



CITY OF HAMILTON
Public Works Department
Environmental Services Division

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	July 12, 2018
SUBJECT/REPORT NO:	Waterfront (Bayfront) Trail Repair (PW18063) (City Wide) (Outstanding Business List)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Andrea McDonald (905) 546-2424, Extension 2738 Jim Collins (905) 546-2424, Extension 1075 Cynthia Graham (905) 546-2424, Extension 2337
SUBMITTED BY:	Craig Murdoch Director, Environmental Services Division Public Works Department
SIGNATURE:	

RECOMMENDATION

- (a) That Environmental Services Division staff be directed to implement Phase 1 - short term Trail Remediation Measures to repair the asphalt pathway for the trail areas from Bayfront Park to the floating bridge in the amount of \$157,150 to be funded through the unallocated Capital Reserve #108020;
- (b) That Environmental Services Division staff be directed to implement Phase 1 – short term Trail Remediation Measures to dredge the channel at the Floating Bridge and repair the bridge, in the amount of \$125,000 to be funded through the unallocated Capital Reserve #108020;
- (c) That Environmental Services Division staff be directed to implement Phase 1 -Trail Remediation Measures to raise the asphalt pathway for the trail areas from Princess Point to the Fishway above the current water level, in the amount of \$154,000 to be funded through the unallocated Capital Reserve #108020;
- (d) That Environmental Services Division staff be directed to submit their report and recommendations on the implementation of Phase 2 - Shoreline Protection Measures for the Waterfront Trail from Bayfront Park to the floating bridge, as

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identified in part b) of the Public Works Committee Report 18-006, Item 10.1 relating to Emergency Shoreline Protection Works, as part of the 2019 Capital Budget process.

- e) That the Outstanding Business List item related to Emergency Shoreline Protection Works sub-section (b), be identified as complete and removed from the list.

EXECUTIVE SUMMARY

At its meeting of May 9, 2018, Council approved Public Works Committee Report 18-006, including the following Motion, Item 10.1, Part (b), That Environmental Services staff report back to Public Works Committee on the options, costs and timing to address the 2017 and 2018 damage shoreline erosion and trail repair Bayfront Park.

Report PW18063 summarizes the findings and recommendations for trail repair noted in the Council Motion 10.1, Item (b)

The long-term shoreline erosion repair requirements noted in the Council Motion 10.1, Item (b), and the subsequent recommendations by staff will be directed separately to the 2019 Capital Budget process.

Following receipt of the final consulting engineer's study, and subsequent review by staff, the recommendation for moving forward is a Phased approach, with selective repairs where asphalt pathway damages have occurred (Phase 1). In addition to the asphalt pathway repairs, staff also recommends other pathway remediation associated with the storm events and changing environmental conditions. Staff recommend dredging in the area of the Floating Bridge and subsequent repairs of the bridge to ensure function and safety. As well, staff recommend increasing the elevation of the asphalt pathway from Princess Point to the Fishway well above the current water level of Cootes Paradise, which encounters frequent seasonal flooding. The total costs for this solution is estimated at \$436,150 for detailed design and construction, as outlined in the financial section of Report PW18063. This solution is estimated to require 3-4 months, and is dependent upon permit approvals and trail closure timelines. All of the short-term repairs in this report will allow the full removal of the temporary fencing that has been in place along the trail since the spring of 2017, thereby eliminating the visual obstruction and deviation experienced by trail users.

Alternatives for Consideration – See Page 6

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: \$436,150 in capital funding is required, as summarized below in Table 1 - Trail Remediation of Report PW18063, Table 2 - Floating Bridge of Report PW18063, and Table 3 - Trail Raising of Report PW18063.

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SUBJECT: Waterfront (Bayfront) Trail Repair (PW18063) (City Wide)**- Page 3 of 6****Table 1 – Summary of Recommended Trail Repair Estimated capital costs**

Area	Asphalt Pathway repair			
	Length area	Area of pathway repair	Asphalt repair cost	Replacement of Base Materials
South Sector	500 m	33m2	\$1,650	\$2,550
Central Sector	500 m	352m²	\$17,600	\$27,400
Northern Sector	1000m	515m²	\$25,750	\$42,200
Additional costs	2000m	Soft landscape / planting restoration		\$15,000
		Engineering/construction administration/staff		\$10,000
		Contingency		\$15,000
	Total costs			\$157,150

Table 2 – Summary of Recommended Floating Bridge Estimated capital costs

	Floating Bridge repair		
	Area	Description of pathway repair	Cost Estimate
Floating Bridge	All	Permits and approvals	\$10,000
Desjardin Channel	All	Dredging Operations to clear storm materials and debris	\$75,000
Floating Bridge	All	Repair connection points where damaged from high water levels	\$15,000
		Engineering/construction administration/staff	\$10,000
		Contingency	\$15,000
	Total costs		\$125,000

Table 3 – Summary of Recommended Trail Raising Estimated capital costs

Table 6 – Summary of Recommended Trail Raising Estimated Capital Costs				
	Pathway repair			
	Length area	Area of pathway repair	Asphalt repair cost	Placement of Base Materials
Low Area of Path 250m South of Fishway	130 m	780m2	\$39,000	\$45,000
Additional costs	130 m	Soft landscape / planting restoration		\$10,000
		Raising foundations of 6 light poles		\$20,000
		Remove and reinstall fence at raised elevation		\$15,000
		Engineering/construction administration/staff		\$10,000
		Contingency		\$15,000
	Total costs			\$154,000

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Ongoing maintenance costs beyond routine inspections and seasonal clean-up works are expected but will be absorbed within existing Parks budgets. No additional operational impacts are expected.

Staffing: No staffing impacts. Work will be overseen by Parks staff.

Legal: N/A

HISTORICAL BACKGROUND

In 2017, the City of Hamilton was negatively impacted by high water levels in Lake Ontario, and significant rainfall events occurring over the Spring/Summer. The high-water levels, combined with wind and wave action resulted in significant damage to the Waterfront Recreational trail that connects Cootes Paradise at Princess Point to Bayfront Park.

In particular, over 900 square metres of asphalt paved pathway was undermined and broken, and shoreline areas were seriously damaged. As this damage presents a safety issue, Parks staff cordoned off the damaged areas, using temporary fencing to keep the trail users away from these areas. No repairs have been completed to date at the Waterfront Trail, and these damaged conditions remain in place presently.

In 2017, staff engaged Shoreplan Engineering Limited to prepare a report to look at alternatives for repair of the damage to the trail from Bayfront Park to Cootes Paradise, as well as look at long term shoreline protection to avoid future damage. The results of this analysis will be the subject of a future report and will be forwarded to the 2019 Capital Budget process.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

As this work is in the active lake water level, we expect that approval from the Department of Fisheries and Oceans (DFO) will be required.

Additionally, a permit may be required by the Hamilton Conservation Authority (HCA) for approval of the works as this area is within the regulated area of the HCA.

RELEVANT CONSULTATION

The following groups have been consulted and/or are supportive of the recommendation.

Corporate Services – Procurement Section
Corporate Services – Capital Budgets and Development Section

ANALYSIS AND RATIONALE FOR RECOMMENDATION

In less than 12 months, the City of Hamilton experienced two weather events that damaged the shorelines at two City of Hamilton waterfront parks. These events have brought into focus the changing environmental conditions that are negatively impacting City of Hamilton assets.

Due to budget implications and longer-term planning requirements, the long-term shoreline improvements and protection measures recommendations are proposed to be considered separately under a 2019 Capital Budget Report for the trail connecting Bayfront Park to the floating bridge.

In the short term, this report proposes recommendations to get the trail repairs completed and temporary fencing down, to reinstate the trail as soon as possible and remove visual obstructions caused by the temporary fencing.

This area is approximately 2,700m in length, identified in Appendix “A” attached to Report PW18063, which has been sectioned into four areas for the subject review, based on the wave impacts and exposure. These areas include the south sector (500m) starting at Bayfront, identified in Appendix “B” attached to report PW18063, the Central Sector (500m), identified in Appendix “C” attached to report PW18063, and the Northern Sector (1000m) ending at the floating bridge, identified in Appendix “D” attached to report PW18063X. Appendix “E” attached to report PW18063 defines the area of the Floating Bridge and the area of Trail Raising.

The construction timing for implementation of the report recommendations is 3-4 months because of the scale of the works, and this is dependent on regulatory approvals. Preferred timing of work would be coordinated with non-peak usage of the trail in the fall, and if required, continued through to the spring. However, the in-water work would have to be done during non-breeding times for fish, which is July 15th to September 15th. The remaining work is above the current water level, and likely most of this work could occur even through the colder months where frozen ground conditions could be beneficial.

Due to the site location and the narrow access of the existing pathway being located between the railyard tracks and the water, the Waterfront Trail would need times of restricted access to the trail and floating bridge from the gazebo area of Bayfront Park to Princess Point. Staff would work to schedule the access restrictions to minimize disruptions. In order to safely install the restoration materials on this narrow path that has no existing turn-around points, will require materials to be loaded in from Bayfront Park, and then built from the north end to the south. The costs estimated are based on all work being completed from the land side, as work from the water side would be very high, and cost prohibitive.

The City has an obligation to ensure that recreational trails are safe for use by the public, as well as the ongoing maintenance and repair due to storm damage, and therefore, any design solution must consider ways to minimize closures of the trail.

ALTERNATIVES FOR CONSIDERATION

Alternate phasing would be to defer these works and package them as part of the overall long-term Bayfront Trail Shoreline Protection works, to be presented under the 2019 Capital Budget process.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Healthy and Safe Communities

Hamilton is a safe and supportive city where people are active, healthy, and have a high quality of life.

Built Environment and Infrastructure

Hamilton is supported by state of the art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

APPENDICES AND SCHEDULES ATTACHED

Appendix “A” - Location Map

Appendix “B” - Waterfront Area Mapping – South Sector

Appendix “C” - Waterfront Area Mapping – Central Sector

Appendix “D” - Waterfront Area Mapping – North Sector

Appendix “E” - Waterfront Area Mapping – Floating Bridge and Trail Raising Area