

**ADDENDUM TO  
WEST DON LANDS CLASS ENVIRONMENTAL ASSESSMENT  
FOR  
STORMWATER QUALITY FACILITY**

Waterfront Toronto  
City of Toronto

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## **1.0 INTRODUCTION:**

### **1.1 Need for the Addendum**

The West Don Lands Class Environmental Assessment Master Plan (Earth Tech et al., 2005) was completed on May 31, 2005. An addendum is required to update the study area to accommodate a change in location, and to update the treatment process and phasing of implementation for the Stormwater Quality Facility (SWQF).

### **1.2 Justification for the Addendum**

The end of pipe Stormwater Quality Facility, as identified in the West Don Lands Class Environmental Assessment Master Plan (WDL Class EA), is proposed to be relocated to a site that offers a potential to service a larger area of the Toronto Waterfront. This larger service area includes the original West Don Lands Precinct as well as all, or portions, of the North Keating area of the Lower Don Lands (see *Figures 1 and 2*). The request for consideration of a revised location was made by the City of Toronto in an effort to reduce the overall number of stormwater management facilities required in the waterfront area. A site plan can be found in Appendix 1 which illustrates both the previous and proposed location of the SWQF. The actual shape and location of the facility will be determined during final design, but will be located within the study area.

A number of meetings and consultations took place with the City of Toronto, which included engineering and operations staff. The City indicated a preference for a modification to change the UV pretreatment process from filtration to a more passive type of process. This addendum reviews other pretreatment options.

The WDL Class EA identified that an implementation plan would be determined by Waterfront Toronto in cooperation with the City. An implementation plan has been discussed with the City and is outlined in this addendum.

## 2.0 UPDATE OF STORMWATER QUALITY FACILITY LOCATION

### 2.1 Background

The North Keating area of the Lower Don Lands Precinct was previously contemplated to be part of the Naturalized Mouth of the Don River. The Mouth of the Don River Environmental Assessment is no longer considering the North Keating site as part of the naturalized mouth of the Don River. A design competition for the Lower Don Lands identified the North Keating area as a development area. This development area will require stormwater quality management. Figure 1 below identifies the boundaries of the North Keating site and the West Don Lands Precinct.



Figure 1 – Precinct Boundaries

## 2.2 Study Area

The new study area reviewed under this addendum is located directly south of the West Don Lands boundaries as indicated in Figure 2. The municipal address of the site is 480 Lake Shore Boulevard East. Borders of the study area are defined by the CN rails to the north, Cherry Street to the west, The Gardiner Expressway to the south and the site driveway to the east.

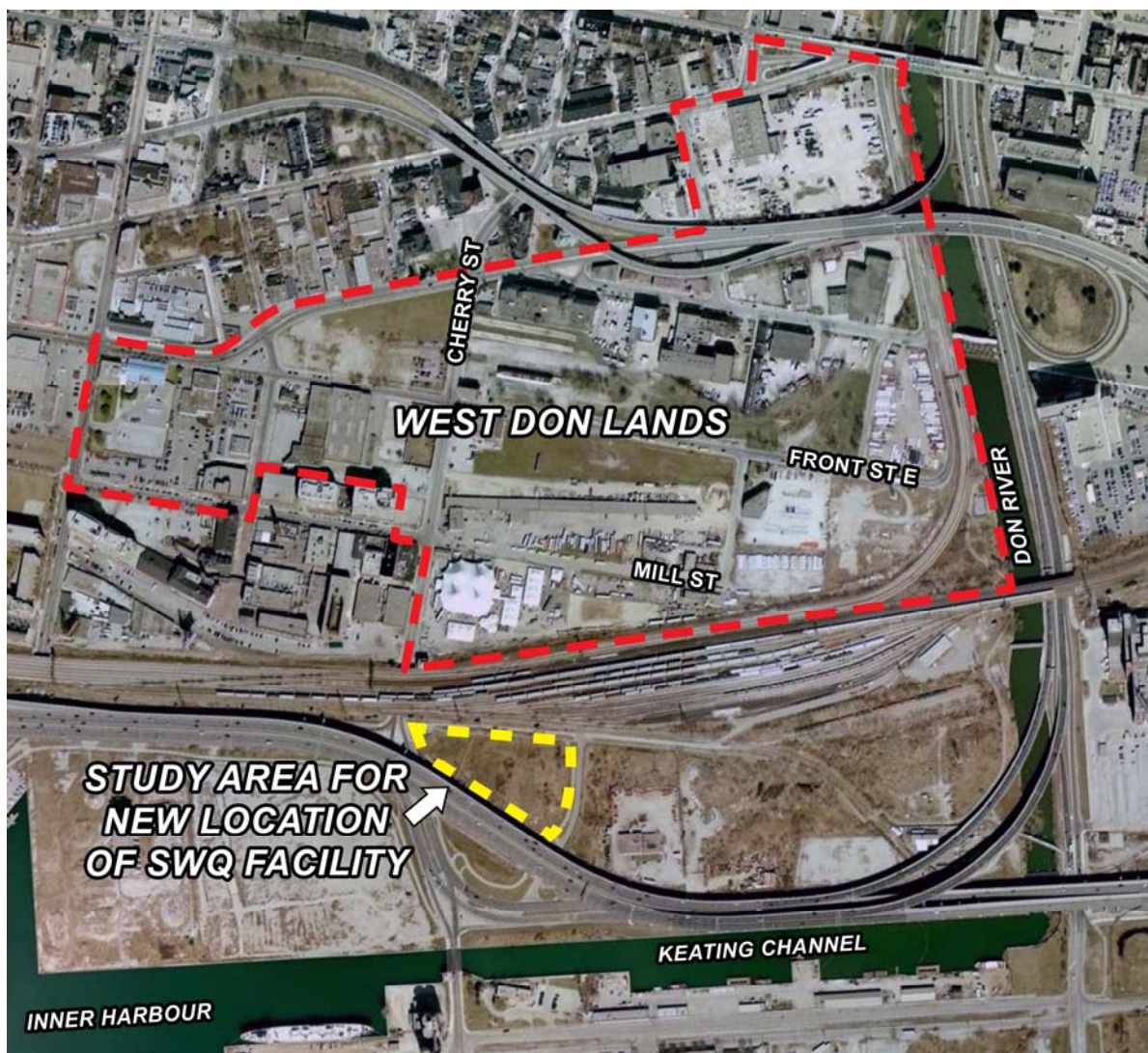


Figure 2 – Revised location of the Stormwater Quality Facility

To reduce the overall number of stormwater quality facilities servicing in the waterfront area, this addendum proposes to relocate the West Don Lands SWQF from the location within the West Don Lands, as identified in the WDL Class EA, into the North Keating area of the Lower Don Lands. With this revision, this facility will have the ability to service the West Don Lands and parts, or all, of the North Keating area of the Lower Don Lands.

The Lower Don Lands Class Environmental Assessment Master Plan (LDL Class EA) is currently in progress and will consider the relocated SWQF as a servicing opportunity, and will examine the extent to which the relocated facility may be useful in servicing the North Keating area.

## **2.3 Inventory of Existing Environment**

Since the study area identified in this addendum was not previously subject to the environmental investigation during the WDL Class EA, this addendum must consider the various aspects of the existing environment that may vary from the previous WDL Class EA. The review contained in this addendum takes into consideration both the Natural and Socio-Economic environments.

Information contained in this section was collected from a site visit which took place on July 8, 2009, as well as from data compiled during the ongoing Lower Don Lands Class Environmental Assessment Master Plan as the Keating Channel Environmental Study Report. Relevant excerpts from both these two reports are included in Appendix 2. The following sections outline more specifically the information which applies to the study area under review.

Photographs are included in this section, illustrating the existing condition of the site. Refer to Appendix 3 for additional photographs of the site during the above noted site visit.

### **2.3.1 Natural Environment**

#### **2.3.1.1 Fisheries and Aquatic Resources**

The new site of the SWQF does not contain any open bodies of water within its boundaries. Neighbouring the site, however, are two bodies of water – the Don River and the Keating



Channel. The Don River is located approximately 600m east of the site, and the Keating Channel is located approximately 200m south of the site.

Comprehensive fish sampling was conducted by TRCA from 1989 to 2003. The sampling had revealed 14 fish species inhabiting the Keating Channel between May and November. The fish captured were typically warm and cool water species. The spectrum of these species was found to be limited, being low in diversity (TRCA, 2004).

Although there are wetlands, areas of natural and Scientific Interest (ANSI) and Environmental Sensitive Areas (ESA) within proximity of the Lower Don lands, none of these features are identified within the boundaries of the study area. These features are associated with the Toronto Islands, Leslie Street Spit, Tommy Thompson Park, Ashbridges Bay and Cherry Beach Shoreline, all located at considerable distance from the study area.

#### 2.3.1.2 Aquatic Habitat

In general the fish habitat within the Keating Channel is considered degraded or highly disturbed. The aquatic vegetation and substrate such as boulders and crevasse habitat within the channel is limited, and is a contributing cause for the lack of habitat diversity and complexity in the channel. Both the Lower Don River and the Keating Channel can be described as lacustrine in nature with hardened concrete channel banks and very little riparian cover. The substrates consist primarily of silt and fine sediments. The turbidity of the water in the Keating Channel is overall high due to sediment loading upstream. This Channel is dredged regularly to maintain its depth and to prevent upstream flooding.

#### 2.3.1.3 Terrestrial Environment

The existing West Don Lands precinct and surrounding area is an extensively developed environment that includes a rail corridor, roads, as well as industrial, commercial and residential buildings. As a result the terrestrial environment features that occur within the precinct are minimal. The field work was carried out as part of the LDL Class EA confirms that the vegetation in the area is of low quality and contains no species identified as being endangered. Excerpts from the study are included in Appendix 2.

The site was visited on Wednesday, July 8, 2009 at 10:30 a.m. At the time of this visit, the study area was unoccupied. The property is being used for outside storage including vehicle parking, storage containers, scrap metal and pallets storage. The surface finish of the storage areas is primarily gravel. The site vegetation is characterized by grass fields, trees and shrubs. There are a few small mounds composed of what appears to be fill material.



*Photograph – Rail-off Truck Parking and Bin Storage Area*

Refer to Appendix 3 for additional photographs of the site.

#### 2.3.1.4 Wildlife Community

According to the findings of the LDL Class EA, there are limited wildlife resources in the area. None of the fauna species identified in the study are at risk either nationally or provincially as designated by COSEWIC and OMNR (NHIC). Refer to the study excerpts in Appendix 2 for more details.

#### 2.3.1.5 Geology and Topography

As identified in the Phase I Environmental Site Assessment for 480 Lake Shore Boulevard East in Toronto, completed in August 2006, the Topographic, Geologic and Hydrogeologic Conditions are summarized as follows:

<b>Topic</b>	<b>Findings</b>	<b>Comment / Source</b>
Subsurface soils	Lacustrine deposits: sand, gravelly sand and gravel: nearshore and beach deposits.	Ontario Ministry of Northern Development and Mines Map No. 2556 – "Quaternary Geology of Ontario – Southern Sheet"
Type of Bedrock	Georgian Bay formation consisting of shale, limestone, dolostone and siltstone  Depth to Bedrock is unknown.	Ontario Ministry of Northern Development and Mines Map No. 2544 – "Bedrock Geology of Ontario – Southern Sheet"
Nearest Open Water Body	Don River located approx 600m east and Keating Channel located approx. 200m south.	Phase I Environmental Site Assessment for 480 Lake Shore Boulevard East – August 2006
Slope of Site Ground Surface	The ground surface of the site is relatively flat, with sporadic mounds of suspected fill	Phase I Environmental Site Assessment for 480 Lake Shore Boulevard East – August 2006
Topography of Site and Surrounding Area	The site and surrounding areas are relatively flat with a slight elevation on the north-east portion of the site.	Phase I Environmental Site Assessment for 480 Lake Shore Boulevard East – August 2006
Site Grade Relative to the Adjoining Properties	The site is at grade with adjoining properties.	Phase I Environmental Site Assessment for 480 Lake Shore Boulevard East – August 2006
Water Wells on Site (Depth, Drilling Date, Use)	Three (3) groundwater monitoring wells were observed across the site during the site visit on July 8, 2009.	Site Visit July 8, 2009
Presence of Fill Material on Site	Fill material has been used across the site	Phase I Environmental Site Assessment for 480 Lake Shore Boulevard East – August 2006
Prominent Physical Features on Site or Surrounding Area	The site is littered with various materials ranging from empty drums, wood, broken glass and bottles, etc. It is currently used as a storage area for shipping containers, concrete pavers and medians, as well as truck parking. The Don Valley Parkway and	Site Visit July 8, 2009  <i>...continued. next page</i>

Topic	Findings	Comment / Source
	Gardiner Expressway are elevated and run along the southern portion of the site. Canadian Pacific Railway lines run along the northern portion of the site.	

#### 2.3.1.6 Soil Conditions

A soil study was completed for the site as part of the Phase II Environmental Site Assessment for 480 Lake Shore Boulevard East in Toronto in August 2006, and is available upon request. A summary of the information contained within that study is provided below.

The site is composed of fill material, predominantly of silt with varying quantities of sand, gravel, clay, debris and decaying vegetation. Depth of fill material encountered on site varied, to a maximum depth of 7.9 meters below grade surface (mbgs). Soil samples from the site contained wood chips, brick fragments and metal scrap, but also impacted with heavy metals, petroleum hydrocarbons and semi-volatile organic compounds. Samples also emitted an odour of petroleum hydrocarbons. Drainage factor of the fill material appears to be good based on the observation of water seeping into excavation during the investigation.

Investigation of samples taken has resulted in findings where soil was found to be impacted with lead, arsenic, barium, beryllium, boron, copper, lead, nickel, selenium and zinc detected in some soil samples. The Soil impact with respect to petroleum hydrocarbons is widespread across the site. The Soil impact with respect to semi-volatile organic compounds is also common across the site, with samples containing semi-volatile organic compounds retrieved from test pits and boreholes in the central area of the site. Samples retrieved from varying depths within the fill material unit contained heavy metals, petroleum hydrocarbons and/or semi-volatile organic compounds at concentrations exceeding the Table 3 MOE Standards, with concentrations not directly related to the depth of the impacted fill material.

### 2.3.1.7 Groundwater Conditions

The Phase II Environmental Site Assessment for 480 Lake Shore Boulevard East completed in 2006, describes the inferred groundwater flow directions at the site based on water level measurements recorded on May 17 and July 5, 2006.

The groundwater flow within the site appears to be in three directions. First being the groundwater within the western portion of the site, flowing south-westward in the direction of the intersection at Cherry Street and Lake Shore Boulevard East. Groundwater within the central portion of the site is flowing mainly in the south direction towards the Keating Channel. And thirdly, groundwater at the eastern portion of the site is flowing in the north-east direction towards the mouth of the Don River.

The direction of groundwater flow beneath the site would likely be affected according to seasonal changes, and other variations influenced by buried utilities (e.g., sanitary and/or storm water sewer systems), and the large sheet piles located along the north side of the Keating Channel.

Previous use on the site appears to have also had impact on the groundwater. Laboratory analysis has shown groundwater to contain petroleum hydrocarbons and semi-volatile organic compounds. Results have shown that petroleum hydrocarbons were present at relatively high concentrations in all samples collected at the



Photograph – Monitoring Well located on Site at North West end

site. Semi-volatile organic compounds were detected in several of the groundwater samples analyzed in this investigation at concentrations that were greater than the respective MOE Table 3 Standards. Mercury was detected in one sample collected from a groundwater monitoring well located within the eastern portion of the site, otherwise the investigation did not reveal the groundwater to be impacted with heavy metals, volatile organic compounds or polychlorinated biphenyls. The concentration of mercury in this sample was marginally above the corresponding MOE Table 3 criterion.

#### 2.3.1.8 Air Quality

There is currently no area-specific air quality information available for the Lower Don Lands area. Air pollutants in the City of Toronto are described in the LDL Class EA are included in Appendix 2. In summary, air pollutants in the City originate from a variety of sources that include industry, transportation, fuel combustion and other miscellaneous activities such as painting and dry cleaning.

#### 2.3.1.9 Noise

Noises heard from the site are mainly associated with vehicular and pedestrian traffic. Most noise in the Lower Don Lands study area comes from traffic on the Gardiner Expressway, with some noise from traffic along the adjacent Lake Shore Boulevard and Cherry Street. The occasional pedestrian traffic is along the perimeter of the site or along the Lower Don River Trail.

The City of Toronto's Noise By-law restricts noise levels and activities to certain times of day during which construction can take place. Construction sites are inspected to make sure that excessive noise is not being generated from equipment on the site, enforced by both the Toronto Police Services and the City of Toronto's Noise Control Branch.

### 2.3.2 Social-Economic Environment

#### 2.3.2.1 Historical Land Ownership & Uses

Information on the historical land use of the site was obtained from the Phase I Environmental Site Assessment for 480 Lake Shore Boulevard East completed in August 2006. According to

the document, the British-American Oil Company Limited, an oil refinery, was the owner of the site from 1916 to the 1950s. The ownership was transferred to Gulf Oil Canada Limited in the 1950's and it was used as a storage facility until at least 1974. Lastly, the City of Toronto has owned the site starting in 1979 and it currently remains under their ownership. All tanks were removed from the site by 1984.

Refer to Appendix 4 for site plan illustrating boundaries of current property ownerships within the area.

#### 2.3.2.2 Land Use Designations

Land use designations are being established as part of the Keating Channel Precinct Environmental Study Report, dated July 2008. The area planning is generally for mixed use residential and commercial, as a higher density transit oriented community.

#### 2.3.2.3 Business Activity

The site was visited on Wednesday, July 8, 2009 at 10:30 am. The site is now being used by the City for storage, and is secured by fencing. At the time of this visit, the site was unoccupied.

For description of surrounding business activities, refer to WDL Class EA completed in 2005.

#### 2.3.2.4 Built Heritage Resources

There are no listed Heritage sites directly within the boundaries of the proposed SWQF site identified in this addendum. There are a number of nearby buildings. For description of surrounding Heritage sites refer to WDL Class EA completed in 2005 as well as LDL Class EA found in Appendix 2.

#### 2.3.2.5 First Nations' Interests

According to investigations carried out as part of the LDL Class EA, found in Appendix 2, the Don River and original mouth of the Don was significant to Aboriginal subsistence, settlement and communication. However, an extensive part of the Lower Don Lands including the study area of the SWQF, was formed in the twentieth century. It was created through infilling

activities, causing the original landforms to be extensively altered in both the natural processes and large-scale engineering works over the years. As a result, there is little to no potential for the survival of significant precontact or early contact period Aboriginal archaeological resources.

Refer to the excerpts from the LDL Class EA in Appendix 2 for details on the Aboriginal history in the area.

### 2.3.2.6 Population and Socio-Economic Profile

The site currently does not contain any residences within its boundaries. Refer to conditions described in the WDL Class EA completed in 2005 for information on neighbouring communities.



*Photograph – Don River Trail at Driveway*

### 2.3.2.7 Employment

There are no direct employment opportunities within the boundaries of the site. The site is currently used for storage as well as parking area.



*Photograph – Don River Trail at Cherry Street*

### 2.3.2.8 Tourism and Recreation

The site currently does not serve as a location for tourism. Nearby recreational activities include a walking and biking trail along the Don River Trail which borders the study area. The Don River Trail extends northward from Lake Shore Boulevard along the west side of the Don River and connects to the Don and Taylor Massey Creek Valleyland corridors. The path is part of a regional recreational trail system and is surfaced in asphalt and is open to the general public.



### 2.3.2.9 Utilities

Immediately south of the rail corridor are Ontario Hydro services, overhead on hydro poles, as well as buried conduit systems. There are also other utilities and municipal services normally associated with municipal roads within Cherry Street and Lake Shore Blvd.

## 2.4 Preferred Location of Stormwater Quality Facility

The study area proposed does not contain any features that would preclude the proposed use of the site for implementation of a SWQF. The SWQF would appear to be a suitable use adjacent to a rail corridor, which can preclude other uses. The location also provides the opportunity to service areas of the North Keating Community of the Lower Don Lands, thereby achieving the goal of allowing for a reduction in the number of storm facilities in the waterfront area. A conceptual arrangement of the SWQF within the study area is indicated in Appendix 1.

The current LDL Class EA preliminary plans indicate an open space or park proposed next to the rail corridor that provides a suitable location for the SWQF. The Oil-Grit Separator (OGS) for the West Don Lands will remain on the north side of the rail corridor in its original intended location. Since the large diameter storm sewer that leads from the WDL to the new location of the SWQF will be a siphon (tunnel under railway tracks) it is advantageous to remove as much coarse sediment as possible prior to the storm water entering the siphon. This will be facilitated with the OGS remaining in the West Don Lands.

The ongoing LDL Infrastructure Master Plan will examine stormwater management opportunities for the North Keating area including an opportunity to connect all, or a portion, of that area to the stormwater quality facility identified in this addendum. Connection of any additional area would require an expansion of the facility, as it will be designed with capacity for only the West Don Lands. The facility will however be designed to facilitate expansion.

## **3.0 UPDATE OF TREATMENT PROCESS**

### **3.1 Background**

The process selected for the SWQF in the original WDL Class EA was:

- Centralized Oil-Grit Separator, followed by
- Stormwater storage, followed by
- Filtration (pretreatment before UV), followed by
- Ultraviolet Disinfection (UV)

Although filtration was selected in the previous Class EA as the method of pretreatment prior to disinfection, there were no other pretreatment processes considered.

Several pretreatment options have been considered including:

- Cartridge Filtration
- Pressure Filters
- Ballasted Flocculation, and
- Sedimentation

From an operations perspective, the City (the operating authority) was concerned with any process that was viewed to be operationally complex or involved frequent maintenance (i.e. changing filters, handling chemicals etc).

### **3.2 Pretreatment Process Options**

The following sections include a comparative analysis of the pretreatment options considered which include: Cartridge Filtration, Pressure Filters, Ballasted Flocculation, and Sedimentation.

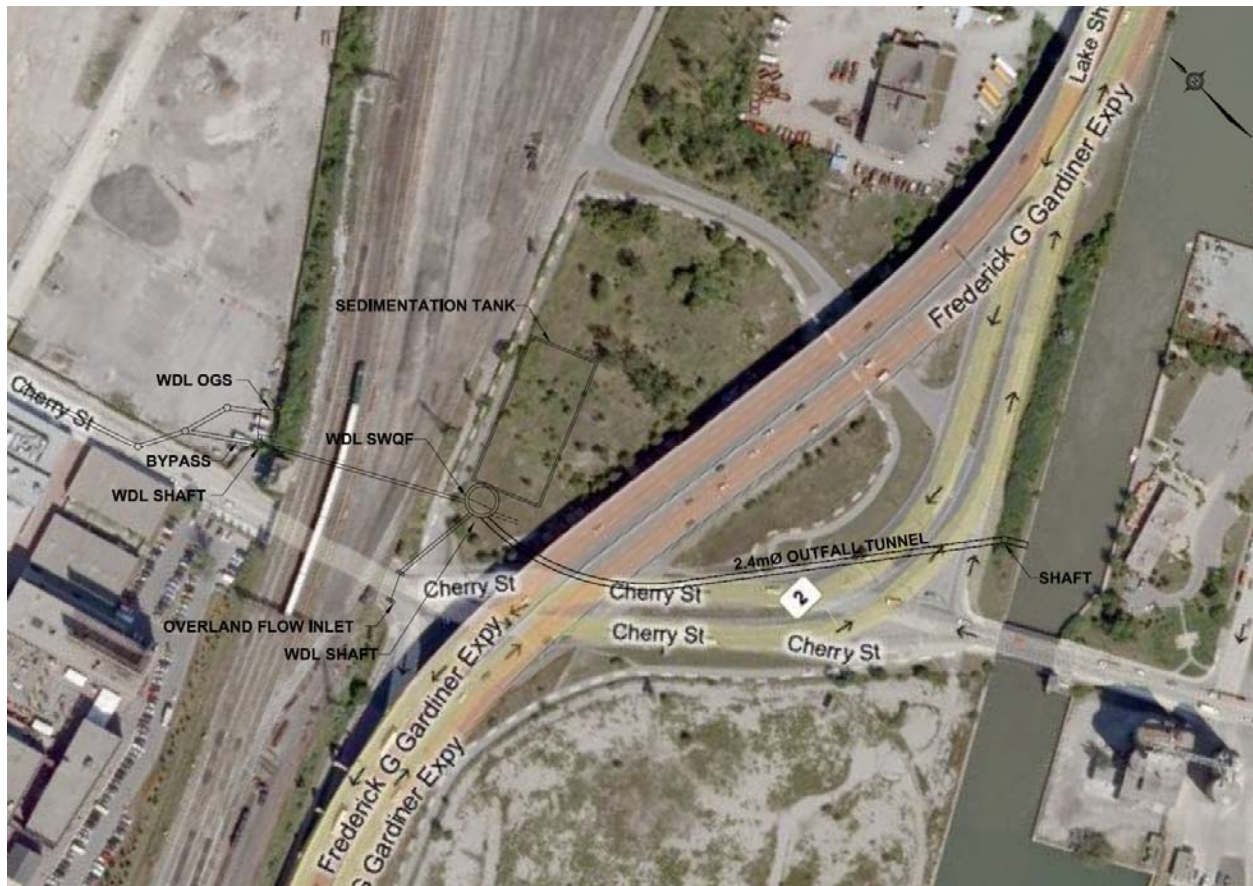
Pretreatment Process	Description
Cartridge Filtration	<ul style="list-style-type: none"> <li>- Limited products available</li> <li>- Provides a known physical barrier with consistent properties to produce effluent of reliable quality</li> <li>- Operationally more intensive (frequency of changing cartridges)</li> <li>- Relatively high operations cost for replacement filters</li> <li>- Smaller footprint, however some storage area is needed for replacement cartridges</li> <li>- Solid waste issues related to disposal of large quantities of spent cartridges</li> <li>- - Operations staff has no experience with such filters in stormwater applications</li> </ul>
Pressure Filters	<ul style="list-style-type: none"> <li>- Provides a known physical barrier with consistent properties to produce effluent of reliable quality</li> <li>- Operationally more intensive (backwashing, changing media)</li> <li>- Operations cost for pumps to increase pressure to around 70-90 psi</li> <li>- Residual generated</li> <li>- Smaller footprint</li> <li>- Operations staff has no experience with such filters in stormwater applications</li> </ul>
Ballasted Flocculation (a form of assisted settling)	<ul style="list-style-type: none"> <li>- Reliable results</li> <li>- Operationally more complex</li> <li>- Operationally more controllable</li> <li>- Higher power and ballast costs</li> <li>- Residual generated</li> <li>- Small footprint</li> <li>- Operations staff has no experience with such equipment filters in stormwater applications</li> </ul>

Pretreatment Process	Description
Sedimentation (unassisted settling)	<ul style="list-style-type: none"> <li>- Largest footprint</li> <li>- Reliable results provided influent parameters are known</li> <li>- Monitoring suggested to optimize design once development is substantially completed.</li> <li>- Runoff must be held for longer duration for settling to occur</li> <li>- Residual generated</li> <li>- Operationally least complex and operationally least costly</li> <li>- City has experience with this unit process</li> </ul>

### 3.3 Preferred Pretreatment Solution

After considering the various pretreatment processes, the sedimentation process was selected as it was operationally most appropriate for the City of Toronto who will own and operate the facility. The facility would primarily be located underground, minimizing visual impacts. However, given the actual influent parameters are not known and therefore the effluent results not predictable, the City may opt to add one of the other unit processes as a final barrier during detailed design. In this case, the sedimentation tank could be optimized (reduced in size) should any additional unit process be included.

The general location of the tank is as shown on Figure 3 on the next page. The final configuration will be determined at final design, and will be coordinated with planning for the North Keating area of the Lower Don lands Precinct.



*Figure 3 – General Location of Stormwater Quality Facility  
(Sedimentation tank below grade)*

### 3.4 Contingency Plan

A contingency plan was developed to install additional OGS units in the WDL precinct in the future if required. This contingency plan is required in the event that greater amounts of sediment pass through the final OGS and cause a problem (nuisance) in the siphon or UV pretreatment sedimentation system.

## **4.0 UPDATE OF PHASING**

The Class EA identified that an implementation plan would be determined by Waterfront Toronto in cooperation with the City. The implementation plan has been discussed with the City and has considered the changes in the stormwater quality facility location and the UV pretreatment sedimentation process.

### **4.1 Phase 1**

The new stormwater outfall into the Keating Channel is required prior to development proceeding in Phase 2 of the WDL. The SWQF (OGS, pretreatment only) will be constructed at the same time as the new outfall and they will be commissioned together.

### **4.2 Phase 2**

The implementation of the UV disinfection system will be in Phase 2 to allow sufficient time to monitor the performance of the final OGS and pretreatment, to determine an appropriate UV transmittance (UVT) for design. To collect proper data, a substantial amount of the WDL precinct should be built out, as this would provide lower sediment in the runoff (developed condition versus construction condition). It is advantageous to optimize this design as it could result in energy savings and reduced facility sizing, to the benefit of the operating authority.

Should the LDL Class EA identify the proposed WDL SWQF (to be located in the LDL) as being the preferred stormwater servicing alternative, then the two projects would be coordinated to ensure the facility can be expanded in a logical manner and the final facility will operate as one integrated facility.

This SWQF is one small piece in a significant undertaking to reduce the impact of urban runoff on Lake Ontario, which can result in beach closures. Since the WDL is a small part in the overall plan being implemented by the City, the deferral of the implementation of the UV system is inconsequential when viewed in the broader context of the amount of untreated urban runoff that is directed to the Lake.

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## 5.0 ENVIRONMENTAL EFFECTS AND MITIGATION

### 5.1 Overview

The new location of the SWQF proposed in this addendum is on the south side of the railway corridor, east of Cherry Street. Geographically, it borders the CN rails to the north, Cherry St. to the west, Refer to Appendix 1 for site location. The potential environmental effects and mitigation are presented in the following sections.

### 5.2 Potential Environmental Effects

#### 5.2.1 Disturbance to Don River Trail

On the northern boundary running along the boundary of the site is the Don River Trail adjacent to the CN rails. This trail is used year round for various leisure activities.

This path constitutes one of the most significant issues in relation to environmental impact of the socio economic category. If not mitigated during construction, users of this path could be subject to visual, air and noise impacts.

#### 5.2.2 Disturbance to Lake Shore Boulevard Traffic

Lake Shore Boulevard vehicular and pedestrian traffic would both be impacted during construction activities (socio economic). Noise, dust and construction vehicles in and out of the site may become a source of nuisance to the general public if not properly mitigated.

#### 5.2.3 Impacted Soils and Site Development

As identified in this document, the soils within the site are impacted through the previous use, requiring appropriate mitigation. The site must be developed respecting the surrounding uses including maintaining drainage (i.e. not disturbing drainage along rail corridor).

#### 5.2.4 Dewatering During Construction.

During construction, it is expected that dewatering to facilitate excavation would be required. Given the soil and groundwater conditions of the area, the dewatering discharge will require mitigation.

### 5.3 Mitigation

The following table summarizes the identified environmental impacts on the proposed new location:

Type of Impact	Description
Socio Economic	-Visual impact - during construction
Socio Economic	- Construction traffic
Socio Economic	- Maintenance traffic
Socio Economic	- Land Use
Socio Economic	- Public access and safety – after construction
Socio Economic	-Obstruction to Don River Trail during construction
Socio Economic	-Visual Impact/Obstruction after construction
Biophysical	-Air quality and noise during construction
Biophysical	-Work within previously impacted soils and groundwater -Grading and drainage



5.3.1 Mitigating Measures

Type of Impact	Description
Socio Economic	Visual impact to Don River Trail during construction <ul style="list-style-type: none"> <li>• Enclosure of site and/or temporary relocation of trail</li> <li>• Maintain public access to Don River Trail</li> </ul>
Socio Economic	Construction Traffic <ul style="list-style-type: none"> <li>• Construction access to minimize traffic on Cherry Street</li> <li>• Construction access is proposed to be located on east side of property via the site driveway</li> </ul>
Socio Economic	Maintenance traffic <ul style="list-style-type: none"> <li>• Maintenance is not expected to be frequent – buildings to be primarily accessed after a storm for routine inspection and operation</li> </ul>
Socio Economic	Land Use <ul style="list-style-type: none"> <li>• The facility, which is non occupied space is suitable for being located adjacent to a rail corridor</li> </ul>
Socio Economic	Public access and safety – after construction <ul style="list-style-type: none"> <li>• Measures to be taken to prevent public parking on SWQF site i.e. lockable bollards</li> <li>• Public access to be established according to land use designations determined for the Lower Don Lands</li> <li>• Incorporate principles of Crime Prevention through Environmental Design (CPTED)</li> </ul>
Socio Economic	Obstruction to Don River Trail during construction <ul style="list-style-type: none"> <li>• Measures to take place to allow for safe public access along the Don River Trail along side the construction site or suitable temporary relocation/detour during construction</li> </ul>
Socio Economic	Visual Impact - After Construction <ul style="list-style-type: none"> <li>• Main facility building (footprint approx. 150m<sup>2</sup>) to be designed to take site context into consideration</li> <li>• Small access building (footprint approx. 100m<sup>2</sup>) to be designed to take site context into consideration</li> <li>• Reinstatement of affected areas along Don River Trail</li> <li>• New open space area to be designed considering LDL design team requirements</li> <li>• Maintain suitable grades</li> </ul>

Type of Impact	Description
Biophysical	<p data-bbox="540 260 1062 291">Air quality and noise during construction</p> <ul data-bbox="589 310 1334 684" style="list-style-type: none"><li data-bbox="589 310 1334 373">• Dust and emission controls during construction to meet applicable requirements</li><li data-bbox="589 384 854 415">• Enclosure of site</li><li data-bbox="589 426 1334 489">• Follow requirements of Waterfront Toronto Environmental Management Plan</li><li data-bbox="589 499 1235 531">• Equipment to be provided with proper mufflers</li><li data-bbox="589 541 1334 604">• Noise to follow requirements of City of Toronto Noise-Bylaw</li><li data-bbox="589 615 1334 678">• Grading of site to respect adjacent uses and maintain drainage</li></ul>
Biophysical	<p data-bbox="540 711 1256 743">Work within previously impacted soils and groundwater</p> <ul data-bbox="589 741 1334 1083" style="list-style-type: none"><li data-bbox="589 741 1230 772">• Soil is impacted due to previous industrial use</li><li data-bbox="589 783 1334 888">• Appropriate handling and disposal of excavated material to meet Provincial and Municipal requirements</li><li data-bbox="589 898 1334 1003">• Obtain Permit to Take Water (PTTW) for dewatering and City approval for dewatering and disposal during construction (compliance with sewer use by-law)</li><li data-bbox="589 1014 1334 1077">• Backfilling with clean material to improve soil conditions</li></ul>

## 6.0 AGENCY AND STAKEHOLDER COMMUNICATION

The following list of agencies were part of the listed agencies and stakeholders in the West Don Lands Class EA Master Plan completed in March 2005, and were included as part of the circulation to review information provided on this addendum and were requested to provide comments:

- City of Toronto
- Ontario Realty Corporation
- Ontario Ministry of the Environment
- Toronto and Region Conservation Authority
- Department of Fisheries and Oceans
- Ontario Ministry of Transportation
- Toronto Police Service
- Anishinabek Nation/Union of Ontario Indians
- Association of Iroquois and Allied Indians
- Bell Canada
- Enersource Corporation
- HydroOne
- Mississaugas of New Credit First Nations
- Ontario Ministry of Aboriginal Affairs
- Toronto Hydro Corporation
- Toronto Public Health – Toronto Office
- Transport Canada
- Union Gas
- Toronto Emergency Medical Services
- Ontario Ministry of Municipal Affairs and Housing
- Ontario Ministry of Health and Long-Term Care
- Ontario Ministry of the Attorney General
- Ontario Ministry of Tourism
- Toronto Catholic District School Board
- Toronto Fire Services Headquarters
- City of Toronto Works and Emergency Services

- 
- Ontario Ministry of Culture
  - Ontario Ministry of Citizenship and Immigration
  - Ontario Ministry of Culture, Heritage Operations
  - Ontario Ministry of Natural Resources
  - Toronto District School Board

The following list of agencies were not part of the original circulation for review of the West Don Lands Class EA Master Plan, however have been included in the circulation for this addendum to review and provide comments:

- Enbridge Gas
- CN Rail
- Metro Links (previously known as Go Transit)
- Toronto Port Authority

The information package for the addendum which was forwarded to each of the above listed stakeholders has been included in Appendix 5, along with the form letter sent to each agency.

The West Don Lands Liaison Committee consisted of members of the community that have an ongoing interest in the West Don Lands project. As part of this addendum the stormwater quality facility updates were presented to this committee on July 27, 2009 at a meeting held at 39 Parliament Street. Comments received from the stakeholders and agencies are summarized and addressed on the next page.

Source	Comment:	Response:
West Don Land Liaison Committee	Why is it that a much larger facility (settling tanks) is operationally preferred?	Settling is a more passive process, no filters or membranes to clean or replace or dispose of, sediment simply settles, clear liquid is pumped away and remaining sediment is suspended once again and conveyed to sanitary sewer.
Toronto Hydro	Toronto Hydro provided information on duct structure to be loated on east side of Cherry Street.	This duct structure is not within the site boundaries; however, it will be coordinated during design.
Toronto Police Services	No issues or concerns were identified. Police have recommended Crime Prevention through Environmental Design (CPTED) be incorporated into the project.	CPTED will be reviewed and considered for this project.
Toronto and Region Conservation Authority	No objections to the proposed updates and please keep TRCA staff informed as project implementation progresses	TRCA will be kept informed during the project implementation
Enersource	Involvement not required.	Agency will be removed from contact list for this addendum.

Additional correspondence from Agencies and Stakeholders has been included in Appendix 5.

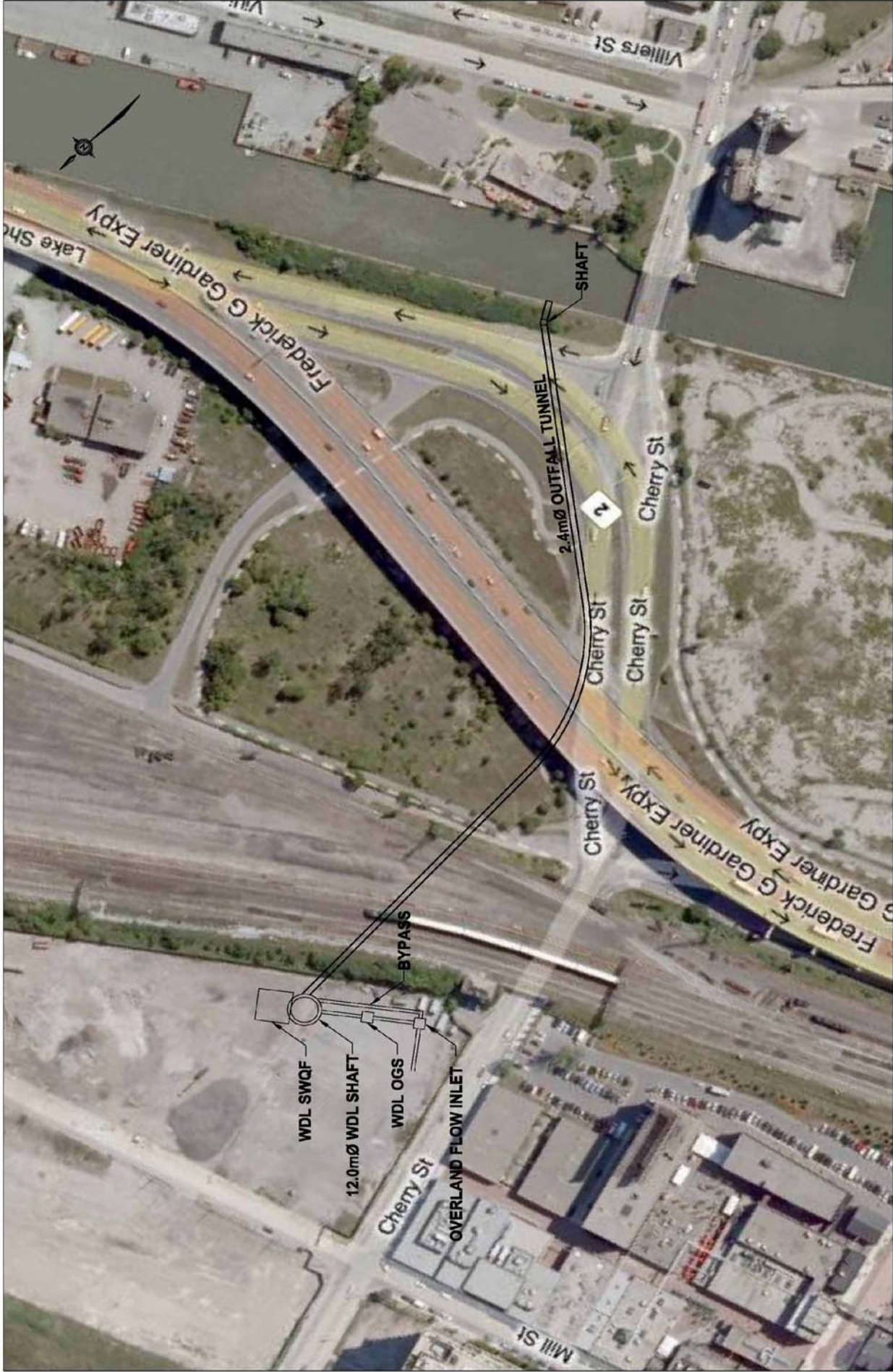
## **7.0 CONCLUSION**

The environmental inventories did not reveal any aspect that would preclude the facility from being relocated from the north side of the railway corridor to the south side as indicated in Appendix 1. The update in treatment process from filtration to a form of sedimentation provides for a facility that is more suitable to the facility operator. The implementation plan provides an opportunity to optimize the facility which provides operational benefits.

There are no significant environmental impacts anticipated, either short or long term, as a result of the update presented in this addendum. The project may be incorporated using mitigation measures that are normally incorporated into projects of this nature.

## **APPENDIX 1**

- **Previous Location of Stormwater Quality Facility under WDL Class EA Master Plan,  
March 2005**
- **Proposed Location of Stormwater Quality Facility under this Addendum**

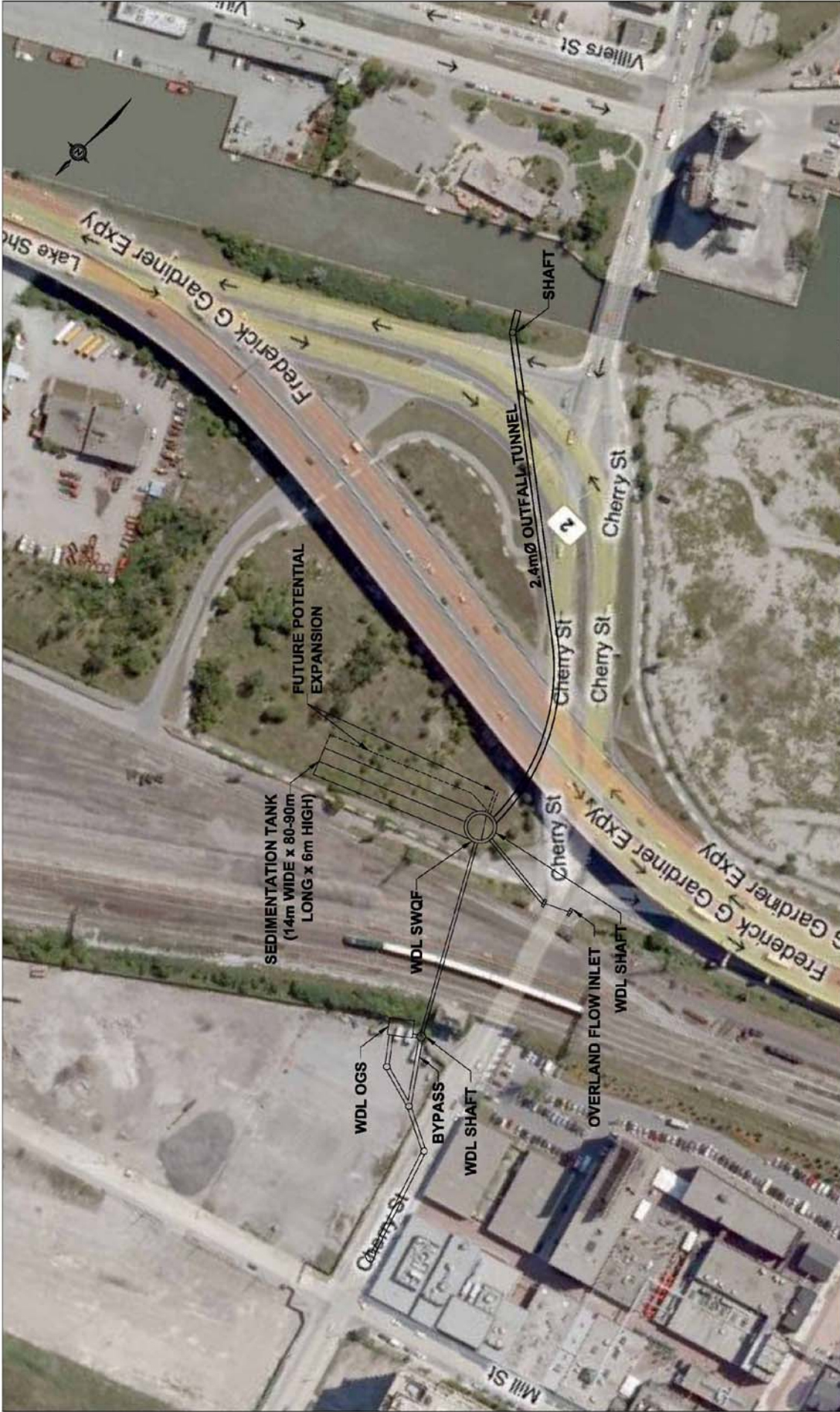


**PROPOSED WEST DON LANDS STORMWATER QUALITY  
FACILITY (SWQF) LAYOUT BY ORIGINAL CLASS EA**

DESIGNED	DRAWN
BM	JB

JULY 22, 2009





<b>R.V. Anderson Associates Limited</b> <small>environment · infrastructure</small>	<b>PROPOSED WEST DON LANDS STORMWATER QUALITY FACILITY (SWQF) BELOW GRADE LAYOUT BY CLASS EA AMENDMENT</b>		JULY 22, 2009
	DESIGNED	DRAWN	
	BM	JB	

## **APPENDIX 2**

### ***Excerpts from:***

- **Keating Channel Precinct Environmental Study Report**

*Page 17-279 to Page 17-296*

- **Lower Don Lands Class Environmental Assessment Master Plan**

*Page 1-1 to 1-3*

*Page 5-54 to Page 5-86*

**APPENDIX 3**

**Photographs of Existing Condition (July 8, 2009)**

## 17. Environmental Conditions, Impacts and Mitigation

The existing environmental conditions described in this section of the ESR were obtained through secondary source investigations and supplemented by field work carried out as part of the DMNP EA.

The impacts and mitigation described in this section are for the infrastructure improvements (i.e., for roads, transit, water, wastewater, and stormwater facilities) being recommended for the Keating Channel Precinct.

Environmental impacts and mitigation are based on a best management approach that centres on preventing impacts, protecting the existing environment and identifying opportunities for the rehabilitation and enhancement of impacted areas.



### 17.1 Natural Environment

#### 17.1.1 Natural Heritage Policies

The Valley and Stream Corridor Management Program developed by the TRCA (1994) provides a plan that undertakes “an integrated valley and stream corridor management program to prevent, eliminate or reduce the risk to life and property from flooding, from erosion of river banks, and from valley slope instability; to protect and regenerate the ecological health and integrity of these systems; and to provide opportunities for compatible public use and enjoyment”. Section 4.3 Infrastructure and Servicing of the Management Program, provides a guideline for siting and designing new transportation corridors, above ground and below ground utility corridors, stormwater outfalls and stormwater runoff control facilities, at river crossings and in floodplains.

The proposed infrastructure improvements within the Keating Channel Precinct are consistent with the management programs guidelines for river crossings. The flood protection issues of the Keating Channel Precinct are addressed in Section 17.2.2.

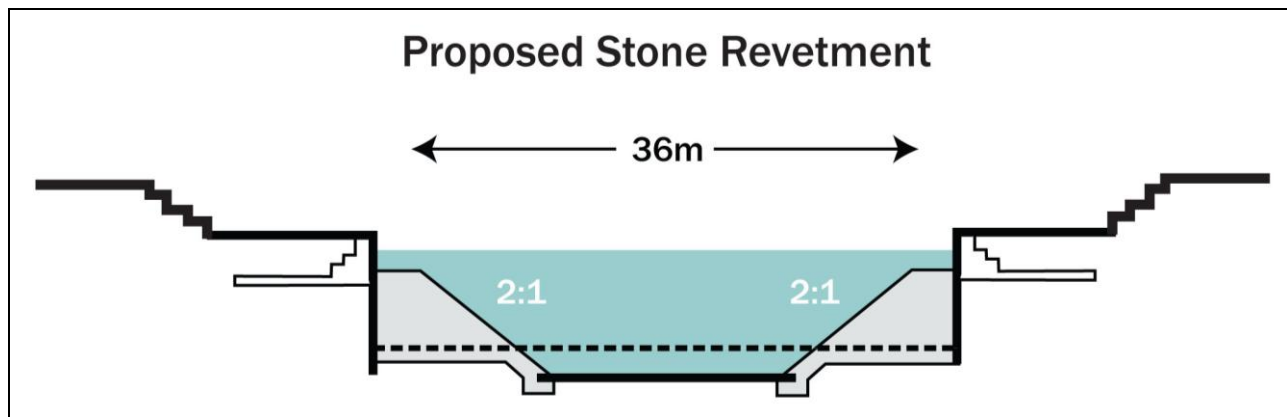
#### 17.1.2 Fisheries and Aquatic Resources

Fish habitat within the Keating Channel is generally characterized as degraded or highly disturbed and is very uniform in nature. The existing channel lacks habitat diversity and complexity with limited in-stream cover in terms of aquatic vegetation and substrates such as boulders and crevasse habitat. Additional information on fisheries and aquatic resources in Keating Channel is provided in Section 5.0 of the Master Plan.

## section 17. environmental conditions, impacts and mitigation

The proposed development of the Keating Channel Precinct includes improvements to the Keating Channel retaining walls underwater (see **Figure 17-1**). The structural improvements for the existing retaining walls include placing large boulders and clean rock material adjacent to the wall along the length of the Keating Channel. The use of clean rock fill to support the walls has potential to improve the area and diversity of fish habitat in the Keating Channel and will likely have a positive net impact on fisheries resources.

**Figure 17-1 Improvements to the Underwater Keating Channel Retaining Walls**



### 17.1.3 Vegetation and Flora

Existing vegetation in the Keating Channel Precinct is primarily located north of the Gardiner Expressway and south of the rail berm, as shown on the adjacent photograph.

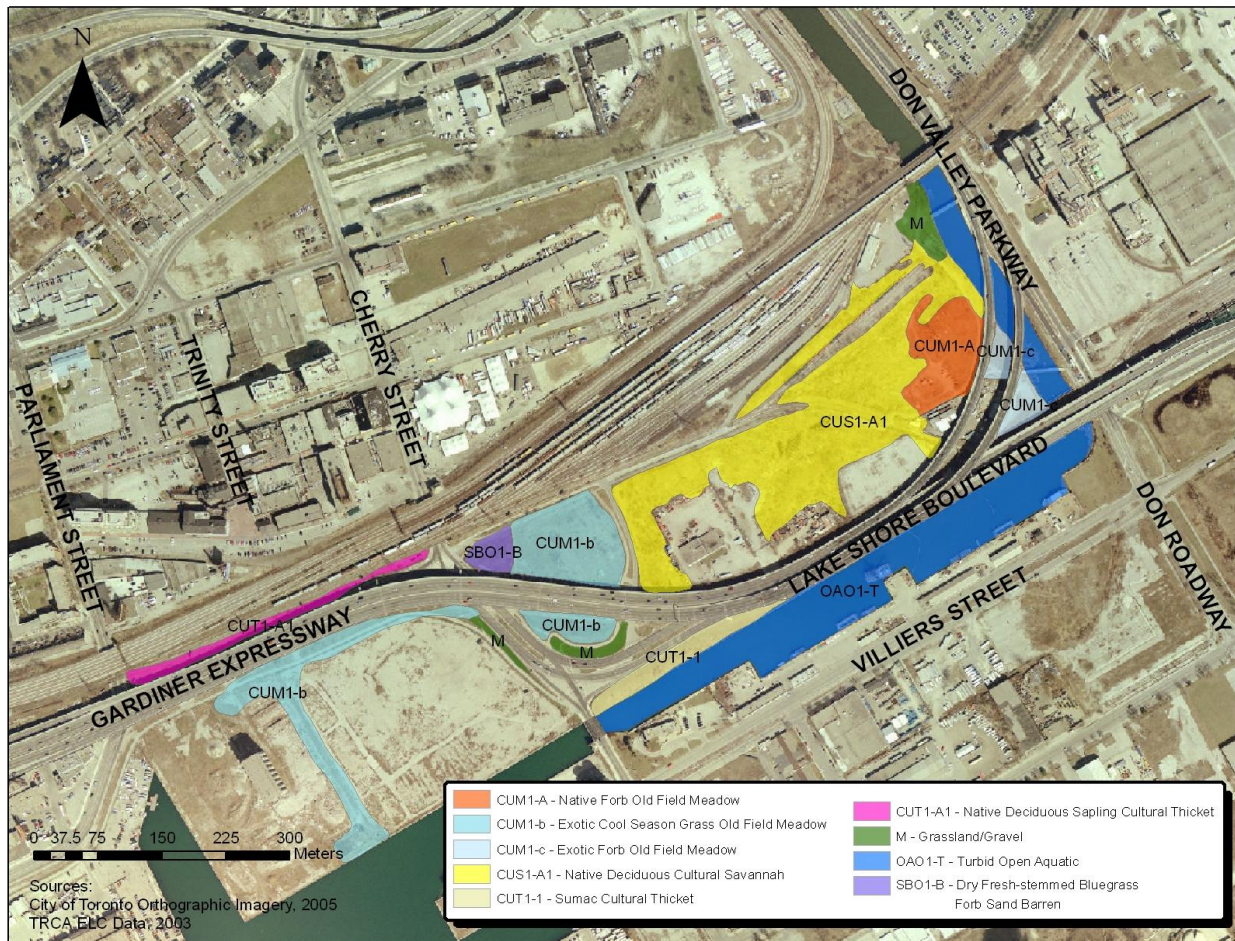
Field work, completed by AECOM, confirmed that the vegetation is generally of low quality, shown on **Figure 17-2**. It was also confirmed that there are no Butternut Trees (listed as an endangered species on the Species at Risk in Ontario List, in O. Reg 230/08 under the ESA 2007) located in the study area.



*View of Keating Channel Precinct facing south from north east corner of study area*

The proposed roadway network impacts approximately 4.34 ha of vegetation. The redevelopment of adjacent land uses as well as earth works required for the overall development of the Keating Channel Precinct is expected to result in the loss of low quality vegetation.

Figure 17-2 Existing Vegetation



Affected vegetation communities include Dry-Fresh Flat-stemmed Bluegrass - Forb Sand Barren, Exotic Cool-season Grass Old Field Meadow, Native Deciduous Cultural Savannah, as well as a small portion of Exotic Forb Old Field Meadow.

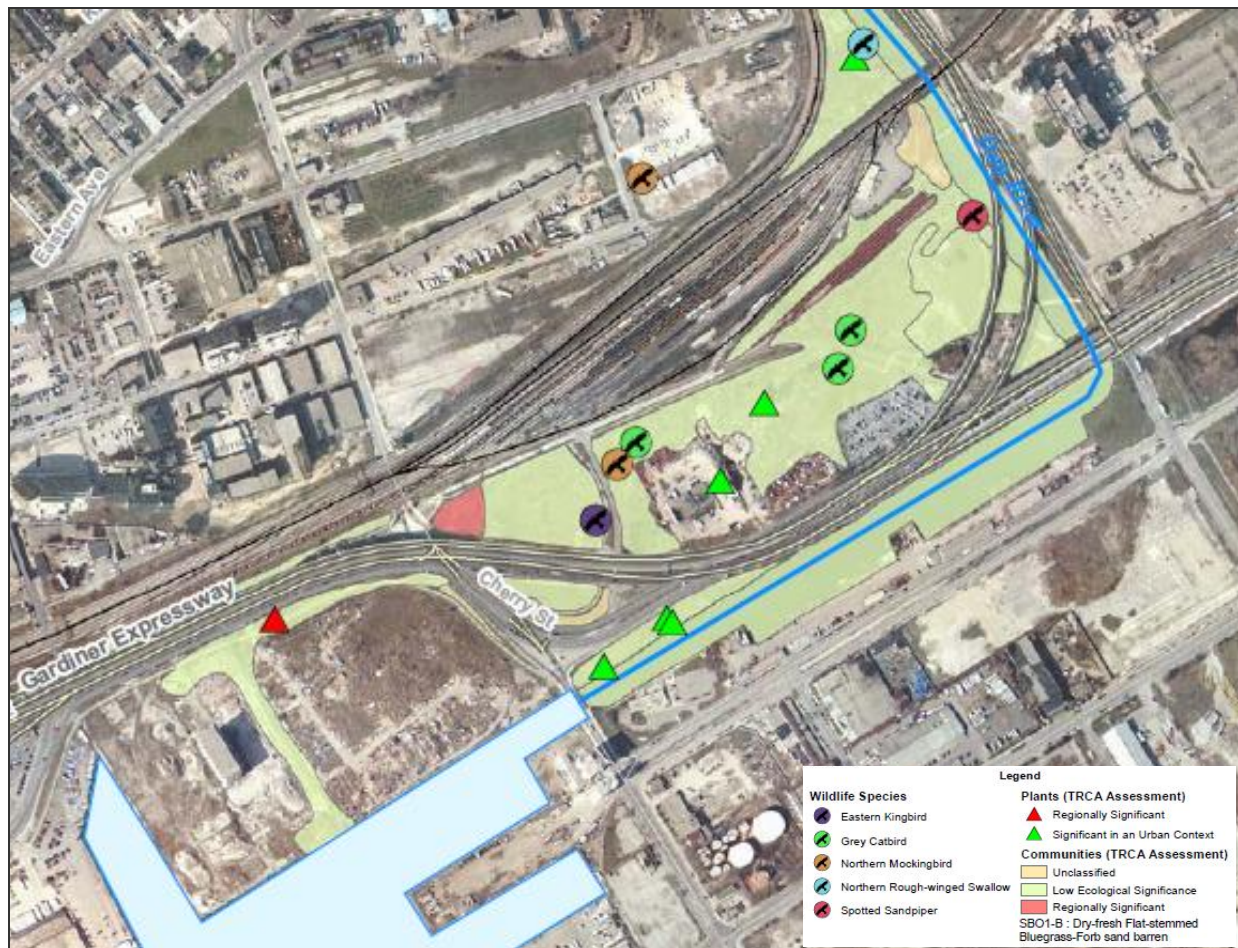
However, the new street cross-sections and development plans include both tree plantings within the road rights-of-way and new parks and open space in the Keating Channel Precinct.

Therefore, the net impact of vegetation loss is expected to be negligible.

#### 17.1.4 Wildlife Resources and Linkages

There are limited wildlife resources in the Keating Channel Precinct. Bird species are shown on **Figure 17-3**.

Figure 17-3 Wildlife and Vegetation



Wildlife linkages south of the Keating Channel will be improved with the naturalized, realigned Don River and flood spillway to the Ship Channel.

All land clearing shall be conducted outside of the breeding bird period to avoid impacts to nesting birds and to ensure compliance with the federal *Migratory Birds Convention Act* (MBCA). In this regard, no vegetation removal should occur between April 1 and August 15. Should tree removal be required within this time, a nest survey shall be conducted by a qualified Avian Biologist, prior to the commencement of works, in order to locate and identify active nests. A mitigation plan shall then be developed to address any potential impacts on migratory birds and their active nests, and should be approved by Environment Canada – Ontario Region prior to implementation.

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**section 17. environmental conditions, impacts and mitigation**

### 17.1.5 Surface Water

Significant improvements to surface water conditions are expected as a result of the proposed infrastructure works.

Flooding will be reduced through the hydraulic conveyance mechanisms being implemented by the sediment trap and weir at the east end of the Keating Channel and the future realignment of the Don River, to the south of the study area.

Stormwater improvements, as described in Section 14 of the ESR will ensure far greater protection from flooding in the future. Significant improvements to the treatment of stormwater will also improve water quality as described in Sections 14.4.3 and 14.4.4.

Water quality targets will meet the required water quality criteria as established by the City of Toronto Wet Weather Flow Management Guideline, the Ministry of the Environment Stormwater Management Planning and Design Manual, the Toronto Regional Conservation Authority. Sewers will be sized for the 2 year storm as per the Toronto Wet Weather Flow Management Guidelines and will accommodate for major system flows and the overtopping of roads for the 100 year storm.

A stormwater management plan will be developed during the detail design stage to address potential water quantity and erosion impacts during construction, drainage conditions and stormwater management options and maintenance and monitoring commitments. The MOE's *Stormwater Management Planning and Design Manual (2003)* will be utilized to confirm the final design of stormwater control methods.

In addition, sediment and erosion control during construction will be confirmed through detail design for the infrastructure improvements. It is imperative that the earthworks associated with both the construction of new infrastructure and redevelopment of the area is managed and monitored properly to avoid sediment release to Lake Ontario and the Keating Channel, including during severe weather events. The MOE Guideline B-6, *Evaluating Construction Activities Impacting on Water Resources* will be used to plan and construct the project.

## 17.2 Social Environment

### 17.2.1 Land Ownership

Most of the property required for the proposed infrastructure improvements is owned by the former TEDCO (an arms length corporation under the City of Toronto Economic Development Division), although some private property will also need to be acquired. Some property is required at the west end of the Lake Shore Boulevard bridge over the Don River.

Property owners impacted by the proposed works have been consulted throughout the study.

Property requirements will be confirmed during detail design.



## section 17. environmental conditions, impacts and mitigation

## 17.2.2 Land Uses and Planning Designations

The Keating Channel Precinct is located in what is currently designated as a Special Policy Area (SPA). The Provincial Policy Statement prohibits development in lands vulnerable to flooding except where a Special Policy Area is approved by the Province. Limited redevelopment that is not a change in land use may be permitted in a Special Policy Area, but land use change and intensification is not intended unless the flood risk is permanently addressed. The approval of the Minister of Natural Resources is required to remove the Special Policy Area designation. Flood protection in the Keating Channel Precinct will be accomplished through both the implementation of the Lower Don River West Flood Protection Landform in the West Don Lands, and the implementation of the DMNP EA. Once these flood protection works are in place, the City of Toronto will seek approval from the Minister of Natural Resources to remove the Special Policy Area designation.

The proposed road, transit, water, wastewater and stormwater improvements are compatible with future land use designations in the area. They include residential and commercial uses as well as public open space and community facilities as described in Section 17.2.3.

Land use details and planning designations for the Keating Channel Precinct are described in the Official Plan Amendment and Zoning By-laws being developed and implemented in conjunction with this Class EA Master Plan and ESR, through the Keating Channel Precinct Planning study.

## 17.2.3 Existing and Future Neighbourhoods

Existing neighbourhoods in the Keating Channel Precinct are largely industrial. There are no residences in the study area.

Future neighbourhoods include residential and commercial land uses as well as public open spaces, water access and a school/community centre near the Parliament Street slip, as shown in **Figure 17-4**.

**Figure 17-4 Keating Channel Precinct - Neighbourhoods**



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**section 17. environmental conditions, impacts and mitigation**

The proposed infrastructure will support future neighbourhoods through roadway, transit, pedestrian and bicycle networks that provide access to the area and offer a full range of modal alternatives.

#### 17.2.4 Tourism/Recreation

There are no existing tourism or recreational facilities in the Keating Channel Precinct. The proposed infrastructure improvements will enhance access to the precinct and provide mobility through the area, which will support future tourism and recreational land uses.

Improvements to infrastructure along the Keating Channel, and the proposed land use redevelopment, will create an atmosphere that is attractive to tourists and people participating in recreational activities such as cycling and boating.

#### 17.2.5 Marine Uses

Existing marine uses in the Keating Channel Precinct are primarily for industrial shipping.

With the proposed redevelopment of the area, new opportunities for marine uses will be created. They include small boat operation for canoes, kayaks, low barges, small powerboats and water taxis.

The vertical navigational clearances on new bridges across the Keating Channel provide a 3 m clearance, which accommodates the TRCA maintenance barge that will require access to the sediment trap at the east end of the Keating Channel.



#### 17.2.6 Noise and Vibration

There are currently no noise sensitive receptors in the Keating Channel Precinct.

A noise feasibility study for future residential development in the Lower Don Lands (i.e., in Keating Channel Precinct) was prepared for WT in November 2008. The study reviewed issues related to noise generated from road and rail traffic and stationary sources of noise to confirm that the control of sound levels within the indoor living areas of future residential blocks in this area is feasible.

The report recommends a number of design features (e.g., air conditioning, window types, etc.) or design concepts (e.g., building layouts that screen outdoor areas from the Gardiner Expressway and Don Valley Parkway, etc.) that should be included in development proposals/applications, and will be controlled through planning mechanisms such as new zoning by-laws and urban design guidelines being developed for the Precinct.

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**section 17. environmental conditions, impacts and mitigation**

Building treatment, layout and unit ventilation requirements as well as formal notification to residents in offers of sale are recommended types of mitigation. The report also recommends that when final architectural and mechanical drawings for residential blocks are complete, a detailed noise study be carried out to determine the details of window upgrade requirements for individual dwelling units to ensure that the recommended indoor noise control measures are appropriate.

### 17.2.7 Air Quality

Existing air quality conditions of the Keating Channel Precinct are similar to those of surrounding areas along Toronto's waterfront as described in Section 5.2.6 of the Master Plan.

Currently, the dominant local source of air pollution in the study area is vehicular traffic on the Gardiner Expressway and Lake Shore Boulevard, which causes elevated levels of carbon monoxide and total suspended particulates.

Long-term impacts from the proposed infrastructure improvements to air quality in the study area are expected to be relatively minor because of:

- a) the shift in land use from historic industrial land uses to neighbourhood residential/commercial;
- b) the introduction of increased non-automobile choices through enhanced pedestrian and cycling trails, as well as transit to the area; and
- c) the construction of new areas of open space including the natural areas associated with the realignment of the Don River, south of the Keating Channel.

The potential for increased dust during construction is significant, although there are few receptors in the existing study area. Dust control measures will be required to minimize impacts during construction and all earthworks related to infrastructure, soil management and site grading in the Keating Channel Precinct.

The use of non-chloride based compounds for dust suppression will be encouraged to minimize impacts to water quality during construction.

### 17.2.8 Utilities

**Appendix 17-A1** provides a utility conflict matrix and drawing for the following existing utilities.

#### 17.2.8.1 Bell Canada

There are many potential impacts to Bell Canada infrastructure within the Keating Channel Precinct. Bell infrastructure (shown in **Appendix 17-A1**) currently exists in the following locations:

- Cherry Street – from North project limits to Keating Channel
- Lake Shore Boulevard – from Cherry Street to Don Valley Parkway.

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**section 17. environmental conditions, impacts and mitigation**

Impacts to these structures will depend on the proposed grading in their vicinity. Potential impacts have been discussed with Bell; however mitigation strategies will be determined during detail design.

#### 17.2.8.2 Enbridge Gas

Enbridge Consumers Gas is the sole owner of natural gas mains in the Keating Channel Precinct. The following gas mains (shown in **Appendix 17-A1**) exist within the study area:

- Lake Shore Boulevard – 500 mm Vital High Pressure Steel main is running from Parliament Street to the DVP
- Numerous abandoned gas mains exist and further discussion is required with Enbridge to confirm if they can be removed as required.

Impacts to the 500 mm gas main will depend on the proposed grading requirements. Mitigation strategies will be determined during detail design.

#### 17.2.8.3 Hydro One

Hydro One is located in the study area and distributes power to Toronto Hydro. Hydro One has an oil-filled pipe which houses an 115kV cable that runs along Lake Shore Boulevard from the western limits to Cherry Street, where it continues east along the south side of the CN rail right-of-way to an existing transformer station on the shores of the Don River (shown in **Appendix 17-A1**). Relocation of the oil-filled Hydro One pipes is costly.

In addition to Lake Shore Boulevard, Hydro One has distribution towers to the east of the study area that feed the transformer station on the west side of the Don River, north of Lake Shore Boulevard.

Impacts to the Hydro One pipes are dependent upon the proposed grading requirements, and may be costly if relocation is required. Mitigation strategies will be determined during detail design.

#### 17.2.8.4 Pipelines

Numerous abandoned oil pipelines exist along the Lake Shore Boulevard right-of-way (shown in **Appendix 17-A1**). Further discussion is required with the pipeline companies to confirm that these pipelines may be removed if required.

Parliament Street has a 100 mm oil pipeline, as well and 250 mm Molasses pipeline. The identification of the abandoned pipeline ownership has not been determined. Ownership will be confirmed as detail design progresses.

Impacts to the pipelines will depend on the proposed grading. Removal of abandoned pipelines will be completed as required through confirmation with owners.

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**section 17. environmental conditions, impacts and mitigation**

#### 17.2.8.5 Telecommunications Companies (Group Telecom, Rogers, TELUS, Allstream)

Telecommunications companies' cables exist within both Bell Canada and Toronto Hydro utility structures throughout the study area. These "Foreign Utilities" will be contacted once impacts have been determined with the Bell and/or Toronto Hydro structures.

Numerous communication cables exist within the CN rail right-of-way. A Subsurface Utility Investigation will be performed on the CN rail lands to determine cable alignments. Once alignments have been mapped mitigation strategies (if required) will be addressed with individual cable owners.

#### 17.2.8.6 Toronto Hydro

Toronto Hydro is the local energy provider in the Lower Don Lands area. There are two divisions of Toronto Hydro, the first and major component is Toronto Hydro Energy Systems. It provides energy to all industry and residences in Toronto. The second division is Toronto Hydro Street Lighting, who provides power to all aspects of street lighting within the City of Toronto.

Existing streets within the Keating Channel Precinct contain Toronto Hydro infrastructure (shown in **Appendix 17-A1**). Impacts to the facilities will depend heavily on proposed grading. Mitigation strategies will be determined during detail design.

## 17.3 Cultural Environment

### 17.3.1 Archaeological Resources

The Central Waterfront Archaeological Master Plan identifies some areas of Level 2 Archaeological Potential in the Keating Channel Precinct as shown in **Figure 17-5**. As the area develops, a considerable amount of earth works will be required, not just for infrastructure improvements (which are the subject of this report) but also for soil management and development and construction of adjacent land blocks.

Archaeological monitoring is recommended during earth excavation in these areas.

### 17.3.2 Heritage Structures

There are three heritage structures in the Keating Channel Precinct, namely, the Victory Soya Mills, the Essroc Silos and the Harbour Commissioners Storage Buildings as shown in **Figure 17-6**. No impacts are expected to the silos as the Queens Quay alignment was selected to go north of the Victory Soya Mills and the Villiers Street connection to the new Cherry Street alignment is planned to fit between the Essroc Silos.

## section 17. environmental conditions, impacts and mitigation

Figure 17-5 Keating Channel Precinct – Archaeology

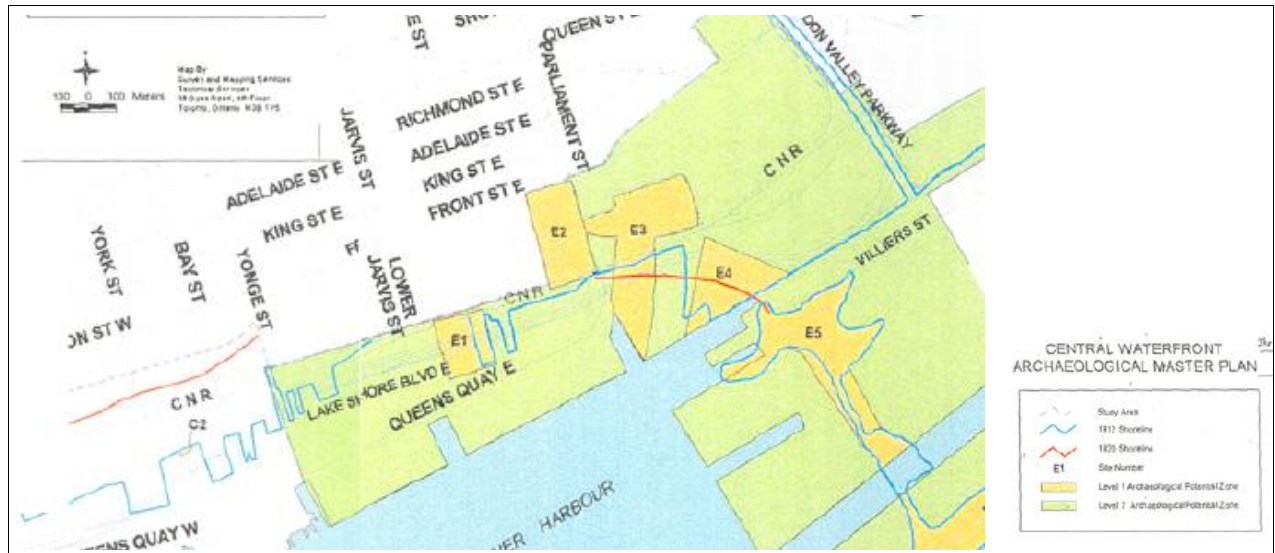


Figure 17-6 Keating Channel Precinct – Heritage Structures



Roadway grading impacts will be confirmed during detail design. Mitigation may be required to minimize impacts to heritage structures and will also be confirmed during detail design.

### 17.3.3 Aboriginal Interests

The Mississaugas of the New Credit currently reside on the New Credit reserve approximately 35 km southwest of Hamilton, Ontario. Their ancestors lived on the shores of Lake Ontario, at the mouth of the Credit River before the settlement of Toronto. The Mississaugas are in preliminary discussions with the Federal

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**section 17. environmental conditions, impacts and mitigation**

Government for claims on the Toronto Islands and other matters related to the Toronto Purchase (1787 and 1805). The Keating Channel Precinct is likely to be outside of the claim limits and, given the urban and industrial nature of the study area, it is unlikely that it could be used for traditional purposes in its current state.

Input from the Mississaugas of the New Credit was obtained on the Keating Channel Precinct and DMNP EA, through consultation as described in Section 9 of the Master Plan and Section 16 of the ESR. In general, they seemed supportive of naturalization of the Lower Don Lands area and the redevelopment of the area.

## **17.4 Economic Environment**

### **17.4.1 Commercial/Industrial Land Uses**

In the short-term, the proposed infrastructure improvements will not significantly impact existing commercial or industrial land uses in the Keating Channel Precinct. For example, existing roads such as Cherry Street and Villiers Street will remain open to local businesses during construction.

However, the construction of certain components may alter how access is gained to the area. For example, access to the study area may not be feasible from Cherry Street during the construction of bridge improvements at Cherry Street and the rail berm. Alternate access or detours using existing roads will likely be required.

Impacts to access during construction will be confirmed during detail design and will be communicated to emergency service providers, transit operators, members of the public and affected business/land owners in advance of the closures.

In the long-term, the redevelopment of the area will result in former industrial land uses being replaced with future residential, commercial and open space areas. This will result in an overall improvement to the area as the new land uses are more compatible with the DMNP EA and Waterfront Toronto's plans for the area.

### **17.4.2 Population and Demographics**

The population of the Keating Channel Precinct is expected to range from 20,000 to 25,000 residents when it is completely developed.

The infrastructure improvements proposed in the Keating Channel Precinct will support the new population projections and densities.

### **17.4.3 Employment**

Employment opportunities will be created through the construction of the proposed infrastructure and the introduction of new land uses such as schools, day care, retail and commercial uses in the Keating Channel Precinct.

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**section 17. environmental conditions, impacts and mitigation**

## 17.5 Soil and Groundwater Conditions

The soil and groundwater within the study area has been impacted due to the historic infilling activities and the long history (over 100 years) of industrial land use. Environmental investigation activities previously completed within the study area have identified that the soil and groundwater has been primarily impacted by metals, petroleum hydrocarbons and volatile organic compounds. These are discussed in more detail in the following sections.

### 17.5.1 Soil

Phase I and II Environmental Site Assessments (ESAs) have been completed by others on a number of properties within the study area to investigate potential areas of environmental concern and investigate soil and groundwater quality. Potential areas of environmental concern investigated have included the presence of fill materials from historical infilling and dumping activities, underground and aboveground storage tanks, former waste disposal and coal gasification plants, PCB storage sites and historical and present land uses. Most recently, a Subsurface Investigation was undertaken in late 2008 by SLR, on behalf of the Toronto and Region Conservation Authority (TRCA), on lands south of the Keating Channel by SLR.

Waterfront Toronto is currently conducting a Soil Management Study to assess the best means of dealing with and treating the soils in the Lower Don Lands area and the Keating Channel Precinct. The Soils Management Study is being carried out with input from the Ministry of Environment and other approving agencies that will ultimately approve the proposed means and methodology of dealing with contaminated soils during the redevelopment of Toronto's Waterfront (i.e., Brownfield sites) in the future. The management strategy is to incorporate sustainability strategies for soil to minimize its movement. The soils impacted by the proposed infrastructure improvements described in this ESR are to be dealt with as part of the overall development strategy for soils management in the area.

The location of potential and existing underground storage tanks will be determined based on a review of the previous environmental reports, site reconnaissance visits, information provided by the Technical Standards and Safety Authority (TSSA), the property owner(s) and geophysical surveys, if required. Proposed works in the vicinity of underground storage tanks will be completed in a manner to ensure the integrity of the tank is not compromised. In the event of a spill, the MOE Spills Action Centre will be contacted.

The soils requiring excavation in support of the proposed infrastructure improvements described in the ESR will be characterized and managed in accordance with Ontario Regulation 347. Results from previous environmental investigations will be considered and if appropriate additional analytical testing maybe completed to further characterize the soils to determine appropriate management options.

Based on the soil characterization results, the impacted soils may be managed through: (i) the completion of a risk assessment; (ii) in situ remediation; (iii) excavation and re-use on another site within the study area, if deemed suitable, (iv) excavation for treatment and re-use; or (v) excavation for off-site disposal at a Ministry of Environment approved facility.



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**section 17. environmental conditions, impacts and mitigation**

Waterfront Toronto and its applicable stakeholders are currently reviewing options for the development of a soil treatment facility within the study area to support the development of the Lower Don Lands. Impacted soils to be excavated for the proposed infrastructure improvements described in this ESR could be treated at the new treatment facility and subsequently re-used within the study area as backfill.

The presence and limits of historical waste disposal sites in the study area are to be confirmed during the Soil Management Study and future work. Approval pursuant to Section 46 of the Environmental Protection Act will be obtained if land uses on former disposal sites are planned.

The Soil Management Study has also included consultation with underground transmission owners in the area. Owners will continue to be consulted to address potential impacts and avoid potential spills.

Ongoing discussions and future contact with the MOE Toronto District Office is planned.

### 17.5.2 Groundwater

Based on the results of previous investigations, groundwater impacts have been identified within the study area in localized areas. Similar to soil, the contaminants of concern include metals, PAHs, PHCs, VOCs (including chlorinated solvents), and general chemistry parameters. These contaminants have been detected at concentrations above the generic standards presented in the MOE document entitled “*Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*”, dated March 9, 2004.

Waterfront Toronto in conjunction with the Soil Management Study (described in Section 17.5.1) is conducting studies to assess the best means of dealing with and treating the contaminated groundwater within the study area.

Previous environmental investigations have identified areas of groundwater impact within the study area. Additional analytical testing may be completed to further characterize the groundwater quality in the areas of the proposed infrastructure to determine appropriate management options. Management options include on-site treatment and discharge to the municipal services and off-site treatment. Contaminated groundwater that is encountered during the proposed infrastructure improvements will be characterized and managed in accordance with the governing regulations.

Permits to Take Water (PTTW) under the Ontario Water Resources Act will be obtained prior to construction if water takings exceed 50,000 L per day.

The Toronto Island Wetland Complex is a Provincially Significant Wetland complex located in proximity to the study area. Other smaller patches of wetland vegetation also occur in proximity to the study area, specifically in the vicinity of Tommy Thompson Park, the Leslie Street Spit and Ashbridge’s Bay. Avoidance/mitigation measures include minimization of construction area disturbance/duration, implementation of erosion and sedimentation control measures (e.g., installation of silt fencing, check dams, etc.) and re-vegetation of exposed areas immediately after completion of construction activities. The net effect after the implementation of these measures would be minimal.

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**section 17. environmental conditions, impacts and mitigation**

Reportedly, there are no water wells used for potable purposes located within the study area. As such, there is considered to be no net effect to these uses. Any decommissioning, construction, or reconstruction of water wells will be completed in accordance with Ontario Regulation 903.

The potential for changes to groundwater flow north of the Keating Channel are currently being investigated and will be confirmed prior to construction.

## 17.6 Summary of Environmental Impacts and Mitigation/Commitments

A summary of environmental impacts, mitigation and commitments is provided in **Table 17.1**.

## section 17. environmental conditions, impacts and mitigation

Table 17-1 Potential Effects and Environmental Management Practices for Transportation, Water, Wastewater and Stormwater Systems

Environmental Factors	Potential Environmental Effects	Potential Environmental Management Practices
<b>Natural Heritage Policies</b>	<ul style="list-style-type: none"> <li>▶ Construction of new transportation corridors, above ground and below ground utility corridors, stormwater outfalls and stormwater runoff control facilities at river crossings and in floodplains.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Improvements are consistent with Valley and Stream Corridor Management Program (TRCA, 1994).</li> </ul>
<b>Fisheries and Aquatic Resources</b>	<ul style="list-style-type: none"> <li>▶ Degradation of aquatic habitat as a result of sedimentation and soil erosion into surface water bodies and along shore due to construction activities.</li> <li>▶ Degradation of aquatic environment from accidental spills.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Clean rock fill has potential to improve and diversity of fish habitat in the Keating Channel.</li> <li>▶ Institute runoff/sedimentation and erosion controls during all construction work and monitor and maintain/upgrade controls appropriately until the site is stabilized.</li> <li>▶ Cover stockpiles with sheeting, tarps or vegetation cover.</li> <li>▶ Minimize vegetation cover removal.</li> <li>▶ Filter or settle out sediment before the water enters any drainage pathway, including storm water systems.</li> <li>▶ Initiate planting or reseeded of disturbed areas immediately after construction is completed, with native non-invasive species.</li> <li>▶ Control overland flow up gradient of exposed areas by use of diversion ditches, bales, vegetation filter strips and/or sediment traps.</li> <li>▶ Use permeable surface treatments whenever possible.</li> <li>▶ Require construction contractors to have a spill response plan.</li> </ul>
<b>Vegetation and Flora</b>	<ul style="list-style-type: none"> <li>▶ Removal of approximately 4.34 ha of vegetation during site clearing associated with redevelopment and construction activities.</li> </ul>	<ul style="list-style-type: none"> <li>▶ New street cross-sections and development plans include both tree plantings within the road rights-of-ways and new parks and open space in Keating Channel. This will result in a negligible net loss of vegetation</li> </ul>
<b>Wildlife and Resource Linkages</b>	<ul style="list-style-type: none"> <li>▶ Removal of wildlife linkages.</li> <li>▶ Temporary reduction in migratory bird habitat due to loss of vegetation during construction activities.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Wildlife linkages to the south of Keating Channel will be improved with the naturalized Don River and flood spillway to the Ship Channel.</li> <li>▶ Land clearing will be in compliance with <i>Migratory Birds Convention Act (MBCA)</i>.</li> <li>▶ No vegetation removal will occur between April 1 and August 15.</li> <li>▶ Nest survey will be conducted by an Avian Biologist prior to construction, to locate and identify active nests.</li> </ul>
<b>Surface Water</b>	<ul style="list-style-type: none"> <li>▶ Significant improvements to surface water conditions are expected as a result of infrastructure works.</li> <li>▶ Temporary degradation of surface water quality as a result of sediment washoff during construction wastes in nearby water bodies or in natural drainage paths.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Flooding will be reduced through the hydraulic conveyance mechanisms being implemented by the sediment trap and weir at the east end of the Keating Channel and the future realignment of the Don River.</li> <li>▶ Stormwater management plan will be developed to address potential water quantity and erosion impacts during construction, drainage conditions and stormwater management options and maintenance and monitoring commitments.</li> <li>▶ Earthworks associated with both the construction of new infrastructure and redevelopment of the area are managed and monitored properly to avoid sediment release to Lake Ontario and the Keating Channel.</li> <li>▶ MOE Guideline B-6, Evaluating Construction Activities Impacting on Water Resources will be used.</li> </ul>
<b>Land Ownership</b>	<ul style="list-style-type: none"> <li>▶ Property is required for proposed infrastructure improvements.</li> <li>▶ Potential for disturbance to private properties.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Property requirements will be confirmed during detailed design.</li> <li>▶ Contact with affected property owners has been initiated and discussions will continue.</li> <li>▶ Minimize nuisance impacts to private properties during construction.</li> </ul>

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## section 17. environmental conditions, impacts and mitigation

Table 17-1 Potential Effects and Environmental Management Practices for Transportation, Water, Wastewater and Stormwater Systems

Environmental Factors	Potential Environmental Effects	Potential Environmental Management Practices
<b>Land Uses and Planning Designations</b>	<ul style="list-style-type: none"> <li>▶ Keating Channel Precinct is located in a Special Policy Area (SPA).</li> </ul>	<ul style="list-style-type: none"> <li>▶ Removal of the SPA designation will be requested from MNR after flood protection works through the implementation of DMNP EA and Lower Don River West Flood Protection Land Form are completed.</li> </ul>
<b>Existing and Future Neighbourhoods</b>	<ul style="list-style-type: none"> <li>▶ Future neighbourhoods include residential and commercial land uses as well as public open spaces, water access and a school/community centre near the Parliament Street Slip</li> </ul>	<ul style="list-style-type: none"> <li>▶ Infrastructure will support future neighbourhoods.</li> </ul>
<b>Tourism/Recreation</b>	<ul style="list-style-type: none"> <li>▶ An interconnecting grid of roads and cycling and walking paths will provide opportunities for recreational activities.</li> <li>▶ Improve alternate modes of recreation and transportation to support future tourism and recreational land uses.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Alternative detour routes will maintain access during construction.</li> </ul>
<b>Marine Uses</b>	<ul style="list-style-type: none"> <li>▶ Use of Keating Channel for small boat operations.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Vertical navigation clearance of 3 m will be implemented to ensure access to sediment trap at the east end of the Keating Channel for TRCA maintenance barge.</li> </ul>
<b>Noise and Vibration</b>	<ul style="list-style-type: none"> <li>▶ No noise sensitive receptors in the Keating Channel Precinct.</li> <li>▶ Short term noise associated with construction vehicles and activities</li> <li>▶ Relocated roads may impact localized noise conditions.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Restrict construction activities to hours prescribed by local noise by-law.</li> <li>▶ Ensure equipment is in sound working order.</li> <li>▶ Recommend and implement noise attenuation measures for new construction, where necessary.</li> <li>▶ Review noise conditions and abatement requirements for all new development.</li> <li>▶ Include noise and vibration control measures in new buildings through development approval process.</li> </ul>
<b>Air Quality</b>	<ul style="list-style-type: none"> <li>▶ Decrease in ambient air quality for short term from pollution, odour or dust (suspended particulate) and emissions resulting from wind erosion of disturbed ground surfaces, and associated with demolition, excavation and construction vehicles (diesel fumes, oils, other fuels and lubricants).</li> <li>▶ Opportunities for alternative modes of transportation (future transit, cycling, walking) which contribute to improved air quality.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Ensure emission control devices on equipment are functional and effective.</li> <li>▶ Minimize dust emissions through the use of dust control measures (e.g., water spray or calcium chloride on exposed soil surfaces).</li> <li>▶ Use physical barriers (e.g., shrouds, scaffold canopies) to contain dust.</li> </ul>
<b>Utilities</b>	<ul style="list-style-type: none"> <li>▶ Potential utility impacts due to grading.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Mitigation will be established with each utility owner during detail design.</li> </ul>
<b>Archaeology</b>	<ul style="list-style-type: none"> <li>▶ Potential for disturbance to archaeological remains during subsurface soil excavation.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Archaeological monitoring is recommended during earth excavation.</li> <li>▶ If buried artifacts are located during construction, contact a licensed archaeologist and notify the Ministry of Culture.</li> </ul>
<b>Heritage Structures</b>	<ul style="list-style-type: none"> <li>▶ Heritage structures are avoided.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Mitigation may be required to minimize impacts to heritage structures and will also be confirmed during detail design.</li> </ul>
<b>Aboriginal Interests</b>	<ul style="list-style-type: none"> <li>▶ Mississaugas of the New Credit have a Toronto Purchase Claim that includes the Toronto Islands which is outside of the study area.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Keep Mississaugas of the New Credit First Nation and other First Nations informed of study progress.</li> </ul>
<b>Commercial/Industrial Land Uses</b>	<ul style="list-style-type: none"> <li>▶ Impacts to business and commercial access during construction.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Construction Staging plans to maintain business access or limit access restrictions to times outside of core business hours.</li> <li>▶ Communication with emergency service providers, transit operators, members of the public and affected business/land owners in advance of road closures/</li> </ul>
<b>Soil</b>	<ul style="list-style-type: none"> <li>▶ Disturbance of contaminated soils.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Soil Management Study being completed by Waterfront Toronto will assess the best means of dealing with and treating the soils in the Lower Don Lands.</li> </ul>

## section 17. environmental conditions, impacts and mitigation

Table 17-1 Potential Effects and Environmental Management Practices for Transportation, Water, Wastewater and Stormwater Systems

Environmental Factors	Potential Environmental Effects	Potential Environmental Management Practices
<b>Groundwater</b>	<ul style="list-style-type: none"> <li>▶ Changes in groundwater quality and quantity during construction.</li> <li>▶ Degradation of groundwater quality as a result of spills (e.g., oil, gas and lubricants) associated with construction operation.</li> <li>▶ Minor de-watering may take place, however, quantities will be minimal and not in areas where groundwater is used as potable drinking water.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Avoidance/mitigation measures include the minimization of construction area disturbance/duration, implementation of erosion and sedimentation control measures and re-vegetation of exposed areas immediately subsequent to completion of construction activities.</li> <li>▶ Prepare a spill response plan.</li> <li>▶ Design dewatering measures to minimize volume of potentially contaminated groundwater to manage.</li> <li>▶ Permits to Take Water (PTTW) under the <i>Ontario Water Resources Act</i> will be obtained prior to construction if water takings exceed 50,000 L per day.</li> </ul>

# Lower Don Lands Infrastructure Master Plan and Draft Keating Channel Environmental Study Report



**July, 2009**



# 1. Introduction

## 1.1 Overview

The Toronto Waterfront Revitalization Corporation (Waterfront Toronto) was established in 2001 by the Government of Canada, the Province of Ontario and the City of Toronto to lead and oversee the renewal of Toronto's central waterfront. The mission is to put Toronto at the forefront of global cities in the 21<sup>st</sup> century by transforming the waterfront into beautiful and sustainable communities, fostering economic growth in knowledge-based, creative industries and ultimately redefining how Toronto is perceived by the world.

Waterfront Toronto's mandate is to design and implement the redevelopment of 1,000 hectares (ha) of largely under-utilized, publicly owned lands stretching across the central waterfront of downtown Toronto.

In the Lower Don Lands, naturalizing the mouth of the Don River and integrating it harmoniously with new waterfront redevelopment and transportation infrastructure are key priorities for Waterfront Toronto (WT) and its partners. A main collaborator in this effort is the Toronto and Region Conservation Authority (TRCA).

The TRCA's main objectives are to restore the health of the region's rivers and waters, promote a system of natural areas, facilitate sustainable living and city building and pursue creative partnerships for delivering its projects. The TRCA has engaged a consultant to undertake an Environmental Assessment (EA) of the best means to naturalize the mouth of the Don River and protect more than 230 ha in the Lower Don Lands vicinity from flood risk. The Don Mouth Naturalization and Port Lands Flood Protection EA (DMNP EA) is being carried out as a separate study but is closely linked to this undertaking, as described below.

In February 2007, WT announced an Innovative Design Competition to bring a fresh and new perspective to the 40 ha Lower Don Lands, because the area represents a tremendous opportunity to rebuild a river in an urban centre. Through the design competition process, a team of consultants led by Michael van Valkenburgh Associates Inc. (MVVA) was selected to proceed with the redevelopment study for the Lower Don Lands area.

The study and work plan includes developing a Framework Plan for the study area, a Master Plan for Municipal Infrastructure (including transportation, water, wastewater and stormwater), a Precinct Plan for the first phase of development, obtaining municipal planning approvals (for new zoning designations etc.) and co-ordinating efforts with the work of the DMNP EA Project Team.

This report serves as the Class EA Master Plan for Municipal Infrastructure, and is being prepared in accordance with the *Municipal Class EA for Infrastructure Improvements, 2000 (amended 2007)*. Tri-proponents of the Lower Don Lands Master Plan are Waterfront Toronto (WT), the City of Toronto and Toronto Transit Commission (TTC).

## 1.2 Lower Don Lands

The Lower Don Lands study area, as shown on **Figure 1-1**, is generally bounded by the Don Rail Yard and Gardiner Expressway on the north, the Parliament Street slip on the west, the Ship Channel on the south and Don Roadway on the east.

**Figure 1-1 Lower Don Lands Master Plan Study Area**



The study area is surrounded by existing neighbourhoods and future redevelopment areas as well as transportation facilities that are proceeding through various stages of EA planning, design and implementation, including the West Don Lands, East Bayfront and the Queen's Quay Revitalization EAs.



### 1.2.1 Design Competition Goals

The overall goals for Lower Don Lands, as presented during the design competition were expressed as follows:

- Goal #1:** Develop an iconic identity for the Don River that accommodates crucial flood protection and habitat restoration requirements.
- Goal #2:** Create a bold and comprehensive concept design that integrates development, transportation infrastructure and the river mouth into a harmonious whole.

Required design elements that were identified in order to achieve these goals are as follows:

- Naturalize the Mouth of the Don
- Create a Continuous Riverfront Park System
- Provide for Harmonious New Development
- Extend Queens Quay Eastward and Enhance the Road Network
- Prioritize Public Transit
- Develop a Gateway into the Port Lands
- Humanize Existing Infrastructure
- Enhance the Martin Goodman Trail
- Expand Opportunities for Interaction with the Water
- Promote Sustainable Development

It was on this foundation that the Lower Don Lands Study Team initiated the Class EA Master Plan for Infrastructure Improvements.

Since the start of this study, new studies and EAs have been initiated either adjacent to or within parts of the Lower Don Lands study area, including the Port Lands Business Implementation Plan and Gardiner Expressway EA and Urban Design Study. In general, studies initiated since the start of this Class EA Master Planning process are taking the decisions made during this study into consideration in their own study processes wherever possible. In addition, WT, the City of Toronto, TTC and the Study Team for the Lower Don Lands are making every effort to co-ordinate the outcome of other studies that affect the same area with a view to minimizing conflicting recommendations and co-ordinating future plans for the area.

## 5. Existing Conditions

Information has been obtained from secondary sources including similar studies that have recently been completed in adjacent neighbourhoods (i.e., East Bayfront and West Don Lands) and current studies (i.e., Don Mouth Naturalization and Port Lands Flood Protection Project, etc.). In addition, information on existing conditions has been confirmed through field visits and consultation with several City Departments, Toronto Transit Commission (TTC), Waterfront Toronto and the Toronto Region Conservation Authority (TRCA).

### 5.1 Natural Environment

This section describes the existing terrestrial and aquatic environment in the Lower Don Lands study area. The study team for the Lower Don Lands Infrastructure Master Plan acknowledges and thanks the Don Mouth Naturalization and Port Lands Flood Protection Project (DMNP EA) team for their major contributions to this section.

#### 5.1.1 Natural Heritage Policies

##### **Wetlands**

The Toronto Island Wetland Complex, as shown on **Figure 5-1**, is a 22 ha, Provincially Significant Wetland complex that includes 11 wetland units, composed of 27% swamp and 73% marsh (Natural Heritage Information Centre – NHIC). Although it is not in the Lower Don Lands study area, the wetland complex has important functions for the integrity of the lake ecosystems, including the provision of fish spawning and migratory bird habitat in the area.

Other smaller patches of wetland vegetation occur in proximity to the study area, specifically in the vicinity of Tommy Thompson Park, the Leslie Street Spit and Ashbridge's Bay (**Figure 5-1**). Because of the paucity of wetland vegetation along this part of Toronto's waterfront, and the long history of wetland loss in the area, remaining pockets of wetland vegetation have inherent values, as well as habitat values.

##### **Areas of Natural and Scientific Interest (ANSI)**

Although no ANSIs lie within the Lower Don Lands study area, two ANSIs are located in adjacent areas, namely, the Leslie Street Spit and Tommy Thompson Park Important Bird Area (i.e., East Ward Island ANSI). The Ontario Ministry of Natural Resources (OMNR) classifies the Leslie Street Spit (officially known as the Aquatic Park) as a Life Science ANSI. The NHIC records the area of the Leslie Street Spit as 57 ha, but it actually has a much larger footprint closer to 10 km<sup>2</sup> when all of the wetland and shallow aquatic areas are included (Wilson and Cheskey, 2001). The spit, which is really a man-made peninsula, extends southwest for 5 km from Tommy Thompson Park to a point approximately 4 km due south of the mouth of the Don River (**Figure 5-1**). A variety of vegetation communities have developed on the peninsula, including open Cottonwood (*Populus deltoides*) woodlands, willow scrub, wet meadows and dry fields (NHIC).

**Figure 5-1 Natural Areas**

Tommy Thompson Park has provided one of only two active Caspian Tern (*Sterna caspia*) colonies in Ontario (with Hamilton Harbour containing the other) and has become an important site for migrating birds and wintering waterfowl (Wilson and Cheskey 2001, NHIC). Tommy Thompson Park has been designated as an Environmentally Sensitive Area (ESA) and was selected as a globally Important Bird Area (IBA) by Birdlife International in 2001 (Bird Studies Canada 2006). It provides a nationally-significant nesting area for Black-crowned Night-herons and Ring-billed Gulls, as well as a regionally significant nesting area for Common Terns (Wilson and Cheskey, 2001).

The East Ward's Island Life Science ANSI lies at the east end of the Toronto Islands, approximately 2 km south of the Don River Mouth (**Figure 5-1**). Ecological communities on the 7 ha site include an open woodland of Cottonwood and Crack Willow (*Salix fragilis*) and a dune ridge community of Marram Grass (*Ammophila breviligulata*) (NHIC). The dune ridge community is regionally significant, with the other nearest known communities lying approximately 160 km to the east in Northumberland and Prince Edward Counties (NHIC).

### **Environmentally Sensitive Areas**

Seven ESAs lie within the larger Impact Assessment Study Area: five small ones on the Toronto Islands, one on the Leslie Street Spit overlapping with the ANSI and one on the south shore of the Port Lands with an outlier just east of the Don Roadway (**Figure 5-1**).

*The Toronto Islands:*..... ESAs 115 through 119, have the beach and dune complexes mixed with wetlands typical of the sandy islands and barrier beaches that form at the mouth of the drowned rivermouths along the north shore of Lake Ontario. They include the Hanlan area south of the Toronto Airport (ESA 115), the Mugg's Island (ESA 116), the Wildlife Sanctuary including Forestry Island (ESA 117), the Snake Island (ESA 118), and the East Ward's Island (ESA 119). Together they provide habitat for an array of rare plants, habitat for the colonial black-crowned night-heron (*Nycticorax nycticorax*), winter roosts for sawhet owls (*Aegolius acadicus*), and rare dune formations [MTRCA, 1982].

*Aquatic Park:* ..... ESA 120 (overlaps with Leslie Street Spit ANSI) and is described under ANSIs.

*North Shore Park:*..... ESA 130 is located on the Cherry Beach shoreline between the Eastern Gap and the base of Leslie Street. Like the Spit, this is a created site that has succeeded into native communities that includes open beach, old field and mature eastern cottonwood (*Populus deltoides*) woodland. In addition to the shoreline, a small lot at the northeast corner of Commissioners Street and the Don Roadway also features two locally rare plants (as of 1991): river bulrush (*Scirpus fluviatilis*) and Richardson's rush (*Juncus alpinoarticulatus* formerly *J. alpinus* var. *insignis*).

## 5.1.2 Fisheries and Aquatic Resources

Urbanization of the watershed in the form of land use change and habitat fragmentation has led to significant degradation of the aquatic habitat and fish communities historically inhabiting the watershed.

Existing fish habitat and communities of the Lower Don River and Keating Channel are described below.

### 5.1.2.1 Lower Don

#### **Fish Habitat**

Fish habitat features within the Lower Don are generally characterized as degraded, highly disturbed conditions that are uniform in nature and lack habitat diversity and complexity. There is a general lack of in-stream cover in terms of aquatic vegetation and substrates such as boulders and crevasse habitat. The river is best characterized as lacustrine in nature with hardened concrete channel banks and very little riparian cover. The morphology of the stream is generally low velocity, run habitat with very few riffles, pools and depth variability. The substrates consist primarily of silt and fine sediments and the turbidity of the water is generally very high, which is typical of warm, surface water systems. Short-term water temperature “spikes” (fluctuations) were observed in 2003 by TRCA but were not considered long enough in duration to have adverse effects on fish species inhabiting the Lower Don (TRCA, 2004). Relatively low flow velocity in the Lower Don coupled with a lack of riparian cover may have added to warm water conditions observed in 2003.

The productivity, water quality and overall health of an aquatic environment are generally depicted in the health of the benthic community. The benthic community present within the Lower Don is relatively low in terms of diversity. The benthic community is comprised largely of oligochaetes (79%), which are species that are highly tolerant to environmental change and have the ability to recolonize rapidly after environmental disturbances (TRCA, 2004). Chironomidae and insecta combined to account for the remaining 21% of the benthic community composition. Chironomidae are true insects and were in higher abundance in the Lower Don than in the Keating Channel (TRCA, 2004). The composition of benthic species depicts a highly disturbed and degraded benthic community and is likely the combined result of pollutants entering the watercourse upstream and sediment loading that occurs throughout the Don River Watershed.

#### **Fish Community**

Comprehensive fish sampling conducted by TRCA from 1991 to 2003 revealed a total of 19 fish species inhabiting the Lower Don between May and November (TRCA, 2004). All of the fish captured were typically warmwater and coolwater species, however, one chinook salmon (*Oncorhynchus tshawytscha*), and Alewife (*Alosa pseudoharengus*) which are typical coldwater species were also captured at certain times of the year (**Table 5-1**).

**Table 5-1 Fish Species Assemblage in the Lower Don Between 1991-2004**

Species	1991	1998	2003	2004	2005
Walleye ( <i>Stizostedion vitreum</i> )			X	X	X
Chinook salmon ( <i>Oncorhynchus tshawytscha</i> )			X	X	X
Brown Trout ( <i>Salmo trutta</i> )				X	
Northern pike ( <i>Esox lucius</i> )			X	X	
Emerald shiner ( <i>Notropis atherinoides</i> )		X	X	X	X
Gizzard shad ( <i>Dorosoma cepedianum</i> )		X	X	X	X
Spottail shiner ( <i>Notropis hudsonius</i> )			X	X	X
Spotfin shiner ( <i>Notropis spilopterus</i> )				X	
Johnny darter ( <i>Etheostoma nigrum</i> )		X	X		
Rainbow darter ( <i>Etheostoma caeruleum</i> )					X
White bass ( <i>Morone chrysops</i> )			X	X	
Rock Bass ( <i>Ambloplites rupestris</i> )				X	
Freshwater Drum ( <i>Aplodinotus grunniens</i> )				X	
Pumpkinseed ( <i>Lepomis gibbosus</i> )	X		X	X	X
Yellow perch ( <i>Perca flavescens</i> )	X				
Fathead minnow ( <i>Pimephales promelas</i> )	X	X			
Blacknose dace ( <i>Rhinichthys cataractae</i> )	X	X			X
Bluntnose minnow ( <i>Pimephales notatus</i> )	X		X		
Common carp ( <i>Cyprinidae carpio</i> )	X	X	X	X	X
Grass carp ( <i>Ctenopharyngodon idella</i> )			X		
White sucker ( <i>Catostomus commersoni</i> )	X	X	X	X	X
Brown Bullhead ( <i>Ameiurus nebulosus</i> )				X	
Alewife ( <i>Alosa pseudoharengus</i> )		X	X	X	
Creek chub ( <i>Semotilus atromaculatus</i> )	X	X			
<b>TOTAL</b>	<b>8</b>	<b>9</b>	<b>14</b>	<b>16</b>	<b>10</b>

The species assemblage and richness captured in the Lower Don was significantly lower than other Lake Ontario, North Shore rivers, which typically contained between 25 and 27 species (TRCA, 2004). The most common species captured during TRCA sampling were white sucker (*Catostomus commersoni*), emerald shiner (*Notropis atherinoides*) and spottail shiner (*Notropis hudsonius*). Other high order piscivorous species such as northern pike (*Esox lucius*) and walleye (*Stizostedion vitreum*) were also captured indicating that trophic interactions between predator and prey within the degraded system are occurring.

#### 5.1.2.2 Keating Channel

##### **Fish Habitat**

Fish habitat within the Keating Channel is generally characterized as degraded or highly disturbed and is very uniform in nature. The channel lacks habitat diversity and complexity with limited in-stream cover in terms of aquatic vegetation and substrates such as boulders and crevasse habitat. Similarly to the Lower Don, the channel is best described as lacustrine in nature with hardened concrete channel banks and very little riparian cover. The morphology of the stream is generally low velocity, pool habitat with no riffles and uniform depths. The substrates consist primarily of silt and fine sediments. Turbidity of the water is generally very high due to sediment loading upstream and regular dredging that is undertaken to maintain depths within the channel and to prevent upstream flooding. Highly disturbed sediments coupled with a lack of habitat diversity and riparian cover creates a very uniform and degraded system that undoubtedly limits

the diversity of species that are able to survive there. The hardened shoreline, depth, and lack of aquatic vegetation, make the Keating Channel more of a lacustrine habitat instead of a riverine habitat.

The Keating Channel and the Lower Don generally have similar water temperatures between the months of September to May, however, during the summer months (June to August), the Lower Don experiences warmer water conditions than the Keating Channel largely because of the influence of Lake Ontario on cooling the water in the Keating Channel (TRCA, 2004).

The benthic community present within the channel is relatively low in terms of diversity. This may largely be due to the regular dredging that occurs to keep the channel from filling in with sediment. The benthic community is comprised almost exclusively of oligochaetes (97%), which are highly tolerant species to environmental change and have the ability to recolonize rapidly after environmental disturbances (TRCA, 2004). Chironomids, which are true insects, represent only 1% of the benthic community (TRCA, 2004). The composition of benthic species depicts a highly disturbed and degraded benthic community and is likely the combined result of pollutants entering the watercourse upstream, sediment loading and dredging that regularly occurs within in the Keating Channel.

### **Fish Community**

Comprehensive fish sampling conducted by TRCA from 1989 to 2003 revealed a total of 14 fish species inhabiting the Keating Channel between May and November (TRCA, 2004). Many of the fish species captured were not considered typical warmwater species, rather they were generally cool and coldwater lake species such as alewife and emerald shiner (**Table 5-2**). The species assemblage and richness captured in the Keating Channel was lower in diversity than the Lower Don and was also dominated in percent composition by fewer species (TRCA, 2004). The most common species captured during TRCA sampling were alewife and emerald shiner in the spring/summer and gizzard shad in the fall (TRCA, 2004). Similar to the Lower Don, other high order piscivorous species such as northern pike and chinook salmon were also captured in the Keating Channel indicating that some trophic interactions between predator and prey within the degraded system may be occurring as well as some spawning activity.

**Table 5-2 Fish Species Assemblage in the Keating Channel from 1991-2003**

Species	1989	1990	1991	1992	1993	1998	2000	2002	2003
Three-spine stickleback ( <i>Gasterosteus aculeatus</i> )									X
White perch ( <i>Morone americana</i> )		X			X		X		
Longnose gar ( <i>Lepisosteus osseus</i> )							X		
American eel ( <i>Anguilla bostoniensis</i> )		X							
Chinook salmon ( <i>Onchrohynchus tshawytscha</i> )								X	X
Northern pike ( <i>Esox lucius</i> )	X								X
Emerald shiner ( <i>Notropis atherinoides</i> )	X	X	X	X	X	X		X	X
Gizzard shad ( <i>Dorosoma cepedianum</i> )	X	X	X	X		X	X	X	X
Spottail shiner ( <i>Notropis hudsonius</i> )		X					X		X
Johnny darter ( <i>Etheostoma nigrum</i> )									X
Common carp ( <i>Cyprinidae carpio</i> )	X	X		X	X	X	X		X
White sucker ( <i>Catostomus commersoni</i> )		X				X			
Alewife ( <i>Alosa pseudoharengus</i> )	X	X	X	X	X	X	X	X	X
Rainbow smelt ( <i>Osmerus mordax</i> )	X	X						X	X

### 5.1.3 Vegetation and Flora

The Lower Don study area lies within the eastern extension of the Carolinian floristic region (7E), which is concentrated in southwestern Ontario, but which also extends along the north shore of Lake Ontario.

#### **Vegetation Communities**

The TRCA has identified and mapped 42 plant community types in the area of the Lower Don River, south of Bloor Street along the Don Valley to Keating Channel, using the Ontario Ecological Land Classification system (ELC; Lee *et al.* 1998). These consist of 14 forest and woodland/savannah communities, 13 successional and thicket communities, 10 wetland and aquatic communities, and five meadow and open communities.

Proportionally, 19% of the land in this area, which extends beyond the study area, is wooded, 1% is successional, 0.7% is wetland, 11% is meadow and the remaining 68% is manicured or developed (TRCA 2004). According to TRCA's local ranking system, five plant communities are of regional concern, nine are of urban concern and nine are classified as exotic. All of the nine communities of urban concern and four out of the five communities of regional concern were found to the north of Gerrard Street and outside of the study area. Most of the forested communities lie outside the study area, north of Gerrard Street, while disturbed ruderal and cultural plant communities and marshes predominate south of Eastern Avenue.

Within the study area, the TRCA has mapped 29 vegetation communities, consisting of seven distinct ecosites or types, with three communities remaining unclassified (**Table 5-3**).

**Table 5-3 Ecological Communities in the Study Area (TRCA 2004)**

ELC Classification	Community Description	Number of Communities
OA0	Open Aquatic Ecosite	9
CUM1	Dry-Moist Old Field Meadow Ecosite	7
CUT1	Mineral Cultural Thicket Ecosite	1
CUT1-1	Sumac Cultural Thicket Type	2
CUS1	Mineral Cultural Savannah Ecosite	4
FOD8-1	Fresh-Moist Poplar Deciduous Forest Type	2
SBO1	Open Sand Barren Ecosite	1
M	Unclassified	3

The TRCA survey determined that at least 15 of these communities suffer from severe disturbance or invasion by exotic species. Only one of the communities is classified by the TRCA as having any particular significance. It classifies the Open Sand Barren Ecosite (SBO1) as being regionally significant (TRCA L-rank 2) on the basis of a very restricted distribution and moderate geophysical requirements.

The area between the Keating Channel and the Ship Channel is dominated by industrial development. Some of the buildings have been removed and the sites of former tank farms and factories are being



reclaimed by an array of non-native species. Cottonwood is common; however, many of the trees are invasive alien species such as Manitoba Maple (*Acer negundo*), Black Locust (*Robinia pseudosacacia*) and Norway maple (*Acer platanoides*).

## Flora

The TRCA has identified 395 species of vascular plants in the area of the Lower Don River, of which 71 occur only as planted specimens. Within the study area, the TRCA has mapped four plant species of regional concern and ten species of concern in an urban context (Table 5-4, TRCA 2004). Of the regionally significant plants, three of the four species are planted in the area and have not demonstrated natural regeneration.

**Table 5-4 Regionally Significant Plant Species in the Study Area (TRCA 2004)**

Species	Common Name	Number of Locations	TRCA Rank
<i>Quercus macrocarpa</i>	Bur Oak	2	L3 – Regional Significance (planted)
<i>Salix nigra</i>	Black Willow	2	L3 – Regional Significance (planted)
<i>Calystegia sepium</i>	Hedge Bindweed	4	L4 – Urban Significance
<i>Thuja occidentalis</i>	White Cedar	1	L4 – Urban Significance (planted)
<i>Salix amygdaloides</i>	Peach-leaved Willow	1	L4 – Urban Significance
<i>Platanus occidentalis</i>	Sycamore	1	L1 Regional Significance (planted)
<i>Acer sacharinum</i>	Silver Maple	4	L4 – Urban Significance
<i>Fraxinus nigra</i>	Black Ash	1	L4 – Urban Significance (planted)
<i>Acer rubrum</i>	Red Maple	1	L4 – Urban Significance
<i>Panicum virgatum</i>	Switch Grass	1	L3 – Regionally Significant
<i>Rosa blanda</i>	Smooth Wild Rose	2	L4 – Urban Significance
<i>Cornus foemina</i>	Grey Dogwood	1	L4 – Urban Significance (planted)
<i>Schoenoplectus validus</i>	Soft-stemmed Bulrush	1	L4 – Urban Significance
<i>Schoenoplectus americanus</i>	Three-square Rush	1	L4 – Urban Significance

### 5.1.4 Wildlife Resources and Linkages

#### Wildlife Resources

TRCA has identified 47 fauna species breeding in the area of the Lower Don River. Of the 37 breeding bird species listed, three are exotic and none are considered to be area-sensitive. The red-eared slider (*Trachemys scripta*) is the only exotic species of the five herpetofauna identified. All five mammal species are native to the area.

The number of bird species utilizing the Lower Don area annually is likely much higher than breeding bird surveys would indicate. During the 2006 spring migration, 2,549 individuals representing 177 bird species were banded at Tommy Thompson Park (Tommy Thompson Park Bird Research Station, 2006). The proximity of the park to the study area makes it probable that some of these bird species may also be found in the Lower Don Lands area during spring and fall migration.

None of the fauna species identified are at risk either nationally or provincially as designated by COSEWIC and OMNR (NHIC). According to TRCA regional rankings, the beaver (*Castor canadensis*) is of regional concern and an additional 15 fauna species are of concern in an urban context. Most of the species of concern are distributed further north in the Don Valley where natural cover is higher and urbanization not as extreme (TRCA 2004).

Only five of the breeding fauna species were recorded within the study area – all birds (Table 5-5, TRCA 2004). The TRCA has assessed four of the five species as having significance in an urban context. Two of the species, Grey Catbird and Northern Mockingbird, depend greatly on early and mid-successional scrub or thicket vegetation. The proximity of Tommy Thompson Park to the study area makes it probable that some of the bird species banded in the 2006 survey may also be found in the study area during spring and fall migration.

**Table 5-5 Regionally Significant Animal Species in the Study Area (TRCA 2004)**

Species	Common Name	Number of Locations	TRCA Rank
<i>Stelgidopteryx ruficollis</i>	Northern Rough-winged Swallow	1	L4 – Urban Significance
<i>Actitis macularia</i>	Spotted Sandpiper	1	L4 – Urban Significance
<i>Tyrannus tyrannus</i>	Eastern Kingbird	1	L5
<i>Dumetella carolinensis</i>	Grey Catbird	3	L4 – Urban Significance
<i>Mimus polyglottos</i>	Northern Mockingbird	1	L4 – Urban Significance

### **Landscape Connectivity and Linkages**

Natural cover in the TRCA region is scarce due to development and urban sprawl. Urban natural areas contribute to the conservation of wildlife habitat and biological diversity (Federation of Ontario Naturalists 2006). In order to maintain area-sensitive breeding species and enhance water, air and soil quality, the OMNR (2000) recommends that woodland or natural cover in a watershed exceed 30%. The Don Watershed has an estimated 15.6% natural cover remaining, 1% (50.6 ha) of which is found in the Lower Don (TRCA 1997).

The riparian habitat of the Lower Don River provides an important potential corridor for maintaining connectivity to areas north of the study area (ravine system and ultimately the Oak Ridges Moraine). For most species, connectivity along this corridor is presently limited by its narrowness and by the presence of substantial barriers to movement (TRCA 2004). These barriers consist of residential and commercial developments, roadways such as Lake Shore Boulevard and the Gardiner Expressway, and other obstacles such as the CN Rail Line.

The DMNP EA will improve terrestrial and aquatic habitat conditions at the mouth of the Don, and instream aquatic habitat conditions within the Don Narrows, which should improve linkages with the Don Valley and Oak Ridges Moraine. Specifically, ecological connectivity throughout the study area will be greatly enhanced through the creation of approximately 40 ha of terrestrial, wetland, and aquatic habitat that encompass the new river mouth, including the Greenway. As part of a related initiative, the Greenway is proposed to extend south of the Ship Channel into Lake Ontario Park. This project will also provide additional connectivity for migratory birds.

During the DMNP EA, TRCA has not identified specific species that it intends to attract. However, targeted species lists will be developed during detailed design.

The issue of ecological connectivity will be addressed as part of the DMNP EA.

### 5.1.5 Surface Water

The entire watershed area or drainage basin of the Don River is 360 km<sup>2</sup>. The headwaters of the Don arise from the Oak Ridges Moraine, but the majority of the river drains through the Peel Plain, a relatively impervious till. The river also crosses the Iroquois Beach, the former shoreline of glacial Lake Iroquois, which is very sandy and results in both recharge and discharge of groundwater.

There are two main branches – the East and West Don, as well as several larger tributaries including German Mills Creek, Wilket Creek and Taylor Massey Creek.

Pre-settlement, the river was sustained by underground aquifers in its headwaters, as well as by rainfall and snowmelt that infiltrated the soils of the region's vast forests. Today, the terrain of the Don's valley and stream corridors vary considerably, but many streams have been truncated, buried, dammed, rerouted, straightened, and lined with wood, steel, rock, or concrete in the process of building the city and suburbs. Ponds and marshes have been filled and the widespread removal of vegetation and the disturbance and compaction of soils have occurred. These actions have severely altered the character, habitats, and hydrogeologic functioning of the watershed.

The Don River from Riverdale Park downstream to the Keating Channel has been significantly altered as a result of adjacent land uses. The river is relatively straight, lacks grade, and has no natural connectivity to the floodplain. The river in this area is approximately 3.0 km in length, averages 40 m in width and, depending upon lake levels, is approximately 1 m to 2 m deep.

The Keating Channel is approximately 0.7 km in length, varies between 40 m to 100 m in width and has depths between 2 m and 5 m depending upon lake levels and degree of sediment accumulation in the channel. The channel banks consist of vertical steel sheet pile walls.

#### 5.1.5.1 Flooding

Flows in the Don River have changed significantly since pre-settlement times. The watershed is now over 80% urbanized, and approximately 70% of this area was developed before stormwater management controls were a requirement of development. Discharge in the Don River increases rapidly due to precipitation resulting in turbid, sediment-laden water, erosion of the stream banks, and scouring and deposition, smothering in-stream habitat features.

Through the process of City development, the lower portions of the Don River have undergone straightening, extension and redirection culminating with the development of the Port Lands and the Keating Channel. Under normal flow conditions, the influence of water levels from Lake Ontario extends up the river to beyond Gerrard Street. As a consequence, the hydrology of the river is complex and affected by the Lake throughout the study area.

Flooding within the area of the Lower Don River has a written history dating back to the mid-1870s, beginning first with ice jams and late fall flooding. As recently as August of 2005, flooding occurred within this area resulting from a series of severe thunderstorms. While most of the flooding which has occurred over the last few decades has resulted in mainly nuisance type flooding, the area is subject to extensive flooding under the Regulatory Flood.

Guidelines from the Province of Ontario define the Regulatory Flood as the flood that would result from the rainfall from Hurricane Hazel (the maximum historical storm event within the region) centred over the Don watershed. The Regulatory Flood, calculated to be in the range of 1,700 m<sup>3</sup>/s near the Don Mouth, would result in flood levels that exceed the capacity of the river channel and spill to the extent that the valley allows. The extent of flooding defines the limits of the Regulatory Floodplain.

#### 5.1.5.2 Water Quality

The water quality of the Lower Don River has been characterized in studies such as the Don River Watershed Wet Weather Flow Management Master Plan and the Toronto Area Watershed Management Study. The Don River often exceeds the Provincial Water Quality Objectives (PWQO) for many substances, especially during wet weather. Contaminants routinely found in wet weather samples include *E. coli* bacteria, heavy metals (e.g., zinc, copper), suspended sediment, nutrients, and seasonally, chlorides and pesticides. The major sources of these pollutants are runoff from roads and residential, industrial and commercial land uses through the storm sewers, the effluent of the North Toronto Sewage Treatment Plant and combined sewer overflows along Taylor/Massey Creek and the Lower Don.

Bacterial concentrations of 6,000 and 50,000 organisms per 100 mL in the Don have been documented in both dry and wet weather, respectively – 60 to 500 times higher than guidelines for recreational swimming.

Suspended sediment may be derived from watershed sources carried to the river, such as from construction sites, from winter de-icing and from instream erosion. When the sediment carried in suspension arrives at the Lower Don, the velocity changes result in it being dropped out of suspension and deposited on the bed of the river or in the Keating Channel.

Given the poor water circulation and the numerous storm sewer outfalls (SSOs) and combined sewer overflows (CSOs) entering the Ship Channel water in the Turning Basin, sediment and physical habitat conditions are seriously degraded in the Ship Channel compared to the Inner Harbour and Outer Harbour.

## 5.2 Social Environment

### 5.2.1 Land Ownership

Most land in the Lower Don Lands study area is owned by the City of Toronto Economic Development Corporation (TEDCO).

Private property ownership is primarily located west of Cherry Street (north of Keating Channel), in the northeast quadrant of Cherry Street and Commissioners Street and on parts of Polson Street.

The City of Toronto and Ontario Realty Corporation (ORC) own lands east of Cherry Street between the Gardiner Expressway and rail lands to the north. Waterfront Toronto recently acquired an interest in 333 Lake Shore Boulevard East.

Land ownership is shown on **Figure 5-2**.

### 5.2.2 Current Land Uses and Planning Designations

Current land uses in the study area are primarily commercial/industrial with some recreational, entertainment, food, transportation, telecommunications, finance and internet technology services. Industrial sector businesses located within the area include Lafarge Canada Incorporated, Essroc Italcementi Group, Coopers Iron and Metal, and NRI Industries. The Toronto Port Authority harbour operations yard is located in the Keating Channel. The Sound Academy (formerly known as the Docks Entertainment Complex) is an entertainment facility in the area. There are two food service uses in the area, The Keating Channel Pub & Grill and T&T Supermarket. Transportation services located within the study area can be found along its northern boundaries and include Star Coach Services and the Magic Bus Company. The telecommunications, finance and internet technology services are found in a cluster on Polson Street and include Tower's Production Inc., Club Finance Corporation, and Live Wire. Many, but not all of the businesses in the study area operate on relatively short to medium term leases from TEDCO. There are many vacant lands and buildings in the area.

The entire study area is slated for future re-development as part of Waterfront Toronto's revitalization of the area.

#### 5.2.2.1 City Of Toronto Official Plan

On July 6, 2006, the Ontario Municipal Board (OMB) issued an order, bringing the majority of the City of Toronto's new Official Plan into effect and repealing most of the seven municipal Official Plans that the new City of Toronto inherited. The new Official Plan is the City's road map for successful city-building over the next 25 years. It sets out where and how growth will occur, and all of the necessary services and infrastructure that will accompany new development.

**Figure 5-2 Land Ownership**

The Official Plan includes policies for development along the water's edge. The Plan states, "increased public enjoyment and use of lands along the water's edge will be promoted..." and "Private development and public works on lands along the water's edge or in its vicinity will improve public spaces in the waterfront; and maintain and increase opportunities for public views of the water, and support a sense of belonging to the community." Additionally, the Official Plan sets in place a mixed use community for the waterfront including residential and economic development.

#### 5.2.2.2 *Central Waterfront Secondary Plan*

The City of Toronto prepared the Central Waterfront Secondary Plan (CWSP) called "Making Waves" which sets out planning policies for the Central Waterfront area. It outlines the development philosophy and high-level framework for Waterfront Revitalization from Etobicoke Creek in the west to the Rouge River in the east and identifies the Central Waterfront as the focus of planning framework changes and priorities that would benefit the City as a whole. The Central Waterfront plan encompasses the Port Lands, the West Don Lands, East Bayfront, Central Bayfront, Fort York and Exhibition Place.

Making Waves establishes four "Core Principles" and 23 "Big Moves". Starting with these central concepts, detailed Precinct Plans are being prepared to provide block-by-block details for roads, schools, parks, residential and commercial developments. The four key principles for waterfront revitalization are:

- a) removing barriers/making connections;
- b) building a network of spectacular waterfront parks;
- c) promoting a clean and green environment; and
- d) creating dynamic and diverse new communities.

The implementation of 23 "Big Moves" is aimed to establish new areas to live, work, and play. New housing for approximately 68,000 people in 40,000 units is projected. An estimated 925,000 m<sup>2</sup> of commercial space providing opportunity for 35,000 new jobs is anticipated.

The City is implementing this plan through the development of Precinct Plans for key revitalization areas and the development of the Port Lands Implementation Strategy. The Secondary Plan creates a framework for waterfront planning for the next several years.

An amendment to the CWSP is required to address changes in the Lower Don Lands area, including the need for the reconfiguration of the Don River mouth and associated parks, open spaces, infrastructure, and developable land.

#### 5.2.2.3 *Precinct Plans*

Waterfront Toronto and the City of Toronto are planning for new communities in the East Bayfront and West Don Lands. The basic intention behind Precinct Planning is to provide the necessary urban design, planning and development guidance to permit the actual revitalization of individual precincts of the Toronto waterfront following the direction of the CWSP. The Precinct Plans and the Port Lands Implementation Strategy will

establish the location, scale, character and function of all public spaces, streets, buildings and facilities to be provided and developed within the precinct and will specify the process for their realization through the planning approval and development process.

The Keating Channel Precinct Plan is the first Precinct Plan that will be developed in the Lower Don Lands study area. It generally includes the lands in the study area, north of Villiers Street.

#### 5.2.2.4 City of Toronto Zoning Requirements

The Precinct Plans are intended to outline development principles and guidelines at a level of detail not possible within the broader Secondary Plan. The intent is that these principles and guidelines form the bridge that allows the city to move from Official Plan policies to Zoning By-law provisions.

### 5.2.3 Existing and Future Neighbourhoods

Existing and future neighbourhoods that surround the Lower Don Lands study area are shown on **Figure 5-3**.

**Figure 5-3 Adjacent Neighbourhoods**



*privileged and confidential*



**Figure 5-3** displays the adjacent neighbourhoods to the Lower Don Lands study area. The East Bayfront and West Don Lands Precinct Plans are adjacent to the Lower Don Lands and Keating Channel Precinct Plan study areas and represent the two relevant examples of waterfront redevelopment and future neighbourhoods in the immediate area. They are described briefly below.

### **East Bayfront Precinct Plan**

The East Bayfront precinct is the most central waterfront revitalization area to the downtown core and is considered a regeneration area. The Precinct extends from Cherry Street on the east, westerly to Jarvis Street. The focus of the plan is the area between Jarvis Street and Parliament Street south of Queens Quay. The plan intends for the 1.5 km of water's edge to become a public destination while maintaining a communal neighbourhood feel to the area. The plan states that,

*The vision for East Bayfront precinct is for a new urban waterfront community, a place of design excellence, high levels of sustainability and strong relationships to the water's edge.*

Zoning by-law number 1049-2006, which was based on the Precinct Plan, was passed by the City of Toronto on the 27<sup>th</sup> of September 2006. The by-law implements the City-initiated proposal to amend the general zoning by-law 438-86 for the East-Bayfront-West area; from industrial uses to mixed development and open space including the water's edge promenade.

The Plan intends for the area to become a "new downtown neighbourhood and a destination for city residents and visitors alike. The Plan intends to create the following:

- a) 3 km of continuous publicly accessible waterfront;
- b) 1,400 units of affordable rental housing;
- c) 5,700 units of market housing;
- d) low-scale development along the water's edge – four stories;
- e) 1,000,000 ft<sup>2</sup> of commercial space;
- f) 2 acre waterside, Sherbourne Park;
- g) activation of Parliament Street slip for water-based activities;
- h) naturalization of water's edge east of Parliament Street; and
- i) community recreation/meeting facilities.

### **West Don Lands Precinct Plan**

The West Don Lands area lies to the southeast of the City's Downtown and is located immediately north of Lower Don Lands study area. The Plan intends for the West Don Lands to be connected to the downtown core and the Don River Valley corridor. The Precinct Plan proposes to create a 18-acre park opening into the Don River Valley defining the West Don Lands, and providing a visual link back into the Downtown itself.

The Plan designates the land use in the precinct as mixed-use with an emphasis on urban living. Front Street is a major east/west street, linking the West Don Lands to the city centre. The Plan states that:

*The new Don River Park will celebrate the intersection of historic Front Street with the Don River itself.*

Because of its critical location, the West Don Lands will be the gateway neighbourhood from the Downtown to the Lower Don Lands study area.

The Plan intends for the area to have:

- a) 23 acres of parks and public spaces including an 18 acre Don River Park;
- b) public transit within a five-minute walk of all residences;
- c) 5,800 residential units, including 1,200 units of affordable rental housing;
- d) 1,000,000 ft<sup>2</sup> of employment space;
- e) pedestrian & cycling connections within neighbourhood and to city;
- f) elementary school;
- g) recreation centre; and
- h) two childcare centres.

The Precinct Plan was approved by the City in May of 2005. In May 2006, work started to achieve the goals of the Plan. Residential construction began in the spring of 2007 and the first residents are expected to move into the West Don Lands starting in October 2010.

### 5.1.1 Residential Areas

There are no existing residential areas within in the Lower Don Lands study area.

Adjacent existing residential neighbourhoods include:

- a) **Riverdale** – located to the east of the Don River and north of the study area, a large residential community and home to the Bridgepoint Hospital.
- b) **Leslieville** – located to the east of the Don River and north of the study area, is a residential area that forms part of South Riverdale.
- c) **Distillery** – located to the north of the study area, founded in 1832 as the Gooderham and Worts Distillery. It is a historic district and a national historic site because of its Victorian Industrial Architecture.
- d) **St. Lawrence** – located to the northwest of the study area, contains a mix of commercial and residential, with subsidized and market oriented housing. The focal points of the neighbourhood include the St. Lawrence Market and The Esplanade.

## section 5. existing conditions

- e) **The Beach/Beaches** – located to the east of the study area on Lake Ontario, a popular residential neighbourhood and also a destination for tourists.
- f) **Condominium** (i.e., high density) residential developments in the Central Waterfront area to the west of the study area and along Queens Quay.
- g) **Toronto Islands** – managed by the City of Toronto, the Toronto Islands (including Algonquin and Ward’s Island) have a residential community of approximately 700 residents, although the area is predominantly viewed as a tourist attraction, with beaches, gardens, a small amusement park, marinas, historic lighthouse, etc.

Future residential areas will be developed within the study area as part of the Lower Don Lands redevelopment and through the City’s Precinct Planning process.

### 5.1.2 Tourism / Recreation

**Table 5-6** provides a description of existing and proposed recreational uses within and adjacent to the study area.

**Table 5-6 Recreational Uses in the Area**

Recreational Area	Description
<b>Don Valley Trail</b>	▶ The Don Valley Trail traverses the study area, extending northward from Lake Shore Boulevard along the west side of the Don River and connects to the Don and Taylor Massey Creek valleyland corridors. The bikeway is a regional recreational and utilitarian trail that is surfaced in asphalt. Improvements to create an underpass at the CN Railway crossing were completed in October 2007 by the TRCA. These improvements enhance the northward connectivity to the proposed Don River Park and points further up the river.
<b>Martin Goodman Trail</b>	▶ The Martin Goodman Trail is one of the most heavily-used recreational and commuter trails in Toronto. Through the Lower Don Lands study area, the existing trail takes a zigzag route, with no relationship to the water’s edge in this area. The revitalization of the Lower Don Lands area will include design concepts that improve the trail’s continuity and look for ways to provide an improved and continuous riverfront and water’s edge experience as well as improved connections to the east and west.
<b>Don River Park</b>	▶ Don River Park is on a parcel of land on the west side of the Don River in the West Don Lands community. The park is proposed to provide a range of active and passive recreational amenities and will form a significant connection between the proposed community and the Don River Trail. A flood protection landform is a key element of the park.
<b>Sherbourne Park (Proposed)</b>	▶ Sherbourne Park is proposed as an urban waterfront park to be developed in association with the East Bayfront Community. The site is located west of the mouth of the Keating Channel on the waterfront, at the foot of Sherbourne Street.
<b>Cherry Beach</b>	▶ Cherry Beach is being developed, south of the study area, to allow more people to access it. It will become the western arm of the proposed Lake Ontario Park. Phase one of construction for Cherry Beach has been completed which included landscaping and the development of a trail to Cherry Point.
<b>Lake Ontario Park (Proposed)</b>	▶ The site of the proposed Lake Ontario Park encompasses approximately 375 ha of land extending along the waterfront from Cherry Beach in the west to the R C Harris Filtration Plant (in the Beaches) to the east. Some sections of it are currently under construction. Lake Ontario Park is comprised of a number of existing parks including Cherry Beach/Clarke Beach Park, Tommy Thompson Park, Ashbridge’s Bay Park, Woodbine Park, Pantry Park, Kew Gardens and the Eastern Beaches as well as lands along the perimeter of the Ashbridge’s Bay Treatment Plant site and the north shore of the Outer Harbour Water Park.

**Table 5-6 Recreational Uses in the Area**

Recreational Area	Description
	<p>▶ The future Lake Ontario Park is proposed to offer both passive and active recreational opportunities. In general, programmed recreational facilities will be located along the south side of Unwin Avenue, and the landscape will transition to a more passive and natural dune-like character in the vicinity of the shoreline of the Outer Harbour Water Park. Specific activities proposed include soccer (two regulation sports fields on the south side of Unwin Avenue just west of Regatta Road), baseball, tennis, basketball, cycling, hiking, cross-country skiing, skating and a myriad of water sports ranging from sailing to kite boarding. The connection between Lake Ontario Park and the proposed Lower Don Greenway is important to consider throughout the process of developing the plan for Lake Ontario Park as the connectivity for habitat between Tommy Thompson Park and the Don River Valley is essential.</p>
<b>Water's Edge Promenade</b>	<p>▶ Water's Edge Promenade is a Harbourfront Centre and Waterfront Toronto initiative to create a continuous and easily accessible water's edge. The first phase along York Quay was completed in 2005 and provides a double row of trees down the centre of the east promenade, a raised promenade adjacent to the water's edge, a continuous 5 metre boardwalk on the lake adjacent to the promenade, a continuous 12 metre wide water's edge promenade, capstone for seating, trees planted on the north side of the promenade that provide shade to pedestrians, two finger piers extending perpendicularly from the boardwalk into the lake and lighting along the water's edge.</p>

Future tourism and recreational facilities include passive and programmed park areas that will be established through the land use planning process, within the Lower Don Lands study area. Future recreational land uses will be primarily associated with the natural areas and park lands along the realigned Don River and will include a promontory park on the south side of Keating Channel.

#### 5.2.4 Marine Uses

There are several industrial land uses in the study area and adjacent sections of Toronto's waterfront that rely on marine access and shipping facilities. They include storage, shipment and processing of bulk products such as sugar, cement, steel, lumber, aggregate and road salt. In addition to the industrial uses, the Toronto Inner Harbour is actively used for recreational boating, cruising and white sail racing. These fleets range in size from kayaks and canoes to jet skis and sail boats ranging in length from 12 ft to 50 ft. Ferry service is also provided year-round to access the Island.

#### The Port of Toronto

The Port of Toronto is an important land use within and adjacent to the study area. The Toronto Port Authority (TPA) was established for the purpose of operating the Port of Toronto and has legislated responsibility for all port activities related to shipping, navigation, transportation of passengers and goods, and the handling and storage of cargo. It owns and operates the Toronto City Centre Airport, the Port of Toronto (consisting of Marine Terminal 51 and Warehouse 52) and the Outer Harbour Marina. The Works Department operates on lands leased from TEDCO. In 1999, an economic impact study indicated that the Port employs an equivalent of 1,500 full time jobs in cargo, tourism and recreation which represents an estimated regional economic impact greater than \$400 million annually. The TPA has located navigation aids, maintenance and dredging equipment and operation along the Keating Channel and on adjacent upland.

### **Commercial Tour Boats**

Seventeen companies operate approximately 34 charter/tour boats in the Harbour. The concentration of the charter boats is along the dockwall and marine slips of the Central Waterfront area from Bathurst Quay in the west to the Parliament Street Slip in the east. The charter boats operate between April and October of each year. Water taxis are also gaining popularity within the Inner Harbour.

### **The Ferry**

The City provides ferry services to the Toronto Islands. The Toronto Ferry Terminal is located at Bay Street on Queens Quay. The Toronto Port Authority also provides a ferry service to the City Centre Airport. The Royal Canadian Yacht Club, the Island Yacht Club, the Queen's City Yacht Club and the Island Marina operate ferry services to the islands for club members, recreational boaters and program participants.

### **Recreational Boating**

Recreational boating activities along the waterfront include yachting, sailing, power boating, jet skiing, rowing, canoeing, kayaking, dragon boating and windsurfing. The area is home to over 50 boat clubs and marinas with over 5,258 boat moorings and approximately 15,000 members and users.

The Marine Strategy Resource Guide (2006) indicates that there are 29 yacht and boating clubs, 5 marinas and 7 boating/teaching organizations on the waterfront. The Inner Harbour has the second highest concentration of boaters. It has four yachting and sailing clubs, three marinas, three canoe club/facilities, the Blind Sailing Association of Canada, Queens Quay Disabled Sailing Program, one rowing club and Queens Quay Sailing and Power Boating. The Outer Harbour extends from the eastern gap to the Leslie Street Spit. It is home to seven sailing clubs, one wind surfing club, one rowing club, one dragon boat club, and one marina. The Ashbridge's Bay area extends east of Leslie Street Spit and is home to two yachting and sailing clubs and one canoe club. **Table 5-7** provides a list of the recreational boating clubs, marinas and organizations along Toronto's waterfront.

Some of the other marine uses in the area include emergency service, water taxis for passenger embarking and disembarking, and leisure activities such as sport fishing and radio controlled model boating.

**Table 5-7 Recreational Boating Clubs, Marinas and Boating Organizations**

	<b>Name</b>	<b>Location</b>
<b>Boating/Teaching Organizations</b>	Toronto Brigantine	249 Queens Quay West
	Navy League of Canada	659 Lake Shore Boulevard West
	Blind Sailing Association of Canada	235 Queens Quay West
	Queens Quay Sailing & Power Boating	275 Queens Quay West
	Queens Quay Disabled Sailing Program	275 Queens Quay West
	Harbourfront Canoe & Kayaking School	283A Queens Quay West
<b>Marinas</b>	Ontario Place Marina	955 Lake Shore Boulevard West
	Marina Quay West	539 Queen Quay West
	Marina 4	235 Queens Quay West
	Outer Harbour Marina	475 Unwin Street

**Table 5-7 Recreational Boating Clubs, Marinas and Boating Organizations**

	Name	Location
Yacht and Boating Clubs	Ashbridge's Bay Yacht Club	30 Ashbridge's Bay Park Road
	Toronto Hydroplane Sailing Club	20 Ashbridge's Bay Park Road
	Balmy Beach Canoe Club	10 Ashbridge's Bay Park Road.
	Water Rats Sailing Club	Regatta Road
	Hanlan Boat Club	Regatta Road
	Mooredale Sailing Club	Regatta Road
	St. Jamestown Sailing Club	Regatta Road
	Westwood Sailing Club	Regatta Road
	Outer Harbour Centreboard Club	Regatta Road
	Toronto Multihull Sailing Club	Regatta Road
	Great White North Dragon Boat Club	Unwin Avenue
	Aquatic Park Sailing Club	Tommy Thompson Park
	Toronto Island Canoe Club	Wards Island
	Sunfish Cut Boat Club	Algonquin Island
	Queen City Yacht Club	Algonquin Island
	Bayside Rowing Club	600 Unwin Street
	Toronto Windsurfing Club	Regatta Road
	Island Yacht Club	400 Queens Quay West
	Toronto Island Sailing Club	Centre Island
	Royal Canadian Yacht Club	South Island
Greater Toronto Dragon Boat Club	Lake Shore Boulevard West (east of Sunnyside Pool)	
Boulevard Club	1491 Lake Shore Boulevard West	
Toronto Sailing and Canoe Club	1391 Lake Shore Boulevard West	
Argonaut Rowing Club	1225 Lake Shore Boulevard West	
Alexandra Yacht Club	2 Stadium Road	
National Yacht Club	1 Stadium Road	

Source: TWRC: Marine Strategy Resource Guide. February 2006.

### 5.2.5 Noise and Vibration

Most noise in the Lower Don Lands study area comes from traffic on the Gardiner Expressway.

A noise control program was adopted by City Council in December 1973 to ensure that future construction and development be evaluated in light of their impact on Toronto's acoustical environment. Major noise concerns found within the City of Toronto included noise from air conditioning units, construction, loud music, loading and unloading vehicles, industrial sources, security alarms, animals and public transit. Monitoring results from 1987 to 1993 indicated (for the West Don Lands study area) the 24 hour equivalent sound levels were in the range of 60 to 79 dBA. Noise levels in this range are in the moderately loud category and could be viewed as annoying.

Noise By-laws within the City restrict the time of day during which construction can take place. All major construction sites, public and private, are regularly inspected to make sure that excessive noise is not being generated from equipment on the site. The Noise By-Law is enforced by both the Toronto Police Services and the City of Toronto's Noise Control Branch.

## 5.2.6 Air Quality

There is currently no area-specific air quality information available for the Lower Don Lands area.

Air pollutants in the City of Toronto originate from a variety of source categories including industry, transportation, fuel combustion and miscellaneous activities (primarily dry cleaning, painting, solvent use and fuel marketing). There are five commonly recognized, standard primary air contaminants. They include volatile organic compounds (VOC), particulates (PM), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>) and sulphur dioxide (SO<sub>2</sub>) (City of Toronto, 2000).

Air quality in the City is influenced by a multitude of parameters, some of which are increasing in concentration while others are decreasing. For instance, while atmospheric concentrations of sulphur dioxide, lead and particulates have dropped significantly since 1970, the number of Air Quality Advisories has increased from 1996 to 1999.

A recent study in Toronto suggests that nitrogen dioxide is the air pollutant with the greatest adverse impact on human health followed by carbon monoxide (City of Toronto, 2000). Downtown Toronto experienced 11 incidences of poor air quality between May 14, 2002 and November 11, 2002. Air quality warnings were issued due to elevated concentrations of ground-level ozone with five incidences of poor air quality between May 14, 2002 and November 11, 2002. Air quality warnings were issued due to elevated concentrations of ground-level ozone with five incidences of poor air quality in July and three incidences in each of August and September. Due to Toronto's dense population, large number of vehicles, industry, light winds and optimal summer temperatures, the city provides ideal conditions for the formation of ground-level ozone.

## 5.3 Cultural Environment

### 5.3.1 Archaeological Resources and Areas of Potential Interest

The Lower Don Lands study area was examined for archaeological resources as part of the "Archaeological Master Plan of the Central Waterfront" (ASI 2003) and the "Stage 1 Archaeological Assessment of the East Bayfront, West Don Lands and Port Lands Areas" (ASI and HRL 2004). Furthermore, the lands are currently being considered within Waterfront Toronto's Archaeological Conservation and Management Strategy initiative. One component of this latter project is the compilation of an archaeological inventory for those portions of Toronto's waterfront between Bathurst Street and the Don River, from Lake Shore Boulevard south to the water's edge. Another is to develop a framework for the evaluation of the significance of these archaeological resources. The ultimate objective of this work is the establishment of protocols and planning measures for the short- and long-term management of the physical remnants of these features as well as a review of opportunities for their interpretation and commemoration.

### 5.3.1.1 Inventory of Archaeological Resources within the Study Area

An inventory of the study area has been compiled using selected cartographic sources from the mid-nineteenth through mid-twentieth centuries, as well as other reconstructions of site locations prepared for previous historical/archaeological studies. These have been overlaid on the modern base map for the project, as shown in **Figure 5-4**.

The eastern portion of Toronto's waterfront is considered the most modified portion of the waterfront. Much of the modern fill, was dredged, dumped and shaped in the early part of the twentieth century until the 1960s. Human intervention in the study area has resulted in a vast change to the original configuration, which has caused extensive disturbance. Nonetheless, the study area still contains zones of archaeological potential.

Areas of archaeological potential near the study area include:

- a) **Gooderham and Worts Distillery (E3)** – field investigations completed in 1996 suggest that a complex layout of crib structures exist south of the stone distillery and end in the vicinity of Trinity Street.
- b) **Cherry Street Dry Dock (E4)** – is a timber dry dock potentially buried features, near the foot of Cherry Street (Stinson 1990:18).
- c) **Sandbar, Peninsula and the Port Industrial Area (E5)** – comprises a collection of features in the extreme eastern section of the study area. It includes the natural sandspit, the peninsula (known as Fisherman's Island), and the Government Breakwater along the line of the sandspit in the 1880s.
- d) **Sandspit** – formed in the eastern boundary of the Toronto harbour, extending roughly north to south, its southern end terminated at a sandbar, with its northern end curving between today's Parliament and Cherry Streets. The Sandspit formed over many centuries by sands that eroded from the Scarborough Bluffs and carried westwards.
- e) **Fisherman's Island** – east-west peninsula, likely used by aboriginals for hunting and fishing. Several storms in the mid-nineteenth century broke through the peninsula at the area of the present East Gap, isolating Toronto Islands.
- f) **Government Breakwater** – separated the harbour from the marsh and closed the southern opening of the Don, was the first major intervention in the Port Industrial district. It consisted of two lines of sheet piling with rock fill in between. Under pressure to improve the sanitary conditions in Ashbridge's Bay, the breakwater was breached in 1893, beginning implementation of a new plan for the whole marsh area (Stinson 1990:9), which resulted in the Keating Channel.

A map of the areas of archaeological potential is shown in **Appendix 4-A** – Level 1 and Level 2 Archaeological Potential Zones.



**Figure 5-4 Archaeological Resources**

### 5.3.2 Built Heritage Resources

The City of Toronto's current Inventory of Heritage Properties identifies designated properties and listed structures or landscapes within the study area as shown on **Figure 5-5**. Additionally, other properties in the area were considered by the City in 2005 for inclusion in the Inventory.

The following built heritage resources are listed in the study area:

1. 242 Cherry Street - Marine Terminal 35 & Atlas Crane
2. 275 Cherry Street - Dominion Bank
3. 281 Cherry Street – Toronto Hydro Substation; c.1930
4. 309 Cherry Street – William McGill and Company Building, c. 1935
5. 309 Cherry Street – Former Bank of Montreal; 1920, Darling & Pearson at Villiers St. (SE)
6. 312 Cherry Street – Century Coal Company
7. Cherry Street Bridge; 1931, Strauss Engineering Corporation
8. 39 Commissioners Street – Fire Hall No. 30, 1928
10. 16 Munition Street – Queen's City Foundry, c.
11. 15 Polson Street – Dominion Boxboards Building, c.
12. 54 Polson Street – Canada Cement Company
14. 62 Villiers Street – Toronto Harbour Commissioners Storage Buildings
17. 351-369 Lake Shore Boulevard East – Victory Soy Mills

A brief description and photograph of the main sites are provided in **Appendix 5-A**.

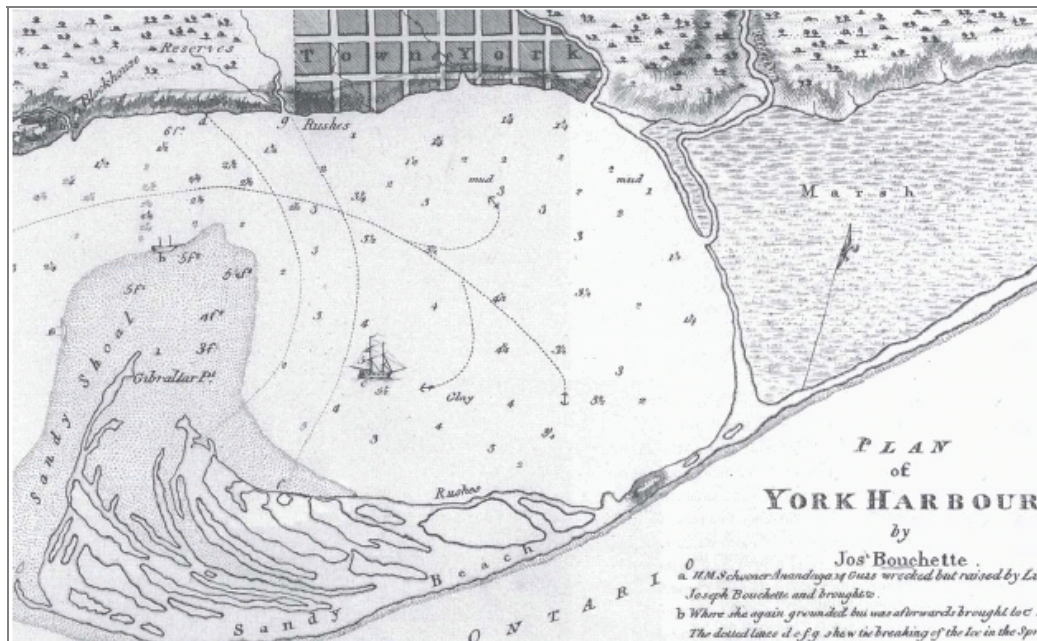
### 5.3.3 Cultural Heritage Landscapes

The history of the Toronto's waterfront parallels that of other port cities, whereby extensive landfilling was undertaken to accommodate the rapid growth of industrial and commercial activities when marine shipping was the primary form of industrial transportation. With the subsequent decline of shipping and the rise of truck transportation, these large waterfront tracts became less useful for industrial purposes and plans for revitalization began to form.

Much of the landscape change to the Lower Don Lands occurred in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. Prior to that time, the Don River was relatively untouched. The Don emptied into the inner harbour just south of the original Town of York and emptied into Ashbridge's Bay Marsh, the largest wetland on the Great Lakes at that time, as shown below.

**Figure 5-5 Built Heritage Resources**

## section 5. existing conditions



Plan of York Harbour (at Lower Don Lands Study Area) in 1793

In 1870, a breakwater was created to divert the Don River from the harbour and contain sediment deposits to Ashbridge's Bay because silt deposition was a major problem. But by 1875 the channel had filled in and by 1886 the breakwater was destroyed by successive spring floods.

Floating debris was another problem and thus, a new government breakwater was built along the alignment of present-day Cherry Street. Although the new structure was effective in reducing the amount of debris and silt entering the harbour, it also restricted water circulation in Ashbridge's Bay and created a new problem with pollution.

At the same time, a shortage of land at the waterfront prevented the expansion of rail infrastructure to service the port. Cribbing and land fill were finally undertaken and tracks laid on the Esplanade, displacing its function as a place for public promenading.

In 1911, the City and old Harbour Trust agreed to form the Board of Toronto Harbour Commission, which was given centralized authority over the waterfront and sweeping powers to undertake improvements. By 1912, they completed



Cherry Street Spit

a waterfront plan that called for the transformation of Ashbridge's Bay, from a marsh into a massive new industrial district with waterfront parks and summer homes. By 1914, the mouth of the Don River had been redirected into the concrete-lined Keating Channel and the surrounding wetlands were filled. By 1922, over 500 acres of new land was created on the former marsh, with another 500 acres in the plans. These lands were quickly occupied by industries although the plans for a major waterfront park and adjoining cottage community were never built.

The final stage of industrial transformation of the Don River was the construction of the Leslie Street Spit to create the Outer Harbour, which began in the 1950s.

### 5.3.4 First Nation/Aboriginal Peoples' Interests

The Don River and original mouth of the Don was significant to Aboriginal subsistence, settlement and communication.

In the 1730s, it was estimated that the Mississaugas of New Credit of southern Ontario numbered between 1,000 and 1,500 people. Semi-nomadic, they spent the summers in villages near the mouths of rivers and creeks emptying into Lake Ontario, including Bronte Creek, Sixteen Mile Creek, the Credit River, Etobicoke Creek, and the Humber River. East of the Humber was a long peninsula (known today as the Toronto Islands) which, with the mainland, formed a deep harbour. To this place "the Mississauga brought their sick to recover in its healthy-living atmosphere."

The study team has met with the Mississaugas of New Credit First Nation to discuss the revitalization of the study area and realignment of the Don River. They provided a history of this part of southern Ontario and explained that their original territory was described as follows:

*"The Mississauga Indians of New Credit... were the original owners of the territory embraced in the following description, namely commencing at Long Point on Lake Erie thence eastward along the shore of the Lake to Niagara River. Then down the River to Lake Ontario, then northward along the shore of the Lake to the River Rouge east of Toronto then up that river to the dividing ridge between Lakes Ontario and Simcoe then along the dividing ridges to the head waters of the River Thames then southward to Long Point the place of the beginning. This vast tract of land now forms the garden of Canada West."*

*Reverend Peter Jones, Chief of the New Credit (February 13, 1855)*

However, the vast majority of the Lower Don Lands in the study area consists of twentieth century land created by infilling and therefore the original landforms have been extensively altered both through natural processes and large-scale engineering works.

There is little to no potential, for the survival of significant precontact or early contact period Aboriginal archaeological resources.

The study team has met with the Mississaugas of New Credit First Nation during the project as described in Section 17, to seek their input on design related matters as they relate to future infrastructure and the re-aligned river.

## 5.4 Economic Environment

### 5.4.1 Commercial/Industrial Land Uses

Most of the business activity in the Lower Don Lands study area is industrial in nature, with some commercial uses.

The industries provide storage, processing, and shipment facilities for various products such as sugar, cement, steel, and lumber. Industrial land uses in the study area, such as LaFarge, rely on a combination of rail, road and shipping to transport their materials.

In 1999 an economic impact study indicated that the Toronto Port employs an equivalent of 1,500 full time jobs in cargo, tourism, and recreation, which represents an estimated regional economic impact of \$400 million annually (TPA, 2001). As development gets underway existing heavy industries and businesses will be replaced with light industry, commercial, residential, and institutional uses. This transition will occur over a number of years and has been considered in more detail through Waterfront Toronto's Draft Port Lands Business and Implementation Strategy (2009).

### 5.4.2 Population and Demographics

There are no people formally living in the Lower Don Lands study area.

The "Impact Study Area" includes a broader area outside the Lower Don Lands study area and encompasses the Outer Harbour, Toronto Islands, Ashbridge's Bay, Tommy Thompson Park and Central Waterfront areas. City Wards 28, 30 and 32 (included in the Impact Study Area) have been used for the socio-economic baseline and assessment. The City Wards are described below:

**Ward 28** ....Includes the Inner Harbour, and the Moss Park, Toronto Islands, and Regent Park neighbourhoods.

**Ward 30** ....Includes Lake Ontario Park, Tommy Thompson Park, the Leslie Street Spit, the Toronto Port and the Port Lands area. The Beaches, Leslieville, South Riverdale, Greenwood and Coxwell neighbourhoods are also found within this region.

**Ward 32** ....Includes Ashbridge's Bay, the Beach area, the Woodbine Corridor, as well as part of the Greenwood and Coxwell neighbourhoods.

The Ward boundaries are shown on **Figure 5-6**.

**Figure 5-6 Ward Profiles**

The total population of the Impact Study Area in 2001 was 170,000, compared with 2.48 million people in the City of Toronto. With the future development of the East Bayfront, West Don Lands and Lower Don Lands neighbourhoods, Toronto's waterfront population is expected to increase by approximately 79,000. (WDPP, 2005), bringing the total population to approximately 249,000 by 2023 (WDPP, 2005). **Table 5-8** provides a comparison of the present population characteristics between the City of Toronto and Impact Study Area.

**Table 5-8 Toronto and Impact Study Area Population in 2001**

	City of Toronto	Impact Study Area
<b>Total Population (2001)</b>	2,481,510	170,085
<b>Total Population (1996)</b>	2,385,415	163,565
<b>Population Change (1996-2001)</b>	4.0%	3.8%
<b>Largest Age Groups in 2001 (percentage)</b>	1- 25-34 years (21.9%) 2- 35-44 years (20.3%) 3- 55-64 years (13.7%)	1- 35-44 years (19.6%) 2- 25-34 years (17.8%) 3- 45-54 years (14.6%)

**Table 5-9** provides a comparative analysis between the City of Toronto and the present Impact Study Area with respect to education levels.

**Table 5-9 Education Levels in the City of Toronto and the Impact Study Area in 2001**

Education Level /Jurisdiction (%)	City of Toronto	Impact Study Area
<b>Attended University</b>	36.3	40.9
<b>Attended College</b>	19.7	19.8
<b>Has a trade Certificate/Diploma</b>	7.1	7.1
<b>Has Less Than Grade 13 Education</b>	36.9	33.7

### 5.4.3 Employment

Existing employment in the study area is largely industrial, as demonstrated by property ownership and existing land uses, described in Sections 1.2 and 1.4, respectively. Future employment opportunities have potential to be increased and diversified greatly with the revitalization of the Lower Don Lands area.

A summary of existing employment in the Lower Don Lands study area is provided in **Table 5-10**.

**Table 5-10 Employment Summary for Lower Don Lands Study Area, 2007**

Employment Sector	Total Employment	Total Establishments
<b>Manufacturing and Warehouse</b>	491	11
<b>Retail</b>	4	2
<b>Service</b>	126	9
<b>Office</b>	257	19
<b>Institutional</b>	0	0
<b>Other</b>	224	2
<b>Total</b>	<b>1,122</b>	<b>43</b>

Source: Toronto Employment Survey 2007, City of Toronto, City Planning, Policy and Research, Research and Information



## 5.5 Soils

The following section presents an overview of the existing geologic and hydrogeologic conditions within the Lower Don Lands study area based on the information obtained from secondary sources. The study area (also referred to as Port Lands) is approximately 340 ha.

### 5.5.1 Background

Since early settlement in the City of Toronto, the Lake Ontario shoreline has been altered as a result of lake filling. For the most part, the shoreline was filled with dredged sediment from the Inner Harbour but also included construction debris, excavated soil, sewage sludge, incinerator refuse, and municipal garbage brought from other parts of the City of Toronto (Archaeological Services Inc., 2004). The majority of land south of current day Front Street in downtown Toronto is the result of lake filling activity. The lands within the study area were created for shipping and industrial uses in the late 19th and early 20th centuries. In addition, the lands within the study area have been historically used for fuel oil bulk storage (Gulf Oil Canada Limited), oil refinery (British-American Oil Company), transportation (Smith Transport Limited, CP Transport Company Ltd.), etc. The lands within the study area are currently owned/leased by various industries including, but not limited to, Toronto Spring Service (auto repair shop), Toronto Hydro, Quantex Technologies Inc. (receives and recycles waste oil), etc. The City of Toronto Economic Development Corporation (TEDCO) owns a majority of the properties within the study area.

### 5.5.2 Geology

Based on the above history and the Quaternary Geology Map<sup>1</sup> P.2204, the Lower Don Lands study area is mainly comprised of fill deposits underlain by, marsh soils, lake bed sediments, geologically recent river deposits in the Don River floodplain, and a probable veneer of Sunnybrook Till along the northern limits of the Lower Don Lands study area. The soil overburden is underlain by bedrock. Based on the available information, the stratigraphy in the Lower Don Land study area is generally comprised of the following units in increasing order of depth:

- a) Heterogeneous Man-made (Fill) Deposits;
- b) Native soil overburden
  - Lake bed sediments comprising silt/clay/sand/sand and gravel materials interbedded with peat deposits (approximately western half of the Study Area);
  - Marshland (sand and silt interbedded with peat) deposits (approximately area east of Cherry Street);
  - Sand/silt deposits in the Don River floodplain area; and
  - Sunnybrook Till (likely present in the northern portion of the Study Area only); and
- c) Bedrock of Georgian Bay Formation.

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1. Sharpe, D. R., 1980: *Quaternary Geology of Toronto and Surrounding Area; Ontario Geological Survey Preliminary Map P.2204. Geological Series Scale 1:100,000 Compiled 1980.*

- **Fill**

Based on the findings of previous studies completed within the study area, fill material has been found at a majority of the investigative locations with a thickness ranging from approximately 5 m to more than 8 m. The composition of the fill within the study area varies considerably over short distances. At many investigative locations, fill material containing varying amounts of cinders, tar, wood, brick and other industrial by-products was encountered. Native silts and sands were found underlying the fill material at several properties, interlayered with peat (organic material).

- **Bedrock**

Bedrock was encountered at depths ranging from approximately 11 to 22 metres below ground surface (mBGS). The bedrock consisted of weathered shale from the Georgian Bay Formation with interbeds of siltstone and/or limestone.

### 5.5.3 Hydrogeology

The groundwater level in the Lower Don Lands study area is generally at the same level as the Lake Ontario water levels and probably is under the influence of the fluctuations in the lake water levels. The depth to the water table generally varies between 1 to 4 m and is primarily in the fill material. The Lake Ontario water elevations may vary over any given year by approximately 0.5 to 1 m, subsequently resulting in groundwater level fluctuations within the study area (CH2M HILL a, d, e & f, 2008).

The regional groundwater flow direction is generally to the south toward Lake Ontario. Locally, groundwater flow may vary due to presence subsurface utilities and anthropogenic influences. The horizontal hydraulic groundwater gradient ranges locally from approximately 0.008 to 0.01 metre/metre (CH2M HILL b & c, 2008).

### 5.5.4 Geotechnical Properties of Soils

The following section presents an overview of the existing geologic and geotechnical conditions within the Lower Don Lands study area based on the information obtained from secondary sources. ***Field investigations are planned to be undertaken in support of the EA to confirm geologic and hydrogeologic conditions and geotechnical properties of soils. This information will be included in this report when it becomes available.***

The Standard Penetration Test (SPT) N- values obtained, in most cases, in the fill were less than 5 blows/0.15 m penetration, indicating a very loose condition. At a few locations, the first 0.15 m had N-values greater than 50 blows/0.15 m penetration, indicating very dense condition, which is likely due to presence of gravel or compaction due to surface traffic. The majority of the boreholes were terminated in the fill deposits at depths of less than 5 m.



Photograph 1: View South from edge of site



Photograph 2: Storage area on site at South side of Gardiner Expressway



Photograph 3: Parking and storage area on site, primarily finished in gravel



Photograph 4: From Don River Trail looking South onto site



Photograph 5: View from site facing West



Photograph 6: At West edge of Site at Cherry Street, looking North



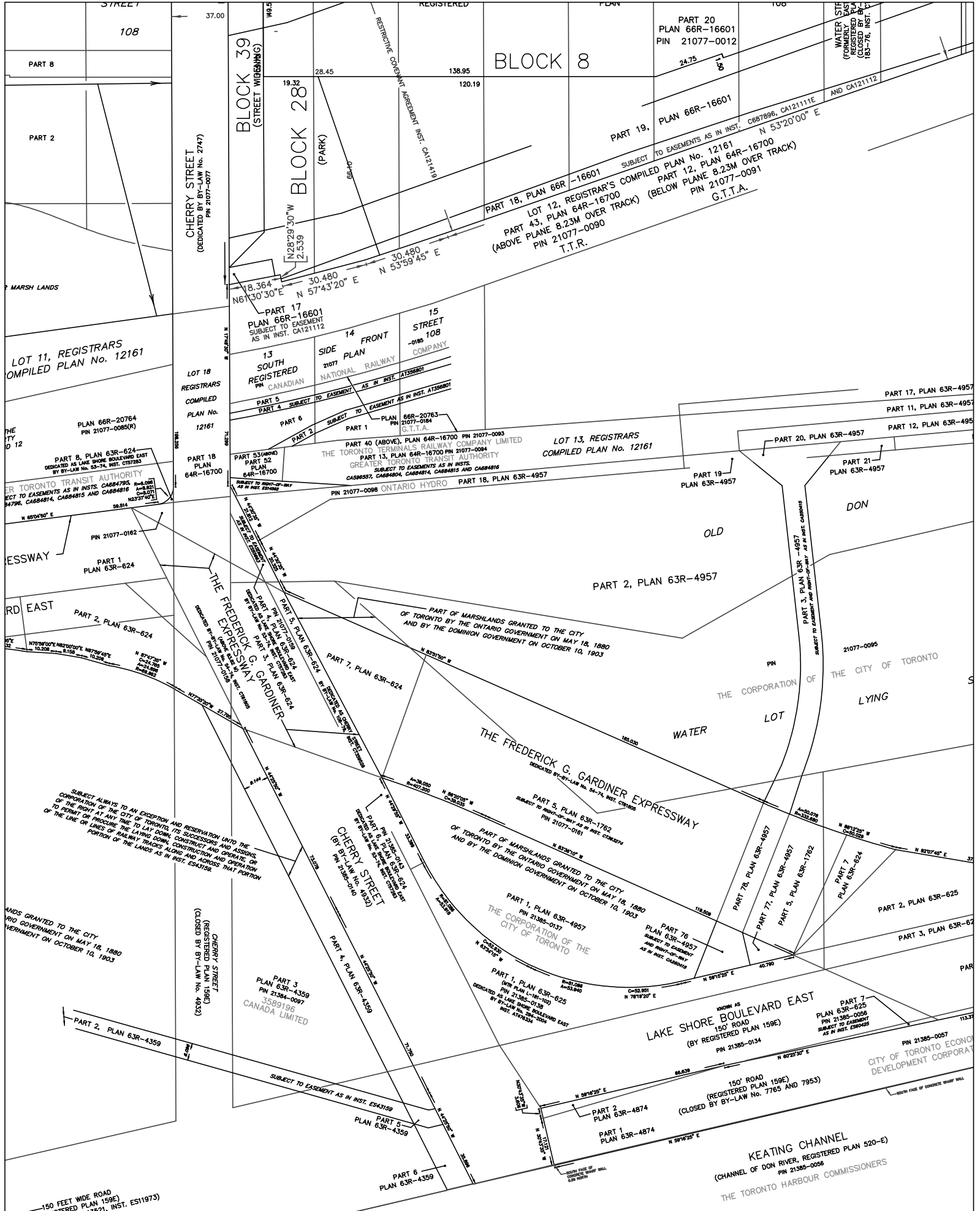
Photograph 7: Site Driveway on North-West, looking towards CN Rails



Photograph 8: View from South East of Site, looking South

## **APPENDIX 4**

### **Land Ownership**





## **APPENDIX 5**

### **Information Packages and Responses from Agencies and Stakeholder**

August 15, 2009

RVA 071345

Agency Name  
Agency Address  
Toronto, Ontario  
M7A 1W3

**Attention: To Whom It May Concern**

Dear Sir/Madam,

Re: Addendum to West Don Lands Class Environmental Assessment

We have been retained by Waterfront Toronto to undertake an addendum to the West Don Lands Class Environmental Assessment (Earth Tech, March 2005) for only the stormwater management aspects. Attached are presentation materials that update the Class Environmental Assessment and provides the reasons for the updates.

We would appreciate your agency's comments by September 15, 2009.

Should you require any further information please contact the undersigned.

Yours very truly,

**R.V. ANDERSON ASSOCIATES LIMITED**



Peter Langan, P.Eng.  
Director

PL:bgm

Encls.

cc: Carla Guerrero, Waterfront Toronto  
Kevin Bechard, Waterfront Toronto



## Need for Addendum

- To facilitate updates that have occurred since original Class EA was filed (May 31, 2005), including:
  - Update the location of the Stormwater Quality Facility
  - Update the Treatment Process
  - Update the Phasing of Implementation



July 27/09



## Update Location of the Stormwater Quality Facility

- **Previous location** was immediately north of the rail corridor east of Cherry Street.
- **Updated location** is immediately south of the rail corridor east of Cherry Street.
- **Reason:** Service area may be expanded to include areas of the North Keating Community, without introducing additional facilities in North Keating.
- **Note:** North Keating Community was introduced after completion of the West Don Lands Class EA.





## Update Treatment Process

- **Previous Treatment Process** was Centralized Oil-Grit Separator, Filtration and Ultra-Violet Disinfection.
- **Updated Treatment Process** will change Filtration to Sedimentation.
- **Reason:** Sedimentation is operationally preferred by Toronto Water.
- **Note:** Sedimentation tank will be underground located in the open space south of the rail corridor (east of Cherry Street).



## Update Phasing of Implementation

- **Previous Phasing** allowed for the development of an implementation plan.
- **Updated Phasing** allows initially for Oil Grit Separators and Sedimentation Tank to be implemented. Disinfection (UV) to be implemented prior to construction commencing in North Keating Community.
- **Reason:** The phased approach allows for monitoring the effectiveness of the sedimentation process, to optimize the disinfection process, and for implementation of a contingency plan to add Oil Grit Separators in the West Don Lands if necessary.





## Environmental Impacts & Mitigating Measures

- **Socio Economic: *Visual Impact – During Construction***
  - Enclosure of site
  - Maintain public access to Don River Trail
- **Socio Economic: *Construction Traffic***
  - Construction access to minimize traffic on Cherry Street
  - Access is proposed to east side of property via Lakeshore Boulevard



## Environmental Impacts & Mitigating Measures

- **Emissions: *Air Quality and Noise***
  - Enclosure of site
  - Dust suppression controls during construction
  - Equipment to be provided with proper mufflers
- **Geophysical: *Soil/Groundwater***
  - Soil is impacted through previous industrial use
  - Appropriate handling and disposal of excavated material
  - Adequate dewatering and disposal during construction
  - Backfilling with clean material – improved soil condition



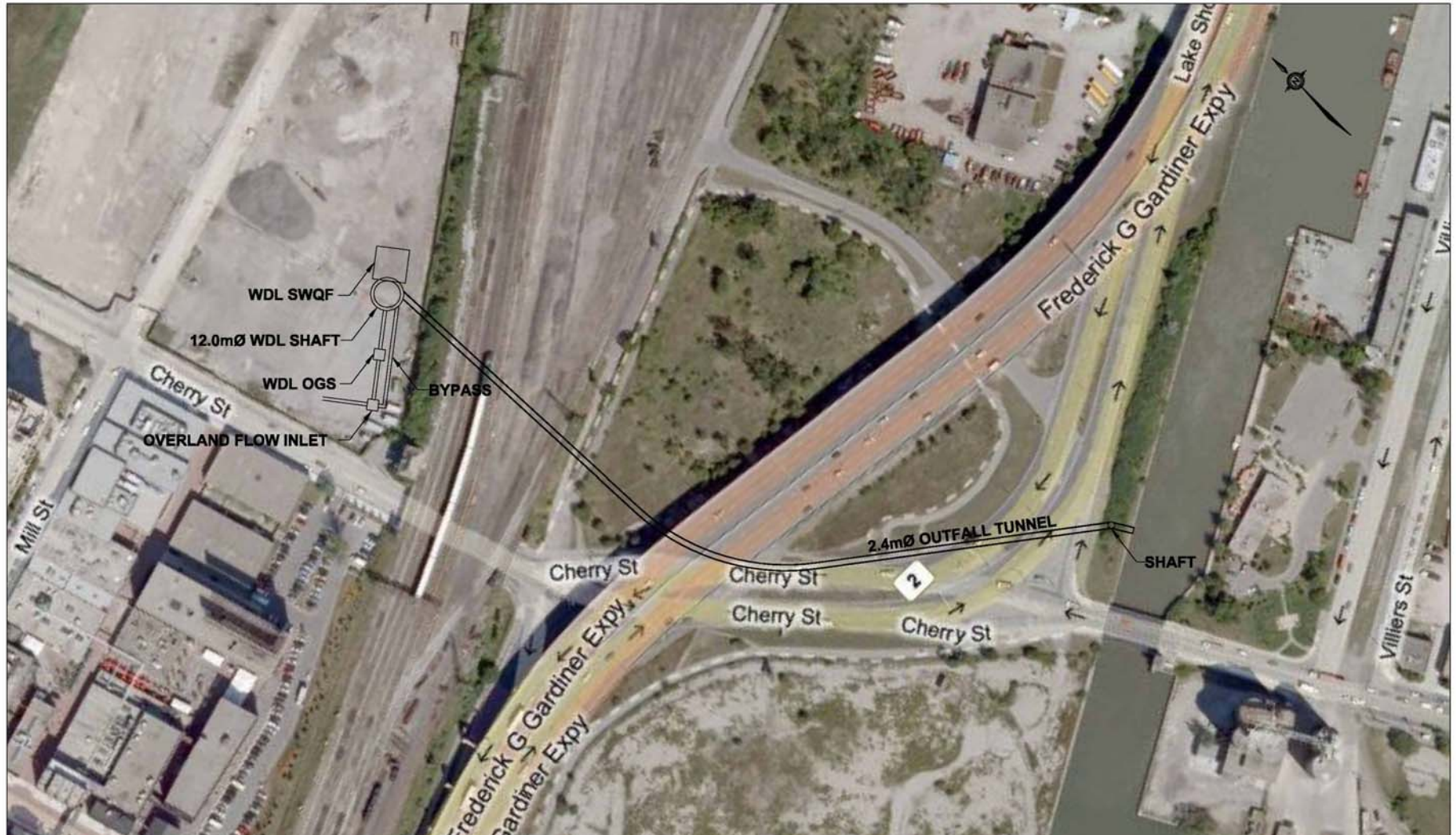


## Environmental Impacts & Mitigating Measures

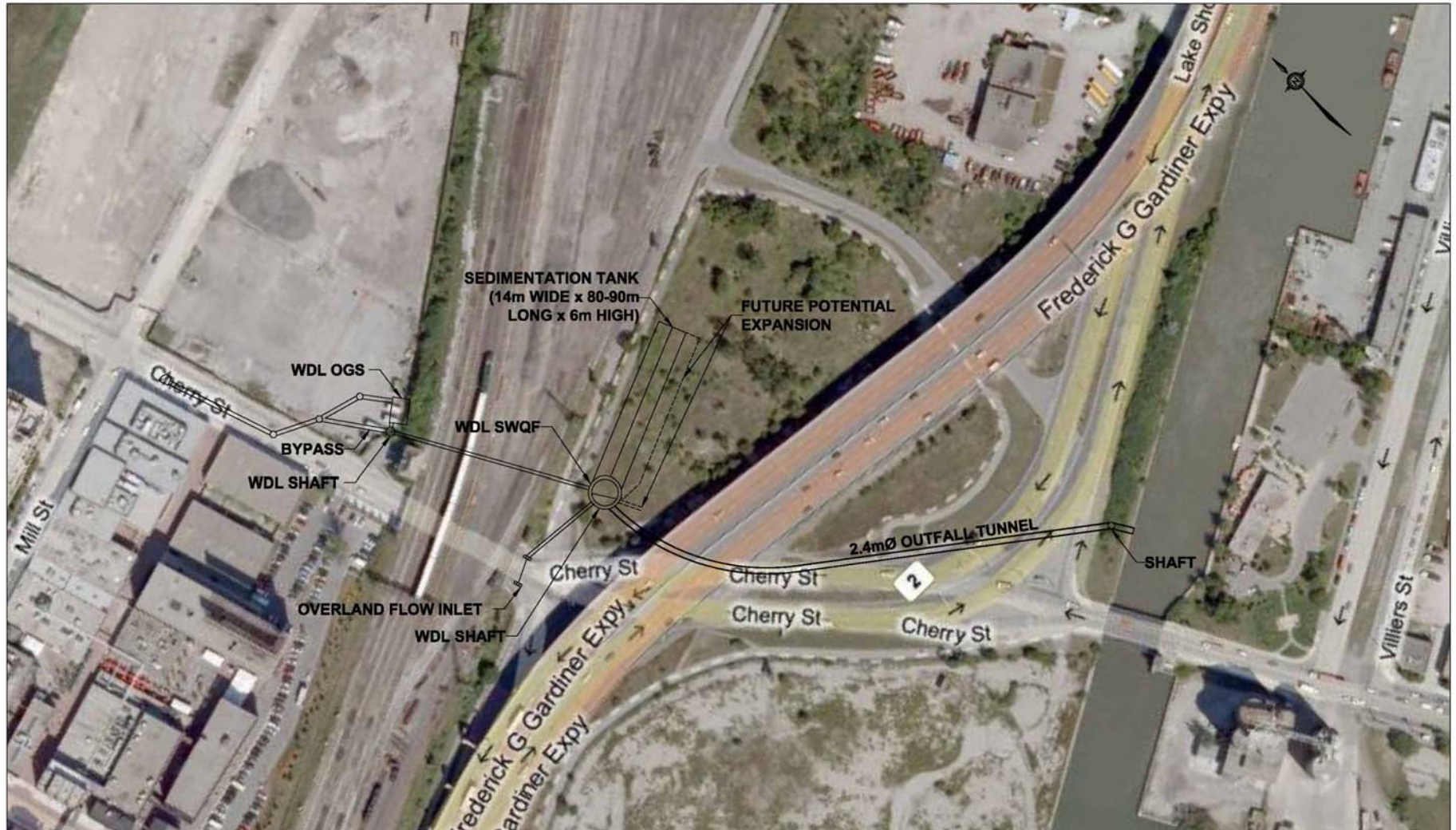
- **Socio Economic: *After Construction***
  - Main Facility building (footprint approx. 150m<sup>2</sup>)
  - Small access building (footprint approx. 100m<sup>2</sup>)
  - Reinstatement of Don River Trail
  - New open space area

There are no substantive changes in environmental impact as a result of these updates.



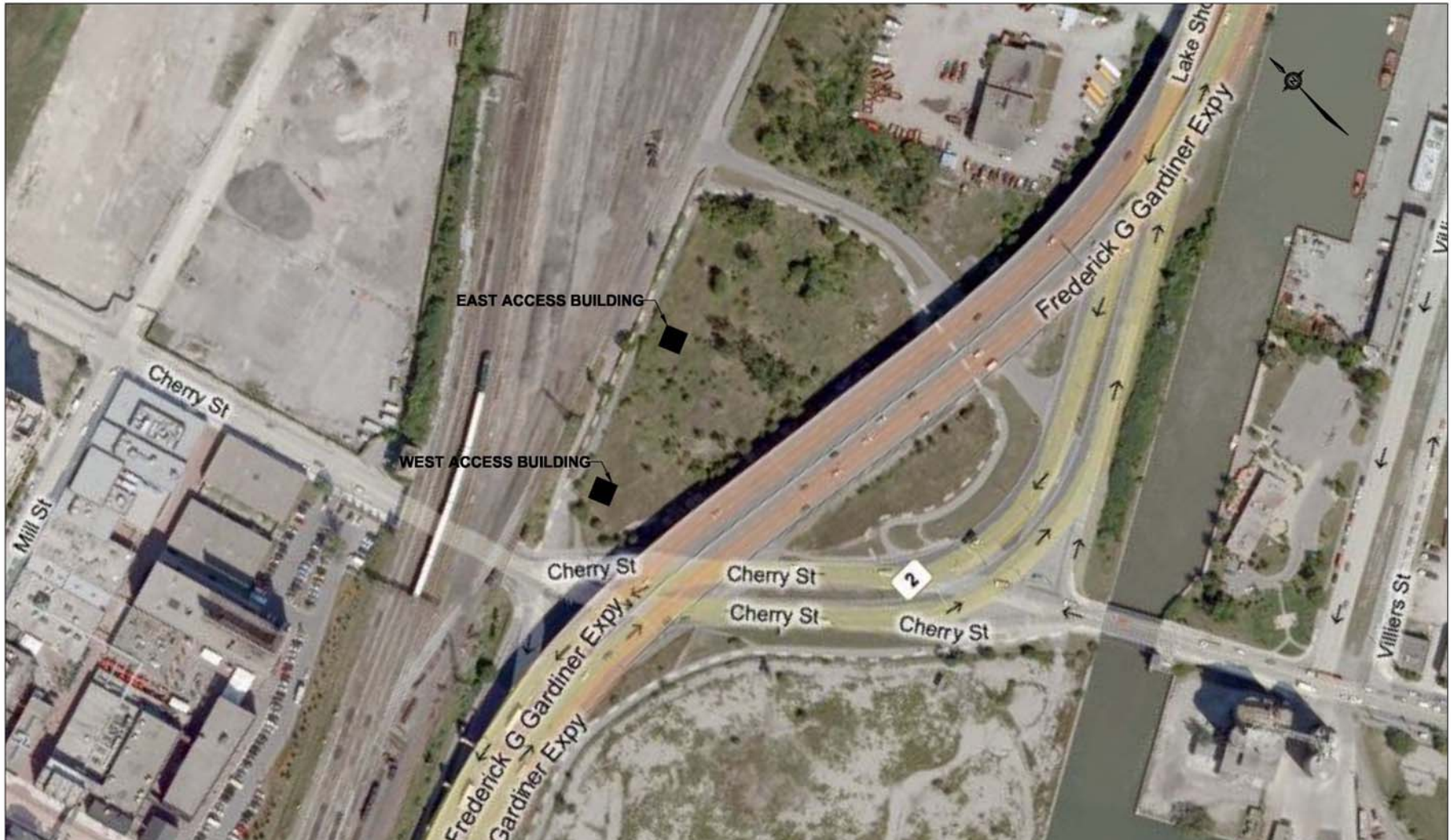


PREVIOUS LOCATION PER CLASS EA



PROPOSED LOCATION





ABOVE GRADE STRUCTURES

September 8, 2009

CFN 35278

**VIA MAIL AND EMAIL (cguerrera@waterfrontoronto.ca)**

Ms. Carla Guerrero  
Waterfront Toronto  
20 Bay Street, Suite 1310  
Toronto, ON, M5J 2N8

Dear Ms. Guerrero:

**Re: Response to Environmental Assessment Addendum  
West Don Lands Class Environmental (Earth Tech March 2005) for only  
the Stormwater Management Aspects  
Don River Watershed, City of Toronto – Toronto and East York**

Toronto and Region Conservation Authority (TRCA) staff received the presentation materials that update the Class Environmental Assessment (EA) for the above-noted project on August 24, 2009. It is our understanding that Waterfront Toronto has retained R. V. Anderson Associates Limited to undertake an Addendum to the West Don Lands Class EA (Earth Tech March 2005) for only the stormwater management aspects.

The changes to the stormwater management aspects include the following:

1. Update Location of the Stormwater Quality Facility: The previous location was immediately north of the rail corridor, east of Cherry Street. The updated location is immediately south of the rail corridor, east of Cherry Street;
2. Update Treatment Process: The previous treatment process was centralized Oil-Grit Separator, Filtration and Ultra-Violet Disinfection. The updated treatment process will change Filtration to Sedimentation; and,
3. Update Phasing of Implementation: The previous phasing allowed for the development of an implementation plan. The updated phasing allows initially for Oil Grit Separators and Sedimentation Tank to be implemented. Disinfection (UV) to be implemented prior to construction commencing in the North Keating Community.

Reasons have been provided in the presentation materials for these three updates. The presentation materials state that there are no substantive changes in the environmental impacts as a result of these three updates.

Staff has completed its review of the presentation materials and has no objection to the proposed updates.

Please keep TRCA staff informed as the project implementation progresses. Should you have any questions, please contact me at extension 5714 or by email at [rafoom@trca.on.ca](mailto:rafoom@trca.on.ca).

Yours truly,



Renée Afoom, MES, RPP, MCIP  
Planner II, Environmental Assessments  
Planning and Development

**BY EMAIL**

cc: Proponent Kevin Bechard, Waterfront Toronto ([kbechard@waterfronttoronto.ca](mailto:kbechard@waterfronttoronto.ca))  
Consultant Peter Langan, R.V. Anderson Associates Ltd. ([plangan@rvanderson.com](mailto:plangan@rvanderson.com))  
TRCA: Carolyn Woodland, Director, Planning and Development  
Adele Freeman, Director, Watershed Management  
Don Haley, Water Management Senior Advisor  
Beth Williston, Manager of Environmental Assessments  
Steve Heuchert, Manager of Planning Development and Regulations

## Peter Langan

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**From:** Dan Stanoev [dstanoev@torontohydro.com]  
**Sent:** September 11, 2009 4:21 PM  
**To:** Peter Langan  
**Subject:** West Donlands

**Attachments:** wdl sewer.pdf



wdl sewer.pdf (28  
MB)

Hi Peter

I have attached a copy of your aerial photo on which I have indicated my proposed route of a 6W4H(24) concrete encased duct structure c/w cable chambers. The cable chambers would typically be 100m +/- apart.

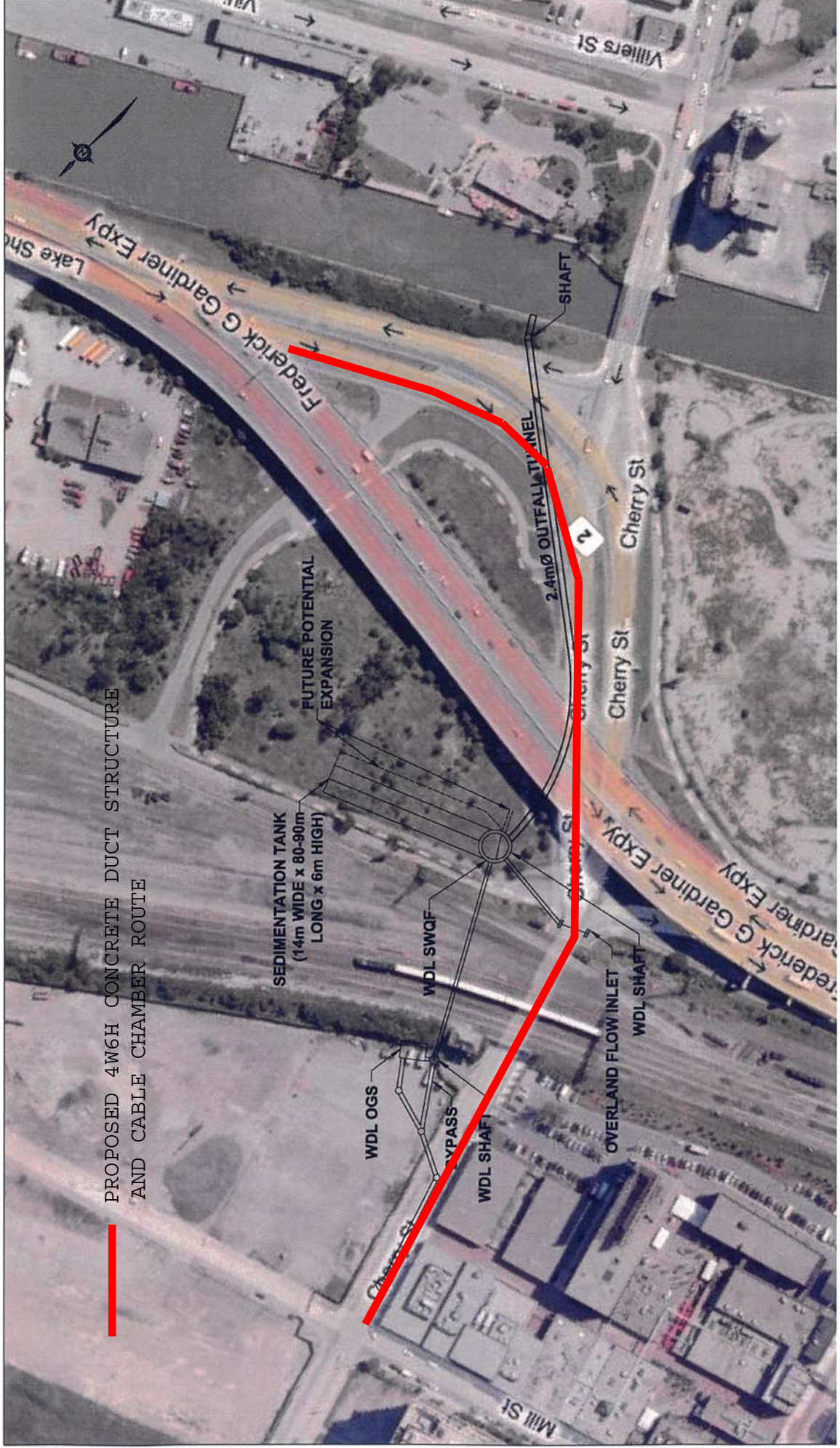
Do you have any construction drawings on your proposed work? I would like to avoid any future conflicts.

Regards

Dan Stanoev  
Engineering Design Technician II  
ph: 416-542-7816  
fax: 416-542-8005  
dstanoev@torontohydro.com



PROPOSED 4W6H CONCRETE DUCT STRUCTURE  
AND CABLE CHAMBER ROUTE



PROPOSED LOCATION



3240 Mavis Road  
Mississauga, Ontario  
L5C 3K1  
Tel: 905.273.9050  
Fax: 905.279.2103  
www.enersource.com

August 28, 2009

R.V. Anderson Associates Limited  
2001 Sheppard Avenue East Suite 400  
Toronto, Ontario  
M2J 4Z8

**Attention: Peter Langan, P. Eng.**

Re: Addendum to West Don Lands Class Environmental Assessment

I have received your package, and had it reviewed internally. There does not appear to be any relationship between the initial assessment and our business.

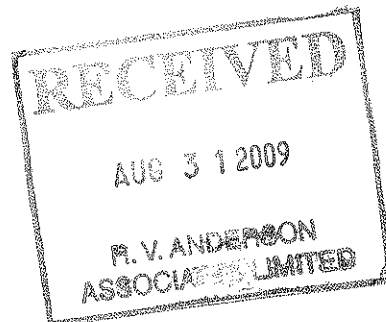
It was indicated to me that when the plan was originally created someone from Enersource had commented on it. Your group regrettably did not have on record, the name of the individual who had participated on behalf of Enersource. There is nobody on our staff at the present time that was aware of this project, so it leads us to believe that person is no longer with our organization.

At this point it seems that our involvement is no longer required.

Yours truly,

A handwritten signature in cursive script, appearing to read 'mscott'.

Sabrina Scott  
Communications Coordinator



September 8, 2009

CFN 35278

**VIA MAIL AND EMAIL (cguerrera@waterfrontoronto.ca)**

Ms. Carla Guerrero  
Waterfront Toronto  
20 Bay Street, Suite 1310  
Toronto, ON, M5J 2N8

Dear Ms. Guerrero:

**Re: Response to Environmental Assessment Addendum  
West Don Lands Class Environmental (Earth Tech March 2005) for only  
the Stormwater Management Aspects  
Don River Watershed, City of Toronto – Toronto and East York**

Toronto and Region Conservation Authority (TRCA) staff received the presentation materials that update the Class Environmental Assessment (EA) for the above-noted project on August 24, 2009. It is our understanding that Waterfront Toronto has retained R. V. Anderson Associates Limited to undertake an Addendum to the West Don Lands Class EA (Earth Tech March 2005) for only the stormwater management aspects.

The changes to the stormwater management aspects include the following:

1. **Update Location of the Stormwater Quality Facility:** The previous location was immediately north of the rail corridor, east of Cherry Street. The updated location is immediately south of the rail corridor, east of Cherry Street;
2. **Update Treatment Process:** The previous treatment process was centralized Oil-Grit Separator, Filtration and Ultra-Violet Disinfection. The updated treatment process will change Filtration to Sedimentation; and,
3. **Update Phasing of Implementation:** The previous phasing allowed for the development of an implementation plan. The updated phasing allows initially for Oil Grit Separators and Sedimentation Tank to be implemented. Disinfection (UV) to be implemented prior to construction commencing in the North Keating Community.

Reasons have been provided in the presentation materials for these three updates. The presentation materials state that there are no substantive changes in the environmental impacts as a result of these three updates.

Staff has completed its review of the presentation materials and has no objection to the proposed updates.

Please keep TRCA staff informed as the project implementation progresses. Should you have any questions, please contact me at extension 5714 or by email at [rafoom@trca.on.ca](mailto:rafoom@trca.on.ca).

Yours truly,



Renée Afoom, MES, RPP, MCIP  
Planner II, Environmental Assessments  
Planning and Development

**BY EMAIL**

cc: Proponent Kevin Bechard, Waterfront Toronto ([kbechard@waterfronttoronto.ca](mailto:kbechard@waterfronttoronto.ca))  
Consultant Peter Langan, R.V. Anderson Associates Ltd. ([plangan@rvanderson.com](mailto:plangan@rvanderson.com))  
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Don Haley, Water Management Senior Advisor  
Beth Williston, Manager of Environmental Assessments  
Steve Heuchert, Manager of Planning Development and Regulations





# Toronto Police Service

40 College Street, Toronto, Ontario, Canada. M5G 2J3  
(416) 808-2222 FAX (416) 808-8202  
Website: [www.TorontoPolice.on.ca](http://www.TorontoPolice.on.ca)



William Blair  
Chief of Police

File Number: .....

September 22, 2009

Peter Langan, P.Eng.  
Director  
R.V. Anderson Associates Limited  
2001 Sheppard Avenue East, Suite 400  
Toronto, Ontario  
M2J 4Z8

Re: Addendum to West Don Lands Class Environmental Assessment

Dear Peter,

Planning staff have reviewed the supplied material relating to the Addendum to the West Don Lands Class Environmental Assessment.

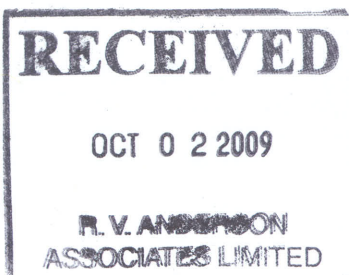
No issues or concerns were identified.

As with all new development, we recommend the application of Crime Prevention Through Environmental Design (CPTED). The Toronto Police Service is regularly involved in CPTED, which embodies the concept that the design and effective use of the built environment can lead to a reduction in the opportunity for crime through strategies of natural surveillance, natural access control, and territorial reinforcement.

If you wish to discuss our response or any related matters, please do not hesitate to contact Sergeant Dean Tapp of Corporate Planning at 416-808-7769.

Regards,

Donald Bevers  
Manager  
Corporate Planning



Minister of Transport,  
Infrastructure and Communities

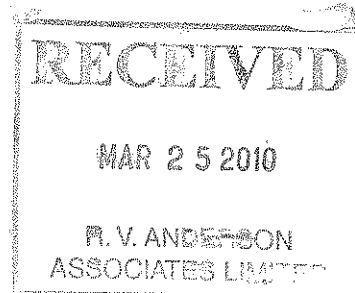


Ministre des Transports,  
de l'Infrastructure et des Collectivités

Ottawa, Canada K1A 0N5

MAR 23 2010

Mr. Peter Langan  
Director  
R.V. Anderson Associates Limited  
400-2001 Sheppard Avenue East  
Toronto, Ontario  
M2J 4Z8



Dear Mr. Langan:

I am writing in response to your correspondence of August 21, 2009, in which you requested comments on the Addendum to the West Don Lands Class Environmental Assessment.

Transport Canada's Ontario Environment and Engineering Unit has reviewed the project update in relation to the department's mandate, policies and programs. The Unit has not identified any issues of concern to the department and therefore has no comments to provide at this time.

If you have any questions or require further information, I would invite you to contact Mr. David Zeit, Environmental Officer at Ontario's regional office, at 416-952-0507.

Thank you for writing.

Sincerely,

John Baird, P.C., M.P.

Canada