

### Financial impacts resulting from high lake water levels in waterfront parklands

**Date:** January 05, 2018

**To:** Executive Committee

**From:** General Manager, Parks Forestry and Recreation

**Wards:** 6, 13, 14, 19, 20, 28, 30, 32, 36, 43, 44

#### SUMMARY

---

This report responds to direction from City Council at its meeting of July 4, 5, 6 and 7, 2017 for the General Manager, Parks, Forestry and Recreation to report back to the November 29, 2017 meeting of the Executive Committee with a comprehensive inventory of all operating costs, projected to year-end, associated with the Spring flooding of 2017, as well as recommendations on any proposed rent or licence fee forgiveness for tenants and licensees affected by the rising lake levels.

The net Operating Budget impact associated with the closure of Toronto Island Park is projected to reach a maximum cost of \$8.45 million, depending on the total rent and licence fee abatements for tenants and licensees.

Repair and shoreline remediation work is expected to cost \$7.38 million, of which \$2.0 million can be considered within the 2018 Preliminary Parks, Forestry and Recreation Capital Budget. With lake levels still 20 cm above the long term average, staff expect further damage may be seen, particularly at Toronto Island Park, through the winter freeze-thaw cycle.

Staff will provide updated repair estimates for the 2019 Capital Budget process and will report in the third quarter of 2018 on the cost of long-term repair and resilience measures. Preliminary estimates anticipate these long-term measures will cost at least \$25 million over 10 years.

#### RECOMMENDATIONS

---

The General Manager, Parks, Forestry and Recreation recommends that:

1. City Council direct the General Manager, Parks, Forestry and Recreation to submit outstanding short term Capital repair and mitigation projects and longer term capital projects, arising from high lake levels, for priority consideration in the 2019 Capital Budget process.

2. City Council authorize the General Manager of Parks, Forestry and Recreation to provide an abatement of up to 100% of the 2017 base licence fee or rent for tenants or licensees of the City of Toronto, as the case may be, affected by the closure of Toronto Island Park due to high lake levels, to the extent that the General Manager is satisfied that such losses are not covered by insurance and for the portion in excess of any insurance recoveries related to high water levels and closure of the Toronto Island Park, and subject to tenants and licensees having an account with the City of Toronto in good standing.

## **FINANCIAL IMPACT**

---

The total impact of the high water levels on the Parks, Forestry and Recreation Operating Budget is projected to be \$8.45 million, with \$7.15 million to be spent in 2017 and an additional \$1.3 million in 2018. This amount includes \$2.45 million for emergency mitigation, \$6.34 million from loss of ferry, recreation and permit revenues and an abatement of rent and licence fees, partially offset by savings in staff and fuel costs of \$0.34 million. The \$7.15 million unbudgeted impact from this event will contribute to an unfavorable variance for 2017, estimated in the Third Quarter Operating Budget Variance Report at \$3.92 million, when offset by underspending in other areas of Parks, Forestry and Recreation.

The Division currently estimates that an additional \$7.38 million in capital expenditures for short term repairs and mitigation are required, of which \$2.0 million can be considered within resources available for the 2018 Preliminary Parks, Forestry and Recreation Capital Budget. As these estimates have only recently become available, the remaining \$5.38 million of projects will be prioritized for consideration in the 2019 Capital Budget process. The long-term mitigation and resilience costs are not included in this report. Additional damage due to freezing is anticipated and long-term costs for repair and mitigation will be considered in the development of the 2019 Capital Budget.

The Acting Chief Financial Officer has reviewed this report and agrees with the financial impact information.

## **DECISION HISTORY**

---

City Council, at its meeting of May 24, 25, 26, 2017, requested the General Manager, Parks, Forestry and Recreation, in conjunction with the Office of Emergency Management, the Toronto and Region Conservation Authority, to report directly to City Council at its July meeting on damages sustained by waterfront parks from increased water levels, as well as the plan and timeline for immediate repair, restoration and long-term preventative measures to prevent further damage.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.MM29.48>

City Council, at its meeting on July 4, 5, 6 and 7, 2017, directed the General Manager, Parks, Forestry and Recreation to report back to the November 29, 2017 meeting of the Executive Committee with a comprehensive inventory of all operating costs,

projected to year end, associated with the Spring flooding of 2017 as well as report to the Executive Committee with recommendations on any proposed rent or licence fee forgiveness for tenants and licensees impacted by the rising lake levels.  
<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.CC31.4>

## COMMENTS

---

Lake Ontario levels began rising in April 2017 as snowmelt and an exceptionally rainy spring increased water supply to the basin. On May 27th, 2017 lake levels reached their peak height of 75.93 metres above sea level (MASL). This is the highest water level ever recorded for Lake Ontario. Attachment 1 outlines the timeline of the flood and emergency response provided by the City and the Toronto and Region Conservation Authority (TRCA), and Attachment 2 shows the peak flood levels.

The effect of this flooding was felt along the entire length of Toronto's waterfront and particularly at Toronto Island Park where over 800 residents, many businesses, and two schools were affected. Toronto Island Park was closed between May 4 and July 30, 2017 and damage was seen across the whole of Toronto's waterfront. An unprecedented 70 landslides were recorded along the Scarborough Bluffs and debris flowing down the Humber River inundated the beaches in the west end of the city on a daily basis. All the beaches across the city were in a reduced state of operations for the entire season.

Staff from both the City of Toronto and the Toronto and Region Conservation Authority worked to prevent further damage and the loss of property and assets through emergency flood mitigation efforts, however Toronto Island Park was closed for 88 days between May 4 and July 30, 2017 due to the flooding.

Although water levels have subsided by more than a metre since peak levels, lake levels were still at 74.76 MASL on January 4, 2018, which is 0.2 metres above the long term average of 74.56 MASL. This will have a continued impact to the assets at Toronto Island Park, particularly over the winter and the spring when infrastructure can be damaged by the freeze-thaw action associated with a high water table and the water's edges. An evaluation of the damage will take place in the spring and will be reported to City Council in the third quarter of 2018.

This report divides the financial impacts of the high water levels into three broad categories:

- Emergency operations and revenue losses
- Short-term repair and mitigation costs
- Long-term repair and resilience measures

## **Emergency Operations and Revenue Losses**

The net impact to the 2017 Operating Budget includes costs associated with emergency repairs, revenue losses, as well as recommendations to provide financial relief to the City's tenants and licensees in Toronto Island Park.

### **Emergency Operations**

Expenditures for emergency operations are expected to be \$2.45 million for 2017 including staffing, supplies and contracted services, of which \$1.18 million has already been incurred. This work represents actions undertaken to protect the shoreline from erosion, as well as substantial work undertaken at Toronto Island Park including sandbags, pumps, and other measures. These costs also include the installation of ramps and fenders at the Jack Layton Ferry Terminal and at some island docks which enabled the ferries to resume operation despite high water levels. These improvements to ferry infrastructure should protect against future cancellation of ferry service due to similarly high lake levels.

Across the waterfront, emergency repairs include disintegrating seawalls, damaged trails, collapse of building foundations, reconstruction of several sections of boardwalk and trails damaged by flood waters, grading of the shoreline, and restoration of several sections of waterfront.

An additional \$1.3 million in costs are projected into early 2018 for continuing emergency work to address urgent health and safety issues caused by high water levels. This additional work addresses rebuilding of beaches, stabilization of the shoreline through construction of beach curbs and repairs of pathways and trails which pose a public safety risk.

Attachment 3 provides examples of the types of damage across the waterfront which still require repair.

### **Revenue Losses**

The suspension of the ferry service, permit revenue loss from events at Toronto Island Park, loss from recreation programming at the Island, as well as proposed abatement of lease and licence fees to Toronto Island Park tenants and licensees contribute to a significant revenue loss resulting from the flood. The revenue losses will be \$6.34 million for 2017.

The loss of revenue from ferry ticket sales is \$4.50 million. The loss in permit revenues due to cancellation of all permits at Toronto Island Park to the end of July 2017 is \$0.11 million. The maximum potential lost revenue from rents and licence fees, depending upon the abatements provided, is \$1.40 million, outlined in Table 1 below.

Recreation programs on the island were cancelled until July 31, 2017 and affected over 400 registrants in camps and specialty programs. The revenue loss resulting from the cancellation of registered camp programs and closure of the boathouse and tram is \$0.33 million.

## City of Toronto Tenants and Licensees

The operations of 11 leaseholders and licensees in Toronto Island Park were affected by the high water levels and the resulting closure of the park. Table 1 provides a detailed breakdown of the potential revenue from rents and licence fees related to these agreements.

Table 1: Budgeted 2017 revenue from rents and licence fees

| Agreement   | Annual Base Rent   | Percentage Rent* | Total Fee          |
|---|--------------------|------------------|--------------------|
| Wm. Beasley - Centreville                         | \$690,000          | \$37,800         | \$727,800          |
| Wm. Beasley - Centre Island Restaurant & Catering | \$125,000          | \$6,700          | \$131,700          |
| Wm. Beasley - Food & Beverage Concessions         | \$88,500           | \$4,800          | \$93,300           |
| Toronto Island Bicycle Rental                     | \$80,000           |                  | \$80,000           |
| Island Yacht Club of Toronto                      | \$64,172           |                  | \$64,172           |
| Queen City Yacht Club                             | \$19,978           |                  | \$19,978           |
| Sunfish Cut Boat Club                             | \$7,121            |                  | \$7,121            |
| The Royal Canadian Yacht Club                     | \$115,192          |                  | \$115,192          |
| Toronto Island Marina                             | \$15,000           | \$140,000        | \$ 155,000         |
| Toronto Island Canoe Club                         | \$300              |                  | \$300              |
| Sunshine Centres for Seniors                      | \$2,500            |                  | \$2,500            |
| <b>Total Budgeted Rent / License Fees</b>         | <b>\$1,207,763</b> | <b>\$189,300</b> | <b>\$1,397,063</b> |

\* A portion of annual profit is paid by some tenants and licensees in accordance with their agreements. The City budgets for this revenue based on average of previous years.

The high water levels of Lake Ontario and the closure of Toronto Island Park affected these private interests to varying degrees, depending on the nature of the operation. City Council authorized the General Manager, Parks, Forestry and Recreation to temporarily suspend collection of rent and licence fees from tenants or licensees until such time as the full financial impact of the flooding was known, and as a result Parks, Forestry and Recreation (PFR) has not yet billed these businesses for their 2017 lease and licence fees.

This report seeks authority to allow the General Manager to provide an abatement of up to 100% of rent/licence fees to the affected businesses, where appropriate and within the bounds of the lease and licence agreements, based on the following criteria:

1. The tenants and licensees shall demonstrate, through their 2016 and 2017 financial statements that they have incurred a reduction in "net income" due to closure of Toronto Island Park.
2. The amount of the abatement shall be reduced by any amounts recovered from the tenant's or licensee's business or other insurance coverage.
3. Tenants and licensees are required to be current with their rent, licence fees, property tax and other financial obligations, save and except for 2017 rent/licence fees.

All tenants and licensees that request an abatement would be required to provide the information above to PFR by January 31, 2018. The division would subsequently review and confirm the abatement amounts with the tenants and licensees and invoice any remaining 2017 rent and licence fees by March 31, 2018.

### **Short-Term Repair and Mitigation costs**

The City of Toronto and the TRCA share responsibility for managing and maintaining Toronto's waterfront. Generally, the TRCA is responsible for the stability of the shoreline and the structures associated with its stability. This includes beach curbs and erosion control structures. The City of Toronto has responsibility for assets along the waterfront including trails, boardwalks, and structures such as the Leuty lifeguard station.

The City and the TRCA have undertaken a preliminary assessment of damage across the waterfront. Early analysis includes a catalogue of 74 instances of damage to the waterfront needing repair, including structural damage (damage to paths, boardwalks, major debris pile-up), flooding (assets which are, or were, under water) and erosion.

In addition to the damage needing repair, TRCA catalogued an unprecedented 70+ landslides or slope failures along the Bluffs.

Attachment 4 shows maps of where damage has been catalogued, along with a preliminary repair timeline, contingent on funding being made available.

### **Emergency and Short-Term Repairs**

City staff have worked collaboratively with the TRCA to categorize damage and required work, both in terms of responsibility and priority. Of the 74 logged instances of damage, a number required emergency repairs and are captured in the emergency operations outlined above including repairs to pathways, trails and other assets.

Following the completion of emergency operations, a number of short-term capital repairs will be undertaken in 2018 to address short-term priorities. These include

projects such as installing permanent pumping facilities at Toronto Island Park, the installation of beach curbs at select locations to prevent further degradation of the beach, as well as a flood study which will be undertaken in 2018 to inform long-term mitigation strategies at Toronto Island Park. These repairs will prevent further damage, ensure swift emergency response in the event of future high water levels, as well as ensure the public can enjoy the waterfront assets in coming years.

The total projected cost for repairs that should be undertaken in 2018 is \$7.38 million, however only \$2.0 million can be considered within resources available for the 2018 Preliminary Parks, Forestry and Recreation Capital Budget. Projects that cannot be completed due to budget constraints will be considered in future years.

## **Long-Term Repair & Resilience Measures**

Long-term planning and coordination is required to ensure Toronto's shoreline and waterfront parks are stewarded for future generations. Staff are currently working with the TRCA and the Chief Resilience Officer to determine long-term repair and resilience work that is required in the context of ongoing high water levels and severe weather events.

Staff will provide updated repair estimates for the 2019 Capital Budget and will report on the long-term repair and resilience costs in the third quarter of 2018. This third quarter report will identify the costs of building a resilient waterfront including long-term repair work and new infrastructure needs. Some preliminary work integral to informing this long-term analysis and project plan has already been initiated, including:

- *Toronto Island Park Flood Plan*  
This analysis, to be completed early in 2018, will identify the large-scale, long term projects which should be considered to protect Toronto Island Park from the effects of rising water, climate change and large-scale storms. This may include work on the main roadways, existing structures and shoreline protection at Gibraltar Point with the goal of developing long-term resilience to future high water events.
- *Dock and seawall inspection*  
A state-of-good-repair program is already in place for Harbourfront, Marine Services, Fountains and Seawalls. State-of-good-repair audits and inspections establish the maintenance, repair and/or life-cycle replacement costs of existing assets and a subsequent work plan is developed. The projects are then ranked and prioritized based on overall condition. Damage from the flooding in 2017 is now included for inspection and will inform the long-term repair and resilience plans for these assets.
- *Western Waterfront Maintenance Strategies*  
TRCA's Western Waterfront Major Maintenance Strategy (WWFMMS) was initiated in 2016 to inform the scope, priority of implementation and potential cost of repairs to restore the extensive network of shoreline erosion control structures located between Marie Curtis Park in the west and Marilyn Bell Park in the east to a state of good repair. This strategy was limited to the western waterfront, recognizing that Environmental Assessments for the remainder of the waterfront (Gibraltar Point,

Scarborough Waterfront Project, Scarborough Bluffs West, Ashbridge's Bay Landform) either exist or are planned. Although much of the field work was undertaken in the fall of 2016, prior to the high lake levels of 2017, a follow up assessment was carried out this summer allowing for a refinement in priorities as well as documentation of the effects of increased water levels. The strategy report, which is still in draft form, is expected to be finalized this year, with the understanding that priorities may shift as a result of future flooding and extreme weather events.

Future work will be further informed by other plans and strategies which speak to enhancing the resilience of the city's natural and infrastructure assets. The City's Resilience Strategy, Ravine Strategy, Transform TO, TRCA's waterfront maintenance strategies, among others, are well positioned to help Toronto adapt to the changing climate and mitigate future risks.

## **CONCLUSION**

---

The unprecedented flooding of spring 2017 has seen the water in Lake Ontario at its highest level ever recorded. While impacts have been seen across the whole of the City of Toronto's waterfront, the flood disproportionately affected Toronto Island Park, resulting in the closure of the park until the end of July. Water levels still remain above historic averages, the impact of which through the winter season is still unknown.

The total cost of the flooding to year-end, impacting the 2017 Operating Budget, is projected to be up to \$8.45 million. This includes emergency flood mitigation, emergency repairs, and revenue losses, including up to \$1.40 million for island rent and licence fee abatements.

Staff has begun an assessment of damage that is capital in nature, which is estimated at a further \$7.38 million to undertake urgent work along the waterfront, including work to stabilize the shoreline, repair health and safety issues, and ensure safe access to the beaches across the city for the 2018 summer season. Only \$2.0 million of the required \$7.38 million can be completed in 2018 and is included the 2018 Preliminary Parks, Forestry and Recreation Capital Budget. The remaining work will be the subject of further review following the spring thaw and will be considered in future budget years.

Staff are beginning to undertake the analysis of longer-term capital needs to both complete repairs to damaged assets and infrastructure, as well as build long-term resilience to extreme weather events across the waterfront. Preliminary assessment has determined these costs will potentially be in excess of \$25 million. Further, as the water still remains over 20 cm higher than average, staff expects to see damage associated with freeze-thaw action. Further damage will be quantified in the report planned in the third quarter of 2018.

## **CONTACT**

---

Richard Ubbens, Director, Parks, Parks, Forestry and Recreation, Tel: 416-392-7911, Email: [Richard.Ubbens@toronto.ca](mailto:Richard.Ubbens@toronto.ca)



Ann Ulusoy, Director, Management Services, Parks Forestry and Recreation, Tel: 416-392-8190, Email: [Ann.Ulusoy@toronton.ca](mailto:Ann.Ulusoy@toronton.ca)

## **SIGNATURE**

---

Janie Romoff  
General Manager, Parks, Forestry and Recreation

## **ATTACHMENTS**

---

Attachment 1: Flood Response Timeline

Attachment 2: Peak Flood Levels

Attachment 3: Example Photos: Types of damage across the Waterfront

Attachment 4: Maps of High Water Level Damage Sites

## Attachment 1: Flood Reponse Timeline

With lake levels beginning to rise at a very accelerated rate during the first few weeks of April, the first impacts were to the Eastern Beaches. Some of the first work undertaken, with TRCA, was to ensure the structural integrity of the Leuty lifeguard station at Woodbine Beach as well as to preserve the boardwalk and beach. However, efforts quickly shifted to emergency operations at Toronto Island Park by May 4th when water levels reached 75.65MASL and residents and assets on the Island began to be affected. Efforts to provide sandbags and labour were directed to priority areas, focusing on Wards Island. In an effort to proactively manage risks due to flooding at Toronto Island Park and along the shoreline, TRCA prepared inundation mapping. This mapping was prepared for various water level scenarios so sandbagging and pumping efforts could focus on protecting vulnerable areas in a timely manner.

The Toronto and Region Conservation Authority began referencing shoreline impacts in their Flood Forecasting and Warning messages from April 27th onwards, and posted a statement regarding Lake Ontario impacts on May 2nd. A complete inspection of the Toronto shoreline was completed by boat and on foot for the first two weeks in May, with preliminary results disseminated to Parks staff in late May. On May 5th TRCA issued a notice of caution at the Scarborough Bluffs due to landslides and erosion in the area, in addition to the then-active Flood Watch message. On May 17th The TDSB closed the Island Public school for the remainder of the school year and relocated students to the mainland. In the week of May 22-28, storm and rain activity dropped a further 49.8mm of rain on the region, compounding the flooding problems. On May 23rd the Harbour Master issued a notice to boaters in the Port and Harbour of Toronto to exercise caution with submerged obstacles and break walls. Navigational aids and lights were deployed to delineate where there were submerged obstacles.

On May 26th Toronto Public Health issued communications to Toronto Island residents to advise them to avoid contact floodwater due to potential risk of waterborne illnesses. Toronto Public Health began to monitor standing water at Toronto Island Park and began testing samples of mosquito larvae on June 8th.

May 27th saw the peak of the water level at 75.93MASL. On May 30 TRCA issued a further public notice restricting public access along the toe of the Scarborough Bluffs. The Bluffs remain heavily saturated and the area continues to be restricted at the time of writing. On May 31st, permit cancellations on Toronto Island Park were extended to July 31st, inclusive of Recreation summer camps. That week, Forestry staff inspected the integrity of trees which may have been compromised by the flooding and saturation of the Island.

By the end of May, over 45,000 sandbags, 1,000 meter bags and 27 industrial pumps had been deployed by City and TRCA staff to protect residents and assets on the Island. At its peak, the emergency operations saw dozens of staff from multiple City divisions and agencies working on a daily basis to mitigate the flood efforts.

Through June and July, the lake levels stabilized and then began to recede slowly. Parks, Forestry and Recreation, and TRCA staff continued to inspect, secure and clear

areas of debris as required along the shoreline and waterfront areas across the city. Additionally work was undertaken to secure areas against future high water levels. Because the water levels remained high through July, PFR began to undertake modifications to the ferry docks, to allow the boats to dock at both city and island sides. These modifications were complete by the end of July, and regular summer ferry service was resumed on Monday, July 31st.

## Attachment 2: Peak Flood Levels



Financial impacts resulting from high lake water levels in waterfront parklands



Attachment 3: Example Photos: Types of damage across the Waterfront

**Humber Trail – Ward 6**

April 28, 2017



May 6, 2017



July 2, 2017



**Sir Casimir Gzowski – Ward 13**

June 28, 2017



August 22, 2017



September 1, 2017



## Centre Island Park Washroom & Bathing Station – Ward 28

July 25, 2017



## Island Park the Grandstand Viewing Station – Ward 28

June 19, 2017



September 8, 2017



September 8, 2017





## Bluffer's Park – Ward 36

May 25, 2017



July 20, 2017



## Port Union Waterfront Park Pathway – Ward 44

April 24, 2017



May 31, 2017



July 26, 2017



## Sunnyside Park – Ward 13

July 12, 2017



## Budapest Park – Ward 14

July 24, 2017





## HTO Park – Ward 20

July 24, 2017



## Centre Island – Ward 28

May 23, 2017



July 25, 2017



## Olympic Island Picnic Site – Ward 28

May 2017 – Photo taken by Sean Tamblin

July 25, 2017



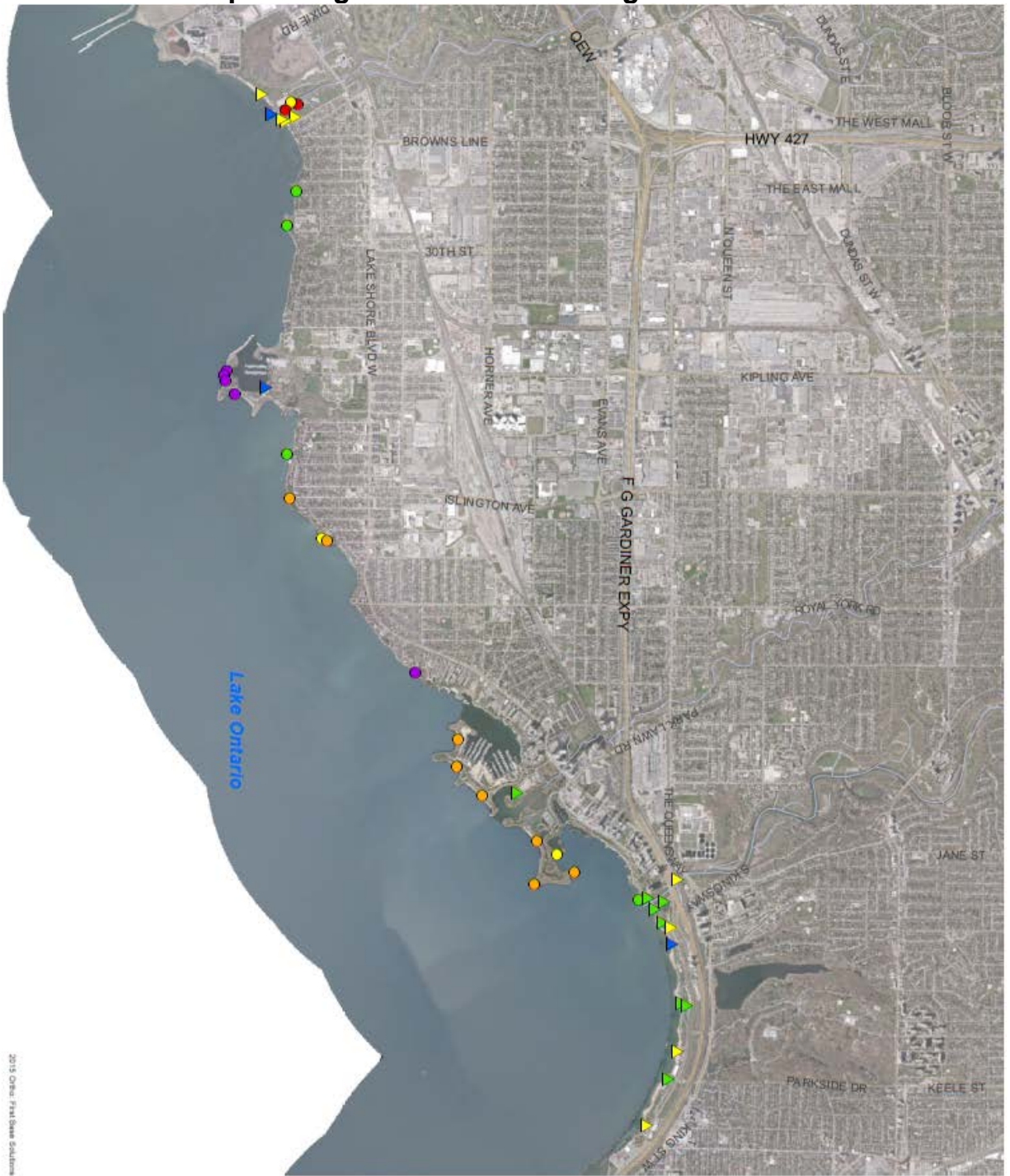
## Woodbine Beach Park – Ward 32

May 25, 2017





# Attachment 4: Maps of High Water Level Damage Sites



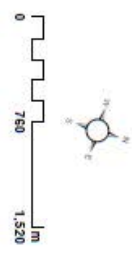
## City of Toronto High Water Level Damage Sites

Marie Curtis Park  
to Sunnyside Park

### Legend

- City of Toronto Locations
- ▲ 2017 Emergency Work
  - ▲ 2017
  - ▲ 2018
  - ▲ 2019 - 2027

- TRCA Locations
- 2017 Emergency Work
  - 2017
  - 2018
  - 2019-2023
  - 2024-2028



2015 Orca, First Data Solutions





# City of Toronto High Water Level Damage Sites

Marilyn Bell Park  
to Balmory Beach

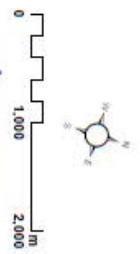
## Legend

### City of Toronto Locations

- ▲ 2017 Emergency Work
- ▲ 2017
- ▲ 2018
- ▲ 2019 - 2027

### TRCA Locations

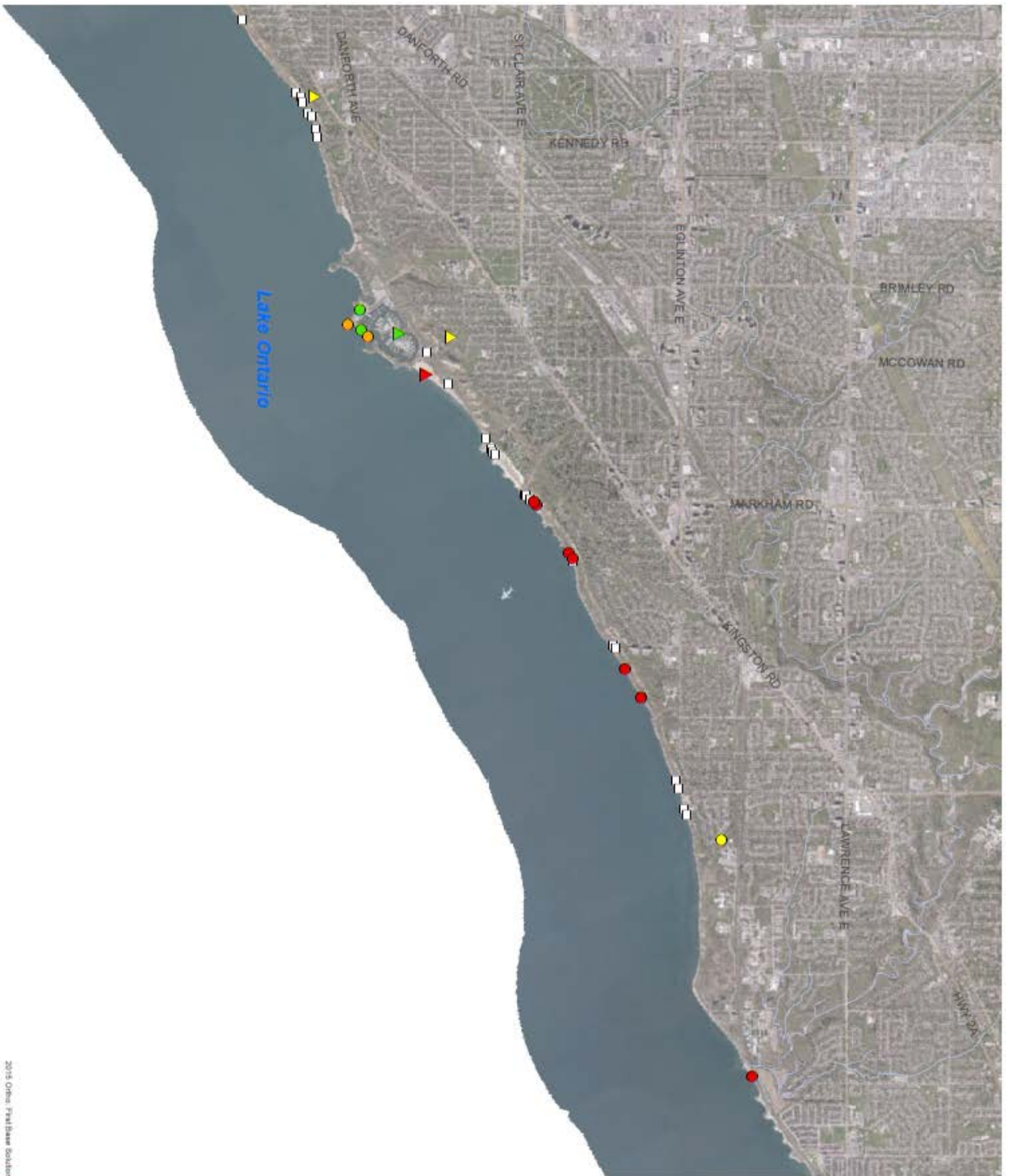
- 2017 Emergency Work
- 2017 Sandbagging
- 2017
- 2018
- 2019-2023
- 2024-2028



2015 Civic Fresh Blue Solutions







**City of Toronto**  
**High Water Level**  
**Damage Sites**

**Harrison Properties**  
**to Rouge Beach**

**Legend**

**City of Toronto Locations**

- ▲ 2017 Emergency Work
- ▲ 2017
- ▲ 2018
- ▲ 2019 - 2027

**TRCA Locations**

- 2017 Emergency Work
- 2017
- 2018
- 2019-2023
- 2024-2028

**Damage No Works Required**

- 2017 Landslide



2015 Ortho, FirstBase Solutions

