



MOSQUITO CREEK FLOODPLAIN MAPPING UPDATE STUDY GENERAL REPORT

DRAFT – REV B

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STATEMENT OF LIMITATIONS AND CONDITIONS

THIRD PARTY USE OF REPORT

This report has been prepared for the Lakehead Region Conservation Authority, to whom this report has been addressed, and any use a third party makes of this report, or any reliance on or decisions made based on it, are the responsibility of such third parties. KGS Group accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions undertaken based on this report.



1.0 INTRODUCTION

1.1 OBJECTIVES OF THE STUDY

This study was commissioned to KGS Group by the Lakehead Region Conservation Authority (LRCA), with the objective of updating the existing floodplain mapping of Mosquito Creek and its tributaries within the City of Thunder Bay. The study included:

- The collection and processing of topographic data using LiDAR technology and ground surveys, as well as bathymetric data for the creek and tributaries.
- The preparation of mapping base data, including the development of a digital elevation model (DEM) with the topographic data obtained.
- Hydrologic analysis and modelling to obtain flows for representative flood events along the Mosquito Creek system.
- Hydraulic analysis and modelling to calculate the conditions (water levels and flow velocities) across the creek system, associated with the flows estimated for the various flood events.
- The preparation of floodplain maps depicting the flood hazard limits and the administrative fill lines along the reaches of Mosquito Creek and its tributaries included in the scope of project.
- The presentation of the study results to stakeholders and to the public in an open house, which will take place in March 2020.

Separate technical reports have been submitted to describe, in detail, the data used, the methodology applied, and the results obtained during the execution of the project. These reports include:

- Pennock Creek Floodplain Mapping and Kaministiquia River Floodplain Mapping Study LiDAR Report (KGS Group, 2019a).
- Mosquito Creek Floodplain Mapping Update Study, Hydrologic Report (KGS Group, 2019b).
- Mosquito Creek Floodplain Mapping Update Study, Hydraulics Report (Draft KGS Group, 2019c).

This report provides a summary of the findings of the study described in the above noted technical reports.



1.2 CRITERIA FOR FLOODPLAIN AND FILL LINE

To minimize the risk of flooding to people and property, the Province of Ontario has established policies and flood standards to restrict development within floodplains.

The Lakehead Region is located within Zone 3, as defined in the Technical Guide – River and Stream Systems: Flooding Hazard Limit (Technical Guide, OMNR, 2002)¹. For all watersheds within this zone, the flooding hazard limit is defined as the greater of the flood resulting from:

- a. the Regional Storm (which for this area is the Timmins Storm of 1961), transposed and centred over the watershed and combined with the local conditions;
- b. the 100-Year flood;
- c. a flood which is greater than a) or b), which was actually experienced on a particular watershed or portion thereof, for example as a result of ice jams, and which has been approved as the standard for that specific area by the Minister of Natural Resources.

No specific storm, with the characteristics indicated in item "c", has been approved by the MNRF for the study area, so the criterion used in this study corresponds to the maximum from the conditions described in items "a" and "b".

The definition of the fill line, for administrative purposes, was based on the "Guidelines for Developing Schedules of Regulated Areas" (2006). The criteria described in that document includes consideration of the river valley characteristics and in particular stability of the bank slopes. LRCA indicated that, for this watershed, bank slopes with a horizontal to vertical ratio of 2:1 or greater are considered stable. The criteria for definition of the fill line applied for the Mosquito Creek mapping can be summarized as follows:

• In areas with gradual banks at the contact of the flood line with the terrain (bank slope flatter than 2H:1V), the fill line was set 15 m from the flood hazard line.

¹ The Ministry of Natural Resources and Forestry (MNRF) was named Ontario Ministry of Natural Resources (OMNR) at the time of release of the guidelines, Technical Guide – River and Stream Systems: Flooding Hazard Limit.



- In areas where a defined river bank was present, and the bank slope was flatter than 2H:1V, the fill line was set 15 m from the top of the bank.
- In areas with steep banks at the contact of the flood line with the terrain (bank slope equal or steeper than 2H:1V), the fill line was set 15 m from the point where the projection, from the flood line, of a 2H:1V slope would daylight.

1.3 GENERAL DESCRIPTION OF WATERSHED AND STUDY AREA

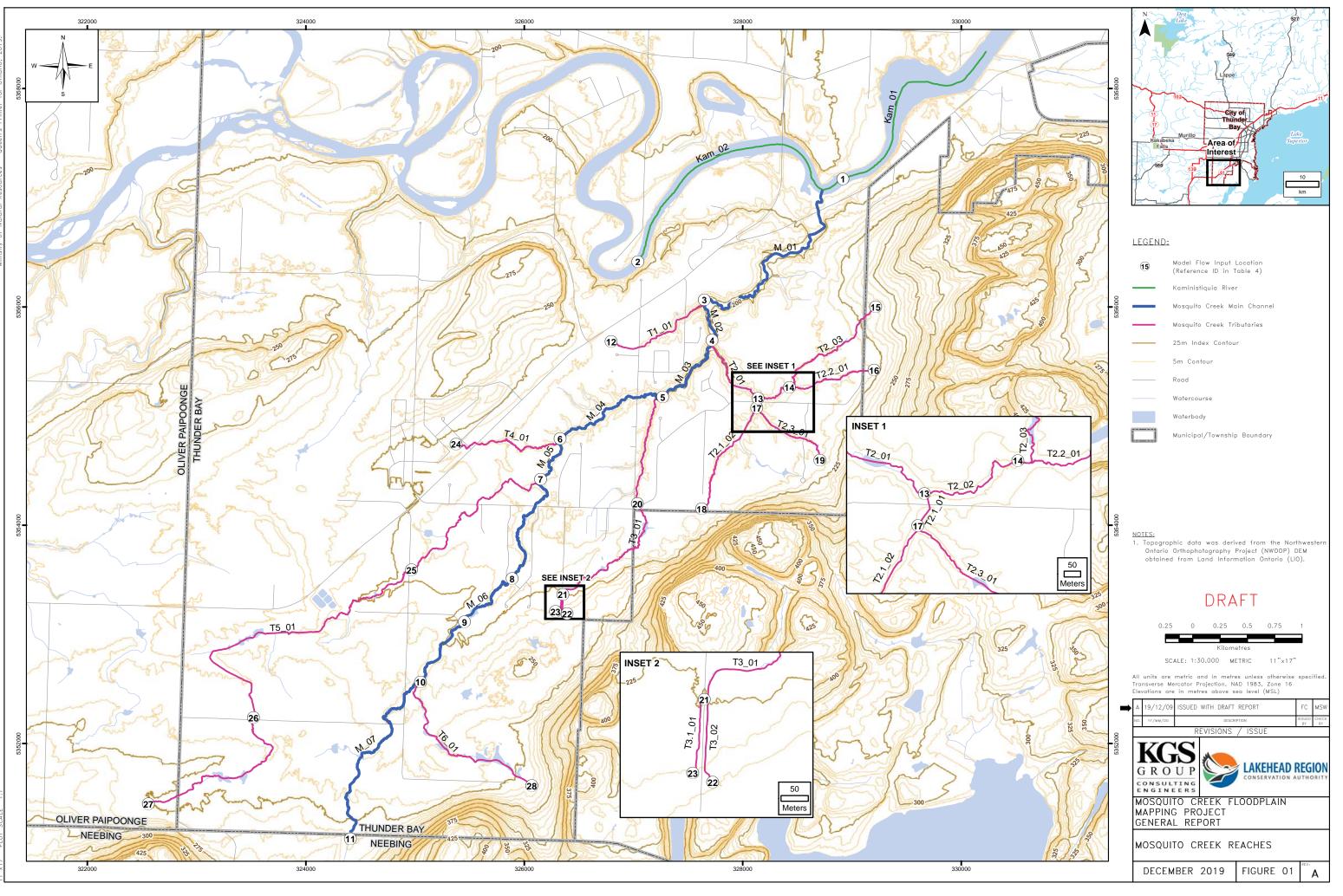
The Mosquito Creek watershed is shown in Figure 1. The creek is a major tributary of the Kaministiquia River. It originates from the Municipality of Neebing, and flows northeast into the Kaministiquia River at a location downstream of the Hwy 61 crossing in Thunder Bay. The main branch of the creek is approximately 15 km long and its channel width is typically 2 to 8 m. The drainage area of the Mosquito Creek watershed is approximately 31 km² as delineated with GIS tools.

The labelling system shown in Figure 1 was used to identify the river branches and tributaries in the hydraulic model prepared as part of this study. In Figure 1, the main branch of Mosquito Creek has been labelled as "M". The labels assigned to the tributaries of Mosquito Creek include the letter "T" and a number indicating the order in which they join the creek. The ordering numbers were assigned in the direction from downstream to upstream. There are also a few second order tributaries, which are identified by the name given to the tributary that they join, followed by a dot and a consecutive number.

It must be noted that there are numerous small tributaries in the watershed that are not labelled in Figure 1. This is because only the tributaries with drainage areas larger than 125 ha were included in the hydraulic model, as per the requirements of this study.







1.4 HISTORY OF FLOODING

There are no hydrometric records available for Mosquito Creek or documentation of previous flood events in this watershed. Previous studies (Lathem, 1984) indicate that the urbanized areas near Mosquito Creek have experienced only minor flooding in the past.

It must be noted that the present urban development in the Mosquito Creek watershed is largely restricted to the downstream areas of the watershed and along Highway 61, where valleys are deep and well-defined and the creek channel has a relatively large discharge capacity.

1.5 **PREVIOUS STUDIES**

The Mosquito Creek watershed has been studied in the past for the purpose of floodplain mapping. In 1984, The Lathem Group (Lathem) undertook a floodplain study that included hydrologic analyses and modelling and hydraulic modelling of Mosquito Creek. The peak flow obtained in that study for the Regional Storm, was used as the basis for the previous floodplain maps.

In 1996, Fenco MacLaren Inc. carried out the Mosquito Creek Post-Development Study, which included an assessment of the impacts of rapid and continuing urban development that took place in the area along Hwy 61. A hydrologic model was prepared as part of that study and used to evaluate the flood resulting from the Regional Strom. The results with in the same range as those obtained in the 1984 study. The peak flow for the Regional Storm event, indicated in both 1984 and 1996 reports, was found in this study to be proportionally too large. This is further discussed in Section 3.0.



2.0 DATA USED IN THE ANALYSIS

2.1 LIDAR AND TOPOGRAPHIC DATA

The topographic data used in this study is referenced to the 6-degree Universal Transverse Mercator (UTM), North American Datum 1983 (NAD83CSRS) Zone 16 grid projection system and Canadian Geodetic Vertical Datum (CGVD28).

As part of the study, LiDAR (Light Detection and Ranging) data along Mosquito Creek was obtained by KGS Group and its sub-consultant ATLIS Geomatics. LiDAR and aerial imagery acquisition were completed by ATLIS on May 17th and 18th 2019. The data capturing, processing, and quality control are reported in the Pennock Creek Floodplain Mapping and Kaministiquia River Floodplain Mapping Study LiDAR Project Report by KGS (2019b). The specifications of the LiDAR capture are summarized in Table 1.

| LiDAR Acquisition Specifica | tions |
|--|--------------------|
| Flying Height (metres AGL) | 805 to 1100m |
| Aircraft Ground Speed (knots) | 105 |
| Pulse Rate (KHz) | 482 |
| Scan Rate (Hz) | 47 |
| Full Field of View (degrees) | 40 |
| Multi-Pulse | YES |
| Nominal Swath Width (Metres) | 1025 |
| Swath Overlap (percentage) | 30% |
| Nominal Point Spacing Across Track (Metres) | 0.3 |
| Nominal Point Spacing Along Track (Metres) | 0.3 |
| Average Pulse Density (points per m ²) | 8.7 |
| Vertical Accuracy | 5 cm or less RMSE |
| Horizontal Accuracy | 25 cm or less RMSE |

TABLE 1 LIDAR ACQUISITION SPECIFICATIONS



Topographic surveys were carried out by KGS Group as part of the Pennock Creek, Kaministiquia River, and Mosquito Creek projects in October and November of 2018 and in May, June, July and August of 2019. The surveys allowed developing a control network to support LiDAR acquisition, provide baseline coverage, and perform quality control on the LiDAR data. The LiDAR data was then used to develop a Digital Elevation Model (DEM) with the program Model Builder in ArcGIS v10.4. This DEM is the basis for the derivation of the cross sections used in this study for the preparation of the hydraulic model of Mosquito Creek.

Topographic and bathymetric surveys were carried out in June, July and August of 2019 for Mosquito Creek, to supplement the LiDAR data. This work included localized survey of river bed elevations focused at the crossing locations. The data collected at the crossings also included measurements of the size and elevations of the water passages, top of road elevation as well as photo documentation. A total of 69 locations were surveyed, including: 12 bridges, 50 culverts and 7 inline structure. Data sheets summarizing the data collected at all locations surveyed are provided in the hydraulic technical report (KGS, 2019c).



3.0 HYDROLOGIC ANALYSES

The drainage area of the Mosquito Creek watershed is approximately 31 km² as delineated with GIS tools. It includes the main branch of the creek, as well as several smaller tributaries. The headwaters of the creek are located north of Little Norway Road, in the Municipality of Neebing, and are situated at approximately El. 250 m. The confluence with the Kaministiquia River is located at approximately El. 184 m. Characteristic parameters of the Mosquito Creek watershed, obtained using the MNRF's Ontario Flow Assessment Tool OFAT III², are listed in Table 2.

TABLE 2 HYDROLOGIC CHARACTERISTICS MOSQUITO CREEK WATERSHED (FROM OFAT III)³

| Drainage Area | 30.3 km ² |
|----------------------------|----------------------|
| Shape Factor | 7.99 |
| Mean Elevation | 264.8 m |
| Maximum Elevation | 460.5 m |
| Mean Slope | 10.1 % |
| Length of Main Channel | 15.5 km |
| Slope of Main Channel | 1.7 % |
| Annual Mean Temperature | 3.4 °C |
| Annual Precipitation | 702 mm |
| Area of Lakes | 1.5 km ² |
| Area of Wetlands | 1.4 km ² |

The existing land use in the Mosquito Creek Watershed is predominantly rural areas and forests, with some suburban settlements and pockets of commercial and institutional land use.

As part of this study, a hydrologic analysis of the Mosquito Creek watershed was carried out by KGS Group and it was reported in the Hydrology Report KGS (2019b). It included Regional Flood Frequency Analysis and hydrologic modelling.

³ The drainage area shown in Table 2 was obtained with OFAT III. It is slightly less than what was measured independently with GIS tools.



² The Ontario Flow Assessment Tool (OFAT), version 3, is an online spatially-based application which includes a number of tools that allow conducting hydrologic tasks. It was developed by the Ontario Ministry of Natural Resources and Forestry.

KGS carried out the Regional Flood Frequency Analyses (using the Index Flood Method) with the formulas developed in the McIntyre River Floodplain Mapping Study (HMM, 2015) and the McVicar Creek Floodplain Mapping Study (KGS, 2018). The results obtained from both formulas are very similar, but the results obtained with the formula from the McIntyre River Study were slightly greater and, therefore, were adopted in this study (KGS, 2019b).

The Regional Flood Frequency Analysis allows estimating flows for a watershed, based on those obtained from a watershed of similar characteristics located in the same region. In this study, the flood frequency values obtained for the Neebing River, based on data collected at the Water Survey Canada (WSC) Station 02AB008 due to its longer period of flow records, (KGS, 2018) were used to derive peak flow values for the Mosquito Creek watershed. The results are shown in Table 3.

| Return Period | Index Flow Method using flood frequency values for the Neebing River |
|---------------|--|
| 2 | 5.4 |
| 5 | 9.5 |
| 10 | 12.5 |
| 25 | 16.4 |
| 50 | 19.4 |
| 100 | 22.5 |

TABLE 3

REGIONAL FREQUENCY ANALYSES OF THE MOSQUITO CREEK WATERSHED

The program Visual OTTHYMO Version 5.0 (VO 5) was used in this study to develop a hydrologic model of the Mosquito Creek watershed. The model elements used to represent the various watershed features include: sub-catchments, routing channels and reservoirs. The hydrologic model was developed based on topographic data available as well as the characteristics of the various sub-catchments, as obtained from OFAT III and from the Ontario Agricultural Information Atlas. The hydrologic model domain extends through the entire Mosquito Creek watershed, from the headwaters of the river branches and tributaries to the confluence with the Kaministiquia River.



For the hydrologic model representing present conditions, the watershed was divided into nineteen sub-catchments. Seventeen sub-catchments correspond to rural areas and two to suburban catchments. The hydrologic model also includes ten river reaches to simulate the routing of runoff flows as they travel through the river system from upstream to downstream. A separate hydrologic model was prepared for future conditions. This model was prepared based on future development plans, and included sixteen rural sub-catchments and three suburban sub-catchments. The results of both models were very similar. The details of the model discretization are described in the study's hydrologic report (KGS, 2019d).

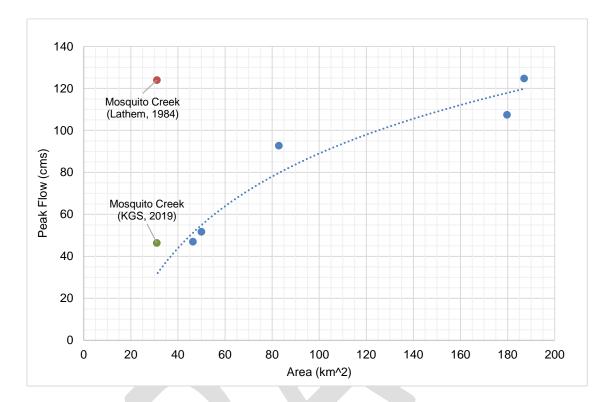
The hydrologic model for the Mosquito Creek watershed was validated, using results of Regional Flood Frequency Analysis, and was used to simulate the runoff resulting from the Regional Storm Flood as well as from recurrent storms ranging from 2 to 100 years return periods. The Regional Storm for the area is the Timmins Storm. Hyetographs for this storm were prepared for the Mosquito Creek watershed using an area reduction factor of 94%. This factor was based on the equivalent circular area of the watershed in adherence with the Technical Guide (MNR, 2002). For the recurrent events, synthetic storm hyetographs were developed from the most current Intensity-Duration-Frequency curves for the City of Thunder Bay.

The peak flow values for the Regional Storm Flood previously obtained (124 m³/s in the 1984 study and 122 m³/s in the 1996 study) are too large when compared with the results obtained n this study. To put these values in perspective, KGS Group compared to the results obtained in recent studies of the McIntyre River (HMM, 2015), Neebing River (KGS, 2018) and McVicar Creek (KGS, 2018), as well as those for the Slate River, obtained as part of the Kaministiquia River study (KGS, 2019d). In all these studies the hydrologic models were calibrated and validated using recorded flow data at various gauging stations. The comparison clearly showed the peak flows from previous studies of the Mosquito Creek as outliers. Figure 2 shows a graphical representation of peak flows for the Regional Storm Flood as related to drainage area for watersheds in the region. It shows the results obtained for Mosquito Creek in the previous studies, as well as those obtained in this study.





FIGURE 2



COMPARISON OF REGIONAL STORM FLOOD PEAK FLOWS FOR WATERSHEDS NEAR MOSQUITO CREEK

The peak flow values obtained in this study for the Regional Storm Flood align better with those obtained for other watersheds in the region, and therefore were adopted. The values recommended as representative of peak flood flows for Mosquito Creek at the confluence with the Kaministiquia River are listed in Table 4. They correspond to the maximum of two values: the results obtained with the hydrologic modelling and those obtained with Regional Flood Frequency Analyses. Details are provided in the study's hydrologic report (KGS, 2019b).

TABLE 4RECOMMENDED MOSQUITO CREEK PEAK FLOWS AT THE LOCATION OF
CONFLUENCE WITH KAMINISTIQUIA RIVER

| 2-Year | 5-Year | 10-Year | 25-Year | 50-Year | 100-Year | Regional Storm |
|--------|--------|---------|---------|---------|----------|-------------------|
| 5.4 | 9.5 | 12.5 | 16.4 | 19.7 | 23.2 | 46.3 |



4.0 HYDRAULIC ANALYSIS

The computer program HEC-RAS, Version 5.0.7, was used in this study to prepare a hydraulic model of the Mosquito Creek system. The hydraulic model was used to simulate the recurrent events with return periods from 2 to 100 years, as well as the Regional Storm Flood.

The model includes all the river reaches highlighted in Figure 1. Cross sections were extracted from the DEM and localized survey data described in Section 2.1. The cross sections were spaced at maximum intervals of 200 m, but in most cases with a more detailed discretization, particularly at locations of observed changes in geometry and at crossings.

The downstream boundary condition for the model was the water levels at the Kaministiquia River, derived from the Kaministiquia River Study (KGS, 2019d). For the Regional Storm Flood, the water levels obtained for the 2-year flood event were used, so that the probability of an extreme event on Mosquito Creek was not combined with that of a large event centered in the Kaministiquia River watershed. It was considered that such combination of extreme event probabilities would be overly conservative. It must be noted, nonetheless, that the effect of the Kaministiquia River level on the water levels at Mosquito Creek are limited, and so is the influence of this boundary condition. A sensitivity analysis, carried out in this study, indicated that the influence of the downstream boundary condition on the Mosquito Creek hydraulic model results did not propagate beyond a location 500 m upstream from the mouth of the creek.

Input flows were provided to the model at the upstream section of each river branch and tributary reach, based on the results obtained with the hydrologic analysis. These inflows are summarized in Table 5.



| Model L | ocation | Figure 1 | | | Flow | / (m³/s) | | | |
|---------|-----------------|-----------------|-------------------|-------------|------------|------------|------------|-----------|-----------|
| Branch | Station (km) | Reference ID | Regional Flood | 100 Year | 50 Year | 25 year | 10 Year | 5 Year | 2 Year |
| Kam_01 | 9800 | 1 | 477 | 477 | 477 | 477 | 477 | 477 | 477 |
| Kam_02 | 12432 | 2 | 477 | 477 | 477 | 477 | 477 | 477 | 477 |
| M_01 | 2137 | 3 | 46.21 | 23.18 | 19.66 | 16.4 | 12.5 | 9.5 | 5.4 |
| M_02 | 399 | 4 | 45.63 | 22.87 | 19.39 | 16.18 | 12.33 | 9.37 | 5.33 |
| M_03 | 809 | 5 | 32.54 | 22.53 | 19.38 | 16.42 | 12.98 | 10.37 | 6.31 |
| M_04 | 1233 | 6 | 28.15 | 22.07 | 19 | 16.11 | 12.76 | 10.21 | 6.24 |
| M_05 | 503 | 7 | 22.86 | 11.93 | 10.11 | 8.4 | 6.37 | 4.8 | 2.56 |
| M_06 | 1248 | 8 | 11.84 | 6.02 | 5.14 | 4.37 | 3.46 | 2.76 | 1.63 |
| M_06 | 2008 | 9 | 11.79 | 5.61 | 4.75 | 3.92 | 2.93 | 2.17 | 1.1 |
| M_06 | 2812 | 10 | 11.01 | 5.24 | 4.44 | 3.66 | 2.74 | 2.03 | 1.03 |
| M_07 | 2105 | 11 | 5.26 | 2.57 | 2.16 | 1.78 | 1.33 | 0.98 | 0.5 |
| T1 _01 | 1100 | 12 | 0.58 | 0.31 | 0.26 | 0.22 | 0.17 | 0.13 | 0.07 |
| T2 _01 | 807 | 13 | 12.93 | 6.09 | 5.08 | 4.16 | 3.05 | 2.23 | 1.09 |
| T2 _02 | 384 | 14 | 5.16 | 2.31 | 1.91 | 1.54 | 1.11 | 0.79 | 0.37 |
| T2 _03 | 1301 | 15 | 2.3 | 1.04 | 0.86 | 0.69 | 0.5 | 0.36 | 0.17 |
| T2.2_01 | 875 | 16 | 2.68 | 1.19 | 0.98 | 0.79 | 0.56 | 0.4 | 0.18 |
| T2.1_01 | 96 | 17 | 6.87 | 3.31 | 2.77 | 2.27 | 1.69 | 1.25 | 0.63 |
| T2.1_02 | 1157 | 18 | 3.66 | 1.91 | 1.62 | 1.36 | 1.04 | 0.79 | 0.42 |
| T2.3_01 | 847 | 19 | 3.24 | 1.42 | 1.17 | 0.94 | 0.67 | 0.47 | 0.22 |
| T3 _01 | 1126 | 20 | 6.56 | 3.26 | 2.75 | 2.28 | 1.71 | 1.28 | 0.65 |
| T3 _01 | 2618 | 21 | 5.47 | 2.68 | 2.26 | 1.86 | 1.39 | 1.03 | 0.52 |
| T3 _02 | 157 | 22 | 2.19 | 1.08 | 0.9 | 0.75 | 0.56 | 0.41 | 0.21 |
| T3.1_01 | 141 | 23 | 0.65 | 0.32 | 0.27 | 0.22 | 0.16 | 0.12 | 0.06 |
| T4 _01 | 1251 | 24 | 14.87 | 13.65 | 11.71 | 9.87 | 7.67 | 6.01 | 3.43 |
| T5 _01 | 7034 | 25 | 5.55 | 2.6 | 2.17 | 1.77 | 1.3 | 0.95 | 0.47 |
| T5 _01 | 5130 | 26 | 8.46 | 4.24 | 3.57 | 2.97 | 2.25 | 1.7 | 0.9 |
| T5 _01 | 1928 | 27 | 10.22 | 5.2 | 4.4 | 3.66 | 2.79 | 2.11 | 1.13 |
| T6 _01 | 1831 | 28 | 3.91 | 1.82 | 1.52 | 1.23 | 0.91 | 0.66 | 0.32 |

TABLE 5 HYDRAULIC MODEL INPUT FLOWS AND LOCATIONS

The Manning n-values used in the model to represent surface roughness were selected based on typical values obtained in the literature for rivers and floodplains with similar characteristics (surface type, vegetation coverage) to those observed in aerial imagery and the photographs collected during the ground survey for the various reaches of Mosquito Creek. In the lower reaches of the Mosquito Creek, the main channel is generally clean of vegetation and features



uniform sections and gravels, a Manning n-value of 0.03 was adopted for these areas. In the upper reaches of Mosquito Creek, the channel features gravels, small cobbles and weeds on the river bed, and sections of shallow flow, so a higher Manning n-value of 0.035 was used. For the overbanks, generally covered by grass and medium to even dense brush and trees, the selected n-values ranged from 0.07 to 0.1; except at farmlands and residential lands, where the adopted Manning n-values were 0.04 and 0.05.

The model includes the culverts, bridges and hydraulic structures surveyed in this study, as described in Section 2.1.

There was no data for calibration or validation of the hydraulic model. Recognizing the inherent uncertainty of numerical modelling, sensitivity analyses were carried out to evaluate the effect of the Kaministiquia River levels and the adopted roughness parameters. The results showed that the model results are largely independent of the assumptions made for these two parameters, within the range of values normally acceptable for the site conditions. The adopted calibrated model is considered appropriate for the analyses carried out in this study to define flood hazard limits along Mosquito Creek. The adopted hydraulic model was used to simulate recurrent events corresponding to 2, 5, 10, 25, 50, and 100-Year return periods and the Regional Storm Flood.



5.0 FLOOD AND FILL LINE MAPPING

The proposed flood hazard limits for the Mosquito Creek system are the water levels obtained from the simulation of the Timmins Storm, which is the Regional Storm for this watershed. These limits were plotted in floodplain maps that were prepared using a Geographic Information System (GIS). These results were reviewed for consistency and adequacy by inspection of model results and terrain levels throughout the study area. Subsequently, the fill lines were generated based on the criteria described in Section 1.2 and refined after review and discussions with LRCA.

A set of floodplain maps were produced to display the flood hazard line and the fill line. The base mapping data for preparation of these maps includes:

- Imagery supplied by LRCA as part of the North West Ontario Orthophotography Project 2017 (NWOOP), acquired through Land Information Ontario (LIO).
- Municipal boundaries, municipal parcels, and road network supplied by LRCA.
- Tile Index followed the City of Thunder Bay 1:2000 scale maps (1 km x 1 km) nonoverlapping tiles. The tile index data was provided by LRCA.
- 0.5 m and 1 m interval contours were developed from the LiDAR digital elevation model (DEM) by KGS Group.
- Cross sections, thalweg, and Regional Floodline were imported into GIS format from HEC-RAS by KGS Group.
- Fill line, prepared by KGS Group following the criteria described in Section 1.2.



6.0 STUDY RESULTS AND COMPARISON WITH PREVIOUS FLOODPLAIN MAPS

A general comparison of the results of the present study with the previous flood lines provided by LRCA, shows good agreement. In general, the present study shows less extensive flooding when compared to the previous study.

The following are locations where both the present study and the 1984 study show overbank flooding. These are described in detail in the hydraulic report (2019c).

- At the Mountain Rd crossing located west of the intersection with Foothill Dr (Tributary T2.1_01) both the previous floodplain maps and the updated model results show spill over Mountain Rd. This area is shown in Map Sheet Number 471.
- At the Mountain Rd crossing located near the intersection with 15th Side Rd (Tributary T3_01) both the previous floodplain maps and the updated model results show overtopping of Mountain Rd. This area is shown in Map Sheet Number 492.
- Along 15th Side Rd, North of Mountain Rd (Tributary T3_01) both the previous floodplain maps and the updated model results show overtopping of two private driveways. The updated model results generally have more extensive flooding in this area and also show spilling over the 15th Side Rd. This area is shown in Map Sheet Number 492.
- At the Fort William Country Club (Tributary T2.1_01, T2.1_02, and T2.3_01) both the previous floodplain maps and the updated model results show spill over at least seven private crossings within the golf course. This area is shown in Map Sheets Number 471, 492 and 493.
- Along Feaver Rd (Tributary T2.1_02), both the previous floodplain maps and the updated results show overtopping two private driveways. This area is shown in Map Sheet Number 492.
- Along Tusedo Dr, south of Mountain Rd, (Branch M_06) both the previous floodplain maps and the updated model results show flooding of an ancillary building between Tusedo Dr and the Mosquito Creek. This area is shown in Map Sheet Number 512.
- At Gregor Rd located east of the intersection with Loch Lomond Rd (Branch M_06), both the updated model results and previous floodplain maps show flooding of the private crossing off Gregor Rd. This area is shown in Map Sheet Number 512.



- Along Highway 61 (Tributary T4_01), east of Southcliff Ave, the updated model results and previous floodplain maps show flooding of a private crossing off the Highway 61. This area is shown in Map Sheet Number 490.
- North of Mountain Rd, close to the intersection with Kettle Creek Dr (Tributary T5_01) both the previous floodplain maps and the updated model results show flooding of six private crossings and one ancillary building north of the Mountain Rd. The previous floodplain maps show more extensive flooding in the area south of Mountain Rd. This area is shown in Map Sheet Number 490.
- At Loch Lomond Rd, south of the intersection with Hwy 61, (Tributary T5_01), the previous floodplain maps and the updated model results, both, show spilling over Loch Lomond Rd and one private crossing downstream of it. This area is shown in Map Sheet Number 511 and 512.

The present study has a larger domain than the previous floodplain maps, so it revealed locations of overtopping of banks and crossing that had not been previously identified. These are shown in the hydraulic report (KGS, 2019c) and summarized below.

- At of 15th Side Rd, north of Brookeview Pl, (Tributary T1_01), the updated model results shows overtopping of 15th Side Rd and two private bridges upstream of it. This area is shown in Map Sheet Number 470.
- Along Feaver Rd (Tributary T2.1_02), the updated results show overtopping four private driveways and flooding of two ancillary buildings. This area is shown in Map Sheet Number 492.
- Along Loch Lomond Rd (Branch M_06), south of intersection with Gregor Rd, the updated model results show spilling over one private crossing off Loch Lomond Rd. This area is shown in Map Sheet Number 534.
- At Highway 61 (Tributary T4_01), east of Southcliff Ave, the updated model results show spilling over Highway 61. This area is shown in Map Sheet Number 490.
- At Trendiak Rd, west of intersection with Loch Lomond Rd, (Branch M_07), the model results indicate overtopping of Trendiak Rd and one private crossing upstream. This area is shown in Map Sheet Number 533.



- Along Loch Lomond Rd, within the Loch Lomond Ski Area, (Tributary T6_01), the updated model results show overtopping of five private crossings, spilling over the embankment of one pond, as well as flooding of one dwelling. This area is shown in Map Sheet Number 556.
- At Trendiak Rd, west of intersection with Little Norway Rd, (Tributary T5_01), the updated model results show overtopping of Trendiak Rd and a private driveway upstream of Trendiak Rd. This area is shown in Map Sheet Number 532.
- At Little Norway Rd, south of intersection wit Trendiak Rd (Tributary T5_01), the updated model results show overtopping of Little Norway Rd, as well as flooding of two private driveways and one ancillary building west of Little Norway Rd. This area is shown in Map Sheet Number 553.
- Along Mountain Rd, at east end of the Mosquito Creek watershed, (Tributary T2_03), the updated model results show flooding of nine private crossings off Mountain Rd. This area is shown in Map Sheet Number 471 and 472.
- At Coppin Rd (Tributary T3_02 and T3_1.1), the updated model results show spilling over Coppin Rd at multiple locations and over six private crossings off Coppin Rd, as well as flooding of one ancillary building. This area is shown in Map Sheet Number 513.

6.1 SPILL AREAS AND FLOOD VULNERABLE LOCATIONS

Spill areas in Mosquito Creek, identified in the analysis, include the areas of Loch Lomond Rd south of intersection with Hwy 61, Loch Lomond Rd near the ski area, and Coppin Rd.

In the area of Loch Lomond Rd and Hwy 61, the results showed that flood overtopped of the left banks of Tributary T5 and spilled into lower areas between the Creek and Hwy 61. The flood waters then overtop Loch Lomond Rd, and flows through a dich eventually discharge back into the creek downstream of Loch Lomond Rd. The ensuing flooding extended to the Loch Lomond road, several driveways and ancillary buildings. This area is shown in Map Sheet Number 511 and 512, in Appendix M.

The results also showed overtopping at various locations along the south end of Coppin Rd. Tributary (T3_02) runs as a ditch along the east side of the road. Another tributary (T3.1) runs along the opposite side of Coppin Rd and joins Tributary T3_02 through a culvert underneath Coppin Rd. The model results show overtopping of this culvert and several locations over Coppin



Road, it also shows the spill will flow along the Coppin Rd in north direction during the Regional Storm Flood and even recurrent flood events. Flooding in this area extends to several private crossings, and ancillary buildings. This area is shown in Map Sheet Number 513, in Appendix M.

Another notable area of bank overtopping, identified by the model results, is within the Loch Lomond Ski Area. Map Sheet 556 shows that the creek spill over the embankments of these farm ponds at multiple locations, and flows downstream and re-join to the river system. This spill occurs for the Regional Flood event and even recurrent flood events.

A full list of areas where the model identified risk of flooding and vulnerable infrastructure, not only for the Regional Storm flood but also for recurrent events, is provided in Appendix A. The tables in that appendix show water depths, flow velocities and depth-velocity products, obtained from the hydraulic model simulations. The tables highlight the areas where potential risk to people and access restrictions were identified based on the criteria required by LRCA (flow depths in excess of 0.3 m, flow velocities in excess of 1.7 m/s and depth velocity products in excess of 0.4 m²/s). These criteria are based on the conditions that could pose hazard to population and affect access and egress during a flood, as defined in MNR (2002).

The features identified in Appendix A were classified in the following categories:

- Dwellings
- Ancillary buildings
- Lots
- Bridges/Culverts
- Roads
- Driveways

A summary of the number of affected infrastructures for all floods is provided in Table 6. The location of the features affected by the Regional Flood is summarized in Figure 3.



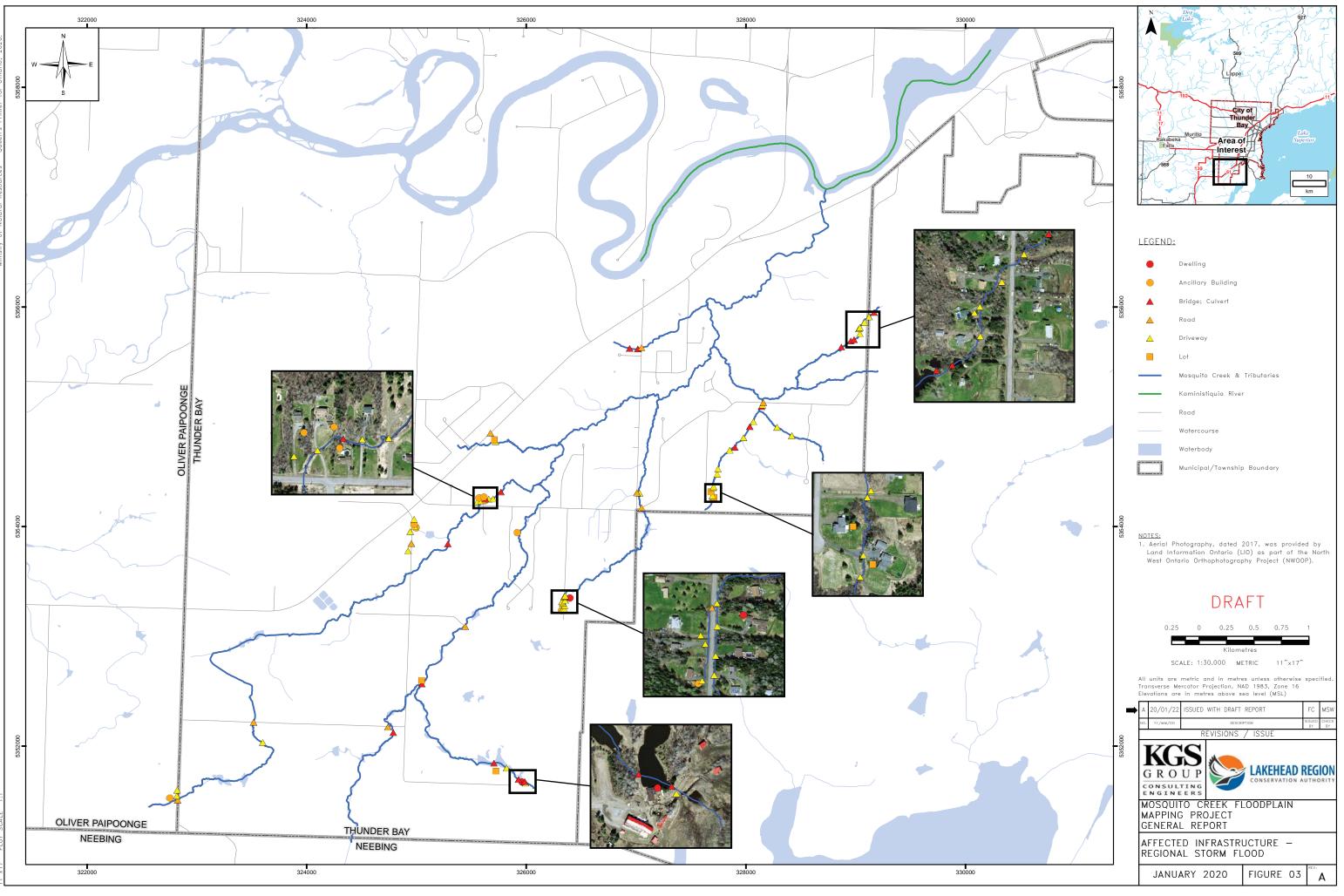
TABLE 6

| | | | | FLO | | NITUDE | | |
|------------------------|-----------------------|---------------|----|-------------|-------------|-------------|--------------|----------|
| | | 2-Year 5-Year | | 10- Year | 25- Year | 50- Year | 100- Year | Regional |
| ED | Dwelling | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| DF AFFECTE IRUCTURE | Ancillary Building | 1 | 2 | 2 | 2 | 2 | 2 | 7 |
| OF AF | Bridge/Culvert | 7 | 13 | 14 | 14 | 15 | 16 | 17 |
| ITY (RAST | Driveway | 5 | 12 | 15 | 18 | 22 | 24 | 38 |
| QUANT | Road | 1 | 3 | 4 | 4 | 5 | 5 | 11 |
| gr | Lot | 1 | 2 | 2 | 2 | 4 | 4 | 6 |

QUANTITY OF FLOOD AFFECTED INFRASTRUCTURE FOR ALL FLOODS

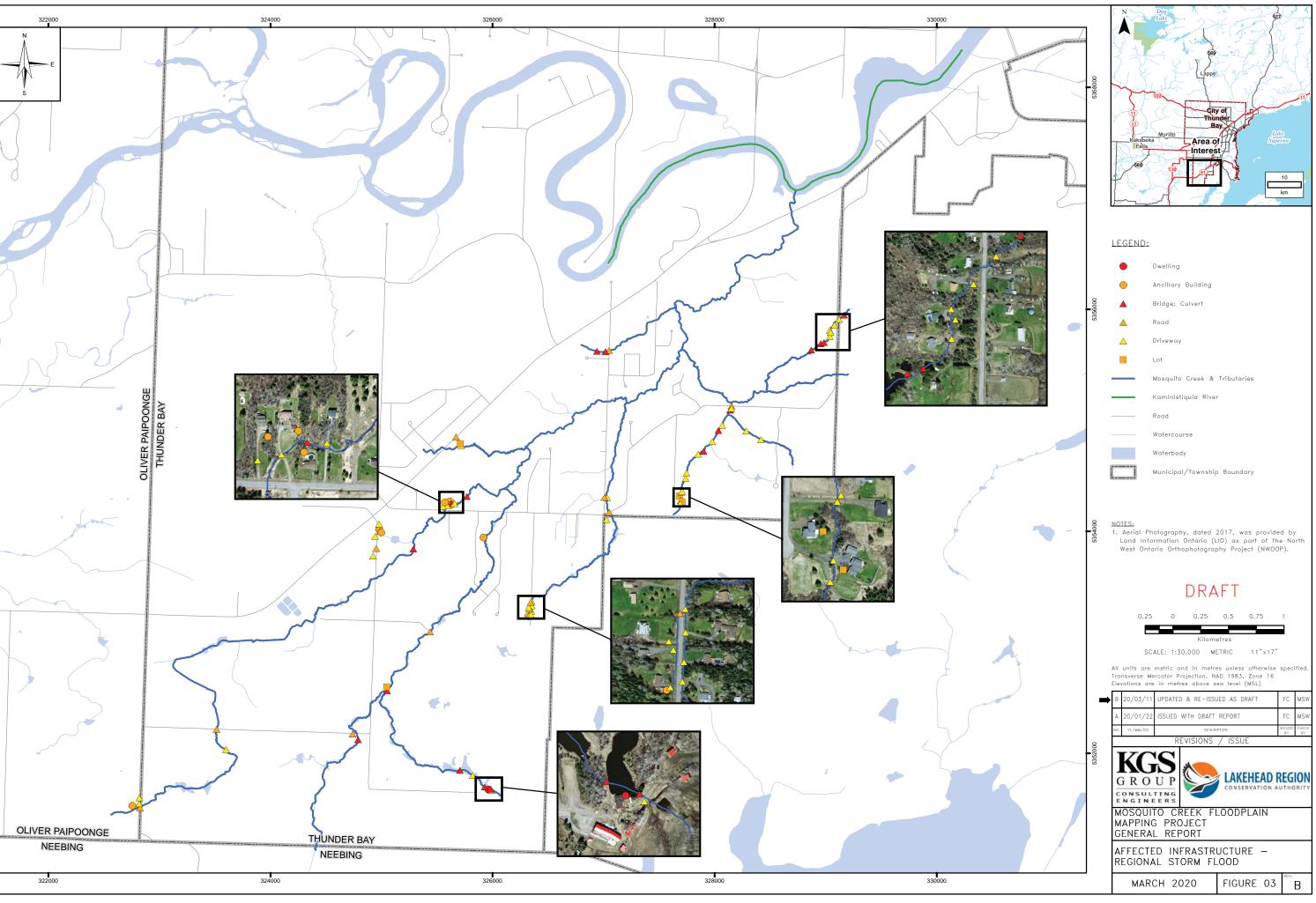


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7.0 SUMMARY AND CONCLUSIONS

7.1 **PROJECT SUMMARY**

KGS Group was retained by the LRCA to update the floodplain mapping for the Mosquito Creek system. A summary of the project tasks and findings is provided below:

- New LiDAR, topographic and bathymetric data was obtained for the Mosquito Creek watershed and used to prepare a Digital Elevation Model (DEM) of the study area, in the City of Thunder Bay. This new data satisfied the criteria for accuracy and density that was established in the terms of reference for the study.
- The topographic data used in this study is referenced to the 6-degree Universal Transverse Mercator (UTM), North American Datum 1983 (NAD83CSRS) Zone 16 grid projection system and Canadian Geodetic Vertical Datum (CGVD28).
- A Regional Flood Frequency Analysis was carried out with formulas obtained in the McIntyre River Floodplain Mapping Study and using the flood frequency analysis carried out for flows at the WSC Station 02HC008 on the Neebing River.
- Storm hyetographs for return periods ranging from 2 to 100 years, developed using the most current IDF curves for Thunder Bay were used in this study to obtain corresponding flows from the hydrologic model. The hyetographs were prepared using a Chicago Storm distribution. The storms were developed for a 24-hour duration with a peak occurring at 1/3 of the storm duration (r = 0.33).
- The Regional Storm for the area is the Timmins Storm. Hyetographs for this storm were prepared for the Mosquito Creek watershed using an area reduction factor of 94%. This factor was based on the equivalent circular area of the watershed in adherence with the Technical Guide (MNR, 2002).
- A new hydrologic model was prepared for both present and future land use conditions. The model was validated with the results obtained from the Regional Flood Frequency Analysis, because there was no hydrometric data available for the Mosquito Creek watershed.
- The flows obtained with the hydrologic model for the Regional (Timmins) Storm, were significantly lower than those obtained in Lathem (1984) and Fenco MacLaren (1996) studies, which had been used for preparing the previous floodplain maps for the creek. The difference in results is likely due to the use of different modeling software and approaches for the hydrologic analysis. The values used in this study are considered to better represent the response of the watershed than those used in previous studies. This study results are in better agreement with those obtained for nearby watersheds, for which model results were calibrated with available hydrometric data.
- A new hydraulic model was prepared, with the program HEC-RAS, for the Mosquito Creek system, including the tributaries in of the creek that drain areas larger than 125 ha.



- The hydraulic model was used to simulate the hydraulic conditions during the Regional Storm Flood and recurrent flood events with return periods ranging from 2 to 100 years.
- Recognizing the uncertainty associated with numerical modelling, sensitivity analyses were carried out to evaluate the effect of the Kaministiquia River levels and the roughness parameters used in the model. The results showed that the model results are largely independent of the assumptions made for these two parameters, within the range of values normally acceptable for the site conditions. The values adopted in the model are considered appropriate for the analysis carried out to define flood hazard limits for Mosquito Creek.
- Floodplain maps were developed for Mosquito Creek based on the results obtained from the simulation of the Regional Storm Flood.
- A review of the updated floodplain maps, using this study report, indicates that in most parts the updated results were generally consistent with those previously obtained by Lathem (1984). However, the extent of the flooding obtained in the present study was less extensive.
- A review of the hydraulic model results was carried out to evaluate flow depth, velocity and depth-velocity product at the locations of buildings and infrastructure. These were compared with the hazard criteria required by LRCA. The results are listed for each building and infrastructure located within the flood hazard limit, in Appendix A.

7.2 RECOMMENDATIONS

Based on the investigations and analyses completed for this project, KGS Group has the following recommendations:

- Adopt the updated Mosquito Creek floodplain maps that show the flood hazard limits in accordance with provincial regulations and the fill lines to be used for administrative purposes.
- Evaluate the available monitoring system and program in place with respect to the need to provide timely and adequate information to agencies and the public in the event of a flood in the Mosquito Creek watershed. This evaluation could include a review of the local sources, the means to obtain and process the information from developing weather and flow forecasts, the tools (models, maps, tables) to forecast flood levels associated with the expected flows, and the system to disseminate warning and execute emergency response actions.
- The table of locations of flood vulnerable infrastructure provided in Appendix A can be used for the prioritization of potential improvements to crossings that provide limited conveyance. This can be carried out through a technical study with terms of reference that would be developed with the information obtained in this study.



8.0 **REFERENCES**

- 1. The Lathem Group, 1984, Mosquito Creek Flood and Fill Line Mapping Study.
- 2. Fenco MacLaren Inc., 1996, Mosquito Creek Post Development Study
- 3. USACE, 2016, Hydraulic Reference Manual.
- 4. OMNR, 2002, Technical Guide River & Stream Systems: Flooding Hazard Limit.
- 5. MTO, 1997, Drainage Management Manual
- 6. USDA, 1986, Urban Hydrology for Small Watersheds Technical Release 55
- 7. KGS 2018, Neebing River Floodplain Mapping Update Final Hydrologic Report
- 8. KGS Group, 2019a, Mosquito Creek and Kaministiquia Floodplain Mapping Update Study, LiDAR Project Report.
- 9. KGS Group, 2019b, Mosquito Creek Floodplain Mapping Update Study, Hydrologic Report.
- 10. KGS Group, 2019c, Mosquito Creek Floodplain Mapping Update Study, Hydraulic Report.
- 11. KGS Group, 2019d, Kaministiquia River Floodplain Mapping Update Study, Hydrologic Report.
- 12. Hatch Mott MacDonald, HMM, 2015, McIntyre River Floodplain Mapping Study Final Hydrology Report
- 13. KGS Group, 2018, McVicar Creek Floodplain Mapping Update Study, Hydrologic Report.
- 14. KGS Group, 2019e, Pennock Creek Floodplain Mapping Update Study, Hydrologic Report.





APPENDIX A

INFRASTRUCTURE LOCATED WITHIN THE FLOOD HAZARD LIMIT



Critical Flood Criteria: >0.3m, >1.7 m/s, depth × velocity > 0.4 m²/s

| | Flow at Confluence with | | | | | | | | Depth × Velocity | | | HEC-RAS Model | HEC-RAS | |
|----------------|---|-----------------|------------------------------|--------------|------------------------|--------------------------|-----------|----------------|------------------|--|------------|----------------------------|---------------|--------------|
| Flood Event | Kaministiquia River (m ³ /s) | Structure Type | Address | Structure ID | | ЛТМ | Depth (m) | Velocity (m/s) | (m²/s) | Comments | Map Sheet | Station | Structure ID | Bank |
| Regional Storm | 46.3 | Road | 15TH SIDE RD | 1 | 327050.41 | 5355630.12 | 0.05 | 1.24 | 0.06 | 15th Side Road overtopped | 470 | T1-01 827 | C-069-T1_01 | Both |
| | | Bridge | 1010 BROOKVIEW PL | 2 | 327017.10 | 5355618.68 | 1.12 | 0.06 | 0.07 | Private pedenstrain bridge overtopped | 470 | T1-01_874 | | Both |
| | | Bridge | 1030 BROOKVIEW PL | 3 | 326940.45 | 5355622.69 | 0.24 | 0.86 | 0.21 | Private pedenstrain bridge overtopped | 469 | | | Both |
| | | Culvert | 955 MOUNTAIN RD | 4 | 328869.36 | 5355634.51 | 0.12 | 1.54 | 0.18 | Pond embankment overtopped | 471 | T2-03_740 | S-011-T2_03 | Both |
| | | | | | | | | | | Flows spill over left bank, and overtop a private | | | | |
| | | Bridge | 955 MOUNTAIN RD | 5 | 328956.44 | 5355691.84 | 0.10 | 0.00 | 0.00 | crossing | 471 | T2-03_858 | | Left |
| | | Culvert | 955 MOUNTAIN RD | 6 | 328985.73 | 5355701.66 | 0.23 | 0.88 | 0.20 | Spill over a private crossing | 471 | T2-03_882 | | Both |
| | | Driveway | 925 MOUNTAIN RD | 7 | 329038.78 | 5355756.79 | 0.21 | 2.19 | 0.46 | Private driveway overtopped, flood spills over both banks | 472 | T2-03_961 | C-013-T2_03 | Both |
| | | Directively | | , | 525050.70 | 5555750.75 | 0.21 | 2.10 | 0.40 | Private driveway overtopped, flood spills over both | 772 | 12.03_001 | 0 010 12_00 | Dotti |
| | | Driveway | 915 MOUNTAIN RD | 8 | 329045.77 | 5355792.68 | 0.06 | 2.23 | 0.13 | banks | 472 | T2-03_1001 | C-014-T2_03 | Both |
| | | | Unknown Street #, LOCH | | | | | | | Flood water spill over the left bank the the pond, and | | | | |
| | | Dwelling | LOMOND ROAD | 8 | 325961.17 | 5351674.65 | 0.12 | 0.19 | 0.02 | imapct on the dwelling building next to it. | 472 | T6-01_1715 | | Left |
| | | D : | | | 000007.00 | 505504044 | | 0.74 | | Private driveway overtopped, flood spills over both | 170 | TO 00 4047 | 0.045 70.00 | |
| | | Driveway | 915 MOUNTAIN RD | 9 | 329037.93 | 5355812.14 | 0.30 | 0.74 | 0.22 | banks Private driveway overtopped, flood spills over both | 472 | T2-03_1017 | C-015-T2_03 | Both |
| | | Driveway | 885 MOUNTAIN RD | 10 | 329079.43 | 5355858.72 | 0.01 | 1.24 | 0.01 | banks | 472 | T2-03_1080 | C-016-T2_03 | Both |
| | | Dilivenay | | 10 | 020010.40 | 0000000.72 | 0.01 | 1.27 | 0.01 | Private driveway overtopped, flood spills over both | 472 | 12 00_1000 | 0 010 12_00 | Dotti |
| | | Driveway | 875 MOUNTAIN RD | 11 | 329121.45 | 5355910.58 | 0.39 | 0.84 | 0.33 | banks | 472 | T2-03_1159 | C-018-T2_03 | Both |
| | | | | | | | | | | Private pedenstrain bridge overtopped, flood spills | | | | |
| | | Bridge | 865 MOUNTAIN RD | 12 | 329167.29 | 5355948.80 | 0.08 | 1.75 | 0.14 | over both banks | 472 | T2-03_1225 | B-066-T2_03 | Both |
| | | Road | MOUNTAIN RD | 13 | 328152.48 | 5355129.48 | 0.04 | 1.64 | 0.07 | Mountain Rd overtopped | 471 | T2.1-01_32 | C-045-T2.1_01 | Both |
| | | Driververv | FORT WILLIAM COUNTRY | | 200454.00 | 5055400.05 | 0.04 | 0.40 | 0.04 | Private driveway overtopped, flood spills over both banks | 474 | TO 4 04 57 | | Deth |
| | | Driveway | FORT WILLIAM COUNTRY | 14 | 328151.60 | 5355106.65 | 3.21 | 0.10 | 0.31 | Private pedenstrain bridge overtopped, flood spills | 471 | T2.1-01_57 | C-046-T2.1_01 | Both |
| | | Bridge | CLUB | 15 | 328141.36 | 5355092.69 | 4.19 | 0.12 | 0.52 | over both banks | 471 | T2.1-01_69 | | Both |
| | | 2.1.390 | FORT WILLIAM COUNTRY | | 02011100 | | | 0.12 | 0.02 | Private driveway overtopped, flood spills over both | | | | 2000 |
| | | Driveway | CLUB | 16 | 328069.10 | 5354955.12 | 2.36 | 0.10 | 0.24 | banks | 493 | T2.1-02_118 | C-047-T2.1_02 | Both |
| | | | FORT WILLIAM COUNTRY | | | | | | | Private culvert overtopped, flood spills over both | | | | |
| | | Culvert | CLUB FORT WILLIAM COUNTRY | 17 | 328034.20 | 5354909.19 | 2.11 | 0.11 | 0.24 | banks | 493 | T2.1-02_176 | C-048-T2.1_02 | Both |
| | | Driveway | CLUB | 18 | 327980.29 | 5354808.60 | 0.54 | 0.37 | 0.20 | Private driveway overtopped, flood spills over both banks | 492 | T2.1-02_291 | C-049-T2.1_02 | Both |
| | | Dilveway | FORT WILLIAM COUNTRY | 10 | 327900.29 | 3334808.00 | 0.54 | 0.37 | 0.20 | Private culvert overtopped, flood spills over both | 492 | 12.1-02_291 | 0-049-12.1_02 | Botti |
| | | Culvert | CLUB | 19 | 327900.37 | 5354721.69 | 0.46 | 0.67 | 0.31 | banks | 492 | T2.1-02 417 | C-052-T2.1_02 | Both |
| | | | FORT WILLIAM COUNTRY | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | | Driveway | CLUB | 20 | 327852.91 | 5354696.36 | 0.36 | 1.15 | 0.41 | banks | 492 | T2.1-02_473 | C-053-T2.1_02 | Both |
| | | | | | | | | | | Private driveway overtopped, flood spills over both | | | . | |
| | | Driveway | 3236 FEAVER RD | 21 | 327747.23 | 5354524.95 | 0.27 | 1.87 | 0.50 | banks Private driveway overtopped, flood spills over both | 492 | T2.1-02_695 | C-054-T2.1_02 | Both |
| | | Driveway | 3240 FEAVER RD | 22 | 327739.31 | 5354476.96 | 0.30 | 1.29 | 0.39 | banks | 492 | T2.1-02_750 | C-055-T2.1_02 | Both |
| | | Dilivoway | | | 021100.01 | 0004470.00 | 0.00 | 1.20 | 0.00 | Private driveway overtopped, flood spills over both | 402 | 12.1 02_700 | 0 000 12.1_02 | Dotti |
| | | Driveway | 3266 FEAVER RD | 23 | 327706.01 | 5354362.18 | 0.33 | 0.26 | 0.09 | banks | 492 | T2.1-02_895 | C-056-T2.1_02 | Both |
| | | | | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | | Driveway | 3276 FEAVER RD | 24 | 327701.07 | 5354353.48 | 0.26 | 0.32 | 0.08 | banks | 492 | T2.1-02_905 | C-057-T2.1_02 | Both |
| | | Let | 3286 FEAVER RD | 25 | 207602.00 | E2E424E EE | 0.20 | 1.00 | 0.01 | Spill over the left river bank, and flood the backyard | 402 | TO 1 00 070 | | l off |
| | | Lot Driveway | 3290 FEAVER RD | 25 26 | 327682.88 327696.09 | 5354315.55 5354277.97 | 0.20 | 1.06 1.06 | 0.21 | and approach to the ancillary building Private driveway overtopped | 492 492 | T2.1-02_972 T2.1-02_995 | C-058-T2.1_02 | Left Both |
| | | Driveway | | 20 | 327090.09 | 5554277.97 | 0.30 | 1.00 | 0.32 | Spill over the right river bank, and flood the front yard | 492 | 12.1-02_995 | 0-056-12.1_02 | DUII |
| | | Lot | 3290 FEAVER RD | 27 | 327708.41 | 5354265.95 | 0.06 | 0.12 | 0.01 | and approach to the building | 492 | T2.1-02_1000 | | Right |
| | | | | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | | Driveway | 3290 FEAVER RD | 28 | 327691.94 | 5354250.35 | 0.36 | 1.11 | 0.40 | banks | 492 | T2.1-02_1022 | C-059-T2.1_02 | Both |
| | | | FORT WILLIAM COUNTRY | | | | | | | | | | | |
| | | Driveway | CLUB | 29 | 328284.06 | 5354903.46 | 0.27 | 1.38 | 0.37 | Private driveway overtopped | 493 | T2.3-01_236 | C-060-T2.3-01 | Both |

| Flood Event | Flow at Confluence with Kaministiquia River (m ³ /s) | Structure Type | Address | Structure ID | | JTM | Depth (m) | Velocity (m/s) | Depth × Velocity (m²/s) | Comments | Map Sheet | HEC-RAS Model Station | HEC-RAS Structure ID | Bank |
|-------------|--|--------------------|-----------------------------------|--------------|------------------------|--------------------------|-----------|----------------|----------------------------|--|------------|--------------------------|----------------------------|--------------|
| | ······································ | | FORT WILLIAM COUNTRY | | | | | | | | | | | |
| | | Driveway | CLUB | 30 | 328417.40 | 5354826.81 | 0.22 | 2.16 | 0.48 | Private driveway overtopped | 493 | T2.3-01_391 | C-063-T2.3_01 | Both |
| | | Driveway | 2608 15TH SIDE RD | 31 | 327031.91 | 5354304.59 | 1.43 | 0.16 | 0.23 | Private driveway overtopped | 492 | T3-01_1010 | C-020-T3_01 | Both |
| | | Road | 15TH SIDE RD | 32 | 327009.05 | 5354307.62 | 0.78 | 0.03 | 0.02 | Spill over the left river bank, and overtop 15th Side Rd | 492 | T3-01 997 | | Left |
| | | Road | MOUNTAIN RD | 33 | 327050.92 | 5354172.25 | 0.16 | 0.52 | 0.08 | Mountain Rd overtopped | 492 | T3-01_1154 | C-021-T3_01 | Both |
| | | | | | | | | | | Private pedestrain bridge overtopped, flood spills over | | | | |
| | | Driveway | 4260 COPPIN RD 4259 COPPIN RD | 34 | 326352.82 | 5353368.20 | 0.35 | 1.84 | 0.64 | both banks | 513 | T3-01_2613 | C-022-T3_01 | Both |
| | | Road | 4209 COPPIN RD | 35 | 326344.51 | 5353361.08 | 0.50 | 0.09 | 0.04 | Coppin Rd overtopped Private pedestrain bridge overtopped, flood spills over | 513 | T3-1.1_8 | MO-T3.1_01 | Both |
| | | Driveway | 4280 COPPIN RD | 37 | 326353.14 | 5353329.50 | 0.15 | 0.75 | 0.11 | both banks | 513 | T3-02_35 | C-023-T3_01 | Both |
| | | | | | | | | | | Private driveway overtopped, spill over left bank and | | | | |
| | | Driveway | 4290 COPPIN RD | 38 | 326350.73 | 5353280.94 | 0.23 | 2.04 | 0.47 | overtop Coppin Rd Private driveway overtopped, spill over left bank and | 513 | T3-02_83 | C-024-T3_01 | Both |
| | | Driveway | 4300 COPPIN RD | 39 | 326348.19 | 5353248.89 | 0.21 | 2.29 | 0.48 | overtop Coppin Rd | 513 | T3-02 114 | C-025-T3 01 | Both |
| | | , | | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | | Driveway | 4279 COPPIN RD | 40 | 326325.64 | 5353315.26 | 0.17 | 0.16 | 0.03 | banks | 513 | T3-1.1_59 | MO-T3.1_01 | Both |
| | | Driveway | 4289 COPPIN RD | 41 | 326333.32 | 5353300.97 | 0.19 | 0.26 | 0.05 | Private driveway overtopped, flood spills over both banks | 513 | T3-1.1_73 | MO-T3.1 01 | Both |
| | | Dintenay | | | 020000.02 | 000000.07 | 0.10 | 0.20 | 0.00 | Private driveway overtopped, flood spills over both | 010 | 10 1.1_70 | | |
| | | Driveway | 4299 COPPIN RD | 42 | 326331.42 | 5353241.75 | 0.07 | 0.54 | 0.04 | banks | 513 | T3-1.1_138 | | Both |
| | | Ancillary Building | 4299 COPPIN RD | 43 | 326321.96 | 5353234.91 | 0.15 | 0.09 | 0.01 | Spill over the left river bank, and impact on the ancillary building | 513 | T3-1.1 138 | | Left |
| | | Driveway | 1950 HIGHWAY 61 | 43 | 325719.50 | 5354774.41 | 0.15 | 3.19 | 0.01 | Private driveway overtopped | 490 | T4-01_808 | C-026-T4_01 | Both |
| | | Lot | 1950 HIGHWAY 61 | 45 | 325709.08 | 5354789.35 | 0.05 | 0.01 | 0.00 | Flows spill over left bank, and flood the parking lot | 490 | T4-01_814 | 0 020 14_01 | Left |
| | | Road | HIGHWAY 61 | 46 | 325672.23 | 5354851.31 | 0.11 | 3.16 | 0.35 | Hwy 61 overtopped | 490 | T4-01_986 | C-027-T4_01 | Both |
| | | | | | | | | | | Private pedestrain bridge overtopped, flood spills over | | | | |
| | | Bridge | 1901 MOUNTAIN RD | 47 | 325769.40 | 5354315.21 | 0.55 | 1.78 | 0.98 | both banks | 490 | T5-01_545 | B-067-T5_01 | Both |
| | | Driveway | 1931 MOUNTAIN RD | 49 | 325658.22 | 5354251.44 | 0.21 | 0.28 | 0.06 | Private driveway overtopped, flood spills over both banks | 490 | T5-01_701 | C-029-T5_01 | Both |
| | | Diriveway | | | 020000.22 | 0004201.44 | 0.21 | 0.20 | 0.00 | Private pedestrain bridge overtopped, flood spills over | 400 | | 0 020 10_01 | Dour |
| | | Bridge | 1941 MOUNTAIN RD | 50 | 325628.93 | 5354252.34 | 1.00 | 0.80 | 0.80 | both banks | 490 | T5-01_731 | B-030-T5_01 | Both |
| | | Ancillary Building | 1941 MOUNTAIN RD | 51 | 325623.67 | 5354237.99 | 0.17 | 0.10 | 0.02 | Spill over the right river bank, and impact on the ancillary building | 490 | T5-01_734 | | Right |
| | | Ancinary Building | | 51 | 323023.07 | 5554257.99 | 0.17 | 0.10 | 0.02 | Spill over the left river bank, and impact on the | 490 | 13-01_734 | | |
| | | Lot | 1947 MOUNTAIN RD | 52 | 325615.00 | 5354270.00 | 0.21 | 0.79 | 0.17 | ancillary building | 490 | T5-01_741 | | Left |
| | | D : | | 50 | 005500.45 | 505400444 | | 1.70 | 0.00 | Private driveway overtopped, flood spills over both | 100 | 75 04 770 | D 004 TE 04 | |
| | | Driveway | 1947 MOUNTAIN RD | 53 | 325590.15 | 5354234.41 | 0.18 | 1.76 | 0.32 | banks Flows spill over left bank, and overtop a private | 490 | T5-01_778 | B-031-T5_01 | Both |
| | | Driveway | 1953 MOUNTAIN RD | 54 | 325554.24 | 5354225.67 | 0.06 | 0.23 | 0.01 | driveway | 490 | T5-01_808 | | Left |
| | | | | | | | | | | Spill over the left river bank, and impact on the | | | | |
| | | Ancillary Building | 1953 MOUNTAIN RD | 55 | 325569.52 | 5354261.28 | 0.01 | 0.13 | 0.00 | ancillary building | 490 | T5-01_781 | | Both |
| | | Culvert | 2080 HIGHWAY 61 | 56 | 325287.46 | 5353842.17 | 0.31 | 1.28 | 0.40 | Private crossing overtopped Loch Lomond Rd overtopped at low point (lose to Hwy | 512 | T5-01_1455 | c-033-T5_01 | Both |
| | | Road | LOCH LOMOND ROAD | 57 | 324953.28 | 5353846.36 | 1.54 | 0.01 | 0.02 | 61, north of the culvert with the creek) | 511 | T5-01_1959 | C-034-T5_01 | Both |
| | | | | | | | | | | Spill over the left river bank, and impact on the private | | | | |
| | | Driveway | 2120 HIGHWAY 61 | 58 | 324943.37 | 5353954.74 | 1.84 | 0.02 | 0.03 | driveway Spill over the left river bank, and impact on the | 511 | T5-01_1972 | | Left |
| | | Ancillary Building | 2080 HIGHWAY 61 | 59 | 324997.02 | 5353989.73 | 0.82 | 0.52 | 0.43 | ancillary building | 511 | T5-01_1804 | | Left |
| | | , moniary Dananig | | | 021001102 | 000000.10 | 0.02 | 0.02 | 0.10 | Spill over the left river bank, and impact on the private | 011 | | | |
| | | Driveway | 2080 HIGHWAY 61 | 60 | 324984.53 | 5354001.52 | 1.20 | 0.52 | 0.63 | driveway | 489 | T5-01_1848 | | Left |
| | | Appillon Puilding | 2080 HIGHWAY 61 | 61 | 224077.65 | E2E4019 76 | 1.60 | 0.01 | 0.01 | Spill over the left river bank, and impact on the ancillary building | 489 | T5 01 1029 | | l oft |
| | | Ancillary Building | 2000 HIGHWAT 01 | 01 | 324977.65 | 5354018.76 | 1.69 | 0.01 | 0.01 | Spill over the left river bank, and impact on the private | 409 | T5-01_1928 | | Left |
| | | Driveway | 2080 HIGHWAY 61 | 62 | 324979.18 | 5354067.45 | 0.19 | 0.00 | 0.00 | driveway | 489 | T5-01_1928 | | Left |
| | | <u> </u> | | | | | | | | Spill over the left river bank, and impact on the private | | TE OU LOET | | 1. 6 |
| | | Driveway | 2120 HIGHWAY 61 | 63 | 324934.15 | 5353777.79 | 0.00 | 0.00 | 0.00 | driveway | 511 | T5-01_1972 | 0.005 75.04 | Left |
| | | Road | TRENDIAK ROAD 2416 TRENDIAK RD | 64 | 323515.08 | 5352217.18 | 0.15 | 1.75 | 0.26 | Trendiak Rd overtopped Private driveway overtopped | 532 | T5-01_5156 | C-035-T5_01 | Both |
| | | Driveway Road | 169 LITTLE NORWAY RD | 65 66 | 323599.92 322825.79 | 5352033.61 5351508.75 | 0.15 | 1.62 1.05 | 0.24 | Little Norway Rd overtopped | 532 553 | T5-01_5410 T5-01_6737 | C-036-T5_01 C-038-T5_01 | Both Both |
| | | | | 00 | 522025.19 | 0001000.70 | 0.17 | 1.05 | 0.10 | Flows spill over the left bank and flooded the private | 555 | 10-01_0131 | 0.000-10_01 | Dom |
| | 1 | Driveway | 169 LITTLE NORWAY RD | 67 | 322817.76 | 5351545.54 | 0.58 | 0.09 | 0.05 | driveway | 553 | T5-01_6749 | | Left |

| Flood Event | Flow at Confluence with Kaministiquia River (m ³ /s) | Structure Type | Address | Structure ID | L | JTM | Depth (m) | Velocity (m/s) | Depth × Velocity (m²/s) | Comments | Map Sheet | HEC-RAS Model Station | HEC-RAS Structure ID | Bank |
|-------------|--|--------------------|---------------------------------------|--------------|-----------|------------|-----------|----------------|----------------------------|--|-----------|--------------------------|-------------------------|------|
| | | Drivewav | 163 LITTLE NORWAY RD | 68 | 322820.11 | 5351600.06 | 0.03 | 0.02 | 0.00 | Flows spill over the left bank and flooded the private driveway | 553 | T5-01_6749 | | Left |
| | | Driveway | 103 EITTEE NORWAT RD | 00 | 322820.11 | 5351600.06 | 0.03 | 0.02 | 0.00 | Flows spill over the left bank and flooded the ancillary | 553 | 15-01_0749 | | Leit |
| | | Ancillary Building | 169 LITTLE NORWAY RD | 69 | 322754.24 | 5351527.88 | 0.60 | 0.11 | 0.07 | building/temperary trailor | 553 | T5-01_6830 | | Left |
| | | Ancillary Building | 4074 TUXEDO DR | 70 | 325917.69 | 5353945.33 | 0.14 | 1.29 | 0.17 | Spill over the left river bank, and impact on the ancillary building | 512 | M-06 710 | | Left |
| | | Road | 1950 GREGOR RD | 71 | 325438.75 | 5353094.06 | 0.21 | 0.99 | 0.21 | Gregor Rd overtopped | 512 | | B-005-M_06 | Both |
| | | Lot | 5200 LOCH LOMOND RD | 72 | 325047.81 | 5352598.57 | 0.24 | 0.68 | 0.16 | Flood water spill over the left bank, flood the lot and approaching to an ancillary building | 534 | M-06_2783 | | Left |
| | | Bridge | 5200 LOCH LOMOND RD | 73 | 325050.96 | 5352565.29 | 0.52 | 1.02 | 0.53 | Private pedestrain bridge overtopped, flood spill over both banks | 534 | M-06_2810 | B-006-M_06 | Both |
| | | Road | LOCH LOMOND RD | 74 | 324739.39 | 5352174.94 | 0.11 | 1.54 | 0.17 | Trendiak Rd (close to Loch Lomond Rd) overtopped | 533 | M-07_674 | C-008-M_07 | Both |
| | | Bridge | 2176 TRENDIAK RD | 75 | 324789.99 | 5352123.18 | 0.40 | 0.77 | 0.30 | Private pedestrain bridge overtopped, flood spill over both banks | 533 | M-07_731 | | Both |
| | | Culvert | Unknown Street #, LOCH LOMOND ROAD | 76 | 325705.84 | 5351846.58 | 0.07 | 0.23 | 0.02 | Pond berm, also function as walkway, get overtopped | 556 | T6-01_1370 | S-040-T6_01 | Both |
| | | Lot | 1855 LOCH LOMOND RD | 77 | 327027.99 | 5354107.17 | 0.92 | 0.00 | 0.00 | Spill over the left embankment of the farm pond | 556 | T6-01_1378 | | Left |
| | | Driveway | 1855 LOCH LOMOND RD | 78 | 325822.40 | 5351801.86 | 0.14 | 0.08 | 0.01 | Pond berm, also function as driveway, get overtopped | 556 | T6-01_1501 | S-041-T6_01 | Both |
| | | Culvert | Unknown Street #, LOCH LOMOND ROAD | 79 | 325929.53 | 5351697.61 | 0.28 | 0.97 | 0.27 | Pond berm, also function as walkway, get overtopped | 556 | T6-01_1640 | S-042-T6_01 | Both |
| | | Culvert | Unknown Street #, LOCH LOMOND ROAD | 81 | 325984.43 | 5351677.03 | 0.38 | 0.75 | 0.29 | Culvert overtopped | 556 | T6-01_1719 | C-043-T6_01 | Both |
| | | Driveway | Unknown Street #, LOCH LOMOND ROAD | 82 | 325992.50 | 5351665.14 | 0.11 | 0.57 | 0.06 | Private driveway overtopped | 556 | T6-01_1732 | C-044-T6_01 | Both |

Critical Flood Criteria: >0.3m, >1.7 m/s, depth × velocity > 0.4 m²/s

| | Flow at Confluence with | | | | | | | | Depth × Velocity | | | HEC-RAS Model | HEC-RAS | |
|-------------|---|----------------|---|--------------|-----------|-------------|-----------|----------------|------------------|--|-----------|---------------|---------------|------|
| Flood Event | Kaministiquia River (m ³ /s) | Structure Type | Address 1010 BROOKVIEW PL | Structure ID | | UTM | Depth (m) | Velocity (m/s) | (m²/s) | Comments | Map Sheet | Station | Structure ID | Bank |
| 100 Year | 23.2 | Bridge | | 2 | 327017.10 | 5355618.68 | 0.17 | 0.43 | 0.07 | Private pedenstrain bridge overtopped | 470 | T1-01_874 | | Both |
| | | Bridge | 1030 BROOKVIEW PL | 3 | 326940.45 | 5355622.69 | 0.14 | 0.71 | 0.10 | Private pedenstrain bridge overtopped | 469 | T1-01_950 | | Both |
| | | Culvert | 955 MOUNTAIN RD | 4 | 328869.36 | 5355634.51 | 0.08 | 1.25 | 0.10 | Pond embankment overtopped | 471 | T2-03_740 | S-011-T2_03 | Both |
| | | Dridge | 955 MOUNTAIN RD | 5 | 220050 44 | 5355691.84 | 0.00 | 0.00 | 0.00 | Flows spill over left bank, and overtop a private crossing | 471 | TO 00 050 | | 1.04 |
| | | Bridge | | • | 328956.44 | | 0.03 | 0.00 | | , , | | T2-03_858 | | Left |
| | | Culvert | 955 MOUNTAIN RD Unknown Street #, LOCH | 6 | 328985.73 | 5355701.66 | 0.18 | 1.02 | 0.18 | Spill over a private crossing Flood water spill over the left bank the the pond, and | 471 | T2-03_882 | | Both |
| | | Dwelling | LOMOND ROAD | 8 | 325961.17 | 5351674.65 | 0.07 | 0.09 | 0.01 | imapct on the dwelling building next to it. | 472 | T6-01_1715 | | Left |
| | | Dweining | | 0 | 323301.17 | 3331074.03 | 0.07 | 0.03 | 0.01 | Private driveway overtopped, flood spills over both | 472 | 10-01_1713 | | Len |
| | | Driveway | 915 MOUNTAIN RD | 9 | 329037.93 | 5355812.14 | 0.16 | 1.42 | 0.23 | banks | 472 | T2-03_1017 | C-015-T2 03 | Both |
| | | | | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | | Driveway | 875 MOUNTAIN RD | 11 | 329121.45 | 5355910.58 | 0.14 | 1.03 | 0.14 | banks | 472 | T2-03_1159 | C-018-T2_03 | Both |
| | | | FORT WILLIAM COUNTRY | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | | Driveway | CLUB | 14 | 328151.60 | 5355106.65 | 0.20 | 0.44 | 0.09 | banks | 471 | T2.1-01_57 | C-046-T2.1_01 | Both |
| | | | FORT WILLIAM COUNTRY | | | | | | | Private pedenstrain bridge overtopped, flood spills | | | | 1 |
| | | Bridge | CLUB | 15 | 328141.36 | 5355092.69 | 1.19 | 0.87 | 1.03 | over both banks | 471 | T2.1-01_69 | | Both |
| | | | FORT WILLIAM COUNTRY | | | | | | | Private driveway overtopped, flood spills over both | | | | 1 |
| | | Driveway | CLUB | 16 | 328069.10 | 5354955.12 | 0.14 | 0.90 | 0.13 | banks | 493 | T2.1-02_118 | C-047-T2.1_02 | Both |
| | | Culturent | FORT WILLIAM COUNTRY CLUB | 47 | 220024.00 | 505400040 | 0.00 | 0.70 | 0.00 | Private culvert overtopped, flood spills over both banks | 400 | TO 4 00 470 | C 040 T0 4 00 | Deth |
| | | Culvert | FORT WILLIAM COUNTRY | 17 | 328034.20 | 5354909.19 | 0.26 | 0.78 | 0.20 | Private driveway overtopped, flood spills over both | 493 | T2.1-02_176 | C-048-T2.1_02 | Both |
| | | Driveway | CLUB | 18 | 327980.29 | 5354808.60 | 0.22 | 0.32 | 0.07 | banks | 492 | T2.1-02_291 | C-049-T2.1_02 | Both |
| | | Dilveway | FORT WILLIAM COUNTRY | 10 | 327900.29 | 3334000.00 | 0.22 | 0.52 | 0.07 | Private culvert overtopped, flood spills over both | 492 | 12.1-02_291 | 0-049-12.1_02 | Both |
| | | Culvert | CLUB | 19 | 327900.37 | 5354721.69 | 0.37 | 0.39 | 0.14 | banks | 492 | T2.1-02_417 | C-052-T2.1_02 | Both |
| | | Curron | FORT WILLIAM COUNTRY | 10 | 021000.01 | 000 1121.00 | 0.01 | 0.00 | 0.11 | Private driveway overtopped, flood spills over both | 102 | 12.1 02_111 | 0 002 12.1_02 | Dour |
| | | Driveway | CLUB | 20 | 327852.91 | 5354696.36 | 0.26 | 0.89 | 0.23 | banks | 492 | T2.1-02 473 | C-053-T2.1 02 | Both |
| | | | | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | | Driveway | 3236 FEAVER RD | 21 | 327747.23 | 5354524.95 | 0.09 | 1.82 | 0.16 | banks | 492 | T2.1-02_695 | C-054-T2.1_02 | Both |
| | | | | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | | Driveway | 3240 FEAVER RD | 22 | 327739.31 | 5354476.96 | 0.19 | 0.74 | 0.14 | banks | 492 | T2.1-02_750 | C-055-T2.1_02 | Both |
| | | | | | | | | | | Private driveway overtopped, flood spills over both | | | | 1 |
| | | Driveway | 3266 FEAVER RD | 23 | 327706.01 | 5354362.18 | 0.23 | 0.16 | 0.04 | banks | 492 | T2.1-02_895 | C-056-T2.1_02 | Both |
| | | . . | | | 007704.07 | 505405040 | | | | Private driveway overtopped, flood spills over both | 400 | TO 4 00 005 | 0.057 70.4.00 | 5.4 |
| | | Driveway | 3276 FEAVER RD | 24 | 327701.07 | 5354353.48 | 0.18 | 0.43 | 0.08 | banks | 492 | T2.1-02_905 | C-057-T2.1_02 | Both |
| | | Lot | 3286 FEAVER RD | 25 | 327682.88 | 5354315.55 | 0.10 | 0.70 | 0.07 | Spill over the left river bank, and flood the backyard and approach to the ancillary building | 492 | T2.1-02 972 | | Left |
| | | Lot | 3290 FEAVER RD | 25 | 327696.09 | 5354277.97 | 0.10 | 0.70 | 0.07 | Private driveway overtopped | - | = | C-058-T2.1_02 | |
| | | Driveway | 3290 FERVER RD | 20 | 327090.09 | 5354277.97 | 0.21 | 0.00 | 0.12 | Private driveway overtopped, flood spills over both | 492 | T2.1-02_995 | C-056-12.1_02 | Both |
| | | Driveway | 3290 FEAVER RD | 28 | 327691.94 | 5354250.35 | 0.30 | 0.69 | 0.21 | banks | 492 | T2.1-02_1022 | C-059-T2.1 02 | Both |
| | | Dilvoway | FORT WILLIAM COUNTRY | | 021001.04 | 0004200.00 | 0.00 | 0.00 | 0.21 | | 402 | 12.1 02_1022 | 0 000 12.1_02 | Doun |
| | | Driveway | CLUB | 29 | 328284.06 | 5354903.46 | 0.12 | 1.78 | 0.21 | Private driveway overtopped | 493 | T2.3-01_236 | C-060-T2.3-01 | Both |
| | | | | | | | | | - | Private pedestrain bridge overtopped, flood spills over | | | | |
| | | Driveway | 4260 COPPIN RD | 34 | 326352.82 | 5353368.20 | 0.33 | 1.25 | 0.41 | both banks | 513 | T3-01_2613 | C-022-T3_01 | Both |
| | | Road | 4259 COPPIN RD | 35 | 326344.51 | 5353361.08 | 0.27 | 0.05 | 0.01 | Coppin Rd overtopped | 513 | T3-1.1_8 | MO-T3.1_01 | Both |
| | | | | | | | | | | Private pedestrain bridge overtopped, flood spills over | | | | |
| | | Driveway | 4280 COPPIN RD | 37 | 326353.14 | 5353329.50 | 0.07 | 1.16 | 0.08 | both banks | 513 | T3-02_35 | C-023-T3_01 | Both |
| | | | | | 1 | | 1 | | | Private driveway overtopped, spill over left bank and | | | | |
| | | Driveway | 4290 COPPIN RD | 38 | 326350.73 | 5353280.94 | 0.14 | 1.34 | 0.19 | overtop Coppin Rd | 513 | T3-02_83 | C-024-T3_01 | Both |
| | | | | | | | | | | Private driveway overtopped, spill over left bank and | | | | |
| | | Driveway | 4300 COPPIN RD | 39 | 326348.19 | 5353248.89 | 0.09 | 1.82 | 0.16 | overtop Coppin Rd | 513 | T3-02_114 | C-025-T3_01 | Both |
| | | . · | | | | | | | | Private driveway overtopped, flood spills over both | | TO 4 4 TO | | |
| | | Driveway | 4279 COPPIN RD | 40 | 326325.64 | 5353315.26 | 0.13 | 0.04 | 0.00 | banks | 513 | T3-1.1_59 | MO-T3.1_01 | Both |

| Flood Event | Flow at Confluence with Kaministiquia River (m ³ /s) | Structure Type | Address | Structure ID | l | ЛТМ | Depth (m) | Velocity (m/s) | Depth × Velocity (m²/s) | Comments | Map Sheet | HEC-RAS Model Station | HEC-RAS Structure ID | Bank |
|-------------|--|--------------------|---------------------------------------|--------------|-----------|------------|-----------|----------------|----------------------------|--|-----------|--------------------------|-------------------------|------|
| | | Driveway | 4289 COPPIN RD | 41 | 326333.32 | 5353300.97 | 0.13 | 0.14 | 0.02 | Private driveway overtopped, flood spills over both banks | 513 | T3-1.1 73 | MO-T3.1 01 | Both |
| | | Diiveway | | 41 | 520555.52 | 3333300.37 | 0.13 | 0.14 | 0.02 | Spill over the left river bank, and impact on the | 515 | 15-1.1_75 | 10-13.1_01 | Doun |
| | | Ancillary Building | 4299 COPPIN RD | 43 | 326321.96 | 5353234.91 | 0.11 | 0.01 | 0.00 | ancillary building | 513 | T3-1.1_138 | | Left |
| | | Driveway | 1950 HIGHWAY 61 | 44 | 325719.50 | 5354774.41 | 0.26 | 3.12 | 0.81 | Private driveway overtopped | 490 | T4-01_808 | C-026-T4_01 | Both |
| | | Lot | 1950 HIGHWAY 61 | 45 | 325709.08 | 5354789.35 | 0.05 | 0.01 | 0.00 | Flows spill over left bank, and flood the parking lot | 490 | T4-01_814 | | Left |
| | | Road | HIGHWAY 61 | 46 | 325672.23 | 5354851.31 | 0.09 | 3.25 | 0.29 | Hwy 61 overtopped | 490 | | C-027-T4 01 | Both |
| | | Bridge | 1901 MOUNTAIN RD | 47 | 325769.40 | 5354315.21 | 0.52 | 1.59 | 0.83 | Private pedestrain bridge overtopped, flood spills over both banks | 490 | | B-067-T5_01 | Both |
| | | | | | | | | | | Private pedestrain bridge overtopped, flood spills over | | | | (|
| | | Bridge | 1941 MOUNTAIN RD | 50 | 325628.93 | 5354252.34 | 0.48 | 0.96 | 0.46 | both banks | 490 | | B-030-T5_01 | Both |
| | | Culvert | 2080 HIGHWAY 61 | 56 | 325287.46 | 5353842.17 | 0.19 | 1.11 | 0.21 | Private crossing overtopped | 512 | T5-01_1455 | c-033-T5_01 | Both |
| | | Road | LOCH LOMOND ROAD | 57 | 324953.28 | 5353846.36 | 1.24 | 0.65 | 0.81 | Loch Lomond Rd overtopped at low point (lose to Hwy 61, north of the culvert with the creek) | 511 | = | C-034-T5_01 | Both |
| | | Driveway | 2416 TRENDIAK RD | 65 | 323599.92 | 5352033.61 | 0.08 | 2.00 | 0.16 | Private driveway overtopped | 532 | T5-01_5410 | C-036-T5_01 | Both |
| | | Road | 169 LITTLE NORWAY RD | 66 | 322825.79 | 5351508.75 | 0.09 | 2.08 | 0.19 | Little Norway Rd overtopped | 553 | T5-01_6737 | C-038-T5_01 | Both |
| | | Driveway | 169 LITTLE NORWAY RD | 67 | 322817.76 | 5351545.54 | 0.51 | 0.05 | 0.03 | Flows spill over the left bank and flooded the private driveway | 553 | T5-01_6749 | | Left |
| | | Ancillary Building | 169 LITTLE NORWAY RD | 69 | 322754.24 | 5351527.88 | 0.53 | 0.06 | 0.03 | Flows spill over the left bank and flooded the ancillary building/temperary trailor | 553 | T5-01_6830 | | Left |
| | | Road | 1950 GREGOR RD | 71 | 325438.75 | 5353094.06 | 0.14 | 1.02 | 0.14 | Gregor Rd overtopped | 512 | M-06_2033 | B-005-M_06 | Both |
| | | Lot | 5200 LOCH LOMOND RD | 72 | 325047.81 | 5352598.57 | 0.10 | 0.42 | 0.04 | Flood water spill over the left bank, flood the lot and approaching to an ancillary building | 534 | M-06_2783 | | Left |
| | | Bridge | 5200 LOCH LOMOND RD | 73 | 325050.96 | 5352565.29 | 0.37 | 0.74 | 0.27 | Private pedestrain bridge overtopped, flood spill over both banks | 534 | M-06_2810 | B-006-M_06 | Both |
| | | Bridge | 2176 TRENDIAK RD | 75 | 324789.99 | 5352123.18 | 0.04 | 1.30 | 0.05 | Private pedestrain bridge overtopped, flood spill over both banks | 533 | M-07_731 | | Both |
| | | Culvert | Unknown Street #, LOCH LOMOND ROAD | 76 | 325705.84 | 5351846.58 | 0.04 | 0.16 | 0.01 | Pond berm, also function as walkway, get overtopped | 556 | | S-040-T6_01 | Both |
| | | Lot | 1855 LOCH LOMOND RD | 77 | 327027.99 | 5354107.17 | 0.89 | 0.00 | 0.00 | Spill over the left embankment of the farm pond | 556 | T6-01_1378 | | Left |
| | | Driveway | 1855 LOCH LOMOND RD | 78 | 325822.40 | 5351801.86 | 0.09 | 0.04 | 0.00 | Pond berm, also function as driveway, get overtopped | 556 | T6-01_1501 | S-041-T6_01 | Both |
| | | Culvert | Unknown Street #, LOCH LOMOND ROAD | 79 | 325929.53 | 5351697.61 | 0.21 | 0.00 | 0.00 | Pond berm, also function as walkway, get overtopped | 556 | T6-01_1640 | S-042-T6_01 | Both |
| | | Culvert | Unknown Street #, LOCH LOMOND ROAD | 81 | 325984.43 | 5351677.03 | 0.34 | 2.46 | 0.84 | Culvert overtopped | 556 | T6-01_1719 | C-043-T6_01 | Both |
| | | Driveway | Unknown Street #, LOCH LOMOND ROAD | 82 | 325992.50 | 5351665.14 | 0.02 | 0.41 | 0.01 | Private driveway overtopped | 556 | T6-01_1732 | C-044-T6_01 | Both |

Critical Flood Criteria: >0.3m, >1.7 m/s, depth × velocity > 0.4 m²/s

| International (minical) International | | Flow at Confluence with | | | | | | | | Depth × Velocity | | | HEC-RAS Mode | HEC-RAS | |
|--|-------------|---|----------------|-------------------|--------------|------------|--------------|-----------|----------------|------------------|---|-----------|--------------|---------------|-------|
| Image Total Biology Text 3 30860.06 5558226 0.13 0.44 0.06 Proof inflamment contrigont 446 Tricling Soc Tricling Soc Image 555 MONTAN ND 5 29260.44 5556076.66 0.01 0.00 Proof inflamment contrigont 471 T203.126 5556077.20 Image 555 MONTAN ND 6 29260.74 5551674.65 0.05 0.06 0.00 Proof inflamment contrigont 471 T203.980 T27.723.987 Image Michard ND 6 29260.71 5551874.65 0.55 0.68 0.00 Proof inflamment contrigont contrigont 472 T203.1715 C015 T2.03 Image Michard ND 11 29271.65 555597.056 0.12 110 0.15 Proof inflamment contrigont contrigent contrigont contrigent contrigont contrigont contrigo | Flood Event | Kaministiquia River (m ³ /s) | Structure Type | Address | Structure ID | | UTM | Depth (m) | Velocity (m/s) | . (m²/s) | Comments | Map Sheet | Station | Structure ID | Bank |
| Column Observed State MULTIAN IND 4 32886.91 0.08 1.21 0.10 Pour Industance compand 471 72.0,740 50.17.2,00 L Obsert Mixtorian NID 6 32986.71 50.5701.66 1.17 0.01 Cline Cline< | 50 Year | 19.7 | Bridge | 1010 BROOKVIEW PL | 2 | 327017.10 | 5355618.68 | 0.10 | 0.42 | 0.04 | Private pedenstrain bridge overtopped | 470 | T1-01_874 | | Both |
| Integra Biology Biology Biology Biology Biology Biology Biology Annual Stress Biology Annual Stress Annual Stres Annual Stress A | | | Bridge | 1030 BROOKVIEW PL | 3 | 326940.45 | 5355622.69 | 0.13 | 0.64 | 0.08 | Private pedenstrain bridge overtopped | 469 | T1-01_950 | | Both |
| Line Diage Diol MUNTAIN RR 5 32080.44 SS001140 O.01 O.00 Constant 4/1 T 20.0 (bit state) Cul-Met GS MOUNTAIN RD 6 320867.57 SS70166 0.01 0.01 0.00 Product interpretation reprint 4/1 T 20.0 (bit state) Develop GS MOUNTAIN RD 8 32991.17 GS5107.66 0.05 0.06 0.00 Product interpretation reprint 4/2 T-50.0 (bit state) 4/2 T-20.0 (bit state) 4/2 T-20.0 (bit state) 6/2 T-20.0 (bit state) 7/2 T-20.0 (bit T-20.0 (bit state) 7/2 | | | Culvert | 955 MOUNTAIN RD | 4 | 328869.36 | 5355634.51 | 0.08 | 1.21 | 0.10 | Pond embankment overtopped | 471 | T2-03_740 | S-011-T2_03 | Both |
| Chief SM CAUPTAIN ND 6 SMB007.76 D017 D011 D011 <thd011< th=""> <thd011< th=""> <thd011< th=""></thd011<></thd011<></thd011<> | | | | | | | | | | | Flows spill over left bank, and overtop a private | | | | |
| Dealing Universe Dealing Universe Dealing | | | | | 5 | | | 0.01 | | 0.00 | | 471 | — | | Left |
| Image: Income Lowon RCAD 6 Description Soliton Action Alg Teol, 1176 Function Image: Income Action Actio | | | Culvert | | 6 | 328985.73 | 5355701.66 | 0.17 | 0.91 | 0.16 | 1 1 5 | 471 | T2-03_882 | | Both |
| Image: Constraint of the second sec | | | | | | | | | | | | 1=0 | | | |
| Image: mark mark mark mark mark mark mark mark | | | Dwelling | LOMOND ROAD | 8 | 325961.17 | 5351674.65 | 0.05 | 0.08 | 0.00 | | 472 | 16-01_1715 | | Left |
| Image: Second | | | Driveway | 915 MOUNTAIN RD | ٩ | 320037.03 | 5355812 14 | 0.12 | 1 /3 | 0.17 | | 172 | T2-03 1017 | C-015-T2 03 | Both |
| Image: bit weak Driveway | | | Dilveway | | 5 | 323037.33 | 3333012.14 | 0.12 | 1.45 | 0.17 | | 472 | 12-03_1017 | 0-013-12_03 | Doun |
| Image: Point WILLIAM COUNTY CLUB 14 339:51 ml 339:51 ml 555:10 ml 0.77 0.08 0.07 Make protection branks 47 72-10 ml 0-40-72-10 ml Image: Point WILLIAM COUNTY CLUB 15 339:51 ml 535:00 ml 1.00 0.83 0.01 Make protection branks 471 72-10 ml 0-40-72-10 ml Image: Point WILLIAM COUNTRY CLUB 15 339:41 ml 535:00 ml 0.10 0.83 0.01 Make protection branks 493 12-10 ml 0-40-72-10 ml Image: Point WILLIAM COUNTRY CLUB 17 320:92 ml 55:400 ml 0.11 0.15 branks 493 12-10 ml 0-40-72.10 ml Image: Point WILLIAM COUNTRY CLUB 19 32790.21 55:400 ml 0.21 0.71 0.15 branks Pariage clubrary overlooped, flood splits over both flood ml 420 12-10 ml 0-40+72.1 02 Image: Point WILLIAM COUNTRY CLUB 18 32790.21 55:400.80 0.11 0.22 0.05 Pariage clubrary overlooped, flood splits over both flood ml 420 12-10 grd 0-40+72.1 02 | | | Driveway | 875 MOUNTAIN RD | 11 | 329121.45 | 5355910.58 | 0.12 | 1.10 | 0.13 | | 472 | T2-03 1159 | C-018-T2 03 | Both |
| Pick William Country 15 S2814136 S35002.69 1.00 0.83 0.01 Pickate packataria histige wertaged. floot splits 4/2 TL-10.1.90 Diversity FORT WILLAM COUNTRY 16 328698.12 0.12 0.76 0.09 Pickate packataria histige wertaged. floot splits over both 4/3 TL-10.2 1 Cut-17.2 0.01 Pickate packataria histige wertaged. floot splits over both 4/3 TL-10.2 1 Cut-17.2 0.01 Pickate packataria histige wertaged. floot splits over both 4/3 TL-10.2 1 Cut-17.2 0.01 Pickate packataria histige wertaged. floot splits over both 4/3 TL-10.2 0 Cut-17.2 | | | , | | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| Image CLUB CLUB CLUB CLUB S2814.30 S32602.00 1.00 0.81 Out Norkain 471 TL10.100 CluB CLUB Divewaly CLUB CLUB S28069.10 S35495.12 0.72 0.78 0.09 Dives driversy overtopped, fload splits over both 433 TL10.2 C4047.12 C4047 | | | Driveway | | 14 | 328151.60 | 5355106.65 | 0.10 | 0.77 | 0.08 | | 471 | T2.1-01_57 | C-046-T2.1_01 | Both |
| Optimized OPRT WILLIAM COUNTRY CLUB 16 328/08.10 535485.12 0.12 0.76 0.08 banks 0 43 72.102_11 0.047.71_01 Culvert Culvert Culvert Culvert Culvert 77.102_17 C.048.72_1.02 Private driveway overtopped, flood spils over both banks 433 72.102_17 C.048.72_1.02 Culvert Culvert CULW 11 328094.20 535485.83 0.12 0.71 0.16 banks Private driveway overtopped, flood spils over both toway 482 72.102_217 C.048-72.102 Culvert FORT WILLIAM COUNTRY FORT WILLIAM COUNTRY 18 32780.29 535480.80 0.19 0.28 0.04 0.12 banks Private driveway overtopped, flood spils over both toway 482 72.140_2.472 C.063.721.02 Driveway CLUB 20 32770.07 535487.89 0.11 0.82 0.03 Private driveway overtopped, flood spils over both toway 492 72.140_2.472 C.063.721.02 Driveway 3240 FEAVER RD 22 327701.07 535436 | | | | | | | | | | | | | | | |
| Image: CLUB | | | Bridge | | 15 | 328141.36 | 5355092.69 | 1.09 | 0.83 | 0.91 | | 471 | T2.1-01_69 | | Both |
| Chief Club FORT WILLIAM COUNTRY CLUB 1/1 32803420 555490.9 0.21 0.21 0.15 Private diverso vertopped, flood spills over both banks 443 7.2.9.2.7.6 C-0.48-T2.1.02 Cubert Cubert FORT WILLIAM COUNTRY CLUB 18 32780.29 535490.60 0.19 0.28 0.05 Private driverso vertopped, flood spills over both banks 443 72.10.2, 76 C-048-T2.1.02 Cubert Cubert FORT WILLIAM COUNTRY CLUB 19 32780.29 535490.66 0.19 0.28 0.01 Private driverso vertopped, flood spills over both banks 442 72.10.2, 76 C-048-T2.1.02 Cubert FORT WILLIAM COUNTRY CLUB 19 32780.29 535493.68 0.24 1.27 0.30 banks 442 72.10.2, 76 C-048-T2.1.02 Cubert Driveway 340 FEAVER RD 2.3 32706.01 535433.48 0.40 0.08 banks 6.03 brive driverso vertopped, flood spills over both banks 492 72.10.2, 76 C-048-T2.1.02 Cubereway 3286 FEAVER RD 2.3 | | | D.: | | 10 | 000000.40 | 505405540 | 0.40 | 0.70 | 0.00 | | 100 | TO 4 00 440 | 0.047 T0.4.00 | Dath |
| Image: Cubert Cubert <th<< td=""><td></td><td></td><td>Driveway</td><td></td><td>16</td><td>328069.10</td><td>5354955.12</td><td>0.12</td><td>0.76</td><td>0.09</td><td></td><td>493</td><td>12.1-02_118</td><td>C-047-12.1_02</td><td>Both</td></th<<> | | | Driveway | | 16 | 328069.10 | 5354955.12 | 0.12 | 0.76 | 0.09 | | 493 | 12.1-02_118 | C-047-12.1_02 | Both |
| PORT WILLIAM COUNTRY Driveway Private driveway overtopped. flood spills over both CLUB 42 7.1-02_211 C-04P-T2.1-02 Curvert CLUB 5354806.00 0.19 0.28 0.05 briveway overtopped. flood spills over both CLUB 42 7.1-02_211 C-04P-T2.1-02 C-055-T2.1-02 C-055-T2.1-02 <td< td=""><td></td><td></td><td>Culvert</td><td></td><td>17</td><td>328034 20</td><td>5354909 19</td><td>0.21</td><td>0.71</td><td>0.15</td><td></td><td>493</td><td>T2 1-02 176</td><td>C-048-T2 1 02</td><td>Both</td></td<> | | | Culvert | | 17 | 328034 20 | 5354909 19 | 0.21 | 0.71 | 0.15 | | 493 | T2 1-02 176 | C-048-T2 1 02 | Both |
| Image Driveway CLUB 18 32790.29 535408.60 0.19 0.28 0.05 banks 420 72.10.2 Coldver1 Co | | | ouven | | | 020004.20 | 0004000.10 | 0.21 | 0.71 | 0.10 | | 400 | 12.1 02_110 | 0 040 12.1_02 | Dotti |
| Cubert FORT WILLIAM COUNTRY CLUB 19 32700.7 5354721.60 0.36 0.12 Private cubert overtopped, flood spills over both banks 492 72.102_477 C-652-T2.102 Private driveway CLUB 20 32785.291 5354968.36 0.24 1.27 0.30 Private driveway overtopped, flood spills over both banks 492 T2.102_474 C-652-T2.102 Private driveway 3240 FEA/VER RD 22 327738.31 535476.96 0.11 0.62 0.09 Private driveway overtopped, flood spills over both banks 492 T2.102_474 C-652-T2.102 Private driveway 3240 FEA/VER RD 22 327706.01 555492.18 0.00 0.15 0.03 Banks 492 T2.102_495 C-658-T2.102 Private driveway 3266 FEA/VER RD 24 327706.01 555492.48 0.15 0.39 Banks 605 Banks 492 T2.102_95 C-658-T2.1.02 Private driveway 3266 FEA/VER RD 28 327969.9 535427.16 0.09 Banks 6055 Banks F9144 driv | | | Driveway | | 18 | 327980.29 | 5354808.60 | 0.19 | 0.28 | 0.05 | | 492 | T2.1-02_291 | C-049-T2.1_02 | Both |
| Private Private <t< td=""><td></td><td></td><td>,</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Private culvert overtopped, flood spills over both</td><td></td><td></td><td>_</td><td></td></t<> | | | , | | | | | | | | Private culvert overtopped, flood spills over both | | | _ | |
| Image: Monometry CLUB 20 3278 52.91 5334696.36 0.24 1.27 0.30 banks Made driversy order pack flood spills over both banks 422 7.10.2, 473 Good Social 2.10.2 Image: Monometry Briveway 3240 FEAVER RD 2.2 3277 93.31 535476.90 0.11 0.82 0.06 Prode driversy order pack flood spills over both banks 422 7.10.2, 473 CodeS 7.2.1.02 Image: Monometry 3266 FEAVER RD 2.3 3277 06.01 5354362.18 0.020 0.15 0.03 Prode driversy order pack flood spills over both banks 422 7.10.2, 495 CodeS 7.2.1.02 Image: Monometry 3266 FEAVER RD 2.4 3277 01.07 535435.48 0.15 0.39 0.06 Sands driversy order pack flood spills over both banks 422 7.10.2, 495 CodeS 72.1.02 Image: Monometry 2.01 2.026 FEAVER RD 2.4 3276 96.0 535437.45 0.18 0.05 and approach to be ancillary building 422 7.10.2, 495 CodeS 72.1.02 Image: Monometry 2.01 FEAVER RD 2.8 32769.09 535450.03 0.68 0.65 0.05 and approach to be | | | Culvert | | 19 | 327900.37 | 5354721.69 | 0.35 | 0.34 | 0.12 | banks | 492 | T2.1-02_417 | C-052-T2.1_02 | Both |
| Private driveway overtopped, flood spills over both Private driveway overtopped, flood spills over both 492 T2.102_750 C-055 T2.1.02 Driveway 3206 FEAVER RD 23 327706.01 5354476.96 0.11 0.82 0.09 barks 492 T2.102_750 C-055 T2.1.02 Driveway 3206 FEAVER RD 23 327706.01 5354362.18 0.20 0.15 0.03 barks 492 T2.102_985 C-065 T2.1.02 Driveway 3276 FEAVER RD 24 327701.07 535435.348 0.15 0.39 0.06 barks 492 T2.102_985 C-065 T2.1.02 Driveway 3206 FEAVER RD 25 327685.09 5354315.55 0.08 0.66 0.05 and approach to the ancillary building 492 T2.1-02_985 C-065 T2.1.02 Driveway 3206 FEAVER RD 28 327691.49 5354250.35 0.28 0.62 0.017 barks 72.1-02_985 C-069-T2.1.02 Driveway 3205 FEAVER RD 28 327691.49 5354250.35 0.62 0.62 | | | | | | | | | | | | | | | |
| Image State State <th< td=""><td></td><td></td><td>Driveway</td><td>CLUB</td><td>20</td><td>327852.91</td><td>5354696.36</td><td>0.24</td><td>1.27</td><td>0.30</td><td></td><td>492</td><td>T2.1-02_473</td><td>C-053-T2.1_02</td><td>Both</td></th<> | | | Driveway | CLUB | 20 | 327852.91 | 5354696.36 | 0.24 | 1.27 | 0.30 | | 492 | T2.1-02_473 | C-053-T2.1_02 | Both |
| Driveway 3266 FEAVER RD 23 327706.01 5354362.18 0.20 0.15 0.03 Private driveway overlopped, flood spills over both barks 482 T2.102_895 C-056-T2.1_02 Lot 3266 FEAVER RD 24 327706.01 5354362.18 0.20 0.15 0.03 Private driveway overlopped, flood spills over both barks 482 T2.102_895 C-056-T2.1_02 Lot 3266 FEAVER RD 24 327706.0 5354353.48 0.15 0.39 0.06 barks 492 T2.102_905 C-056-T2.1_02 Driveway 3290 FEAVER RD 26 327696.09 535427.77 0.19 1.26 0.24 Private driveway overlopped 492 T2.102_995 C-056-T2.1_02 Driveway 3290 FEAVER RD 28 327691.94 5354250.35 0.28 0.62 0.17 barks 492 T2.102_995 C-056-T2.1_02 Driveway 3290 FEAVER RD 28 327691.94 535427.77 0.19 1.26 0.26 0.17 barks 513 T3.01_2.01.02 C-056-T2. | | | | | 22 | 227720.24 | E2E 4 470 00 | 0.11 | 0.92 | 0.00 | | 402 | TO 1 00 750 | C 055 TO 1 00 | Both |
| Image: bit in the priveway 3266 FEAVER RD 23 32706.01 5354362.18 0.20 0.15 0.03 banks 492 T2.102.985 C-066-T2.1.02 Driveway 3276 FEAVER RD 24 32701.07 535433.88 0.15 0.39 0.06 banks 500.00 5 | | | Driveway | 3240 PEAVER RD | 22 | 321139.31 | 5354476.96 | 0.11 | 0.62 | 0.09 | | 492 | 12.1-02_750 | C-055-12.1_02 | BOIN |
| Driveway 3276 FEAVER RD 24 327701.07 5354353.48 0.15 0.39 0.06 banks Private driveway overtopped, flood spills over both banks 492 T2.1-02_905 C-057-T2.1_02 Lot 3286 FEAVER RD 25 327682.88 5354353.48 0.15 0.39 0.06 banks banks 492 T2.1-02_905 C-057-T2.1_02 Lot 3280 FEAVER RD 26 327682.88 5354375.55 0.08 0.65 0.05 and approach to the aventopped, flood spills over both approach to the aventopped 492 T2.1-02_972 C-058-T2.1_02 Driveway 3200 FEAVER RD 26 327691.94 5354250.35 0.28 0.62 0.17 banks 492 T2.1-02_912 C-059-T2.1_02 Driveway CLUB 29 328284.66 535490.36 0.28 0.62 0.17 banks 492 T2.1-02_912 C-059-T2.1_02 Driveway 4260 COPPIN RD 34 328582.82 5354303.46 0.05 1.66 0.08 Private driveway overtopped, flood spills over < | | | Driveway | 3266 FEAVER RD | 23 | 327706.01 | 5354362.18 | 0.20 | 0.15 | 0.03 | | 492 | T2.1-02 895 | C-056-T2.1 02 | Both |
| Interview Interview Interview Interview Interview Spill over the left river bank, and flood the backyard and approach to the ancillary building How Interview I | | | 2 | | | 021100101 | 0001002110 | 0.20 | 0.10 | 0.00 | Private driveway overtopped, flood spills over both | .02 | | 0 000 12.1_02 | |
| Image: bit im | | | Driveway | 3276 FEAVER RD | 24 | 327701.07 | 5354353.48 | 0.15 | 0.39 | 0.06 | banks | 492 | T2.1-02_905 | C-057-T2.1_02 | Both |
| Driveway 3290 FEAVER RD 26 327696.09 5354277.97 0.19 1.25 0.24 Private driveway overtopped 492 T2.1-02_995 C-058-T2.1_02 Driveway 3290 FEAVER RD 28 327691.94 5354250.35 0.28 0.62 0.17 banks 492 T2.1-02_1022 C-058-T2.1_02 Driveway CLUB 29 328284.06 5354903.46 0.05 1.66 0.08 Private driveway overtopped 493 T2.3-01_226 C-060-T2.3-01 Driveway 4260 COPPIN RD 34 326352.82 5353368.20 0.28 1.43 0.40 both banks 513 T3-01_2613 C-022-T3_01 Driveway 4260 COPPIN RD 34 326352.82 5353361.08 0.25 0.28 0.07 Coppin Rd overtopped 513 T3-01_2613 C-022-T3_01 Driveway 4280 COPPIN RD 37 326334.51 5353329.50 0.05 1.02 0.05 both banks 513 T3-1.1_8 MO-T3.1_01 Driveway 4280 COPPIN RD <td></td> | | | | | | | | | | | | | | | |
| Driveway 3290 FAVER RD 28 327691.94 5354250.35 0.08 0.00 Private driveway overtopped, flood spills over both banks 492 T2.1-02_1022 C-059-T2.1_02 Driveway FORT WILLIAM COUNTRY CLUB 29 328284.06 5354903.46 0.05 1.66 0.08 Private driveway overtopped, flood spills over both banks 492 T2.1-02_1022 C-059-T2.1_02 Driveway CLUB 29 328284.06 5354903.46 0.05 1.66 0.08 Private driveway overtopped 493 T2.3-01_236 C-060-T2.3-01 Driveway 4260 COPPIN RD 34 326352.82 5353368.20 0.28 1.43 0.40 both banks 513 T3-01_2613 C-022-T3_01 Driveway 4260 COPPIN RD 35 326334.15 5353361.08 0.25 0.28 0.07 Coppin Rd overtopped 513 T3-01_2613 C-022-T3_01 Driveway 4280 COPPIN RD 37 326353.14 5353361.08 0.25 0.28 0.07 Coppin Rd overtopped, flood spills over brivate driveway overtopped, spill over left bank and | | | Lot | | 25 | 327682.88 | 5354315.55 | 0.08 | 0.65 | 0.05 | | 492 | T2.1-02_972 | | Left |
| Image: Normal state Driveway 3290 FEAVER RD 28 327691.94 5354250.35 0.28 0.62 0.17 banks Mark | | | Driveway | 3290 FEAVER RD | 26 | 327696.09 | 5354277.97 | 0.19 | 1.25 | 0.24 | , | 492 | T2.1-02_995 | C-058-T2.1_02 | Both |
| FORT WILLIAM COUNTRY CLUB 29 328284.06 5354903.46 0.05 1.66 0.08 Private driveway overtopped 493 T2.3-01_236 C-060-T2.3-01 Driveway 4260 COPPIN RD 34 326352.82 5353368.20 0.28 1.43 0.40 both banks 513 T3-01_2613 C-022-T3_01 Column Road 4259 COPPIN RD 35 326344.51 5353361.08 0.25 0.28 0.07 Copin Rd overtopped 513 T3-01_2613 C-022-T3_01 Driveway 4280 COPPIN RD 37 326353.14 5353329.50 0.05 1.02 0.05 private predestrain bridge overtopped, flood spills over both banks 513 T3-02_35 C-024-T3_01 Driveway 4280 COPPIN RD 37 326350.73 5353280.94 0.11 1.21 0.13 overtop Copin Rd 513 T3-02_35 C-024-T3_01 Driveway 4290 COPPIN RD 38 326350.73 5353280.94 0.11 1.21 0.13 overtop Copin Rd 513 T3-02_2114 C-024-T3_01 | | | | | | | | | | | | | | | |
| Image: Normal system Driveway CLUB 29 32828.06 535398.20 0.05 1.66 0.08 Private predestrain bridge overtopped, flood spills our both dots overtopped, spill over left dots and both dots overtopped, spill over left dots and both dots overtopped, spill over left dots and both dots overtopped, flood spills our both dots ov | | | Driveway | | 28 | 327691.94 | 5354250.35 | 0.28 | 0.62 | 0.17 | banks | 492 | T2.1-02_1022 | C-059-T2.1_02 | Both |
| Image: bit weak Add COPPIN RD 34 326352.82 5353368.20 0.28 1.43 0.40 Private pedestrain bridge overtopped, flood spills over both banks 513 T3-01_2613 C-022-T3_01 Image: Comparison of the comparison | | | Drivowov | | 20 | 228284.06 | 5254002.46 | 0.05 | 1.66 | 0.08 | Private driveway overtopped | 403 | T2 2 01 226 | C 060 T2 2 01 | Both |
| Image: Notice way Vacuum | | | Dilveway | | 29 | 320204.00 | 3334903.40 | 0.05 | 1.00 | 0.00 | , | 493 | 12.3-01_230 | 0-000-12.3-01 | Boun |
| Road 4259 COPPIN RD 35 326344.51 5353361.08 0.25 0.28 0.07 Coppin Rd overtopped 513 T3-1.8 MO-T3.1_01 Driveway 4280 COPPIN RD 37 326353.14 5353329.50 0.05 1.02 0.05 Private pedestrain bridge overtopped, flood spills over both banks 513 T3-02_35 C-023-T3_01 Driveway 4290 COPPIN RD 38 326350.73 5353280.94 0.11 1.21 0.13 Overtop Coppin Rd 513 T3-02_83 C-024-T3_01 Driveway 4290 COPPIN RD 38 326350.73 5353280.94 0.11 1.21 0.13 Overtop Coppin Rd 513 T3-02_83 C-024-T3_01 Driveway 4300 COPPIN RD 39 326348.19 5353248.89 0.04 1.72 0.07 Overtop Coppin Rd 513 T3-02_14 C-025-T3_01 Driveway 4279 COPPIN RD 40 326325.64 5353315.26 0.11 0.94 0.10 Private driveway overtopped, flood spills over both banks 513 T3-1.1_59 MO-T3.1_01< | | | Driveway | 4260 COPPIN RD | 34 | 326352.82 | 5353368.20 | 0.28 | 1.43 | 0.40 | | 513 | T3-01 2613 | C-022-T3 01 | Both |
| Driveway 4280 COPPIN RD 37 326353.14 5353329.50 0.05 1.02 0.05 Private pedestrain bridge overtopped, flood spills over both banks 513 T3-02_35 C-023-T3_01 Driveway 4290 COPPIN RD 38 326350.73 5353328.94 0.11 1.21 0.13 Overtop Coppin Rd overtop Coppin Rd 513 T3-02_83 C-024-T3_01 Driveway 4300 COPPIN RD 39 326348.19 5353248.89 0.04 1.72 0.07 Overtop Coppin Rd overtop Coppin Rd 513 T3-02_83 C-025-T3_01 Driveway 4279 COPPIN RD 39 326325.64 5353315.26 0.11 0.94 0.10 Private driveway overtopped, spill over left bank and overtop Coppin Rd 513 T3-02_114 C-025-T3_01 Driveway 4279 COPPIN RD 40 326325.64 5353315.26 0.11 0.94 0.10 Private driveway overtopped, flood spills over both banks 513 T3-1.1_59 MO-T3.1_01 | | | | | | | | | | | Coppin Rd overtopped | | | | Both |
| Image: constraint of the second of the sec | | | | | | 020011101 | | 0.20 | 0.20 | 0.07 | | 0.0 | | | 2011 |
| Image: Driveway Driveway 4290 COPPIN RD 38 326350.73 5353280.94 0.11 1.21 0.13 overtop Coppin Rd 513 T3-02_83 C-024-T3_01 Driveway Driveway 4300 COPPIN RD 39 326348.19 5353248.89 0.04 1.72 0.07 Private driveway overtopped, spill over left bank and overtop Coppin Rd 513 T3-02_114 C-025-T3_01 Driveway Driveway 4279 COPPIN RD 40 326325.64 5353315.26 0.11 0.94 0.10 Private driveway overtopped, flood spills over both banks T3-11_59 MO-T3.1_01 | | | Driveway | 4280 COPPIN RD | 37 | 326353.14 | 5353329.50 | 0.05 | 1.02 | 0.05 | | 513 | T3-02_35 | C-023-T3_01 | Both |
| Driveway 4300 COPPIN RD 39 326348.19 5353248.89 0.04 1.72 0.07 Private driveway overtopped, spill over left bank and overtop Coppin Rd 513 T3-02_114 C-025-T3_01 Driveway 4279 COPPIN RD 40 326325.64 5353315.26 0.11 0.94 0.10 Private driveway overtopped, flood spills over both banks 513 T3-1.1_59 MO-T3.1_01 | | | | | | | | | | | | | | | |
| Driveway 4300 COPPIN RD 39 326348.19 5353248.89 0.04 1.72 0.07 overtop Coppin Rd 513 T3-02_114 C-025-T3_01 Driveway Driveway 4279 COPPIN RD 40 326325.64 5353315.26 0.11 0.94 0.10 banks 513 T3-11_59 MO-T3.1_01 | | | Driveway | 4290 COPPIN RD | 38 | 326350.73 | 5353280.94 | 0.11 | 1.21 | 0.13 | | 513 | T3-02_83 | C-024-T3_01 | Both |
| Driveway 4279 COPPIN RD 40 326325.64 5353315.26 0.11 0.94 0.10 Private driveway overtopped, flood spills over both banks 513 T3-1.1_59 MO-T3.1_01 | | | 5 | | | 0000.00.00 | 50500 10 00 | | | 0.07 | | | To 00 111 | | D. II |
| Driveway 4279 COPPIN RD 40 326325.64 5353315.26 0.11 0.94 0.10 banks 513 T3-1.1_59 MO-T3.1_01 | | | Driveway | 4300 COPPIN RD | 39 | 326348.19 | 5353248.89 | 0.04 | 1.72 | 0.07 | | 513 | 13-02_114 | C-025-T3_01 | Both |
| | | | Drivowov | | 40 | 226225 64 | 5252245.26 | 0.11 | 0.04 | 0.40 | | E10 | T2 1 1 50 | MO T2 1 01 | Roth |
| | | | Diiveway | | 40 | 320323.04 | 0000310.20 | 0.11 | 0.94 | 0.10 | | 513 | 13-1.1_59 | 10-13.1_01 | Both |
| Driveway 4289 COPPIN RD 41 326333.32 5353300.97 0.11 0.09 0.01 banks 513 T3-1.1_73 MO-T3.1_01 | | | Driveway | 4289 COPPIN RD | 41 | 326333 32 | 5353300 97 | 0.11 | 0.09 | 0.01 | | 513 | T3-1.1 73 | MO-T3.1_01 | Both |

| Flood Event | Flow at Confluence with Kaministiquia River (m ³ /s) | Structure Type | Address | Structure ID | l | JTM | Depth (m) | Velocity (m/s) | Depth × Velocity (m²/s) | Comments | Map Sheet | HEC-RAS Model Station | HEC-RAS Structure ID | Bank |
|-------------|--|--------------------|---------------------------------------|--------------|-----------|------------|-----------|----------------|----------------------------|--|-----------|--------------------------|-------------------------|------|
| | | | | | | | | | | Spill over the left river bank, and impact on the | | | | 1 |
| | | Ancillary Building | 4299 COPPIN RD | 43 | 326321.96 | 5353234.91 | 0.11 | 0.00 | 0.00 | ancillary building | 513 | T3-1.1_138 | | Left |
| | | Driveway | 1950 HIGHWAY 61 | 44 | 325719.50 | 5354774.41 | 0.24 | 2.94 | 0.71 | Private driveway overtopped | 490 | T4-01_808 | C-026-T4_01 | Both |
| | | Lot | 1950 HIGHWAY 61 | 45 | 325709.08 | 5354789.35 | 0.03 | 0.01 | 0.00 | Flows spill over left bank, and flood the parking lot | 490 | T4-01_814 | | Left |
| | | Road | HIGHWAY 61 | 46 | 325672.23 | 5354851.31 | 0.02 | 3.09 | 0.06 | Hwy 61 overtopped | 490 | T4-01_986 | C-027-T4_01 | Both |
| | | Bridge | 1901 MOUNTAIN RD | 47 | 325769.40 | 5354315.21 | 0.50 | 0.83 | 0.42 | Private pedestrain bridge overtopped, flood spills over both banks | 490 | T5-01_545 | B-067-T5_01 | Both |
| | | Bridge | 1941 MOUNTAIN RD | 50 | 325628.93 | 5354252.34 | 0.38 | 1.00 | 0.38 | Private pedestrain bridge overtopped, flood spills over both banks | 490 | T5-01_731 | B-030-T5_01 | Both |
| | | Culvert | 2080 HIGHWAY 61 | 56 | 325287.46 | 5353842.17 | 0.16 | 1.10 | 0.18 | Private crossing overtopped | 512 | T5-01_1455 | c-033-T5_01 | Both |
| | | Road | LOCH LOMOND ROAD | 57 | 324953.28 | 5353846.36 | 1.15 | 0.97 | 1.12 | Loch Lomond Rd overtopped at low point (lose to Hwy 61, north of the culvert with the creek) | 511 | T5-01_1959 | C-034-T5_01 | Both |
| | | Driveway | 2416 TRENDIAK RD | 65 | 323599.92 | 5352033.61 | 0.06 | 1.87 | 0.11 | Private driveway overtopped | 532 | T5-01_5410 | C-036-T5_01 | Both |
| | | Road | 169 LITTLE NORWAY RD | 66 | 322825.79 | 5351508.75 | 0.08 | 1.70 | 0.14 | Little Norway Rd overtopped | 553 | T5-01_6737 | C-038-T5_01 | Both |
| | | Driveway | 169 LITTLE NORWAY RD | 67 | 322817.76 | 5351545.54 | 0.50 | 0.04 | 0.02 | Flows spill over the left bank and flooded the private driveway | 553 | T5-01_6749 | | Left |
| | | Ancillary Building | 169 LITTLE NORWAY RD | 69 | 322754.24 | 5351527.88 | 0.51 | 0.05 | 0.03 | Flows spill over the left bank and flooded the ancillary building/temperary trailor | 553 | T5-01_6830 | | Left |
| | | Road | 1950 GREGOR RD | 71 | 325438.75 | 5353094.06 | 0.12 | 1.03 | 0.12 | Gregor Rd overtopped | 512 | M-06_2033 | B-005-M_06 | Both |
| | | Lot | 5200 LOCH LOMOND RD | 72 | 325047.81 | 5352598.57 | 0.07 | 0.37 | 0.02 | Flood water spill over the left bank, flood the lot and approaching to an ancillary building | 534 | M-06_2783 | | Left |
| | | Bridge | 5200 LOCH LOMOND RD | 73 | 325050.96 | 5352565.29 | 0.25 | 0.76 | 0.19 | Private pedestrain bridge overtopped, flood spill over both banks | 534 | M-06_2810 | B-006-M_06 | Both |
| | | Culvert | Unknown Street #, LOCH LOMOND ROAD | 76 | 325705.84 | 5351846.58 | 0.03 | 0.14 | 0.00 | Pond berm, also function as walkway, get overtopped | 556 | T6-01_1370 | S-040-T6_01 | Both |
| | | Lot | 1855 LOCH LOMOND RD | 77 | 327027.99 | 5354107.17 | 0.88 | 0.00 | 0.00 | Spill over the left embankment of the farm pond | 556 | 6 T6-01_1378 | | Left |
| | | Driveway | 1855 LOCH LOMOND RD | 78 | 325822.40 | 5351801.86 | 0.08 | 0.03 | 0.00 | Pond berm, also function as driveway, get overtopped | 556 | T6-01_1501 | S-041-T6_01 | Both |
| | | Culvert | Unknown Street #, LOCH LOMOND ROAD | 79 | 325929.53 | 5351697.61 | 0.20 | 0.92 | 0.18 | Pond berm, also function as walkway, get overtopped | 556 | T6-01_1640 | S-042-T6_01 | Both |
| | | Culvert | Unknown Street #, LOCH LOMOND ROAD | 81 | 325984.43 | 5351677.03 | 0.32 | 2.50 | 0.80 | Culvert overtopped | 556 | T6-01_1719 | C-043-T6_01 | Both |

Critical Flood Criteria: >0.3m, >1.7 m/s, depth × velocity > 0.4 m²/s

| | Flow at Confluence with | | | | | | | | Depth × Velocity | | | HEC-RAS Model | HEC-RAS | |
|-------------|---|--------------------|---|---------------------------------------|-----------|-------------|-----------|----------------|------------------|---|------------|---------------|---------------|-------|
| Flood Event | Kaministiquia River (m ³ /s) | Structure Type | Address | Structure ID | UT | M | Depth (m) | Velocity (m/s) | (m²/s) | Comments | Map Sheet | Station | Structure ID | Bank |
| 25 Year | | Bridge | 1010 BROOKVIEW PL | 2 | 327017.10 | 5355618.68 | 0.07 | 0.40 | 0.03 | Private pedenstrain bridge overtopped | 470 | T1-01_874 | | Both |
| | | Bridge | 1030 BROOKVIEW PL | 3 | 326940.45 | 5355622.69 | 0.12 | 0.57 | 0.07 | Private pedenstrain bridge overtopped | 469 | T1-01_950 | | Both |
| | | Culvert | 955 MOUNTAIN RD | 4 | 328869.36 | 5355634.51 | 0.07 | 1.16 | 0.08 | Pond embankment overtopped | 471 | T2-03_740 | S-011-T2_03 | Both |
| | | Culvert | 955 MOUNTAIN RD | 6 | 328985.73 | 5355701.66 | 0.16 | 0.81 | 0.13 | Spill over a private crossing | 471 | T2-03_882 | | Both |
| | | | Unknown Street #, LOCH | , , , , , , , , , , , , , , , , , , , | 0200000 | | 0.10 | 0.01 | 0.10 | Flood water spill over the left bank the the pond, and | | | | 2011 |
| | | Dwelling | LOMOND ROAD | 8 | 325961.17 | 5351674.65 | 0.04 | 0.06 | 0.00 | imapct on the dwelling building next to it. | 472 | T6-01_1715 | | Left |
| | | | | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | | Driveway | 915 MOUNTAIN RD | 9 | 329037.93 | 5355812.14 | 0.08 | 1.38 | 0.11 | banks | 472 | T2-03_1017 | C-015-T2_03 | Both |
| | | | | | | | | | | Private driveway overtopped, flood spills over both | 170 | | | |
| | | Driveway | 875 MOUNTAIN RD FORT WILLIAM COUNTRY | 11 | 329121.45 | 5355910.58 | 0.10 | 1.08 | 0.11 | banks | 472 | T2-03_1159 | C-018-T2_03 | Both |
| | | Pridao | CLUB | 15 | 328141.36 | 5355092.69 | 0.95 | 0.81 | 0.78 | Private pedenstrain bridge overtopped, flood spills over both banks | 471 | T2.1-01 69 | | Both |
| | | Bridge | FORT WILLIAM COUNTRY | 15 | 320141.30 | 5555092.09 | 0.95 | 0.01 | 0.70 | Private driveway overtopped, flood spills over both | 471 | 12.1-01_09 | | BOUT |
| | | Driveway | CLUB | 16 | 328069.10 | 5354955.12 | 0.12 | 1.21 | 0.15 | banks | 493 | T2.1-02 118 | C-047-T2.1_02 | Both |
| | | Dilloway | FORT WILLIAM COUNTRY | 10 | 020000.10 | 0004000.12 | 0.12 | 1.21 | 0.10 | Private culvert overtopped, flood spills over both | 400 | 12.1 02_110 | 0 047 12.1_02 | Dotti |
| | | Culvert | CLUB | 17 | 328034.20 | 5354909.19 | 0.20 | 0.45 | 0.09 | banks | 493 | T2.1-02_176 | C-048-T2.1_02 | Both |
| | | | FORT WILLIAM COUNTRY | | | | | | | Private driveway overtopped, flood spills over both | | _ | _ | |
| | | Driveway | CLUB | 18 | 327980.29 | 5354808.60 | 0.16 | 0.24 | 0.04 | banks | 492 | T2.1-02_291 | C-049-T2.1_02 | Both |
| | | | FORT WILLIAM COUNTRY | | | | | | | Private culvert overtopped, flood spills over both | | | | |
| | | Culvert | CLUB | 19 | 327900.37 | 5354721.69 | 0.34 | 0.29 | 0.10 | banks | 492 | T2.1-02_417 | C-052-T2.1_02 | Both |
| | | D : | FORT WILLIAM COUNTRY | | 007050.04 | 505 (000 00 | 0.00 | 1 00 | | Private driveway overtopped, flood spills over both | 400 | TO 4 00 470 | | |
| | | Driveway | CLUB | 20 | 327852.91 | 5354696.36 | 0.22 | 1.30 | 0.29 | banks Private driveway overtopped, flood spills over both | 492 | T2.1-02_473 | C-053-T2.1_02 | Both |
| | | Driveway | 3266 FEAVER RD | 23 | 327706.01 | 5354362.18 | 0.17 | 1.43 | 0.24 | banks | 492 | T2.1-02_895 | C-056-T2.1_02 | Both |
| | | Diiveway | 3200 T EAVER RD | 23 | 321100.01 | 5554502.10 | 0.17 | 1.45 | 0.24 | Private driveway overtopped, flood spills over both | 492 | 12.1-02_095 | 0-030-12.1_02 | Both |
| | | Driveway | 3276 FEAVER RD | 24 | 327701.07 | 5354353.48 | 0.14 | 0.35 | 0.05 | banks | 492 | T2.1-02_905 | C-057-T2.1_02 | Both |
| | | | | | | | - | | | Spill over the left river bank, and flood the backyard | - | | | |
| | | Lot | 3286 FEAVER RD | 25 | 327682.88 | 5354315.55 | 0.06 | 0.58 | 0.03 | and approach to the ancillary building | 492 | T2.1-02_972 | | Left |
| | | Driveway | 3290 FEAVER RD | 26 | 327696.09 | 5354277.97 | 0.17 | 0.33 | 0.06 | Private driveway overtopped | 492 | T2.1-02_995 | C-058-T2.1_02 | Both |
| | | | | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | | Driveway | 3290 FEAVER RD | 28 | 327691.94 | 5354250.35 | 0.25 | 0.55 | 0.14 | banks | 492 | T2.1-02_1022 | C-059-T2.1_02 | Both |
| | | | | | | | | | | Private pedestrain bridge overtopped, flood spills over | | | _ | |
| | | Driveway | 4260 COPPIN RD | 34 | 326352.82 | 5353368.20 | 0.21 | 1.56 | 0.33 | both banks | 513 | T3-01_2613 | C-022-T3_01 | Both |
| | | Road | 4259 COPPIN RD | 35 | 326344.51 | 5353361.08 | 0.21 | 0.48 | 0.10 | Coppin Rd overtopped | 513 | T3-1.1_8 | MO-T3.1_01 | Both |
| | | Driverver | 4280 COPPIN RD | 37 | 200252 44 | 5353329.50 | 0.05 | 4.04 | 0.05 | Private pedestrain bridge overtopped, flood spills over both banks | 540 | T2 02 25 | C 000 TO 04 | Dath |
| | | Driveway | 4280 COFFIN RD | 37 | 326353.14 | 5353329.50 | 0.05 | 1.01 | 0.05 | Private driveway overtopped, spill over left bank and | 513 | T3-02_35 | C-023-T3_01 | Both |
| | | Driveway | 4290 COPPIN RD | 38 | 326350.73 | 5353280.94 | 0.09 | 1.10 | 0.10 | overtop Coppin Rd | 513 | T3-02 83 | C-024-T3 01 | Both |
| | | Diritolitay | | | 020000.10 | 0000200.01 | 0.00 | | 0.10 | Private driveway overtopped, flood spills over both | 010 | 10 02_00 | 0.02110_01 | Dotti |
| | | Driveway | 4279 COPPIN RD | 40 | 326325.64 | 5353315.26 | 0.11 | 0.92 | 0.10 | banks | 513 | T3-1.1_59 | MO-T3.1_01 | Both |
| | | - | | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | | Driveway | 4289 COPPIN RD | 41 | 326333.32 | 5353300.97 | 0.10 | 0.80 | 0.08 | banks | 513 | T3-1.1_73 | MO-T3.1_01 | Both |
| | | | | | | | | | | Spill over the left river bank, and impact on the | | | | |
| | | Ancillary Building | 4299 COPPIN RD | 43 | 326321.96 | 5353234.91 | 0.10 | 0.00 | 0.00 | ancillary building | 513 | T3-1.1_138 | | Left |
| | | Driveway | 1950 HIGHWAY 61 | 44 | 325719.50 | 5354774.41 | 0.20 | 2.78 | 0.56 | Private driveway overtopped | 490 | T4-01_808 | C-026-T4_01 | Both |
| | | Drides | | 17 | 005700 40 | 505 1015 51 | 0.00 | 4.00 | 0.75 | Private pedestrain bridge overtopped, flood spills over | 100 | TE 04 545 | | D.II |
| | | Bridge | 1901 MOUNTAIN RD | 47 | 325769.40 | 5354315.21 | 0.39 | 1.93 | 0.75 | both banks Private pedestrain bridge overtopped, flood spills over | 490 | T5-01_545 | B-067-T5_01 | Both |
| | | Bridge | 1941 MOUNTAIN RD | 50 | 325628.93 | 5354252.34 | 0.28 | 0.84 | 0.24 | both banks | 490 | T5-01_731 | B-030-T5_01 | Both |
| | | Culvert | 2080 HIGHWAY 61 | 56 | 325028.95 | 5353842.17 | 0.28 | 1.18 | 0.24 | Private crossing overtopped | 490 512 | T5-01_1455 | c-033-T5_01 | Both |
| | | | | 50 | 525201.40 | 000042.17 | 0.11 | 1.10 | 0.13 | Loch Lomond Rd overtopped at low point (lose to Hwy | | 10-01_1400 | 0-000-10_01 | Both |
| | | Road | LOCH LOMOND ROAD | 57 | 324953.28 | 5353846.36 | 1.06 | 0.86 | 0.91 | 61, north of the culvert with the creek) | 511 | T5-01_1959 | C-034-T5_01 | Both |
| | | Driveway | 2416 TRENDIAK RD | 65 | 323599.92 | 5352033.61 | 0.02 | 1.74 | 0.03 | Private driveway overtopped | 532 | T5-01_5410 | C-036-T5_01 | Both |
| | | Briveway | | 00 | 020000.02 | 0002000.01 | 0.02 | 1./4 | 0.00 | | 552 | 10 01_0410 | 0.000.10_01 | Dour |

| Flood Event | Flow at Confluence with Kaministiquia River (m ³ /s) | Structure Type | Address | Structure ID | UT | M | Depth (m) | Velocity (m/s) | Depth × Velocity (m²/s) | Comments | Map Sheet | HEC-RAS Model Station | HEC-RAS Structure ID | Bank |
|-------------|--|--------------------|---------------------------------------|--------------|-----------|------------|-----------|----------------|----------------------------|---|-----------|--------------------------|-------------------------|------|
| | | Road | 169 LITTLE NORWAY RD | 66 | 322825.79 | 5351508.75 | 0.06 | 1.38 | 0.08 | Little Norway Rd overtopped | 553 | T5-01_6737 | C-038-T5_01 | Both |
| | | Driveway | 169 LITTLE NORWAY RD | 67 | 322817.76 | 5351545.54 | 0.48 | 0.04 | | Flows spill over the left bank and flooded the private driveway | 553 | T5-01_6749 | | Left |
| | | Ancillary Building | 169 LITTLE NORWAY RD | 69 | 322754.24 | 5351527.88 | 0.49 | 0.04 | | Flows spill over the left bank and flooded the ancillary building/temperary trailor | 553 | T5-01_6830 | | Left |
| | | Road | 1950 GREGOR RD | 71 | 325438.75 | 5353094.06 | 0.10 | 0.49 | 0.05 | Gregor Rd overtopped | 512 | M-06_2033 | B-005-M_06 | Both |
| | | Bridge | 5200 LOCH LOMOND RD | 73 | 325050.96 | 5352565.29 | 0.25 | 0.67 | 0.17 | Private pedestrain bridge overtopped, flood spill over both banks | 534 | M-06_2810 | B-006-M_06 | Both |
| | | Culvert | Unknown Street #, LOCH LOMOND ROAD | 76 | 325705.84 | 5351846.58 | 0.03 | 0.00 | 0.00 | Pond berm, also function as walkway, get overtopped | 556 | T6-01_1370 | S-040-T6_01 | Both |
| | | Lot | 1855 LOCH LOMOND RD | 77 | 327027.99 | 5354107.17 | 0.88 | 0.00 | 0.00 | Spill over the left embankment of the farm pond | 556 | T6-01_1378 | | Left |
| | | Driveway | 1855 LOCH LOMOND RD | 78 | 325822.40 | 5351801.86 | 0.07 | 0.03 | 0.00 | Pond berm, also function as driveway, get overtopped | 556 | T6-01_1501 | S-041-T6_01 | Both |
| | | Culvert | Unknown Street #, LOCH LOMOND ROAD | 79 | 325929.53 | 5351697.61 | 0.19 | 0.00 | 0.00 | Pond berm, also function as walkway, get overtopped | 556 | T6-01_1640 | S-042-T6_01 | Both |
| | | Culvert | Unknown Street #, LOCH LOMOND ROAD | 81 | 325984.43 | 5351677.03 | 0.29 | 2.33 | 0.68 | Culvert overtopped | 556 | T6-01_1719 | C-043-T6_01 | Both |

Critical Flood Criteria: >0.3m, >1.7 m/s, depth × velocity > 0.4 m²/s

| | Flow at Confluence with | | | | | | | | Depth × Velocity | | | HEC-RAS Model | | |
|-------------|---|----------------------------|------------------------------|--------------|-----------|-------------|-----------|----------------|------------------|--|-----------|---------------|----------------|-------|
| Flood Event | Kaministiquia River (m ³ /s) | Structure Type | Address | Structure ID | _ | TM | Depth (m) | Velocity (m/s) | (m²/s) | Comments | Map Sheet | Station | Structure ID | Bank |
| 10 Year | 12.5 | Bridge | 1010 BROOKVIEW PL | 2 | 327017.10 | 5355618.68 | 0.02 | 0.36 | 0.01 | Private pedenstrain bridge overtopped | 470 | T1-01_874 | | Both |
| | | Bridge | 1030 BROOKVIEW PL | 3 | 326940.45 | 5355622.69 | 0.10 | 0.46 | 0.05 | Private pedenstrain bridge overtopped | 469 | T1-01_950 | | Both |
| | | Culvert | 955 MOUNTAIN RD | 4 | 328869.36 | 5355634.51 | 0.06 | 1.09 | 0.07 | Pond embankment overtopped | 471 | T2-03_740 | S-011-T2_03 | Both |
| | | Culvert | 955 MOUNTAIN RD | 6 | 328985.73 | 5355701.66 | 0.14 | 0.86 | 0.12 | Spill over a private crossing | 471 | T2-03_882 | | Both |
| | | | Unknown Street #, LOCH | | | | | | | Flood water spill over the left bank the the pond, and | 170 | | | |
| | | Dwelling | LOMOND ROAD | 8 | 325961.17 | 5351674.65 | 0.03 | 0.05 | 0.00 | imapct on the dwelling building next to it. Private driveway overtopped, flood spills over both | 472 | T6-01_1715 | | Left |
| | | Driveway | 915 MOUNTAIN RD | 9 | 329037.93 | 5355812.14 | 0.01 | 1.27 | 0.01 | banks | 472 | T2-03_1017 | C-015-T2 03 | Both |
| | | Diiveway | | 3 | 523057.35 | 3333012.14 | 0.01 | 1.27 | 0.01 | Private driveway overtopped, flood spills over both | 472 | 12-05_1017 | 0-013-12_03 | Dotti |
| | | Driveway | 875 MOUNTAIN RD | 11 | 329121.45 | 5355910.58 | 0.08 | 1.05 | 0.08 | banks | 472 | T2-03_1159 | C-018-T2_03 | Both |
| | | | FORT WILLIAM COUNTRY | | | | | | | Private pedenstrain bridge overtopped, flood spills | | | | |
| | | Bridge | CLUB | 15 | 328141.36 | 5355092.69 | 0.69 | 0.94 | 0.65 | over both banks | 471 | T2.1-01_69 | | Both |
| | | | FORT WILLIAM COUNTRY | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | | Driveway | CLUB | 16 | 328069.10 | 5354955.12 | 0.04 | 1.43 | 0.06 | banks | 493 | T2.1-02_118 | C-047-T2.1_02 | Both |
| | | | FORT WILLIAM COUNTRY | | | | | | | Private culvert overtopped, flood spills over both | | | | |
| | | Culvert | CLUB FORT WILLIAM COUNTRY | 17 | 328034.20 | 5354909.19 | 0.17 | 1.01 | 0.17 | banks | 493 | T2.1-02_176 | C-048-T2.1_02 | Both |
| | | Drivowov | CLUB | 18 | 327980.29 | 5354808.60 | 0.13 | 0.96 | 0.12 | Private driveway overtopped, flood spills over both banks | 492 | T2.1-02_291 | C-049-T2.1_02 | Both |
| | | Driveway | FORT WILLIAM COUNTRY | 10 | 327960.29 | 5554606.00 | 0.13 | 0.90 | 0.12 | Private culvert overtopped, flood spills over both | 492 | 12.1-02_291 | 0-049-12.1_02 | Both |
| | | Culvert | CLUB | 19 | 327900.37 | 5354721.69 | 0.30 | 0.23 | 0.07 | banks | 492 | T2.1-02 417 | C-052-T2.1_02 | Both |
| | | | FORT WILLIAM COUNTRY | | 021000101 | 0001121100 | 0.00 | 0.20 | 0.01 | Private driveway overtopped, flood spills over both | | | 0 001 .101 | 2000 |
| | | Driveway | CLUB | 20 | 327852.91 | 5354696.36 | 0.20 | 1.19 | 0.24 | banks | 492 | T2.1-02_473 | C-053-T2.1_02 | Both |
| | | | | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | | Driveway | 3266 FEAVER RD | 23 | 327706.01 | 5354362.18 | 0.13 | 1.03 | 0.13 | banks | 492 | T2.1-02_895 | C-056-T2.1_02 | Both |
| | | | | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | | Driveway | 3276 FEAVER RD | 24 | 327701.07 | 5354353.48 | 0.11 | 1.05 | 0.12 | banks | 492 | T2.1-02_905 | C-057-T2.1_02 | Both |
| | | 1.44 | 3286 FEAVER RD | 25 | 327682.88 | 5354315.55 | 0.03 | 0.49 | 0.01 | Spill over the left river bank, and flood the backyard and approach to the ancillary building | 100 | TO 4 00 070 | | 1 |
| | | Lot | 3290 FEAVER RD | - | | | | | | | 492 | T2.1-02_972 | 0.050 T0 4.00 | Left |
| | | Driveway | 3290 FEAVER RD | 26 | 327696.09 | 5354277.97 | 0.13 | 1.61 | 0.21 | Private driveway overtopped Private driveway overtopped, flood spills over both | 492 | T2.1-02_995 | C-058-T2.1_02 | Both |
| | | Driveway | 3290 FEAVER RD | 28 | 327691.94 | 5354250.35 | 0.22 | 0.46 | 0.10 | banks | 492 | T2.1-02 1022 | C-059-T2.1_02 | Both |
| | | Dirveway | | 20 | 527051.54 | 0004200.00 | 0.22 | 0.40 | 0.10 | Private pedestrain bridge overtopped, flood spills over | 432 | 12.1 02_1022 | 0.000.15.1_02 | Dotti |
| | | Driveway | 4260 COPPIN RD | 34 | 326352.82 | 5353368.20 | 0.18 | 1.56 | 0.28 | both banks | 513 | T3-01_2613 | C-022-T3_01 | Both |
| | | Road | 4259 COPPIN RD | 35 | 326344.51 | 5353361.08 | 0.19 | 0.48 | 0.09 | Coppin Rd overtopped | 513 | | MO-T3.1_01 | Both |
| | | | | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | | Driveway | 4279 COPPIN RD | 40 | 326325.64 | 5353315.26 | 0.11 | 0.92 | 0.10 | banks | 513 | T3-1.1_59 | MO-T3.1_01 | Both |
| | | | | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | | Driveway | 4289 COPPIN RD | 41 | 326333.32 | 5353300.97 | 0.09 | 0.80 | 0.07 | banks | 513 | T3-1.1_73 | MO-T3.1_01 | Both |
| | | A solution and Devilutions | 4299 COPPIN RD | 10 | 000004.00 | 5050004.04 | 0.40 | 0.00 | 0.00 | Spill over the left river bank, and impact on the | 540 | TO 4 4 400 | | 1 - 4 |
| | | Ancillary Building | | 43 | 326321.96 | 5353234.91 | | 0.00 | | ancillary building | 513 | T3-1.1_138 | | Left |
| | | Driveway | 1950 HIGHWAY 61 | 44 | 325719.50 | 5354774.41 | 0.09 | 2.56 | 0.23 | Private driveway overtopped Private pedestrain bridge overtopped, flood spills over | 490 | T4-01_808 | C-026-T4_01 | Both |
| | | Bridge | 1901 MOUNTAIN RD | 47 | 325769.40 | 5354315.21 | 0.39 | 1.19 | 0.46 | both banks | 490 | T5-01_545 | B-067-T5_01 | Both |
| | | Bhuge | | 47 | 525705.40 | 5554515.21 | 0.55 | 1.13 | 0.40 | Private pedestrain bridge overtopped, flood spills over | 430 | 10-01_040 | D-007-13_01 | Dotti |
| | | Bridge | 1941 MOUNTAIN RD | 50 | 325628.93 | 5354252.34 | 0.15 | 1.15 | 0.17 | both banks | 490 | T5-01_731 | B-030-T5_01 | Both |
| | | Culvert | 2080 HIGHWAY 61 | 56 | 325287.46 | 5353842.17 | 0.08 | 1.09 | 0.09 | Private crossing overtopped | 512 | T5-01_1455 | c-033-T5_01 | Both |
| | | | | | | 22200 12111 | | | | Loch Lomond Rd overtopped at low point (lose to Hwy | | | | |
| | | Road | LOCH LOMOND ROAD | 57 | 324953.28 | 5353846.36 | 0.93 | 0.86 | 0.80 | 61, north of the culvert with the creek) | 511 | T5-01_1959 | C-034-T5_01 | Both |
| | | Road | 169 LITTLE NORWAY RD | 66 | 322825.79 | 5351508.75 | 0.02 | 1.02 | 0.02 | Little Norway Rd overtopped | 553 | | C-038-T5_01 | Both |
| | | | | | | | | | | Flows spill over the left bank and flooded the private | | | | |
| | | Driveway | 169 LITTLE NORWAY RD | 67 | 322817.76 | 5351545.54 | 0.44 | 0.03 | 0.01 | driveway | 553 | T5-01_6749 | | Left |
| | | | | | | | | | | Flows spill over the left bank and flooded the ancillary | | | | |
| | | Ancillary Building | 169 LITTLE NORWAY RD | 69 | 322754.24 | 5351527.88 | 0.46 | 0.03 | 0.02 | building/temperary trailor | 553 | T5-01_6830 | | Left |

| | Flow at Confluence with | | | | | | | Depth × Velocity | | | HEC-RAS Model | HEC-RAS | |
|-------------|--|---------------------------------------|--------------|-----------|------------|-----------|----------------|------------------|--|-----------|----------------|--------------|------|
| Flood Event | Kaministiquia River (m ³ /s) Structure Type | Address | Structure ID | UT | M | Depth (m) | Velocity (m/s) | (m²/s) | Comments | Map Sheet | Station | Structure ID | Bank |
| | Road | 1950 GREGOR RD | 71 | 325438.75 | 5353094.06 | 0.10 | 1.02 | 0.10 | Gregor Rd overtopped | 512 | M-06_2033 | B-005-M_06 | Both |
| | | | | | | | | | Private pedestrain bridge overtopped, flood spill over | | | | |
| | Bridge | 5200 LOCH LOMOND RD | 73 | 325050.96 | 5352565.29 | 0.23 | 0.84 | 0.19 | both banks | 534 | M-06_2810 | B-006-M_06 | Both |
| | | Unknown Street #, LOCH | | | | | | | | | | | |
| | Culvert | LOMOND ROAD | 76 | 325705.84 | 5351846.58 | 0.02 | 0.00 | 0.00 | Pond berm, also function as walkway, get overtopped | 556 | T6-01_1370 | S-040-T6_01 | Both |
| | Lot | 1855 LOCH LOMOND RD | 77 | 327027.99 | 5354107.17 | 0.87 | 0.00 | 0.00 | Spill over the left embankment of the farm pond | 556 | T6-01_1378 | | Left |
| | Driveway | 1855 LOCH LOMOND RD | 78 | 325822.40 | 5351801.86 | 0.06 | 0.02 | 0.00 | Pond berm, also function as driveway, get overtopped | 556 | T6-01_1501 | S-041-T6_01 | Both |
| | Culvert | Unknown Street #, LOCH LOMOND ROAD | 79 | 325929.53 | 5351697.61 | 0.17 | 0.00 | 0.00 | Pond berm, also function as walkway, get overtopped | 556 | T6-01_1640 | S-042-T6_01 | Both |
| | Culvert | Unknown Street #, LOCH LOMOND ROAD | 81 | 325984.43 | 5351677.03 | 0.21 | 1.57 | 0.33 | Culvert overtopped | 556 | T6-01_1719 | C-043-T6_01 | Both |

Critical Flood Criteria: >0.3m, >1.7 m/s, depth × velocity > 0.4 m²/s

| | Flow at Confluence with | | | | | | | Depth × Velocity | | | HEC-RAS Model | HEC-RAS | |
|-------------|--|------------------------------|--------------|-----------|------------|-----------|----------------|------------------|--|-----------|---------------|---------------|------|
| Flood Event | Kaministiquia River (m ³ /s) Structure Type | Address | Structure ID | ι | ЛТМ | Depth (m) | Velocity (m/s) | (m²/s) | Comments | Map Sheet | Station | Structure ID | Bank |
| 5 Year | 9.5 Bridge | 1030 BROOKVIEW PL | 3 | 326940.45 | 5355622.69 | 0.09 | 0.38 | 0.03 | Private pedenstrain bridge overtopped | 469 | T1-01_950 | | Both |
| | Culvert | 955 MOUNTAIN RD | 4 | 328869.36 | 5355634.51 | 0.05 | 1.01 | 0.05 | Pond embankment overtopped | 471 | T2-03_740 | S-011-T2_03 | Both |
| | Culvert | 955 MOUNTAIN RD | 6 | 328985.73 | 5355701.66 | 0.11 | 0.77 | 0.08 | Spill over a private crossing | 471 | T2-03_882 | | Both |
| | | Unknown Street #, LOCH | | | | | | | Flood water spill over the left bank the the pond, and | | | | |
| | Dwelling | LOMOND ROAD | 8 | 325961.17 | 5351674.65 | 0.01 | 0.04 | 0.00 | imapct on the dwelling building next to it. | 472 | T6-01_1715 | | Left |
| | Dán | 875 MOUNTAIN RD | | 000404.45 | 5055040 50 | 0.05 | 0.00 | 0.05 | Private driveway overtopped, flood spills over both banks | 470 | TO 00 4450 | 0.040 TO 00 | Dath |
| | Driveway | FORT WILLIAM COUNTRY | 11 | 329121.45 | 5355910.58 | 0.05 | 0.98 | 0.05 | Private pedenstrain bridge overtopped, flood spills | 472 | T2-03_1159 | C-018-T2_03 | Both |
| | Bridge | CLUB | 15 | 328141.36 | 5355092.69 | 0.53 | 0.92 | 0.48 | over both banks | 471 | T2.1-01_69 | | Both |
| | | FORT WILLIAM COUNTRY | | 02011100 | | 0.00 | 0.02 | 0.10 | Private culvert overtopped, flood spills over both | | | | 2000 |
| | Culvert | CLUB | 17 | 328034.20 | 5354909.19 | 0.12 | 1.10 | 0.13 | banks | 493 | T2.1-02_176 | C-048-T2.1_02 | Both |
| | | FORT WILLIAM COUNTRY | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | Driveway | CLUB | 18 | 327980.29 | 5354808.60 | 0.06 | 0.78 | 0.05 | banks | 492 | T2.1-02_291 | C-049-T2.1_02 | Both |
| | Culvert | FORT WILLIAM COUNTRY CLUB | 19 | 327900.37 | 5354721.69 | 0.26 | 0.19 | 0.05 | Private culvert overtopped, flood spills over both banks | 492 | TO 1 00 117 | C 052 T2 1 02 | Both |
| | Culvert | FORT WILLIAM COUNTRY | 19 | 327900.37 | 5354721.09 | 0.20 | 0.19 | 0.05 | Private driveway overtopped, flood spills over both | 492 | T2.1-02_417 | C-052-T2.1_02 | Both |
| | Driveway | CLUB | 20 | 327852.91 | 5354696.36 | 0.17 | 1.55 | 0.26 | banks | 492 | T2.1-02 473 | C-053-T2.1_02 | Both |
| | | | | 021002.01 | | 0 | | 0.20 | Private driveway overtopped, flood spills over both | | | 0 000 1211_02 | 2011 |
| | Driveway | 3266 FEAVER RD | 23 | 327706.01 | 5354362.18 | 0.10 | 0.94 | 0.09 | banks | 492 | T2.1-02_895 | C-056-T2.1_02 | Both |
| | | | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | Driveway | 3276 FEAVER RD | 24 | 327701.07 | 5354353.48 | 0.09 | 0.14 | 0.01 | banks | 492 | T2.1-02_905 | C-057-T2.1_02 | Both |
| | Lat | 3286 FEAVER RD | 05 | 207002.00 | | 0.00 | 0.39 | 0.00 | Spill over the left river bank, and flood the backyard and approach to the ancillary building | 400 | TO 4 00, 070 | | 1.04 |
| | Lot | 3290 FEAVER RD | 25 | 327682.88 | 5354315.55 | 0.00 | | 0.00 | | 492 | T2.1-02_972 | 0.050 TO 4.00 | Left |
| | Driveway | 3290 PEAVER RD | 26 | 327696.09 | 5354277.97 | 0.10 | 1.04 | 0.10 | Private driveway overtopped Private driveway overtopped, flood spills over both | 492 | T2.1-02_995 | C-058-T2.1_02 | Both |
| | Driveway | 3290 FEAVER RD | 28 | 327691.94 | 5354250.35 | 0.19 | 0.37 | 0.07 | banks | 492 | T2.1-02 1022 | C-059-T2.1_02 | Both |
| | | | 20 | 021001.01 | 0001200.00 | 0.10 | 0.07 | 0.07 | Private pedestrain bridge overtopped, flood spills over | 102 | 12.1 02_1022 | 0 000 12.1_02 | Dour |
| | Driveway | 4260 COPPIN RD | 34 | 326352.82 | 5353368.20 | 0.08 | 1.19 | 0.10 | both banks | 513 | T3-01_2613 | C-022-T3_01 | Both |
| | Road | 4259 COPPIN RD | 35 | 326344.51 | 5353361.08 | 0.07 | 0.48 | 0.03 | Coppin Rd overtopped | 513 | T3-1.1_8 | MO-T3.1_01 | Both |
| | | | | | | | | | Private driveway overtopped, flood spills over both | | | | |
| | Driveway | 4279 COPPIN RD | 40 | 326325.64 | 5353315.26 | 0.08 | 0.77 | 0.06 | banks | 513 | T3-1.1_59 | MO-T3.1_01 | Both |
| | Drivowov | 4289 COPPIN RD | 41 | 326333.32 | 5353300.97 | 0.07 | 0.96 | 0.07 | Private driveway overtopped, flood spills over both banks | 513 | T3-1.1_73 | MO-T3.1_01 | Both |
| | Driveway | 4289 COFFIN RD | 41 | 320333.32 | 5353300.97 | 0.07 | 0.96 | 0.07 | Spill over the left river bank, and impact on the | 513 | 13-1.1_73 | 10-13.1_01 | Both |
| | Ancillary Building | 4299 COPPIN RD | 43 | 326321.96 | 5353234.91 | 0.08 | 0.00 | 0.00 | ancillary building | 513 | T3-1.1_138 | | Left |
| | | | | | | | | | Private pedestrain bridge overtopped, flood spills over | | | | |
| | Bridge | 1901 MOUNTAIN RD | 47 | 325769.40 | 5354315.21 | 0.13 | 1.26 | 0.16 | both banks | 490 | T5-01_545 | B-067-T5_01 | Both |
| | | | | | | | | | Private pedestrain bridge overtopped, flood spills over | | | | |
| | Bridge | 1941 MOUNTAIN RD | 50 | 325628.93 | 5354252.34 | 0.05 | 0.64 | 0.03 | both banks | 490 | T5-01_731 | B-030-T5_01 | Both |
| | Culvert | 2080 HIGHWAY 61 | 56 | 325287.46 | 5353842.17 | 0.04 | 1.09 | 0.04 | Private crossing overtopped Loch Lomond Rd overtopped at low point (lose to Hwy | 512 | T5-01_1455 | c-033-T5_01 | Both |
| | Road | LOCH LOMOND ROAD | 57 | 324953.28 | 5353846.36 | 0.84 | 0.59 | 0.50 | 61, north of the culvert with the creek) | 511 | T5-01_1959 | C-034-T5_01 | Both |
| | Kuau | | 57 | 324933.20 | 5555640.50 | 0.04 | 0.59 | 0.50 | Flows spill over the left bank and flooded the private | 511 | 13-01_1939 | 0-034-13_01 | Boun |
| | Driveway | 169 LITTLE NORWAY RD | 67 | 322817.76 | 5351545.54 | 0.13 | 0.37 | 0.05 | driveway | 553 | T5-01_6749 | | Left |
| | | | | | | | | | Flows spill over the left bank and flooded the ancillary | | | | |
| | Ancillary Building | 169 LITTLE NORWAY RD | 69 | 322754.24 | 5351527.88 | 0.16 | 0.05 | 0.01 | building/temperary trailor | 553 | T5-01_6830 | | Left |
| | Road | 1950 GREGOR RD | 71 | 325438.75 | 5353094.06 | 0.04 | 1.24 | 0.05 | Gregor Rd overtopped | 512 | M-06_2033 | B-005-M_06 | Both |
| | | 5000 1 00111 01012 25 | | | | | | | Private pedestrain bridge overtopped, flood spill over | | | | |
| | Bridge | 5200 LOCH LOMOND RD | 73 | 325050.96 | 5352565.29 | 0.21 | 0.78 | 0.16 | both banks | 534 | M-06_2810 | B-006-M_06 | Both |
| | | Unknown Street #, LOCH | | | | | | | | | | | |
| | Culvert | LOMOND ROAD | 76 | 325705.84 | 5351846.58 | 0.02 | 0.00 | 0.00 | Pond berm, also function as walkway, get overtopped | 556 | T6-01_1370 | S-040-T6_01 | Both |
| | Lot | 1855 LOCH LOMOND RD | 77 | 327027.99 | 5354107.17 | 0.87 | 0.00 | 0.00 | Spill over the left embankment of the farm pond | 556 | T6-01_1378 | | Left |

| Flood E | Flow at Confluence with vent Kaministiquia River (m ³ /s) | | Address | Structure ID | Ų | ITM | Depth (m) | Velocity (m/s) | Depth × Velocity (m²/s) | | Map Sheet | HEC-RAS Model Station | HEC-RAS Structure ID | Bank |
|---------|---|----------|---------------------------------------|--------------|-----------|------------|-----------|----------------|----------------------------|--|-----------|--------------------------|-------------------------|------|
| | | Driveway | 1855 LOCH LOMOND RD | 78 | 325822.40 | 5351801.86 | 0.05 | 0.00 | 0.00 | Pond berm, also function as driveway, get overtopped | 556 | T6-01_1501 | S-041-T6_01 | Both |
| | | Culvert | Unknown Street #, LOCH LOMOND ROAD | 79 | 325929.53 | 5351697.61 | 0.16 | 0.00 | 0.00 | Pond berm, also function as walkway, get overtopped | 556 | T6-01_1640 | S-042-T6_01 | Both |
| | | Culvert | Unknown Street #, LOCH LOMOND ROAD | 81 | 325984.43 | 5351677.03 | 0.07 | 1.11 | 0.08 | Culvert overtopped | 556 | T6-01_1719 | C-043-T6_01 | Both |

Critical Flood Criteria: >0.3m, >1.7 m/s, depth × velocity > 0.4 m²/s

| Flood Event | Flow at Confluence with Kaministiquia River (m ³ /s) | Structure Type | Address | Structure ID | | JTM | Depth (m) | Velocity (m/s) | Depth × Velocity (m²/s) | Comments | Map Sheet | HEC-RAS Model Station | HEC-RAS Structure ID | Bank |
|-------------|--|--------------------|--|--------------|-----------|------------|-----------|----------------|----------------------------|--|-----------|--------------------------|-------------------------|------|
| 2 Year | 5.4 | Bridge | 1030 BROOKVIEW PL | 3 | 326940.45 | 5355622.69 | 0.07 | 0.26 | 0.02 | Private pedenstrain bridge overtopped | 469 | T1-01 950 | | Both |
| | | Culvert | 955 MOUNTAIN RD | 6 | 328985.73 | 5355701.66 | 0.07 | 0.61 | 0.04 | Spill over a private crossing | 471 | T2-03 882 | | Both |
| | | Bridge | FORT WILLIAM COUNTRY CLUB | 15 | 328141.36 | 5355092.69 | 0.31 | 0.77 | 0.24 | Private pedenstrain bridge overtopped, flood spills over both banks | | T2.1-01_69 | | Both |
| | | Culvert | FORT WILLIAM COUNTRY CLUB FORT WILLIAM COUNTRY | 19 | 327900.37 | 5354721.69 | 0.18 | 0.11 | 0.02 | Private culvert overtopped, flood spills over both banks | 492 | T2.1-02_417 | C-052-T2.1_02 | Both |
| | | Driveway | CLUB | 20 | 327852.91 | 5354696.36 | 0.09 | 1.41 | 0.13 | Private driveway overtopped, flood spills over both banks | 492 | T2.1-02_473 | C-053-T2.1_02 | Both |
| | | Driveway | 3290 FEAVER RD | 28 | 327691.94 | 5354250.35 | 0.09 | 0.33 | 0.03 | Private driveway overtopped, flood spills over both banks | 492 | T2.1-02_1022 | C-059-T2.1_02 | Both |
| | | Driveway | 4279 COPPIN RD | 40 | 326325.64 | 5353315.26 | 0.06 | 0.69 | 0.04 | Private driveway overtopped, flood spills over both banks | 513 | T3-1.1_59 | MO-T3.1_01 | Both |
| | | Driveway | 4289 COPPIN RD | 41 | 326333.32 | 5353300.97 | 0.01 | 0.87 | 0.01 | Private driveway overtopped, flood spills over both banks | 513 | T3-1.1_73 | MO-T3.1_01 | Both |
| | | Ancillary Building | 4299 COPPIN RD | 43 | 326321.96 | 5353234.91 | 0.06 | 0.00 | 0.00 | Spill over the left river bank, and impact on the ancillary building | 513 | T3-1.1_138 | | Left |
| | | Road | LOCH LOMOND ROAD | 57 | 324953.28 | 5353846.36 | 0.62 | 0.48 | 0.30 | Loch Lomond Rd overtopped at low point (lose to Hwy 61, north of the culvert with the creek) | 511 | T5-01_1959 | C-034-T5_01 | Both |
| | | Bridge | 5200 LOCH LOMOND RD | 73 | 325050.96 | 5352565.29 | 0.15 | 0.64 | 0.10 | Private pedestrain bridge overtopped, flood spill over both banks | 534 | M-06_2810 | B-006-M_06 | Both |
| | | Culvert | Unknown Street #, LOCH LOMOND ROAD | 76 | 325705.84 | 5351846.58 | 0.01 | 0.07 | 0.00 | Pond berm, also function as walkway, get overtopped | 556 | T6-01_1370 | S-040-T6_01 | Both |
| | | Lot | 1855 LOCH LOMOND RD | 77 | 327027.99 | 5354107.17 | 0.86 | 0.00 | 0.00 | Spill over the left embankment of the farm pond | 556 | T6-01_1378 | | Left |
| | | Driveway | 1855 LOCH LOMOND RD | 78 | 325822.40 | 5351801.86 | 0.03 | 0.01 | 0.00 | Pond berm, also function as driveway, get overtopped | 556 | T6-01_1501 | S-041-T6_01 | Both |
| | | Culvert | Unknown Street #, LOCH LOMOND ROAD | 79 | 325929.53 | 5351697.61 | 0.12 | 0.77 | 0.09 | Pond berm, also function as walkway, get overtopped | 556 | T6-01_1640 | S-042-T6_01 | Both |