



Summary

The Port Lands Flood Protection Project (the “Project”) is a comprehensive strategy for flood protecting 240 hectares (715 acres) of land in southeastern downtown Toronto – including parts of the Port Lands, South Riverdale, Leslieville and the First Gulf/Unilever development site.

As Toronto’s downtown experiences continued population and job growth, the Port Lands remains the last significant undeveloped space in the heart of Canada’s largest city. Currently, about 290 hectares (715 acres) of the area is at risk of flooding from the Don River watershed under a provincially-defined Regulatory Storm event. The Project will remove the risk of flooding, allowing the underutilized Port Lands to transform into a long-term asset for the people and economy of Toronto, Ontario and Canada.

The area has enormous potential for residential and employment-generating commercial development in a part of the city that has been left unchanged during decades of development and modernization in Toronto’s downtown. This \$1.25 billion project will facilitate billions of dollars in private investment. Investing strategically in the Project not only unlocks development value and protects existing neighborhoods, but also protects governments from significant financial risk. Without adequate mitigation and protection measures in place, governments will continue to assume the risk and costs associated with major flooding in this area. The significance of this risk is underlined by the Canadian National Disaster Management Strategy’s estimated cost-benefit ratio for investment in flood protection: for every dollar invested, five dollars of potential damages are avoided.

The Project will substantially enhance the area’s public realm, beautifying a key part of the downtown, creating more access to Lake Ontario and continuing the transformation and revitalization of Toronto’s waterfront.

In addition to broad public support, the Project and has secured environmental approval from the Ministry of the Environment and Climate Change (“MOECC”). It represents the second phase of a two-phase project. Phase 1 flood protection was implemented in the West Don Lands and enabled the successful construction of the Pan Am Athletes’ Village and an emerging new mixed-use community in a former flood plain.

Key project provisions are as follows:

- All orders of Government funded and approved \$65 million for the Cherry Street Stormwater and Lake Filling project (formerly Essroc Quay Lakefilling) in September 2016 and it is now under construction. This is part of the \$1.25-billion Project
- Toronto City Council has approved the City of Toronto’s 1/3 share of the funding for the Project through the 2017 Capital Budget and 10-Year Capital Plan
- With \$65 million of the \$1.25-billion Project funded in 2016, discussions continue between all orders of Government to finalize the outstanding funding commitment (Contribution Agreement) of \$1.185 billion by March 31, 2018

- The current total Board approved Capital for the \$1.185 billion Project is \$40 million based on Capital Approvals granted by the Board of Directors on March 27, 2017, September 14, 2017 and, December 7, 2017;
- Delivery agreements totaling \$40 million between the City of Toronto and Waterfront Toronto have been executed, and Federal Government Approval in Principle has been granted as required to allow mobilization and schematic design to commence;
- The Executive Steering Committee (“ESC”), originally established in 2011/12 to oversee the Port Lands Acceleration Initiative, will continue to provide high level oversight throughout this project implementation phase;
- Waterfront Toronto will be responsible for managing the design, engineering, project management, risk management, cost estimating, permits and approvals (all “Soft Costs”) covered in this current request for Capital Approval (\$198,473,722)

Waterfront Toronto has commenced the planning and implementation phase for the Port Lands Flood Protection Project utilizing the \$40 million committed by the City of Toronto. Waterfront Toronto has procured professional services for the schematic design and mobilization contemplated by the initial funding as well as for the completion of the overall project. Waterfront Toronto will continue work with previously selected vendors where required to maintain project continuity. In these cases, Waterfront Toronto will negotiate terms based on existing contractual arrangements.

Full engagement of this consulting team is subject to the Waterfront Toronto Board of Directors formal Capital Approval and the negotiation of a project specific Master Contribution Agreement (CA) with the City of Toronto, Province of Ontario and Government of Canada. This CA is anticipated to be in place by April 2018.

Objective

That the Finance, Audit and Risk Management Commitment recommend that the Board of Directors approve expenditures not to exceed \$198,473,722 (inclusive of the \$40 million approved to date) for the provision of design, engineering, project management, risk management, cost estimating, permits and approvals (all “Soft Costs”) related to the Project. **The recommended Capital Approval amount of \$198,473,722 is consistent with the recommended soft cost budget determined through the Due Diligence process.** This approval will be conditional upon the execution of the Master Contribution Agreement between the Government of Canada, The Province of Ontario, The City of Toronto and Waterfront Toronto.

Due Diligence Budget Summary

During the Port Lands Flood Protection and Enabling Infrastructure Due Diligence program the total estimated cost for the project was recommended to be \$1.25 billion in accordance with **Table 1** below.

Table 1

Cost Element	Amount
Base Construction Cost Element (2016\$)	\$ 784,000,000
20% Soft Cost Factor (2016\$)	\$ 157,000,000
1.76% Non-Recoverable HST (2016\$)	\$ 17,000,000
Escalation Allowance	\$ 119,000,000
Risk Contingency	\$ 173,000,000
Recommended Project Budget	\$ 1,250,000,000

Refer to page 76 of the Due Diligence report for additional details with respect to the breakdown contained in **Table 1**.

The recommended Project cost is comprised of numerous individual sub-projects as detailed in **Table 2**. A summary of these component projects and costs can be found on page 83 of the Due Diligence Report.

Table 2

Work Package Description	Project Component Numbering	Hard Cost Estimate	Soft Cost Allowance AVERAGE 20%	Escalation Allowance AVERAGE 12.6%	Risk Contingency AVERAGE 18.3%	Non-Recoverable HST AVERAGE 1.76%	Total Project Budget
1 Cherry Street Stormwater and Lakefilling	1 - Existing	\$ 41,000,000	\$ 8,000,000	\$ 6,000,000	\$ 9,000,000	\$ 1,000,000	\$ 65,000,000
2 Commissioners St. West to New Cherry St.	15a	\$ 11,000,000	\$ 2,300,000	\$ 1,800,000	\$ 2,700,000	\$ 200,000	\$ 18,000,000
3 Commissioners St. East to Saulter St.	15c	\$ 4,200,000	\$ 900,000	\$ 700,000	\$ 1,000,000	\$ 200,000	\$ 7,000,000
4 Cherry Street Re-alignment (North & South of Keating)	14a	\$ 13,800,000	\$ 2,800,000	\$ 2,100,000	\$ 3,000,000	\$ 300,000	\$ 22,000,000
5 Don Roadway North	7a	\$ 4,200,000	\$ 900,000	\$ 700,000	\$ 1,000,000	\$ 200,000	\$ 7,000,000
6 Hydro One Integration	18	\$ 7,300,000	\$ 1,500,000	\$ 1,100,000	\$ 1,800,000	\$ 300,000	\$ 12,000,000
7 Site Wide Municipal Infrastructure	5	\$ 64,000,000	\$ 12,800,000	\$ 9,800,000	\$ 14,000,000	\$ 1,400,000	\$ 102,000,000
8 Cherry Keating-Cherry Street Bridge North	14b	\$ 34,500,000	\$ 6,900,000	\$ 5,300,000	\$ 7,600,000	\$ 700,000	\$ 55,000,000
9 Cherry Polson-Cherry Street Bridge South	14c	\$ 26,500,000	\$ 5,700,000	\$ 3,400,000	\$ 5,800,000	\$ 600,000	\$ 42,000,000
10 Commissioners Street Bridge/Don Roadway	15b	\$ 27,000,000	\$ 5,400,000	\$ 4,100,000	\$ 5,900,000	\$ 600,000	\$ 43,000,000
11 Lakeshore Road & Rail Bridge Modifications	13	\$ 12,000,000	\$ 2,400,000	\$ 1,800,000	\$ 2,600,000	\$ 200,000	\$ 19,000,000
12 Old Cherry St. Bridge Demolition	14d	\$ 2,500,000	\$ 500,000	\$ 400,000	\$ 550,000	\$ 50,000	\$ 4,000,000
13 River Valley System	3	\$ 305,500,000	\$ 60,800,000	\$ 46,200,000	\$ 67,100,000	\$ 6,400,000	\$ 486,000,000
14 Don Greenway (Spillway & Wetland)	4						
15 Keating Channel Modifications	16	\$ 22,000,000	\$ 4,400,000	\$ 3,300,000	\$ 4,800,000	\$ 500,000	\$ 35,000,000
16 Polson Slip North Side Naturalization	2	\$ 38,000,000	\$ 7,200,000	\$ 5,700,000	\$ 8,300,000	\$ 800,000	\$ 60,000,000
17 Don Roadway Valley Wall Feature	8	\$ 17,000,000	\$ 3,400,000	\$ 2,600,000	\$ 3,700,000	\$ 300,000	\$ 27,000,000
18 Eastern Avenue Flood Protection	12	\$ 3,000,000	\$ 600,000	\$ 500,000	\$ 800,000	\$ 100,000	\$ 5,000,000
19 East Harbour Flood Protection Landform	9	\$ 3,000,000	\$ 600,000	\$ 500,000	\$ 800,000	\$ 100,000	\$ 5,000,000
20 Flow Control Weirs	11	\$ 24,000,000	\$ 4,800,000	\$ 3,600,000	\$ 5,100,000	\$ 500,000	\$ 38,000,000
21 Sediment and Debris Management Area	10	\$ 49,000,000	\$ 9,700,000	\$ 7,500,000	\$ 10,800,000	\$ 1,000,000	\$ 78,000,000
22 Villiers Island Grading	19	\$ 17,500,000	\$ 3,500,000	\$ 2,600,000	\$ 4,000,000	\$ 400,000	\$ 28,000,000
23 River Park North	20	\$ 14,000,000	\$ 3,000,000	\$ 2,500,000	\$ 3,250,000	\$ 250,000	\$ 23,000,000
24 River Park South	21	\$ 17,000,000	\$ 3,400,000	\$ 2,600,000	\$ 3,700,000	\$ 300,000	\$ 27,000,000
25 Promontory Park South	17b	\$ 26,000,000	\$ 5,500,000	\$ 4,200,000	\$ 5,700,000	\$ 600,000	\$ 42,000,000
				\$ -			
		\$ 784,000,000	\$ 157,000,000	\$ 119,000,000	\$ 173,000,000	\$ 17,000,000	\$ 1,250,000,000

Table 2 above includes the project costs for the Cherry Street Lake Filling Project (\$65,000,000) which is proceeding under separate funding and a separate Capital Approval. **Table 3** below details the total recommended Project cost of \$1.185B which excludes the Cherry Street Lake Filling Project and is the basis for the calculation of the recommended soft cost budget and Capital Approval request contained herein.

As detailed in **Table 3** below, the allowance for project soft costs was calculated based on applying a factor of approximately 20% to the estimated project construction costs (\$743M X 20% = \$149M). An allowance for cost escalation (\$113M) and a risk contingency (\$164M) to account for market and project risk were applied to both the hard cost estimate and the soft cost allowance to derive the project budget. Finally, a factor was applied to address the 1.76% portion of HST which cannot be recovered by Waterfront Toronto (\$16M).

Table 3

Work Package Code	Project Component	Hard Cost	Soft Cost Allowance	Escalation Allowance	Risk Contingency	Non-Recoverable HST	Total Project Budget
Description	Numbering	Estimate	AVERAGE 20%	AVERAGE 12.6%	AVERAGE 18.3%	AVERAGE 1.76%	
2	Commissioners St. West to New Cherry St.	15a	\$ 11,000,000	\$ 2,300,000	\$ 1,800,000	\$ 2,700,000	\$ 18,000,000
3	Commissioners St. East to Saultier St.	15c	\$ 4,200,000	\$ 900,000	\$ 700,000	\$ 1,000,000	\$ 7,000,000
4	Cherry Street Re-alignment (North & South of Keating)	14a	\$ 13,800,000	\$ 2,800,000	\$ 2,100,000	\$ 3,000,000	\$ 22,000,000
5	Don Roadway North	7a	\$ 4,200,000	\$ 900,000	\$ 700,000	\$ 1,000,000	\$ 7,000,000
6	Hydro One Integration	18	\$ 7,300,000	\$ 1,500,000	\$ 1,100,000	\$ 1,800,000	\$ 12,000,000
7	Site Wide Municipal Infrastructure	5	\$ 64,000,000	\$ 12,800,000	\$ 9,800,000	\$ 14,000,000	\$ 102,000,000
8	Cherry Keating-Cherry Street Bridge North	14b	\$ 34,500,000	\$ 6,900,000	\$ 5,300,000	\$ 7,600,000	\$ 55,000,000
9	Cherry Polson-Cherry Street Bridge South	14c	\$ 26,500,000	\$ 5,700,000	\$ 3,400,000	\$ 5,800,000	\$ 42,000,000
10	Commissioners Street Bridge/Don Roadway	15b	\$ 27,000,000	\$ 5,400,000	\$ 4,100,000	\$ 5,900,000	\$ 43,000,000
11	Lakeshore Road & Rail Bridge Modifications	13	\$ 12,000,000	\$ 2,400,000	\$ 1,800,000	\$ 2,600,000	\$ 19,000,000
12	Old Cherry St. Bridge Demolition	14d	\$ 2,500,000	\$ 500,000	\$ 400,000	\$ 550,000	\$ 4,000,000
13	River Valley System	3	\$ 305,500,000	\$ 60,800,000	\$ 46,200,000	\$ 67,100,000	\$ 486,000,000
14	Don Greenway (Spillway & Wetland) (Included in #3)	4					
15	Keating Channel Modifications	16	\$ 22,000,000	\$ 4,400,000	\$ 3,300,000	\$ 4,800,000	\$ 35,000,000
16	Polson Slip North Side Naturalization	2	\$ 38,000,000	\$ 7,200,000	\$ 5,700,000	\$ 8,300,000	\$ 60,000,000
17	Don Roadway Valley Wall Feature	8	\$ 17,000,000	\$ 3,400,000	\$ 2,600,000	\$ 3,700,000	\$ 27,000,000
18	Eastern Avenue Flood Protection	12	\$ 3,000,000	\$ 600,000	\$ 500,000	\$ 800,000	\$ 5,000,000
19	East Harbour Flood Protection Landform	9	\$ 3,000,000	\$ 600,000	\$ 500,000	\$ 800,000	\$ 5,000,000
20	Flow Control Weirs	11	\$ 24,000,000	\$ 4,800,000	\$ 3,600,000	\$ 5,100,000	\$ 38,000,000
21	Sediment and Debris Management Area	10	\$ 49,000,000	\$ 9,700,000	\$ 7,500,000	\$ 10,800,000	\$ 78,000,000
22	Villiers Island Grading	19	\$ 17,500,000	\$ 3,500,000	\$ 2,600,000	\$ 4,000,000	\$ 28,000,000
23	River Park North	20	\$ 14,000,000	\$ 3,000,000	\$ 2,500,000	\$ 3,250,000	\$ 23,000,000
24	River Park South	21	\$ 17,000,000	\$ 3,400,000	\$ 2,600,000	\$ 3,700,000	\$ 27,000,000
25	Promontory Park South	17b	\$ 26,000,000	\$ 5,500,000	\$ 4,200,000	\$ 5,700,000	\$ 42,000,000
			\$ 743,000,000	\$ 149,000,000	\$ 113,000,000	\$ 164,000,000	\$ 1,185,000,000

The portions of the escalation allowance, risk contingency and non-recoverable HST that are applicable to the soft cost allowances for each sub-project are provided in **Table 4**. As noted, the total soft cost budget established during the Due Diligence process, including escalation, risk contingency and non-recoverable HST equates to \$198,473,722. Please refer also to **Table 5** for a summary of those elements.

Table 4

Work Package Code	Project Component	Soft Cost Allowance	Escalation Allowance	Risk Contingency	Non-Recoverable HST	Total Project Budget
Description	Numbering	AVERAGE 20%	AVERAGE 12.6%	AVERAGE 18.3%	AVERAGE 1.76%	
2	Commissioners St. West to New Cherry St.	15a	\$ 2,300,000	\$ 289,800	\$ 420,900	\$ 3,063,688
3	Commissioners St. East to Saultier St.	15c	\$ 900,000	\$ 113,400	\$ 164,700	\$ 1,198,835
4	Cherry Street Re-alignment (North & South of Keating)	14a	\$ 2,800,000	\$ 352,800	\$ 512,400	\$ 3,729,708
5	Don Roadway North	7a	\$ 900,000	\$ 113,400	\$ 164,700	\$ 1,198,835
6	Hydro One Integration	18	\$ 1,500,000	\$ 189,000	\$ 274,500	\$ 1,998,058
7	Site Wide Municipal Infrastructure	5	\$ 12,800,000	\$ 1,612,800	\$ 2,342,400	\$ 17,050,092
8	Cherry Keating-Cherry Street Bridge North	14b	\$ 6,900,000	\$ 869,400	\$ 1,262,700	\$ 9,191,065
9	Cherry Polson-Cherry Street Bridge South	14c	\$ 5,700,000	\$ 718,200	\$ 1,043,100	\$ 7,592,619
10	Commissioners Street Bridge/Don Roadway	15b	\$ 5,400,000	\$ 680,400	\$ 988,200	\$ 7,193,007
11	Lakeshore Road & Rail Bridge Modifications	13	\$ 2,400,000	\$ 302,400	\$ 439,200	\$ 3,196,892
12	Old Cherry St. Bridge Demolition	14d	\$ 500,000	\$ 63,000	\$ 91,500	\$ 666,019
13	River Valley System	3	\$ 60,800,000	\$ 7,660,800	\$ 11,126,400	\$ 80,987,935
14	Don Greenway (Spillway & Wetland) (Included in #3)	4		0	0	0
15	Keating Channel Modifications	16	\$ 4,400,000	\$ 554,400	\$ 805,200	\$ 5,860,969
16	Polson Slip North Side Naturalization	2	\$ 7,200,000	\$ 907,200	\$ 1,317,600	\$ 9,590,676
17	Don Roadway Valley Wall Feature	8	\$ 3,400,000	\$ 428,400	\$ 622,200	\$ 4,528,931
18	Eastern Avenue Flood Protection	12	\$ 600,000	\$ 75,600	\$ 109,800	\$ 799,223
19	East Harbour Flood Protection Landform	9	\$ 600,000	\$ 75,600	\$ 109,800	\$ 799,223
20	Flow Control Weirs	11	\$ 4,800,000	\$ 604,800	\$ 878,400	\$ 6,393,784
21	Sediment and Debris Management Area	10	\$ 9,700,000	\$ 1,222,200	\$ 1,775,100	\$ 12,920,772
22	Villiers Island Grading	19	\$ 3,500,000	\$ 441,000	\$ 640,500	\$ 4,662,134
23	River Park North	20	\$ 3,000,000	\$ 378,000	\$ 549,000	\$ 3,996,115
24	River Park South	21	\$ 3,400,000	\$ 428,400	\$ 622,200	\$ 4,528,931
25	Promontory Park South	17b	\$ 5,500,000	\$ 693,000	\$ 1,006,500	\$ 7,326,211
			\$ 149,000,000	\$ 18,774,000	\$ 27,267,000	\$ 198,473,722

Table 5

Due Diligence Soft Cost Estimate	
Total Construction Cost Estimate*	\$ 743,000,000
Soft Cost Allowance	\$ 149,000,000
Soft Cost Escalation Allowance	\$ 18,774,000
Base Soft Cost Allowance	\$ 167,774,000
Soft Cost Risk Contingency	\$ 27,267,000
Soft Cost Budget, Including Contingency	\$ 195,041,000
Soft Cost Non-Recoverable HST	\$ 3,432,722
Total Soft Cost Budget & Capital Approval Request	\$ 198,473,722

Soft Cost Capital Approval

Waterfront Toronto has estimated the total anticipated cost for professional consulting, project management, partner agencies and permits and approvals for the Project based on the defined scope and as detailed in **Table 6** below. The current forecast soft cost is \$175,451,889 as compared to the original Base Soft Cost allowance of \$167,774,000 calculated during Due Diligence. The forecast includes fees which have been established through negotiation (e.g. MVVA, HDR, TRCA and Jacobs) and competitive procurement (Entuitive, WSP and Altus) and as well as estimations of soft costs which are forecast to be incurred at later stages of the project.

Table 6

Discipline	Firm	Forecast
River and Park Design	MVVA	\$ 76,464,184
Project Management	Waterfront Toronto	\$ 23,432,876
Bridges Design and Engineering	Entuitive	\$ 14,395,726
Program Management	TBD	\$ 10,416,117
Qualified Person Environmental Monitoring	Jacobs (CH2M)	\$ 9,300,000
Roads and Utilities Engineering	WSP and DTAH	\$ 8,709,000
Environmental Engineering	Jacobs (CH2M)	\$ 6,950,000
Public Agencies	TRCA	\$ 5,000,000
Geotechnical Investigations	GHD	\$ 3,750,000
Environmental Investigations	Various	\$ 3,750,000
Public Agencies	City Divisions	\$ 3,000,000
Risk Management	HDR	\$ 2,252,985
DMNP EA Monitoring	TRCA	\$ 2,000,000
Consultation & Engagement	Bespoke	\$ 1,500,000
Cost Consultant	Altus	\$ 716,000
Permits	TBD	\$ 500,000
Building Demolition/Restoration Consulting	TBD	\$ 500,000
Lease Terminations & Relocations	WT	\$ 500,000
Third Party Peer Review	TBD	\$ 400,000
Long-term Monitoring	TBD	\$ 400,000
Legal Services	TBD	\$ 350,000
Marine Approvals	Aquatic Habitat Toronto	\$ 315,000
Public Agencies	Create TO (TPLC)	\$ 300,000
Capital Peer Review Panel	TBD	\$ 250,000
Public Agencies	Ports Toronto	\$ 100,000
Environmental Pilot Projects	Various	\$ 100,000
Archeology/Heritage	TBD	\$ 100,000
Total Forecast Soft Costs		\$ 175,451,889

On June 21, 2017, Waterfront Toronto received Approval in Principle from the Government of Canada to begin planning and implementation for the Project. Work could only proceed subject to:

- Formal announcement of the project by the three orders of government on June 28, 2017
- The provision of interim funding by the City of Toronto secured through two delivery agreements:
 - Delivery Agreement #1 for \$15.6 million executed on September 14, 2017
 - Delivery Agreement #2 for \$24.4 million executed on January 15, 2018
- Board of Directors Capital Approval secured through three approvals
 - Capital Approval #1 for \$10 million granted on March 27, 2017
 - Capital Approval #2 for \$5.6 million granted on September 14, 2017

- Capital Approval #3 for \$24.4 million granted on December 7, 2017

The procurement of professional consultants and partner agency resources required to implement the planning, design and construction of the Project commenced on September 14, 2017 based on the secured \$40 million in City Funding and Board of Directors Capital Approvals. Waterfront Toronto has now:

- Engaged consultants and third-party service providers through competitive procurement
- Negotiated contract extensions with eligible consultants or third-party service providers
- Engaged supporting partner agencies including CreateTO, and Toronto and Region Conservation, and
- Calculated internal resourcing requirements.

Table 7 illustrates how the escalation allowance and risk contingency is utilized to fund the current forecast of commitments and future costs within the original Soft Cost Budget of \$198,473,722.

Table 7

Forecast Soft Cost Summary	
Original Soft Cost Allowance (Due Diligence Report)	\$ 149,000,000
Escalation Allowance	\$ 18,774,000
Original Escalated Soft Cost Allowance (Due Diligence Report)	\$ 167,774,000
Base Soft Cost Commitment Forecast (March 2018)	\$ 175,451,889
Forecast Variance (Soft Cost Allowance to Soft Cost Forecast)	\$ 7,677,889
Allocated Soft Cost Risk Contingency (5.15% of Original Allowance)	\$ 7,677,889
Unallocated Soft Cost Risk Contingency (13.15% of Original Allowance)	\$ 19,589,111
Total Soft Cost Risk Contingency	\$ 27,267,000
Non-recoverable HST	\$ 3,432,722
Total	\$ 198,473,722

Management currently forecasts that the total soft costs for the Project will exceed the escalated soft cost allowance established during the Due Diligence process by \$7,677,889. This amounts to 5.15% of the original soft cost allowance and is 28.2% of the soft costs risk contingency of \$27,267,000.

Given that approximately 90% of the forecast soft cost expenditures for the Project have now been confirmed through negotiation or competitive procurement the balance of unallocated contingency \$19,589,111 (13.15% of the original soft cost allowance) is sufficient to address future potential soft cost risk on the project.

We do note however that the costs of First Nations' accommodation have not yet been determined and, when confirmed, will be drawn from the unallocated contingency.

Waterfront Toronto will submit a formal request for approval from the Port Lands Executive Steering Committee ("ESC") on March 20, 2018 to approve the commitment of Capital for soft costs in the amount of \$198,473,722. The status of the request to the ESC will be reported to the Board of Directors on March 29, 2018.

Details of the consulting commitments and agency agreements, as per **Table 6**, are described in the **Procurement Process and Recommendations** section.

Recommendation

Management recommends the following:

That the Finance Audit and Risk Management Committee recommend to the Board of Directors that capital investment of \$198,473,722 be approved to allow for the commitment of project management, design and engineering, cost consulting, risk management, permits and approvals and ancillary soft costs related to the Project. The approval of the Board of Directors will be conditional upon execution of a Master Contribution Agreement in the amount of \$1.185 billion, between the Government of Canada, The Province of Ontario, The City Toronto and Waterfront Toronto. The approval will also be conditional upon the approval of the Portlands ESC.

Management advises that additional Capital Approvals will be necessary and will be obtained from the Board of Directors as required to implement the completion of construction of all components of the Port Lands Flood Protection project. These additional Capital Approval requests will be made in compliance with the Capital Approval process.

Appendix

Project Risks

As part of Due Diligence Project, a risk identification and quantification were conducted resulting in creation of a risk simulation model and cost risk analysis assessment.

These risks include base cost uncertainty, the monetary impact of discrete risks as defined in the risk register plus escalation, as well as the monetary impact of schedule delays through extended overhead and additional escalation caused by schedule delays.

A risk assessment simulation model was developed employing industry best practice techniques and models that calculate the probability that the Project can be completed within a given budget. Methodology was utilized where specific event risks are identified and quantified instead of applying fixed percentages for unknowns. This risk-based approach is particularly appropriate for projects having few precedents or benchmarks. Traditional method of dealing with project unknowns, by applying an across the board single-value contingency factor, tend to more often under- or over-estimate the project cost by masking the critical uncertainty inherent to a particular project.

The total cost risk analysis results are presented in a form of probability distribution or “S-Curve” graph as illustrated in Chart 1 on the following page. The result yielded a high 90% probability that the Project will be delivered within the cost estimate.

The risk-based analysis approach provides for the development of a detailed list of specific risks related to specific project components. Each risk is then evaluated for potential and size of an impact to a Project cost (and schedule).

Chart 2 illustrates the top cost risks based on expected value of impact to the project. This “tornado” chart shows the expected value for each risk ranked in descending order, with the largest risks at the top of the diagram.

Risk names are listed along the vertical axis with the expected impact (in million \$) of the risk shown along the horizontal axis.

Chart 1

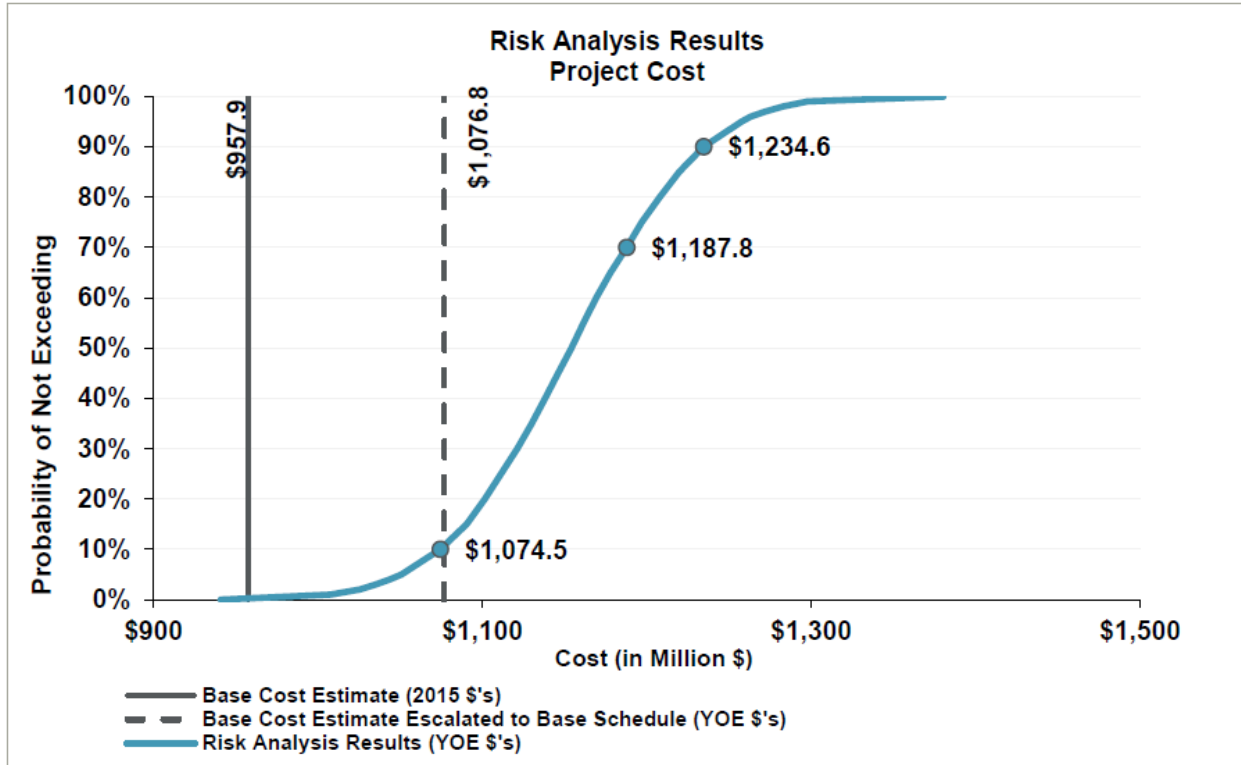
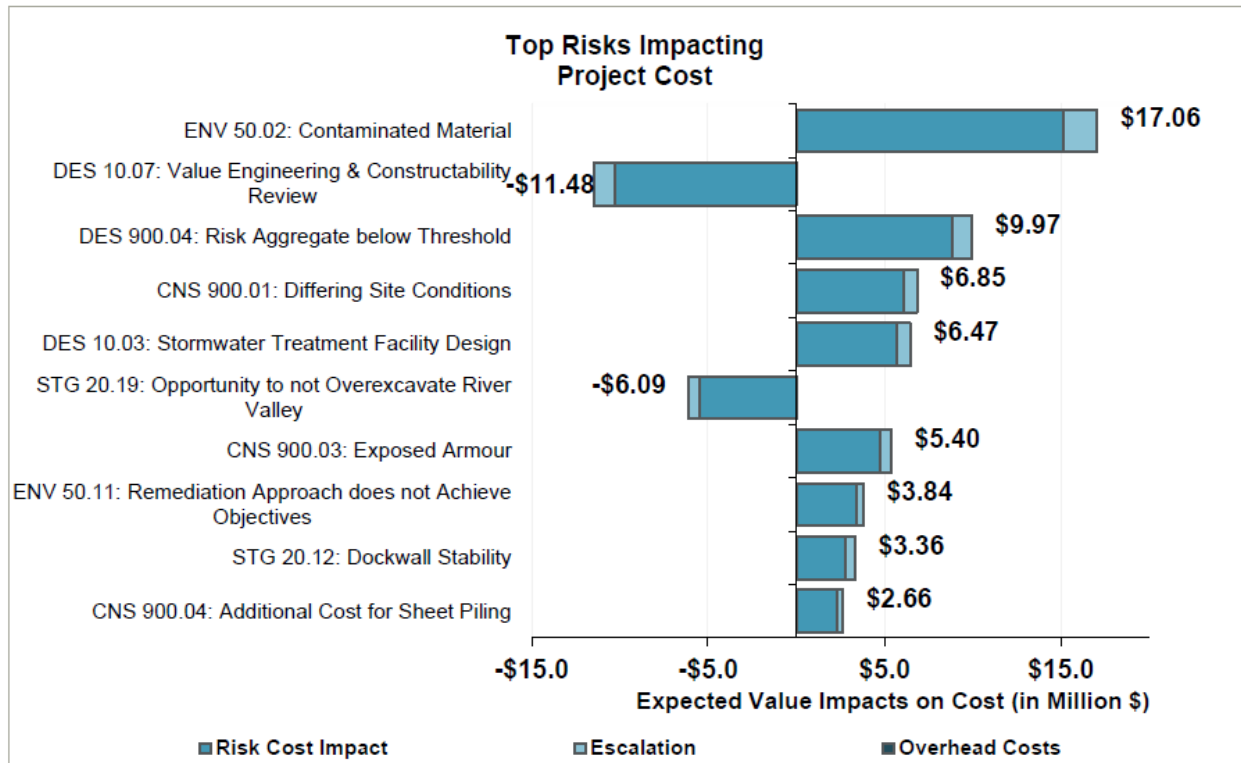


Chart 2



Given the nature of impact some of the top risks impacting project costs are related to soft cost activities. Value engineering, design, reviews and regulatory approvals are identified and rated high and very high in the risk matrix.

Table 6 below illustrates risks identified in each category where soft cost categories represent 20% of overall risks related to the project.

Table 6

Risk Category	Active	Inactive	Retired	Total	
	Cost	Schedule			
Environmental & Hydraulics	9	9	16	0	31
Right-of-Way	1	0	3	0	4
Utilities	0	2	2	1	5
Design / PS&E	4	4	8	3	18
Structures & Geotech	9	11	17	0	35
Partnerships and Stakeholders	0	2	2	0	4
Management / Funding			2	0	2
Contracting and Procurement	1	0	3	0	4
Construction	12	5	14	0	30
Total	36	33		4	133
		62	67	4	133

Relative to the Soft Cost budget a specific list of risks has been identified as expressed in the following Table 7.

Table 7

Risk Description	Potential Impact	Mitigation Strategy
Stormwater Treatment Facility Design	Risk that City insists on quality system being built upfront (\$15M more). Modified facility would be 12mo in base; Quality system would add 12mo.	<ul style="list-style-type: none"> Have discussions with the City about phased approach
Value Engineering & Construction Review	Opportunity: Creative soil reuse, optimise the design to reduce duration, flexible land use and development.	<ul style="list-style-type: none"> Schedule contractibility and value engineering reviews
Design Review Panel Delay	Panel may take longer to approve project design or required changes. Panel meets once a month – any adjustments can result in an additional month of delay.	<ul style="list-style-type: none"> Keeping Panel informed of design as it is progressing will mitigate risk
Aggressive Design and Approval Schedule	Design schedule is compressed to meet constrained funding and constrained completion dates – there is a risk to not be able to meet schedule. Triggered by availability in funding.	<ul style="list-style-type: none"> DFO review concurrent with design Advance the design of the habitat
Risk aggregate below Threshold	Twenty-four (24) risks discussed fell below \$1M or 1mo delay	<ul style="list-style-type: none"> Continue to complete the design and update base estimate
Environmental Assessment Compliance and Amendments	Schedule delay due to having to change the approvals of environmental assessment. Design progression may trigger a minor or major env. amendment.	<ul style="list-style-type: none"> Develop a list of red flag action items to share with designers. Integrate overall construction phasing

		<ul style="list-style-type: none"> • address any amendments in the later construction packages
CBRA Review and Acceptance Issues	The CBRA review has a history of experiencing delays of 6 to 12 months (in addition to base 12mo).	<ul style="list-style-type: none"> • Added consultation with agencies who are reviewing the documents
Environmental Permits Approval Issues	Environmental compliance approval (ECA) has history of up to 3 months delay from a base of 12 months	<ul style="list-style-type: none"> • Leverage pilot test approval process with MOECC and contractors and technology with existing ECA.
Change in Environmental Regulations	Risk that env. regulations change before approval in a way that negative impacts the project. Schedule delay and potential cost impacts due to different thresholds	<ul style="list-style-type: none"> • Monitoring and engagement with government. Plan to incorporate any potential changes into plan.
Public Realm Design Issues	Overlapping approvals of design and tender period before getting the permit assuming the permit would come. Two overlapping periods + tendering. Additional delays will occur	<ul style="list-style-type: none"> • Permit coordination to develop a schedule with City and Agencies (TPLC, Transportation, TPA, Parks, TRCA, etc.). • Underlying assumptions is to provide funding/resources to the City to expedite the permitting process. • Should be covered in the 20% soft costs. • Maintain float in schedule for park permits
Utility Conflicts in Design	Revisions to design due to utility conflicts / need for additional crossings. Toronto Hydro has a potential design risk in coordinating project design with their requirements.	<ul style="list-style-type: none"> • Proactively work with utilities & engaged with the City. • Looking to identify conflict areas and deal with them in advance. • Leave ROW for utilities on side in joint trench.

In addition, specific management risks relative to the procurement and management of consultants have been identified, and mitigation strategies developed as summarized in Table 8.

Table 8

Risk Description	Potential Impact	Mitigation Strategy
Fees proposed by proponents exceed budget	Available funding exceeded	<ul style="list-style-type: none"> • Maintain sufficient contingency (20% allocated through due diligence) • Scope services for flexible addition/deletion, if required • Prioritize Consulting services and defer if necessary
Additional services identified during project	Available funding exceeded	<ul style="list-style-type: none"> • Maintain sufficient contingency (12.5% remains unallocated) • Scope services for flexible addition/deletion, if required • Prioritize Consulting services and defer if necessary
Additional consultant services identified and required	Available funding exceeded	<ul style="list-style-type: none"> • Maintain sufficient contingency (12.5% remains allocated) • Scope services for flexible addition/deletion, if required • Prioritize Consulting services and defer if necessary

Failed procurement (no suitable consultants identified)	Re-procurement and delay	<ul style="list-style-type: none"> • Conduct industry briefing & market sounding • Prequalify consultants prior to request for proposal stage • Probability of risk decreasing as consultants are engaged
Currency Risk	Available funding exceeded due to foreign exchange volatility	<ul style="list-style-type: none"> • Maintain sufficient contingency (12.5% allocated) • Pursue hedging strategies such as forward contracts to mitigate risk

Following identification and analysis of project risks, project managers and project teams are taking action in response to the identified project risks, focusing on risks of most significance, in order to shift the odds in favor of project success. The project team works from and maintains a list of risk and mitigation strategies to manage and contain potential project risks. As risk management is a continual process risk strategy is tracked and updated over time. This feeds directly into the risk management process.

The risk management steps include:

- Maintain risk register – record information for tracking and monitoring
- Identifying Risk Owners to take responsibility for key risk factors
- Maintain risk response strategies
- Identifying the Monitoring Frequency for risk updates
- Maintain feedback on the effectiveness of risk response strategies
- Conduct Quarterly task lead meetings to review action items and mitigation strategies
- Scheduling annual updates to the risk assessment model and results at key milestones or when base cost and schedules are updated; and
- Continuous updates to risk management plan
- Document and report progress

Procurement Process and Recommendations

Soft cost elements have been estimated and have or will be procured and contracted for the following ways:

1. Negotiation with key project consultants based on their selection through previous competitive procurements. Category includes Michael Van Valkenburgh and Associates Inc, CH2M/Jacobs Engineering and HDR Inc.
2. Negotiation and estimation of internal resources and partner public agencies staff costs and fees. Category includes Waterfront Toronto, TRCA, Ports Toronto, CreateTO (formerly TPLC), City of Toronto Engineering and Construction Services and Aquatic Habitat Toronto.
3. Portlands Flood Protection project-specific competitive procurements. Category includes WSP, Entuitive Corp., Altus Inc., the preferred outsource program management proponent in addition to numerous consultants and soft cost elements that remain to be procured.

The following summarizes the procurement process and consultant selection for procured services.

River and Park Design - Michael Van Valkenburgh and Associates, Inc. (\$76,464,184)

Michael Van Valkenburgh and Associates were first retained in 2007 by Waterfront Toronto following the completion of an international design competition request for proposal. The brief sought a design for a water conveyance system that would address significant water flow from the Don River tributary

area generated by a major storm event. The request for proposal also provided for the selected proponent to be engaged through the ensuing stages of the project including the environmental assessment, detailed design and construction phases.

Michael Van Valkenburgh and Associates have worked with Waterfront Toronto on a continuous basis since 2007. They have been instrumental in developing the design tested through the Portlands Acceleration Initiative and the Due Diligence program, which serves as the basis for structural and flow modelling required to achieve flood protection goals as defined by Toronto and Region Conservation and the Ontario Ministry of Environment and Climate Change.

The technical challenges and learning curve for this project are significant. The combination of design and engineering elements are interwoven, made more complex through the regulatory challenges faced related to environmental and flood protection issues. Given these complexities, and in light of the imperative to advance project implementation and remain on time and budget, Waterfront Toronto determined that it was critical to retain key team members involved in the planning, design and Due Diligence program for this project. A Port Lands Flood Protection Peer Review completed by the Rijkswaterstaat (Room for the River) team from the Netherlands also determined that it was best to continue to work with Michael Van Valkenburgh and Associates in the design and ultimate implementation of this project.

With these goals and the outlined approach in mind, Waterfront Toronto moved forward with the negotiation of scope, services and related fees for Michael Van Valkenburgh and Associates. Waterfront Toronto utilized resources from our procurement, planning and design, and project management and construction teams to complete this process.

Environmental Approvals Engineering – CH2M/Jacobs (\$6,950,000)

CH2M —Jacobs was originally retained by Waterfront Toronto in 2015 based on the completion of a public procurement process for the completion of earthworks and environmental consulting services for the Due Diligence project.

CH2M is a critical member of the project team related to both earthworks and for ongoing environmental works associated with the completion of the Port Lands Flood Protection Project.

Working in conjunction with Waterfront Toronto during the Due Diligence program, CH2M began the development of a unique environmental approvals plan for this project. As there is no permit process in Canada for the creation of a river where some 100 hectares are directly impacted by the flood protection project, CH2M has worked with Waterfront Toronto and the Ontario Ministry of Environment and Climate Change to implement a Community Based Risk Assessment process on this site.

Unlike conventional environmental processes which restrict contaminated soils movement to property boundaries, a Community Based Risk Assessment approach allows for soils to be excavated, moved, treated and placed across the overall work area. This is a complex and unique approach rarely used in the past for projects such as the Portlands Flood Protection Project.

As no permits are granted, the entire process requires deep engagement with the Ontario Ministry of Environment and Climate Change, the City of Toronto and Aquatic Habitat Toronto.

CH2M/Jacobs will complete the Community Based Risk Assessment process and will support detailed planning, oversight, monitoring and implementation of a jointly developed plan acceptable to the Ontario Ministry of Environment and Climate Change.

Waterfront Toronto (including our procurement, environmental and project management team) has negotiated fees and services required to address outsourced environmental works as required to complete this project.

Risk Management and Quantification - HDR Inc. (\$2,252,985)

HDR was retained to provide risk management and assessment and risk quantification services through a competitive request for proposal process tied to the Due Diligence program. The request for proposal provided for the continuation of services through design and construction subject to successful negotiations with Waterfront Toronto.

After the completion of the Due Diligence program, HDR completed scheduling and risk workshops. Using Monte Carlo simulations, HDR determined the project contingency amounts to be carried in order to comply with Waterfront Toronto's Board of Directors' decision to meet a targeted 90% likelihood of achieving financial targets for the project.

Waterfront Toronto's procurement and project management teams worked through contract negotiations with HDR Inc. and recommend engagement based on the scope and fees established through those negotiations.

Roads and Municipal Services – WSP with DTAH (\$8,709,000)

Waterfront Toronto issued a request for proposal for design and engineering services based on concepts developed through the Due Diligence program. Waterfront Toronto's procurement team led the request for proposal, supported by resources from Waterfront Toronto, Toronto and Region Conservation and the City of Toronto. WSP won based on a combination of team, scope, experience and fees.

Road design will be supported by Michael Van Valkenburgh and Associates. Road design will address pedestrian, vehicular and transit designs as well as associated public realm and will take phased transit implementation into account.

Servicing for the project is particularly complex as existing water and sewer (and all other utilities) will be materially impacted by the creating of the new river and spillway. New services will be sized to accommodate significant increases in built density, while services to remaining operational facilities at the west end of the Port Lands will need to remain operational to accommodate owners and occupants in those areas without disruption.

A services agreement has been negotiated with WSP for required services. Waterfront Toronto now requires the approval of the Port Lands Steering Committee and the Waterfront Toronto Board of Directors to fully mobilize WSP for project planning and delivery.

Bridge Design and Engineering – Entuitive Corp. (\$14,395,726)

Waterfront Toronto issued a request for proposal for bridge design and engineering services based on scope developed in the completion of the Due Diligence program. The process was run by Waterfront Toronto's procurement team and supported by resources from Waterfront Toronto, Michael Van Valkenburgh and Associates and the City of Toronto. A consortium led by Entuitive Corp. won based on a combination of team, scope, experience and fees.

Entuitive's scope of work addresses new bridges planned for Cherry Street North (crossing the Keating Channel), Cherry Street South (crossing the new river mouth) and at Commissioners Street, crossing the new river at the east end of Villiers Island. Their work will address designs for full transit build out of those bridges, the transit component on the South Cherry Street and Commissioners Street bridges subject to separate funding.

Entuitive will also be required to design the bridge extension planned for the Lakeshore Road crossing of the Don River.

Waterfront Toronto, in cooperation with the City of Toronto, will work with Entuitive in the development of further options as needed to address the long-term plans for the Don River bridge, taking timing and construction limitations imposed by planned modifications to the Gardiner Expressway, including the ultimate removal of two ramps tying the Gardner Expressway to Lakeshore Road, east of the Don River.

This contract provides for the consultant to either complete the documents to 100% as a design bid build project delivery, or to complete the documents to 30% as a design build project delivery. Final determination of the method of delivery will be determined once the design has been completed to 30%.

Peer Review Cost Consultant – Altus Group (\$716,000)

Waterfront Toronto issued a request for proposal for cost consulting peer review services. The RFP was managed by Waterfront Toronto's procurement team, supported by resources from Waterfront Toronto and the City of Toronto, Altus won based on a combination of team, scope, experience and fees.

Altus will compare and reconcile consultant and construction manager cost estimates to ensure consistency and accuracy and to verify unit rates and quantities, Altus will also undertake ad hoc review and critique of the contractors' change notice pricing throughout the project.

TBA - Outsourced Project Management Support (\$10,416,117)

Waterfront Toronto completed an internal review of project management staffing options and determined that a blend of internal personnel with outsourced partners would provide the resilient staffing needed to address project requirements. As part of the request for proposal requirements, proponents were asked to provide specialist engineering resources on call to address technical challenges as may arise. The budget carried for these services presumes that the preferred proponent will be awarded this contract subject to the finalization of scope and contract negotiations.

The program management consultant will provide team leadership (for their internal and partnered resources), project management and project coordination staff based on an agreed resource count and allocation. Management anticipates managing the preferred proponent's resources as part of the broader Waterfront project management team assigned to this program.

Soft Cost Estimates

Within the overall soft cost budget, estimates have been completed and allowances have been established for the following additional soft costs:

- Waterfront Toronto project management and core support staff
- Capital Peer Review Panel
- Engagement with TRCA
- Engagement with Ports Toronto
- Engagement with TPLC (now CreateTO)
- Engagement with Aquatic Habitat Toronto
- TRCA Don Mouth Naturalization Project Environmental Assessment compliance monitoring
- City of Toronto Engineering and Construction Services resource availability
- Lease termination and tenant relocations
- Geotechnical and environmental site characterization and pilot testing
- Legal and Building Code Consulting
- Third party peer reviews
- Outsourced public engagement and communications support
- Permits and approvals
- Archeological / Heritage consulting as may be required
- Building Demolition consulting
- Other environmental monitoring (e.g. aquatic habitat)

The following provides a brief description of services, resources and costs assessed in the development of the foregoing estimates. In selected cases, allowance have been established based on previous project experience.

**Waterfront Toronto Project Management and Core Support Staff
(\$23,432,876)**

Waterfront Toronto has developed an internal staffing plan for the implementation of the project. Based on a staff count of 22, resources will be applied on an as required basis through to project completion. Waterfront Toronto will provide project management and design leadership, supporting project directors and project managers, executive oversight, finance and accounting, project controls and reporting, procurement and communications and public engagement resources.

In developing this model, Waterfront Toronto has considered the project scope, budget, schedule, reporting, financial management, risk management and public engagement requirements.

**Capital Peer Review Panel
(\$250,000)**

The Capital Peer Review Panel is proposed to be an independent advisory panel that will review project execution solutions, constraints, estimates, timelines and risks. The Panel will have an advisory role focussed on:

- validating that projects align with industry best practices;
- providing guidance to project team and Waterfront Toronto senior management and;
- providing information to Board of Directors.

Members of the Peer Review Panel will have senior expertise in Construction, Engineering, Procurement, Project and Risk Management. Potential affiliations for the panel members would include:

- Institutional

- Governmental
- Private Sector Contractors and Consultants
- Infrastructure Owners/ Investors
- Industry Organisations

**Engagement with TRCA
(\$5,000,000)**

TRCA has been engaged to provide project management and design support in a technical advisory capacity (including hydraulic modeling peer review, construction and fill management advisors (and information providers), ecological restoration advisor, brownfield analysis and review, LID and stormwater management review). In addition TRCA provide Floodplain Regulatory Oversight, permit acquisition support with other Agencies, broader City planning review, and provide archaeological and ecological monitoring services amongst numerous other services as required.

**Engagement with Ports Toronto
(\$100,000)**

Ports Toronto will need to arrange for various reviews, permits and approvals related to access, shipping and other works associated with the delivery of this project. We have established an allowance to address these requirements based on past experience in working with Ports Toronto.

**Engagement with CreateTO
(\$300,000)**

CreateTO is the City of Toronto agency responsible for the management of City-owned lands in the Port Lands Flood Protection site. The agency has requested site-by-site access agreements and continues to run parallel environmental works as the flood protection project moves forward.

Waterfront Toronto anticipates further costs associated with the ongoing engagement and coordination required with CreateTO through to project completion, and further work in the transitioning of properties to salable lands.

**Aquatic Habitat Toronto
(\$315,000)**

Engagement with Aquatic Habitat Toronto will be required on an ongoing basis through project planning and implementation. Aquatic Habitat Toronto serves as a pipeline to various government departments associated with required approvals for the project and has been effective in this capacity to date.

Funds allocated to this allowance with address meetings and consulting support as required.

**EA Compliance Monitoring
(\$2,000,000)**

Toronto and Region Conservation completes Environmental Assessment Compliance Reports on an annual basis, as required by the Ontario Ministry of Environment and Climate Change. Waterfront Toronto has established this allowance to address related costs over the next 6 years.

**City of Toronto Engineering and Construction Services
(\$3,000,000)**

The flood protection project will require significant design and approval input from the City of Toronto. To ensure that reviews and input are provided in a timely manner, the City will need to supplement internal resources to complete required work.

Based on our experience in working with the City on other major capital projects, we established an allowance based on projected resource demands.

**Geotechnical and Environmental Pilot Testing
(\$100,000)**

Waterfront Toronto has engaged several firms to complete pilot testing of possible environmental treatment technologies that might be considered for use in completion of the project. Testing continues and may require further work to determine value, cost and process.

**Legal and Building Code Consulting
(\$400,000)**

This allowance has been established to address legal and building code related issues which may arise in relation to planned project works. Permit requirements are limited to roads, servicing and bridges on this project.

**Third Party Peer Reviews
(\$400,000)**

As design and construction proceeds, Waterfront Toronto may wish to have a third-party peer review completed by third party specialists. Examples of related resources would be subject matter expert personnel provided through the outsourced program manager on an on-demand basis.

**Outsourced Public Engagement and Communications
(\$1,500,000)**

Waterfront Toronto's internal staffing plan includes a limited amount of internal support staff for communications and public engagement. Our internal team has established a preliminary budget for costs associated with community and stakeholder consultations and communications.

**Permits and Approvals
(\$500,000)**

Waterfront Toronto has established this allowance to address permit costs as they arise through to project completion. The allowance is based on Waterfront Toronto's experience in project delivery in Toronto.

**Archeological / Heritage Consulting
(\$100,000)**

We may discover artifact as excavation works move forward on site. Waterfront Toronto has established this allowance to support related consulting works should artifacts be found.

**Building Demolition Consulting
(\$500,000)**

The Flood Protection project contemplates the demolition and selective relocation of buildings on site. Waterfront Toronto has established this allowance to address consulting fees as may be required to implement these works.

**Long Term Monitoring
(\$400,000)**

Waterfront Toronto has established this allowance address other monitoring requirements as they arise as the project moves forward. Monitoring may be required to address dock wall conditions, remaining buildings, noise, contaminants and other matters.

Lease Termination and Relocations

(\$500,000)

Waterfront Toronto in conjunction with CreateTO has assessed the requirements for lease termination and relocation costs based on the current lease expiry and termination notice provisions contained in leases held by CreateTO. The majority of project work has been scheduled to allow for the natural expiry of existing leases and therefore termination and relocation costs are anticipated to be nominal.

First Nations Engagement

Waterfront Toronto recognizes that additional consultation, accommodation and engagement will be required with the Mississauga's of New Credit First Nations however the extent of this accommodation is not yet defined nor was it contemplated or budgeted during the Due Diligence process.

The costs associated with accommodating the Mississauga's of New Credit First Nations will be determined in consultation with all orders of Government and necessary funds will be drawn from the unallocated contingency.