

# Table of Contents

	page
<b>1. Introduction .....</b>	<b>1</b>
1.1 Project Background.....	1
1.2 Project Goals and Objectives .....	1
1.3 Proponent .....	2
1.4 EA Framework .....	2
1.5 Other Approvals .....	3
<b>2. Purpose of the Undertaking.....</b>	<b>5</b>
2.1 Problem/Opportunity Assessment .....	5
2.2 Study Areas .....	5
<b>3. Description of Potentially Affected Environment.....</b>	<b>8</b>
3.1 Natural Environment .....	8
3.2 Soils and Groundwater Contamination .....	9
3.3 Socio-economic Environment .....	9
<b>4. Description, Evaluation and Rationale for ‘Alternatives To’ the Undertaking.....</b>	<b>10</b>
<b>5. Description, Evaluation and Rationale for ‘Alternative Methods’ of Carrying Out the Undertaking .....</b>	<b>12</b>
<b>6. Description of the Preferred Undertaking.....</b>	<b>15</b>
6.1 Overview of the Conceptual Design .....	15
<b>7. Step 5: Detailed Assessment of Preferred Alternative .....</b>	<b>17</b>
7.1 Summary of Mitigation Measures .....	17
7.2 Consistency of DMNP with Project Objectives .....	17
<b>8. Monitoring and Adaptive Environmental Management .....</b>	<b>23</b>
8.1 DMNP Monitoring Program.....	23
8.2 Adaptive Environmental Management.....	23
<b>9. EA Amendment Process .....</b>	<b>27</b>
<b>10. Consultation Record .....</b>	<b>28</b>
10.1 Aboriginal Consultation Activities and Results .....	28
<b>11. Advantages and Disadvantages.....</b>	<b>29</b>

## List of Figures

Figure E-1. Project Study Area.....	6
Figure E-2. Impact Assessment Study Area .....	7
Figure E-3. The Identification and Evaluation of Alternative Methods .....	13

## List of Tables

Table E-1.	Other Authorizations/Approvals Required for the DMNP .....	3
Table E-2.	Alternative Discharge Points and Descriptions .....	11
Table E-3	Evaluation of Refined List of Alternatives .....	14
Table E-4	DMNP Mitigation Measures.....	18
Table E-5	Consistency of DMNP with Project Objectives.....	22
Table E-6	DMNP EA Commitments.....	24

# 1. Introduction

## 1.1 Project Background

Toronto and Region Conservation Authority (TRCA) is proceeding with completion of the Don Mouth Naturalization and Port Lands Flood Protection Project Environmental Assessment (DMNP) in co-operation with Waterfront Toronto, formerly the Toronto Waterfront Revitalization Corporation (TWRC). The DMNP caps off an extensive planning process whose roots can be traced to a public meeting at the Ontario Science Centre in 1989, attended by more than 500 members of the public, government agencies, and environmental specialists. The forum inspired the community and local councillors to become actively engaged in finding and implementing solutions to the ailments of the Don River, sparking the birth of the Task Force to Bring Back the Don.

From this initial groundswell of engagement, the Task Force proposed a vision of returning wetlands to the mouth of the Don as part of their report “Bringing Back the Don” (August, 1991). This vision for the mouth of the Don River was embraced and showcased in “Regeneration”, the final report of the Royal Commission on the Future of the Toronto Waterfront (December, 1991).

By 2001, the idea of transforming part of the Port Lands into a naturalized river mouth had become enshrined in the City of Toronto’s Central Waterfront Secondary Plan. Shortly thereafter, the DMNP Environmental Assessment (EA) was initiated by TRCA on behalf of Waterfront Toronto in 2004.

In 2006, the Minister of the Environment approved TRCA’s Terms of Reference for the DMNP EA, which set the framework for the DMNP EA to proceed in its effort to provide flood protection, naturalize the mouth of the river, and function within the urban fabric of Toronto.

## 1.2 Project Goals and Objectives

Ultimately this project will transform the existing mouth of the Don River, including the Keating Channel, into a healthier, more naturalized river outlet to the Toronto Inner Harbour and Lake Ontario, while at the same time removing the risk of flooding to over 290 hectares of urban land to the east and south of the river. This project is a key component of Waterfront Toronto’s mandate to renew and revitalize Toronto’s waterfront, and is a precedent-setting project which will allow other development in the Lower Don Lands to occur in support of revitalizing Toronto’s waterfront area.

The seven project objectives of the DMNP are as follows:

1. **Naturalization:**  
The naturalization of the Don Mouth will not only improve the aquatic and terrestrial habitat conditions at the mouth of the river, but will provide for the creation of a more natural form of river mouth.
2. **Flood Protection:**  
The DMNP must address flooding issues in the Port Lands and not exacerbate flooding in other areas, while meeting the first objective.
3. **Operational Management and Constructability:**  
The DMNP design must adequately manage sediment, debris and ice to ensure that the DMNP supports required navigation, natural function, and existing or future flood protection works within the Lower Don River.

4. **Integration with Infrastructure:**  
The DMNP must integrate with all existing and planned infrastructure that could not be reasonably moved or removed.
5. **Recreational and Cultural Opportunities:**  
The DMNP should encourage and contribute to the development of compatible recreation, cultural, and heritage opportunities as well as provide for public and handicap accessibility to the Don Mouth.
6. **Co-ordination with Other Planning Initiatives:**  
The DMNP must co-ordinate with other planning and development efforts, as well as between the three levels of government as recommended in the Fung Report (Toronto Waterfront Revitalization Task Force, 2000), for the revitalization and sustainability of the waterfront, and associated foreseeable infrastructure in order to ensure that the best outcome is achieved for all projects.
7. **Consistency with TWRC Sustainability Framework:**  
The DMNP should be consistent with Waterfront Toronto's Sustainability Framework (TWRC, 2005c) which seeks to ensure that sustainability principles are integrated into all facets of waterfront revitalization management, operations and decision-making.

### 1.3 Proponent

Waterfront Toronto and the TRCA have been identified as co-proponents for this project as it relates to environmental assessment legislation. TRCA has worked co-operatively with Waterfront Toronto, their consultants, and the three levels of government through appropriate departments, agencies and the public to ensure this project has been **co-ordinated** with the many other activities required to revitalize the waterfront.

### 1.4 EA Framework

Two separate EA approvals are required to implement the preferred undertaking for the DMNP. The first EA process meets the provincial EA requirements through an Individual EA, as defined in the Ontario *EA Act*. The second EA process addresses federal concerns using an Environmental Screening process as defined by the *Canadian Environmental Assessment Act (CEAA)*. The development of both reports was **co-ordinated** to streamline the process and ensure that all requirements for both levels of government are addressed.

As a result of the activities of Waterfront Toronto and others, there are numerous EAs and planning documents that have been completed or are currently ongoing throughout the Port Lands specifically and the waterfront in general. The DMNP EA has been co-ordinated with and informed by these other EAs. The list of completed EAs and planning documents includes the:

- Keating Channel EA (MTRCA, 1983);
- Central Waterfront Secondary Plan: Making Waves (City of Toronto, 2001);
- Wet Weather Flow Management Master Plan (City of Toronto, 2003);
- Lower Don River West (LDRW) Remedial Flood Protection Class EA (TRCA, 2005);
- West Don Lands Class EA Master Plan (TWRC, 2005);
- West Don Lands Precinct Plan (TWRC, 2005);
- FILMPORT Studios (Toronto Filmport Studios and TEDCO, 2005);
- East Bayfront Precinct Plan (TWRC, 2005);

- East Bayfront Class EA Master Plan (TWRC, 2006);
- Lake Ontario Park Master Plan (Waterfront Toronto, 2008);
- Port Lands Business and Implementation Strategy (Waterfront Toronto, 2009);
- Lower Don Lands Framework Plan (Waterfront Toronto, 2010);
- Lower Don Lands Infrastructure Municipal Class EA and Keating Channel Precinct Environmental Study Report (Waterfront Toronto, City of Toronto and Toronto Transit Commission, 2010);
- Keating Channel Precinct Plan (Waterfront Toronto, 2010); and
- Amendment to the Central Waterfront Secondary Plan (City of Toronto, 2010).

A number of studies were completed as part of the EA and include:

- Baseline Identification of Cultural Heritage Properties;
- Archaeological Assessment Existing Conditions;
- Navigation Risk Report;
- Hydraulic Modelling Technical Memorandum;
- Sediment Transport Modelling Memorandum; and,
- Economic Effects Assessment Technical Memorandum.

In addition, the following plans prepared by the DMNP proponents were used to guide the preparation of the EA:

- Sustainability Framework (WT, 2005);
- Erosion and Sediment Control Guidelines for Urban Construction (TRCA, December 2006);
- Environmental Management Plan for Project-Related Activities (WT, November 2009);
- Soils Management Master Plan (WT, final draft February 2010); and,
- Groundwater Management Master Plan (WT, final draft March 2010).

## 1.5 Other Approvals

Other environmental authorizations and approvals that will likely need to be secured in support of the DMNP are summarized in Table E-1.

**Table E-1. Other Authorizations/Approvals Required for the DMNP**

Level of Government	Department/Ministry/ Municipality	Authorizations/Approvals
<b>Federal</b>	Department of Fisheries and Oceans (Aquatic Habitat Toronto to assist)	• <i>Fisheries Act</i>
	Transport Canada	• <i>Navigable Waters Protection Act</i>
	Toronto Port Authority	• Port Authorities Operations • <i>Regulations to the Canada Marine Act</i>
<b>Provincial</b>	Ministry of the Environment	• Certificate of Approval under <i>Ontario Water Resources Act</i> • Record of Site Condition Regulation, Ontario Regulation 153/04 • Permit to Take Water • Part V Approval under the <i>Environmental Protection Act</i>
	Ministry of Municipal Affairs and Housing and Ministry of Natural Resources	• Amendment to the Lower Don Special Policy Area Policies
	Ministry of Natural Resources	• <i>Lakes and Rivers Improvement Act</i> <sup>a</sup>

**Table E-1. Other Authorizations/Approvals Required for the DMNP**

Level of Government	Department/Ministry/ Municipality	Authorizations/Approvals
	Toronto and Region Conservation Authority	<ul style="list-style-type: none"> <li>• Regulation Of Development</li> <li>• Ontario Regulation 166/06, Interference with Wetlands and Alterations To Shorelines and Watercourses Regulation</li> </ul>
	Ontario Realty Corporation	<ul style="list-style-type: none"> <li>• Class Environmental Assessment Process For the Ministry of Energy and Infrastructure for Realty Activities other than Electricity Projects (Category B Class EA for the disposition of land in the location of the future sediment and debris management area)</li> </ul>
<b>Municipal</b>	City of Toronto	<ul style="list-style-type: none"> <li>• Site Plan Approvals under the <i>Planning Act</i> for future sediment and debris management area (if required)</li> <li>• Zoning by-law amendment under the <i>Planning Act</i></li> <li>• Road Occupancy Permit (if required)</li> <li>• Road Cut Permit (if required)</li> <li>• Permit for Installation/Relocation of Public Utilities (if required)</li> <li>• Local Hydro Utility Building Permit (if required)</li> <li>• Building Permit (if required)</li> <li>• Toronto Sewer Use By-law</li> <li>• <i>City of Toronto Act</i></li> <li>• Tree-cutting permits</li> </ul>

## 2. Purpose of the Undertaking

### 2.1 Problem/Opportunity Assessment

The configuration of the existing Don Mouth was engineered primarily for the purposes of achieving transportation efficiency and to create additional land for port and other urban uses. This has resulted in the current condition with lands vulnerable to flooding, a serious reduction in ecological function of the river mouth, and an area that is neither aesthetically pleasing nor available for public use and enjoyment. Thus, the problems to be addressed by the DMNP are the lack of ecological function at the river mouth, vulnerability to flood risk, and the derelict nature of this area of the Port Lands.

Opportunities lie in the naturalization of the river mouth, alleviation of flood risk, and revitalization of the derelict Port Lands area. The naturalization of the river mouth is yet another step toward revitalizing and enhancing the quality and function of the Don River at its mouth. It represents an opportunity to naturalize the area of the Don River valley as it connects to Lake Ontario and upstream reaches, and create an area that is welcoming and aesthetically pleasing to the public while improving habitat conditions.

The DMNP is also an opportunity to alleviate the flood risk to over 290 hectares of land and more than 850 buildings south and east of the Don Mouth. The alleviation of flood risk will remove land use restrictions and provide unencumbered lands to meet waterfront revitalization objectives for development.

Finally, Waterfront Toronto recognized the challenges of creating a vibrant wetland in the proposed location identified in the 2001 Secondary Plan, and held an International Design Competition. The goals of the competition were to create an iconic identity for the Don River that accommodates crucial flood protection and habitat restoration requirements, and that integrates development, transportation infrastructure and the re-naturalized river mouth into a harmonious whole. In May 2007, Waterfront Toronto selected the Michael Van Valkenburgh Associates Inc. (MVVA) team as the winners of the Design Competition.

The design competition created three key changes for the ongoing EA work. First, the design competition created the vision for integrating the naturalized Don mouth with the surrounding community design. Second, this more evolved integration required that a larger study area be examined in order to ensure that the integration could occur effectively for all of the alternatives being considered. Third, it led to a re-examination and refinement of the previously developed alternatives in terms of the area available for naturalization, the composition and optimization of naturalized areas, and the area available for development and parkland.

### 2.2 Study Areas

Two specific study areas have been defined for the DMNP. The Project Study Area is the area available for the development of naturalization and flood protection alternatives. The Impact Assessment Study Area is a broader area in which direct and indirect effects of the DMNP construction and establishment may be felt.

The Project Study Area (**Figure E-1**) consists of two parts: the Don Mouth and the Don Narrows. The Don Mouth is the area available for the development of naturalization and flood protection alternatives. Therefore, it is in this area that the majority of the direct effects will occur. Within the Don Narrows, only improvements within the river channel are to be considered.

The Impact Assessment Study Area (**Figure E-2**) is a broader area in which direct and indirect effects of the DMNP Construction and Establishment/Post-Establishment may be felt.





Figure E-2. Impact Assessment Study Area

### 3. Description of Potentially Affected Environment

This section describes: the river characteristics which will influence the development of alternatives; the natural environment including fish and fish habitat, terrestrial vegetation, and wildlife; soils and groundwater contamination; and the socio-economic components including land use, air quality and noise, archaeology, aboriginal interests, and built heritage.

#### River Characteristics

- The Don River from Riverdale Park downstream to the Keating Channel has been significantly altered as a result of adjacent land uses, is relatively straight through this portion, and has a depth of 1 to 2 metres.
- South of Lake Shore Boulevard, the Don enters into the Keating Channel, which extends approximately 0.7 kilometres in length, varies between 37 and 60 metres in width and has depths between 2 metres and 5 metres, depending upon lake levels and the degree of sediment accumulation in the channel.
- The urban nature of the watershed has led to a river system with no well defined annual hydrograph (i.e., no well-defined spring freshet peak), but instead a series of peaky storm runoff events occurring virtually at any time throughout the year. As a consequence, flooding can occur in the Don River at any time during the year.
- In this area of the Province of Ontario, the rainfall from Hurricane Hazel centred over the Don Watershed is used to define the limits of flooding, known as the Regulatory Flood.
- The Don River often exceeds the Provincial Water Quality Objectives (PWQOs) for many substances, especially during wet weather. The major sources of pollutants are runoff from roads and residential, industrial and commercial land uses through storm sewers, the effluent of the North Toronto Sewage Treatment Plant, combined sewer overflows along Taylor/Massey Creek and the Lower Don, and spills from industrial and commercial lands.
- The Keating Channel acts as a sediment trap for a large proportion of the total sediment load that is delivered by the Don River. Only 10-15% of the total sediment load (consisting of fine silts and clays) continues into the Inner Harbour.
- An average of 30,600 cubic metres of dredged sediment is removed each year from the Keating Channel. The vast majority of this material is composed of silts and sand and is currently disposed of in containment cells at the Leslie Street Spit.

#### 3.1 Natural Environment

- Fish habitat features within the Lower Don and Keating Channel are generally characterized as degraded, highly disturbed conditions that are uniform in nature and lack habitat diversity and complexity. The benthic community present within the Lower Don and Keating Channel exhibits a relatively low diversity.
- Since 1997, 24 fish species have been captured along the Toronto Waterfront, with the most common species being the Common Carp and Northern Pike.
- Within the Lower Don, the most common species captured during TRCA sampling of every year were White Sucker, Emerald Shiner and Spottail Shiner.

- The terrestrial environment in the Project Study Area is heavily influenced by human activities, is of little ecological value and there are no species of significance present. Similarly, only 0.7% of the vegetation in the Project Study Area is classified as wetland.

### 3.2 Soils and Groundwater Contamination

- The Port Lands were reclaimed during the 1800s and mid 1900s using numerous different sources of industrial fill, including dredge spoils, excavated native soils from borrow pits and construction sites, construction debris, residual stockpiled materials, etc.
- The Port Lands has a history of heavy industrial/commercial uses, which has led to widespread soil contamination within the area.
- Identified or anticipated contamination issues in groundwater and soils is represented by petroleum hydrocarbons, chlorinated and non-chlorinated organic compounds, heavy metals, polycyclic aromatic hydrocarbons, polycyclic biphenyls and general chemistry parameters.

### 3.3 Socio-economic Environment

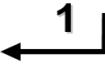
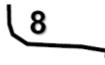
- Within the Project Study Area there are a variety of industrial uses such as food processing, transportation, entertainment, internet technology, heavy machine rental, automobile and financial services.
- Property is predominantly owned by the City of Toronto and the Toronto Port Lands Company (formerly known as TEDCO), with some holdings held by the Provincial government, TPA and some private property holdings as well.
- A number of land-based recreational uses occur within the area, including bike trails, multi-use trails, parks, beaches, and the Toronto Islands.
- Marine use is limited to industrial cargo shipping. The Port Works Yard is located on the southern side of the Keating Channel, and the dockwall, including Polson and Cousins Quays and the Ship Channel, offers docking facilities for cargo shipping boats.
- Thirty-one cultural heritage resources exist within the Project Study Area. There is little to no potential for the survival of significant pre-contact or early contact period Aboriginal archaeological resources.

## 4. Description, Evaluation and Rationale for ‘Alternatives To’ the Undertaking

The ‘alternatives to’ the undertaking for the DMNP were defined around alternative discharge points for the river to Lake Ontario as reflected by the general area in which the Don Mouth may be relocated. The discharge points also represent functionally different ways to address the problem or opportunity in that they each provide a range of opportunities for naturalization of the river mouth, flood protection and revitalization of the waterfront. The alternatives were chosen and developed based on technical knowledge, past studies, and public consultation.

The eight alternative discharge points are summarized in **Table E-2**.

**Table E-2. Alternative Discharge Points and Descriptions**

Alternative Number and Discharge Morphology	Title	Description	Results of Evaluation
	<b>Do nothing</b>	Continuation of discharge through the Keating Channel, continued dredging of sediment and removal of debris, no naturalization of river mouth. This alternative does not alleviate flood risk, and thus no significant redevelopment of the Project Study Area could occur.	<i>Very low potential to meet key project objectives and should not be considered further in the EA. However, the EA Act requires the assessment of the 'Do Nothing' alternative throughout the EA for comparison purposes; therefore, this alternative was carried forward.</i>
	<b>Discharge to the Inner Harbour</b>	Creation of naturalized river mouth in vicinity of 480 Lake Shore Boulevard and lands north of Villiers Street – this alternative assumes filling in the Keating Channel.	<i>Good potential to achieve all project objectives and was considered further in the EA.</i>
	<b>Discharge through the Port Lands to the Ship Channel</b>	This alternative assumes filling in the Keating Channel.	<i>Good potential to meet the project objectives and was considered further in the EA.</i>
	<b>Combination of Alternatives 2 and 3</b>	Combination of primary discharge to Inner Harbour with secondary discharge through the Port Lands to the Ship Channel or primary discharge through the Port Lands to the Ship Channel with secondary discharge to Inner Harbour. This alternative assumes filling in the Keating Channel.	<i>Good potential to meet the project objectives and was considered further in the EA.</i>
	<b>Combination of Alternatives 2 and 3 with a third discharge point midway between creating a wide delta with Alternative 3</b>	Consideration of a third discharge point somewhere within the Port Lands to create a delta function – assumes land between discharge points would be permanently wetted for naturalization purposes and therefore would not be developed as per waterfront revitalization planning.	<i>Low potential to meet the project objectives and was not considered further in the EA.</i>
	<b>Discharge through the Ship Channel and Lake Ontario Park to discharge to the Outer Harbour</b>	This alternative would require damming the western part of the Ship Channel to just east of Cherry Street to facilitate the flow of the river to the Outer Harbour, thereby removing access to the remainder of the Ship Channel.	<i>Low potential to meet the project objectives and was not considered further in the EA.</i>
	<b>Discharge through the Port Lands and the Ship Channel to the Outer Harbour through the eastern end of the Outer Harbour</b>	This alternative would require damming the western part of the Ship Channel to facilitate the flow of the river to the Outer Harbour thereby removing access to the remainder of the Ship Channel.	<i>Low potential to meet the key project objectives and was not considered further in the EA.</i>
	<b>Eastern Port Lands discharge point (Ashbridges Bay area)</b>	Movement of the river and river mouth towards a discharge point in the Ashbridges Bay area – this alternative assumes damming and filling in of eastern half of the Ship Channel and Turning Basin.	<i>Low potential to meet the key project objectives and was not considered further in the EA.</i>

## 5. Description, Evaluation and Rationale for ‘Alternative Methods’ of Carrying Out the Undertaking

For the purposes of the EA, different ‘alternative methods’ of carrying out the undertaking were identified by layering different forms and features required to create the functions of a natural river mouth for each of the discharge points. The identification of different alternative methods gave prime consideration to the characteristics of the river and the ability to fulfill the naturalization and flood protection objectives in the context of the river conditions. Other project objectives were addressed as subsequent refinements or layers applied to the alternative methods.

The identification and evaluation of the different alternative methods was carried out in a five-step process illustrated and described in **Figure E-3**.

Additionally, the alternative methods took into account the design elements from the winning Design Competition team. This led to a re-evaluation of the results of Steps 3 and 4. Key issues that were revised based on the Design Competition concepts include:

- Area available for naturalization;
- Composition and optimization of naturalized areas;
- Area available for development and parkland;
- Location of infrastructure; and
- Location of flood protection features.

**Table E-3** lists the alternative methods that were developed and the results of their evaluation.

The outcome of Step 4 was the identification and selection of a preferred alternative. The preferred alternative was deemed to be **Alternative 4WS**. It is most preferred for all of the objectives except operational management and constructability, and integration with infrastructure. The disadvantages of this alternative for these two objectives relate to the potential for secondary management of sediment and debris, the effect on port operations including the removal of dock wall, and the need for a moderate amount of modifications to existing infrastructure. It should be noted that these disadvantages are relative to the other alternatives and in no way suggest that there are deficiencies with Alternative 4WS that cannot be addressed either through design refinement or mitigation.

This alternative was deemed the most appropriate to satisfy the project objectives.

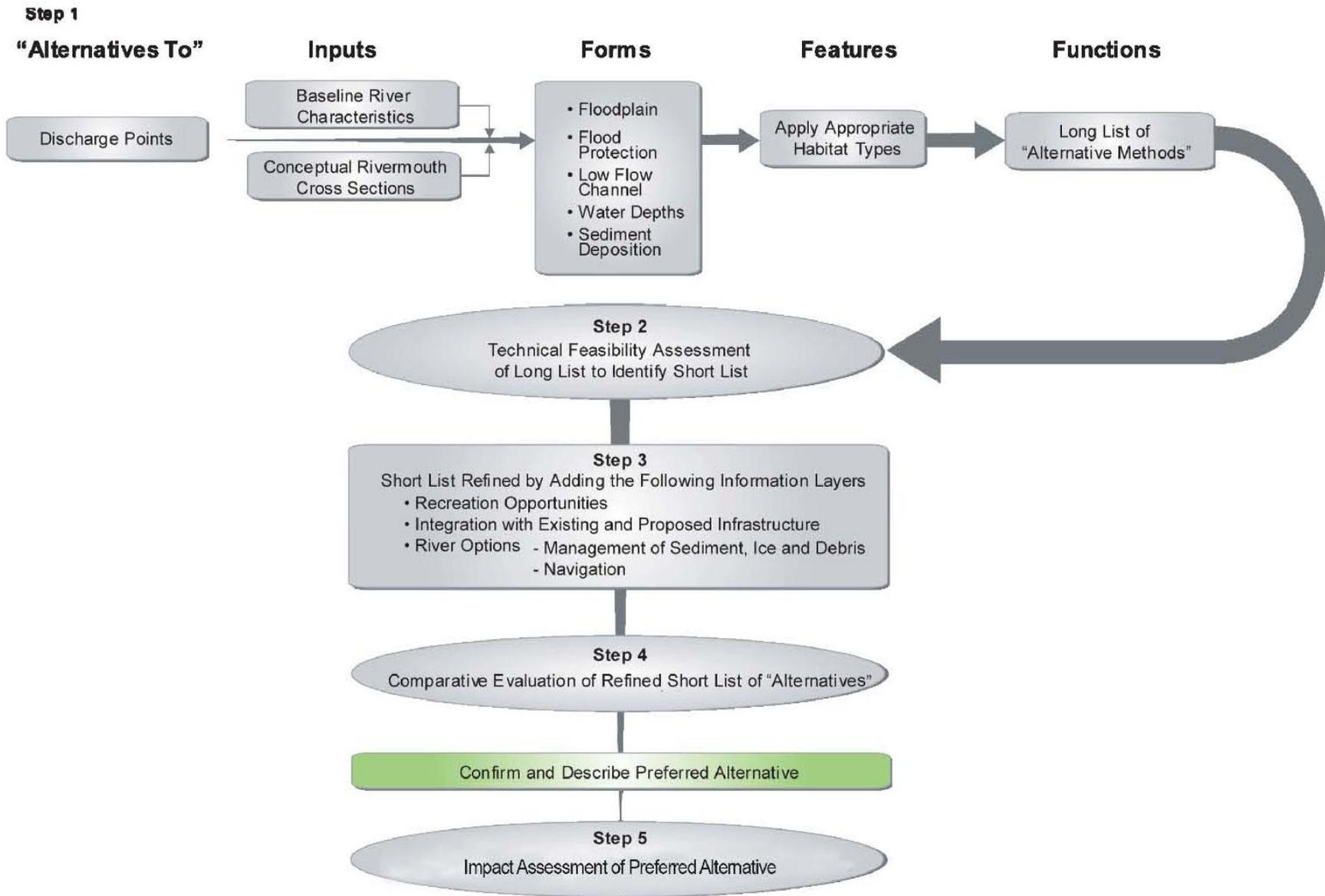


Figure E-3. The Identification and Evaluation of Alternative Methods

Table E-3 Evaluation of Refined List of Alternatives

Objective	Alternative  River with discharge to the Inner Harbour	Alternative  River with discharge through the Port Lands to the Ship Channel	Alternative  Combination of discharge points to the Inner Harbour and Ship Channel (Primary discharge to the Inner Harbour)	Alternative  Combination of discharge points to the Inner Harbour and Ship Channel (Primary discharge to the Ship Channel)	Alternative  River with discharge to the Inner Harbour and two overflow spillways
Naturalization	Least preferred	Least preferred	Moderately preferred	Moderately preferred	Most preferred
Flood Protection	Least preferred	Least preferred	Most preferred	Most preferred	Most preferred
Operational Management and Constructability	Most preferred	Most preferred	Moderately preferred	Least preferred	Least preferred
Integration with Infrastructure	Most preferred	Most preferred	Least preferred	Least preferred	Moderately preferred
Recreational and Cultural Opportunities	Most preferred	Moderately preferred	Moderately preferred	Least preferred	Most preferred
Co-ordination with Other Planning Efforts	Moderately preferred	Least preferred	Moderately preferred	Least preferred	Most preferred
Consistency with TWRC Sustainability Framework	Moderately preferred	Most preferred	Least preferred	Most preferred	Most preferred
Summary	<i>Moderately preferred</i>	<i>Moderately preferred</i>	<i>Moderately preferred</i>	<i>Least preferred</i>	<i>Most preferred</i>

## 6. Description of the Preferred Undertaking

### 6.1 Overview of the Conceptual Design

The conceptual design for the DMNP includes a new valley system developed through a combination of cut and fill and an associated low-flow river channel that flows south and then west into the Inner Harbour, with an approximate location halfway between the Ship Channel and the Keating Channel. The valley system will be stabilized to prevent erosion and movement. The design includes two overflow spillways: one through the Keating Channel and the other into the Ship Channel.

Components of the conceptual design include:

#### **Flood Protection Features:**

- A new river valley system, including two spillways, as the primary means of conveying flood events up to the Regulatory Flood;
- An east bank flood protection landform between Lake Shore Boulevard and the CN Rail bridge;
- Modifications to grades surrounding Eastern Avenue at the Kingston Subdivision grade separation;
- Keating Channel weirs; and
- Grading and setbacks of development areas.

#### **Sediment, Debris and Ice Management:**

- A sediment trap constructed south of the CN Rail bridge and maintained with a new sediment conveyance system. Sediment will be hydraulically dredged and piped to a hydrocyclone, where it will be dewatered and transported off-site;
- A debris management area next to the sediment trap, using debris management booms to capture debris within the channel; and
- Ice management in the stabilized transition between the Lake Shore Boulevard crossing and the Commissioners Street crossing providing a place for ice to collect and break up. It also provides an overflow spillway through the Keating Channel to reduce risk due to backwater effects in the event of an ice jam.

#### **Naturalization:**

- Approximately 33 hectares of naturalized area consisting of:
  - 8 hectares of terrestrial / open space habitat, including open space and valley slope transitions;
  - 13 hectares of wetland habitat, including levee systems and lake-connected wetlands; and
  - 12 hectares of permanent aquatic habitat.

#### **Integration with the Lower Don Lands Planning and Servicing:**

- All new crossings constructed to carry vehicular traffic will be designed to span the floodplain and to pass the Regulatory Flood with a minimum of 0.5 metres freeboard (with the exception of the Lake Shore Boulevard and Harbour Lead crossing); and
- Pre-installed, underground utility conduits will provide servicing across the floodplain without repeated disturbance to the naturalized valley system.

#### **Public Realm and Open Space:**

- Over 13 hectares of open space outside of the new valley system is intended to accommodate passive and active recreational uses.

The preferred undertaking will require ongoing maintenance activities associated with a number of the design components. These include maintenance of sediment, debris and ice management features, naturalized areas (including terrestrial, wetland and aquatic habitat), and flood protection features.

Given the extended time period for Construction of the DMNP, it will be phased in over a number of years. The proposed phasing plan for construction consists of seven major construction stages/steps as identified below:

- Step 1:** Construction of a promontory north of the new river mouth;
- Step 2:** Construction of the Ship Channel wetland;
- Step 3:** Construction of the river mouth and the southern promontory;
- Step 4:** Construction of the remainder of the valley slope;
- Step 5:** Construction of a sediment and debris management area north of Lake Shore Boulevard and establishment of flood protection features;
- Step 6:** Narrowing of the Keating Channel and creation of associated aquatic habitat; and
- Step 7:** Grading of the promontories and areas adjacent to the valley system.

Contaminated soils and groundwater that are encountered during Construction will be managed generally according to Waterfront Toronto's Soils Management Master Plan and Groundwater Management Master Plan and more specifically through one or more Risk Assessment / Risk Management strategies to be developed by Waterfront Toronto during detailed design of the DMNP.

## 7. Step 5: Detailed Assessment of Preferred Alternative

Given the long design and construction period, uniqueness of this project, and the large number of adjacent planning initiatives that influence and will be influenced by this project, the impact assessment was developed to address a certain degree of flexibility in project design and construction. This flexibility is required to address changes in the conceptual design, construction phasing and techniques and baseline conditions.

In general, the positive benefits of the DMNP in providing for long-term flood protection, creating a functional ecological system and allowing for the development of a sustainable mixed-use community are anticipated to greatly exceed any potential negative effects during Construction. Establishment/Post-Establishment includes a measurable improvement in ecological functioning over existing conditions.

### 7.1 Summary of Mitigation Measures

**Table E-4** provides a summary of the mitigation measures required to address the negative effects associated primarily with Construction activities.

### 7.2 Consistency of DMNP with Project Objectives

With proper mitigations in place, the DMNP will address the seven objectives in the following ways shown in **Table E-5**.

**Table E-4 DMNP Mitigation Measures**

Environmental Component	Environmental Subcomponent	Mitigation Measures
<b>Atmospheric Environment</b>	<i>Air Quality</i>	<ul style="list-style-type: none"> <li>• Implement best management practices for dust suppression (on-site watering, gravel aggregate on roads and limiting the speed of vehicles on roads)</li> <li>• Use well-maintained equipment to minimize combustion emissions</li> <li>• Use real-time monitoring systems to measure dust levels</li> <li>• Minimize the exposure time of contaminated soils prior to conversion to control odours and ensure ongoing odour management during Construction</li> </ul>
	<i>Noise</i>	<ul style="list-style-type: none"> <li>• Update noise assessment during detailed design once the dewatering technology has been selected to confirm effects on receptors near Reach 3a</li> <li>• Should the updated noise assessment identify effects on receptors, relocate dewatering operations to Reach 2a or other areas or enclose the hydrocyclone in Reach 3a to reduce noise levels as required</li> <li>• Implement best management practices for noise reduction (alerting residents, project scheduling)</li> <li>• Use well-maintained equipment to minimize noise</li> <li>• Adhere to City of Toronto's Noise By-Law (No. 111-2003)</li> </ul>
<b>Soils</b>	<i>Geology and Soils</i>	<ul style="list-style-type: none"> <li>• Remove oil, cut and cap all uncovered abandoned pipelines</li> <li>• Prepare and follow a spill response plan, including immediately reporting and managing any leakage or spillage</li> <li>• Use a risk management approach to reduce quantities of soil requiring treatment or disposal</li> <li>• Monitor to ensure integrity of the barrier separating clean material from contaminated soils</li> </ul>
<b>Groundwater</b>	<i>Groundwater Quality</i>	<ul style="list-style-type: none"> <li>• Implement full-time groundwater control (involving dewatering), treatment and disposal.</li> <li>• Install sheet piles at approximately 5 m below depth of excavation to prevent groundwater migration during earthworks or well point dewatering network to suppress water table during Construction, or combination of the two</li> <li>• Treat groundwater on-site or at some off-site licensed receiver</li> <li>• Remove all associated LNAPL and decommission active product control / recovery pumping system to facilitate Risk Assessment / Risk Management</li> </ul>
<b>Hydrology and Surface Water</b>	<i>Stormwater Quality and Quantity</i>	<ul style="list-style-type: none"> <li>• Adhere to best management practices for managing construction runoff and erosion</li> </ul>
	<i>Lake / River Water Quality</i>	<ul style="list-style-type: none"> <li>• Use appropriate isolation of excavated area at north end of Reach 1 during construction of Reach 1 to minimize impact to downstream water quality</li> <li>• Limit in-channel construction to specific times of year to avoid adverse flow conditions and avoid critical fish spawning migration periods.</li> <li>• Use BMPs to prevent contaminated material from entering the watercourse and prepare and follow a spill response plan, including immediately reporting and managing any leakage or spillage</li> <li>• Use an excavator, a backhoe located on a barge, or a bottom dump scow to methodically place fill material on top of sediments within the containment berms for the promontories</li> <li>• Ensure long-term maintenance of connecting feeder channels to eliminate infilling with sediments and effectively maintain wetlands</li> <li>• Minimize sediment loads to naturalized area by regular dredging of sediment trap and trap management</li> </ul>

**Table E-4 DMNP Mitigation Measures**

Environmental Component	Environmental Subcomponent	Mitigation Measures
	<i>Flooding</i>	<ul style="list-style-type: none"> <li>• Include construction site on TRCA flood warning system to prepare site in advance of possible flood events</li> <li>• Construction of flood protection landform concurrently with other activities in Reach 1 must not adversely impact on- and off-site flood risk</li> <li>• Use 2D, 3D and/or physical models (that are acceptable to the floodplain regulator) to develop functional and final detailed design to confirm conveyance of the Regulatory Flood plus desired freeboard without affecting areas beyond the new valley system, including ensuring that channel configuration in the trap area is such that any impacts to the adjacent areas are acceptable to the regulator</li> <li>• Use hydraulic modelling during functional design to ensure that design of stabilization works will minimize adverse effects on overall system</li> <li>• Monitoring and maintenance of stabilization works and of naturalized areas (as required).</li> </ul>
<b>Wetland Environment</b>	<i>Wetland Biota, Wetland Habitat</i>	<ul style="list-style-type: none"> <li>• Monitoring and Adaptive Environmental Management, including monitoring of invasive species, effective saturation and/or flooding of wetland substrates, etc., to ensure that:               <ul style="list-style-type: none"> <li>– 13 ha of wetland habitat remains intact</li> <li>– the largest single wetland patch remains intact</li> <li>– there is no infilling and no fragmentation by trails</li> <li>– habitat continues to support desired fish species</li> <li>– vegetation communities are not adversely affected by more frequent flood events and by sedimentation</li> </ul> </li> <li>• Optimize design of lake-connected wetlands to minimize influence on vegetation from residual fines that are not captured in the sediment trap</li> <li>• Optimize wetland design to minimize shear stresses experienced in wetlands under more frequent flooding events</li> <li>• Minimize sediment loads to naturalized area by regular dredging of sediment trap and trap management</li> <li>• Monitoring and AEM to ensure that vegetation communities are not adversely affected by more frequent flood events and by sedimentation</li> <li>• Ensure long-term maintenance of connecting feeder channels to eliminate infilling with sediments and effectively maintain wetlands</li> <li>• Realign trails to circumvent, rather than bisect, Ship Channel wetland</li> <li>• Limit trail placement adjacent to other lake-connected wetlands</li> <li>• Control access to other less sensitive wetlands through use of boardwalks and other strategies</li> <li>• Monitor human effects on wetlands and close or modify trails as required</li> <li>• Do not light trails or use focused, direct lighting if required</li> </ul>
<b>Aquatic Environment</b>	<i>Sediment Quality and Quantity, Aquatic Biota, Aquatic Habitat</i>	<ul style="list-style-type: none"> <li>• Create new higher quality habitat over a larger area with greater complexity to compensate for permanent loss of low quality habitat during Construction</li> <li>• The following measures will be employed during Construction of promontories to minimize or eliminate effects to fish:               <ul style="list-style-type: none"> <li>– Salvage fish where areas are to be isolated for construction</li> <li>– Avoid lake filling activities during windy days when possible to minimize dispersion of sediment</li> </ul> </li> <li>• Adhere to BMPs to reduce likelihood of contaminated material entering the existing channel.</li> <li>• Prepare and follow a spill response plan, including immediately reporting and managing any leakage or spillage</li> <li>• Monitoring and AEM to ensure that habitat continues to support fish species</li> <li>• Minimize sediment loads to naturalized area by regular dredging of sediment trap and trap management</li> </ul>

**Table E-4 DMNP Mitigation Measures**

Environmental Component	Environmental Subcomponent	Mitigation Measures
<b>Terrestrial Environment</b>	<i>Vegetation Communities, Wildlife Habitat, Wildlife Biota, Wildlife Linkages/ Connectivity</i>	<ul style="list-style-type: none"> <li>• Create new higher quality terrestrial habitat to compensate for loss of low quality habitat as part of naturalization</li> <li>• Salvage plants where appropriate for replanting</li> <li>• Phase disturbance to existing vegetation during Construction</li> <li>• Sequential restoration of habitat</li> <li>• Monitoring and AEM to ensure that area of terrestrial habitat remains intact</li> <li>• Use native plant species to maximize opportunities for breeding and forage</li> <li>• Implement sustainable soil methods to maximize health and age of plantings</li> <li>• Provide appropriate care/ restoration techniques (e.g., watering) for upland plantings during initial establishment period</li> <li>• Maintain vegetation structure through renewal of plantings with time</li> </ul>
<b>Socio-Economic</b>	<i>Existing Land Use</i>	<ul style="list-style-type: none"> <li>• Utilize a traffic management plan and standard traffic control measures during Construction to safely co-ordinate traffic flow</li> <li>• Provide alternate/ temporary access and appropriate re-routing signage to businesses along temporary lane closures</li> <li>• Provide advance notice to Toronto Port Lands Company and its users such as Toronto Terminals Railway and GO Transit regarding service disruption</li> <li>• Install backflow prevention or reroute to continue operation of any existing SSOs on the east side of Don River north of Lake Shore Boulevard that will continue to discharge directly to the Don River</li> <li>• Meet with utility providers, including HONI, to confirm that above-ground utilities may be removed or relocated and to develop an approach to maintain servicing during Construction</li> <li>• Where property is under ownership by the City of Toronto or its agents (i.e., TPLC), lessees will be given proper notice and leases will be terminated prior to Construction as per the terms of the leases</li> <li>• Where property is privately held, is subject to longer-term leases, or is owned by the TPA, arrangements will be made for loss of property and/or activity (i.e., negotiations for potential relocation and/or compensation)</li> <li>• Implement best management practices for dust suppression</li> <li>• Use real-time monitoring systems to measure dust levels</li> <li>• Enter into discussions with TPA to ensure that the new location for the works yard addresses their requirements</li> <li>• Enter into discussions with TPA to understand available remaining dockwall and identify alternative mooring locations for vessels</li> <li>• During detailed design of the promontories, look at opportunities for mooring and for reducing the footprint relative to navigational risk concerns</li> <li>• Ensure inspection and long term maintenance of slurry pipe occurs to minimize clogging that will hinder conveyance of sediment</li> <li>• Update the navigation risk assessment during detailed design of the promontories to confirm the conclusions and required mitigation</li> <li>• Discuss with TPA the need for:               <ul style="list-style-type: none"> <li>– Installation of aids to navigation, such as buoys or shore-mounted light, to improve the visibility of the promontories</li> <li>– Implementation of communication systems, such as a website or telephone service, that provide recreational users with information on pending movements of commercial vessels</li> </ul> </li> <li>• The construction phasing strategy can be modified to provide continued dockwall and waterlot access for Lafarge at their current location while the rest of the project is being implemented until such time as an alternative location or resolution can be identified.</li> </ul>
	<i>Planned Land Use</i>	<ul style="list-style-type: none"> <li>• Update noise assessment during detailed design once the dewatering technology has been selected to confirm effects on receptors near Reach 3a</li> <li>• Should the updated noise assessment identify effects on receptors, relocate dewatering operations to Reach 2a or other areas or enclose the hydrocyclone in Reach 3a to reduce noise levels as required</li> </ul>

**Table E-4 DMNP Mitigation Measures**

Environmental Component	Environmental Subcomponent	Mitigation Measures
		<ul style="list-style-type: none"> <li>• Employ best management practices for dust suppression if required</li> <li>• Use well-maintained equipment to minimize combustion emissions and noise</li> </ul>
	<i>Economic Base</i>	<ul style="list-style-type: none"> <li>• Establish clearly marked navigation aids in applicable locations regarding construction of the promontories</li> <li>• Provide advance notice to TPA in order to inform users of duration and spatial extents of the potential disruption to Port operations/potential dock wall removal/modification</li> <li>• Arrangements will be made with TPA for lost mooring revenue (i.e., negotiations regarding compensation)</li> </ul>
	<i>Land-Based and Marine Recreation</i>	<ul style="list-style-type: none"> <li>• Use proper signage to inform users of existing pedestrian/cycling trails of changes due to Construction and provide detours as appropriate</li> <li>• Areas of in-water works will be appropriately marked for navigation</li> <li>• Use proper signage to signal where recreational boaters may go</li> <li>• Erect signage and/or barriers to discourage or prevent motorized watercraft from entering low flow channel and non-motorized watercraft from wetland areas</li> <li>• Engage in discussions with City of Toronto Parks staff to determine responsibility for maintenance requirements</li> </ul>
	<i>Visual Effect</i>	<ul style="list-style-type: none"> <li>• Use landscaping or other measures, such as screening walls or berms dressed with plantings, to screen views of equipment</li> </ul>
	<i>Traffic, Road Infrastructure, Emergency Services</i>	<ul style="list-style-type: none"> <li>• Utilize a traffic management plan and standard traffic control measures during Construction to safely co-ordinate traffic flow</li> <li>• Provide alternate/ temporary access and appropriate re-routing signage to businesses along temporary lane closures</li> <li>• Operate truck traffic for off-site disposal during off-peak hours</li> <li>• Ensure long term maintenance takes place to prevent degradation and replacement costs</li> </ul>
<b>Physical and Cultural Heritage Resources</b>	<i>Built Heritage and Cultural Landscape Resources</i>	<ul style="list-style-type: none"> <li>• Recognize heritage value of displaced cultural heritage landscapes, including Port Lands Industrial District, Commissioners, Villiers, and Cherry Street, and Polson dockwall through signage or other interpretive material or programs</li> <li>• Prepare a cultural heritage assessment report for the Marine Terminal 35 and Atlas Crane site and the one-storey brick warehouse located at 242 -292 Cherry Street, in collaboration with the City's Heritage Preservation Services unit and other heritage stakeholders, which will assess the property's cultural heritage value, impacts to the property, and potential conservation and mitigation options which would include relocating the resources.</li> <li>• Relocate potentially displaced built heritage resources (i.e., structures) on or off-site where possible or incorporate resource into the design of the new river mouth; where relocation is not possible, recognize heritage value of displaced resources through signage or other interpretive material or programs</li> <li>• Mitigate construction-related disturbance to built heritage resources and cultural heritage landscapes through landscaped buffering, stabilization, and maintenance of vehicular access as required</li> </ul>
	<i>Archaeological Resources</i>	<ul style="list-style-type: none"> <li>• A professional archaeologist will be on site to monitor excavation in areas of archaeological potential, including in the vicinity of inventoried archaeological resources</li> <li>• If artifacts are found, the Ministry of Culture will be notified and construction in the area of the find will cease until the value of the find can be ascertained</li> <li>• If Aboriginal artifacts are discovered, the Ministry of Culture will provide guidance on which Aboriginal groups would likely be interested in the finds, and these groups will be notified</li> </ul>
<b>Aboriginal Interests</b>	<i>Traditional Land and Resources Use, Cultural Heritage</i>	<ul style="list-style-type: none"> <li>• Incorporate heritage aspects into the design of the DMNP where feasible</li> <li>• Continue to engage the Mississaugas of the New Credit First Nation, Métis Nation of Ontario, and other aboriginal groups as requested, in the DMNP</li> </ul>

**Table E-5 Consistency of DMNP with Project Objectives**

Project Objective	DMNP Consistency
<b>1. Naturalization</b>	<ul style="list-style-type: none"> <li>Naturalization of the mouth of the Don River creates aquatic, wetland and terrestrial habitat and significantly improves connections with other natural areas (ESAs, Cherry Beach, Tommy Thompson Park).</li> <li>Increase in migratory bird refuge function and bird biodiversity.</li> <li>Creation of 12 ha of permanent aquatic habitat, 8 ha of terrestrial habitat, 13 ha of wetlands and 13 ha of open space for recreation.</li> <li>Improved water quality within the lake-connected wetlands compared to the Keating Channel.</li> </ul>
<b>2. Flood Protection</b>	<ul style="list-style-type: none"> <li>Removal of over 290 ha of land and 850 buildings from flood risk, without exacerbating flood risk elsewhere. The removal of flood risk will allow the redevelopment of new communities as planned in the amended Central Waterfront Secondary Plan. It will also remove the potential for damages that are estimated to exceed \$305 million associated with existing development in the event of a Regulatory Flood.</li> <li>Increased assessment values within the Lower Don Lands as a result of removal of flood risk and increase in amenity value created by new river channel, floodplain and park system. The value of these lands is estimated to increase 25-fold once Construction is complete.</li> </ul>
<b>3. Operational Management and Constructability</b>	<ul style="list-style-type: none"> <li>Capacity to adapt the DMNP with respect to naturalization and flood protection against the possible effects of climate change.</li> <li>Greater flexibility in dredging operations due to changes in dredging technology.</li> </ul>
<b>4. Integration with Infrastructure</b>	<ul style="list-style-type: none"> <li>Revitalization of a derelict section of the waterfront through a novel method of community-planning: integrating the form and function of the river with the surrounding development and infrastructure, leading to communities that are built in harmony with natural processes.</li> </ul>
<b>5. Recreational and Cultural Opportunities</b>	<ul style="list-style-type: none"> <li>Creation of an exciting destination along Toronto's waterfront for both residents and local and regional visitors. This new, revitalized destination in the heart of the City will introduce new generations of visitors to one of the rivers that marked the original boundaries of Toronto.</li> <li>A new series of pedestrian and biking trails with connectivity to existing recreational trails, and increased length of river for recreational boating.</li> </ul>
<b>6. Co-ordination with Other Planning Initiatives</b>	<ul style="list-style-type: none"> <li>Planning for the naturalization of the new valley system and river mouth has been co-ordinated with relevant planning documents and policies throughout the environmental assessment process.</li> <li>Planning is consistent with the intent of the Provincial Policy Statement.</li> <li>Removal of flood risk permits planned mixed use redevelopment which will increase property assessment values and thus property taxes.</li> <li>Infrastructure investment resulting in 3,900 full-time job years in direct employment and 4,900 full-time job years in indirect and induced employment.</li> </ul>
<b>7. Consistency with WT Sustainability Framework</b>	<ul style="list-style-type: none"> <li>Excavation and treatment / disposal of up to 2.3 million cubic metres of soil and isolation of contaminated groundwater from the new naturalized area.</li> </ul>

## 8. Monitoring and Adaptive Environmental Management

### 8.1 DMNP Monitoring Program

A comprehensive monitoring program is a critical element of the DMNP from the pre-design through to Post-Establishment. The monitoring program serves several functions throughout the life of the DMNP:

1. Baseline conditions monitoring during pre-design and detailed design will continue to provide data that will inform detailed design elements and identify changes to the existing environment that may affect project outcomes.
2. EA compliance monitoring will ensure compliance with EA commitments and ensure that the DMNP is constructed according to the minimum design requirements and final design elements; and
3. Environmental performance monitoring will measure if the DMNP functions as intended during Establishment/Post-Establishment and facilitate Adaptive Environmental Management of the new valley system.

A standardized data collection protocol will be established for the monitoring program to ensure data consistency. The specific data that are collected will depend on the current phase of the DMNP so the type of data collected will evolve as the DMNP progresses.

### 8.2 Adaptive Environmental Management

A comprehensive adaptive environmental management (AEM) approach will be used to address long term environmental change, maintain flexibility in strategies to achieve desired outcomes, and to ensure that up-to-date information is available for detailed design. This will ensure that the DMNP continues to function as designed and project objectives continue to be achieved through positive feedback mechanisms.

The AEM framework is a cycle of monitoring, evaluation, adaptation and learning that will allow designers and project managers to maximize project benefits while minimizing negative effects. The details of the plan will be defined during detailed design as project designs are finalized.

**Table E-6 DMNP EA Commitments**

Timing	EA Commitment	EA Report Reference
<b>Detailed Design</b>	<ul style="list-style-type: none"> <li>Obtain all required authorizations and approvals</li> </ul>	Section 1.5
	<ul style="list-style-type: none"> <li>Update and provide to MOE for review the noise assessment related to sediment management facilities once dewatering technology has been selected to confirm effects on receptors near Reach 3a</li> </ul>	Section 6.1.2
	<ul style="list-style-type: none"> <li>Hold discussions with the Toronto Port Authority (TPA) and the City of Toronto regarding responsibilities of future sediment and debris management activities</li> </ul>	Section 6.1.2
	<ul style="list-style-type: none"> <li>Develop a project specific Environmental Management Plan (EMP) in accordance with Waterfront Toronto's Sustainability Guidelines and the Waterfront Toronto Environmental Management Plan for Project-Related Activities (November 2009) to describe specific mitigation and management measures, including drainage and erosion / sediment management and spill response to avoid any effects on the environment during construction</li> </ul>	Section 6.5
	<ul style="list-style-type: none"> <li>Circulate the final Waterfront Toronto's Soils Management Master Plan and Groundwater Management Master Plan for Projects within the Designated Waterfront Area to the MOE, once available</li> </ul>	Section 6.5
	<ul style="list-style-type: none"> <li>Undertake a Risk Assessment / Risk Management (RA/RM) approach for the management of soil requiring treatment or disposal and groundwater (to be undertaken by Waterfront Toronto)</li> </ul>	Section 6.5.1 and Section 7.4.2
	<ul style="list-style-type: none"> <li>Develop functional and final detailed design to confirm conveyance of the Regulatory Flood plus desired freeboard without affecting areas beyond the valley system, including ensuring that channel configuration in the trap area is such that any impacts to the adjacent areas are acceptable to the regulator</li> </ul>	Section 7.4.4.3
	<ul style="list-style-type: none"> <li>The construction phasing strategy can be modified to provide continued dockwall and waterlot access for Lafarge at their current location while the rest of the project is being implemented until such time as an alternative location or resolution can be identified.</li> </ul>	Section 7.4.8.1
	<ul style="list-style-type: none"> <li>Enter into discussions with TPA to ensure that the new location for the works yard addresses their requirements</li> </ul>	Section 7.4.8.1
	<ul style="list-style-type: none"> <li>Enter into discussions with TPA to understand available remaining dockwall and identify alternative mooring locations for vessels</li> </ul>	Section 7.4.8.1
	<ul style="list-style-type: none"> <li>During detailed design of the promontories, look at opportunities for mooring and for reducing the footprint relative to navigational risk concerns</li> </ul>	Section 7.4.8.1
	<ul style="list-style-type: none"> <li>Update navigation risk assessment during detailed design of the promontories to confirm conclusions and required mitigation</li> </ul>	Section 7.4.8.1
	<ul style="list-style-type: none"> <li>Hold discussions with TPA regarding the need for :                             <ul style="list-style-type: none"> <li>Installation of aids to navigation, such as buoys or shore-mounted light, to improve the visibility of the promontories</li> <li>Implementation of communication systems, such as a website or telephone service, that provide recreational users with information on pending movements of commercial vessels requiring additional manoeuvring space</li> </ul> </li> </ul>	Section 7.4.8.1
	<ul style="list-style-type: none"> <li>Engage in discussions with City of Toronto Parks staff to determine responsibility for maintenance requirements</li> </ul>	Section 7.4.8.4
	<ul style="list-style-type: none"> <li>Prepare a cultural heritage assessment report(s) for the Marine Terminal 35 and Atlas Crane site, and the one-storey brick warehouse located at 242 -292 Cherry Street in collaboration with the City's Heritage Preservation Services unit and other heritage stakeholders, which will assess the property's cultural heritage value, impacts to the property, and potential conservation and mitigation options which would include relocating the resources</li> </ul>	Section 7.4.9.1
	<ul style="list-style-type: none"> <li>Continue to engage the Mississaugas of the New Credit First Nation, the Métis Nation of Ontario, and other interested Aboriginal communities</li> </ul>	Section 7.4.9.3
<ul style="list-style-type: none"> <li>Undertake baseline conditions monitoring and modelling work to ensure that the most up-to-date and relevant information is used</li> </ul>	Section 8.1	

**Table E-6 DMNP EA Commitments**

Timing	EA Commitment	EA Report Reference
	to develop the detailed design for the DMNP	
	<ul style="list-style-type: none"> <li>• Prepare and submit to MOE an annual report on the status of compliance with EA commitments and conditions of approval</li> </ul>	Section 8.1.2
	<ul style="list-style-type: none"> <li>• Develop a detailed compliance monitoring plan as part of the overall specific Environmental Management Plan (EMP) to guide compliance monitoring during Construction</li> </ul>	Section 8.1.2
	<ul style="list-style-type: none"> <li>• Develop monitoring objectives and performance indicators and measures during detailed design for the DMNP in conjunction with Waterfront Toronto, the City of Toronto and appropriated agencies</li> </ul>	Section 8.2.3
	<ul style="list-style-type: none"> <li>• (In the event of amendments to the design) Prepare a technical memo to document the proposed modifications and their potential effects identified through the AEM process. The technical memo will be drafted by the TRCA in consultation with Waterfront Toronto and City of Toronto and will be circulated to appropriate stakeholders</li> </ul>	Section 9.2
	<ul style="list-style-type: none"> <li>• Hold discussions with Hydro One Networks Inc. (HONI) regarding the relocation of the hydro bridge, protection of the substation and any impacts on their above and below grade infrastructure.</li> </ul>	Section 10.2.6
	<ul style="list-style-type: none"> <li>• Host a public forum to review the detailed design of the DMNP and seek public input on any new information that is available to feed into the process, including similar engagement with other agencies and land owners</li> </ul>	Section 10.4
<b>Construction</b>	<ul style="list-style-type: none"> <li>• Post regular project updates to the project webpage co-ordinated between TRCA and Waterfront Toronto (during both detailed design and Construction)</li> </ul>	Section 10.4
	<ul style="list-style-type: none"> <li>• Continue dredging of the Keating Channel to maintain its current hydraulic capacity until the new river valley is connected to the lake</li> </ul>	Section 6.5
	<ul style="list-style-type: none"> <li>• Manage soil in accordance with a Risk Assessment / Risk Management (RA/RM) that will be undertaken by Waterfront Toronto</li> </ul>	Section 6.5.1
	<ul style="list-style-type: none"> <li>• Manage groundwater in accordance with the requirements of Waterfront Toronto's Groundwater Management Master Plan</li> </ul>	Section 6.5.1
	<ul style="list-style-type: none"> <li>• Ensure that all backfill material brought onto the DMNP lands from off-site sources (including the SRF as the case may be) has engineering characteristics suitable for its intended use and meets the soil quality standards, as provided in O.Reg. 153/04 and described in the Soils Management Master Plan</li> </ul>	Section 6.5.1.4
	<ul style="list-style-type: none"> <li>• Apply the project specific Environmental Management Plan (EMP) to avoid any effects on the environment during construction</li> </ul>	Section 7.4.2
	<ul style="list-style-type: none"> <li>• Where property is privately held, is subject to longer-term leases, or is owned by the TPA, arrangements will be made for loss of property and/or activity (i.e., negotiations for potential relocation and/or compensation)</li> </ul>	Section 7.4.8.1
	<ul style="list-style-type: none"> <li>• Discuss with TPA the need to establish clearly marked navigation aids in applicable locations regarding construction of the promontories</li> </ul>	Section 7.4.8.3
	<ul style="list-style-type: none"> <li>• Ensure that a professional archaeologist is on site to monitor excavation in areas of archaeological potential</li> </ul>	Section 7.4.9.2
	<ul style="list-style-type: none"> <li>• Undertake baseline conditions monitoring during Construction to determine whether significant changes in the existing environmental conditions have occurred that would influence the form and function of the DMNP</li> </ul>	Section 8.1.1
	<ul style="list-style-type: none"> <li>• Establish an advisory committee of local stakeholders who will review construction progress, particularly as it relates to soils and groundwater management issues relating to public health and risk</li> </ul>	Section 10.4
<ul style="list-style-type: none"> <li>• Host a public forum to provide construction details and schedules when the information is available</li> </ul>	Section 10.4	

**Table E-6 DMNP EA Commitments**

Timing	EA Commitment	EA Report Reference
<b>Establishment/ Post- Establishment</b>	<ul style="list-style-type: none"> <li>• Ensure regular dredging of sediment trap and trap management</li> </ul>	Section 7.4.4.2
	<ul style="list-style-type: none"> <li>• Ensure long-term maintenance of connecting feeder channels to wetlands</li> </ul>	Section 7.4.4.2
	<ul style="list-style-type: none"> <li>• Conduct regular maintenance of upstream and sideflow weirs to ensure proper operation during flood events and ensure regular maintenance of slurry pipe along the Don Roadway</li> </ul>	Section 7.4.8.3
	<ul style="list-style-type: none"> <li>• Monitor environmental performance to measure desired outcomes related to naturalization, flood protection (including management of the impacts of more frequent flooding events) and sediment, debris, and ice management; determine if they have been achieved; trigger adaptive measures where necessary; and inform the refinement of the as-built features</li> </ul>	Section 8.2.3
<b>Commitments Affecting other Projects</b>	<ul style="list-style-type: none"> <li>• New development areas as defined within the Provincial Policy Statement (PPS, 2005) will be required to be set back from the top of valley slope of the new river valley by 10 metres horizontally</li> </ul>	Section 6.1.1.6
	<ul style="list-style-type: none"> <li>• All vehicular traffic/fixd bridges and pedestrian bridges will be designed to meet the requirements for navigation</li> </ul>	Section 6.2.1
	<ul style="list-style-type: none"> <li>• All crossings will be designed to span the floodplain and to pass the Regulatory Flood with 0.5 metre freeboard (with the exception of the Lake Shore Boulevard and Harbour lead crossings)</li> </ul>	Section 6.2.1
	<ul style="list-style-type: none"> <li>• Co-ordinate with infrastructure construction to ensure utility conduits and bridge crossings proceed in conjunction with construction of river valley segments</li> </ul>	Sections 6.6.3.2 and 6.6.4

## 9. EA Amendment Process

The AEM strategy may trigger proposed modifications to the project design and/or construction scheduling if project objectives are not being achieved. A detailed method to identify the types of modifications that will trigger further environmental approval (EA amendments) was developed for this purpose.

TRCA will be responsible for reviewing monitoring data and identifying opportunities to alter or improve the project management, design and/or construction phasing. TRCA and Waterfront Toronto may also identify modifications to project design or construction scheduling based on other factors such as project funding status. When a need to modify the DMNP is identified, an internal effects assessment will be conducted by TRCA to assess the impact of the modifications on environmental components (as predicted in the EA) and desired project outcomes. Wherever possible, any proposed modifications will minimize adverse environmental effects and/or maximize project benefits. This effects assessment will determine the need (or lack thereof) for further review by the appropriate regulatory body, such as the MOE or the CEA Agency.

If modifications to the DMNP do not worsen the predicted effects and do not represent a major perceived change from the perspective of the public and/or agencies, they can be easily implemented through the existing regulatory process.

## 10. Consultation Record

The consultation undertaken in support of the DMNP was guided by the consultation plan developed during the ToR for the DMNP EA. The consultation program for the DMNP followed the guidelines set out in TWRC's Development Plan & Business Strategy for the Revitalization of Toronto's Waterfront, which required the TRCA to consult with a wide range of interested members of the public, agencies and Aboriginal communities.

During the DMNP EA, TRCA hosted five public events, including a site walk and boat cruise, and four formal public forums. These forums were open to any member of the public or interested organization, and stakeholder lists were developed from previous projects related to the same area. A Community Liaison Committee was also established, represented by citizen groups, Aboriginal groups and politicians. Other public consultation activities included newsletters/flyers, information on the TRCA's web site, and community workshops and events.

Given the complexity of the project, and the large number of agencies groups requiring consultation, the DMNP EA Team undertook a substantial agency consultation program throughout the EA. The consultation strategy included meetings and workshops with the following agencies/groups:

- Environmental Assessment Regulators (MOE, CEA Agency, DFO & Transport Canada);
- City of Toronto;
- Aquatic Habitat Toronto;
- Toronto Port Authority;
- Utilities;
- Railway owners and operators;
- Landowners; and
- Related projects.

### 10.1 Aboriginal Consultation Activities and Results

The DMNP is located within the area of the Toronto Purchase Specific Claim, which is the territory of the Mississaugas of the New Credit First Nation. Since archaeological evidence indicates that many other Aboriginal communities have occupied the project area over the centuries, efforts were also made to contact the following communities to discuss the DMNP more fully:

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Mississaugas of the New Credit First Nation</li> <li>• Miziwe Biik</li> <li>• Alderville First Nation</li> <li>• Curve Lake First Nation</li> <li>• Anishnabek Nation</li> <li>• Rama First Nation</li> <li>• Georgina Island First Nation</li> <li>• Ogemawhj Nation</li> <li>• Association of Iroquois and Allied First Nations</li> </ul> | <ul style="list-style-type: none"> <li>• Kawartha Nishnawbe First Nation</li> <li>• Conseil de la Nation Huronne-Wendat</li> <li>• Hiawatha First Nation</li> <li>• Chiefs of Ontario</li> <li>• Mississaugas of Scugog</li> <li>• Beausoleil First Nation</li> <li>• Toronto and York Region Métis Council</li> <li>• Métis Nation of Ontario</li> </ul> |
|---|---|

Meetings and workshops were held with representatives of the Mississaugas of the New Credit First Nation and the Métis Nation of Ontario.

## 11. Advantages and Disadvantages

The outcomes of the DMNP are strongly beneficial for all aspects of the environment, resulting in a redesigned river mouth that will properly convey floodwaters, act as a habitat for wildlife, and be a destination for residents and visitors alike.

The DMNP is a ground-breaking project, using a novel method of community planning that integrates the form and function of the river with the surrounding development and infrastructure. The DMNP will achieve the objectives set out in the ToR and reaffirmed in the EA by creating a functioning river mouth that will remove over 290 hectares of land and 850 buildings from flood risk. This removal of flood risk will allow development within the Port Lands to occur as planned in the amended Central Waterfront Secondary Plan. The value of these lands is estimated to increase by 25-fold once Construction is complete.

Naturalization of the river mouth will create higher-quality aquatic, terrestrial and wetland habitat, which will lead to increased biodiversity and significantly-improved habitat connections, a more resilient river system, and a number of new recreational opportunities. The mouth of the Don River will become a destination for residents and visitors both locally and regionally.

In addition, changes in dredging technology (hydraulic dredge, slurry pipe, and hydrocyclone) are expected to provide for greater flexibility during operations, since the dredge can be easily moved to different locations and the hydrocyclone allows for the potential reuse of clean sediment for beneficial purposes.

The disadvantages of the DMNP will primarily occur during Construction. Temporary negative effects include minimal nuisance effects (i.e., air, noise and traffic) to recreational users and businesses, all of which will be minimized by best management practices. The permanent loss of low-quality habitat will be offset by large gains in higher-quality and higher-functioning habitat, as described above. The majority of heritage buildings are being avoided by the river, and the two that are not will be relocated/commemorated in an appropriate manner. Where Construction of the DMNP displaces or disrupts the use of property that is privately held, is subject to longer-term leases, or is owned by the TPA, arrangements will be made for loss of property and/or activity (i.e., negotiations for potential relocation and/or compensation).

Conversely, Construction of the DMNP will have the benefit of improving local economic conditions by creating a significant number of construction-related jobs. The costs of the DMNP (maintenance, loss of mooring revenue and removal of existing land uses) will be more than offset by investment in the Lower Don Lands and Port Lands that becomes possible after Construction of the DMNP, and the additional economic and quality of life values that the DMNP will provide. Without the DMNP, development as envisioned by the City cannot proceed.

In conclusion, the negative net effects of the DMNP, most of which occur during Construction and are considered to be temporary or negligible, are more than offset by the much greater positive contributions of the DMNP, including flood protection, naturalization, revitalization, employment and recreational opportunities, broad economic benefits and improved operation of the river system. The DMNP will transform a degraded area with limited potential for use into a spectacular public greenspace in the heart of downtown Toronto, surrounded by a progressive and sustainable urban fabric. The DMNP epitomizes excellence in landscape and urban design, and incorporates state-of-the-art technologies and science, combined with progressive ecological management principles. The final outcome of the DMNP is an environment far superior to existing conditions.