

FORMAL REPORT

To:	Mayor Strathdee and Members of Council
Prepared by:	Jed Kelly, Director of Public Works
Date of Meeting:	27 March 2018
Subject:	PW 16-2018 Flood Event Remediation

PURPOSE

To update council on recent flood event, observations noted, damage experienced and detail future remediation works.

RECOMMENDATION

THAT PW 16-2018 Flood Event Remediation report be received; and
THAT Council approve the allocation of \$42,500 to remediate the Flats.

BACKGROUND

Heavy rains and mild temperatures causing snow thaw on February 19th and 20th resulted in St. Marys experiencing the highest flow volume of water on the Upper Thames Conservation Authority's record since 1948. Fortunately, flows through Town never caused the flood wall to be breached.

To mitigate damage while also ensuring safety, the following roadways, trails and pedestrian areas were closed during the flood event:

- Water Street North between Widder Street East and Parkview Drive
- Thomas Street between Park Street and Jones Street West
- The ring road and Loop Trail entrance at Milt Dunnell Field (The Flats)
- The Mill Race Island
- The Riverview Walkway from the tennis courts to Park Street and from Queen Street to Water Street
- The footbridge at St. George Street North
- The Loop Trail entrances on St. George Street and Widder Street
- Robinson pumping station
 - Station received high levels of Inflow & Infiltration; Public Works Vector truck used to augment lift pumps
 - OCWA operators
 - Used maintenance by-pass manholes for additional storage capacity
 - Had a by-pass overflow outlet locked out to prevent river water from surcharging system
- Emily St. Drain
 - Due to high river levels, an Emily St. drainage outlet was overwhelmed which caused water build up in the Emily St. area in the general direction of North-West
 - Backhoe deployed to breakup ice dam in sections of drainage ditch to culvert inlet

Furthermore, on February 20th, the Town offered sand bags and sand at the Municipal Operations Centre for any residents who wanted to create a barrier. Members of the public did use the material.

Since the flood event Town staff have continued to work with residents who experienced significant flooding.

Lessons Learned:

A flooding event to this degree has not occurred since 2008. Since then, there has been significant staff turnover and a loss of knowledge regarding some vulnerable areas. To prepare for future events, staff documented observations and phone calls from this flood in the City-Wide Work Order System for future reference so that this institutional knowledge is retained. This documentation will help create a plan of action in similar circumstances and will be included in the Town's emergency management material.

REPORT

Milt Dunnell Field (the Flats), was heavily impacted by the flooding. During the flood, Public Works crews were deployed on February 21 to pump water out of the flooded field and back into the nearby Thames River. The goal was to lower the water level away from surrounding residential properties. The department would like to acknowledge and thank McLean Taylor Construction Ltd. for the supply of the pumps, Forman Electric and Festival Hydro for their immediate response, and the UTRCA for accurate projections.

The pumps were removed on February 22, 2018, and the remaining water was drained naturally through the existing drain in the South end of the park. At its peak, the water at the Flats flooded backyards on Water Street North and Emily Street. Luckily, existing buildings, like the Lawn Bowling facilities and public washrooms at the park were not affected by the flooding as staff winterized them in the fall. Heat and hydro were disconnected before the water breached the buildings. Facilities staff inspected the buildings when the water receded and access was regained, and although the water level came close, it did not raise high enough to enter the structures. Additionally, the Town's winter lights are stored at the park. Because the lights are designed for all kinds of weather exposure, any identified defects can be repaired by staff if required.

However, some damage to Town property was still sustained. The following items require remediation efforts to return the park to its previous state.

1. Electrical Panels

During the flood, three electrical panels were submerged in water. An Electrical Safety Authority inspector has advised that the panels cannot be reenergized in their current state. The panels will need to be replaced before summer event use.

For the replacements, staff considered raising the height of the panels to prevent the panels from being submerged in future flood events. Following discussion with a local electrical contractor, in order to comply with Electrical Safety Authority regulations, raising all three panels would cost approximately \$15,000-\$20,000. Therefore, staff propose direct replacement of the three affected panels without alteration, at an estimated cost of \$4,000-\$6,000. This cost includes repainting the panels and any required carpentry repairs.

2. Flats Loop Road

There were several areas of the loop road that experienced significant washout as a result of the flooding. The loop road has a low class bitumen (tar and chip) surface that had been extensively hot-patched and spot repaired in the past. The washouts revealed a layered subsurface base with approximately 100mm (4 inches) of granular placed on top of an old low class bitumen road. This base composition is likely to blame for significant potholing on the loop road in the past. Staff also believe that because of the flooding and the saturation of this thin granular layer, areas of the ring road that did not wash out will degrade rapidly in the future.

The washouts were repaired with granular material by Town staff prior to reopening of the flats following the flood. In order to properly repair the washouts, sections of the road will need to be pulverized and have tar and chip reinstalled. Considering the poor condition of the remainder of the road, and in an attempt to reduce future maintenance requirements, staff are recommending pulverizing the entire ring

road and installing two new layers of tar and chip. The associated cost of the recommended restoration work is estimated at \$35,000.

3. Mill Race Island

Mill Race Island received extensive washout in the Northern section (See Attachment 1). Staff have consulted retired team members who have advised that in subsequent years when similar washouts have occurred, surface restoration was completed with stone slinger with clear ¾" aggregate. The clear aggregate requires no compaction and eventually will become covered with natural vegetation. Washout areas have been photographed so staff can consult B.M. Ross Engineering to pursue further stabilization through mortar injection during planned capital repairs to the dam face.

SUMMARY

The Town observed flooding in late February which caused the closure of numerous roads and walkways. Milt Dunnell Field & Millrace Island require some post-flood remediation to return service levels.

Staff compiled a detailed list of conditions and actions undertaken during the flood to help develop an action plan for future flood events, which would have staff and other stakeholder better coordinated.

FINANCIAL IMPLICATIONS

To remediate the Flats the following costs will be incurred:

Electrical Panel Repairs	\$6,000
Mill race Island – Stone Slinger	\$1,500
<u>Pulverizing of Road & Tar and Chip</u>	<u>\$35,000</u>
Total	\$42,500

The total costs above are required to be funded directly by the Town and are not covered by any other funding sources.

The Province funds a Municipal Disaster Recover Assistance Program to assist municipalities in recovering high costs of disaster response. The threshold value for costs is equal to 3% of the municipality's own taxation. For 2018, the Town's levy is \$11,812,540, and the 3% cost threshold is \$354,376. The costs incurred by the Town do not meet this threshold.

Staff have also contacted the municipal insurer to determine if any of the damages could be claimed on our insurance policy. Frank Cowan has advised that the Town does not purchase flood coverage, and that this is not a common policy for municipalities to have.

Staff recommending funding repairs through the existing operating accounts with the expected year-end variance to be covered by organizational operating surplus.

STRATEGIC PLAN

☒ Not applicable to this report.

OTHERS CONSULTED

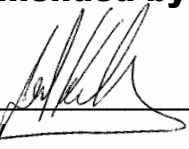
Andy Forman, Forman Electric
Jim Brown, Treasurer

ATTACHMENTS

Attachment 1 – Flood Damage Images

REVIEWED BY

Recommended by the Department

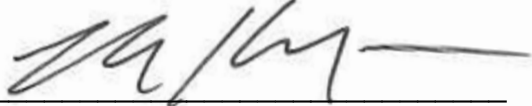


Jed Kelly
Director of Public Works



Jeff Wolfe, CTech
Asset Management/Engineering Specialist

Recommended by the CAO



Brent Kittmer
CAO / Clerk