freeways, arterials, and collectors. The minimum freeboard at road crossings shall be greater than or equal to 0.3 m for local roads.

Clearance: The clearance is measured vertically from the high-water level for the design flow to the lowest point on the soffit. The minimum clearance for road crossings at freeways, arterials, and collector roads shall be greater than or equal to 1.0 m. The minimum clearance for road crossings at local roads shall be greater than or equal to 0.3 m. Zero clearance is required for the Regulatory flow.

Overtopping Criteria: There should be no overtopping of the road at any culvert crossing during the 100-yr storm event. If possible, overtopping in the Regional Storm Event should also be avoided.

Depth Criteria: The depth of flow at the culvert during the design storm should not be greater than 1.5 times the culvert height.

As outlined in Table 10, the culvert at Mayfield Road conveys the flows in the east tributary as it did in existing conditions and meets the freeboard criteria, clearance criteria, overtopping criteria, depth of flow criteria, and do not overtop the internal roads during the 100-yr or Regional events.

Table 10: Summary of Crossing Details and Hydraulic Considerations Mayfield Road

Crossing No.		**Existing/Proposed Conditions**
Road Classification (Design Flood Frequency per Town Standards)		Major Arterial (Design Flow = 100Yr)
Approx. Edge of Asphalt Grade (masl)		230.69
100-Yr Event	Flow Rate (m^3/s)	7.99
	Headwater Elevation (masl)	228.91
	Freeboard (m)	1.78
	Depth of Flow (m)	1.11
Regional Event	Flow Rate (m^3/s)	16.51
	Headwater Elevation (masl)	229.20
	Freeboard (m)	1.37
	Depth of Flow (m)	1.40
Freeboard (m) during Design Flow		1.78
Overtopping (m) during 100-Yr and/or Regional Event		Does not overtop during 100-Yr or Regional Event
Clearance (m) during Design Flow		0.72
Water Level Source		XS: 670 (Upstream)

7.0 Conclusion

We trust that the information provided for the east tributary hydraulic analysis are in general conformance with the Town of Caledon and TRCA standards and we recommend the approval of the design. The following is noted:

- The existing tributaries on Site are proposed to be removed and the flows directed to a wetland designed with a low-flow channel to provide flood storage.

We trust that this analysis meets the TRCA requirements to support the proposed development and recommend that the design outlined within this report is accepted such that the owner can proceed with the Plan of Subdivision Application for the proposed development.

Respectfully submitted,

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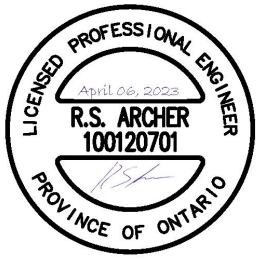

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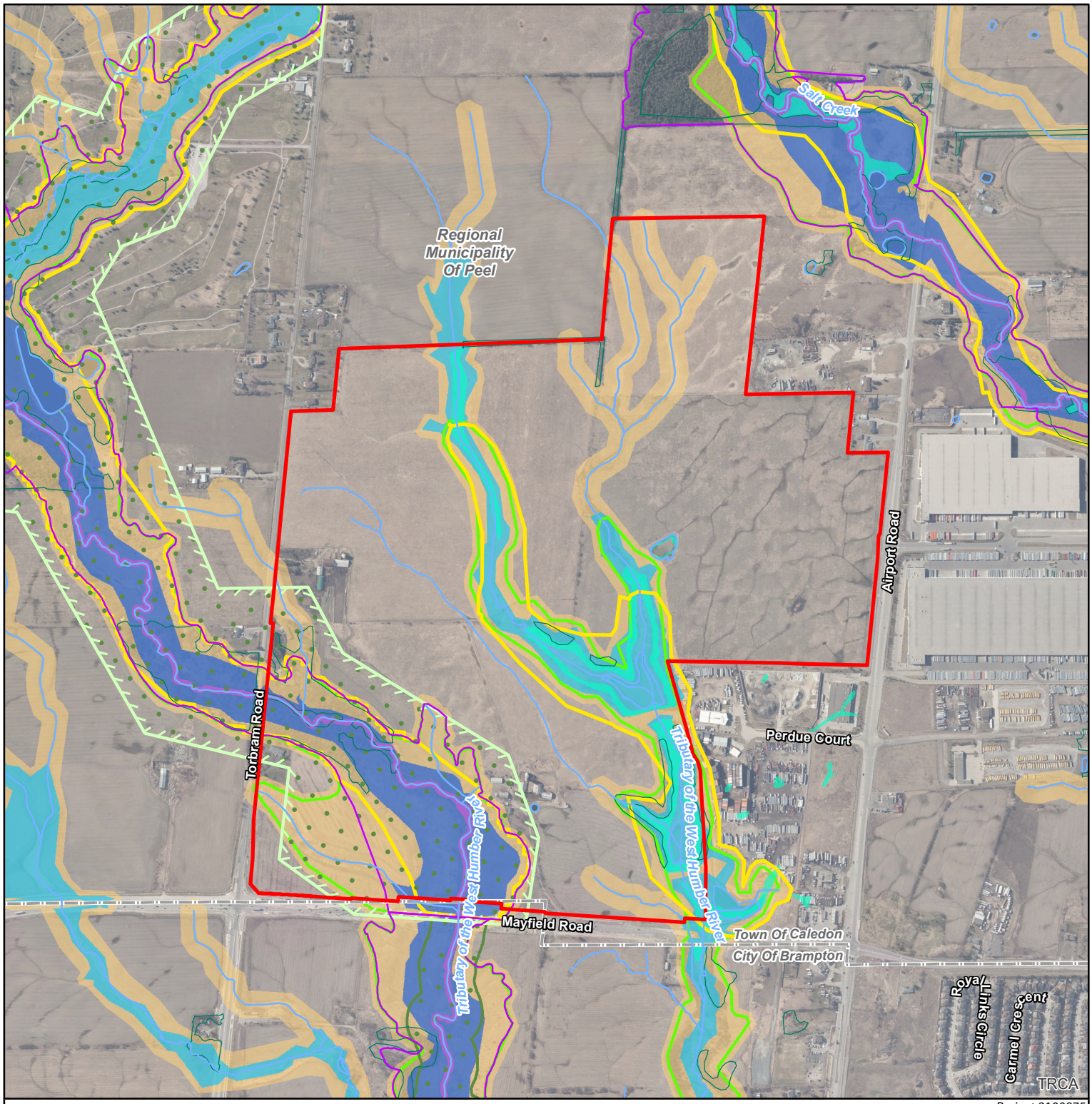
FIGURES



Project 2100975

Comprehensive Environmental Impact Study and Management Plan, Tullamore Employment Lands
Tullamore Industrial LP

Figure 1
Landscape Setting

NOTES:

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2021; Town of Caledon, 2021; Toronto Region Conservation Authority, 2021; Region of Peel, 2021.
3. Orthoimagery © First Base Solutions, 2021. Imagery taken in 2019.

Legend

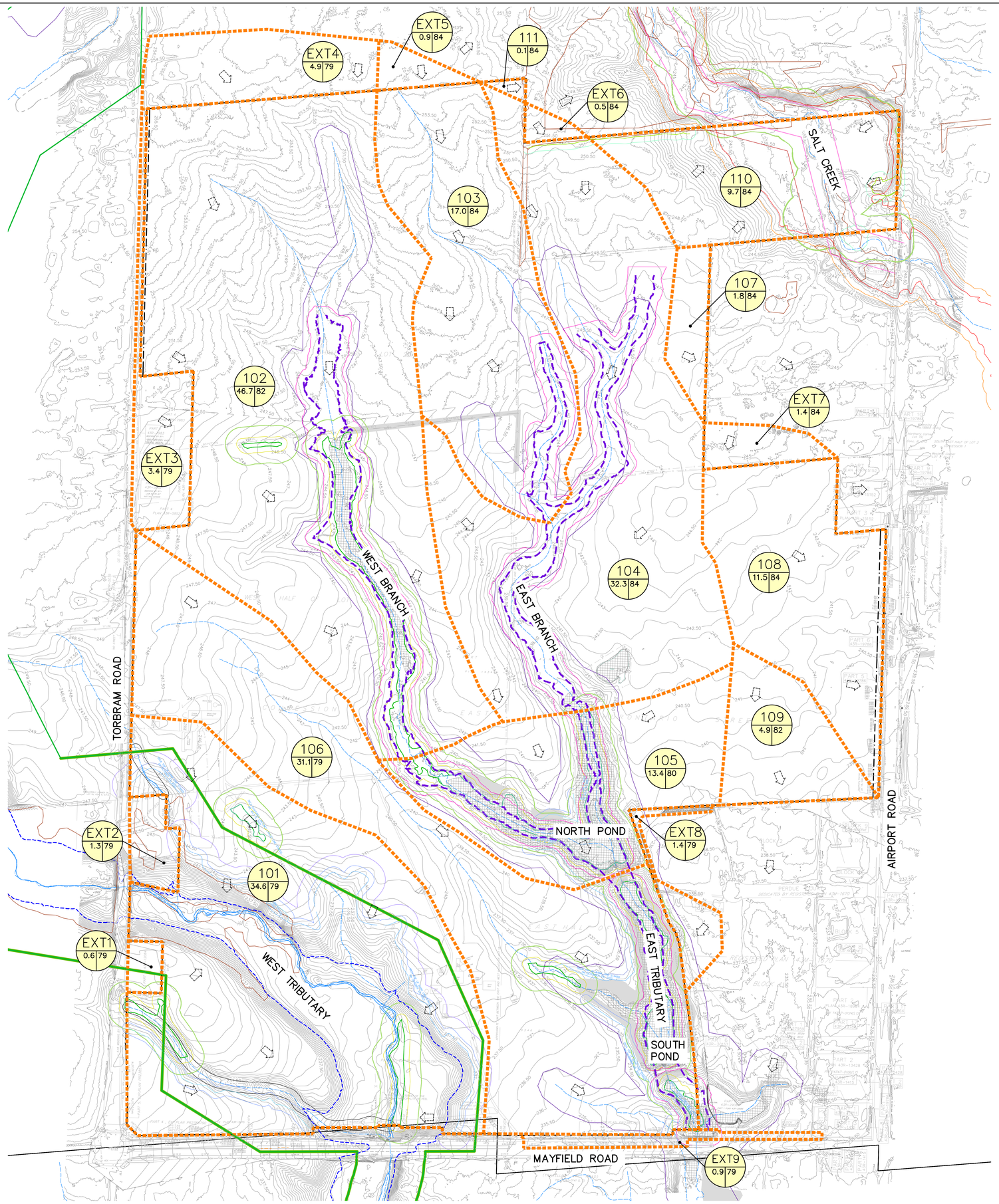
- Subject Lands (approximate)
- Aquatic Species at Risk - Fish
- Watercourse (TRCA)
- Waterbody
- Wetland - Not Evaluated per OWES
- Wooded Area
- Municipal Boundary, Lower/Single Tier
- Greenbelt Boundary
- Greenbelt NHS
- Core Areas of the Greenlands System (Region of Peel)
- Environmental Policy Area (Town of Caledon)
- TRCA Regulation Limits
- Crest of Slope (TRCA)
- Meander Belt (TRCA)
- Flood Hazard (Engineered) (TRCA)
- Flood Hazard (Estimated) (TRCA)

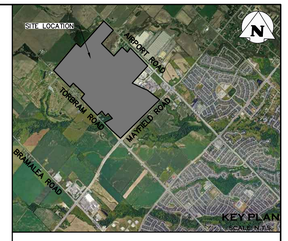
0 200 m

1:12,000

GEI Consultants
Savanta Division

Path: C:\SAVANTA\2100975 - Tullamore Emp Lands\figures\report_figures\2021 06 22 eis\2100975_rpt_fig02_landscape_setting.mxd Date Saved: Wednesday, November 10, 2021





LEGEND

- PROPERTY LINE
- EXISTING CONTOUR (1.0m)
- EXISTING CONTOUR (2.0m)
- EXISTING STORM DRAINAGE CATCHMENT
- GREENBELT BOUNDARY
- WATERCOURSE
- REGIONAL ENGINEERED FLOODPLAIN (TRCA, 2021)
- REGIONAL TRCA LIMIT
- FLOOD LINE (CROZIER, 2023)
- FLOOD LINE + 15m (CROZIER, 2023)
- FLOOD LINE (TRCA, 2022)
- FLOOD LINE + 15m (TRCA, 2022)
- STAKED DRIPLINE (GEI, 2023)
- WOODLAND +10m (GEI, 2023)
- WOODLAND (GEI, 2022)
- WETLAND +30m (GEI, 2022)
- WETLAND +10m (GEI, 2022)
- WETLAND LIMIT (GEI 2022)
- MEANDER BELT (GEI, 2023)
- MEANDER BELT + 30m (GEI 2023)
- TRCA STAKED NATURAL FEATURES/STABLE TOP OF SLOPE (GEI, 2022)
- LONG TERM STABLE TOP OF SLOPE +10m (GEI, 2022)
- STAKED NATURAL FEATURES + 30m (GEI 2022)
- EXISTING WETLANDS (GEI, 2022)
- EXISTING WOODLANDS (GEI, 2022)
- EXISTING OVERLAND FLOW DIRECTION
- ID / A | CN — CATCHMENT I.D. / AREA (Ha) | SCS CURVE NUMBER

50 0m 50 100 150 200
SCALE: 1:2500

No.	ISSUE / REVISION	YYYY/MMM/DD
1A	DRAFT CLIENT REVIEW	2023/JAN/20

Stamp

FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION

BEARING NOTE:

BEARINGS ARE UTM GRID, DERIVED FROM GPS OBSERVATION USING THE "TOPNET" GPS NETWORK OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS) (2010.0) & (1997.0).

SURVEY COMPLETED BY YOUNG & YOUNG SURVEYING INC. (2021/OCT/14), & (2021/OCT/07) PROJECT NO. 21-B7601.

EXISTING GROUND CONTOURS OUTSIDE OF SITE LIMITS AND INSIDE EXISTING FLOOD PLAIN BASED ON LIDAR SURVEY FROM EQUATORSTUDIOS.

ELEVATION NOTE:

ELEVATIONS HERON ARE GEODETIC IN ORIGIN AND WERE DERIVED FROM GPS OBSERVATIONS USING THE "TOPNET" GPS NETWORK AND ARE REFERRED TO THE CGVD-1928: 1978 DATUM.

ELEVATION HEREON ARE GEODETIC IN ORIGIN AND WERE DERIVED FROM CITY OF BRAMPTON MONUMENT No. 042200365 (NAD ADJUSTMENT) HAVING A PUBLISHED ELEVATION OF 242.135m.

SITE BENCHMARK:

A NAIL HAVING ELEVATION 241.24m WAS SET 12.12m EAST OF THE SOUTHEAST CORNER OF THE PROPERTY ALONG AIRPORT ROAD.

A CUT CROSS HAVING ELEVATION 242.51m WAS SET ON THE NORTHEAST CORNER OF THE INTERSECTION BETWEEN MAYFIELD ROAD AND TORBRAM ROAD.

DRAFT PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON DRAFT PLAN BY WESTON CONSULTING INC.
DRAWING No.: D3
FILE No.: 10208

DRAWING NOTES:

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.

THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT. DO NOT SCALE THIS DRAWING.

ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

Project

TULLAMORE LANDS
TOWN OF CALEDON

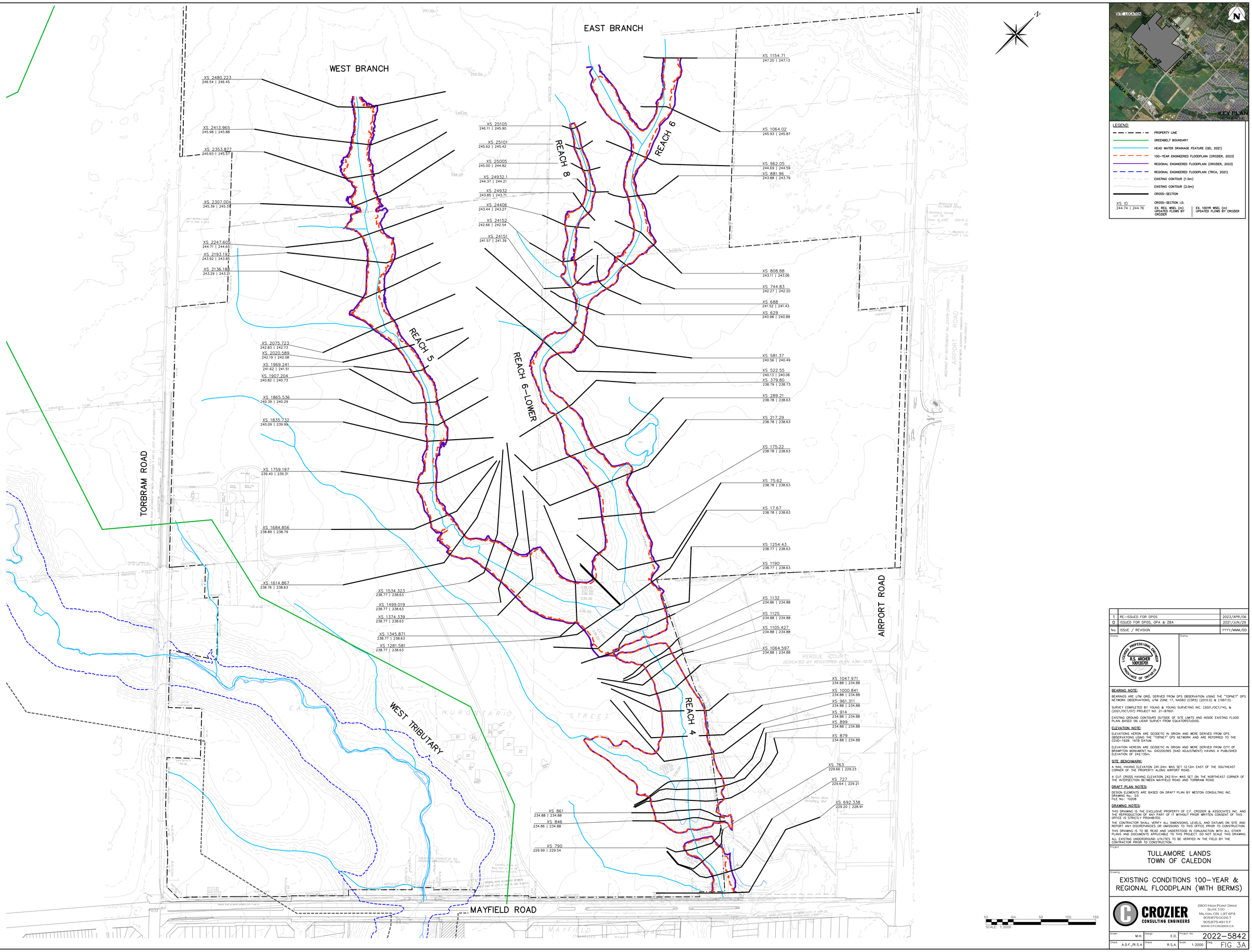
Drawing

PRE-DEVELOPMENT DRAINAGE PLAN

CROZIER
CONSULTING ENGINEERS
2800 High Point Drive
Suite 100
Milton, ON L9T 6P4
905 875 0026 T
905 875 4915 F
www.cfcrozier.ca

Drawn	L.E.	Design	I.C.	Project No.	2022-5842
Check	I.C./J.S.	Check	R.S.A.	Date	1: 2500

Dwg FIG 2



No.	ISSUE / REVISION	YYYY/MMM/DD
1	RE-ISSUED FOR DPOS	2023/APR/06
0	ISSUED FOR DPOS, OPA & ZBA	2021/JUN/29

Stamp

LICENSED PROFESSIONAL ENGINEER
R.S. ARCHER
100120701
PROVINCE OF ONTARIO

Stamp

BEARING NOTE:

BEARINGS ARE UTM GRID, DERIVED FROM GPS OBSERVATION USING THE "TOPNET" GPS NETWORK OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS) (2010.0) & (1997.0).

SURVEY COMPLETED BY YOUNG & YOUNG SURVEYING INC. (2021/OCT/14), & (2021/OCT/07) PROJECT NO. 21-B7601.

EXISTING GROUND CONTOURS OUTSIDE OF SITE LIMITS AND INSIDE EXISTING FLOOD PLAIN BASED ON LIDAR SURVEY FROM EQUATORSTUDIOS.

ELEVATION NOTE:

ELEVATIONS HERON ARE GEODETIC IN ORGIN AND WERE DERIVED FROM GPS OBSERVATIONS USING THE "TOPNET" GPS NETWORK AND ARE REFERRED TO THE CGVD-1928: 1978 DATUM.

ELEVATION HEREON ARE GEODETIC IN ORGIN AND WERE DERIVED FROM CITY OF BRAMPTON MONUMENT No. 042200365 (NAD ADJUSTMENT) HAVING A PUBLISHED ELEVATION OF 242.135m.

SITE BENCHMARK:

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A CUT CROSS HAVING ELEVATION 242.51m WAS SET ON THE NORTHEAST CORNER OF THE INTERSECTION BETWEEN MAYFIELD ROAD AND TORBRAM ROAD

DRAFT PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON DRAFT PLAN BY WESTON CONSULTING INC.
DRAWING No.: 03
FILE No.: 10208

DRAWING NOTES:

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ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

Project

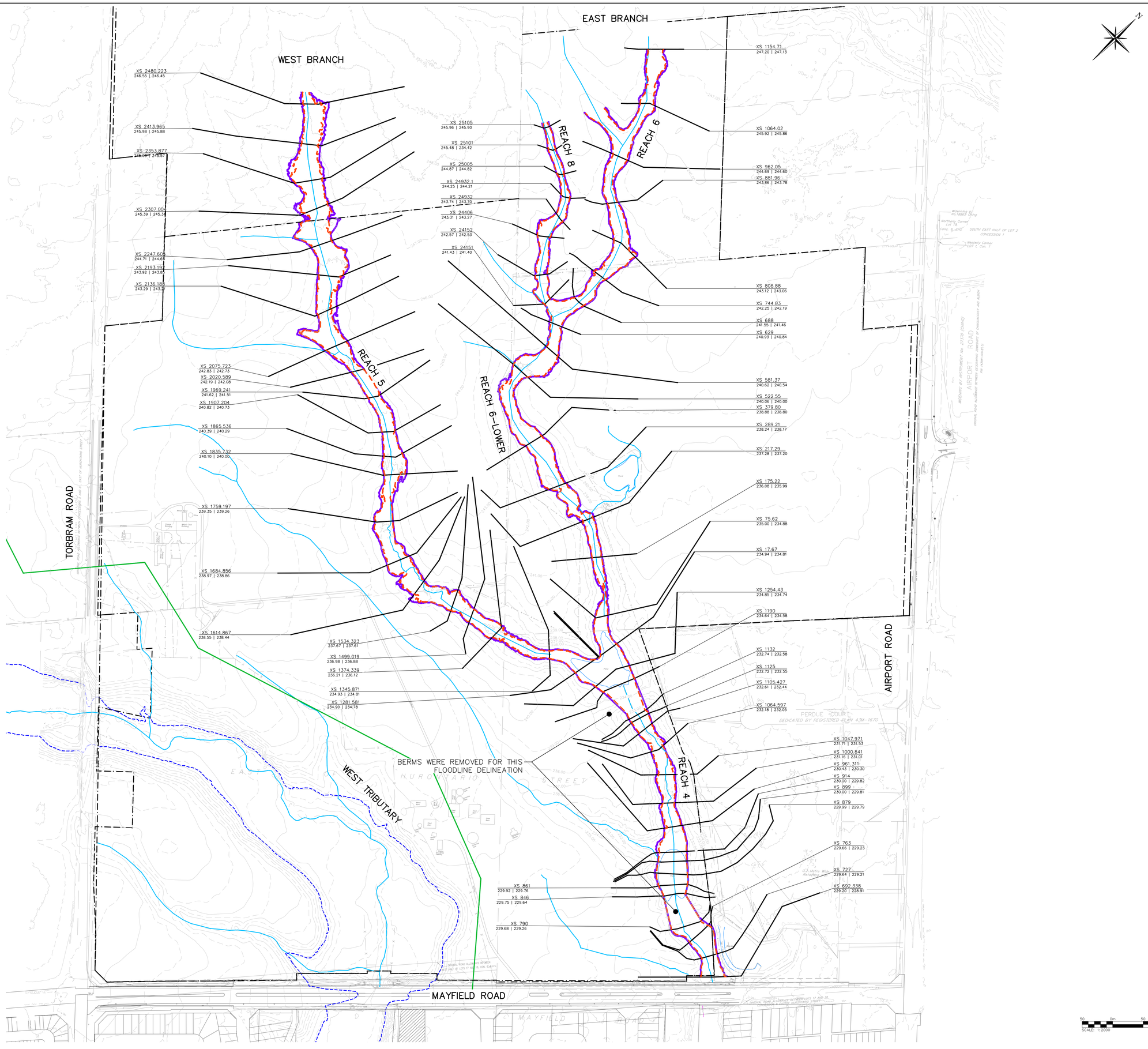
TULLAMORE LANDS
TOWN OF CALEDON

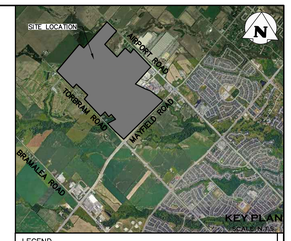
Drawing

EXISTING CONDITIONS 100-YEAR & REGIONAL FLOODPLAIN (WITH BERMS)

CROZIER CONSULTING ENGINEERS
2800 High Point Drive
Suite 100
Milton, ON L9T 6P4
905-875-0026 T
905-875-4915 F
www.cfcrozier.ca

Drawn	M.K.	Design	E.D.	Project No.	2022-5842
Check	A.D.F./R.S.A.	Check	R.S.A.	Scale	1: 2000
				Dwg.	FIG 3A





LEGEND

- PROPERTY LINE
- GREENBELT BOUNDARY
- HEAD WATER DRAINAGE FEATURE (GEI, 2021)
- 100-YEAR ENGINEERED FLOODPLAIN (CROZIER, 2023)
- REGIONAL ENGINEERED FLOODPLAIN (CROZIER, 2023)
- REGIONAL ENGINEERED FLOODPLAIN (TRCA, 2021)
- EXISTING CONTOUR (1.0m)
- EXISTING CONTOUR (2.0m)
- CROSS-SECTION

XS ID — CROSS-SECTION I.D.
244.74 | 244.76 — EX. REG. WSEL (m) UPDATED FLOWS BY CROZIER | EX. 100YR WSEL (m) UPDATED FLOWS BY CROZIER

THIS DRAINAGE PLAN WAS CREATED WITH THE ASSUMPTION THAT THE EXISTING PONDS IN THE EAST TRIBUTARY CAN BE REMOVED/REPLACED.

SCALE: 1:2000

No.	ISSUE / REVISION	YYYY/MMM/DD
1	RE-ISSUED FOR DPOS & OPA	2023/APR/06
0	ISSUED FOR DPOS, OPA & ZBA	2021/JUN/29

Stamp

LICENSED PROFESSIONAL ENGINEER
R.S. ARCHER
100120701
PROVINCE OF ONTARIO

BEARING NOTE:

BEARINGS ARE UTM GRID, DERIVED FROM GPS OBSERVATION USING THE "TOPNET" GPS NETWORK OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS) (2010.0) & (1997.0).

SURVEY COMPLETED BY YOUNG & YOUNG SURVEYING INC. (2021/OCT/14), & (2021/OCT/07) PROJECT NO. 21-87001.

EXISTING GROUND CONTOURS OUTSIDE OF SITE LIMITS AND INSIDE EXISTING FLOOD PLAIN BASED ON LIDAR SURVEY FROM EQUATORSTUDIOS.

ELEVATION NOTE:

ELEVATIONS HEREON ARE GEODETIC IN ORGIN AND WERE DERIVED FROM GPS OBSERVATIONS USING THE "TOPNET" GPS NETWORK AND ARE REFERRED TO THE COVD-1928: 1978 DATUM.

ELEVATION HEREON ARE GEODETIC IN ORGIN AND WERE DERIVED FROM CITY OF BRAMPTON MONUMENT No. 042200365 (NAD ADJUSTMENT) HAVING A PUBLISHED ELEVATION OF 242.135m.

SITE BENCHMARK:

A NAIL HAVING ELEVATION 241.24m WAS SET 12.12m EAST OF THE SOUTHEAST CORNER OF THE PROPERTY ALONG AIRPORT ROAD.

A CUT CROSS HAVING ELEVATION 242.51m WAS SET ON THE NORTHEAST CORNER OF THE INTERSECTION BETWEEN MAYFIELD ROAD AND TORBRAM ROAD

DRAFT PLAN NOTES:

DESIGN ELEMENTS ARE BASED ON DRAFT PLAN BY WESTON CONSULTING INC.
DRAWING No.: D3
FILE No.: 10208

DRAWING NOTES:

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Project

TULLAMORE LANDS
TOWN OF CALEDON

Drawing

EXISTING CONDITIONS 100-YEAR & REGIONAL FLOODPLAIN (NO BERM)

CROZIER CONSULTING ENGINEERS
2800 High Point Drive
Suite 100
Milton, ON L9T 6P4
905.875.0026 T
905.875.4915 F
www.cfcrozier.ca

Drawn	M.N.	Design	E.D.	Project No.	2022-5842
Check	A.D.F./R.S.A.	Check	R.S.A.	Scale	1:2000
				Dwg.	FIG 3B

APPENDIX A

Topographic Survey/Draft Plan

TOPOGRAPHIC PLAN OF

PART OF LOTS 18, 19 AND 20 CONCESSION 6 EAST OF HURONTARIO STREET PART OF LOTS THE ROAD ALLOWANCE BETWEEN LOTS 17 AND 18 CONCESSION 6 EAST OF HURONTARIO STREET

(SUBJECT TO INTEREST OF THE REGIONAL MUNICIPALITY OF PEEL)

TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL

SCALE 1:2000

50 40 30 20 10 0 50 100 metres

YOUNG & YOUNG SURVEYING INC.
ONTARIO LAND SURVEYORS

METRIC

DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

NOTE

1) THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED FOR TRANSACTION OR MORTGAGE PURPOSES.
2) BOUNDARY INFORMATION IS COMPILED AND WAS DERIVED FROM LAND REGISTRY RECORDS AND DEPOSITED PLANS 43R-31492 AND 43R-36672.

BEARING NOTE

BEARINGS ARE UTM GRID, DERIVED FROM GPS OBSERVATION USING THE "TOPNET" GPS NETWORK OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS) (1997.0).

ELEVATION NOTE

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2) ELEVATIONS HEREON ARE GEODETIC IN ORIGIN AND WERE DERIVED FROM CITY OF BRAMPTON MONUMENT No. 042200365 (NAD83 ADJUSTMENT) HAVING A PUBLISHED ELEVATION OF 242.135 m

LOCATED 72.80m SOUTH OF CENTRELINE OF MAYFIELD ROAD AND 19.81m EAST OF CENTRELINE OF TORBRAM ROAD.

SITE BENCHMARK:
A CUT CROSS HAVING ELEVATION 242.51 m WAS SET ON THE NORTHEAST CORNER OF THE INTERSECTION BETWEEN MAYFIELD ROAD AND TORBRAM ROAD

LEGEND

- DENOTES HYDRO POLE
- DENOTES GUY POLE
- DENOTES GUY WIRE
- DENOTES FIRE HYDRANT
- DENOTES BELL PEDESTAL
- DENOTES HAND WELL
- DENOTES MANHOLE
- DENOTES STORM MANHOLE
- DENOTES CATCHBASIN
- DENOTES DOUBLE CATCHBASIN
- DENOTES WATER VALVE
- DENOTES NATURAL GAS VALVE
- DENOTES TRAFFIC LIGHT
- DENOTES TRAFFIC LIGHT/STREET LIGHT
- DENOTES TRAFFIC SIGN
- DENOTES INVERT
- DENOTES HYDRO POLE/LIGHT STANDARD
- DENOTES CUT CROSS
- DENOTES CENTRELINE
- DENOTES TEMPORARY BENCHMARK
- DENOTES UNDERGROUND HYDRO
- DENOTES UNDERGROUND WATERMAIN
- DENOTES UNDERGROUND GAS
- DENOTES UNDERGROUND LIGHT STREET
- DENOTES UNDERGROUND BELL
- DENOTES UNDERGROUND STORM
- DENOTES OVERHEAD WIRES

REVISION NOTE

– THIS PLAN WAS REVISED ON OCTOBER 7, 2021 TO SHOW ADDITIONAL GROUND ELEVATION ON THE NORTH–WESTERLY QUADRATE OF THE PROPERTY WEST OF TORBRAM ROAD, AND EDGE OF PAVEMENT, TOP/BOTTOM OF BANK AND CENTRE LINE OF DITCH ALONG TORBRAM ROAD (BETWEEN THE EAST AND WEST PROPERTIES)

YOUNG & YOUNG SURVEYING INC.
A Subsidiary of Mauro Group Inc.
2 HOLLAND DRIVE, UNIT 5, BOLTON, ONTARIO L7E 1E1
PHONE 905.951.6000 – FAX 905.857.4811
www.youngsurveying.ca – info@youngsurveying.ca

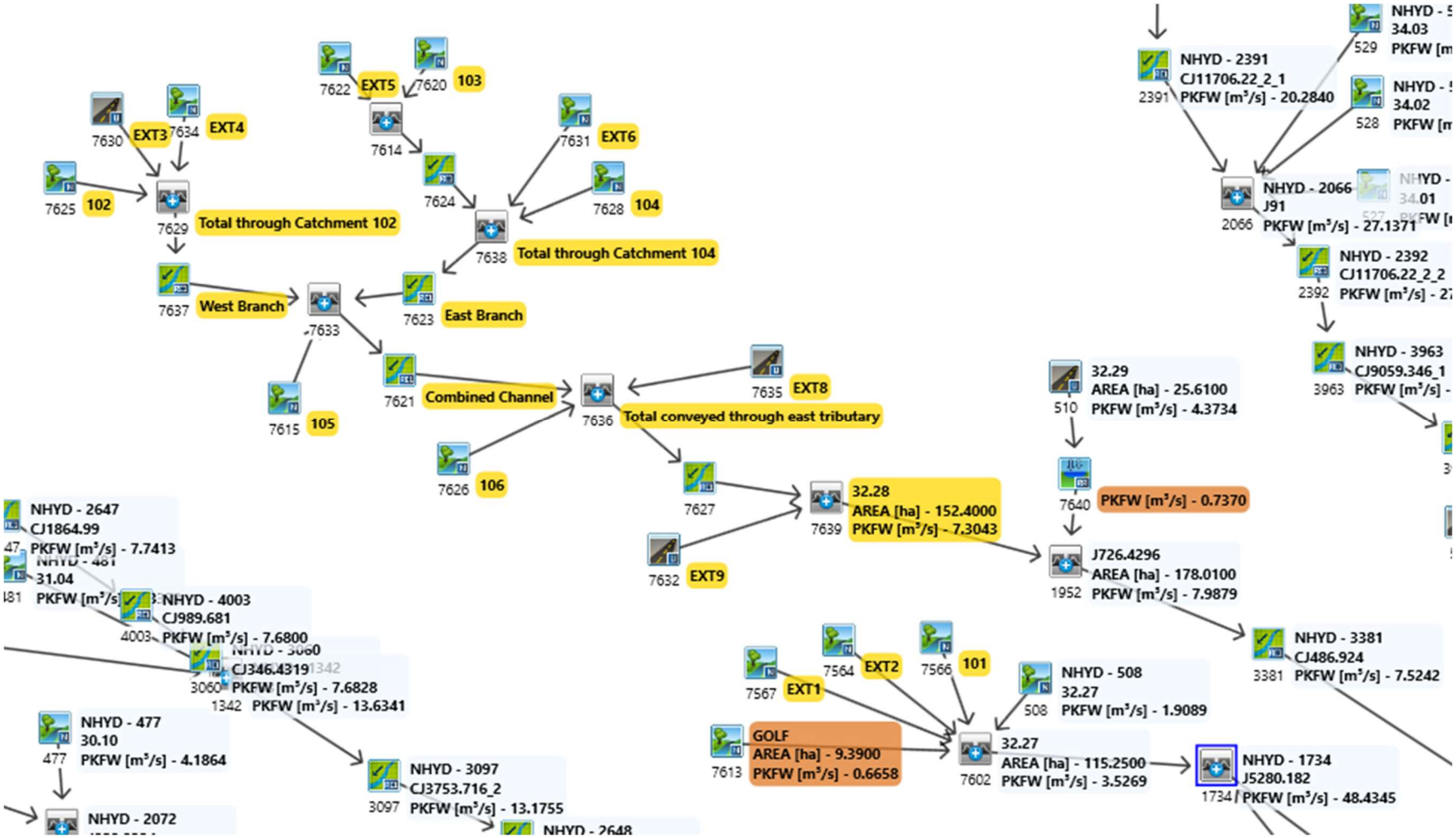
PARTY CHIEF: BP | DRAWN BY: IG | CHECKED BY: JA

PATH=I:\PROJECTS\2021\B7601\MSCAD\B7601_SKT_undg_utl_e-xntrs_v2.DWG

PROJECT No. 21-B7601-4

APPENDIX B

Hydrologic Modeling



VO EXISTING MODEL SCHEMATIC

DATE: 2023-04-05

BY: IC

REVIEWED BY: RSA

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**101**
Catchment AREA (ha)	**34.6**

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment 101

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Chinguacousy Clay Loam	CCL	C	100	34.6
				0
Total Area Check				34.6

Impervious Landuses Present:											
	Driveway/Rooftop		Sidewalk		Gravel Driveway		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL	0.20	79			0.06	79					0.26

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL			34.3	79							34.3

CN Calculations		
	Total Area	34.6
	Composite Curve Number	79

Runoff Coefficient Calculations

Land Use	**Area** (ha)	**C**	**Weighted Average C**
Pervious	34.34	0.25	0.25
Impervious	0.20	0.90	0.01
Gravel	0.06	0.60	0.00
Total Subcatchment	**34.6**	**-**	**0.25**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)	
Pervious	8	34.3	(Meadow)
Impervious	1	0.26	
Total	7.9	34.6	

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
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)
874	26	2.97%	2.3	0.40	0.61	0.37	0.37	0.47	0.31	0.95	0.64

Appropriate calculated time to peak:	0.64	Appropriate Method:	Airport

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**102**
Catchment AREA (ha)	**46.7**

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment 102

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Peel Clay	PC	D	51.2	23.9
Chinguacousy Clay Loam	CCL	C	48.8	22.8
Total Area Check				46.7

Impervious Landuses Present:											
	Driveway/Rooftop		Sidewalk		Gravel Driveways		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL		98				89					0.00

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC			23.9	84							23.9
CCL			22.8	79							22.8
				CN Calculations			Total Area				46.7
							Composite Curve Number				82

Runoff Coefficient Calculations

Land Use	**Area** (ha)	**C**	**Weighted Average C**
Pervious	46.70	0.25	0.25
Impervious	0.00	0.90	0.00
Gravel	0.00	0.60	0.00
Total Subcatchment	**46.7**	**-**	**0.25**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)	
Pervious	8	46.7	(Meadow)
Impervious	1	0.00	
Total	8.0	46.7	

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
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)
1245	16.5	1.33%	2.3	0.26	1.31	0.78	0.78	0.76	0.51	1.48	0.99

Appropriate calculated time to peak:	0.99	Appropriate Method:	Airport

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**103**
Catchment AREA (ha)	**17.0**

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment 103

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Peel Clay	PC	D	100	17.0
Total Area Check				17.0

Impervious Landuses Present:											
	Driveway/Rooftop		Sidewalk		Gravel Driveways		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
		98				89					0.00

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC			17.0	84							17.0

CN Calculations		
	Total Area	17.0
	Composite Curve Number	84

Runoff Coefficient Calculations

Land Use	**Area** (ha)	**C**	**Weighted Average C**
Pervious	17.00	0.25	0.25
Impervious	0.00	0.90	0.00
Gravel	0.00	0.60	0.00
Total Subcatchment	**17.0**	**-**	**0.25**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)	
Pervious	8	17.0	(Meadow)
Impervious	1	0.00	
Total	8.0	17.0	

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
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)
810	13	1.60%	2.3	0.29	0.77	0.46	0.46	0.53	0.35	1.12	0.75

Appropriate calculated time to peak:	0.75	Appropriate Method:	Airport

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**104**
Catchment AREA (ha)	**32.3**

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment 104

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Peel Clay	PC	D	100	32.3
Total Area Check				32.3

Impervious Landuses Present:											
	Driveway/Rooftop		Sidewalk		Gravel Driveways		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
		98				89					0.00

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC			32.3	84							32.3

CN Calculations		
	Total Area	32.3
	Composite Curve Number	84

Runoff Coefficient Calculations

Land Use	**Area** (ha)	**C**	**Weighted Average C**
Pervious	32.30	0.25	0.25
Impervious	0.00	0.90	0.00
Gravel	0.00	0.60	0.00
Total Subcatchment	**32.3**	**-**	**0.25**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)	
Pervious	8	32.3	(Meadow)
Impervious	1	0.00	
Total	8.0	32.3	

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
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)
1175	17	1.45%	2.3	0.28	1.18	0.71	0.71	0.73	0.49	1.40	0.94

Appropriate calculated time to peak:	0.94	Appropriate Method:	Airport

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**105**
Catchment AREA (ha)	**13.4**

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment 105

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Peel Clay	PC	D	15	2.0
Chinguacousy Clay Loam	CCL	C	85	11.4
Total Area Check				13.4

Impervious Landuses Present:											
	Driveway/Rooftop		Sidewalk		Gravel Driveways		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL		98				89					0.00

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC			2.0	84							2.0
CCL			11.4	79							11.4
				CN Calculations			Total Area				13.4
							Composite Curve Number				80

Runoff Coefficient Calculations

Land Use	**Area** (ha)	**C**	**Weighted Average C**
Pervious	13.40	0.25	0.25
Impervious	0.00	0.90	0.00
Gravel	0.00	0.60	0.00
Total Subcatchment	**13.4**	**-**	**0.25**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)	
Pervious	8	13.4	(Meadow)
Impervious	1	0.00	
Total	8.0	13.4	

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
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)
474	6	1.27%	2.3	0.26	0.51	0.31	0.31	0.33	0.22	0.93	0.62

Appropriate calculated time to peak:	0.62	Appropriate Method:	Airport

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**106**
Catchment AREA (ha)	**31.0**

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment 106

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Chinguacousy Clay Loam	CCL	C	100	31.0
				0.0
Total Area Check				31.0

Impervious Landuses Present:											
	Driveway/Rooftop		Sidewalk		Gravel Driveways		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL	0.55	79			1.40	79					1.95

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL			29.1	79							29.1

CN Calculations		
	Total Area	31.0
	Composite Curve Number	79

Runoff Coefficient Calculations

Land Use	**Area** (ha)	**C**	**Weighted Average C**
Pervious	29.1	0.25	0.23
Impervious	0.55	0.90	0.02
Gravel	1.40	0.60	0.03
Total Subcatchment	**31.0**	**-**	**0.28**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)	
Pervious	8	29.1	(Meadow)
Impervious	1	1.95	
Total	7.6	31.0	

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
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)
1448	21.8	1.51%	2.3	0.28	1.43	0.86	0.86	0.90	0.60	1.49	1.00

Appropriate calculated time to peak:	1.00	Appropriate Method:	Airport

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**107**
Catchment AREA (ha)	**1.7**

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment 107

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Peel Clay	PC	D	100	1.7
				0
Total Area Check				1.7

Impervious Landuses Present:											
	Roadway		Sidewalk		Gravel Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC	0.00				0.00						0.00
Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC			1.7	84							1.7

CN Calculations		
	Total Area	1.7
	Composite Curve Number	84

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	1.7	0.25	0.25
Impervious	0.00	0.90	0.00
Total Subcatchment	**1.7**	**-**	**0.25**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)	
Pervious	8	1.7	(Meadow)
Impervious	1	0.00	
Total	8.0	1.7	

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
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)
75	0.5	0.67%	2.3	0.19	0.11	0.07	0.07	0.07	0.05	0.46	0.31

Appropriate calculated time to peak:	0.31	Appropriate Method:	Airport

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**108**
Catchment AREA (ha)	**11.5**

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment 108

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Peel Clay	PC	D	96.9	11.1
Chinguacousy Clay Loam	CCL	C	3.1	0.36
Total Area Check				11.5

Impervious Landuses Present:											
	Roadway		Sidewalk		Gravel Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC	0.00				0.00						0.00

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC			11.1	84							11.1
CCL			0.36	79							0.36
				CN Calculations			Total Area				11.5
							Composite Curve Number				84

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	11.5	0.25	0.25
Impervious	0.00	0.90	0.00
Total Subcatchment	**11.5**	**-**	**0.25**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)	
Pervious	8	11.5	(Meadow)
Impervious	1	0.00	
Total	8.0	11.5	

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
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)
448	5	1.12%	2.3	0.24	0.51	0.31	0.31	0.33	0.22	0.94	0.63

Appropriate calculated time to peak:	0.63	Appropriate Method:	Airport

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**109**
Catchment AREA (ha)	**4.9**

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment 109

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Peel Clay	PC	D	64.6	3.2
Chinguacousy Clay Loam	CCL	C	35.4	1.7
Total Area Check				4.9

Impervious Landuses Present:											
	Roadway		Sidewalk		Gravel Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC	0.00				0.00						0.00

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC			3.2	84							3.2
			1.7	79							1.7
				CN Calculations			Total Area				4.9
							Composite Curve Number				82

Runoff Coefficient Calculations

Land Use	**Area** (ha)	**C**	**Weighted Average C**
Pervious	4.9	0.25	0.25
Impervious	0.00	0.90	0.00
Total Subcatchment	**4.9**	**-**	**0.25**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)	
Pervious	8	4.9	(Meadow)
Impervious	1	0.00	
Total	8.0	4.9	

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
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)
295	2.8	0.95%	2.3	0.22	0.37	0.22	0.22	0.24	0.16	0.81	0.54

Appropriate calculated time to peak:	0.54	Appropriate Method:	Airport

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**110**
Catchment AREA (ha)	**9.7**

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment 110

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Peel Clay	PC	D	100	9.7
Total Area Check				9.7

Impervious Landuses Present:											
	Roadway		Sidewalk		Gravel Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC	0.00				0.00						0.00

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC			9.7	84							9.7
											0.0
			CN Calculations		Total Area						9.7
					Composite Curve Number						84

Runoff Coefficient Calculations

Land Use	**Area** (ha)	**C**	**Weighted Average C**
Pervious	9.7	0.25	0.25
Impervious	0.00	0.90	0.00
Total Subcatchment	**9.7**	**-**	**0.25**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)	
Pervious	8	9.7	(Meadow)
Impervious	1	0.00	
Total	8.0	9.7	

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
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)
466	14.3	3.07%	2.3	0.40	0.32	0.19	0.19	0.28	0.19	0.69	0.46

Appropriate calculated time to peak:	0.46	Appropriate Method:	Airport

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**111**
Catchment AREA (ha)	**0.1**

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment 111

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Peel Clay	PC	D	100	0.1
Total Area Check				0.1

Impervious Landuses Present:											
	Roadway		Sidewalk		Gravel Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC	0.00				0.00						0.00

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC			0.1	84							0.1
											0.0
				CN Calculations			Total Area				0.1
							Composite Curve Number				84

Runoff Coefficient Calculations

Land Use	**Area** (ha)	**C**	**Weighted Average C**
Pervious	0.1	0.25	0.25
Impervious	0.00	0.90	0.00
Total Subcatchment	**0.1**	**-**	**0.25**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)	
Pervious	8	0.1	(Meadow)
Impervious	1	0.00	
Total	8.0	0.1	

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
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)
70	0.5	0.71%	2.3	0.19	0.10	0.06	0.06	0.09	0.06	0.43	0.29

Appropriate calculated time to peak:	0.29	Appropriate Method:	Airport

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**EXT1**
Catchment AREA (ha)	**0.6**

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment EXT1

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Chinguacousy Clay Loam	CCL	C	100	0.6
				0
Total Area Check				0.6

Impervious Landuses Present:											
	Driveway/Rooftop		Sidewalk		Gravel Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL	0.10	79			0.00						0.10

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL							0.5	79			0.5

CN Calculations		
	Total Area	0.6
	Composite Curve Number	79

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.50	0.25	0.21
Impervious	0.10	0.90	0.15
Total Subcatchment	**0.6**	**-**	**0.36**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)	
Pervious	5	0.5	(Lawn)
Impervious	1	0.10	
Total	4.3	0.6	

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
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)
107	1	0.93%	2.3	0.22	0.13	0.08	0.08	0.11	0.07	0.43	0.29

Appropriate calculated time to peak:	0.29	Appropriate Method:	Airport

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**EXT2**
Catchment AREA (ha)	**1.3**

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment EXT2

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Chinguacousy Clay Loam	CCL	C	100	1.3
				0
Total Area Check				1.3

Impervious Landuses Present:											
	Driveway/Rooftop		Sidewalk		Gravel Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL	0.20	79			0.00						0.20

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL							1.1	79			1.1

CN Calculations		
	Total Area	1.3
	Composite Curve Number	79

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	1.10	0.25	0.21
Impervious	0.20	0.90	0.14
Total Subcatchment	**1.3**	**-**	**0.35**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)	
Pervious	5	1.1	(Lawn)
Impervious	1	0.20	
Total	4.4	1.3	

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
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)
184	11	5.98%	2.3	0.56	0.09	0.05	0.05	0.12	0.08	0.31	0.21

Appropriate calculated time to peak:	0.21	Appropriate Method:	Airport

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**EXT3**
Catchment AREA (ha)	**3.4**

Hydrologic Parameters: STANDHYD Command
Post-Development Drainage Area: Catchment EXT3

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Chinguacousy Clay Loam	CCL	C	100	3.4
				0
Total Area Check				3.4

Impervious Landuses Present:											
	Roadway/Rooftops		Sidewalk		Gravel Area		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL	1.27	79				79					1.27

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL			0.34	79			1.79	79			2.13

CN Calculations		
	Total Area	3.40
	Composite Curve Number	79

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	2.13	0.25	0.16
Impervious	1.27	0.90	0.34
Total Subcatchment	**3.4**	**-**	**0.49**

TIMP	**0.42**
XIMP	**0.22**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Meadow	8	0.34
Pervious	5	1.79
Impervious	1	1.27
Total	3.8	3.40

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	-	-	0.25
Impervious	1.0	0.7	745	0.013

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**EXT4**
Catchment AREA (ha)	**4.9**

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment EXT4

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Chinguacousy Clay Loam	CCL	C	100	4.9
				0
Total Area Check				4.9

Impervious Landuses Present:											
	Roadway/Rooftops		Sidewalk		Gravel Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL		79			0.00						0.00

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL			4.9	79				79			4.9

CN Calculations		
	Total Area	4.9
	Composite Curve Number	79

Runoff Coefficient Calculations

Land Use	**Area** (ha)	**C**	**Weighted Average C**
Pervious	4.90	0.25	0.25
Impervious	0.00	0.90	0.00
Total Subcatchment	**4.9**	**-**	**0.25**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)	
Pervious	8	4.9	(Meadow)
Impervious	1	0.00	
Total	8.0	4.9	

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
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)
180	1	0.56%	2.3	0.17	0.29	0.17	0.17	0.16	0.11	0.75	0.50

Appropriate calculated time to peak:	0.50	Appropriate Method:	Airport

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**EXT5**
Catchment AREA (ha)	**0.9**

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment EXT5

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Peel Clay	PC	D	100	0.9
				0
Total Area Check				0.9

Impervious Landuses Present:											
	Roadway		Sidewalk		Gravel Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC	0.00				0.00						0.00
Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC			0.9	84							0.9

CN Calculations		
	Total Area	0.9
	Composite Curve Number	84

Runoff Coefficient Calculations

Land Use	**Area** (ha)	**C**	**Weighted Average C**
Pervious	0.90	0.25	0.25
Impervious	0.00	0.90	0.00
Total Subcatchment	**0.9**	**-**	**0.25**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)	
Pervious	8	0.9	(Meadow)
Impervious	1	0.00	
Total	8.0	0.9	

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
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)
103	0.85	0.83%	2.3	0.21	0.14	0.08	0.08	0.10	0.07	0.50	0.33

Appropriate calculated time to peak:	0.33	Appropriate Method:	Airport

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**EXT6**
Catchment AREA (ha)	**0.5**

Hydrologic Parameters: NASHYD Command
Pre-Development Drainage Area: Catchment EXT6

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Peel Clay	PC	D	100	0.5
				0
Total Area Check				0.5

Impervious Landuses Present:											
	Roadway		Sidewalk		Gravel Parking Lot		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC	0.00				0.00						0.00

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC			0.5	84							0.5

CN Calculations		
	Total Area	0.5
	Composite Curve Number	84

Runoff Coefficient Calculations

Land Use	**Area** (ha)	**C**	**Weighted Average C**
Pervious	0.50	0.25	0.25
Impervious	0.00	0.90	0.00
Total Subcatchment	**0.5**	**-**	**0.25**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)	
Pervious	8	0.5	(Meadow)
Impervious	1	0.00	
Total	8.0	0.5	

Time to Peak Calculations

Time to Peak Inputs					Uplands			Bransby Williams		Airport	
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)
79	2	2.53%	2.3	0.37	0.06	0.04	0.04	0.07	0.04	0.30	0.20

Appropriate calculated time to peak:	0.20	Appropriate Method:	Airport

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME **EXT7**
Catchment AREA (ha) **1.4**

Hydrologic Parameters: STANDHYD Command
Pre-Development Drainage Area: Catchment EXT7

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Peel Clay	PC	D	100	1.4
				0
Total Area Check				1.4

Impervious Landuses Present:											
	Roadway/Rooftops		Sidewalk		Gravel Area		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC		98			1.40	84					1.40

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
PC								84			0.00

CN Calculations		
	Total Area	1.40
	Composite Curve Number	84

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Gravel	1.40	0.60	0.60
Total Subcatchment	**1.4**	**-**	**0.60**

TIMP	**0.57**
XIMP	**0.37**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	0.00
Gravel	2.5	1.40
Impervious	1	0.00
Total	2.5	1.40

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	-	-	0.25
Impervious	1.0	1.2	74	0.013

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME **EXT8**
Catchment AREA (ha) **1.4**

Hydrologic Parameters: STANDHYD Command
Pre-Development Drainage Area: Catchment EXT8

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Chinguacousy Clay Loam	CCL	C	100	1.4
				0
Total Area Check				1.4

Impervious Landuses Present:											
	Roadway/Rooftops		Sidewalk		Gravel Area		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL		98			1.40	79					1.40

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL								84			0.00

CN Calculations		
	Total Area	1.40
	Composite Curve Number	79

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.00	0.25	0.00
Gravel	1.40	0.60	0.60
Total Subcatchment	**1.4**	**-**	**0.60**

TIMP	**0.57**
XIMP	**0.37**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	0.00
Gravel	2.5	1.40
Impervious	1	0.00
Total	2.5	1.40

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	-	-	0.25
Impervious	1.0	2	90	0.013

Project Name: Tullamore Lands
Project Number: 2022-5842
Date: 2023-01-16
By: IC
Check: RA

Catchment NAME	**EXT9**
Catchment AREA (ha)	**0.9**

Hydrologic Parameters: STANDHYD Command
Post-Development Drainage Area: Catchment EXT9

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Chinguacousy Clay Loam	CCL	C	100	0.9
				0
Total Area Check				0.9

Impervious Landuses Present:											
	Roadway/Rooftops		Sidewalk		Gravel Area		Building		SWMF		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL	0.45	79				79					0.45

Pervious Landuses Present:											
	Woodland		Meadow		Wetland		Roadside Ditch		Cultivated		Subtotal
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area
CCL							0.45	79			0.45

CN Calculations		
	Total Area	0.90
	Composite Curve Number	79

Runoff Coefficient Calculations

Land Use	Area (ha)	C	Weighted Average C
Pervious	0.45	0.25	0.13
Impervious	0.45	0.90	0.45
Total Subcatchment	**0.9**	**-**	**0.58**

TIMP	**0.54**
XIMP	**0.34**

Initial Abstraction Calculations

Landuse	IA (mm)	Area (ha)
Pervious	5	0.45
Impervious	1	0.45
Total	3.0	0.90

Flow Length Calculations

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	313	0.25
Impervious	1.0	1	309	0.013

```
*******************************
** SIMULATION:2yr-12hr        **
*******************************
    READ STORM                 15.0
    [ Ptot= 42.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)

*
 ** CALIB NASHYD         0508  1  5.0   69.36    0.08 11.08   7.00 0.17   0.000
    [CN=69.0         ]
    [ N = 1.5:Tp 4.00]
*
    READ STORM                 15.0
    [ Ptot= 42.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)

*
 ** CALIB NASHYD         7564  1  5.0    1.30    0.03  5.25  13.43 0.32   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                 15.0
    [ Ptot= 42.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)

*
 ** CALIB NASHYD         7566  1  5.0   34.60    0.46  5.67  12.88 0.31   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.64]
*
    READ STORM                 15.0
    [ Ptot= 42.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)

*
 ** CALIB NASHYD         7567  1  5.0    0.60    0.01  5.33  13.50 0.32   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.29]
```

```
*
    READ STORM                 15.0
    [ Ptot= 42.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)

*
 ** CALIB NASHYD         7613  1  5.0    9.39    0.11  5.25   6.99 0.17   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.20]
*
    ADD [  0508+  7564]  7602  3  5.0   70.66    0.08 11.08   7.12  n/a   0.000
*
    ADD [  7602+  7566]  7602  1  5.0  105.26    0.50  5.67   9.02  n/a   0.000
*
    ADD [  7602+  7567]  7602  3  5.0  105.86    0.51  5.67   9.04  n/a   0.000
*
    ADD [  7602+  7613]  7602  1  5.0  115.25    0.57  5.50   8.87  n/a   0.000
*
    ADD [  3722+  7602]  1734  3  5.0 2531.22    1.85 18.25   7.11  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 42.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)

*
 ** CALIB NASHYD         7615  1  5.0   13.40    0.18  5.67  12.88 0.31   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.62]
*
    READ STORM                 15.0
    [ Ptot= 42.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)

*
 ** CALIB NASHYD         7620  1  5.0   17.00    0.28  5.83  16.84 0.40   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.75]
*
    READ STORM                 15.0
    [ Ptot= 42.00 mm ]
    fname :
```

```
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)

*
 ** CALIB NASHYD         7622  1  5.0    0.90    0.02  5.33  16.84 0.40   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.33]
*
    ADD [  7620+  7622]  7614  3  5.0   17.90    0.29  5.75  16.84  n/a   0.000
*
    CHANNEL[ 2:  7614]   7624  1  5.0   17.90    0.28  6.00  16.84  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 42.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)

*
 ** CALIB NASHYD         7628  1  5.0   32.30    0.47  6.08  16.84 0.40   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.94]
*
    READ STORM                15.0
    [ Ptot= 42.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)

*
 ** CALIB NASHYD         7631  1  5.0    0.50    0.01  5.25  16.81 0.40   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.20]
*
    ADD [  7624+  7628]  7638  3  5.0   50.20    0.75  6.08  16.84  n/a   0.000
*
    ADD [  7638+  7631]  7638  1  5.0   50.70    0.75  6.08  16.84  n/a   0.000
*
    CHANNEL[ 2:  7638]   7623  1  5.0   50.70    0.66  6.67  16.84  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 42.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)
```

```
*
 ** CALIB NASHYD         7625  1  5.0   46.70    0.56  6.25  14.67 0.35   0.000
    [CN=85.0         ]
    [ N = 3.0:Tp 0.99]
*
    READ STORM                 15.0
    [ Ptot= 42.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)

*
 ** CALIB NASHYD         7634  1  5.0    4.90    0.08  5.50  12.88 0.31   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.50]
*
    READ STORM                 15.0
    [ Ptot= 42.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)

*
 ** CALIB STANDHYD       7630  1  5.0    3.40    0.07  5.33  18.36 0.44   0.000
    [I%=22.0:S%= 2.00]
*
    ADD [  7625+  7630]  7629  3  5.0   50.10    0.60  6.17  14.92  n/a   0.000
*
    ADD [  7629+  7634]  7629  1  5.0   55.00    0.66  6.08  14.73  n/a   0.000
*
    CHANNEL[ 2:  7629]   7637  1  5.0   55.00    0.64  6.33  14.73  n/a   0.000
*
    ADD [  7615+  7623]  7633  3  5.0   64.10    0.79  6.50  16.01  n/a   0.000
*
    ADD [  7633+  7637]  7633  1  5.0  119.10    1.42  6.42  15.42  n/a   0.000
*
    CHANNEL[ 2:  7633]   7621  1  5.0  119.10    1.41  6.58  15.42  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 42.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)

*
 ** CALIB NASHYD         7626  1  5.0   31.00    0.33  6.25  13.13 0.31   0.000
    [CN=82.0         ]
```

```
    [ N = 3.0:Tp 1.00]
*
    READ STORM                 15.0
    [ Ptot= 42.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7635  1  5.0    1.40    0.05  5.25  26.27 0.63   0.000
    [I%=37.0:S%= 2.00]
*
    ADD [  7621+  7626]  7636  3  5.0  150.10    1.73  6.50  14.95  n/a   0.000
*
    ADD [  7636+  7635]  7636  1  5.0  151.50    1.75  6.50  15.05  n/a   0.000
*
    CHANNEL[ 2:  7636]   7627  1  5.0  151.50    1.72  6.75  15.05  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 42.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7632  1  5.0    0.90    0.02  5.25  25.60 0.61   0.000
    [I%=34.0:S%= 2.00]
*
    ADD [  7627+  7632]  7639  3  5.0  152.40    1.73  6.75  15.12  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 42.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\2bd245c3-54d
7-4051-915b-054ae
    remark: 2 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       0510  1  5.0   25.61    0.71  5.25  22.05 0.52   0.000
    [I%=40.0:S%= 2.26]
*
 ** Reservoir
    OUTFLOW:             7640  1  5.0   25.61    0.13  7.42  22.01  n/a   0.000
    OVERFLOW:            7640  3  5.0    0.00    0.00  0.00   0.00  n/a   0.000
*
    ADD [  7639+  7640]  1952  3  5.0  178.01    1.86  6.75  16.11  n/a   0.000
*
*******************************
```

```
** SIMULATION:2yr-6hr         **
*****************************
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         0508  1  5.0   69.36    0.06  7.50   4.82 0.13   0.000
    [CN=69.0         ]
    [ N = 1.5:Tp 4.00]
*
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7564  1  5.0    1.30    0.03  2.83  10.06 0.28   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7566  1  5.0   34.60    0.45  3.50   9.36 0.26   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.64]
*
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7567  1  5.0    0.60    0.01  2.92  10.12 0.28   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.29]
*
```

```
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7613  1  5.0    9.39    0.11  2.83   4.82 0.13   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.20]
*
    ADD [  0508+  7564]  7602  3  5.0   70.66    0.06  7.50   4.92  n/a   0.000
*
    ADD [  7602+  7566]  7602  1  5.0  105.26    0.48  3.50   6.38  n/a   0.000
*
    ADD [  7602+  7567]  7602  3  5.0  105.86    0.49  3.42   6.40  n/a   0.000
*
    ADD [  7602+  7613]  7602  1  5.0  115.25    0.55  3.33   6.27  n/a   0.000
*
    ADD [  3722+  7602]  1734  3  5.0 2531.22    1.28 15.42   4.91  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7615  1  5.0   13.40    0.18  3.42   9.36 0.26   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.62]
*
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7620  1  5.0   17.00    0.27  3.58  12.52 0.35   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.75]
*
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
```

```
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7622  1  5.0    0.90    0.02  3.00  12.51 0.35   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.33]
*
    ADD [  7620+  7622]  7614  3  5.0   17.90    0.29  3.58  12.52  n/a   0.000
*
    CHANNEL[ 2:  7614]   7624  1  5.0   17.90    0.27  3.75  12.52  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7628  1  5.0   32.30    0.45  3.83  12.52 0.35   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.94]
*
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7631  1  5.0    0.50    0.02  2.83  12.49 0.35   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.20]
*
    ADD [  7624+  7628]  7638  3  5.0   50.20    0.72  3.83  12.52  n/a   0.000
*
    ADD [  7638+  7631]  7638  1  5.0   50.70    0.73  3.83  12.52  n/a   0.000
*
    CHANNEL[ 2:  7638]   7623  1  5.0   50.70    0.62  4.42  12.52  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
```

```
 *  CALIB NASHYD         7625  1  5.0   46.70    0.54  3.92  10.77 0.30   0.000
    [CN=85.0         ]
    [ N = 3.0:Tp 0.99]
*
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7634  1  5.0    4.90    0.07  3.25   9.36 0.26   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.50]
*
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7630  1  5.0    3.40    0.08  2.83  14.73 0.41   0.000
    [I%=22.0:S%= 2.00]
*
    ADD [  7625+  7630]  7629  3  5.0   50.10    0.57  3.92  11.03  n/a   0.000
*
    ADD [  7629+  7634]  7629  1  5.0   55.00    0.63  3.83  10.89  n/a   0.000
*
    CHANNEL[ 2:  7629]   7637  1  5.0   55.00    0.61  4.08  10.89  n/a   0.000
*
    ADD [  7615+  7623]  7633  3  5.0   64.10    0.73  4.25  11.86  n/a   0.000
*
    ADD [  7633+  7637]  7633  1  5.0  119.10    1.34  4.17  11.41  n/a   0.000
*
    CHANNEL[ 2:  7633]   7621  1  5.0  119.10    1.32  4.33  11.41  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7626  1  5.0   31.00    0.31  3.92   9.58 0.27   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 1.00]
```

```
*
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7635  1  5.0    1.40    0.07  2.75  21.55 0.60   0.000
    [I%=37.0:S%= 2.00]
*
    ADD [  7621+  7626]  7636  3  5.0  150.10    1.63  4.25  11.03  n/a   0.000
*
    ADD [  7636+  7635]  7636  1  5.0  151.50    1.64  4.25  11.13  n/a   0.000
*
    CHANNEL[ 2:  7636]   7627  1  5.0  151.50    1.60  4.42  11.13  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7632  1  5.0    0.90    0.03  2.75  20.91 0.58   0.000
    [I%=34.0:S%= 2.00]
*
    ADD [  7627+  7632]  7639  3  5.0  152.40    1.61  4.42  11.19  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 36.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\a0f810e3-719
a-4448-b69e-213b1
    remark: 2 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       0510  1  5.0   25.61    1.04  2.75  18.04 0.50   0.000
    [I%=40.0:S%= 2.26]
*
 ** Reservoir
    OUTFLOW:             7640  1  5.0   25.61    0.12  4.42  18.00  n/a   0.000
    OVERFLOW:            7640  3  5.0    0.00    0.00  0.00   0.00  n/a   0.000
*
    ADD [  7639+  7640]  1952  3  5.0  178.01    1.73  4.42  12.17  n/a   0.000
*
*******************************
** SIMULATION:5yr-12hr        **
```

```
*******************************
    READ STORM                 15.0
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         0508  1  5.0   69.36    0.13 10.83  12.42 0.23   0.000
    [CN=69.0         ]
    [ N = 1.5:Tp 4.00]
*
    READ STORM                 15.0
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7564  1  5.0    1.30    0.04  5.25  21.23 0.39   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                 15.0
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7566  1  5.0   34.60    0.78  5.67  21.06 0.39   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.64]
*
    READ STORM                 15.0
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7567  1  5.0    0.60    0.02  5.33  21.32 0.39   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.29]
*
    READ STORM                 15.0
```

```
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7613  1  5.0    9.39    0.19  5.25  12.40 0.23   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.20]
*
    ADD [  0508+  7564]  7602  3  5.0   70.66    0.14 10.83  12.59  n/a   0.000
*
    ADD [  7602+  7566]  7602  1  5.0  105.26    0.85  5.67  15.37  n/a   0.000
*
    ADD [  7602+  7567]  7602  3  5.0  105.86    0.86  5.67  15.41  n/a   0.000
*
    ADD [  7602+  7613]  7602  1  5.0  115.25    0.98  5.50  15.16  n/a   0.000
*
    ADD [  3722+  7602]  1734  3  5.0 2531.22    3.35 17.58  12.58  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7615  1  5.0   13.40    0.31  5.58  21.06 0.39   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.62]
*
    READ STORM                 15.0
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7620  1  5.0   17.00    0.46  5.75  26.55 0.49   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.75]
*
    READ STORM                 15.0
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
```

```
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7622  1  5.0    0.90    0.04  5.33  26.54 0.49   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.33]
*
    ADD [  7620+  7622]  7614  3  5.0   17.90    0.48  5.75  26.55  n/a   0.000
*
    CHANNEL[ 2:  7614]   7624  1  5.0   17.90    0.47  5.83  26.55  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7628  1  5.0   32.30    0.75  6.00  26.55 0.49   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.94]
*
    READ STORM                 15.0
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7631  1  5.0    0.50    0.02  5.25  26.50 0.49   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.20]
*
    ADD [  7624+  7628]  7638  3  5.0   50.20    1.22  5.92  26.55  n/a   0.000
*
    ADD [  7638+  7631]  7638  1  5.0   50.70    1.23  5.92  26.55  n/a   0.000
*
    CHANNEL[ 2:  7638]   7623  1  5.0   50.70    1.08  6.50  26.55  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7625  1  5.0   46.70    0.93  6.17  23.59 0.43   0.000
```

```
    [CN=85.0         ]
    [ N = 3.0:Tp 0.99]
*
    READ STORM                 15.0
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7634  1  5.0    4.90    0.13  5.50  21.06 0.39   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.50]
*
    READ STORM                 15.0
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7630  1  5.0    3.40    0.10  5.33  26.50 0.49   0.000
    [I%=22.0:S%= 2.00]
*
    ADD [  7625+  7630]  7629  3  5.0   50.10    0.98  6.08  23.78  n/a   0.000
*
    ADD [  7629+  7634]  7629  1  5.0   55.00    1.08  6.00  23.54  n/a   0.000
*
    CHANNEL[ 2:  7629]   7637  1  5.0   55.00    1.05  6.25  23.54  n/a   0.000
*
    ADD [  7615+  7623]  7633  3  5.0   64.10    1.30  6.33  25.40  n/a   0.000
*
    ADD [  7633+  7637]  7633  1  5.0  119.10    2.35  6.33  24.54  n/a   0.000
*
    CHANNEL[ 2:  7633]   7621  1  5.0  119.10    2.33  6.42  24.54  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7626  1  5.0   31.00    0.55  6.17  21.34 0.39   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 1.00]
*
```

```
    READ STORM                 15.0
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7635  1  5.0    1.40    0.07  5.25  36.48 0.67   0.000
    [I%=37.0:S%= 2.00]
*
    ADD [  7621+  7626]  7636  3  5.0  150.10    2.87  6.42  23.88  n/a   0.000
*
    ADD [  7636+  7635]  7636  1  5.0  151.50    2.89  6.42  24.00  n/a   0.000
*
    CHANNEL[ 2:  7636]   7627  1  5.0  151.50    2.84  6.67  24.00  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7632  1  5.0    0.90    0.03  5.25  35.77 0.66   0.000
    [I%=34.0:S%= 2.00]
*
    ADD [  7627+  7632]  7639  3  5.0  152.40    2.85  6.58  24.07  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 54.38 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\369eff41-75b
2-445e-a662-3410e
    remark: 5 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       0510  1  5.0   25.61    1.00  5.25  30.83 0.57   0.000
    [I%=40.0:S%= 2.26]
*
 ** Reservoir
    OUTFLOW:             7640  1  5.0   25.61    0.22  6.92  30.78  n/a   0.000
    OVERFLOW:            7640  3  5.0    0.00    0.00  0.00   0.00  n/a   0.000
*
    ADD [  7639+  7640]  1952  3  5.0  178.01    3.07  6.67  25.03  n/a   0.000
*
*******************************
** SIMULATION:5yr-6hr         **
*******************************
```

```
    READ STORM                 15.0
    [ Ptot= 47.81 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         0508  1  5.0   69.36    0.11  7.42   9.41 0.20   0.000
    [CN=69.0         ]
    [ N = 1.5:Tp 4.00]
*
    READ STORM                 15.0
    [ Ptot= 47.81 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7564  1  5.0    1.30    0.06  2.83  16.96 0.35   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                 15.0
    [ Ptot= 47.81 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7566  1  5.0   34.60    0.81  3.42  16.58 0.35   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.64]
*
    READ STORM                 15.0
    [ Ptot= 47.81 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7567  1  5.0    0.60    0.02  2.92  17.04 0.36   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.29]
*
    READ STORM                 15.0
    [ Ptot= 47.81 mm ]
```

```
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7613  1  5.0    9.39    0.23  2.83   9.39 0.20   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.20]
*
    ADD [  0508+  7564]  7602  3  5.0   70.66    0.11  7.42   9.55  n/a   0.000
*
    ADD [  7602+  7566]  7602  1  5.0  105.26    0.89  3.42  11.86  n/a   0.000
*
    ADD [  7602+  7567]  7602  3  5.0  105.86    0.90  3.42  11.89  n/a   0.000
*
    ADD [  7602+  7613]  7602  1  5.0  115.25    1.01  3.33  11.69  n/a   0.000
*
    ADD [  3722+  7602]  1734  3  5.0 2531.22    2.55 14.83   9.54  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 47.81 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7615  1  5.0   13.40    0.32  3.42  16.58 0.35   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.62]
*
    READ STORM                 15.0
    [ Ptot= 47.81 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7620  1  5.0   17.00    0.47  3.50  21.29 0.45   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.75]
*
    READ STORM                 15.0
    [ Ptot= 47.81 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)
```

```
*
 *  CALIB NASHYD         7622  1  5.0    0.90    0.04  2.92  21.28 0.45   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.33]
*
    ADD [  7620+  7622]  7614  3  5.0   17.90    0.50  3.50  21.29  n/a   0.000
*
    CHANNEL[ 2:  7614]   7624  1  5.0   17.90    0.49  3.58  21.29  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 47.81 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7628  1  5.0   32.30    0.78  3.75  21.29 0.45   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.94]
*
    READ STORM                 15.0
    [ Ptot= 47.81 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7631  1  5.0    0.50    0.03  2.83  21.25 0.44   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.20]
*
    ADD [  7624+  7628]  7638  3  5.0   50.20    1.26  3.67  21.29  n/a   0.000
*
    ADD [  7638+  7631]  7638  1  5.0   50.70    1.27  3.67  21.29  n/a   0.000
*
    CHANNEL[ 2:  7638]   7623  1  5.0   50.70    1.09  4.17  21.29  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 47.81 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7625  1  5.0   46.70    0.95  3.83  18.73 0.39   0.000
    [CN=85.0         ]
```

```
    [ N = 3.0:Tp 0.99]
*
    READ STORM                 15.0
    [ Ptot= 47.81 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7634  1  5.0    4.90    0.13  3.25  16.58 0.35   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.50]
*
    READ STORM                 15.0
    [ Ptot= 47.81 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7630  1  5.0    3.40    0.14  2.83  22.08 0.46   0.000
    [I%=22.0:S%= 2.00]
*
    ADD [  7625+  7630]  7629  3  5.0   50.10    1.00  3.83  18.95  n/a   0.000
*
    ADD [  7629+  7634]  7629  1  5.0   55.00    1.10  3.75  18.74  n/a   0.000
*
    CHANNEL[ 2:  7629]   7637  1  5.0   55.00    1.07  4.00  18.74  n/a   0.000
*
    ADD [  7615+  7623]  7633  3  5.0   64.10    1.31  4.08  20.30  n/a   0.000
*
    ADD [  7633+  7637]  7633  1  5.0  119.10    2.38  4.00  19.58  n/a   0.000
*
    CHANNEL[ 2:  7633]   7621  1  5.0  119.10    2.36  4.17  19.58  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 47.81 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7626  1  5.0   31.00    0.56  3.92  16.85 0.35   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 1.00]
*
    READ STORM                 15.0
```

```
    [ Ptot= 47.81 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7635  1  5.0    1.40    0.11  2.75  30.99 0.65   0.000
    [I%=37.0:S%= 2.00]
*
    ADD [  7621+  7626]  7636  3  5.0  150.10    2.90  4.08  19.02  n/a   0.000
*
    ADD [  7636+  7635]  7636  1  5.0  151.50    2.91  4.08  19.13  n/a   0.000
*
    CHANNEL[ 2:  7636]   7627  1  5.0  151.50    2.85  4.33  19.13  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 47.81 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7632  1  5.0    0.90    0.04  2.75  30.31 0.63   0.000
    [I%=34.0:S%= 2.00]
*
    ADD [  7627+  7632]  7639  3  5.0  152.40    2.86  4.33  19.19  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 47.81 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\c88d7dc8-c860-489a-8c0e-c55296c93b18\6277beea-c04
c-4939-9d62-0f7ca
    remark: 5 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       0510  1  5.0   25.61    1.52  2.75  26.09 0.55   0.000
    [I%=40.0:S%= 2.26]
*
 ** Reservoir
    OUTFLOW:             7640  1  5.0   25.61    0.21  4.25  26.05  n/a   0.000
    OVERFLOW:            7640  3  5.0    0.00    0.00  0.00   0.00  n/a   0.000
*
    ADD [  7639+  7640]  1952  3  5.0  178.01    3.07  4.33  20.18  n/a   0.000
*
```

```
*******************************
** SIMULATION:100yr-12hr      **
*******************************
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         0508  1  5.0   69.36    1.87  7.25  51.45 0.58   0.000
    [CN=86.0         ]
    [ N = 2.5:Tp 1.80]
*
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7564  1  5.0    1.30    0.10  5.25  46.61 0.53   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7567  1  5.0    0.60    0.04  5.25  46.74 0.53   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.29]
*
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7566  1  5.0   34.60    1.82  5.58  47.59 0.54   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.64]
```

```
*
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7613  1  5.0    9.39    0.49  5.25  31.96 0.36   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.20]
*
    ADD [  0508+  7564]  7602  3  5.0   70.66    1.89  7.25  51.36  n/a   0.000
*
    ADD [  7602+  7566]  7602  1  5.0  105.26    3.05  5.92  50.12  n/a   0.000
*
    ADD [  7602+  7567]  7602  3  5.0  105.86    3.07  5.92  50.10  n/a   0.000
*
    ADD [  7602+  7613]  7602  1  5.0  115.25    3.25  5.83  48.62  n/a   0.000
*
    ADD [  3722+  7602]  1734  3  5.0 2531.22   50.56  9.25  51.86  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7622  1  5.0    0.90    0.07  5.33  56.30 0.64   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.33]
*
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7620  1  5.0   17.00    0.99  5.67  56.32 0.64   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.75]
*
    ADD [  7620+  7622]  7614  3  5.0   17.90    1.04  5.67  56.32  n/a   0.000
*
    CHANNEL[ 2:  7614]   7624  1  5.0   17.90    1.03  5.75  56.32  n/a   0.000
```

```
*
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7631  1  5.0    0.50    0.05  5.25  56.21 0.63   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.20]
*
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7628  1  5.0   32.30    1.64  5.92  56.32 0.64   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.94]
*
    ADD [  7624+  7628]  7638  3  5.0   50.20    2.66  5.83  56.32  n/a   0.000
*
    ADD [  7638+  7631]  7638  1  5.0   50.70    2.67  5.83  56.32  n/a   0.000
*
    CHANNEL[ 2:  7638]   7623  1  5.0   50.70    2.52  6.17  56.32  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7634  1  5.0    4.90    0.29  5.42  47.59 0.54   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.50]
*
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)
```

```
*
 *  CALIB NASHYD         7625  1  5.0   46.70    2.09  6.00  51.74 0.58   0.000
    [CN=85.0         ]
    [ N = 3.0:Tp 0.99]
*
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7630  1  5.0    3.40    0.22  5.33  52.08 0.59   0.000
    [I%=22.0:S%= 2.00]
*
    ADD [  7625+  7630]  7629  3  5.0   50.10    2.20  6.00  51.77  n/a   0.000
*
    ADD [  7629+  7634]  7629  1  5.0   55.00    2.42  5.83  51.39  n/a   0.000
*
    CHANNEL[ 2:  7629]   7637  1  5.0   55.00    2.39  6.08  51.39  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7615  1  5.0   13.40    0.72  5.58  47.59 0.54   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.62]
*
    ADD [  7615+  7623]  7633  3  5.0   64.10    3.10  6.00  54.49  n/a   0.000
*
    ADD [  7633+  7637]  7633  1  5.0  119.10    5.48  6.00  53.06  n/a   0.000
*
    CHANNEL[ 2:  7633]   7621  1  5.0  119.10    5.44  6.17  53.06  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7626  1  5.0   31.00    1.26  6.00  47.93 0.54   0.000
    [CN=82.0         ]
```

```
    [ N = 3.0:Tp 1.00]
*
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7635  1  5.0    1.40    0.13  5.25  66.65 0.75   0.000
    [I%=37.0:S%= 2.00]
*
    ADD [  7621+  7626]  7636  3  5.0  150.10    6.70  6.17  52.00  n/a   0.000
*
    ADD [  7636+  7635]  7636  1  5.0  151.50    6.74  6.17  52.14  n/a   0.000
*
    CHANNEL[ 2:  7636]   7627  1  5.0  151.50    6.62  6.33  52.14  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7632  1  5.0    0.90    0.06  5.25  65.90 0.74   0.000
    [I%=34.0:S%= 2.00]
*
    ADD [  7627+  7632]  7639  3  5.0  152.40    6.66  6.33  52.22  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 88.54 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\eb7441f0-379
a-4ae2-aeee-86692
    remark: 100 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       0510  1  5.0   25.61    2.60  5.25  74.24 0.84   0.000
    [I%=48.9:S%= 2.26]
*
 ** Reservoir
    OUTFLOW:             7640  1  5.0   25.61    0.63  6.42  74.20  n/a   0.000
    OVERFLOW:            7640  3  5.0    0.00    0.00  0.00   0.00  n/a   0.000
*
    ADD [  7639+  7640]  1952  3  5.0  178.01    7.28  6.33  55.38  n/a   0.000
*
*******************************
```

```
** SIMULATION:100yr-6hr       **
*****************************
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         0508  1  5.0   69.36    1.91  4.83  44.27 0.55   0.000
    [CN=86.0         ]
    [ N = 2.5:Tp 1.80]
*
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7564  1  5.0    1.30    0.14  2.83  40.11 0.50   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7567  1  5.0    0.60    0.06  2.83  40.23 0.50   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.29]
*
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7566  1  5.0   34.60    2.07  3.33  40.83 0.51   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.64]
*
```

```
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7613  1  5.0    9.39    0.67  2.83  26.75 0.33   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.20]
*
    ADD [  0508+  7564]  7602  3  5.0   70.66    1.92  4.75  44.20  n/a   0.000
*
    ADD [  7602+  7566]  7602  1  5.0  105.26    3.29  3.67  43.09  n/a   0.000
*
    ADD [  7602+  7567]  7602  3  5.0  105.86    3.31  3.58  43.07  n/a   0.000
*
    ADD [  7602+  7613]  7602  1  5.0  115.25    3.53  3.50  41.74  n/a   0.000
*
    ADD [  3722+  7602]  1734  3  5.0 2531.22   48.43  6.75  44.67  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7622  1  5.0    0.90    0.10  2.92  48.88 0.61   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.33]
*
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7620  1  5.0   17.00    1.12  3.42  48.89 0.61   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.75]
*
    ADD [  7620+  7622]  7614  3  5.0   17.90    1.17  3.42  48.89  n/a   0.000
*
    CHANNEL[ 2:  7614]   7624  1  5.0   17.90    1.16  3.50  48.89  n/a   0.000
*
```

```
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7631  1  5.0    0.50    0.07  2.75  48.80 0.61   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.20]
*
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7628  1  5.0   32.30    1.82  3.67  48.89 0.61   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.94]
*
    ADD [  7624+  7628]  7638  3  5.0   50.20    2.96  3.58  48.89  n/a   0.000
*
    ADD [  7638+  7631]  7638  1  5.0   50.70    2.98  3.58  48.89  n/a   0.000
*
    CHANNEL[ 2:  7638]   7623  1  5.0   50.70    2.82  3.83  48.89  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7634  1  5.0    4.90    0.34  3.17  40.83 0.51   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.50]
*
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
```

```
 *  CALIB NASHYD         7625  1  5.0   46.70    2.30  3.75  44.64 0.56   0.000
    [CN=85.0         ]
    [ N = 3.0:Tp 0.99]
*
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7630  1  5.0    3.40    0.33  2.83  45.59 0.57   0.000
    [I%=22.0:S%= 2.00]
*
    ADD [  7625+  7630]  7629  3  5.0   50.10    2.41  3.75  44.70  n/a   0.000
*
    ADD [  7629+  7634]  7629  1  5.0   55.00    2.65  3.67  44.36  n/a   0.000
*
    CHANNEL[ 2:  7629]   7637  1  5.0   55.00    2.61  3.83  44.36  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7615  1  5.0   13.40    0.82  3.33  40.83 0.51   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.62]
*
    ADD [  7615+  7623]  7633  3  5.0   64.10    3.47  3.75  47.20  n/a   0.000
*
    ADD [  7633+  7637]  7633  1  5.0  119.10    6.08  3.83  45.89  n/a   0.000
*
    CHANNEL[ 2:  7633]   7621  1  5.0  119.10    6.02  3.92  45.89  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7626  1  5.0   31.00    1.39  3.83  41.15 0.51   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 1.00]
```

```
*
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7635  1  5.0    1.40    0.22  2.75  59.19 0.74   0.000
    [I%=37.0:S%= 2.00]
*
    ADD [  7621+  7626]  7636  3  5.0  150.10    7.40  3.92  44.91  n/a   0.000
*
    ADD [  7636+  7635]  7636  1  5.0  151.50    7.43  3.92  45.04  n/a   0.000
*
    CHANNEL[ 2:  7636]   7627  1  5.0  151.50    7.28  4.08  45.04  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7632  1  5.0    0.90    0.09  2.75  58.45 0.73   0.000
    [I%=34.0:S%= 2.00]
*
    ADD [  7627+  7632]  7639  3  5.0  152.40    7.30  4.08  45.12  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 80.31 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\5d0a47de-334
a-4891-a6bc-22b11
    remark: 100 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       0510  1  5.0   25.61    4.37  2.75  66.30 0.83   0.000
    [I%=48.9:S%= 2.26]
*
 ** Reservoir
    OUTFLOW:             7640  1  5.0   25.61    0.74  3.83  66.25  n/a   0.000
    OVERFLOW:            7640  3  5.0    0.00    0.00  0.00   0.00  n/a   0.000
*
    ADD [  7639+  7640]  1952  3  5.0  178.01    7.99  4.00  48.16  n/a   0.000
*
*******************************
** SIMULATION:10yr-12hr       **
```

```
*******************************
    READ STORM                 15.0
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         0508  1  5.0   69.36    1.06  7.33  29.54 0.47   0.000
    [CN=86.0         ]
    [ N = 2.5:Tp 1.80]
*
    READ STORM                 15.0
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7564  1  5.0    1.30    0.06  5.25  26.98 0.43   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                 15.0
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7567  1  5.0    0.60    0.02  5.33  27.08 0.43   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.29]
*
    READ STORM                 15.0
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7566  1  5.0   34.60    1.02  5.58  27.10 0.43   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.64]
*
    READ STORM                 15.0
```

```
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7613  1  5.0    9.39    0.26  5.25  16.62 0.27   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.20]
*
    ADD [  0508+  7564]  7602  3  5.0   70.66    1.07  7.33  29.49  n/a   0.000
*
    ADD [  7602+  7566]  7602  1  5.0  105.26    1.69  6.08  28.70  n/a   0.000
*
    ADD [  7602+  7567]  7602  3  5.0  105.86    1.70  6.08  28.69  n/a   0.000
*
    ADD [  7602+  7613]  7602  1  5.0  115.25    1.79  6.00  27.71  n/a   0.000
*
    ADD [  3722+  7602]  1734  3  5.0 2531.22   28.17  9.67  29.91  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7622  1  5.0    0.90    0.05  5.33  33.49 0.53   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.33]
*
    READ STORM                 15.0
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7620  1  5.0   17.00    0.58  5.75  33.50 0.53   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.75]
*
    ADD [  7620+  7622]  7614  3  5.0   17.90    0.61  5.67  33.50  n/a   0.000
*
    CHANNEL[ 2:  7614]   7624  1  5.0   17.90    0.60  5.83  33.50  n/a   0.000
*
    READ STORM                 15.0
```

```
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7631  1  5.0    0.50    0.03  5.25  33.44 0.53   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.20]
*
    READ STORM                 15.0
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7628  1  5.0   32.30    0.96  6.00  33.50 0.53   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.94]
*
    ADD [  7624+  7628]  7638  3  5.0   50.20    1.56  5.92  33.50  n/a   0.000
*
    ADD [  7638+  7631]  7638  1  5.0   50.70    1.57  5.92  33.50  n/a   0.000
*
    CHANNEL[ 2:  7638]   7623  1  5.0   50.70    1.40  6.33  33.50  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7634  1  5.0    4.90    0.16  5.50  27.09 0.43   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.50]
*
    READ STORM                 15.0
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7625  1  5.0   46.70    1.19  6.08  30.07 0.48   0.000
```

```
    [CN=85.0         ]
    [ N = 3.0:Tp 0.99]
*
    READ STORM                 15.0
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7630  1  5.0    3.40    0.13  5.33  32.37 0.52   0.000
    [I%=22.0:S%= 2.00]
*
    ADD [  7625+  7630]  7629  3  5.0   50.10    1.26  6.00  30.23  n/a   0.000
*
    ADD [  7629+  7634]  7629  1  5.0   55.00    1.38  5.92  29.95  n/a   0.000
*
    CHANNEL[ 2:  7629]   7637  1  5.0   55.00    1.36  6.17  29.95  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7615  1  5.0   13.40    0.40  5.58  27.10 0.43   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.62]
*
    ADD [  7615+  7623]  7633  3  5.0   64.10    1.69  6.25  32.16  n/a   0.000
*
    ADD [  7633+  7637]  7633  1  5.0  119.10    3.05  6.25  31.14  n/a   0.000
*
    CHANNEL[ 2:  7633]   7621  1  5.0  119.10    3.02  6.42  31.14  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7626  1  5.0   31.00    0.71  6.08  27.39 0.44   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 1.00]
*
```

```
    READ STORM                 15.0
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7635  1  5.0    1.40    0.08  5.25  43.61 0.70   0.000
    [I%=37.0:S%= 2.00]
*
    ADD [  7621+  7626]  7636  3  5.0  150.10    3.72  6.33  30.37  n/a   0.000
*
    ADD [  7636+  7635]  7636  1  5.0  151.50    3.74  6.33  30.49  n/a   0.000
*
    CHANNEL[ 2:  7636]   7627  1  5.0  151.50    3.67  6.58  30.49  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7632  1  5.0    0.90    0.04  5.25  42.89 0.68   0.000
    [I%=34.0:S%= 2.00]
*
    ADD [  7627+  7632]  7639  3  5.0  152.40    3.69  6.58  30.56  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 62.71 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\23cb3106-f38
c-4d9f-a1fc-603a9
    remark: 10 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       0510  1  5.0   25.61    1.72  5.25  49.50 0.79   0.000
    [I%=48.9:S%= 2.26]
*
 ** Reservoir
    OUTFLOW:             7640  1  5.0   25.61    0.39  6.58  49.46  n/a   0.000
    OVERFLOW:            7640  3  5.0    0.00    0.00  0.00   0.00  n/a   0.000
*
    ADD [  7639+  7640]  1952  3  5.0  178.01    4.07  6.58  33.28  n/a   0.000
*
*******************************
** SIMULATION:10yr-6hr        **
*******************************
```

```
    READ STORM                 15.0
    [ Ptot= 55.69 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         0508  1  5.0   69.36    1.03  4.92  23.98 0.43   0.000
    [CN=86.0         ]
    [ N = 2.5:Tp 1.80]
*
    READ STORM                 15.0
    [ Ptot= 55.69 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7564  1  5.0    1.30    0.07  2.83  22.11 0.40   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                 15.0
    [ Ptot= 55.69 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7567  1  5.0    0.60    0.03  2.92  22.20 0.40   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.29]
*
    READ STORM                 15.0
    [ Ptot= 55.69 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7566  1  5.0   34.60    1.09  3.42  21.99 0.39   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.64]
*
    READ STORM                 15.0
    [ Ptot= 55.69 mm ]
```

```
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7613  1  5.0    9.39    0.32  2.83  13.04 0.23   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.20]
*
    ADD [  0508+  7564]  7602  3  5.0   70.66    1.03  4.83  23.95  n/a   0.000
*
    ADD [  7602+  7566]  7602  1  5.0  105.26    1.75  3.75  23.30  n/a   0.000
*
    ADD [  7602+  7567]  7602  3  5.0  105.86    1.76  3.75  23.30  n/a   0.000
*
    ADD [  7602+  7613]  7602  1  5.0  115.25    1.86  3.67  22.46  n/a   0.000
*
    ADD [  3722+  7602]  1734  3  5.0 2531.22   25.32  7.17  24.33  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 55.69 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7622  1  5.0    0.90    0.05  2.92  27.62 0.50   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.33]
*
    READ STORM                15.0
    [ Ptot= 55.69 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7620  1  5.0   17.00    0.62  3.50  27.63 0.50   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.75]
*
    ADD [  7620+  7622]  7614  3  5.0   17.90    0.65  3.50  27.63  n/a   0.000
*
    CHANNEL[ 2:  7614]   7624  1  5.0   17.90    0.64  3.58  27.62  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 55.69 mm ]
```

```
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7631  1  5.0    0.50    0.04  2.75  27.57 0.50   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.20]
*
    READ STORM                 15.0
    [ Ptot= 55.69 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7628  1  5.0   32.30    1.02  3.75  27.63 0.50   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.94]
*
    ADD [  7624+  7628]  7638  3  5.0   50.20    1.65  3.67  27.63  n/a   0.000
*
    ADD [  7638+  7631]  7638  1  5.0   50.70    1.66  3.67  27.62  n/a   0.000
*
    CHANNEL[ 2:  7638]   7623  1  5.0   50.70    1.46  4.08  27.62  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 55.69 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7634  1  5.0    4.90    0.18  3.17  21.98 0.39   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.50]
*
    READ STORM                 15.0
    [ Ptot= 55.69 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7625  1  5.0   46.70    1.25  3.83  24.58 0.44   0.000
    [CN=85.0         ]
```

```
    [ N = 3.0:Tp 0.99]
*
    READ STORM                 15.0
    [ Ptot= 55.69 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7630  1  5.0    3.40    0.18  2.83  27.41 0.49   0.000
    [I%=22.0:S%= 2.00]
*
    ADD [  7625+  7630]  7629  3  5.0   50.10    1.32  3.75  24.78  n/a   0.000
*
    ADD [  7629+  7634]  7629  1  5.0   55.00    1.45  3.75  24.53  n/a   0.000
*
    CHANNEL[ 2:  7629]   7637  1  5.0   55.00    1.41  3.92  24.53  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 55.69 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7615  1  5.0   13.40    0.43  3.33  21.99 0.39   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.62]
*
    ADD [  7615+  7623]  7633  3  5.0   64.10    1.76  4.00  26.45  n/a   0.000
*
    ADD [  7633+  7637]  7633  1  5.0  119.10    3.17  4.00  25.56  n/a   0.000
*
    CHANNEL[ 2:  7633]   7621  1  5.0  119.10    3.14  4.08  25.56  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 55.69 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7626  1  5.0   31.00    0.74  3.83  22.27 0.40   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 1.00]
*
    READ STORM                 15.0
```

```
    [ Ptot= 55.69 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7635  1  5.0    1.40    0.13  2.75  37.59 0.67   0.000
    [I%=37.0:S%= 2.00]
*
    ADD [  7621+  7626]  7636  3  5.0  150.10    3.86  4.08  24.88  n/a   0.000
*
    ADD [  7636+  7635]  7636  1  5.0  151.50    3.88  4.08  25.00  n/a   0.000
*
    CHANNEL[ 2:  7636]   7627  1  5.0  151.50    3.79  4.25  25.00  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 55.69 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7632  1  5.0    0.90    0.05  2.75  36.88 0.66   0.000
    [I%=34.0:S%= 2.00]
*
    ADD [  7627+  7632]  7639  3  5.0  152.40    3.80  4.25  25.07  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 55.69 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\35fee964-eeb
6-473b-9326-20472
    remark: 10 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       0510  1  5.0   25.61    2.69  2.75  42.90 0.77   0.000
    [I%=48.9:S%= 2.26]
*
 ** Reservoir
    OUTFLOW:             7640  1  5.0   25.61    0.39  4.08  42.86  n/a   0.000
    OVERFLOW:            7640  3  5.0    0.00    0.00  0.00   0.00  n/a   0.000
*
    ADD [  7639+  7640]  1952  3  5.0  178.01    4.19  4.25  27.63  n/a   0.000
*
*******************************
** SIMULATION:25yr-12hr       **
*******************************
    READ STORM                 15.0
```

```
    [ Ptot= 73.10 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         0508  1  5.0   69.36    1.38  7.33  38.12 0.52   0.000
    [CN=86.0         ]
    [ N = 2.5:Tp 1.80]
*
    READ STORM                15.0
    [ Ptot= 73.10 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7564  1  5.0    1.30    0.07  5.25  34.59 0.47   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                15.0
    [ Ptot= 73.10 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7567  1  5.0    0.60    0.03  5.25  34.71 0.47   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.29]
*
    READ STORM                15.0
    [ Ptot= 73.10 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7566  1  5.0   34.60    1.33  5.58  35.07 0.48   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.64]
*
    READ STORM                15.0
    [ Ptot= 73.10 mm ]
    fname :
```

```
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7613  1  5.0    9.39    0.35  5.25  22.42 0.31   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.20]
*
    ADD [  0508+  7564]  7602  3  5.0   70.66    1.39  7.25  38.05  n/a   0.000
*
    ADD [  7602+  7566]  7602  1  5.0  105.26    2.22  6.00  37.07  n/a   0.000
*
    ADD [  7602+  7567]  7602  3  5.0  105.86    2.23  6.00  37.06  n/a   0.000
*
    ADD [  7602+  7613]  7602  1  5.0  115.25    2.36  5.92  35.87  n/a   0.000
*
    ADD [  3722+  7602]  1734  3  5.0 2531.22   36.87  9.50  38.51  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 73.10 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7622  1  5.0    0.90    0.06  5.33  42.48 0.58   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.33]
*
    READ STORM                15.0
    [ Ptot= 73.10 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7620  1  5.0   17.00    0.74  5.67  42.49 0.58   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.75]
*
    ADD [  7620+  7622]  7614  3  5.0   17.90    0.78  5.67  42.49  n/a   0.000
*
    CHANNEL[ 2:  7614]   7624  1  5.0   17.90    0.77  5.83  42.49  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 73.10 mm ]
    fname :
```

```
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7631  1  5.0    0.50    0.03  5.25  42.41 0.58   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.20]
*
    READ STORM                 15.0
    [ Ptot= 73.10 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7628  1  5.0   32.30    1.23  5.92  42.49 0.58   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.94]
*
    ADD [  7624+  7628]  7638  3  5.0   50.20    1.99  5.92  42.49  n/a   0.000
*
    ADD [  7638+  7631]  7638  1  5.0   50.70    2.00  5.92  42.49  n/a   0.000
*
    CHANNEL[ 2:  7638]   7623  1  5.0   50.70    1.82  6.25  42.49  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 73.10 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7634  1  5.0    4.90    0.21  5.42  35.06 0.48   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.50]
*
    READ STORM                 15.0
    [ Ptot= 73.10 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7625  1  5.0   46.70    1.54  6.08  38.55 0.53   0.000
    [CN=85.0         ]
    [ N = 3.0:Tp 0.99]
```

```
*
    READ STORM                 15.0
    [ Ptot= 73.10 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7630  1  5.0    3.40    0.16  5.33  40.06 0.55   0.000
    [I%=22.0:S%= 2.00]
*
    ADD [  7625+  7630]  7629  3  5.0   50.10    1.63  6.00  38.66  n/a   0.000
*
    ADD [  7629+  7634]  7629  1  5.0   55.00    1.79  5.92  38.34  n/a   0.000
*
    CHANNEL[ 2:  7629]   7637  1  5.0   55.00    1.76  6.08  38.34  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 73.10 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7615  1  5.0   13.40    0.52  5.58  35.07 0.48   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.62]
*
    ADD [  7615+  7623]  7633  3  5.0   64.10    2.22  6.17  40.94  n/a   0.000
*
    ADD [  7633+  7637]  7633  1  5.0  119.10    3.98  6.17  39.74  n/a   0.000
*
    CHANNEL[ 2:  7633]   7621  1  5.0  119.10    3.94  6.33  39.74  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 73.10 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7626  1  5.0   31.00    0.93  6.08  35.38 0.48   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 1.00]
*
    READ STORM                 15.0
    [ Ptot= 73.10 mm ]
```

```
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7635  1  5.0    1.40    0.10  5.25  52.74 0.72   0.000
    [I%=37.0:S%= 2.00]
*
    ADD [  7621+  7626]  7636  3  5.0  150.10    4.86  6.25  38.84  n/a   0.000
*
    ADD [  7636+  7635]  7636  1  5.0  151.50    4.89  6.25  38.97  n/a   0.000
*
    CHANNEL[ 2:  7636]   7627  1  5.0  151.50    4.79  6.50  38.97  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 73.10 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7632  1  5.0    0.90    0.05  5.25  52.00 0.71   0.000
    [I%=34.0:S%= 2.00]
*
    ADD [  7627+  7632]  7639  3  5.0  152.40    4.81  6.50  39.04  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 73.10 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\2c6efae9-813
2-4894-ba54-f8668
    remark: 25 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       0510  1  5.0   25.61    2.08  5.25  59.38 0.81   0.000
    [I%=48.9:S%= 2.26]
*
 ** Reservoir
    OUTFLOW:             7640  1  5.0   25.61    0.50  6.50  59.34  n/a   0.000
    OVERFLOW:            7640  3  5.0    0.00    0.00  0.00   0.00  n/a   0.000
*
    ADD [  7639+  7640]  1952  3  5.0  178.01    5.31  6.50  41.96  n/a   0.000
*
*******************************
** SIMULATION:25yr-6hr        **
*******************************
    READ STORM                15.0
    [ Ptot= 65.59 mm ]
```

```
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         0508  1  5.0   69.36    1.37  4.83  31.88 0.49   0.000
    [CN=86.0         ]
    [ N = 2.5:Tp 1.80]
*
    READ STORM                15.0
    [ Ptot= 65.59 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7564  1  5.0    1.30    0.10  2.83  29.04 0.44   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                15.0
    [ Ptot= 65.59 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7567  1  5.0    0.60    0.04  2.83  29.15 0.44   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.29]
*
    READ STORM                15.0
    [ Ptot= 65.59 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7566  1  5.0   34.60    1.47  3.33  29.26 0.45   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.64]
*
    READ STORM                15.0
    [ Ptot= 65.59 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
```

```
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7613  1  5.0    9.39    0.45  2.83  18.17 0.28   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.20]
*
    ADD [  0508+  7564]  7602  3  5.0   70.66    1.38  4.83  31.83  n/a   0.000
*
    ADD [  7602+  7566]  7602  1  5.0  105.26    2.34  3.67  30.98  n/a   0.000
*
    ADD [  7602+  7567]  7602  3  5.0  105.86    2.36  3.67  30.97  n/a   0.000
*
    ADD [  7602+  7613]  7602  1  5.0  115.25    2.50  3.58  29.93  n/a   0.000
*
    ADD [  3722+  7602]  1734  3  5.0 2531.22   34.27  7.00  32.25  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 65.59 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7622  1  5.0    0.90    0.07  2.92  35.95 0.55   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.33]
*
    READ STORM                15.0
    [ Ptot= 65.59 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7620  1  5.0   17.00    0.82  3.50  35.96 0.55   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.75]
*
    ADD [  7620+  7622]  7614  3  5.0   17.90    0.86  3.42  35.96  n/a   0.000
*
    CHANNEL[ 2:  7614]   7624  1  5.0   17.90    0.84  3.58  35.96  n/a   0.000
*
    READ STORM                15.0
    [ Ptot= 65.59 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
```

```
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7631  1  5.0    0.50    0.05  2.75  35.89 0.55   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.20]
*
    READ STORM                 15.0
    [ Ptot= 65.59 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7628  1  5.0   32.30    1.33  3.75  35.96 0.55   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.94]
*
    ADD [  7624+  7628]  7638  3  5.0   50.20    2.16  3.67  35.96  n/a   0.000
*
    ADD [  7638+  7631]  7638  1  5.0   50.70    2.18  3.67  35.96  n/a   0.000
*
    CHANNEL[ 2:  7638]   7623  1  5.0   50.70    1.96  4.00  35.96  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 65.59 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7634  1  5.0    4.90    0.24  3.17  29.26 0.45   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.50]
*
    READ STORM                 15.0
    [ Ptot= 65.59 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7625  1  5.0   46.70    1.66  3.83  32.38 0.49   0.000
    [CN=85.0         ]
    [ N = 3.0:Tp 0.99]
*
```

```
    READ STORM                 15.0
    [ Ptot= 65.59 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7630  1  5.0    3.40    0.23  2.83  34.47 0.53   0.000
    [I%=22.0:S%= 2.00]
*
    ADD [  7625+  7630]  7629  3  5.0   50.10    1.75  3.75  32.53  n/a   0.000
*
    ADD [  7629+  7634]  7629  1  5.0   55.00    1.92  3.67  32.23  n/a   0.000
*
    CHANNEL[ 2:  7629]   7637  1  5.0   55.00    1.88  3.83  32.23  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 65.59 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7615  1  5.0   13.40    0.58  3.33  29.26 0.45   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.62]
*
    ADD [  7615+  7623]  7633  3  5.0   64.10    2.39  3.92  34.56  n/a   0.000
*
    ADD [  7633+  7637]  7633  1  5.0  119.10    4.27  3.92  33.49  n/a   0.000
*
    CHANNEL[ 2:  7633]   7621  1  5.0  119.10    4.22  4.00  33.49  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 65.59 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7626  1  5.0   31.00    0.99  3.83  29.56 0.45   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 1.00]
*
    READ STORM                 15.0
    [ Ptot= 65.59 mm ]
    fname :
```

```
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7635  1  5.0    1.40    0.17  2.75  46.12 0.70   0.000
    [I%=37.0:S%= 2.00]
*
    ADD [  7621+  7626]  7636  3  5.0  150.10    5.20  4.00  32.68  n/a   0.000
*
    ADD [  7636+  7635]  7636  1  5.0  151.50    5.22  4.00  32.80  n/a   0.000
*
    CHANNEL[ 2:  7636]   7627  1  5.0  151.50    5.09  4.17  32.80  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 65.59 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7632  1  5.0    0.90    0.07  2.75  45.40 0.69   0.000
    [I%=34.0:S%= 2.00]
*
    ADD [  7627+  7632]  7639  3  5.0  152.40    5.11  4.17  32.87  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 65.59 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\3e4e6076-5e0
e-4202-b3ac-478b9
    remark: 25 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       0510  1  5.0   25.61    3.41  2.75  52.23 0.80   0.000
    [I%=48.9:S%= 2.26]
*
 ** Reservoir
    OUTFLOW:             7640  1  5.0   25.61    0.52  3.92  52.19  n/a   0.000
    OVERFLOW:            7640  3  5.0    0.00    0.00  0.00   0.00  n/a   0.000
*
    ADD [  7639+  7640]  1952  3  5.0  178.01    5.63  4.17  35.65  n/a   0.000
*
*******************************
** SIMULATION:50yr-12hr       **
*******************************
    READ STORM                 15.0
    [ Ptot= 80.82 mm ]
    fname :
```

```
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
a-4229-89c8-a8d98
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         0508  1  5.0   69.36    1.63  7.25  44.71 0.55   0.000
    [CN=86.0         ]
    [ N = 2.5:Tp 1.80]
*
    READ STORM                15.0
    [ Ptot= 80.82 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
a-4229-89c8-a8d98
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7564  1  5.0    1.30    0.08  5.25  40.51 0.50   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                15.0
    [ Ptot= 80.82 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
a-4229-89c8-a8d98
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7567  1  5.0    0.60    0.04  5.25  40.63 0.50   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.29]
*
    READ STORM                15.0
    [ Ptot= 80.82 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
a-4229-89c8-a8d98
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7566  1  5.0   34.60    1.57  5.58  41.24 0.51   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.64]
*
    READ STORM                15.0
    [ Ptot= 80.82 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
a-4229-89c8-a8d98
```

```
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7613  1  5.0    9.39    0.42  5.25  27.07 0.33   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.20]
*
    ADD [  0508+  7564]  7602  3  5.0   70.66    1.64  7.25  44.64  n/a   0.000
*
    ADD [  7602+  7566]  7602  1  5.0  105.26    2.63  5.92  43.52  n/a   0.000
*
    ADD [  7602+  7567]  7602  3  5.0  105.86    2.64  5.92  43.50  n/a   0.000
*
    ADD [  7602+  7613]  7602  1  5.0  115.25    2.79  5.83  42.16  n/a   0.000
*
    ADD [  3722+  7602]  1734  3  5.0 2531.22   43.55  9.33  45.11  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 80.82 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
a-4229-89c8-a8d98
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7622  1  5.0    0.90    0.07  5.33  49.33 0.61   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.33]
*
    READ STORM                 15.0
    [ Ptot= 80.82 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
a-4229-89c8-a8d98
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7620  1  5.0   17.00    0.86  5.67  49.35 0.61   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.75]
*
    ADD [  7620+  7622]  7614  3  5.0   17.90    0.91  5.67  49.35  n/a   0.000
*
    CHANNEL[ 2:  7614]   7624  1  5.0   17.90    0.89  5.83  49.35  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 80.82 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
a-4229-89c8-a8d98
```

```
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7631  1  5.0    0.50    0.04  5.25  49.25 0.61   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.20]
*
    READ STORM                 15.0
    [ Ptot= 80.82 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
a-4229-89c8-a8d98
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7628  1  5.0   32.30    1.43  5.92  49.35 0.61   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.94]
*
    ADD [  7624+  7628]  7638  3  5.0   50.20    2.32  5.83  49.35  n/a   0.000
*
    ADD [  7638+  7631]  7638  1  5.0   50.70    2.33  5.83  49.35  n/a   0.000
*
    CHANNEL[ 2:  7638]   7623  1  5.0   50.70    2.16  6.25  49.35  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 80.82 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
a-4229-89c8-a8d98
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7634  1  5.0    4.90    0.25  5.42  41.24 0.51   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.50]
*
    READ STORM                 15.0
    [ Ptot= 80.82 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
a-4229-89c8-a8d98
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7625  1  5.0   46.70    1.81  6.00  45.07 0.56   0.000
    [CN=85.0         ]
    [ N = 3.0:Tp 0.99]
*
    READ STORM                 15.0
```

```
    [ Ptot= 80.82 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
a-4229-89c8-a8d98
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7630  1  5.0    3.40    0.19  5.33  45.99 0.57   0.000
    [I%=22.0:S%= 2.00]
*
    ADD [  7625+  7630]  7629  3  5.0   50.10    1.92  6.00  45.14  n/a   0.000
*
    ADD [  7629+  7634]  7629  1  5.0   55.00    2.11  5.83  44.79  n/a   0.000
*
    CHANNEL[ 2:  7629]   7637  1  5.0   55.00    2.07  6.08  44.79  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 80.82 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
a-4229-89c8-a8d98
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7615  1  5.0   13.40    0.62  5.58  41.24 0.51   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.62]
*
    ADD [  7615+  7623]  7633  3  5.0   64.10    2.64  6.08  47.65  n/a   0.000
*
    ADD [  7633+  7637]  7633  1  5.0  119.10    4.72  6.08  46.33  n/a   0.000
*
    CHANNEL[ 2:  7633]   7621  1  5.0  119.10    4.68  6.25  46.33  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 80.82 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
a-4229-89c8-a8d98
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7626  1  5.0   31.00    1.09  6.08  41.57 0.51   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 1.00]
*
    READ STORM                 15.0
    [ Ptot= 80.82 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
```

```
a-4229-89c8-a8d98
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7635  1  5.0    1.40    0.12  5.25  59.65 0.74   0.000
    [I%=37.0:S%= 2.00]
*
    ADD [  7621+  7626]  7636  3  5.0  150.10    5.76  6.25  45.35  n/a   0.000
*
    ADD [  7636+  7635]  7636  1  5.0  151.50    5.79  6.17  45.48  n/a   0.000
*
    CHANNEL[ 2:  7636]   7627  1  5.0  151.50    5.69  6.42  45.48  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 80.82 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
a-4229-89c8-a8d98
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7632  1  5.0    0.90    0.06  5.25  58.91 0.73   0.000
    [I%=34.0:S%= 2.00]
*
    ADD [  7627+  7632]  7639  3  5.0  152.40    5.72  6.42  45.56  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 80.82 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\4a30faeb-73a
a-4229-89c8-a8d98
    remark: 50 Year 12 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       0510  1  5.0   25.61    2.34  5.25  66.79 0.83   0.000
    [I%=48.9:S%= 2.26]
*
 ** Reservoir
    OUTFLOW:             7640  1  5.0   25.61    0.57  6.42  66.74  n/a   0.000
    OVERFLOW:            7640  3  5.0    0.00    0.00  0.00   0.00  n/a   0.000
*
    ADD [  7639+  7640]  1952  3  5.0  178.01    6.29  6.42  48.61  n/a   0.000
*
*******************************
** SIMULATION:50yr-6hr        **
*******************************
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
```

```
2-45e3-9464-1b58e
    remark: 50 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         0508  1  5.0   69.36    1.64  4.83  38.03 0.52   0.000
    [CN=86.0         ]
    [ N = 2.5:Tp 1.80]
*
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
2-45e3-9464-1b58e
    remark: 50 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7564  1  5.0    1.30    0.12  2.83  34.52 0.47   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.21]
*
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
2-45e3-9464-1b58e
    remark: 50 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7567  1  5.0    0.60    0.05  2.83  34.63 0.47   0.000
    [CN=79.0         ]
    [ N = 3.0:Tp 0.29]
*
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
2-45e3-9464-1b58e
    remark: 50 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7566  1  5.0   34.60    1.76  3.33  34.99 0.48   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.64]
*
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
2-45e3-9464-1b58e
    remark: 50 Year 6 Hour AES (Bloor, TRCA)
```

```
*
 *  CALIB NASHYD         7613  1  5.0    9.39    0.56  2.83  22.37 0.31   0.000
    [CN=69.0         ]
    [ N = 3.0:Tp 0.20]
*
    ADD [  0508+  7564]  7602  3  5.0   70.66    1.65  4.83  37.97  n/a   0.000
*
    ADD [  7602+  7566]  7602  1  5.0  105.26    2.81  3.67  36.99  n/a   0.000
*
    ADD [  7602+  7567]  7602  3  5.0  105.86    2.83  3.67  36.98  n/a   0.000
*
    ADD [  7602+  7613]  7602  1  5.0  115.25    3.01  3.50  35.79  n/a   0.000
*
    ADD [  3722+  7602]  1734  3  5.0 2531.22   41.22  6.92  38.42  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
2-45e3-9464-1b58e
    remark: 50 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7622  1  5.0    0.90    0.08  2.92  42.39 0.58   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.33]
*
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
2-45e3-9464-1b58e
    remark: 50 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7620  1  5.0   17.00    0.96  3.42  42.40 0.58   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.75]
*
    ADD [  7620+  7622]  7614  3  5.0   17.90    1.02  3.42  42.40  n/a   0.000
*
    CHANNEL[ 2:  7614]   7624  1  5.0   17.90    1.00  3.58  42.40  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
2-45e3-9464-1b58e
    remark: 50 Year 6 Hour AES (Bloor, TRCA)
```

```
*
 *  CALIB NASHYD         7631  1  5.0    0.50    0.06  2.75  42.32 0.58   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.20]
*
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
2-45e3-9464-1b58e
    remark: 50 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7628  1  5.0   32.30    1.57  3.67  42.40 0.58   0.000
    [CN=88.0         ]
    [ N = 3.0:Tp 0.94]
*
    ADD [  7624+  7628]  7638  3  5.0   50.20    2.56  3.67  42.40  n/a   0.000
*
    ADD [  7638+  7631]  7638  1  5.0   50.70    2.58  3.67  42.40  n/a   0.000
*
    CHANNEL[ 2:  7638]   7623  1  5.0   50.70    2.37  3.92  42.40  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
2-45e3-9464-1b58e
    remark: 50 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7634  1  5.0    4.90    0.29  3.17  34.99 0.48   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.50]
*
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
2-45e3-9464-1b58e
    remark: 50 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7625  1  5.0   46.70    1.98  3.75  38.47 0.53   0.000
    [CN=85.0         ]
    [ N = 3.0:Tp 0.99]
*
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
```

```
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
2-45e3-9464-1b58e
    remark: 50 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7630  1  5.0    3.40    0.27  2.83  39.99 0.55   0.000
    [I%=22.0:S%= 2.00]
*
    ADD [  7625+  7630]  7629  3  5.0   50.10    2.08  3.75  38.57  n/a   0.000
*
    ADD [  7629+  7634]  7629  1  5.0   55.00    2.29  3.67  38.25  n/a   0.000
*
    CHANNEL[ 2:  7629]   7637  1  5.0   55.00    2.25  3.83  38.25  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
2-45e3-9464-1b58e
    remark: 50 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7615  1  5.0   13.40    0.70  3.33  34.99 0.48   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 0.62]
*
    ADD [  7615+  7623]  7633  3  5.0   64.10    2.91  3.83  40.85  n/a   0.000
*
    ADD [  7633+  7637]  7633  1  5.0  119.10    5.15  3.83  39.65  n/a   0.000
*
    CHANNEL[ 2:  7633]   7621  1  5.0  119.10    5.10  4.00  39.65  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
2-45e3-9464-1b58e
    remark: 50 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB NASHYD         7626  1  5.0   31.00    1.19  3.83  35.30 0.48   0.000
    [CN=82.0         ]
    [ N = 3.0:Tp 1.00]
*
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
2-45e3-9464-1b58e
```

```
    remark: 50 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7635  1  5.0    1.40    0.19  2.75  52.65 0.72   0.000
    [I%=37.0:S%= 2.00]
*
    ADD [  7621+  7626]  7636  3  5.0  150.10    6.27  3.92  38.75  n/a   0.000
*
    ADD [  7636+  7635]  7636  1  5.0  151.50    6.30  3.92  38.88  n/a   0.000
*
    CHANNEL[ 2:  7636]   7627  1  5.0  151.50    6.16  4.17  38.88  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
2-45e3-9464-1b58e
    remark: 50 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       7632  1  5.0    0.90    0.08  2.75  51.92 0.71   0.000
    [I%=34.0:S%= 2.00]
*
    ADD [  7627+  7632]  7639  3  5.0  152.40    6.19  4.17  38.96  n/a   0.000
*
    READ STORM                 15.0
    [ Ptot= 73.00 mm ]
    fname :
C:\Users\edodd\AppData\Local\Temp\a2089d80-421b-405f-a40b-6b80b418675d\fdaad26a-31c
2-45e3-9464-1b58e
    remark: 50 Year 6 Hour AES (Bloor, TRCA)

*
 *  CALIB STANDHYD       0510  1  5.0   25.61    3.89  2.75  59.29 0.81   0.000
    [I%=48.9:S%= 2.26]
*
 ** Reservoir
    OUTFLOW:             7640  1  5.0   25.61    0.59  3.92  59.24  n/a   0.000
    OVERFLOW:            7640  3  5.0    0.00    0.00  0.00   0.00  n/a   0.000
*
    ADD [  7639+  7640]  1952  3  5.0  178.01    6.77  4.17  41.88  n/a   0.000
*
```

Summary of Pre-Development Peak Flow VO Results

Pre-Development Peak Runoff Directed to the West Tributary (6-Hour)

Design Storm Event	Pre-Development Uncontrolled Flow Rate (m^3/s)			
	101	EXT1	EXT2	Total
2-year	0.448	0.013	0.034	**0.469**
5-year	0.815	0.023	0.057	**0.851**
10-year	1.091	0.030	0.075	**1.141**
25-year	1.466	0.040	0.099	**1.534**
50-year	1.764	0.047	0.117	**1.843**
100-year	2.068	0.055	0.136	**2.158**
Regional	4.099	0.013	0.034	**4.307**

Pre-Development Peak Runoff Directed to the West Tributary (12-Hour)

Design Storm Event	Pre-Development Uncontrolled Flow Rate (m^3/s)			
	101	EXT1	EXT2	Total
2-year	0.464	0.012	0.028	**0.485**
5-year	0.782	0.019	0.044	**0.817**
10-year	1.016	0.024	0.056	**1.065**
25-year	1.331	0.031	0.071	**1.392**
50-year	1.573	0.036	0.083	**1.644**
100-year	1.823	0.041	0.095	**1.904**

External Pre-Development Peak Runoff Directed to the East Tributary (6-Hour Storm)

Design Storm Event	Pre-Development Uncontrolled Flow Rate (m^3/s)						
	EXT3	EXT4	EXT5	EXT6	EXT8	EXT9	Total
2-year	0.084	0.073	0.023	0.017	0.072	0.030	**0.299**
5-year	0.135	0.133	0.041	0.029	0.109	0.043	**0.490**
10-year	0.177	0.178	0.054	0.038	0.134	0.053	**0.634**
25-year	0.228	0.240	0.071	0.050	0.167	0.067	**0.823**
50-year	0.270	0.289	0.084	0.059	0.192	0.078	**0.972**
100-year	0.328	0.339	0.098	0.068	0.223	0.091	**1.147**
Regional	0.452	0.621	0.126	0.073	0.203	0.112	**1.587**

External Pre-Development Peak Runoff Directed to the East Tributary (12-Hour Storm)

Design Storm Event	Pre-Development Uncontrolled Flow Rate (m^3/s)						
	EXT3	EXT4	EXT5	EXT6	EXT8	EXT9	Total
2-year	0.067	0.075	0.023	0.014	0.049	0.021	**0.249**
5-year	0.102	0.127	0.036	0.022	0.070	0.031	**0.388**
10-year	0.130	0.164	0.045	0.028	0.085	0.038	**0.490**
25-year	0.164	0.214	0.057	0.035	0.103	0.048	**0.621**
50-year	0.191	0.253	0.066	0.040	0.117	0.056	**0.723**
100-year	0.222	0.292	0.075	0.045	0.131	0.063	**0.828**

Internal Pre-Development Peak Runoff Directed to the East Tributary (6-Hour)

Design Storm Event	Pre-Development Uncontrolled Flow Rate (m^3/s)						
	102	**103**	**104**	**105**	**106**	**Total Site**	**Total[1]**
2-year	0.536	0.273	0.449	0.177	0.313	**1.748**	**1.612**
5-year	0.947	0.474	0.777	0.321	0.559	**3.078**	**2.861**
10-year	1.253	0.622	1.016	0.431	0.744	**4.066**	**3.805**
25-year	1.661	0.815	1.331	0.579	0.995	**5.381**	**5.113**
50-year	1.979	0.965	1.574	0.697	1.192	**6.407**	**6.186**
100-year	2.305	1.117	1.821	0.816	1.392	**7.451**	**7.304**
Regional	5.001	1.958	3.524	1.601	3.279	**15.363**	**16.387**

1. Total internal and external flows directed to the east tributary.

Internal Pre-Development Peak Runoff Directed to the East Tributary (12-Hour)

Design Storm Event	Pre-Development Uncontrolled Flow Rate (m^3/s)						
	102	**103**	**104**	**105**	**106**	**Total Site**	**Total[1]**
2-year	0.562	0.280	0.466	0.183	0.329	**1.820**	**1.729**
5-year	0.926	0.455	0.754	0.308	0.548	**2.991**	**2.850**
10-year	1.193	0.580	0.961	0.401	0.710	**3.845**	**3.687**
25-year	1.544	0.741	1.230	0.525	0.926	**4.966**	**4.811**
50-year	1.814	0.865	1.435	0.620	1.093	**5.827**	**5.717**
100-year	2.091	0.990	1.642	0.718	1.265	**6.706**	**6.655**

1. Total internal and external flows directed to the east tributary.

Internal Pre-Development Peak Runoff Directed to the Mayfield Culvert (6-Hour)

Design Storm Event	Pre-Development Uncontrolled Flow Rate (m^3/s)			
	Total Site	**32.29 (Neighbouring Site)**	**Pond**	**Total**
2-year	1.612	1.043	0.117	**1.729**
5-year	2.861	1.524	0.214	**4.333**
10-year	3.805	2.689	0.389	**4.192**
25-year	5.113	3.411	0.520	**5.626**
50-year	6.186	3.893	0.593	**6.774**
100-year	7.304	4.373	0.737	**7.988**

Internal Pre-Development Peak Runoff Directed to the Mayfield Culvert (12-Hour)

Design Storm Event	Pre-Development Uncontrolled Flow Rate (m^3/s)			
	Total Site	**32.29 (Neighbouring Site)**	**Pond**	**Total**
2-year	1.729	0.707	0.133	**1.858**
5-year	2.850	0.997	0.220	**3.069**
10-year	3.687	1.724	0.388	**4.075**
25-year	4.811	2.075	0.501	**5.312**
50-year	5.717	2.336	0.572	**6.289**
100-year	6.655	2.597	0.628	**7.283**

Pre-Development Peak Runoff Directed to Airport Road & Neighbouring Property (6-Hour)

Design Storm Event	Pre-Development Uncontrolled Flow Rate (m^3/s)				
	107	**108**	**EXT7**	**Total to Airport Road**	**109[1]**
2-year	0.045	0.205	0.081	**0.267**	**0.081**
5-year	0.081	0.358	0.118	**0.459**	**0.145**
10-year	0.106	0.470	0.145	**0.597**	**0.193**
25-year	0.139	0.617	0.179	**0.778**	**0.256**
50-year	0.164	0.730	0.205	**0.920**	**0.307**
100-year	0.190	0.844	0.238	**1.058**	**0.358**
Regional	0.240	1.387	0.204	**1.750**	**0.614**

1. Runoff directed towards the neighboring property.

Pre-Development Peak Runoff Directed to Airport Road & Neighbouring Property (12-Hour)

Design Storm Event	Pre-Development Uncontrolled Flow Rate (m^3/s)				
	107	**108**	**EXT7**	**Total to Airport Road**	**109[1]**
2-year	0.044	0.210	0.054	**0.274**	**0.084**
5-year	0.069	0.341	0.075	**0.439**	**0.138**
10-year	0.086	0.434	0.091	**0.555**	**0.178**
25-year	0.109	0.555	0.110	**0.707**	**0.23**
50-year	0.126	0.645	0.124	**0.822**	**0.269**
100-year	0.143	0.737	0.138	**0.939**	**0.309**

1. Runoff directed towards the neighboring property.

Internal Pre-Development Peak Runoff Directed to the Salt Creek (6-Hour Storm)

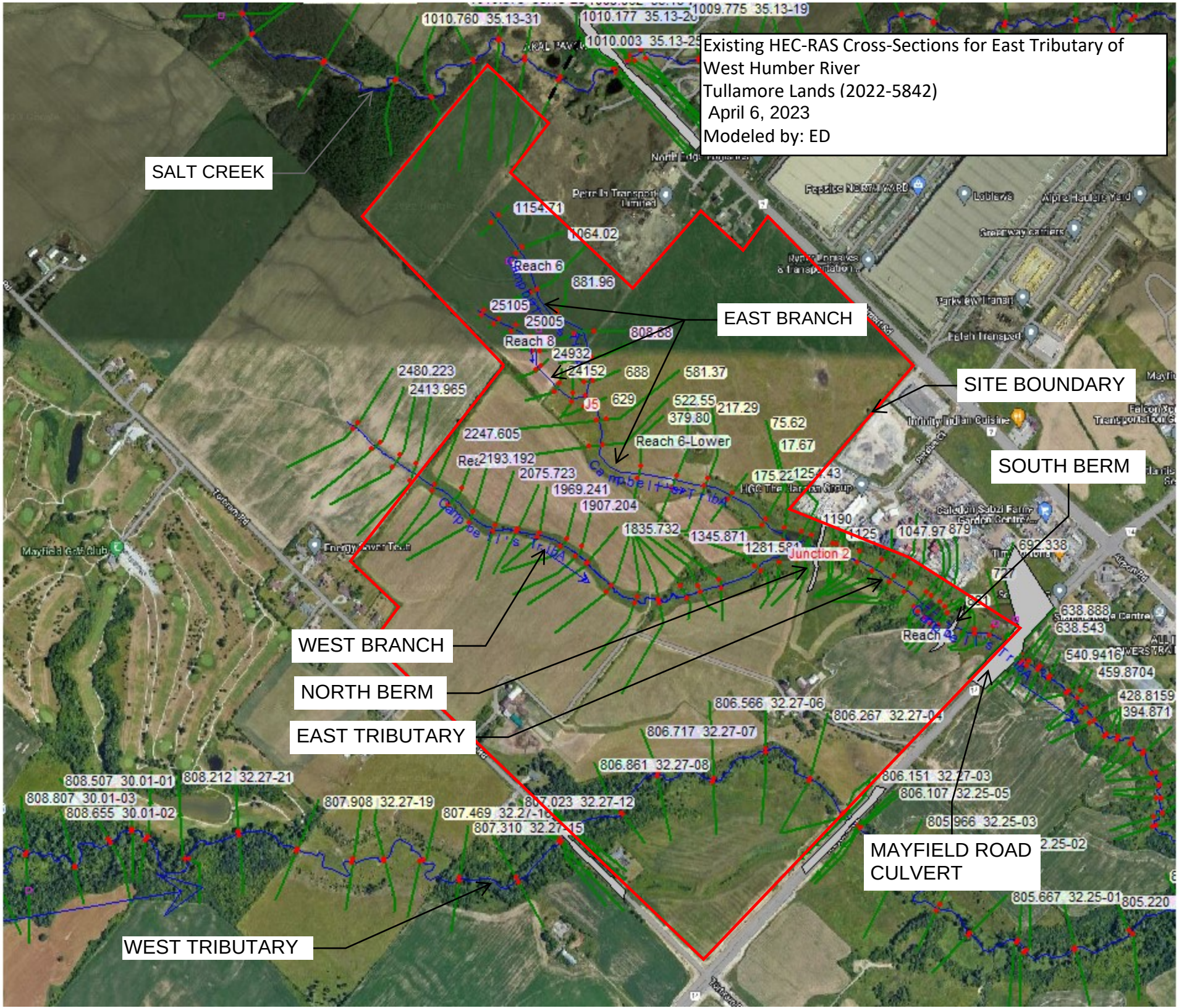
Design Storm Event	Pre-Development Uncontrolled Flow Rate (m^3/s)		
	110	**111**	**Total**
2-year	0.206	0.003	**0.209**
5-year	0.363	0.005	**0.367**
10-year	0.478	0.006	**0.484**
25-year	0.630	0.008	**0.637**
50-year	0.747	0.010	**0.755**
100-year	0.864	0.012	**0.873**
Regional	1.274	0.014	**1.287**

Internal Pre-Development Peak Runoff Directed to Salt Creek (12-Hour Storm)

Design Storm Event	Pre-Development Uncontrolled Flow Rate (m^3/s)		
	110	**111**	**Total**
2-year	0.210	0.003	**0.213**
5-year	0.339	0.004	**0.343**
10-year	0.430	0.005	**0.435**
25-year	0.546	0.007	**0.552**
50-year	0.634	0.008	**0.641**
100-year	0.722	0.009	**0.730**

APPENDIX C

Hydraulic Modeling


Existing HEC-RAS Cross-Sections for East Tributary of West Humber River
Tullamore Lands (2022-5842)
April 6, 2023
Modeled by: ED
SALT CREEK
EAST BRANCH
SITE BOUNDARY
SOUTH BERM
WEST BRANCH
NORTH BERM
EAST TRIBUTARY
MAYFIELD ROAD CULVERT
WEST TRIBUTARY
Reach 6
Reach 8
Reach 6-Lower
Reach 4
Junction 2
J5
1010.760 35.13-31
1010.177 35.13-26
1009.775 35.13-19
1010.003 35.13-25
1154.71
1064.02
881.96
25105
25005
24932
24152
808.88
688
581.37
629
522.55
217.29
379.80
75.62
17.67
2480.223
2413.965
2247.605
2193.192
2075.723
1969.241
1907.204
1835.732
1345.871
1281.581
1190
1125
1047.97
879
693.338
638.888
638.543
540.9416
459.8704
428.8159
394.871
806.566 32.27-06
806.267 32.27-04
806.717 32.27-07
806.861 32.27-08
806.151 32.27-03
806.107 32.25-05
805.966 32.25-03
805.667 32.25-01
805.220
808.507 30.01-01
808.212 32.27-21
808.807 30.01-03
808.655 30.01-02
807.908 32.27-19
807.469 32.27-16
807.310 32.27-15
807.023 32.27-12

Existing HEC-RAS Profile Summary Table for East Tributary of West Humber River (with Berms)
Tullamore Lands (2022-5842)
April 6, 2023
Modeled by: ED

HEC-RAS Plan: Mod_Ex 2023Apr03_WithBerms

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 6	1154.71	2-year	0.73	246.89	247.03	247.01	247.05	0.014581	0.59	1.23	17.15	0.71
Reach 6	1154.71	5-year	1.27	246.89	247.06	247.04	247.09	0.013228	0.67	1.88	20.26	0.71
Reach 6	1154.71	10-year	1.66	246.89	247.08	247.06	247.11	0.012442	0.71	2.33	22.14	0.70
Reach 6	1154.71	25-year	2.18	246.89	247.10	247.08	247.13	0.014491	0.82	2.67	23.44	0.77
Reach 6	1154.71	50-year	2.58	246.89	247.11	247.09	247.15	0.013826	0.85	3.04	24.77	0.76
Reach 6	1154.71	100-year	2.98	246.89	247.13	247.10	247.17	0.013068	0.89	3.39	26.00	0.75
Reach 6	1154.71	Regional	5.61	246.89	247.20	247.17	247.26	0.011096	1.08	5.54	32.46	0.74
Reach 6	1064.02	2-year	0.73	245.66	245.78	245.76	245.80	0.012945	0.55	1.32	18.75	0.67
Reach 6	1064.02	5-year	1.27	245.66	245.81	245.79	245.83	0.014434	0.70	1.81	19.87	0.74
Reach 6	1064.02	10-year	1.66	245.66	245.82	245.80	245.85	0.015416	0.79	2.11	20.52	0.78
Reach 6	1064.02	25-year	2.18	245.66	245.85	245.83	245.88	0.013044	0.83	2.64	21.72	0.74
Reach 6	1064.02	50-year	2.58	245.66	245.86	245.84	245.90	0.013671	0.90	2.91	23.49	0.77
Reach 6	1064.02	100-year	2.98	245.66	245.87	245.85	245.92	0.014494	0.98	3.15	24.19	0.80
Reach 6	1064.02	Regional	5.61	245.66	245.93	245.92	246.01	0.017363	1.32	4.64	29.60	0.92
Reach 6	962.05	2-year	0.73	244.36	244.49	244.47	244.50	0.012796	0.59	1.24	16.59	0.67
Reach 6	962.05	5-year	1.27	244.36	244.52	244.49	244.55	0.011438	0.71	1.84	18.69	0.68
Reach 6	962.05	10-year	1.66	244.36	244.54	244.51	244.57	0.010762	0.77	2.25	19.78	0.68
Reach 6	962.05	25-year	2.18	244.36	244.56	244.53	244.60	0.012534	0.90	2.57	20.59	0.74
Reach 6	962.05	50-year	2.58	244.36	244.57	244.55	244.62	0.011891	0.95	2.96	22.87	0.74
Reach 6	962.05	100-year	2.98	244.36	244.59	244.56	244.64	0.011266	0.98	3.37	23.98	0.73
Reach 6	962.05	Regional	5.61	244.36	244.68		244.75	0.009432	1.17	5.78	29.77	0.71
Reach 6	881.96	2-year	0.73	243.45	243.64	243.60	243.66	0.009411	0.64	1.14	10.35	0.61
Reach 6	881.96	5-year	1.27	243.45	243.68		243.71	0.010011	0.77	1.66	11.92	0.66
Reach 6	881.96	10-year	1.66	243.45	243.71		243.74	0.010432	0.84	1.98	12.86	0.68
Reach 6	881.96	25-year	2.18	243.45	243.75		243.79	0.008741	0.84	2.59	14.59	0.64
Reach 6	881.96	50-year	2.58	243.45	243.77		243.81	0.009093	0.89	2.90	15.52	0.66
Reach 6	881.96	100-year	2.98	243.45	243.79		243.84	0.009454	0.94	3.18	16.23	0.68
Reach 6	881.96	Regional	5.61	243.45	243.87	243.83	243.95	0.011221	1.22	4.61	18.09	0.77
Reach 6	808.88	2-year	0.73	242.86	242.98		242.99	0.007909	0.41	1.76	26.73	0.52
Reach 6	808.88	5-year	1.27	242.86	243.01		243.02	0.007868	0.46	2.76	35.79	0.53
Reach 6	808.88	10-year	1.66	242.86	243.02		243.04	0.007907	0.50	3.33	38.18	0.54
Reach 6	808.88	25-year	2.18	242.86	243.03		243.05	0.010288	0.59	3.66	39.36	0.62
Reach 6	808.88	50-year	2.58	242.86	243.05		243.07	0.010033	0.61	4.25	43.69	0.62
Reach 6	808.88	100-year	2.98	242.86	243.06		243.08	0.009862	0.64	4.69	44.10	0.62
Reach 6	808.88	Regional	5.61	242.86	243.11		243.14	0.009354	0.80	7.04	45.51	0.65
Reach 6	744.83	2-year	0.73	241.99	242.09	242.09	242.13	0.029418	0.82	0.89	13.16	1.00
Reach 6	744.83	5-year	1.27	241.99	242.13	242.13	242.17	0.028442	0.86	1.48	19.84	1.00
Reach 6	744.83	10-year	1.66	241.99	242.15	242.15	242.19	0.027939	0.92	1.81	21.48	1.01
Reach 6	744.83	25-year	2.18	241.99	242.18		242.22	0.017782	0.88	2.47	22.24	0.84
Reach 6	744.83	50-year	2.58	241.99	242.19	242.18	242.24	0.018114	0.94	2.73	22.47	0.86
Reach 6	744.83	100-year	2.98	241.99	242.20	242.19	242.25	0.018286	1.00	2.98	22.69	0.88
Reach 6	744.83	Regional	5.61	241.99	242.26	242.25	242.35	0.018011	1.26	4.44	23.46	0.93
Reach 6	688	2-year	0.73	241.16	241.33		241.34	0.005156	0.47	1.56	14.33	0.45
Reach 6	688	5-year	1.27	241.16	241.37		241.39	0.005387	0.55	2.30	17.00	0.48
Reach 6	688	10-year	1.66	241.16	241.39		241.41	0.006378	0.64	2.60	17.49	0.53
Reach 6	688	25-year	2.18	241.16	241.39		241.43	0.011264	0.85	2.57	17.45	0.70
Reach 6	688	50-year	2.58	241.16	241.41		241.45	0.010991	0.89	2.90	17.97	0.71
Reach 6	688	100-year	2.98	241.16	241.43	241.39	241.47	0.010778	0.93	3.22	18.43	0.71
Reach 6	688	Regional	5.61	241.16	241.51	241.46	241.58	0.010421	1.14	4.91	19.98	0.74
Reach 8	25105	2-year	0.29	245.72	245.81	245.81	245.84	0.028354	0.74	0.39	6.37	0.96
Reach 8	25105	5-year	0.50	245.72	245.84	245.84	245.88	0.027251	0.87	0.57	7.27	0.99
Reach 8	25105	10-year	0.65	245.72	245.86	245.85	245.90	0.025894	0.92	0.71	7.84	0.98
Reach 8	25105	25-year	0.86	245.72	245.88	245.87	245.93	0.025130	0.99	0.87	8.47	0.99
Reach 8	25105	50-year	1.02	245.72	245.89	245.89	245.94	0.023496	1.01	1.00	8.97	0.97
Reach 8	25105	100-year	1.17	245.72	245.90	245.90	245.96	0.023560	1.06	1.11	9.36	0.98
Reach 8	25105	Regional	2.06	245.72	245.96	245.96	246.03	0.021412	1.20	1.71	11.26	0.98
Reach 8	25101	2-year	0.29	245.22	245.32		245.33	0.007292	0.43	0.66	8.74	0.51
Reach 8	25101	5-year	0.50	245.22	245.36		245.37	0.007496	0.52	0.96	9.88	0.53
Reach 8	25101	10-year	0.65	245.22	245.38		245.39	0.007717	0.57	1.14	10.53	0.55
Reach 8	25101	25-year	0.86	245.22	245.40		245.42	0.007875	0.62	1.38	11.29	0.57
Reach 8	25101	50-year	1.02	245.22	245.41		245.43	0.008234	0.66	1.53	11.75	0.59
Reach 8	25101	100-year	1.17	245.22	245.42		245.45	0.008201	0.69	1.70	12.26	0.59
Reach 8	25101	Regional	2.06	245.22	245.48		245.52	0.008765	0.83	2.49	14.49	0.64
Reach 8	25005	2-year	0.29	244.65	244.74	244.74	244.77	0.031505	0.73	0.39	7.08	1.00
Reach 8	25005	5-year	0.50	244.65	244.77	244.77	244.80	0.029913	0.79	0.63	9.71	1.00
Reach 8	25005	10-year	0.65	244.65	244.79	244.79	244.82	0.028974	0.85	0.77	10.58	1.00
Reach 8	25005	25-year	0.86	244.65	244.80	244.80	244.84	0.028197	0.90	0.95	11.57	1.01
Reach 8	25005	50-year	1.02	244.65	244.81	244.81	244.86	0.026554	0.94	1.09	12.04	1.00

HEC-RAS Plan: Mod_Ex 2023Apr03_WithBerms (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 8	25005	100-year	1.17	244.65	244.82	244.82	244.87	0.026972	0.99	1.19	12.32	1.01
Reach 8	25005	Regional	2.06	244.65	244.87	244.87	244.94	0.024358	1.14	1.80	13.83	1.01
Reach 8	24932.1	2-year	0.29	244.02	244.13	244.10	244.14	0.006542	0.37	0.77	12.03	0.47
Reach 8	24932.1	5-year	0.50	244.02	244.16	244.12	244.17	0.007983	0.47	1.06	13.28	0.53
Reach 8	24932.1	10-year	0.65	244.02	244.17	244.14	244.18	0.008545	0.53	1.23	13.72	0.56
Reach 8	24932.1	25-year	0.86	244.02	244.19	244.15	244.20	0.008873	0.59	1.46	14.26	0.59
Reach 8	24932.1	50-year	1.02	244.02	244.20	244.16	244.22	0.008891	0.63	1.62	14.68	0.60
Reach 8	24932.1	100-year	1.17	244.02	244.21	244.17	244.23	0.008931	0.67	1.77	15.18	0.61
Reach 8	24932.1	Regional	2.06	244.02	244.25	244.21	244.29	0.009259	0.84	2.53	17.48	0.65
Reach 8	24932	2-year	0.29	243.60	243.65	243.65	243.67	0.038687	0.57	0.50	15.73	1.01
Reach 8	24932	5-year	0.50	243.60	243.67	243.67	243.69	0.026304	0.62	0.80	17.02	0.90
Reach 8	24932	10-year	0.65	243.60	243.68	243.68	243.71	0.023487	0.67	0.99	17.39	0.87
Reach 8	24932	25-year	0.86	243.60	243.69	243.69	243.72	0.022702	0.74	1.18	17.76	0.89
Reach 8	24932	50-year	1.02	243.60	243.70	243.70	243.73	0.022871	0.79	1.31	18.00	0.90
Reach 8	24932	100-year	1.17	243.60	243.71	243.70	243.74	0.022906	0.84	1.44	18.23	0.92
Reach 8	24932	Regional	2.06	243.60	243.74	243.74	243.80	0.022374	1.04	2.09	19.34	0.96
Reach 8	24406	2-year	0.29	243.08	243.20	243.17	243.20	0.005418	0.32	0.95	17.30	0.42
Reach 8	24406	5-year	0.50	243.08	243.22	243.19	243.23	0.005650	0.40	1.34	18.41	0.45
Reach 8	24406	10-year	0.65	243.08	243.23	243.20	243.24	0.006634	0.47	1.52	18.90	0.50
Reach 8	24406	25-year	0.86	243.08	243.24	243.21	243.26	0.006691	0.53	1.82	19.94	0.51
Reach 8	24406	50-year	1.02	243.08	243.26	243.22	243.27	0.006645	0.56	2.05	20.66	0.52
Reach 8	24406	100-year	1.17	243.08	243.27	243.22	243.28	0.006606	0.59	2.27	21.22	0.53
Reach 8	24406	Regional	2.06	243.08	243.31		243.34	0.006572	0.73	3.35	23.36	0.55
Reach 8	24152	2-year	0.29	242.40	242.48	242.48	242.49	0.035987	0.59	0.48	13.27	1.00
Reach 8	24152	5-year	0.50	242.40	242.49	242.49	242.52	0.032729	0.68	0.73	15.13	0.99
Reach 8	24152	10-year	0.65	242.40	242.51	242.50	242.53	0.022815	0.65	1.00	17.21	0.86
Reach 8	24152	25-year	0.86	242.40	242.52	242.51	242.55	0.022981	0.71	1.20	17.93	0.88
Reach 8	24152	50-year	1.02	242.40	242.53	242.52	242.56	0.023265	0.74	1.37	19.40	0.89
Reach 8	24152	100-year	1.17	242.40	242.54	242.53	242.57	0.023834	0.79	1.49	19.58	0.92
Reach 8	24152	Regional	2.06	242.40	242.57	242.56	242.62	0.024815	0.98	2.09	20.48	0.98
Reach 8	24151	2-year	0.29	241.22	241.32	241.31	241.34	0.013014	0.52	0.55	8.66	0.66
Reach 8	24151	5-year	0.50	241.22	241.35		241.37	0.014443	0.65	0.77	9.39	0.72
Reach 8	24151	10-year	0.65	241.22	241.35	241.35	241.39	0.027703	0.88	0.74	9.31	1.00
Reach 8	24151	25-year	0.86	241.22	241.36	241.36	241.41	0.027151	0.94	0.91	10.17	1.00
Reach 8	24151	50-year	1.02	241.22	241.38	241.38	241.42	0.026621	0.97	1.04	10.96	1.01
Reach 8	24151	100-year	1.17	241.22	241.39	241.39	241.44	0.025746	0.99	1.18	11.72	1.00
Reach 8	24151	Regional	2.06	241.22	241.43	241.43	241.50	0.023849	1.17	1.76	12.91	1.01
Reach 6-Lower	629	2-year	0.73	240.55	240.72	240.72	240.76	0.025804	0.86	0.85	10.46	0.96
Reach 6-Lower	629	5-year	1.27	240.55	240.76	240.76	240.81	0.023602	0.92	1.37	14.21	0.95
Reach 6-Lower	629	10-year	1.66	240.55	240.80		240.83	0.016738	0.87	1.91	16.74	0.82
Reach 6-Lower	629	25-year	2.18	240.55	240.86	240.80	240.88	0.007552	0.72	3.02	19.30	0.58
Reach 6-Lower	629	50-year	2.58	240.55	240.88	240.82	240.91	0.007727	0.77	3.37	20.01	0.60
Reach 6-Lower	629	100-year	2.98	240.55	240.89	240.83	240.93	0.007842	0.80	3.71	20.70	0.61
Reach 6-Lower	629	Regional	5.61	240.55	240.97	240.91	241.03	0.008341	1.02	5.52	22.66	0.66
Reach 6-Lower	581.37	2-year	0.73	240.21	240.42		240.43	0.003490	0.36	2.02	20.38	0.37
Reach 6-Lower	581.37	5-year	1.27	240.21	240.46		240.47	0.003658	0.44	2.91	23.08	0.39
Reach 6-Lower	581.37	10-year	1.66	240.21	240.47		240.49	0.004599	0.52	3.20	23.41	0.44
Reach 6-Lower	581.37	25-year	2.18	240.21	240.46	240.43	240.49	0.011349	0.76	2.86	23.02	0.69
Reach 6-Lower	581.37	50-year	2.58	240.21	240.47	240.44	240.51	0.011118	0.81	3.20	23.41	0.69
Reach 6-Lower	581.37	100-year	2.98	240.21	240.49	240.45	240.52	0.011109	0.85	3.51	23.76	0.70
Reach 6-Lower	581.37	Regional	5.61	240.21	240.56	240.52	240.62	0.010916	1.09	5.25	25.65	0.74
Reach 6-Lower	522.55	2-year	0.73	239.81	239.93	239.93	239.95	0.033053	0.68	1.07	22.79	1.00
Reach 6-Lower	522.55	5-year	1.27	239.81	239.95	239.95	239.98	0.031662	0.76	1.68	29.09	1.01
Reach 6-Lower	522.55	10-year	1.66	239.81	239.98		240.00	0.018338	0.71	2.34	29.79	0.81
Reach 6-Lower	522.55	25-year	2.18	239.81	240.04	239.98	240.05	0.005071	0.52	4.15	31.96	0.46
Reach 6-Lower	522.55	50-year	2.58	239.81	240.05	239.99	240.07	0.005178	0.56	4.58	32.48	0.47
Reach 6-Lower	522.55	100-year	2.98	239.81	240.06	240.00	240.08	0.005237	0.60	5.00	32.88	0.48
Reach 6-Lower	522.55	Regional	5.61	239.81	240.13	240.05	240.16	0.005564	0.78	7.28	34.95	0.53
Reach 6-Lower	379.80	2-year	0.73	238.57	238.70		238.71	0.004223	0.35	2.10	25.87	0.39
Reach 6-Lower	379.80	5-year	1.27	238.57	238.73		238.74	0.004411	0.43	2.94	27.12	0.42
Reach 6-Lower	379.80	10-year	1.66	238.57	238.74		238.75	0.005874	0.52	3.19	27.48	0.49
Reach 6-Lower	379.80	25-year	2.18	238.57	238.71	238.71	238.75	0.027486	0.94	2.32	26.20	1.01
Reach 6-Lower	379.80	50-year	2.58	238.57	238.72	238.72	238.77	0.026153	0.98	2.62	26.65	1.00
Reach 6-Lower	379.80	100-year	2.98	238.57	238.73	238.73	238.78	0.025736	1.03	2.89	27.05	1.01
Reach 6-Lower	379.80	Regional	5.61	238.57	238.79	238.79	238.87	0.022332	1.24	4.51	28.76	1.00
Reach 6-Lower	289.21	2-year	0.73	237.90	238.07	238.06	238.08	0.015185	0.56	1.31	20.87	0.71
Reach 6-Lower	289.21	5-year	1.27	237.90	238.10	238.08	238.12	0.013917	0.66	1.92	22.03	0.72

HEC-RAS Plan: Mod_Ex 2023Apr03_WithBerms (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 6-Lower	289.21	10-year	1.66	237.90	238.13		238.15	0.008618	0.61	2.73	24.82	0.59
Reach 6-Lower	289.21	25-year	2.18	237.90	238.24		238.25	0.001623	0.38	5.77	30.76	0.28
Reach 6-Lower	289.21	50-year	2.58	237.90	238.58		238.58	0.000067	0.15	18.32	41.66	0.07
Reach 6-Lower	289.21	100-year	2.98	237.90	238.63		238.63	0.000066	0.16	20.39	43.23	0.07
Reach 6-Lower	289.21	Regional	5.61	237.90	238.77		238.77	0.000108	0.24	26.67	46.06	0.09
Reach 6-Lower	217.29	2-year	0.73	236.91	237.08	237.06	237.11	0.012625	0.69	1.06	10.65	0.70
Reach 6-Lower	217.29	5-year	1.27	236.91	237.13	237.09	237.16	0.013300	0.77	1.66	14.75	0.73
Reach 6-Lower	217.29	10-year	1.66	236.91	237.13	237.13	237.18	0.024991	1.04	1.60	14.61	1.00
Reach 6-Lower	217.29	25-year	2.18	236.91	238.24		238.24	0.000005	0.07	41.75	50.48	0.02
Reach 6-Lower	217.29	50-year	2.58	236.91	238.58		238.58	0.000003	0.06	60.03	57.72	0.02
Reach 6-Lower	217.29	100-year	2.98	236.91	238.63		238.63	0.000003	0.07	62.96	62.71	0.02
Reach 6-Lower	217.29	Regional	5.61	236.91	238.77		238.77	0.000008	0.12	72.24	70.05	0.03
Reach 6-Lower	175.22	2-year	0.73	235.75	235.88	235.88	235.91	0.028356	0.85	0.86	11.58	1.00
Reach 6-Lower	175.22	5-year	1.27	235.75	235.91	235.91	235.96	0.026512	1.00	1.27	12.72	1.01
Reach 6-Lower	175.22	10-year	1.66	235.75	236.74		236.74	0.000015	0.10	19.21	30.67	0.03
Reach 6-Lower	175.22	25-year	2.18	235.75	238.24		238.24	0.000001	0.04	84.14	55.66	0.01
Reach 6-Lower	175.22	50-year	2.58	235.75	238.58		238.58	0.000000	0.04	104.24	64.74	0.01
Reach 6-Lower	175.22	100-year	2.98	235.75	238.63		238.63	0.000001	0.04	107.46	67.55	0.01
Reach 6-Lower	175.22	Regional	5.61	235.75	238.77		238.77	0.000002	0.08	117.22	71.80	0.01
Reach 6-Lower	75.62	2-year	0.73	234.50	234.81		234.81	0.000437	0.21	3.54	18.24	0.15
Reach 6-Lower	75.62	5-year	1.27	234.50	235.93		235.93	0.000002	0.05	37.27	42.47	0.01
Reach 6-Lower	75.62	10-year	1.66	234.50	236.74		236.74	0.000000	0.03	78.93	58.96	0.01
Reach 6-Lower	75.62	25-year	2.18	234.50	238.24		238.24	0.000000	0.02	189.99	91.64	0.00
Reach 6-Lower	75.62	50-year	2.58	234.50	238.58		238.58	0.000000	0.02	222.41	102.94	0.00
Reach 6-Lower	75.62	100-year	2.98	234.50	238.63		238.63	0.000000	0.02	227.51	105.90	0.00
Reach 6-Lower	75.62	Regional	5.61	234.50	238.77		238.77	0.000000	0.04	242.86	115.46	0.01
Reach 6-Lower	17.67	2-year	0.73	234.42	234.80		234.80	0.000057	0.09	8.33	31.82	0.06
Reach 6-Lower	17.67	5-year	1.27	234.42	235.93		235.93	0.000001	0.03	55.89	52.54	0.01
Reach 6-Lower	17.67	10-year	1.66	234.42	236.74		236.74	0.000000	0.02	104.69	69.63	0.00
Reach 6-Lower	17.67	25-year	2.18	234.42	238.24		238.24	0.000000	0.01	239.93	115.55	0.00
Reach 6-Lower	17.67	50-year	2.58	234.42	238.58		238.58	0.000000	0.01	280.31	126.24	0.00
Reach 6-Lower	17.67	100-year	2.98	234.42	238.63		238.63	0.000000	0.02	286.51	128.17	0.00
Reach 6-Lower	17.67	Regional	5.61	234.42	238.77		238.77	0.000000	0.03	305.20	141.49	0.00
Reach 5	2480.223	2-year	0.63	246.13	246.31	246.27	246.33	0.006485	0.52	1.20	11.19	0.51
Reach 5	2480.223	5-year	1.10	246.13	246.36	246.30	246.38	0.006926	0.62	1.77	13.23	0.54
Reach 5	2480.223	10-year	1.45	246.13	246.39	246.33	246.41	0.007235	0.68	2.13	15.40	0.56
Reach 5	2480.223	25-year	1.92	246.13	246.42	246.35	246.44	0.007542	0.74	2.66	19.45	0.59
Reach 5	2480.223	50-year	2.29	246.13	246.43	246.37	246.47	0.007782	0.79	3.05	27.52	0.60
Reach 5	2480.223	100-year	2.66	246.13	246.45	246.39	246.48	0.008029	0.84	3.46	29.82	0.62
Reach 5	2480.223	Regional	5.88	246.13	246.54	246.50	246.60	0.008346	1.13	6.61	39.84	0.68
Reach 5	2413.965	2-year	0.63	245.66	245.78		245.79	0.010492	0.51	1.23	16.92	0.60
Reach 5	2413.965	5-year	1.10	245.66	245.81		245.83	0.010123	0.59	1.89	21.58	0.62
Reach 5	2413.965	10-year	1.45	245.66	245.83		245.85	0.009978	0.65	2.27	22.79	0.63
Reach 5	2413.965	25-year	1.92	245.66	245.85		245.87	0.009763	0.71	2.77	24.28	0.64
Reach 5	2413.965	50-year	2.29	245.66	245.86		245.89	0.009593	0.75	3.15	25.34	0.64
Reach 5	2413.965	100-year	2.66	245.66	245.88		245.91	0.009266	0.79	3.53	26.39	0.64
Reach 5	2413.965	Regional	5.88	245.66	245.98		246.03	0.008940	1.01	6.41	33.53	0.67
Reach 5	2353.877	2-year	0.63	245.34	245.48		245.48	0.003013	0.28	2.23	29.49	0.33
Reach 5	2353.877	5-year	1.10	245.34	245.51		245.51	0.003142	0.34	3.23	36.07	0.35
Reach 5	2353.877	10-year	1.45	245.34	245.52		245.53	0.003228	0.38	3.92	40.55	0.36
Reach 5	2353.877	25-year	1.92	245.34	245.54		245.55	0.003301	0.42	4.75	42.17	0.37
Reach 5	2353.877	50-year	2.29	245.34	245.56		245.57	0.003382	0.45	5.33	43.27	0.38
Reach 5	2353.877	100-year	2.66	245.34	245.57		245.58	0.003525	0.48	5.83	44.20	0.40
Reach 5	2353.877	Regional	5.88	245.34	245.65		245.67	0.004019	0.68	9.58	49.66	0.45
Reach 5	2307.004	2-year	0.63	245.12	245.24		245.24	0.010064	0.39	1.62	32.73	0.55
Reach 5	2307.004	5-year	1.10	245.12	245.26		245.27	0.010012	0.46	2.38	36.54	0.58
Reach 5	2307.004	10-year	1.45	245.12	245.27		245.28	0.010374	0.52	2.79	37.18	0.60
Reach 5	2307.004	25-year	1.92	245.12	245.28		245.30	0.010541	0.58	3.32	37.98	0.62
Reach 5	2307.004	50-year	2.29	245.12	245.30		245.31	0.009969	0.61	3.78	38.66	0.62
Reach 5	2307.004	100-year	2.66	245.12	245.31		245.33	0.009543	0.63	4.20	39.28	0.61
Reach 5	2307.004	Regional	5.88	245.12	245.39	245.33	245.42	0.007544	0.79	7.71	49.13	0.59
Reach 5	2247.605	2-year	0.63	244.45	244.56	244.54	244.57	0.012794	0.56	1.23	20.99	0.67
Reach 5	2247.605	5-year	1.10	244.45	244.59		244.61	0.012428	0.67	2.00	29.45	0.69
Reach 5	2247.605	10-year	1.45	244.45	244.61		244.63	0.011712	0.70	2.58	31.53	0.68
Reach 5	2247.605	25-year	1.92	244.45	244.62		244.65	0.011311	0.77	3.19	32.52	0.69
Reach 5	2247.605	50-year	2.29	244.45	244.63		244.66	0.012092	0.84	3.52	32.94	0.72
Reach 5	2247.605	100-year	2.66	244.45	244.65		244.68	0.012448	0.89	3.86	33.37	0.74
Reach 5	2247.605	Regional	5.88	244.45	244.71	244.70	244.78	0.016363	1.30	6.21	39.49	0.90

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Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 5	2193.192	2-year	0.63	243.62	243.77	243.75	243.79	0.015750	0.54	1.16	19.97	0.71
Reach 5	2193.192	5-year	1.10	243.62	243.80	243.78	243.82	0.016281	0.58	1.89	29.59	0.74
Reach 5	2193.192	10-year	1.45	243.62	243.81	243.80	243.83	0.017840	0.64	2.25	32.61	0.78
Reach 5	2193.192	25-year	1.92	243.62	243.83	243.81	243.85	0.018809	0.70	2.74	36.28	0.81
Reach 5	2193.192	50-year	2.29	243.62	243.84	243.83	243.86	0.017305	0.72	3.18	37.96	0.79
Reach 5	2193.192	100-year	2.66	243.62	243.85	243.84	243.88	0.016721	0.74	3.59	39.92	0.79
Reach 5	2193.192	Regional	5.88	243.62	243.92	243.89	243.96	0.012984	0.88	6.69	48.76	0.75
Reach 5	2136.188	2-year	0.63	242.87	243.11		243.12	0.009260	0.47	1.33	18.75	0.56
Reach 5	2136.188	5-year	1.10	242.87	243.14	243.10	243.15	0.008890	0.57	1.94	20.15	0.58
Reach 5	2136.188	10-year	1.45	242.87	243.16	243.12	243.18	0.008130	0.61	2.38	20.74	0.57
Reach 5	2136.188	25-year	1.92	242.87	243.19	243.14	243.21	0.007610	0.64	3.05	27.05	0.57
Reach 5	2136.188	50-year	2.29	242.87	243.20	243.15	243.22	0.007966	0.68	3.45	29.28	0.59
Reach 5	2136.188	100-year	2.66	242.87	243.21	243.16	243.24	0.008098	0.73	3.82	30.32	0.60
Reach 5	2136.188	Regional	5.88	242.87	243.29		243.34	0.009196	0.99	6.57	39.05	0.68
Reach 5	2075.723	2-year	0.63	242.46	242.63		242.64	0.006708	0.48	1.50	20.94	0.50
Reach 5	2075.723	5-year	1.10	242.46	242.66		242.68	0.006973	0.57	2.37	28.47	0.53
Reach 5	2075.723	10-year	1.45	242.46	242.68		242.70	0.007791	0.65	2.83	31.17	0.57
Reach 5	2075.723	25-year	1.92	242.46	242.70		242.72	0.008513	0.72	3.45	33.65	0.61
Reach 5	2075.723	50-year	2.29	242.46	242.72		242.74	0.008077	0.76	4.00	34.71	0.60
Reach 5	2075.723	100-year	2.66	242.46	242.73		242.76	0.007986	0.80	4.50	35.62	0.61
Reach 5	2075.723	Regional	5.88	242.46	242.83		242.87	0.006726	0.99	8.44	40.96	0.60
Reach 5	2020.589	2-year	0.63	241.73	241.92	241.92	241.97	0.025697	1.03	0.61	5.63	1.01
Reach 5	2020.589	5-year	1.10	241.73	241.97	241.97	242.04	0.021184	1.12	1.03	9.79	0.96
Reach 5	2020.589	10-year	1.45	241.73	242.01	242.01	242.07	0.016782	1.15	1.46	15.33	0.88
Reach 5	2020.589	25-year	1.92	241.73	242.04	242.04	242.11	0.014093	1.20	2.07	18.41	0.83
Reach 5	2020.589	50-year	2.29	241.73	242.06	242.06	242.13	0.014550	1.28	2.38	18.83	0.86
Reach 5	2020.589	100-year	2.66	241.73	242.08	242.08	242.16	0.014590	1.35	2.70	19.25	0.87
Reach 5	2020.589	Regional	5.88	241.73	242.19	242.19	242.31	0.015565	1.78	4.93	21.99	0.96
Reach 5	1969.241	2-year	0.63	241.14	241.36	241.30	241.37	0.006168	0.56	1.12	8.96	0.50
Reach 5	1969.241	5-year	1.10	241.14	241.42	241.35	241.44	0.006387	0.64	1.72	11.59	0.53
Reach 5	1969.241	10-year	1.45	241.14	241.45	241.37	241.47	0.006882	0.70	2.07	13.13	0.56
Reach 5	1969.241	25-year	1.92	241.14	241.47	241.41	241.50	0.007719	0.80	2.43	17.01	0.60
Reach 5	1969.241	50-year	2.29	241.14	241.50	241.43	241.53	0.007046	0.82	2.91	18.82	0.58
Reach 5	1969.241	100-year	2.66	241.14	241.51	241.45	241.55	0.007227	0.88	3.23	19.64	0.60
Reach 5	1969.241	Regional	5.88	241.14	241.62	241.57	241.69	0.008188	1.22	5.62	23.69	0.68
Reach 5	1907.204	2-year	0.63	240.49	240.64	240.64	240.67	0.027596	0.75	0.83	13.16	0.96
Reach 5	1907.204	5-year	1.10	240.49	240.67	240.67	240.71	0.028496	0.91	1.21	14.68	1.01
Reach 5	1907.204	10-year	1.45	240.49	240.69	240.69	240.73	0.025459	0.92	1.58	17.50	0.97
Reach 5	1907.204	25-year	1.92	240.49	240.71	240.71	240.76	0.021218	0.95	2.03	18.81	0.92
Reach 5	1907.204	50-year	2.29	240.49	240.72	240.72	240.78	0.025799	1.07	2.15	19.28	1.02
Reach 5	1907.204	100-year	2.66	240.49	240.73	240.73	240.80	0.024904	1.10	2.42	20.19	1.01
Reach 5	1907.204	Regional	5.88	240.49	240.82	240.82	240.92	0.021329	1.41	4.20	21.73	1.01
Reach 5	1865.536	2-year	0.63	239.99	240.20		240.20	0.004734	0.34	1.83	25.67	0.41
Reach 5	1865.536	5-year	1.10	239.99	240.23		240.23	0.005169	0.43	2.61	28.49	0.44
Reach 5	1865.536	10-year	1.45	239.99	240.24		240.25	0.005628	0.49	3.02	29.11	0.47
Reach 5	1865.536	25-year	1.92	239.99	240.26		240.27	0.006358	0.56	3.48	29.78	0.51
Reach 5	1865.536	50-year	2.29	239.99	240.28		240.30	0.004840	0.55	4.27	30.88	0.46
Reach 5	1865.536	100-year	2.66	239.99	240.29		240.31	0.004913	0.59	4.68	31.35	0.47
Reach 5	1865.536	Regional	5.88	239.99	240.39		240.42	0.004911	0.80	7.73	32.40	0.51
Reach 5	1835.732	2-year	0.63	239.62	239.83	239.83	239.91	0.025269	1.23	0.51	3.73	1.04
Reach 5	1835.732	5-year	1.10	239.62	239.91	239.91	239.96	0.017502	1.08	1.40	18.50	0.88
Reach 5	1835.732	10-year	1.45	239.62	239.94	239.94	239.99	0.013510	1.07	2.04	21.78	0.80
Reach 5	1835.732	25-year	1.92	239.62	239.98	239.96	240.02	0.010073	1.05	2.94	24.60	0.71
Reach 5	1835.732	50-year	2.29	239.62	239.97	239.97	240.04	0.016168	1.31	2.79	24.17	0.90
Reach 5	1835.732	100-year	2.66	239.62	239.99	239.99	240.06	0.015106	1.34	3.26	26.06	0.88
Reach 5	1835.732	Regional	5.88	239.62	240.09	240.09	240.18	0.013814	1.62	6.66	36.12	0.89
Reach 5	1759.197	2-year	0.63	239.03	239.17		239.18	0.004387	0.39	1.72	21.78	0.41
Reach 5	1759.197	5-year	1.10	239.03	239.20		239.21	0.005281	0.50	2.40	23.45	0.46
Reach 5	1759.197	10-year	1.45	239.03	239.21		239.23	0.006968	0.60	2.66	24.67	0.54
Reach 5	1759.197	25-year	1.92	239.03	239.22	239.19	239.25	0.009931	0.74	2.88	25.79	0.65
Reach 5	1759.197	50-year	2.29	239.03	239.29	239.20	239.31	0.003038	0.55	4.86	28.57	0.39
Reach 5	1759.197	100-year	2.66	239.03	239.31	239.21	239.32	0.003132	0.58	5.33	29.63	0.40
Reach 5	1759.197	Regional	5.88	239.03	239.40		239.43	0.004356	0.87	8.24	32.42	0.50
Reach 5	1684.856	2-year	0.63	238.60	238.75	238.72	238.76	0.008760	0.45	1.67	28.46	0.55
Reach 5	1684.856	5-year	1.10	238.60	238.78		238.79	0.007042	0.52	2.64	31.79	0.52
Reach 5	1684.856	10-year	1.45	238.60	238.81		238.82	0.005009	0.51	3.56	33.24	0.46
Reach 5	1684.856	25-year	1.92	238.60	238.84		238.86	0.003553	0.51	4.81	34.52	0.40

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Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 5	1684.856	50-year	2.29	238.60	238.78	238.78	238.83	0.026356	1.03	2.77	32.01	1.02
Reach 5	1684.856	100-year	2.66	238.60	238.79	238.79	238.84	0.024987	1.07	3.12	32.56	1.01
Reach 5	1684.856	Regional	5.88	238.60	238.89		238.95	0.012763	1.16	6.57	35.36	0.80
Reach 5	1614.867	2-year	0.63	237.96	238.33		238.34	0.005350	0.55	1.40	15.58	0.48
Reach 5	1614.867	5-year	1.10	237.96	238.37		238.39	0.005935	0.70	2.19	21.46	0.53
Reach 5	1614.867	10-year	1.45	237.96	238.37	238.34	238.41	0.009200	0.88	2.30	21.90	0.66
Reach 5	1614.867	25-year	1.92	237.96	238.37	238.37	238.43	0.017814	1.21	2.21	21.52	0.91
Reach 5	1614.867	50-year	2.29	237.96	238.58		238.58	0.001005	0.48	8.14	38.55	0.25
Reach 5	1614.867	100-year	2.66	237.96	238.63		238.63	0.000826	0.47	10.17	41.81	0.23
Reach 5	1614.867	Regional	5.88	237.96	238.76		238.78	0.001096	0.65	16.10	43.34	0.27
Reach 5	1534.323	2-year	0.63	237.43	237.52	237.52	237.54	0.036891	0.69	0.91	20.59	1.04
Reach 5	1534.323	5-year	1.10	237.43	237.54	237.54	237.57	0.031630	0.77	1.43	24.21	1.01
Reach 5	1534.323	10-year	1.45	237.43	237.57		237.59	0.014663	0.65	2.24	28.06	0.73
Reach 5	1534.323	25-year	1.92	237.43	238.24		238.24	0.000010	0.07	28.70	43.73	0.03
Reach 5	1534.323	50-year	2.29	237.43	238.58		238.58	0.000004	0.06	44.25	48.81	0.02
Reach 5	1534.323	100-year	2.66	237.43	238.63		238.63	0.000005	0.07	46.65	49.90	0.02
Reach 5	1534.323	Regional	5.88	237.43	238.77		238.77	0.000015	0.13	53.90	53.82	0.04
Reach 5	1499.019	2-year	0.63	236.66	236.81	236.79	236.83	0.010209	0.53	1.18	15.58	0.60
Reach 5	1499.019	5-year	1.10	236.66	236.85	236.82	236.87	0.010660	0.66	1.71	18.40	0.65
Reach 5	1499.019	10-year	1.45	236.66	236.84	236.84	236.88	0.026713	0.97	1.51	17.09	1.01
Reach 5	1499.019	25-year	1.92	236.66	238.24		238.24	0.000002	0.06	51.38	47.74	0.01
Reach 5	1499.019	50-year	2.29	236.66	238.58		238.58	0.000001	0.05	68.40	53.26	0.01
Reach 5	1499.019	100-year	2.66	236.66	238.63		238.63	0.000002	0.06	71.02	54.11	0.01
Reach 5	1499.019	Regional	5.88	236.66	238.77		238.77	0.000006	0.12	78.95	60.19	0.03
Reach 5	1374.339	2-year	0.63	235.87	235.97	235.97	236.00	0.030184	0.82	0.76	11.24	1.01
Reach 5	1374.339	5-year	1.10	235.87	236.01	236.01	236.05	0.027526	0.91	1.21	14.41	1.00
Reach 5	1374.339	10-year	1.45	235.87	236.74		236.74	0.000009	0.07	24.87	42.07	0.03
Reach 5	1374.339	25-year	1.92	235.87	238.24		238.24	0.000000	0.03	107.71	68.59	0.01
Reach 5	1374.339	50-year	2.29	235.87	238.58		238.58	0.000000	0.03	132.46	80.27	0.01
Reach 5	1374.339	100-year	2.66	235.87	238.63		238.63	0.000000	0.03	136.42	82.14	0.01
Reach 5	1374.339	Regional	5.88	235.87	238.77		238.77	0.000001	0.07	148.78	93.68	0.01
Reach 5	1345.871	2-year	0.63	234.53	234.80		234.80	0.001394	0.32	1.98	12.29	0.25
Reach 5	1345.871	5-year	1.10	234.53	235.93		235.93	0.000002	0.05	25.27	27.05	0.01
Reach 5	1345.871	10-year	1.45	234.53	236.74		236.74	0.000001	0.03	51.16	35.86	0.01
Reach 5	1345.871	25-year	1.92	234.53	238.24		238.24	0.000000	0.02	118.79	55.22	0.00
Reach 5	1345.871	50-year	2.29	234.53	238.58		238.58	0.000000	0.02	138.99	64.88	0.00
Reach 5	1345.871	100-year	2.66	234.53	238.63		238.63	0.000000	0.03	142.20	66.73	0.00
Reach 5	1345.871	Regional	5.88	234.53	238.77		238.77	0.000001	0.06	152.06	75.86	0.01
Reach 5	1281.581	2-year	0.63	234.38	234.80		234.80	0.000017	0.06	11.49	38.05	0.03
Reach 5	1281.581	5-year	1.10	234.38	235.93		235.93	0.000000	0.02	65.93	57.13	0.01
Reach 5	1281.581	10-year	1.45	234.38	236.74		236.74	0.000000	0.02	117.57	72.25	0.00
Reach 5	1281.581	25-year	1.92	234.38	238.24		238.24	0.000000	0.01	256.01	119.66	0.00
Reach 5	1281.581	50-year	2.29	234.38	238.58		238.58	0.000000	0.01	297.78	129.76	0.00
Reach 5	1281.581	100-year	2.66	234.38	238.63		238.63	0.000000	0.01	304.18	132.95	0.00
Reach 5	1281.581	Regional	5.88	234.38	238.77		238.77	0.000000	0.03	323.72	148.30	0.00
Reach 4	1254.43	2-year	1.34	234.45	234.80		234.80	0.000039	0.07	17.95	66.93	0.05
Reach 4	1254.43	5-year	2.38	234.45	235.93		235.93	0.000000	0.02	103.51	85.60	0.01
Reach 4	1254.43	10-year	3.17	234.45	236.74		236.74	0.000000	0.02	180.87	105.72	0.00
Reach 4	1254.43	25-year	4.27	234.45	238.24		238.24	0.000000	0.01	364.59	136.93	0.00
Reach 4	1254.43	50-year	5.15	234.45	238.58		238.58	0.000000	0.02	411.71	142.96	0.00
Reach 4	1254.43	100-year	6.08	234.45	238.63		238.63	0.000000	0.02	418.71	144.39	0.00
Reach 4	1254.43	Regional	12.92	234.45	238.77		238.77	0.000000	0.04	439.89	163.44	0.01
Reach 4	1190	2-year	1.34	234.40	234.67	234.67	234.77	0.020873	1.38	0.97	57.28	1.00
Reach 4	1190	5-year	2.38	234.40	235.92	234.76	235.93	0.000081	0.33	7.23	75.88	0.09
Reach 4	1190	10-year	3.17	234.40	236.74	234.82	236.74	0.000032	0.28	11.31	90.49	0.06
Reach 4	1190	25-year	4.27	234.40	238.24	234.90	238.24	0.000011	0.23	18.83	112.19	0.04
Reach 4	1190	50-year	5.15	234.40	238.58	234.95	238.58	0.000012	0.25	20.51	120.61	0.04
Reach 4	1190	100-year	6.08	234.40	238.63	235.01	238.63	0.000000	0.02	357.48	124.28	0.00
Reach 4	1190	Regional	12.92	234.40	238.77	235.35	238.77	0.000000	0.04	375.86	140.44	0.01
Reach 4	1180		Culvert									
Reach 4	1132	2-year	1.34	232.23	234.21	232.51	234.21	0.000010	0.14	9.47	51.49	0.03
Reach 4	1132	5-year	2.38	232.23	234.88	232.60	234.88	0.000012	0.19	12.81	58.57	0.04
Reach 4	1132	10-year	3.17	232.23	234.88	232.66	234.88	0.000021	0.25	12.81	58.57	0.05
Reach 4	1132	25-year	4.27	232.23	234.88	232.74	234.88	0.000039	0.33	12.81	58.56	0.07
Reach 4	1132	50-year	5.15	232.23	234.88	232.79	234.89	0.000057	0.40	12.80	58.55	0.08
Reach 4	1132	100-year	6.08	232.23	234.88	232.85	234.89	0.000079	0.48	12.80	58.54	0.09
Reach 4	1132	Regional	12.92	232.23	234.86	233.20	234.91	0.000365	1.02	12.71	58.41	0.20

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Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 4	1125	2-year	1.34	232.13	234.21		234.21	0.000000	0.02	73.90	46.24	0.00
Reach 4	1125	5-year	2.38	232.13	234.88		234.88	0.000000	0.03	107.34	55.88	0.01
Reach 4	1125	10-year	3.17	232.13	234.88		234.88	0.000000	0.03	107.36	55.88	0.01
Reach 4	1125	25-year	4.27	232.13	234.88		234.88	0.000001	0.05	107.37	55.89	0.01
Reach 4	1125	50-year	5.15	232.13	234.88		234.88	0.000001	0.05	107.39	55.89	0.01
Reach 4	1125	100-year	6.08	232.13	234.88		234.88	0.000001	0.06	107.40	55.89	0.01
Reach 4	1125	Regional	12.92	232.13	234.88		234.89	0.000007	0.14	107.56	55.93	0.03
Reach 4	1105.427	2-year	1.34	232.05	234.21		234.21	0.000000	0.02	71.32	46.02	0.01
Reach 4	1105.427	5-year	2.38	232.05	234.88		234.88	0.000000	0.03	105.02	55.81	0.01
Reach 4	1105.427	10-year	3.17	232.05	234.88		234.88	0.000001	0.04	105.03	55.82	0.01
Reach 4	1105.427	25-year	4.27	232.05	234.88		234.88	0.000001	0.05	105.05	55.82	0.01
Reach 4	1105.427	50-year	5.15	232.05	234.88		234.88	0.000001	0.06	105.07	55.83	0.01
Reach 4	1105.427	100-year	6.08	232.05	234.88		234.88	0.000002	0.08	105.07	55.83	0.01
Reach 4	1105.427	Regional	12.92	232.05	234.88		234.88	0.000008	0.16	105.22	55.87	0.03
Reach 4	1064.597	2-year	1.34	231.65	234.21		234.21	0.000000	0.02	93.02	51.90	0.00
Reach 4	1064.597	5-year	2.38	231.65	234.88		234.88	0.000000	0.02	130.48	61.62	0.00
Reach 4	1064.597	10-year	3.17	231.65	234.88		234.88	0.000000	0.03	130.50	61.62	0.01
Reach 4	1064.597	25-year	4.27	231.65	234.88		234.88	0.000001	0.04	130.51	61.63	0.01
Reach 4	1064.597	50-year	5.15	231.65	234.88		234.88	0.000001	0.05	130.54	61.63	0.01
Reach 4	1064.597	100-year	6.08	231.65	234.88		234.88	0.000001	0.06	130.54	61.63	0.01
Reach 4	1064.597	Regional	12.92	231.65	234.88		234.88	0.000005	0.13	130.70	61.66	0.02
Reach 4	1047.971	2-year	1.34	230.98	234.21		234.21	0.000000	0.01	136.27	65.53	0.00
Reach 4	1047.971	5-year	2.38	230.98	234.88		234.88	0.000000	0.02	183.60	79.11	0.00
Reach 4	1047.971	10-year	3.17	230.98	234.88		234.88	0.000000	0.02	183.62	79.12	0.00
Reach 4	1047.971	25-year	4.27	230.98	234.88		234.88	0.000000	0.03	183.64	79.12	0.01
Reach 4	1047.971	50-year	5.15	230.98	234.88		234.88	0.000000	0.04	183.68	79.13	0.01
Reach 4	1047.971	100-year	6.08	230.98	234.88		234.88	0.000000	0.04	183.68	79.13	0.01
Reach 4	1047.971	Regional	12.92	230.98	234.88		234.88	0.000002	0.09	183.90	79.17	0.02
Reach 4	1000.841	2-year	1.34	230.30	234.21		234.21	0.000000	0.01	150.44	67.78	0.00
Reach 4	1000.841	5-year	2.38	230.30	234.88		234.88	0.000000	0.02	200.03	82.87	0.00
Reach 4	1000.841	10-year	3.17	230.30	234.88		234.88	0.000000	0.03	200.06	82.87	0.00
Reach 4	1000.841	25-year	4.27	230.30	234.88		234.88	0.000000	0.04	200.08	82.88	0.01
Reach 4	1000.841	50-year	5.15	230.30	234.88		234.88	0.000000	0.04	200.11	82.89	0.01
Reach 4	1000.841	100-year	6.08	230.30	234.88		234.88	0.000000	0.05	200.11	82.89	0.01
Reach 4	1000.841	Regional	12.92	230.30	234.88		234.88	0.000002	0.11	200.33	82.95	0.02
Reach 4	961.311	2-year	1.34	229.94	234.21		234.21	0.000000	0.01	200.82	78.37	0.00
Reach 4	961.311	5-year	2.38	229.94	234.88		234.88	0.000000	0.01	266.38	115.07	0.00
Reach 4	961.311	10-year	3.17	229.94	234.88		234.88	0.000000	0.02	266.42	115.08	0.00
Reach 4	961.311	25-year	4.27	229.94	234.88		234.88	0.000000	0.03	266.44	115.09	0.00
Reach 4	961.311	50-year	5.15	229.94	234.88		234.88	0.000000	0.03	266.49	115.10	0.00
Reach 4	961.311	100-year	6.08	229.94	234.88		234.88	0.000000	0.04	266.50	115.10	0.01
Reach 4	961.311	Regional	12.92	229.94	234.88		234.88	0.000001	0.08	266.81	115.18	0.01
Reach 4	914	2-year	1.34	229.38	234.21		234.21	0.000000	0.01	365.81	113.43	0.00
Reach 4	914	5-year	2.38	229.38	234.88		234.88	0.000000	0.01	451.28	143.94	0.00
Reach 4	914	10-year	3.17	229.38	234.88		234.88	0.000000	0.01	451.32	143.95	0.00
Reach 4	914	25-year	4.27	229.38	234.88		234.88	0.000000	0.01	451.36	143.96	0.00
Reach 4	914	50-year	5.15	229.38	234.88		234.88	0.000000	0.02	451.42	143.98	0.00
Reach 4	914	100-year	6.08	229.38	234.88		234.88	0.000000	0.02	451.43	143.98	0.00
Reach 4	914	Regional	12.92	229.38	234.88		234.88	0.000000	0.04	451.82	144.08	0.01
Reach 4	899	2-year	1.34	229.40	234.21		234.21	0.000000	0.00	342.49	110.08	0.00
Reach 4	899	5-year	2.38	229.40	234.88		234.88	0.000000	0.01	424.72	141.15	0.00
Reach 4	899	10-year	3.17	229.40	234.88		234.88	0.000000	0.01	424.76	141.16	0.00
Reach 4	899	25-year	4.27	229.40	234.88		234.88	0.000000	0.01	424.80	141.17	0.00
Reach 4	899	50-year	5.15	229.40	234.88		234.88	0.000000	0.02	424.85	141.18	0.00
Reach 4	899	100-year	6.08	229.40	234.88		234.88	0.000000	0.02	424.86	141.18	0.00
Reach 4	899	Regional	12.92	229.40	234.88		234.88	0.000000	0.04	425.25	141.29	0.01
Reach 4	879	2-year	1.64	229.42	234.21	229.51	234.21	0.000000	0.01	387.34	113.68	0.00
Reach 4	879	5-year	2.91	229.42	234.88	229.53	234.88	0.000000	0.01	469.14	134.92	0.00
Reach 4	879	10-year	3.88	229.42	234.88	229.55	234.88	0.000000	0.01	469.18	134.93	0.00
Reach 4	879	25-year	5.22	229.42	234.88	229.56	234.88	0.000000	0.02	469.21	134.94	0.00
Reach 4	879	50-year	6.30	229.42	234.88	229.58	234.88	0.000000	0.02	469.27	134.95	0.00
Reach 4	879	100-year	7.43	229.42	234.88	229.59	234.88	0.000000	0.02	469.28	134.96	0.00
Reach 4	879	Regional	16.28	229.42	234.88	229.68	234.88	0.000000	0.05	469.65	135.04	0.01
Reach 4	861	2-year	1.64	229.42	234.21		234.21	0.000000	0.01	334.79	112.24	0.00
Reach 4	861	5-year	2.91	229.42	234.88		234.88	0.000000	0.01	415.16	130.98	0.00
Reach 4	861	10-year	3.88	229.42	234.88		234.88	0.000000	0.01	415.21	130.99	0.00
Reach 4	861	25-year	5.22	229.42	234.88		234.88	0.000000	0.02	415.23	130.99	0.00

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Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 4	861	50-year	6.30	229.42	234.88		234.88	0.000000	0.02	415.29	131.00	0.00
Reach 4	861	100-year	7.43	229.42	234.88		234.88	0.000000	0.02	415.30	131.00	0.00
Reach 4	861	Regional	16.28	229.42	234.88		234.88	0.000000	0.05	415.65	131.07	0.01
Reach 4	846	2-year	1.64	229.43	234.21	229.71	234.21	0.000001	0.08	21.80	108.63	0.01
Reach 4	846	5-year	2.91	229.43	234.88	229.82	234.88	0.000000	0.01	361.79	128.54	0.00
Reach 4	846	10-year	3.88	229.43	234.88	229.89	234.88	0.000003	0.16	24.87	128.50	0.02
Reach 4	846	25-year	5.22	229.43	234.88	229.98	234.88	0.000006	0.21	24.86	128.47	0.03
Reach 4	846	50-year	6.30	229.43	234.88	230.05	234.88	0.000008	0.25	24.86	128.45	0.03
Reach 4	846	100-year	7.43	229.43	234.88	230.12	234.88	0.000012	0.30	24.85	128.40	0.04
Reach 4	846	Regional	16.28	229.43	234.86	230.56	234.88	0.000056	0.66	24.76	127.86	0.09
Reach 4	800		Culvert									
Reach 4	790	2-year	1.64	228.79	229.12	229.12	229.24	0.018232	1.55	1.10	42.97	0.98
Reach 4	790	5-year	2.91	228.79	229.23	229.23	229.41	0.016594	1.89	1.62	48.89	0.99
Reach 4	790	10-year	3.88	228.79	229.31	229.31	229.52	0.015516	2.07	1.97	50.21	0.99
Reach 4	790	25-year	5.22	228.79	229.40	229.40	229.66	0.014725	2.29	2.40	51.38	1.00
Reach 4	790	50-year	6.30	228.79	229.47	229.47	229.76	0.014344	2.45	2.71	52.23	1.00
Reach 4	790	100-year	7.43	228.79	229.54	229.54	229.86	0.013993	2.59	3.02	53.01	1.01
Reach 4	790	Regional	16.28	228.79	229.99	229.99	230.54	0.011880	3.36	5.11	56.07	1.01
Reach 4	763	2-year	1.64	228.45	228.80		228.81	0.001555	0.44	5.31	29.85	0.28
Reach 4	763	5-year	2.91	228.45	228.91		228.92	0.001136	0.48	8.85	32.95	0.26
Reach 4	763	10-year	3.88	228.45	228.99		229.00	0.000963	0.51	11.59	36.50	0.25
Reach 4	763	25-year	5.22	228.45	229.09		229.09	0.000795	0.53	15.12	37.68	0.23
Reach 4	763	50-year	6.30	228.45	229.16		229.17	0.000707	0.54	17.86	38.57	0.22
Reach 4	763	100-year	7.43	228.45	229.23		229.24	0.000638	0.55	20.66	39.55	0.22
Reach 4	763	Regional	16.28	228.45	229.66		229.68	0.000454	0.65	38.41	41.53	0.20
Reach 4	727	2-year	1.64	228.36	228.77	228.57	228.77	0.000601	0.29	5.71	22.15	0.18
Reach 4	727	5-year	2.91	228.36	228.88	228.62	228.89	0.000560	0.36	8.35	22.98	0.18
Reach 4	727	10-year	3.88	228.36	228.97	228.65	228.97	0.000518	0.39	10.27	23.56	0.18
Reach 4	727	25-year	5.22	228.36	229.06	228.68	229.07	0.000493	0.43	12.59	24.16	0.18
Reach 4	727	50-year	6.30	228.36	229.14	228.71	229.15	0.000477	0.46	14.35	24.58	0.18
Reach 4	727	100-year	7.43	228.36	229.21	228.73	229.22	0.000460	0.49	16.13	25.19	0.18
Reach 4	727	Regional	16.28	228.36	229.64	228.89	229.66	0.000426	0.64	28.76	32.74	0.19
Reach 4	692.338	2-year	1.73	228.35	228.61	228.61	228.69	0.018007	1.34	1.44	33.93	0.94
Reach 4	692.338	5-year	3.07	228.35	228.69	228.69	228.81	0.017062	1.64	2.15	35.77	0.97
Reach 4	692.338	10-year	4.19	228.35	228.75	228.75	228.90	0.016407	1.81	2.67	36.71	0.98
Reach 4	692.338	25-year	5.63	228.35	228.82	228.82	229.00	0.015760	2.00	3.25	38.83	0.99
Reach 4	692.338	50-year	6.77	228.35	228.86	228.86	229.07	0.015522	2.14	3.67	39.48	1.00
Reach 4	692.338	100-year	7.99	228.35	228.91	228.91	229.14	0.015413	2.27	4.08	41.45	1.01
Reach 4	692.338	Regional	16.51	228.35	229.20	229.20	229.58	0.013886	2.90	6.60	44.98	1.04
Reach 4	670		Culvert									
Reach 4	638.888	2-year	1.73	227.81	228.08	228.01	228.11	0.006389	0.83	2.20	29.51	0.57
Reach 4	638.888	5-year	3.07	227.81	228.13	228.08	228.20	0.009724	1.18	2.76	31.28	0.72
Reach 4	638.888	10-year	4.19	227.81	228.16	228.13	228.26	0.012740	1.45	3.08	33.51	0.84
Reach 4	638.888	25-year	5.63	227.81	228.19	228.18	228.34	0.016836	1.77	3.38	35.88	0.98
Reach 4	638.888	50-year	6.77	227.81	228.23	228.23	228.40	0.016658	1.90	3.80	38.30	1.00
Reach 4	638.888	100-year	7.99	227.81	228.27	228.27	228.46	0.016362	2.01	4.23	39.85	1.00
Reach 4	638.888	Regional	16.51	227.81	228.51	228.51	228.83	0.014172	2.57	6.87	43.02	1.01
Reach 4	638.543	2-year	1.73	227.84	228.00		228.02	0.010039	0.79	3.65	46.29	0.66
Reach 4	638.543	5-year	3.07	227.84	228.03		228.06	0.011263	0.97	5.33	47.13	0.73
Reach 4	638.543	10-year	4.19	227.84	228.06		228.10	0.011267	1.06	6.60	47.33	0.75
Reach 4	638.543	25-year	5.63	227.84	228.09		228.13	0.011934	1.19	7.88	47.52	0.78
Reach 4	638.543	50-year	6.77	227.84	228.11		228.16	0.011821	1.26	8.93	47.67	0.79
Reach 4	638.543	100-year	7.99	227.84	228.13		228.18	0.011662	1.32	9.98	47.83	0.80
Reach 4	638.543	Regional	16.51	227.84	228.27		228.34	0.010392	1.62	16.48	48.78	0.80

Existing HEC-RAS Profile Summary Table for East Tributary of West Humber River (No Berms)
Tullamore Lands (2022-5842)
April 6, 2023
Modeled by: ED

HEC-RAS Plan: Mod_Ex 2023Apr03_NoBerms

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 6	1154.71	2-year	0.73	246.89	247.03	247.01	247.05	0.014581	0.59	1.23	17.15	0.71
Reach 6	1154.71	5-year	1.27	246.89	247.06	247.04	247.09	0.013228	0.67	1.88	20.26	0.71
Reach 6	1154.71	10-year	1.66	246.89	247.08	247.06	247.11	0.012442	0.71	2.33	22.14	0.70
Reach 6	1154.71	25-year	2.18	246.89	247.11	247.08	247.14	0.011965	0.76	2.85	24.11	0.70
Reach 6	1154.71	50-year	2.58	246.89	247.12	247.09	247.15	0.011754	0.81	3.19	25.32	0.71
Reach 6	1154.71	100-year	2.98	246.89	247.13	247.10	247.17	0.011377	0.85	3.55	26.52	0.71
Reach 6	1154.71	Regional	5.61	246.89	247.20	247.17	247.26	0.010888	1.07	5.58	32.56	0.74
Reach 6	1064.02	2-year	0.73	245.66	245.78	245.76	245.80	0.012945	0.55	1.32	18.75	0.67
Reach 6	1064.02	5-year	1.27	245.66	245.81	245.79	245.83	0.014434	0.70	1.81	19.87	0.74
Reach 6	1064.02	10-year	1.66	245.66	245.82	245.80	245.85	0.015416	0.79	2.11	20.52	0.78
Reach 6	1064.02	25-year	2.18	245.66	245.84	245.83	245.88	0.016131	0.89	2.47	21.29	0.82
Reach 6	1064.02	50-year	2.58	245.66	245.85	245.84	245.90	0.016484	0.96	2.73	22.87	0.84
Reach 6	1064.02	100-year	2.98	245.66	245.86	245.85	245.92	0.017060	1.02	2.98	23.70	0.86
Reach 6	1064.02	Regional	5.61	245.66	245.92	245.92	246.01	0.017813	1.33	4.60	29.49	0.93
Reach 6	962.05	2-year	0.73	244.36	244.49	244.47	244.50	0.012796	0.59	1.24	16.59	0.67
Reach 6	962.05	5-year	1.27	244.36	244.52	244.49	244.55	0.011438	0.71	1.84	18.69	0.68
Reach 6	962.05	10-year	1.66	244.36	244.54	244.51	244.57	0.010762	0.77	2.25	19.78	0.68
Reach 6	962.05	25-year	2.18	244.36	244.57		244.60	0.010298	0.85	2.76	21.66	0.68
Reach 6	962.05	50-year	2.58	244.36	244.58		244.62	0.010075	0.90	3.15	23.39	0.69
Reach 6	962.05	100-year	2.98	244.36	244.60		244.64	0.009732	0.94	3.55	24.48	0.68
Reach 6	962.05	Regional	5.61	244.36	244.69		244.75	0.008623	1.14	5.98	30.14	0.69
Reach 6	881.96	2-year	0.73	243.45	243.64	243.60	243.66	0.009411	0.64	1.14	10.35	0.61
Reach 6	881.96	5-year	1.27	243.45	243.68		243.71	0.010011	0.77	1.66	11.92	0.66
Reach 6	881.96	10-year	1.66	243.45	243.71		243.74	0.010432	0.84	1.98	12.86	0.68
Reach 6	881.96	25-year	2.18	243.45	243.74		243.78	0.010756	0.91	2.39	13.97	0.70
Reach 6	881.96	50-year	2.58	243.45	243.76		243.81	0.010912	0.95	2.70	14.95	0.72
Reach 6	881.96	100-year	2.98	243.45	243.78		243.83	0.011220	1.00	2.99	15.79	0.73
Reach 6	881.96	Regional	5.61	243.45	243.86	243.83	243.95	0.012565	1.26	4.44	17.92	0.81
Reach 6	808.88	2-year	0.73	242.86	242.98		242.99	0.007909	0.41	1.76	26.73	0.52
Reach 6	808.88	5-year	1.27	242.86	243.01		243.02	0.007868	0.46	2.76	35.79	0.53
Reach 6	808.88	10-year	1.66	242.86	243.02		243.04	0.007907	0.50	3.33	38.18	0.54
Reach 6	808.88	25-year	2.18	242.86	243.04		243.06	0.008028	0.54	4.00	40.87	0.55
Reach 6	808.88	50-year	2.58	242.86	243.05		243.07	0.008147	0.57	4.54	43.96	0.56
Reach 6	808.88	100-year	2.98	242.86	243.06		243.08	0.008208	0.60	4.96	44.31	0.57
Reach 6	808.88	Regional	5.61	242.86	243.12		243.15	0.008297	0.77	7.31	45.66	0.61
Reach 6	744.83	2-year	0.73	241.99	242.09	242.09	242.13	0.029418	0.82	0.89	13.16	1.00
Reach 6	744.83	5-year	1.27	241.99	242.13	242.13	242.17	0.028442	0.86	1.48	19.84	1.00
Reach 6	744.83	10-year	1.66	241.99	242.15	242.15	242.19	0.027939	0.92	1.81	21.48	1.01
Reach 6	744.83	25-year	2.18	241.99	242.17	242.17	242.22	0.026661	1.00	2.18	21.96	1.01
Reach 6	744.83	50-year	2.58	241.99	242.18	242.18	242.23	0.025700	1.05	2.45	22.21	1.01
Reach 6	744.83	100-year	2.98	241.99	242.19	242.19	242.25	0.024900	1.10	2.71	22.45	1.01
Reach 6	744.83	Regional	5.61	241.99	242.25	242.25	242.35	0.021759	1.34	4.19	23.33	1.01
Reach 6	688	2-year	0.73	241.16	241.33		241.34	0.005156	0.47	1.56	14.33	0.45
Reach 6	688	5-year	1.27	241.16	241.37		241.39	0.005387	0.55	2.30	17.00	0.48
Reach 6	688	10-year	1.66	241.16	241.40		241.42	0.005658	0.61	2.70	17.65	0.50
Reach 6	688	25-year	2.18	241.16	241.43	241.36	241.45	0.005882	0.68	3.19	18.41	0.52
Reach 6	688	50-year	2.58	241.16	241.44	241.37	241.47	0.005953	0.73	3.55	18.72	0.53
Reach 6	688	100-year	2.98	241.16	241.46	241.39	241.49	0.006139	0.77	3.86	19.00	0.55
Reach 6	688	Regional	5.61	241.16	241.55		241.60	0.006892	1.01	5.58	20.77	0.61
Reach 8	25105	2-year	0.29	245.72	245.81	245.81	245.84	0.028354	0.74	0.39	6.37	0.96
Reach 8	25105	5-year	0.50	245.72	245.84	245.84	245.88	0.027251	0.87	0.57	7.27	0.99
Reach 8	25105	10-year	0.65	245.72	245.86	245.85	245.90	0.026031	0.93	0.70	7.83	0.98
Reach 8	25105	25-year	0.86	245.72	245.88	245.87	245.93	0.025130	0.99	0.87	8.47	0.99
Reach 8	25105	50-year	1.02	245.72	245.89	245.89	245.94	0.023783	1.02	1.00	8.96	0.98
Reach 8	25105	100-year	1.17	245.72	245.90	245.90	245.96	0.023725	1.06	1.11	9.35	0.98
Reach 8	25105	Regional	2.06	245.72	245.96	245.96	246.03	0.021412	1.20	1.71	11.26	0.98
Reach 8	25101	2-year	0.29	245.22	245.32		245.33	0.007292	0.43	0.66	8.74	0.51
Reach 8	25101	5-year	0.50	245.22	245.36		245.37	0.007496	0.52	0.96	9.88	0.53
Reach 8	25101	10-year	0.65	245.22	245.38		245.39	0.007683	0.57	1.14	10.53	0.55
Reach 8	25101	25-year	0.86	245.22	245.40		245.42	0.007875	0.62	1.38	11.29	0.57
Reach 8	25101	50-year	1.02	245.22	245.41		245.43	0.008145	0.66	1.53	11.77	0.59
Reach 8	25101	100-year	1.17	245.22	245.42		245.45	0.008152	0.69	1.70	12.27	0.59
Reach 8	25101	Regional	2.06	245.22	245.48		245.52	0.008765	0.83	2.49	14.49	0.64
Reach 8	25005	2-year	0.29	244.65	244.74	244.74	244.77	0.031505	0.73	0.39	7.08	1.00
Reach 8	25005	5-year	0.50	244.65	244.77	244.77	244.80	0.029913	0.79	0.63	9.71	1.00
Reach 8	25005	10-year	0.65	244.65	244.79	244.79	244.82	0.028974	0.85	0.77	10.58	1.00
Reach 8	25005	25-year	0.86	244.65	244.80	244.80	244.84	0.028197	0.90	0.95	11.57	1.01
Reach 8	25005	50-year	1.02	244.65	244.81	244.81	244.86	0.026554	0.94	1.09	12.04	1.00

HEC-RAS Plan: Mod_Ex 2023Apr03_NoBerms (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 8	25005	100-year	1.17	244.65	244.82	244.82	244.87	0.026972	0.99	1.19	12.32	1.01
Reach 8	25005	Regional	2.06	244.65	244.87	244.87	244.94	0.024358	1.14	1.80	13.83	1.01
Reach 8	24932.1	2-year	0.29	244.02	244.13	244.10	244.14	0.006542	0.37	0.77	12.03	0.47
Reach 8	24932.1	5-year	0.50	244.02	244.16	244.12	244.17	0.007983	0.47	1.06	13.28	0.53
Reach 8	24932.1	10-year	0.65	244.02	244.17	244.14	244.19	0.007508	0.51	1.29	13.85	0.53
Reach 8	24932.1	25-year	0.86	244.02	244.19	244.15	244.21	0.007809	0.57	1.52	14.40	0.55
Reach 8	24932.1	50-year	1.02	244.02	244.20	244.16	244.22	0.007919	0.61	1.67	14.88	0.57
Reach 8	24932.1	100-year	1.17	244.02	244.21	244.17	244.23	0.008202	0.65	1.81	15.34	0.58
Reach 8	24932.1	Regional	2.06	244.02	244.25	244.21	244.29	0.009262	0.84	2.53	17.48	0.65
Reach 8	24932	2-year	0.29	243.60	243.65	243.65	243.67	0.038687	0.57	0.50	15.73	1.01
Reach 8	24932	5-year	0.50	243.60	243.67	243.67	243.69	0.026304	0.62	0.80	17.02	0.90
Reach 8	24932	10-year	0.65	243.60	243.68	243.68	243.71	0.030848	0.73	0.90	17.24	0.99
Reach 8	24932	25-year	0.86	243.60	243.69	243.69	243.72	0.028836	0.80	1.10	17.60	0.99
Reach 8	24932	50-year	1.02	243.60	243.70	243.70	243.73	0.028088	0.84	1.23	17.85	0.99
Reach 8	24932	100-year	1.17	243.60	243.70	243.70	243.74	0.026689	0.88	1.37	18.10	0.98
Reach 8	24932	Regional	2.06	243.60	243.74	243.74	243.80	0.022362	1.04	2.09	19.34	0.96
Reach 8	24406	2-year	0.29	243.08	243.20	243.17	243.20	0.005418	0.32	0.95	17.30	0.42
Reach 8	24406	5-year	0.50	243.08	243.22	243.19	243.23	0.005650	0.40	1.34	18.41	0.45
Reach 8	24406	10-year	0.65	243.08	243.23	243.20	243.24	0.005727	0.45	1.60	19.15	0.47
Reach 8	24406	25-year	0.86	243.08	243.25	243.21	243.26	0.005899	0.51	1.90	20.21	0.49
Reach 8	24406	50-year	1.02	243.08	243.26		243.27	0.005970	0.54	2.12	20.86	0.50
Reach 8	24406	100-year	1.17	243.08	243.27	243.22	243.29	0.005968	0.57	2.35	21.43	0.50
Reach 8	24406	Regional	2.06	243.08	243.31		243.34	0.006577	0.73	3.34	23.36	0.55
Reach 8	24152	2-year	0.29	242.40	242.48	242.48	242.49	0.035987	0.59	0.48	13.27	1.00
Reach 8	24152	5-year	0.50	242.40	242.49	242.49	242.52	0.032729	0.68	0.73	15.13	0.99
Reach 8	24152	10-year	0.65	242.40	242.50	242.50	242.53	0.031438	0.73	0.90	16.45	1.00
Reach 8	24152	25-year	0.86	242.40	242.51	242.51	242.55	0.030233	0.78	1.10	17.55	1.00
Reach 8	24152	50-year	1.02	242.40	242.52	242.52	242.56	0.029699	0.81	1.25	18.82	1.00
Reach 8	24152	100-year	1.17	242.40	242.53	242.53	242.57	0.029847	0.85	1.38	19.43	1.01
Reach 8	24152	Regional	2.06	242.40	242.57	242.56	242.62	0.024829	0.98	2.09	20.48	0.98
Reach 8	24151	2-year	0.29	241.22	241.32	241.31	241.34	0.013014	0.52	0.55	8.66	0.66
Reach 8	24151	5-year	0.50	241.22	241.35		241.37	0.014443	0.65	0.77	9.39	0.72
Reach 8	24151	10-year	0.65	241.22	241.36	241.35	241.39	0.017062	0.74	0.88	10.00	0.79
Reach 8	24151	25-year	0.86	241.22	241.38	241.36	241.41	0.018662	0.82	1.05	11.00	0.84
Reach 8	24151	50-year	1.02	241.22	241.39	241.38	241.43	0.018527	0.85	1.20	11.81	0.85
Reach 8	24151	100-year	1.17	241.22	241.40	241.39	241.44	0.020537	0.92	1.28	12.03	0.90
Reach 8	24151	Regional	2.06	241.22	241.43	241.43	241.50	0.023830	1.17	1.76	12.91	1.01
Reach 6-Lower	629	2-year	0.73	240.55	240.72	240.72	240.76	0.025804	0.86	0.85	10.46	0.96
Reach 6-Lower	629	5-year	1.27	240.55	240.76	240.76	240.81	0.023602	0.92	1.37	14.21	0.95
Reach 6-Lower	629	10-year	1.66	240.55	240.79	240.78	240.83	0.021394	0.95	1.75	16.18	0.92
Reach 6-Lower	629	25-year	2.18	240.55	240.81	240.80	240.86	0.020107	1.01	2.16	17.40	0.91
Reach 6-Lower	629	50-year	2.58	240.55	240.83	240.82	240.88	0.019700	1.06	2.44	18.03	0.92
Reach 6-Lower	629	100-year	2.98	240.55	240.84	240.83	240.90	0.018776	1.09	2.74	18.70	0.91
Reach 6-Lower	629	Regional	5.61	240.55	240.93		241.01	0.015588	1.25	4.51	21.85	0.88
Reach 6-Lower	581.37	2-year	0.73	240.21	240.42		240.43	0.003490	0.36	2.02	20.38	0.37
Reach 6-Lower	581.37	5-year	1.27	240.21	240.46		240.47	0.003658	0.44	2.91	23.08	0.39
Reach 6-Lower	581.37	10-year	1.66	240.21	240.48		240.49	0.003847	0.49	3.39	23.62	0.41
Reach 6-Lower	581.37	25-year	2.18	240.21	240.51		240.52	0.004021	0.55	3.96	24.26	0.43
Reach 6-Lower	581.37	50-year	2.58	240.21	240.52		240.54	0.004068	0.59	4.38	24.72	0.44
Reach 6-Lower	581.37	100-year	2.98	240.21	240.54		240.56	0.004229	0.64	4.74	25.11	0.45
Reach 6-Lower	581.37	Regional	5.61	240.21	240.62		240.65	0.004786	0.85	6.86	27.59	0.51
Reach 6-Lower	522.55	2-year	0.73	239.81	239.93	239.93	239.95	0.033053	0.68	1.07	22.79	1.00
Reach 6-Lower	522.55	5-year	1.27	239.81	239.95	239.95	239.98	0.031662	0.76	1.68	29.09	1.01
Reach 6-Lower	522.55	10-year	1.66	239.81	239.97	239.97	240.00	0.029347	0.82	2.02	29.46	1.00
Reach 6-Lower	522.55	25-year	2.18	239.81	239.98	239.98	240.02	0.027402	0.89	2.44	29.90	0.99
Reach 6-Lower	522.55	50-year	2.58	239.81	239.99	239.99	240.04	0.026821	0.94	2.73	30.19	1.00
Reach 6-Lower	522.55	100-year	2.98	239.81	240.00	240.00	240.05	0.025793	0.98	3.03	30.49	1.00
Reach 6-Lower	522.55	Regional	5.61	239.81	240.06	240.05	240.13	0.021354	1.18	4.79	32.67	0.97
Reach 6-Lower	379.80	2-year	0.73	238.57	238.70		238.71	0.004223	0.35	2.10	25.87	0.39
Reach 6-Lower	379.80	5-year	1.27	238.57	238.73		238.74	0.004411	0.43	2.94	27.12	0.42
Reach 6-Lower	379.80	10-year	1.66	238.57	238.75		238.76	0.004501	0.48	3.47	27.88	0.43
Reach 6-Lower	379.80	25-year	2.18	238.57	238.77		238.79	0.004649	0.53	4.09	28.56	0.45
Reach 6-Lower	379.80	50-year	2.58	238.57	238.79		238.80	0.004724	0.57	4.51	28.75	0.46
Reach 6-Lower	379.80	100-year	2.98	238.57	238.80		238.82	0.004796	0.61	4.91	28.90	0.47
Reach 6-Lower	379.80	Regional	5.61	238.57	238.88		238.91	0.005176	0.80	7.07	29.65	0.52
Reach 6-Lower	289.21	2-year	0.73	237.90	238.07	238.06	238.08	0.015185	0.56	1.31	20.87	0.71
Reach 6-Lower	289.21	5-year	1.27	237.90	238.10	238.08	238.12	0.013917	0.66	1.92	22.03	0.72

HEC-RAS Plan: Mod_Ex 2023Apr03_NoBerms (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 6-Lower	289.21	10-year	1.66	237.90	238.12		238.14	0.013331	0.72	2.32	22.99	0.72
Reach 6-Lower	289.21	25-year	2.18	237.90	238.14		238.17	0.012751	0.75	2.89	25.53	0.72
Reach 6-Lower	289.21	50-year	2.58	237.90	238.15		238.19	0.012318	0.79	3.27	26.46	0.71
Reach 6-Lower	289.21	100-year	2.98	237.90	238.17		238.20	0.012021	0.82	3.64	27.20	0.72
Reach 6-Lower	289.21	Regional	5.61	237.90	238.24	238.20	238.29	0.010678	0.97	5.79	30.79	0.71
Reach 6-Lower	217.29	2-year	0.73	236.91	237.08	237.06	237.11	0.012625	0.69	1.06	10.65	0.70
Reach 6-Lower	217.29	5-year	1.27	236.91	237.13	237.09	237.16	0.013300	0.77	1.66	14.75	0.73
Reach 6-Lower	217.29	10-year	1.66	236.91	237.15	237.13	237.19	0.013700	0.84	1.97	15.55	0.76
Reach 6-Lower	217.29	25-year	2.18	236.91	237.17	237.15	237.22	0.014220	0.93	2.34	16.35	0.79
Reach 6-Lower	217.29	50-year	2.58	236.91	237.19	237.16	237.24	0.014507	0.99	2.60	16.80	0.80
Reach 6-Lower	217.29	100-year	2.98	236.91	237.20	237.18	237.26	0.014789	1.04	2.86	17.41	0.82
Reach 6-Lower	217.29	Regional	5.61	236.91	237.28	237.26	237.37	0.016100	1.30	4.32	20.71	0.90
Reach 6-Lower	175.22	2-year	0.73	235.75	235.88	235.88	235.91	0.028356	0.85	0.86	11.58	1.00
Reach 6-Lower	175.22	5-year	1.27	235.75	235.91	235.91	235.96	0.026512	1.00	1.27	12.72	1.01
Reach 6-Lower	175.22	10-year	1.66	235.75	235.93	235.93	235.99	0.025280	1.08	1.54	13.32	1.01
Reach 6-Lower	175.22	25-year	2.18	235.75	235.96	235.96	236.02	0.023951	1.16	1.88	14.05	1.01
Reach 6-Lower	175.22	50-year	2.58	235.75	235.97	235.97	236.05	0.023236	1.21	2.13	14.49	1.01
Reach 6-Lower	175.22	100-year	2.98	235.75	235.99	235.99	236.07	0.022679	1.26	2.36	14.81	1.01
Reach 6-Lower	175.22	Regional	5.61	235.75	236.08	236.08	236.19	0.019998	1.50	3.73	16.62	1.01
Reach 6-Lower	75.62	2-year	0.73	234.50	234.72		234.73	0.002387	0.36	2.04	15.95	0.32
Reach 6-Lower	75.62	5-year	1.27	234.50	234.77		234.78	0.002460	0.45	2.89	17.31	0.34
Reach 6-Lower	75.62	10-year	1.66	234.50	234.80		234.81	0.002529	0.50	3.41	18.07	0.35
Reach 6-Lower	75.62	25-year	2.18	234.50	234.83		234.85	0.002594	0.56	4.05	18.95	0.37
Reach 6-Lower	75.62	50-year	2.58	234.50	234.86		234.88	0.002632	0.60	4.50	19.55	0.37
Reach 6-Lower	75.62	100-year	2.98	234.50	234.88		234.90	0.002665	0.64	4.94	20.13	0.38
Reach 6-Lower	75.62	Regional	5.61	234.50	235.00		235.03	0.002740	0.82	7.52	22.18	0.41
Reach 6-Lower	17.67	2-year	0.73	234.42	234.67		234.67	0.000531	0.18	4.19	30.53	0.15
Reach 6-Lower	17.67	5-year	1.27	234.42	234.71		234.72	0.000643	0.23	5.56	30.96	0.17
Reach 6-Lower	17.67	10-year	1.66	234.42	234.74		234.74	0.000706	0.27	6.37	31.22	0.19
Reach 6-Lower	17.67	25-year	2.18	234.42	234.77		234.78	0.000755	0.30	7.38	31.53	0.20
Reach 6-Lower	17.67	50-year	2.58	234.42	234.79		234.80	0.000790	0.33	8.07	31.74	0.20
Reach 6-Lower	17.67	100-year	2.98	234.42	234.81		234.82	0.000817	0.35	8.75	31.95	0.21
Reach 6-Lower	17.67	Regional	5.61	234.42	234.94		234.95	0.000860	0.45	12.77	33.72	0.23
Reach 5	2480.223	2-year	0.63	246.13	246.31	246.27	246.33	0.006426	0.52	1.21	11.20	0.50
Reach 5	2480.223	5-year	1.10	246.13	246.36	246.30	246.38	0.006926	0.62	1.77	13.23	0.54
Reach 5	2480.223	10-year	1.45	246.13	246.39	246.33	246.41	0.007235	0.68	2.13	15.40	0.56
Reach 5	2480.223	25-year	1.92	246.13	246.42	246.35	246.44	0.007542	0.74	2.66	19.45	0.59
Reach 5	2480.223	50-year	2.29	246.13	246.43	246.37	246.47	0.007782	0.79	3.05	27.52	0.60
Reach 5	2480.223	100-year	2.66	246.13	246.45	246.39	246.48	0.008029	0.84	3.46	29.82	0.62
Reach 5	2480.223	Regional	5.88	246.13	246.54	246.50	246.60	0.008346	1.13	6.61	39.84	0.68
Reach 5	2413.965	2-year	0.63	245.66	245.78		245.79	0.010590	0.51	1.22	16.90	0.61
Reach 5	2413.965	5-year	1.10	245.66	245.81		245.83	0.010123	0.59	1.89	21.58	0.62
Reach 5	2413.965	10-year	1.45	245.66	245.83		245.85	0.009978	0.65	2.27	22.79	0.63
Reach 5	2413.965	25-year	1.92	245.66	245.85		245.87	0.009763	0.71	2.77	24.28	0.64
Reach 5	2413.965	50-year	2.29	245.66	245.86		245.89	0.009593	0.75	3.15	25.34	0.64
Reach 5	2413.965	100-year	2.66	245.66	245.88		245.91	0.009266	0.79	3.53	26.39	0.64
Reach 5	2413.965	Regional	5.88	245.66	245.98		246.03	0.008940	1.01	6.41	33.53	0.67
Reach 5	2353.877	2-year	0.63	245.34	245.48		245.48	0.003000	0.28	2.23	29.50	0.32
Reach 5	2353.877	5-year	1.10	245.34	245.51		245.51	0.003142	0.34	3.23	36.07	0.35
Reach 5	2353.877	10-year	1.45	245.34	245.52		245.53	0.003228	0.38	3.92	40.55	0.36
Reach 5	2353.877	25-year	1.92	245.34	245.54		245.55	0.003301	0.42	4.75	42.17	0.37
Reach 5	2353.877	50-year	2.29	245.34	245.56		245.57	0.003382	0.45	5.33	43.27	0.38
Reach 5	2353.877	100-year	2.66	245.34	245.57		245.58	0.003525	0.48	5.83	44.20	0.40
Reach 5	2353.877	Regional	5.88	245.34	245.65		245.67	0.004019	0.68	9.58	49.66	0.45
Reach 5	2307.004	2-year	0.63	245.12	245.24		245.24	0.010203	0.39	1.61	32.64	0.56
Reach 5	2307.004	5-year	1.10	245.12	245.26		245.27	0.010012	0.46	2.38	36.54	0.58
Reach 5	2307.004	10-year	1.45	245.12	245.27		245.28	0.010374	0.52	2.79	37.18	0.60
Reach 5	2307.004	25-year	1.92	245.12	245.28		245.30	0.010541	0.58	3.32	37.98	0.62
Reach 5	2307.004	50-year	2.29	245.12	245.30		245.31	0.009969	0.61	3.78	38.66	0.62
Reach 5	2307.004	100-year	2.66	245.12	245.31		245.33	0.009543	0.63	4.20	39.28	0.61
Reach 5	2307.004	Regional	5.88	245.12	245.39	245.33	245.42	0.007544	0.79	7.71	49.13	0.59
Reach 5	2247.605	2-year	0.63	244.45	244.56	244.54	244.57	0.012654	0.56	1.24	21.09	0.66
Reach 5	2247.605	5-year	1.10	244.45	244.59		244.61	0.012428	0.67	2.00	29.45	0.69
Reach 5	2247.605	10-year	1.45	244.45	244.61		244.63	0.011712	0.70	2.58	31.53	0.68
Reach 5	2247.605	25-year	1.92	244.45	244.62		244.65	0.011311	0.77	3.19	32.52	0.69
Reach 5	2247.605	50-year	2.29	244.45	244.63		244.66	0.012092	0.84	3.52	32.94	0.72
Reach 5	2247.605	100-year	2.66	244.45	244.65		244.68	0.012448	0.89	3.86	33.37	0.74
Reach 5	2247.605	Regional	5.88	244.45	244.71	244.70	244.78	0.016363	1.30	6.21	39.49	0.90

HEC-RAS Plan: Mod_Ex 2023Apr03_NoBerms (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 5	2193.192	2-year	0.63	243.62	243.77	243.75	243.79	0.016065	0.54	1.15	19.88	0.72
Reach 5	2193.192	5-year	1.10	243.62	243.80	243.78	243.82	0.016281	0.58	1.89	29.59	0.74
Reach 5	2193.192	10-year	1.45	243.62	243.81	243.80	243.83	0.017840	0.64	2.25	32.61	0.78
Reach 5	2193.192	25-year	1.92	243.62	243.83	243.81	243.85	0.018809	0.70	2.74	36.28	0.81
Reach 5	2193.192	50-year	2.29	243.62	243.84	243.83	243.86	0.017305	0.72	3.18	37.96	0.79
Reach 5	2193.192	100-year	2.66	243.62	243.85	243.84	243.88	0.016721	0.74	3.59	39.92	0.79
Reach 5	2193.192	Regional	5.88	243.62	243.92	243.89	243.96	0.012984	0.88	6.69	48.76	0.75
Reach 5	2136.188	2-year	0.63	242.87	243.11		243.12	0.009096	0.47	1.34	18.79	0.56
Reach 5	2136.188	5-year	1.10	242.87	243.14	243.10	243.15	0.008890	0.57	1.94	20.15	0.58
Reach 5	2136.188	10-year	1.45	242.87	243.16	243.12	243.18	0.008130	0.61	2.38	20.74	0.57
Reach 5	2136.188	25-year	1.92	242.87	243.19	243.14	243.21	0.007610	0.64	3.05	27.05	0.57
Reach 5	2136.188	50-year	2.29	242.87	243.20	243.15	243.22	0.007966	0.68	3.45	29.28	0.59
Reach 5	2136.188	100-year	2.66	242.87	243.21	243.16	243.24	0.008098	0.73	3.82	30.32	0.60
Reach 5	2136.188	Regional	5.88	242.87	243.29		243.34	0.009196	0.99	6.57	39.05	0.68
Reach 5	2075.723	2-year	0.63	242.46	242.63		242.64	0.006911	0.48	1.48	20.66	0.51
Reach 5	2075.723	5-year	1.10	242.46	242.66		242.68	0.006973	0.57	2.37	28.47	0.53
Reach 5	2075.723	10-year	1.45	242.46	242.68		242.70	0.007791	0.65	2.83	31.17	0.57
Reach 5	2075.723	25-year	1.92	242.46	242.70		242.72	0.008513	0.72	3.45	33.65	0.61
Reach 5	2075.723	50-year	2.29	242.46	242.72		242.74	0.008077	0.76	4.00	34.71	0.60
Reach 5	2075.723	100-year	2.66	242.46	242.73		242.76	0.007986	0.80	4.50	35.62	0.61
Reach 5	2075.723	Regional	5.88	242.46	242.83		242.87	0.006726	0.99	8.44	40.96	0.60
Reach 5	2020.589	2-year	0.63	241.73	241.92	241.92	241.97	0.024333	1.01	0.62	5.69	0.98
Reach 5	2020.589	5-year	1.10	241.73	241.97	241.97	242.04	0.021184	1.12	1.03	9.79	0.96
Reach 5	2020.589	10-year	1.45	241.73	242.01	242.01	242.07	0.016782	1.15	1.46	15.33	0.88
Reach 5	2020.589	25-year	1.92	241.73	242.04	242.04	242.11	0.014093	1.20	2.07	18.41	0.83
Reach 5	2020.589	50-year	2.29	241.73	242.06	242.06	242.13	0.014550	1.28	2.38	18.83	0.86
Reach 5	2020.589	100-year	2.66	241.73	242.08	242.08	242.16	0.014590	1.35	2.70	19.25	0.87
Reach 5	2020.589	Regional	5.88	241.73	242.19	242.19	242.31	0.015565	1.78	4.93	21.99	0.96
Reach 5	1969.241	2-year	0.63	241.14	241.35	241.30	241.37	0.006718	0.58	1.08	8.85	0.53
Reach 5	1969.241	5-year	1.10	241.14	241.41	241.35	241.44	0.006676	0.65	1.69	11.44	0.54
Reach 5	1969.241	10-year	1.45	241.14	241.45	241.37	241.47	0.006882	0.70	2.07	13.13	0.56
Reach 5	1969.241	25-year	1.92	241.14	241.48	241.41	241.51	0.006809	0.77	2.56	17.53	0.57
Reach 5	1969.241	50-year	2.29	241.14	241.50	241.43	241.53	0.007046	0.82	2.91	18.82	0.58
Reach 5	1969.241	100-year	2.66	241.14	241.51	241.45	241.55	0.007227	0.88	3.23	19.64	0.60
Reach 5	1969.241	Regional	5.88	241.14	241.62	241.57	241.69	0.008188	1.22	5.62	23.69	0.68
Reach 5	1907.204	2-year	0.63	240.49	240.64	240.64	240.67	0.023074	0.71	0.88	13.40	0.88
Reach 5	1907.204	5-year	1.10	240.49	240.67	240.67	240.71	0.025792	0.88	1.25	14.84	0.97
Reach 5	1907.204	10-year	1.45	240.49	240.69	240.69	240.73	0.025459	0.92	1.58	17.50	0.97
Reach 5	1907.204	25-year	1.92	240.49	240.71	240.71	240.76	0.026987	1.03	1.87	18.29	1.02
Reach 5	1907.204	50-year	2.29	240.49	240.72	240.72	240.78	0.025799	1.07	2.15	19.28	1.02
Reach 5	1907.204	100-year	2.66	240.49	240.73	240.73	240.80	0.024904	1.10	2.42	20.19	1.01
Reach 5	1907.204	Regional	5.88	240.49	240.82	240.82	240.92	0.021329	1.41	4.20	21.73	1.01
Reach 5	1865.536	2-year	0.63	239.99	240.19		240.20	0.005762	0.37	1.70	24.88	0.44
Reach 5	1865.536	5-year	1.10	239.99	240.22		240.23	0.005512	0.44	2.55	28.36	0.46
Reach 5	1865.536	10-year	1.45	239.99	240.24		240.25	0.005628	0.49	3.02	29.11	0.47
Reach 5	1865.536	25-year	1.92	239.99	240.26		240.28	0.005291	0.53	3.70	30.09	0.47
Reach 5	1865.536	50-year	2.29	239.99	240.28		240.29	0.005163	0.56	4.18	30.76	0.47
Reach 5	1865.536	100-year	2.66	239.99	240.29		240.31	0.005138	0.60	4.61	31.29	0.48
Reach 5	1865.536	Regional	5.88	239.99	240.39		240.42	0.005096	0.81	7.64	32.38	0.52
Reach 5	1835.732	2-year	0.63	239.62	239.87	239.83	239.91	0.016239	0.87	0.80	14.62	0.81
Reach 5	1835.732	5-year	1.10	239.62	239.91	239.91	239.96	0.015204	1.03	1.49	18.84	0.82
Reach 5	1835.732	10-year	1.45	239.62	239.94	239.94	239.99	0.013510	1.07	2.04	21.78	0.80
Reach 5	1835.732	25-year	1.92	239.62	239.96	239.96	240.02	0.014486	1.19	2.52	23.34	0.84
Reach 5	1835.732	50-year	2.29	239.62	239.98	239.97	240.04	0.014387	1.26	2.93	24.58	0.85
Reach 5	1835.732	100-year	2.66	239.62	240.00	239.99	240.06	0.013883	1.30	3.38	29.25	0.84
Reach 5	1835.732	Regional	5.88	239.62	240.10	240.09	240.18	0.012861	1.58	6.84	36.20	0.86
Reach 5	1759.197	2-year	0.63	239.03	239.16	239.13	239.17	0.006227	0.43	1.53	21.27	0.48
Reach 5	1759.197	5-year	1.10	239.03	239.19		239.21	0.006648	0.54	2.21	23.00	0.52
Reach 5	1759.197	10-year	1.45	239.03	239.21		239.23	0.006968	0.60	2.66	24.67	0.54
Reach 5	1759.197	25-year	1.92	239.03	239.23		239.25	0.007055	0.67	3.24	26.52	0.56
Reach 5	1759.197	50-year	2.29	239.03	239.25		239.27	0.007140	0.71	3.63	27.03	0.57
Reach 5	1759.197	100-year	2.66	239.03	239.26		239.29	0.007373	0.76	3.98	27.47	0.58
Reach 5	1759.197	Regional	5.88	239.03	239.35		239.40	0.007898	1.05	6.72	31.30	0.65
Reach 5	1684.856	2-year	0.63	238.60	238.76		238.76	0.005521	0.39	1.95	29.76	0.44
Reach 5	1684.856	5-year	1.10	238.60	238.79		238.80	0.005181	0.47	2.92	32.25	0.45
Reach 5	1684.856	10-year	1.45	238.60	238.81		238.82	0.005009	0.51	3.56	33.24	0.46
Reach 5	1684.856	25-year	1.92	238.60	238.83		238.84	0.004967	0.57	4.30	34.08	0.47

HEC-RAS Plan: Mod_Ex 2023Apr03_NoBerms (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 5	1684.856	50-year	2.29	238.60	238.84		238.86	0.004983	0.61	4.83	34.53	0.48
Reach 5	1684.856	100-year	2.66	238.60	238.86	238.79	238.88	0.004758	0.63	5.40	34.81	0.47
Reach 5	1684.856	Regional	5.88	238.60	238.97		239.00	0.004384	0.83	9.27	36.51	0.49
Reach 5	1614.867	2-year	0.63	237.96	238.31	238.24	238.33	0.009086	0.66	1.13	13.93	0.61
Reach 5	1614.867	5-year	1.10	237.96	238.35	238.32	238.38	0.009276	0.81	1.80	19.34	0.64
Reach 5	1614.867	10-year	1.45	237.96	238.37	238.34	238.41	0.009200	0.88	2.30	21.90	0.66
Reach 5	1614.867	25-year	1.92	237.96	238.40		238.44	0.009024	0.96	2.93	24.03	0.67
Reach 5	1614.867	50-year	2.29	237.96	238.42		238.46	0.008798	1.01	3.41	25.13	0.67
Reach 5	1614.867	100-year	2.66	237.96	238.44		238.48	0.008985	1.06	3.81	25.82	0.68
Reach 5	1614.867	Regional	5.88	237.96	238.55	238.50	238.61	0.009556	1.39	6.99	35.53	0.75
Reach 5	1534.323	2-year	0.63	237.43	237.54		237.55	0.013506	0.48	1.29	23.32	0.65
Reach 5	1534.323	5-year	1.10	237.43	237.56		237.58	0.014131	0.59	1.88	26.36	0.70
Reach 5	1534.323	10-year	1.45	237.43	237.57		237.59	0.014663	0.65	2.24	28.06	0.73
Reach 5	1534.323	25-year	1.92	237.43	237.59		237.61	0.015532	0.71	2.71	30.98	0.76
Reach 5	1534.323	50-year	2.29	237.43	237.60		237.63	0.016684	0.77	3.00	32.25	0.80
Reach 5	1534.323	100-year	2.66	237.43	237.61		237.64	0.016503	0.80	3.33	33.31	0.80
Reach 5	1534.323	Regional	5.88	237.43	237.67	237.66	237.73	0.017385	1.11	5.42	36.15	0.89
Reach 5	1499.019	2-year	0.63	236.66	236.79	236.79	236.82	0.031947	0.76	0.82	14.37	1.01
Reach 5	1499.019	5-year	1.10	236.66	236.82	236.82	236.86	0.029003	0.91	1.22	15.68	1.02
Reach 5	1499.019	10-year	1.45	236.66	236.84	236.84	236.88	0.026713	0.97	1.51	17.09	1.01
Reach 5	1499.019	25-year	1.92	236.66	236.86	236.86	236.91	0.024134	1.05	1.89	19.51	0.99
Reach 5	1499.019	50-year	2.29	236.66	236.87	236.87	236.93	0.021788	1.09	2.21	20.35	0.96
Reach 5	1499.019	100-year	2.66	236.66	236.88	236.88	236.95	0.021591	1.15	2.46	20.83	0.97
Reach 5	1499.019	Regional	5.88	236.66	236.98	236.98	237.08	0.017891	1.47	4.60	24.49	0.96
Reach 5	1374.339	2-year	0.63	235.87	236.01		236.02	0.007701	0.48	1.30	15.47	0.53
Reach 5	1374.339	5-year	1.10	235.87	236.05		236.07	0.007899	0.56	1.95	18.73	0.56
Reach 5	1374.339	10-year	1.45	235.87	236.07		236.09	0.008200	0.61	2.39	21.38	0.57
Reach 5	1374.339	25-year	1.92	235.87	236.09		236.12	0.008179	0.68	2.88	24.72	0.59
Reach 5	1374.339	50-year	2.29	235.87	236.11		236.13	0.008251	0.73	3.23	25.27	0.60
Reach 5	1374.339	100-year	2.66	235.87	236.12		236.15	0.008314	0.77	3.57	25.79	0.61
Reach 5	1374.339	Regional	5.88	235.87	236.21		236.27	0.008640	1.06	6.05	28.83	0.67
Reach 5	1345.871	2-year	0.63	234.53	234.69	234.69	234.73	0.028205	0.86	0.72	9.48	1.00
Reach 5	1345.871	5-year	1.10	234.53	234.72	234.72	234.78	0.026490	1.01	1.09	10.75	1.01
Reach 5	1345.871	10-year	1.45	234.53	234.75	234.75	234.81	0.024509	1.07	1.35	11.45	1.00
Reach 5	1345.871	25-year	1.92	234.53	234.77	234.77	234.84	0.023874	1.18	1.63	11.83	1.01
Reach 5	1345.871	50-year	2.29	234.53	234.79	234.79	234.87	0.023134	1.24	1.85	12.12	1.01
Reach 5	1345.871	100-year	2.66	234.53	234.81	234.81	234.89	0.022509	1.29	2.05	12.39	1.01
Reach 5	1345.871	Regional	5.88	234.53	234.93	234.93	235.06	0.018942	1.59	3.69	14.25	1.00
Reach 5	1281.581	2-year	0.63	234.38	234.64		234.64	0.000167	0.11	5.63	34.54	0.09
Reach 5	1281.581	5-year	1.10	234.38	234.68		234.68	0.000248	0.16	7.11	35.79	0.11
Reach 5	1281.581	10-year	1.45	234.38	234.71		234.71	0.000296	0.18	8.00	36.39	0.12
Reach 5	1281.581	25-year	1.92	234.38	234.74		234.74	0.000340	0.22	9.14	37.09	0.13
Reach 5	1281.581	50-year	2.29	234.38	234.76		234.76	0.000370	0.24	9.94	37.42	0.14
Reach 5	1281.581	100-year	2.66	234.38	234.78		234.78	0.000390	0.25	10.74	37.75	0.15
Reach 5	1281.581	Regional	5.88	234.38	234.90		234.91	0.000613	0.40	15.43	39.61	0.20
Reach 4	1254.43	2-year	1.34	234.45	234.62		234.62	0.001227	0.21	6.32	65.03	0.22
Reach 4	1254.43	5-year	2.38	234.45	234.66		234.66	0.001373	0.27	8.66	65.42	0.24
Reach 4	1254.43	10-year	3.17	234.45	234.68		234.68	0.001512	0.32	10.01	65.64	0.26
Reach 4	1254.43	25-year	4.27	234.45	234.71		234.71	0.001566	0.36	11.84	65.94	0.27
Reach 4	1254.43	50-year	5.15	234.45	234.73		234.73	0.001643	0.39	13.08	66.14	0.28
Reach 4	1254.43	100-year	6.08	234.45	234.74		234.75	0.001676	0.42	14.37	66.35	0.29
Reach 4	1254.43	Regional	12.92	234.45	234.85		234.87	0.002012	0.60	21.48	67.71	0.34
Reach 4	1190	2-year	1.34	234.40	234.50	234.50	234.53	0.035839	0.67	2.00	46.13	1.02
Reach 4	1190	5-year	2.38	234.40	234.53	234.53	234.56	0.030746	0.75	3.19	55.60	0.99
Reach 4	1190	10-year	3.17	234.40	234.54	234.54	234.57	0.029075	0.82	3.86	55.74	1.00
Reach 4	1190	25-year	4.27	234.40	234.55	234.55	234.60	0.028649	0.92	4.64	55.91	1.02
Reach 4	1190	50-year	5.15	234.40	234.57	234.57	234.61	0.026135	0.96	5.35	56.06	1.00
Reach 4	1190	100-year	6.08	234.40	234.58	234.58	234.63	0.026128	1.03	5.91	56.18	1.01
Reach 4	1190	Regional	12.92	234.40	234.64	234.64	234.73	0.022078	1.31	9.83	57.00	1.01
Reach 4	1132	2-year	1.34	232.23	232.41		232.43	0.012979	0.66	2.03	22.19	0.70
Reach 4	1132	5-year	2.38	232.23	232.46		232.48	0.010542	0.73	3.25	26.11	0.66
Reach 4	1132	10-year	3.17	232.23	232.49		232.52	0.009524	0.79	4.04	27.02	0.65
Reach 4	1132	25-year	4.27	232.23	232.52		232.56	0.008864	0.85	5.01	28.10	0.64
Reach 4	1132	50-year	5.15	232.23	232.55		232.59	0.008381	0.89	5.77	28.92	0.64
Reach 4	1132	100-year	6.08	232.23	232.58		232.62	0.007925	0.93	6.56	29.74	0.63
Reach 4	1132	Regional	12.92	232.23	232.74		232.80	0.005924	1.11	11.69	32.99	0.59
Reach 4	1125	2-year	1.34	232.13	232.37		232.38	0.004329	0.46	2.94	24.64	0.42

HEC-RAS Plan: Mod_Ex 2023Apr03_NoBerms (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 4	1125	5-year	2.38	232.13	232.42		232.44	0.004460	0.55	4.35	28.35	0.45
Reach 4	1125	10-year	3.17	232.13	232.45		232.47	0.004387	0.60	5.31	29.82	0.45
Reach 4	1125	25-year	4.27	232.13	232.49		232.51	0.004212	0.66	6.46	30.39	0.46
Reach 4	1125	50-year	5.15	232.13	232.52		232.55	0.004080	0.70	7.35	30.78	0.46
Reach 4	1125	100-year	6.08	232.13	232.55		232.58	0.003952	0.74	8.23	31.17	0.46
Reach 4	1125	Regional	12.92	232.13	232.72		232.76	0.003519	0.94	13.70	33.23	0.47
Reach 4	1105.427	2-year	1.34	232.05	232.24		232.26	0.008983	0.62	2.15	19.63	0.60
Reach 4	1105.427	5-year	2.38	232.05	232.30		232.32	0.007406	0.71	3.35	21.74	0.58
Reach 4	1105.427	10-year	3.17	232.05	232.34		232.36	0.006600	0.76	4.23	23.16	0.56
Reach 4	1105.427	25-year	4.27	232.05	232.38		232.41	0.006035	0.81	5.29	24.31	0.55
Reach 4	1105.427	50-year	5.15	232.05	232.41		232.45	0.005740	0.86	6.09	25.08	0.55
Reach 4	1105.427	100-year	6.08	232.05	232.44		232.48	0.005510	0.89	6.88	25.82	0.55
Reach 4	1105.427	Regional	12.92	232.05	232.61		232.68	0.005048	1.16	11.41	27.91	0.56
Reach 4	1064.597	2-year	1.34	231.65	231.90	231.85	231.92	0.008016	0.68	1.95	14.07	0.59
Reach 4	1064.597	5-year	2.38	231.65	231.95		231.99	0.009577	0.87	2.75	15.95	0.67
Reach 4	1064.597	10-year	3.17	231.65	231.99		232.03	0.010975	0.95	3.34	18.68	0.72
Reach 4	1064.597	25-year	4.27	231.65	232.01		232.08	0.012862	1.11	3.86	19.32	0.79
Reach 4	1064.597	50-year	5.15	231.65	232.03	232.01	232.11	0.014253	1.22	4.24	19.88	0.84
Reach 4	1064.597	100-year	6.08	231.65	232.05	232.03	232.14	0.015720	1.32	4.60	20.43	0.89
Reach 4	1064.597	Regional	12.92	231.65	232.18	232.18	232.33	0.018132	1.76	7.36	23.81	1.01
Reach 4	1047.971	2-year	1.34	230.98	231.33	231.33	231.38	0.026513	0.98	1.36	14.02	1.00
Reach 4	1047.971	5-year	2.38	230.98	231.39	231.38	231.44	0.020544	1.04	2.29	17.76	0.93
Reach 4	1047.971	10-year	3.17	230.98	231.43	231.41	231.48	0.017442	1.04	3.07	21.28	0.87
Reach 4	1047.971	25-year	4.27	230.98	231.47	231.45	231.53	0.014307	1.07	3.99	22.76	0.81
Reach 4	1047.971	50-year	5.15	230.98	231.50	231.47	231.56	0.012769	1.10	4.70	23.72	0.79
Reach 4	1047.971	100-year	6.08	230.98	231.53		231.59	0.011464	1.12	5.43	24.49	0.76
Reach 4	1047.971	Regional	12.92	230.98	231.71		231.79	0.008236	1.26	10.26	30.21	0.69
Reach 4	1000.841	2-year	1.34	230.30	230.77	230.66	230.80	0.006666	0.74	1.81	10.15	0.56
Reach 4	1000.841	5-year	2.38	230.30	230.85	230.77	230.89	0.007406	0.91	2.61	11.46	0.61
Reach 4	1000.841	10-year	3.17	230.30	230.89	230.81	230.94	0.007952	1.02	3.11	12.22	0.64
Reach 4	1000.841	25-year	4.27	230.30	230.94	230.86	231.00	0.008714	1.15	3.72	13.11	0.69
Reach 4	1000.841	50-year	5.15	230.30	230.98	230.89	231.05	0.009042	1.19	4.38	16.57	0.70
Reach 4	1000.841	100-year	6.08	230.30	231.01	230.93	231.09	0.009659	1.27	4.85	17.48	0.73
Reach 4	1000.841	Regional	12.92	230.30	231.16	231.13	231.31	0.012160	1.71	7.89	21.80	0.86
Reach 4	961.311	2-year	1.34	229.94	230.16	230.16	230.20	0.026550	0.91	1.46	16.82	0.99
Reach 4	961.311	5-year	2.38	229.94	230.20	230.20	230.26	0.025028	1.05	2.26	20.15	1.00
Reach 4	961.311	10-year	3.17	229.94	230.22	230.22	230.29	0.023900	1.15	2.76	20.83	1.01
Reach 4	961.311	25-year	4.27	229.94	230.26	230.26	230.34	0.022288	1.25	3.41	21.68	1.00
Reach 4	961.311	50-year	5.15	229.94	230.27	230.27	230.37	0.022362	1.34	3.84	22.23	1.02
Reach 4	961.311	100-year	6.08	229.94	230.30	230.30	230.40	0.020754	1.40	4.38	22.90	1.00
Reach 4	961.311	Regional	12.92	229.94	230.43	230.43	230.57	0.018133	1.70	7.80	28.57	1.00
Reach 4	914	2-year	1.34	229.38	229.63		229.64	0.000329	0.17	7.73	40.14	0.13
Reach 4	914	5-year	2.38	229.38	229.69		229.70	0.000442	0.24	10.12	41.25	0.15
Reach 4	914	10-year	3.17	229.38	229.73		229.73	0.000505	0.27	11.63	41.95	0.17
Reach 4	914	25-year	4.27	229.38	229.77		229.77	0.000605	0.32	13.25	42.69	0.18
Reach 4	914	50-year	5.15	229.38	229.80		229.80	0.000669	0.36	14.46	43.24	0.20
Reach 4	914	100-year	6.08	229.38	229.82		229.83	0.000715	0.39	15.72	43.80	0.21
Reach 4	914	Regional	12.92	229.38	230.00		230.02	0.000846	0.54	24.00	49.12	0.24
Reach 4	899	2-year	1.34	229.40	229.63		229.63	0.000421	0.18	7.48	44.43	0.14
Reach 4	899	5-year	2.38	229.40	229.69		229.69	0.000511	0.24	10.04	45.07	0.16
Reach 4	899	10-year	3.17	229.40	229.72		229.73	0.000560	0.27	11.65	45.44	0.17
Reach 4	899	25-year	4.27	229.40	229.76		229.76	0.000654	0.32	13.32	45.83	0.19
Reach 4	899	50-year	5.15	229.40	229.79		229.79	0.000713	0.35	14.58	46.12	0.20
Reach 4	899	100-year	6.08	229.40	229.81		229.82	0.000752	0.38	15.88	46.43	0.21
Reach 4	899	Regional	12.92	229.40	229.99		230.01	0.000869	0.53	24.30	48.36	0.24
Reach 4	879	2-year	1.64	229.42	229.62		229.62	0.000667	0.21	7.63	48.71	0.17
Reach 4	879	5-year	2.91	229.42	229.67		229.68	0.000787	0.28	10.30	49.27	0.20
Reach 4	879	10-year	3.88	229.42	229.71		229.71	0.000851	0.32	11.98	49.62	0.21
Reach 4	879	25-year	5.22	229.42	229.74		229.75	0.001003	0.38	13.65	49.97	0.23
Reach 4	879	50-year	6.30	229.42	229.76		229.77	0.001093	0.42	14.91	50.23	0.25
Reach 4	879	100-year	7.43	229.42	229.79		229.80	0.001148	0.46	16.25	50.50	0.26
Reach 4	879	Regional	16.28	229.42	229.96		229.98	0.001374	0.66	25.11	54.17	0.30
Reach 4	861	2-year	1.64	229.42	229.60		229.61	0.000974	0.25	6.64	45.72	0.21
Reach 4	861	5-year	2.91	229.42	229.65		229.66	0.001136	0.32	9.00	46.27	0.23
Reach 4	861	10-year	3.88	229.42	229.69		229.69	0.001219	0.37	10.50	46.56	0.25
Reach 4	861	25-year	5.22	229.42	229.71		229.72	0.001480	0.44	11.86	46.80	0.28
Reach 4	861	50-year	6.30	229.42	229.74		229.75	0.001632	0.49	12.92	46.99	0.30
Reach 4	861	100-year	7.43	229.42	229.76		229.78	0.001707	0.53	14.10	47.18	0.31

HEC-RAS Plan: Mod_Ex 2023Apr03_NoBerms (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
Reach 4	861	Regional	16.28	229.42	229.92		229.95	0.001983	0.75	21.83	48.52	0.36
Reach 4	846	2-year	1.64	229.43	229.57		229.58	0.004998	0.44	3.68	35.74	0.44
Reach 4	846	5-year	2.91	229.43	229.61		229.63	0.004851	0.55	5.27	36.23	0.46
Reach 4	846	10-year	3.88	229.43	229.64		229.66	0.004808	0.62	6.30	36.53	0.47
Reach 4	846	25-year	5.22	229.43	229.65		229.68	0.007513	0.79	6.59	36.60	0.59
Reach 4	846	50-year	6.30	229.43	229.65	229.61	229.69	0.010829	0.96	6.61	36.60	0.71
Reach 4	846	100-year	7.43	229.43	229.64	229.63	229.71	0.017394	1.18	6.33	36.53	0.90
Reach 4	846	Regional	16.28	229.43	229.75	229.74	229.88	0.016197	1.57	10.46	37.56	0.94
Reach 4	790	2-year	1.64	228.79	228.99	228.99	229.02	0.028121	1.16	2.54	32.42	1.07
Reach 4	790	5-year	2.91	228.79	229.02	229.02	229.07	0.030217	1.41	3.72	35.81	1.16
Reach 4	790	10-year	3.88	228.79	229.04	229.04	229.10	0.031005	1.56	4.49	37.19	1.20
Reach 4	790	25-year	5.22	228.79	229.12		229.16	0.011727	1.24	7.69	44.04	0.78
Reach 4	790	50-year	6.30	228.79	229.19		229.22	0.006704	1.09	10.86	48.07	0.62
Reach 4	790	100-year	7.43	228.79	229.26		229.28	0.004119	0.97	14.17	49.46	0.50
Reach 4	790	Regional	16.28	228.79	229.68		229.69	0.001052	0.80	36.17	54.38	0.29
Reach 4	763	2-year	1.64	228.45	228.80		228.81	0.001569	0.44	5.29	29.83	0.29
Reach 4	763	5-year	2.91	228.45	228.91		228.92	0.001141	0.48	8.83	32.94	0.26
Reach 4	763	10-year	3.88	228.45	228.99		229.00	0.000966	0.51	11.58	36.50	0.25
Reach 4	763	25-year	5.22	228.45	229.09		229.09	0.000795	0.53	15.12	37.68	0.23
Reach 4	763	50-year	6.30	228.45	229.16		229.17	0.000708	0.54	17.85	38.57	0.22
Reach 4	763	100-year	7.43	228.45	229.23		229.24	0.000640	0.56	20.65	39.54	0.22
Reach 4	763	Regional	16.28	228.45	229.66		229.67	0.000456	0.65	38.35	41.52	0.20
Reach 4	727	2-year	1.64	228.36	228.77	228.57	228.77	0.000601	0.29	5.71	22.15	0.18
Reach 4	727	5-year	2.91	228.36	228.88	228.62	228.89	0.000560	0.36	8.35	22.98	0.18
Reach 4	727	10-year	3.88	228.36	228.97	228.65	228.97	0.000518	0.39	10.27	23.56	0.18
Reach 4	727	25-year	5.22	228.36	229.06	228.68	229.07	0.000493	0.43	12.59	24.16	0.18
Reach 4	727	50-year	6.30	228.36	229.14	228.71	229.15	0.000477	0.46	14.35	24.58	0.18
Reach 4	727	100-year	7.43	228.36	229.21	228.73	229.22	0.000460	0.49	16.13	25.19	0.18
Reach 4	727	Regional	16.28	228.36	229.64	228.89	229.66	0.000426	0.64	28.76	32.74	0.19
Reach 4	692.338	2-year	1.73	228.35	228.61	228.61	228.69	0.018007	1.34	1.44	33.93	0.94
Reach 4	692.338	5-year	3.07	228.35	228.69	228.69	228.81	0.017062	1.64	2.15	35.77	0.97
Reach 4	692.338	10-year	4.19	228.35	228.75	228.75	228.90	0.016407	1.81	2.67	36.71	0.98
Reach 4	692.338	25-year	5.63	228.35	228.82	228.82	229.00	0.015760	2.00	3.25	38.83	0.99
Reach 4	692.338	50-year	6.77	228.35	228.86	228.86	229.07	0.015522	2.14	3.67	39.48	1.00
Reach 4	692.338	100-year	7.99	228.35	228.91	228.91	229.14	0.015413	2.27	4.08	41.45	1.01
Reach 4	692.338	Regional	16.51	228.35	229.20	229.20	229.58	0.013886	2.90	6.60	44.98	1.04
Reach 4	670		Culvert									
Reach 4	638.888	2-year	1.73	227.81	228.08	228.01	228.11	0.006389	0.83	2.20	29.51	0.57
Reach 4	638.888	5-year	3.07	227.81	228.13	228.08	228.20	0.009724	1.18	2.76	31.28	0.72
Reach 4	638.888	10-year	4.19	227.81	228.16	228.13	228.26	0.012740	1.45	3.08	33.51	0.84
Reach 4	638.888	25-year	5.63	227.81	228.19	228.18	228.34	0.016836	1.77	3.38	35.88	0.98
Reach 4	638.888	50-year	6.77	227.81	228.23	228.23	228.40	0.016658	1.90	3.80	38.30	1.00
Reach 4	638.888	100-year	7.99	227.81	228.27	228.27	228.46	0.016362	2.01	4.23	39.85	1.00
Reach 4	638.888	Regional	16.51	227.81	228.51	228.51	228.83	0.014172	2.57	6.87	43.02	1.01
Reach 4	638.543	2-year	1.73	227.84	228.00		228.02	0.010039	0.79	3.65	46.29	0.66
Reach 4	638.543	5-year	3.07	227.84	228.03		228.06	0.011263	0.97	5.33	47.13	0.73
Reach 4	638.543	10-year	4.19	227.84	228.06		228.10	0.011267	1.06	6.60	47.33	0.75
Reach 4	638.543	25-year	5.63	227.84	228.09		228.13	0.011934	1.19	7.88	47.52	0.78
Reach 4	638.543	50-year	6.77	227.84	228.11		228.16	0.011821	1.26	8.93	47.67	0.79
Reach 4	638.543	100-year	7.99	227.84	228.13		228.18	0.011662	1.32	9.98	47.83	0.80
Reach 4	638.543	Regional	16.51	227.84	228.27		228.34	0.010392	1.62	16.48	48.78	0.80