LOWER DON LANDS

ENVIRONMENTAL ASSESSMENT MASTER PLAN ADDENDUM &
ENVIRONMENTAL STUDY REPORT

Toronto Transit Commission

WATERFRONToronto

TORONTO

CONTENTS

TABLE OF FIGURES

INDEX OF TABLES

APPENDICES

Appendix A: Waste Water – Alternative Solutions Not Being Carried Forward
Appendix B: Stormwater Alternatives
Appendix C: Definition of EA Parameters
Appendix D: 2014 DMNP EA & 2010 LDL EAMP Addendum & ESR

1 BACKGROUND

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 waterfront. The mission is to put Toronto at the forefront of global cities in the 21st 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.

MANDATE

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 waterfront of downtown Toronto.

STUDY AREA¬

A 20-minute walk from downtown, the Lower Don Lands is a 125 hectare (308 acre) area bound by the Inner Harbor of Lake Ontario, The Don Roadway, the rail corridor and the Ship Channel. Waterfront Toronto plans to transform the largely underutilized industrial area into new sustainable parks and communities. The naturalization and shifting of the mouth of the Don River is the centrepiece of the plans for the Lower Don Lands.

INTEGRATED APPROACH

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 and its partners. A main collaborator in the effort to flood protect the Port Lands is the Toronto and Region Conservation Authority. Current plans for the Lower Don Lands, developed through the 2011/12 Port Lands Acceleration Initiative (PLAI), are based on several years of integrated planning work led by Waterfront Toronto.

CURRENT LOWER DON LANDS PLAN

The current plans are a refined version of the award-winning plan for the Lower Don Lands unanimously passed by Toronto City Council in August 2010 and rooted in the vision developed as part of the international design competition held by Waterfront Toronto in 2007. The Lower Don Lands Plan supports the four key principles of the Central Waterfront Secondary Plan (CWSP) as adopted in April 2003. The competition was designed to produce a concept that would provide the unifying vision for merging the natural and urban fabric into a green, integrated and sustainable community and provide common ground for the numerous environmental assessments (EAs) required for the area. The plans were designed to enable the transformation of this post-industrial area into a sought-after destination to live, work and play based on design excellence, ecology and economic sustainability. From 2007 to present the plans have been developed through a comprehensive environmental assessment process which included the examination of several alternative planning solutions.

PUBLIC CONSULTATION

As with all waterfront planning initiatives, public consultation was a key component of Lower Don Lands planning. The planning process included numerous stakeholder and public meetings, as well as a number of workshop sessions.

1.1 INTRODUCTION

This 2014 Lower Don Lands Environmental Assessment Master Plan Addendum and Environmental Study Report (2014 LDL EAMP Addendum and ESR) updates and amends the 2010 Lower Don Lands Environmental Assessment Master Plan (2010 LDL EAMP) (Phases 1 and 2 of the Municipal Class Environmental Assessment process) and, as applicable, the Keating Channel Precinct Environmental Study Report (Keating Channel ESR), to align with the outcomes of the first phase of the PLAI, and the amended March 2014 Don Mouth Naturalization and Port Lands Flood Protection Project Environmental Assessment (2014 DMNP EA). The study area for this 2014 LDL EAMP Addendum and ESR extends from West Don Lands and the rail berm in the north to the Ship Channel in the south, and from the Inner Harbour in the west to The Don Roadway in the east (Figure 1 1).

In April 2008, Waterfront Toronto, the City of

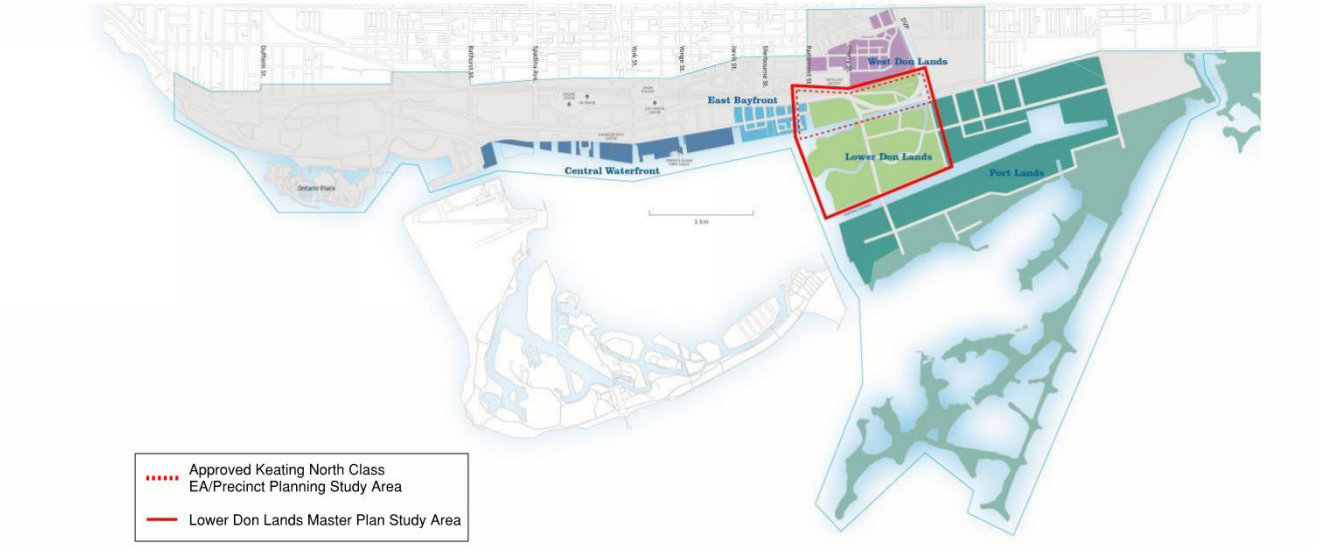


FIGURE 1-1: *Designated Waterfront Area: Lower Don Lands Study Area*

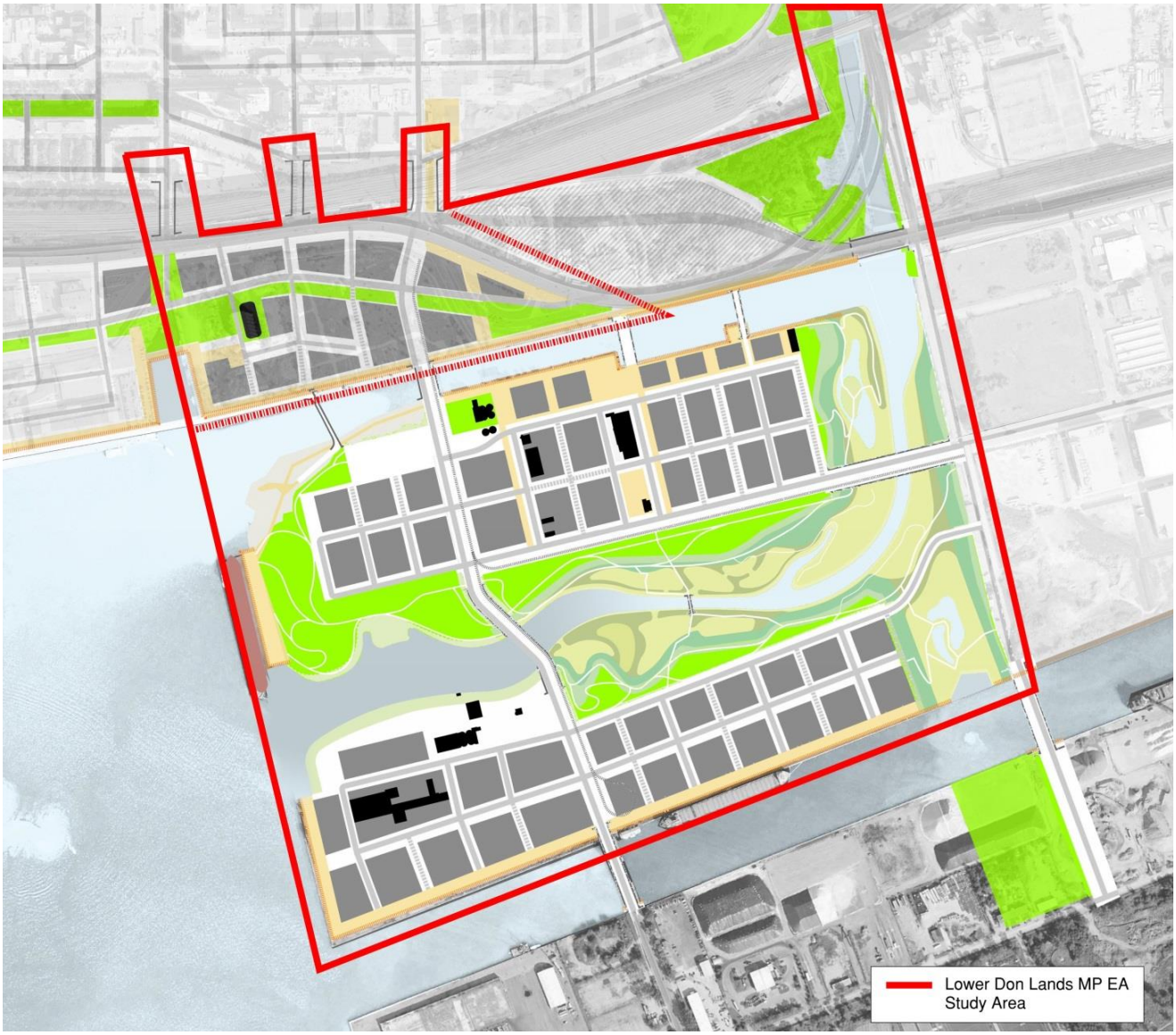


FIGURE 1-2: *Lower Don Lands Plan and Study Area*

Toronto and Toronto Transit Commission, as tri-proponents, began a study to integrate the Municipal Class Environmental Assessment (Class EA) process with the Precinct Planning process that has resulted in a Master Plan for transportation (including transit), water/wastewater and stormwater management in the Lower Don Lands Phases 1 and 2 of the EA process was completed for the entire Lower Don Lands study area, a 125 hectare (308 acre) area that ran from East Bayfront (the Parliament Street Slip) east to The Don Roadway, and from the West Don Lands (rail corridor) south to the Ship Channel. Phases 3 and 4 of the EA process were completed for the Keating Channel Precinct, with the Keating Channel ESR.

In 2010, City Council endorsed the 2010 LDL EAMP and Keating Channel ESR and authorized Waterfront Toronto to put the 2010 LDL EAMP in the public record, and the Keating Channel ESR for lands west of and including Cherry Street in the public record. City Council deferred approval of the Keating Channel ESR for the lands east of Cherry Street until the Gardiner/Lake Shore Boulevard EA was further advanced.

In 2011, Waterfront Toronto, the City of Toronto and the TRCA initiated the PLAI with the objectives of refining the 2014 DMNP EA and developing a business and implementation plan to accelerate development in the Port Lands. A number of the short-listed alternatives from the 2014 DMNP EA, including the preferred solution – Alternative 4WS – were re-examined with respect to flood protection, naturalization cost, contribution to city building, and the ability to phase development. The effects of the project on existing land uses and industrial operations were considered so that the design of the new river valley system could continue to accommodate existing shipping and port operations, where appropriate. The conclusions of the first phase of the PLAI confirmed that the flood protection solution identified in the 2014 DMNP EA was fundamentally sound, but that it could be modified to reduce costs while still assuring its city building, flood protection and naturalization qualities. Alternative 4WS (Realigned) emerged as the preferred solution through this process (Figure 1 2), which included shifting the valley system to the north and the spillway / greenway to the east.

The first phase of the PLAI involved extensive consultation, which included four public meetings, web-based consultation and additional outreach. Two advisory committees were established to provide input into the PLAI. A Stakeholder Advisory Committee (SAC) was established and included representation from residents' associations and a range of environmental, business and public interest groups. A Landowner and Users Advisory Committee (LUAC) was also established comprised of landowners, tenants and users of the Port Lands.

The first phase of the PLAI was completed in September 2012, and resulted in a phased implementation strategy for the 2014 DMNP EA consistent with the original goals of the 2014 DMNP EA and CWSP. In addition to confirming the flood protection solution for the Port Lands, additional key findings were documented in a "Summary of Findings" report that included:

- The revised plan for the Port Lands will provide generous public parks and open spaces and ensures that the water's edge is preserved for public use;
- The flood protection, naturalization and open space plan provides the framework for the creation of a great new waterfront district that can exemplify excellence in urban design and sustainability;
- A phased, transit-supported development strategy is essential for a successful Port Lands, from a sustainability and development perspective;
- The Port Lands is a working port whose functions are essential for the operation of the City and should be maintained in place;
- There is strong market interest in the area and development interests are eager to proceed once flood protection, infrastructure, the planning framework and cost allocation issues are resolved;
- The Port Lands plan permits phased development, allowing the site's considerable infrastructure costs potentially to be progressively offset by development revenues;
- A long-term business case for proceeding with the Port Lands is supported by a mix of land revenues, development charges and other funding sources that will minimize if not eliminate required public funding;
- The Port Lands can play an important role in the future of Toronto as a global city; and
- The development of the Port Lands is a major opportunity for Toronto that can now be successfully realized.

City Council adopted the direction of the "Summary of Findings" report in October 2012 and

endorsed the 2012 "4WS Re-aligned" option for the 2014 DMNP EA. City Council directed Waterfront Toronto and the TRCA to revise and submit and the 2014 DMNP EA to the Ministry of Environment and Climate Change (MOECC). City Council also directed Waterfront Toronto to revise, as necessary, the 2010 LDL EAMP and Keating Channel ESR to align with the direction for the Port Lands.

Following City Council's decision on the first phase of the PLAI, the TRCA, Waterfront Toronto and the City of Toronto began the process to amend and finalize the 2014 DMNP EA and revise, as necessary, the 2010 LDL EAMP. The process established, similar to previous efforts, was coordinated as this 2014 LDL EAMP Addendum and ESR addresses municipal infrastructure required to be relocated as a result of the 2014 DMNP EA and / or to support revitalization of the lands. Outcomes of the process included further refinements to the 2014 DMNP EA and the proposed phasing strategy.

The phasing of the flood protection works within the LDL is outlined in detail in the DMNP EA.

This 2014 LDL EAMP Addendum and ESR completes Phases 1 and 2 of the Municipal Class EA process for water, sanitary, stormwater and transportation (including transit) infrastructure servicing requirements necessary to support the proposed land uses, including new and improved public spaces, in coordination with the 2014 DMNP EA and that are required to support revitalization of the Lower Don Lands. This 2014 LDL EAMP Addendum and ESR also completes Phases 3 and 4 of the EA process for applicable projects within the study area. The projects include:

- Cherry Street (including transit) to the Ship Channel;
- Commissioners Street (including transit) from Cherry Street to The Don Roadway based on the previous functions and components identified for Villiers Street in the 2010 Keating Channel ESR;
- Villiers Street which will be maintained as a local street across the study area;
- Basin Street from Cherry Street to The Don Roadway; and
- Mechanical stormwater control facilities.

2 OVERVIEW OF PLANNING PROCESS

2.1 OVERVIEW OF MUNICIPAL CLASS EA PROCESS

The Ontario Environmental Assessment Act (EA Act) identifies two types of environmental assessment planning and approval processes: the Individual EA and Class EA. This project follows the Municipal Class EA process, which provides an approved planning and approval process for municipal infrastructure projects.

The Municipal Class EA was most recently amended in 2011, though these amendments do not result in any significant impacts to this study. In addition, the Municipal Engineers Association and the Ministry of Environment and Climate Change have since clarified that the Municipal Class EA does not apply to all-road cycling facilities.

This 2014 LDL EAMP Addendum and ESR addresses water, wastewater, stormwater and transportation (including transit) infrastructure servicing requirements necessary to support the proposed land uses, including new and improved public spaces that are proposed as part of the revitalization of the Lower Don Lands area. It updates Phases 1 and 2 of the 2010 LDL EAMP to reflect the results of the PLAI and amended 2014 DMNP EA, and therefore completes the Schedule 'B' Class EA requirements for all of the water and wastewater works and most of the major stormwater works. This 2014 LDL EAMP Addendum and ESR also fulfills Phases 3 and 4 of the Class EA planning process for the following Schedule 'C' projects within the Lower Don Lands Study Area:

- Cherry Street (including transit) to the Ship Channel;
- Commissioners Street (including transit) based on the previous alignment for Villiers Street in the 2010 LDL EAMP Addendum and ESR
- Villiers Street;
- Basin Street from Cherry Street to The Don Roadway; and
- Mechanical stormwater quality control facilities.

Once endorsed by Toronto City Council, the 2014 LDL EAMP Addendum and ESR will be filed with the MOECC and made available for a formal public and agency review period. This period will be announced to the public and agencies that expressed interest in the study through a Notice of Study Completion. Requests to the Minister of Environment for a Part II Order are possible only for the specific projects identified in this 2014 LDL EAMP Addendum and ESR (the components of the 2010 LDL EAMP that have not been updated in this 2014 LDL EAMP Addendum are not subject to the opportunity for a Part II Order).

Once the public and agency review period is complete (and pending the outcome of any Part II Order requests), the projects may proceed to the implementation phase of the Municipal Class EA planning process (Phase 5).

2.2 RELATIONSHIP TO THE CANADIAN ENVIRONMENTAL ASSESSMENT ACT

The former Canadian Environmental Assessment Act (CEAA) set out responsibilities and procedures for the environmental assessment of projects involving the federal government. In July 2012, the federal government introduced revised EA Legislation to implement elements of the Government's plan for Responsible Resource Development. Under CEAA 2012, only designated projects are required to undergo an Environmental Assessment, and the role of Responsible Authority is limited to the Canadian Nuclear Safety Commission (for nuclear projects), National Energy Board (for international and interprovincial pipelines and transmission lines) and Canadian Environmental Assessment Agency (for all other designated projects). Designated projects are listed in the Schedule of Physical Activities contained in the Regulations Designating Physical Activities.

As the proposed infrastructure elements in the

LDL redevelopment are not identified in the Schedule of Physical Activities, an Environmental Assessment under CEAA 2012 is not required. However, the Minister of the Environment may designate a project not otherwise identified in the regulation if there is the potential for environmental effects in areas of federal jurisdiction or public concerns about such environmental effects.

2.3 CITY OF TORONTO CENTRAL WATERFRONT SECONDARY PLAN (CWSP)

The 2010 LDL EAMP provided an overview of the CWSP, including the four core principles and relevant transportation related policies. A result of the previous planning work undertaken in the Lower Don Lands Framework Plan (May 2010), including the 2010 LDL EAMP was City Council's adoption of Official Plan Amendment (OPA) 388. This OPA introduced new policy direction for the Lower Don Lands, amended Schedule A and relevant maps to reflect the transportation network (streets, transit and pedestrian/cycling) that emerged through this process, and the parks, open spaces and natural areas originally proposed.

Amendments to the CWSP are anticipated to implement the outcomes of the amended 2014 DMNP EA; this 2014 LDL EAMP Addendum and ESR; and current planning studies underway in the Port Lands. These amendments will address, among other matters, the reconfiguration of the Don River mouth and associated parks, open spaces, infrastructure and development areas.

2.4 INCORPORATING WATERFRONT TORONTO'S SUSTAINABILITY FRAMEWORK

No changes / updates required. This 2014 LDL EAMP Addendum and ESR and the amended 2014 DMNP EA, resulting from the PLAI 2014 DMNP EA remain consistent with the major goals of Waterfront Toronto's Sustainability Framework.

3 EXISTING INFRASTRUCTURE

3.1 ROAD NETWORK AND CONDITIONS

The 2010 LDL EAMP provided context regarding existing roads and street cross sections, street network control measures in place such as traffic signals, existing transit and rail routes, traffic conditions, and existing and planned pedestrian and bicycle facilities.

The following sections describe any significant changes to existing transportation infrastructure in the study area since the 2010 LDL EAMP was released.

3.1.1 Transportation Context of the Study Area

No significant changes to the transportation context of the study area have occurred since 2010.

3.1.2 Road Network

No recent changes have been made to the road network within the Lower Don Lands study area.

3.1.3 Network Control

Figure 3-14 within the 2010 LDL EAMP documents existing network control measures in the study area, including stop signs and traffic signals. No significant changes to network control measures have occurred since 2010.

3.1.4 Transit and Rail Network

As stated in the 2010 LDL EAMP, direct transit service within the study area is currently limited to local bus service provided by the TTC.

Future transit service within and surrounding the study area includes:

- Cherry Street LRT service (West Don Lands Transit Class EA);
- Queen's Quay LRT service (Queen's Quay Class EA and East Bayfront Transit EA)

FIGURE 3-1: *Looking north from the Don Roadway / Villiers Street intersections to the Gardiner Expressway and Don Valley Parkway*

FIGURE 3-2: *Looking northwest from Lower Don Lands site toward the existing Keating Channel Bridge across Keating Channel*

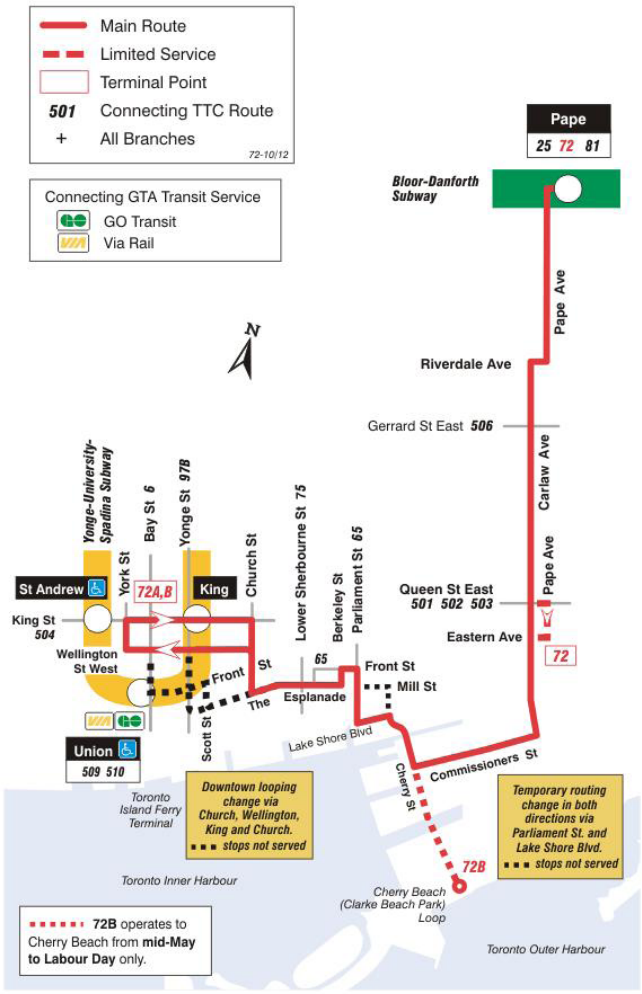


FIGURE 3-3: *Route 72 Pape (2013)*

FIGURE 3-4: *Bus shelter along Commissioners Street, immediately west of Don Roadway*

Existing Toronto Transit Commission (TTC) Routes

Changes to TTC bus routes in and around the study area since 2010 are described in the following sections.

Route 72 Pape

Route 72 Pape is the only bus route that currently accesses the Lower Don Lands site. It runs along Commissioners Street and Cherry Street, connecting to Pape Avenue in the east and the Union Station area to the west. Route 72 Pape bus services are illustrated in Figure 3-3. Following the 2010 LDL EAMP, the downtown loop has changed to run along Wellington, York, King, and Church Streets.

Three services operate on Route 72 Pape, as follows:

- **72 (Pape Station – Eastern)** operates all days of the week, and at all times of day. This is the main services on this route;
- **72A (Pape Station – Union Station)** operates Monday to Friday, midday and during peak periods from mid-May to late June, and during the morning peak period from late June until Labour Day. From Labour Day to mid-May, the service operates at all times excluding Sundays and holidays; and
- **72B (Pape station – Union Station via Cherry Beach)** provides service to Cherry Beach during the spring and summer months. From mid-May to late June, the service operates during evenings from Monday to Friday and during the daytime and evenings on Saturdays, Sundays and holidays. From late June to Labour Day, it operates at all times except for the morning peak period.

Route 72 Pape is greatly impacted by construction projects in Toronto's downtown core. The route description above is subject to change during and after the completion of road construction in the area.

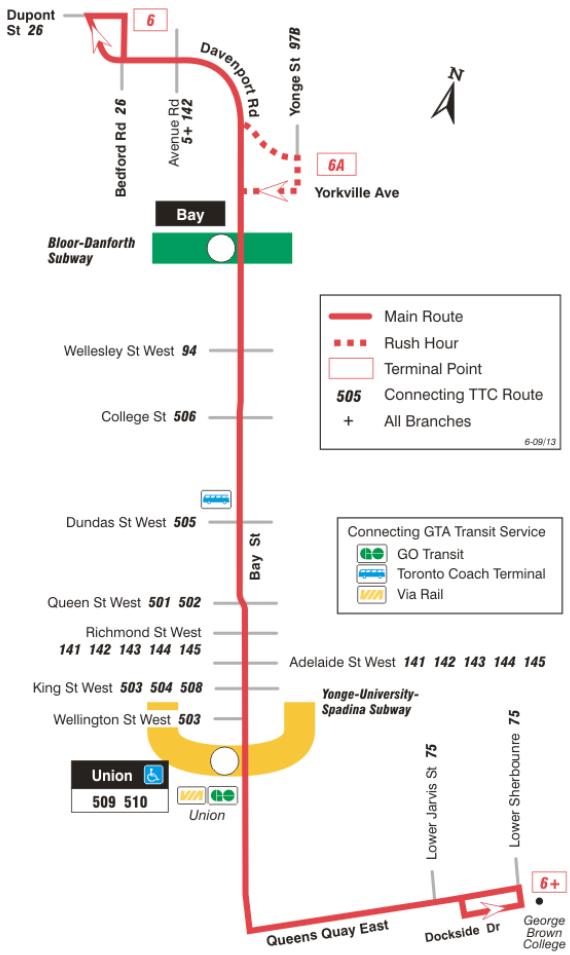


FIGURE 3-5: *Route 6 Bay (2013)*

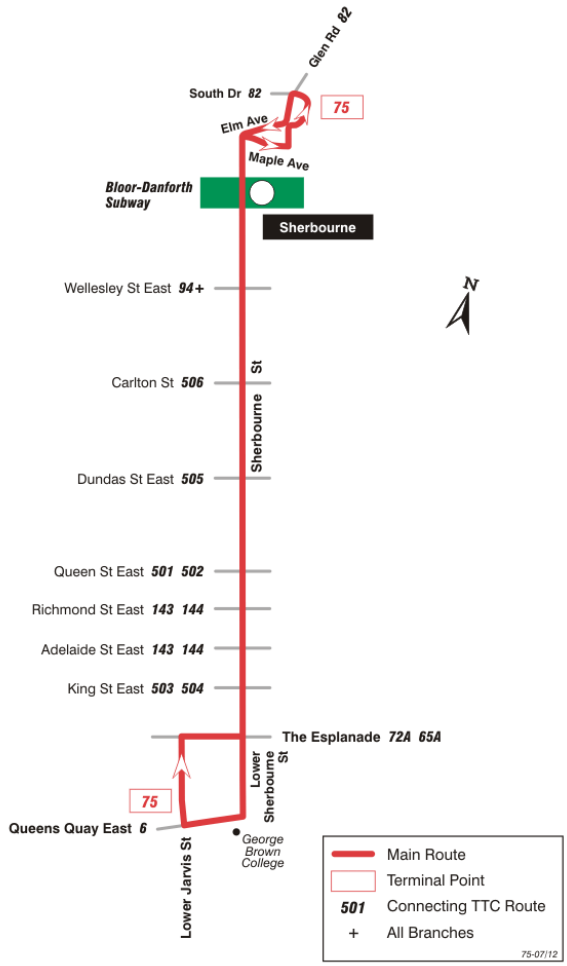


FIGURE 3-6: *Route 75 Sherbourne (2013)*

Route 6 Bay

Route 6 Bay, shown in Figure 3-5, runs along Bay Street and Queen Street East, northwest of the Lower Don Lands. The route has recently been altered to run east of Jarvis Street along Queens Quay East and loop around Dockside Drive in the new East Bayfront community.

Route 6 Bay consists of two services:

- **6 (Dupont – Queens Quay & Sherbourne)** is the main branch, operating seven days per week; and
- **6A (Bloor – Queens Quay & Sherbourne)** is a short-turn branch operating during the morning and afternoon peak periods from Monday to Friday.

Route 75 Sherbourne

Route 75 Sherbourne runs primarily north-south along Sherbourne Street, northwest of the Lower Don Lands. No changes have been made to this route in recent years. This route offers one service only, 75 (Queens Quay – South Drive), operating at all times. Route 75 Sherbourne is shown in Figure 3-6.

Future Transit Lines

Two new Streetcar lines in dedicated right-of-way are being constructed in the vicinity of the study area, as described below.

The Cherry Street streetcar line will run on the east side of Cherry/Sumach Street, north of the Lower Don Lands site. It will run south from King Street through the West Don Lands to the CN rail corridor just north of the Gardiner Expressway. Streetcars will travel in a designated corridor along the eastern sidewalk, with a tree-lined median separating the transit corridor from Cherry Street. This streetcar line presents a new street design for Toronto which prioritizes transit users and pedestrians. The West Don Lands Transit EA, which defined this recommended configuration, was approved by City of Toronto Council in January 2008. Construction began in 2012 and is slated to be completed after the 2015 Pan/Parapan American Games.

Plans are also underway for Queens Quay East transit, which will consist of a dedicated streetcar line separating east-west traffic on the north side of the street from a wide, treed pedestrian promenade on the south side of the street.

FIGURE 3-7: *Waterfront Toronto's Proposed Cherry Street Transit Configuration Crossing Keating Channel*

GO Transit

No additional GO Transit commuter lines have been constructed since the release of the 2010 LDL EAMP. The 2010 LDL EAMP describes the three GO Transit commuter lines that pass just north of the study area and stop at Union Station. Ridership continues to grow on an annual basis and is expected to increase once the Union Station revitalization project is complete. The renewal of Union Station will triple the size of the GO passenger concourse, double the size of the platform and transform the train shed. Substantial project completion is expected in 2015, with final completion in 2016. In addition, GO Transit continues to improve train service, including the expansion of the Lake Shore service. This will result in the addition of 263 trains a week, starting June 29, 2013, allowing train frequency to increase to every 30 minutes, seven days a week. This is expected to attract 50 percent more GO riders almost immediately. GO Transit also has plans for the future expansion of rail service on the Stouffville and Richmond Hill corridors. The Richmond Hill expansion will take place in 2 phases, with the first phase expected to be completed by 2014.

FIGURE 3-8: *Waterfront Toronto Rendering of TTC Stop on Queens Quay in the East Bayfront Community*

3.1.5 Traffic Conditions

3.1.5.1 Existing Traffic Volumes

The 2010 LDL EAMP provided Annual Average Daily Traffic (AADT) and per hour peak direction flow for four traffic recording stations within the vicinity of the study area on the Gardiner Expressway and Lake Shore Boulevard. No significant change to the data, as previously outlined, is expected and therefore it remains an accurate reflection for the purposes of this 2014 LDL EAMP Addendum and ESR.

3.1.5.2 Existing Road Network and Forecast Demand

The 2010 LDL EAMP outlined the future traffic demand anticipated as a result of the redevelopment of the Lower Don Lands. The demand forecasting analysis remains acceptable and applicable to the proposed redevelopment therefore no further analysis has been undertaken.

Cherry Street is expected to continue to have relatively high volumes of truck traffic into the future as the street provides access to the Lafarge plant located on Polson Street, as well as industrial users and the Port of Toronto south of the Ship Channel.

As existing transportation facilities are insufficient to handle the demand created by the proposed revitalization of the Lower Don Lands, the existing conditions were not re-analysed as part of the transportation analysis.

3.1.6 Pedestrian and Bicycle Facilities

Pedestrian Network

As indicated in the 2010 LDL EAMP, the existing pedestrian facilities in the Lower Don Lands study area are limited. Sidewalks are narrow, in poor condition, poorly lit, and often limited to one side of the street. These conditions do not contribute toward an active and safe pedestrian environment.

The Martin Goodman multi-use trail runs along Cherry Street through the site to Cherry Beach (Figure 3 9). North of Commissioners Street, the trail runs along the west side of Cherry Street. It crosses over to the east side of the street south of Commissioners Street, creating discontinuity. The trail is substandard in width, as shown in Figure 3 10. The rail corridor underpass on Cherry Street also remains a poor pedestrian experience.

Bicycle Network

The 2010 LDL EAMP describes the limited off-road and on-street bicycle network within the study area, including the Martin Goodman Trail, which is the only existing cycling path in the Lower Don Lands. This trail has not been significantly altered since the release of the 2010 LDL EAMP. The Martin Goodman Trail connects to cycling lanes along Queens Quay East as well as new cycling lanes along Sherbourne Street (substantially completed in December 2012). The multi-use pathway also continues along Lake Shore Boulevard East and the Don River Trail. North of the Lower Don Lands, signed, on-street cycling routes are provided along Cherry Street and Mill Street.

The 2012 City of Toronto Cycling Map (Figure 3 11) identifies Commissioners Street within the Lower Don Lands as a connection, or a suggested link between off-road paths and bikeways. No designated cycling infrastructure is provided on this route.

3.1.7 Heavy Rail

No changes to heavy rail infrastructure in the vicinity of the study area have been made following the release of the 2010 LDL EAMP. The 2010 LDL EAMP's Figure 3-16 delineates railway network ownership. While no changes have been made to rail infrastructure, the Toronto Economic Development Corporation (TEDCO) now operates as the Toronto Port Lands Company (TPLC).

3.1.8 Summary

Much of the transportation infrastructure in the Lower Don Lands and surrounding area has remained unchanged since the completion of the 2010 LDL EAMP. However, as construction progresses in the West Don Lands and along Queens Quay, a number of transportation improvements can be expected in the near future. By 2015, new transit routes, bikeways, and multi-use trails, as well as pedestrian improvements, are slated to be complete. These changes will help to increase travel capacities as neighbourhoods develop. Future transportation infrastructure in the Lower Don Lands study area should promote seamless connectivity with all modes of travel in the emerging communities.

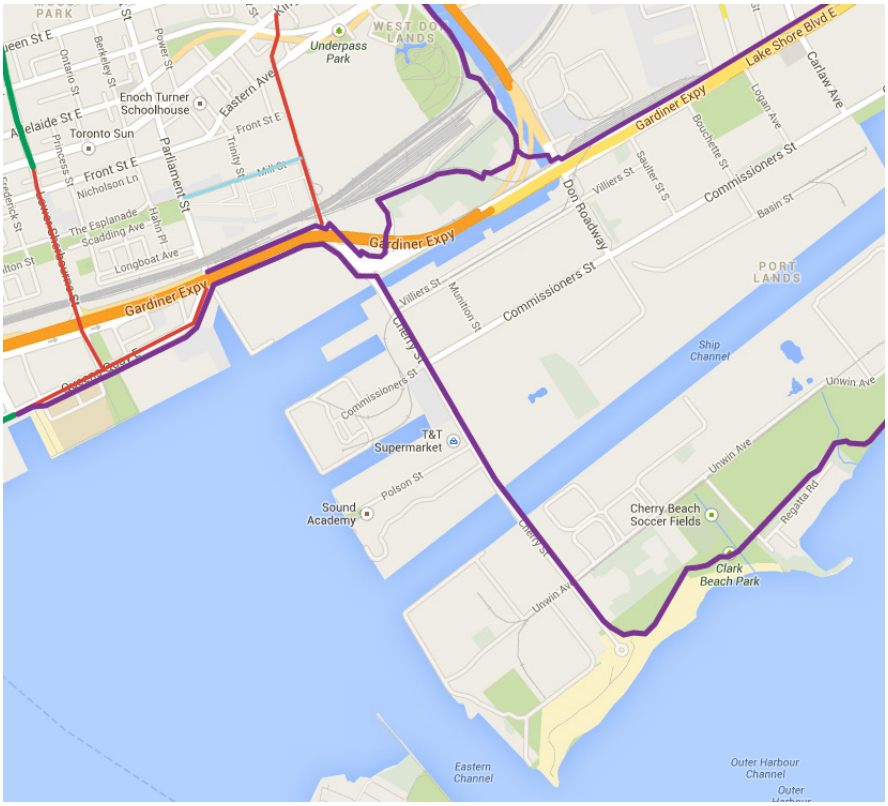


FIGURE 3-9 (TOP): *The Martin Goodman Multi-Use Trail (Waterfront Regeneration Trust, Waterfront Trail Map - Outer Harbour, 2013)*

FIGURE 3-10 (MIDDLE): *Existing Conditions of the Lower Don Lands Sidewalk and Multi-Use Trail along Cherry Street Looking North*

FIGURE 3-11 (BOTTOM): *Existing Bicycle Lanes (City of Toronto Cycling Map, 2012)*

3.2 SERVICING

Water, wastewater, and stormwater servicing infrastructure in the Lower Don Lands has remained unchanged since the 2010 LDL EAMP, however, two EAs have since been completed by Toronto Water: 2010 DMNP EA the Don River and Central Waterfront Project and the Waterfront Master Sanitary Servicing Plan, completed by XCG in October, 2012. The development of surrounding communities has also necessitated the installation of new infrastructure, including servicing components within the East Bayfront community and the West Don Lands, which are currently under construction.

Services that are proposed to cross the floodplain include the combined sewer overflow (CSO) tunnels associated with the Don River and Central Waterfront Project as well as proposed sanitary / combined sewers and a gravity sewer associated with the completion of the Waterfront Sanitary Servicing Master Plan. The new river valley system will be reinforced to ensure that the sanitary sewer crossing the Don River north of Lake Shore Boulevard is protected from potential impacts associated with downcutting of the river valley system. This project has also identified the need for maintenance and storage shafts within the Sediment and Debris Management Area to access the CSO tunnels. The DMNP is designed to accommodate these shafts and associated maintenance yard so that they will not interfere with sediment and debris operational management activities.

3.2.1 Utilities

A number of utility crossings of the future floodplain are required to convey water and wastewater services, electrical cabling, natural gas mains, communications cabling and thermal distribution mains across the various river reaches to service the proposed development blocks. Possible crossing locations have been identified that minimize the length required to service the development blocks and provide routes to facilitate future connectivity of the Port Lands area with the existing City infrastructure.

Utilities crossing the floodplain will be designed to minimize or avoid disturbance of the future naturalized system and to avoid exposure of underlying contaminated soils and groundwater to the naturalized surface system, especially during maintenance of utilities or installation or new utilities.

WT, the City and TRCA have requested Hydro One Network (HON) to carry out the feasibility to modify/relocate or bury the HON facilities between Don Fleet Junction/Mill Creek Junction and Basin Transmission Station so as to facilitate development of the Port Lands area.

4 CLASS EA PLANNING CONTEXT

Figure 4-1 illustrates the interrelated planning initiatives that have been completed, or are underway, within the Port Lands and vicinity. This 2014 LDL EAMP Addendum and ESR was co-ordinated with other EAs and planning studies influencing or being undertaken in the Toronto waterfront.

FIGURE 4-1: *Projects within and supporting the Lower Don Lands Study Area*

As development progresses from the west and from the north towards the Lower Don Lands, the level of connectivity of the waterfront neighbourhoods to the city will improve. Although there will not be many significant changes to road infrastructure, with the exception of the Gardiner Expressway EA, there will be improvements to transit, cycling and pedestrian elements, and buried municipal infrastructure will be gradually upgraded as surrounding development happens. These changing neighbourhoods are relevant to the Lower Don Lands infrastructure planning process as they influence the type, location and size of connections to infrastructure at the edges of the study area. Seamless connectivity and compatibility with surrounding infrastructure is critical.

Of particular relevance is the relationship of the LDL EAMP (Infrastructure Master Plan) to the DMNP EA. This 2014 LDL EAMP Addendum and ESR, which updates the 2010 LDL EAMP, is closely integrated with the 2014 DMNP EA. The 2014 DMNP EA is being carried out as a separate study but is closely linked to this undertaking, as described below in Figure 4-2.

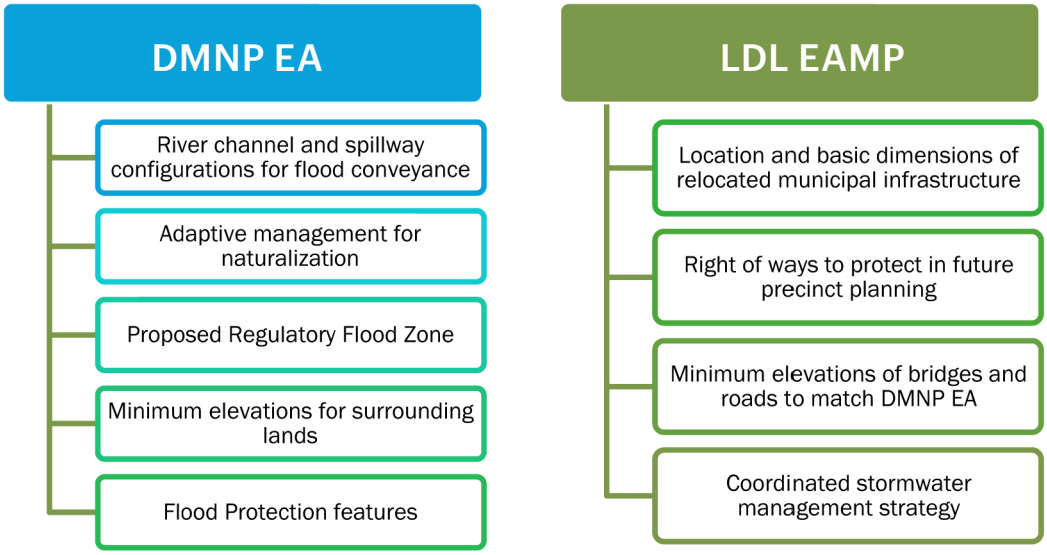


FIGURE 4-2: *Relationship of this project to the Don Mouth Naturalization and Port Lands Flood Protection Project EA (2014 DMNP EA)*

4.1 PLANNING HORIZON

The planned infrastructure improvements are intended to accommodate transportation and municipal servicing demands through to 2031.

This 2014 LDL EAMP Addendum and ESR addresses the alignment of municipal services rather than size, similar to the 2010 LDL EAMP. The size of water mains and storm and sanitary sewers will be determined at the Precinct Planning design stage and are subject to refinement once such plans are completed. The size of such infrastructure will not change the preferred alignment and would not require an amendment 2010 LDL EAMP as per Chapter 11. The precincts and their various components (e.g., individual streets, transit lines, water mains, open spaces, neighbourhood blocks, etc.) will be implemented within this planning horizon. The size of water mains and sewers will be reconfirmed in accordance with City standards and procedures that are appropriate at a master planning level.

4.2 THE PROBLEM/OPPORTUNITY STATEMENT

The 2010 LDL EAMP Problem/Opportunity Statement was premised on the opportunity to transform the Lower Don Lands study area into an attractive and sustainable community that fosters economic growth. Issues and opportunities were examined in detail based on the planning and policy context and existing and future natural and social environmental conditions.

Consideration of the 2014 DMNP EA and the CWSP, and the opportunities stemming from these

were defined within the 2010 LDL EAMP. The 2010 LDL EAMP assumed that the recommendations of the 2014 DMNP EA at the time would be approved by the MOECC. An amended 2014 DMNP EA was submitted to the Province for review and approval. This 2014 LDL EAMP Addendum and ESR is based on the premise that the preferred alternative from the 2014 DMNP EA, as shown in Figure 1-2, receives the necessary approvals.

The Problem/Opportunity Statement in the 2010 LDL EAMP was also refined through consideration of the policy documents, studies and developments being undertaken in the surrounding neighbourhoods and communities, including:

- West Don Lands Class Environmental Studies Assessment Master Plan;
- West Don Lands Transit Class Environmental Assessment;
- East Bayfront Transit Class Environmental Assessment;
- East Bayfront Class Environmental Assessment Master Plan (2006);
- Queens Quay Class Environmental Assessment; and
- TTC-TWRC Waterfront East Enhanced Network.

These considerations remain applicable to this 2014 LDL EAMP Addendum and ESR.

The Problem/Opportunity Statement developed for the 2010 LDL EAMP remains an accurate reflection for this 2014 LDL EAMP Addendum and ESR.

The 2010 LDL EAMP Problem/Opportunity Statement highlights existing problems with roads and infrastructure in the study area, including unfavourable location, inability to provide the required Regulatory Flood conveyance capacity to accommodate a re-aligned Don River mouth, unsafe intersections, old infrastructure in poor condition, lack of connectivity with surrounding neighbourhoods, lack of transit routes serving the site resulting in high rates of automobile use, and inadequate bridge capacity to support new development. The Munitions crossing across the Keating Channel was approved in the 2010 LDL EAMP.

The Problem/Opportunity Statement is as follows:

"Waterfront Toronto, the City of Toronto and the Toronto Transit Commission are developing a plan to revitalize the lands at the northeastern portion of the Toronto Inner Harbour (Keating North and the Northwest Port Lands) to create a vibrant, mixed use, sustainable community that embraces and respects a newly naturalized and flood-protected mouth of the Don River. The new river channel will act as a critical piece of hydrological and ecological infrastructure offering a beautiful and functional natural feature around which diverse new communities are positioned.

The existing infrastructure (water, wastewater, stormwater, roads and transit service) is neither sufficient, nor is it configured appropriately to support the revitalization of the area and the relocation of the mouth of the Don. There is no higher-order transit service to the area, and the area is poorly connected to surrounding existing and planned neighbourhoods.

The Lower Don Lands is a keystone site between the Don River and the Inner Harbour, and between the downtown and future Port Lands development, at the crossroads of numerous transit, cycling and pedestrian routes. There is a significant opportunity with the implementation of the Don River project to improve existing infrastructure, relocate necessary elements, add transit, pedestrian and cycling facilities to serve local, recreational and commuter needs, improve or add new roads where new connections and access are needed and to provide "green" stormwater facilities, water and sewer service as part of a comprehensive revitalization project that sets new standards for the achievement of sustainable planning and design."

As there has been no change to the Problem/Opportunity Statement developed for the 2010 LDL EAMP, further public consultation on this aspect was not required.

5 EXISTING CONDITIONS

The 2010 LDL EAMP gathered information from secondary sources including similar studies in adjacent neighbourhoods such as the West Don Lands and East Bayfront along with the 2014 DMNP EA. Field visits and consultation with relevant City departments and agencies were also conducted.

A review of any new relevant documentation was carried out and an additional field visit was conducted in spring 2013 to identify any changes to existing conditions since 2010. The following sections reflect recent changes to the natural, social, cultural and economic context of the Lower Don Lands study area and adjacent neighbourhoods.

5.1 NATURAL ENVIRONMENT

5.1.1 Natural Heritage Policies

No changes have been made to the study area's existing natural heritage policies. The existing conditions as outlined in the 2010 LDL EAMP remain applicable and an accurate reflection.

5.1.2 Fisheries and Aquatic Resources

The 2010 LDL EAMP provided a description of the fish habitat and fish community in both the Lower Don River and the Keating Channel. Recent changes to the TRCA's available information (as cited in the 2010 DMNP EA– as amended April 2011) regarding existing fisheries and aquatic resources in these two areas are described below.

5.1.2.1 Lower Don

Fish Habitat

No significant changes to existing fish habitat have been observed.

Fish Community

Comprehensive fish sampling (electrofishing along three transects) conducted by TRCA from 1989 to 2012 revealed a total of 38 fish species inhabiting the Lower Don River and the Keating Channel between May and November (TRCA, 2013). All of the fish captured were typically warmwater and coolwater species; however, Atlantic Salmon (Salmo salar), Chinook Salmon (Oncorhynchus tshawytscha), Rainbow Trout (Oncorhynchus mykiss), and Sea Lamprey (Petromyzon marinus), which are typically coldwater species, were also captured (refer to Table 3-12 within the 2014 DMNP EA).

The species assemblage and richness captured in the Lower Don River in a given year was significantly lower than other Lake Ontario north shore rivers which typically contain between 25 and 27 species (TRCA 2004). The most common species captured during TRCA sampling of every year were White Sucker (Catostomus commersoni), Emerald Shiner (Notropis atherinoides), and Gizzard Shad (Dorosoma cepedianum). These three species accounted for 68% of the fish community in spring, summer and fall in 2012. Other high order piscivorous species such as Northern Pike (Esox lucius) and Walleye (Sander vitreum) were also captured during the survey period, albeit in low numbers, but indicate that trophic interactions between predator and prey within the degraded system may be occurring.

Since 2005, the fish capture program has continued. Key findings of these most recent assessments reveal that walleye may be attempting to spawn in the Project Study Area and that recent habitat improvements within the Lower Don associated with the CN Bridge replacement have attracted and are being utilized by fish.

In 2002, the first Walleye was caught in the Lower Don River/Keating Channel. Between 2002 and 2005 the low number of Walleye captured grew, followed by a general decline in 2006. In 2006 a ripe (pre-spawn) male Walleye was captured, indicating that Walleye may be attempting to spawn in the Lower Don River. Following two seasons (2007 and 2008) without any walleye being recovered a healthy Walleye was caught under the Old Eastern Avenue crossing north of the

existing CN Rail bridge in 2010.

In 2008, TRCA observed a higher fish diversity and abundance adjacent to and within the recently placed boulders than anywhere else within the Lower Don. This habitat structure was constructed as part of the Lower Don River West Remedial Flood Protection Project in 2007. This recent increase in fish diversity and abundance along this reach is a positive indicator that despite water and sediment issues in the Lower Don, the limiting habitat structure plays a key role in affecting the low numbers of fish and species diversity.

In 2009, another fish species worthy of note was captured in the Lower Don. While conducting routine monitoring in the Lower Don River the TRCA captured a Quillback (Carpiodes cyprinus). Although the Quillback is native to Ontario, it is considered uncommon. This is the first record of a Quillback within TRCA's jurisdiction and a new species for the Don River and the Toronto Waterfront. The Quillback is a coolwater species and is considered to have an "intermediate" tolerance.

In 2012, an Atlantic Salmon (Salmo salar) was captured in the Lower Don River. This is the first record of an Atlantic Salmon being caught in the Don River. Atlantic Salmon were historically common in Toronto but due to over fishing and loss of habitat, the Lake Ontario population had disappeared by 1898. This occurrence may be a result of improvements in water quality, habitat or stocking efforts which began in 2006.

Finally, in analyzing the TRCA fish data Dietrich (2006) suggested that observed changes in community structure may signal positive trends occurring in the Lower Don. Based on his analysis, Dietrich cites no significant changes to species richness, no net increase in non-native species, a recent increase in native species biomass and the increased abundance of walleye as all being indicators of positive community health trends.

5.1.2.2 Keating Channel

Fish Habitat

No significant changes to fish habitat or the benthic (river bottom) community have been documented since the 2010 LDL EAMP.

Fish Community

Comprehensive fish sampling conducted by TRCA from 1989 to 2012 revealed a total of 25 fish species inhabiting the Keating Channel between May and November (TRCA, 2013). In any particular year, no greater than 12 species were recovered with an average of only seven per year throughout the course of the sampling period. 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 (Figure 5- 1). The species assemblage and richness captured in the Keating Channel was lower in diversity than the Lower Don River 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 River, 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.

5.1.3 Vegetation and Flora

The 2010 LDL EAMP provided a detailed description of the Vegetation and Flora within the Lower Don Lands study area. No significant changes have been made since then, therefore, the existing conditions as outlined in the 2010 LDL EAMP remain applicable and an accurate reflection.

5.1.4 Wildlife Resources and Linkages

Much of the 2010 LDL EAMP's description of wildlife resources and linkages, derived from the TRCA's 2010 version of the 2014 DMNP EA, remains unchanged. However, under Landscape Connectivity and Linkages, the 2010 LDL EAMP states that:

"Ecological connectivity throughout the study area will be greatly enhanced through the creation of approximately 40 ha or 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."

While the addition of new habitat, including the proposed Greenway, will greatly enhance ecological connectivity throughout the study area, the realigned flood protection plan will create 30 ha of naturalized habitat rather than 40 ha. However, this still represents

Species	1989	1990	1991	1992	1993	1998	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Alewife (*Alosa pseudoharengus*)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
American eel (*Anguilla rostrata*)		X																
Bluntnose minnow (*Pimephales notatus*)														X				
Brown bullhead (*Ameiurus nebulosus*)										X	X							
Chinook salmon (*Onchohynchus tshawytscha*)								X	X	X		X	X	X	X	X	X	X
Common carp (*Cyprinus carpio*)	X	X		X	X	X	X		X	X		X	X	X	X	X	X	X
Common shiner (*Luxilus cornutus*)													X					
Emerald shiner (*Notropis atherinoides*)	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X
Fathead minnow (*Pimephales promelas*)													X					
Freshwater drum (*Aplodinotus grunniens*)										X								
Gizzard shad (*Dorosoma cepedianum*)	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X
Johnny darter (*Etheostoma nigrum*)									X									
Longnose dace (*Rhinichthys cataractae*)																		X
Longnose gar (*Lepisosteus osseus*)							X											X
Northern pike (*Esox lucius*)	X								X	X	X	X	X	X			X	X
Pumpkinseed (*Lepomis gibbosus*)																		X
Rainbow smelt (*Osmerus mordax*)	X	X						X	X		X	X						
Rainbow trout (*Oncorhynchus mykiss*)												X	X		X		X	X
Sea lamprey (*Petromyzon marinus*)																X		
Spottail shiner (*Notropis hudsonius*)		X					X		X	X		X						
Three-spine stickleback (*Gasterosteus aculeatus*)									X			X		X				
Walleye (*Sander vitreus*)										X		X						
White bass (*Morone chrysops*)													X					X
White perch (*Morone americana*)		X			X		X											
White sucker (*Catostomus commersonii*)		X				X										X		X
TOTAL	**6**	**9**	**3**	**4**	**4**	**5**	**6**	**5**	**10**	**10**	**6**	**11**	**10**	**8**	**6**	**7**	**7**	**12**

FIGURE 5-1: *Fish species assemblages in the Keating Channel from 1989 to 2012 (Table 3-14 within 2014 DMNP EA)*

a significant improvement in natural habitat provision. Furthermore, significance rankings have been updatedchanged by the TRCA.

5.1.5 Surface Water

The 2010 LDL EAMP provided a detailed description of the Surface Water existing conditions within the Lower Don Lands Study Area. No significant changes have occurred since then, therefore, the existing conditions as outlined in the 2010 LDL EAMP remain applicable and an accurate reflection.

5.1.6 Flooding

The 2010 LDL EAMP provided a detailed description of the existing conditions related to the potential for flooding and existing water quality within the Lower Don Lands Study Area. This description remains applicable and an accurate reflection for this EA Addendum. The revised 2014 DMNP EA proposes a long term strategy for removing lands from the floodplain and management of flood waters in the regulatory storm event.

5.2 SOCIAL ENVIRONMENT

5.2.1 Land Ownership and Property Leasing

A field visit was conducted in spring 2013, resulting in updated land ownership and property leasing information for the Lower Don Lands study area as well as the surrounding Port Lands and the developing East Bayfront community. An updated land ownership and property leasing map is provided below (Figure 5-2). The Toronto Port Lands Company (TPLC), formerly the Toronto Economic Development Corporation (TEDCO), continues to be the Lower Don Lands' largest property owner. The TPLC's role is to manage and lease properties in the Port Lands until lands redevelop in accordance with the CWSP. It is currently leasing a number of properties in the Lower Don Lands. As indicated in the 2010 LDL EAMP, private property ownership in the study area is generally located on the western and northern portions of the site.

5.2.2 Current Land Uses and Planning Context

Current land uses across the Lower Don Lands study area, surrounding Port Lands, and East Bayfront community were determined through a 2013 field visit. An updated land use map is provided (Figure 5-3).

Some of the Lower Don Lands properties are currently vacant or underutilized. Active land uses are primarily employment / industrial, commercial and recreational. Large surface parking lots exist throughout the site.

The lands west of Cherry Street are occupied by a variety of retail and wholesale industries; including LaFarge Canada Incorporated, Green for Life waste management, T&T Supermarket, Bell Canada Technical Solutions. Further, there are a number of telecommunication, finance and internet / film production technology services. Finally, Polson Pier entertainment complex includes a concert venue (Sound Academy), driving range, and drive-in movie theatre.

North of Commissioners Street and east of Cherry Street, lands are occupied by the Keating Channel Pub & Grill and the Cherry Street Restaurant, the Metropolitan Toronto Police, Quantex Technologies, Toronto Hydro Corporation, a number of film and recording studios, storage facilities, and other industries. Several vacant parcels are located toward the eastern edge of this portion of the study area. Toward the west, a development application has been submitted for multiple mixed-use buildings at 309 Cherry Street, on the northern portion of the site.

The lands South of Commissioners Street and east of Cherry Street are primarily vacant. Occupants include Toronto Fire Fighters, soil management and remediation facilities, rubber industries, and film studios and related uses.

The entire study area continues to be identified for redevelopment.

5.2.2.1 City of Toronto Official Plan

The 2010 LDL EAMP included an overview of the City of Toronto's Official Plan policies addressing waterfront development. As required by the Planning Act, the Official Plan is undergoing its statutory 5 Year Review and will be updated as appropriate.

Current Official Plan policies addressing waterfront development include the following:

Increased public enjoyment and use of lands along the water's edge will be promoted by ensuring that future development and actions on the part of both the public and private sectors, including the Toronto Port Authority, the Toronto Waterfront Revitalization Corporation and the Toronto and Region Conservation Authority, will help to achieve the following objectives:

a) Minimize physical and visual barriers between the City and Lake Ontario;
b) Increase and improve public access to lands along the water's edge and between parts of the waterfront;
c) Improve water quality and the quality of beaches;
d) Improve the public realm with more parks, public squares and natural settings that please the eye and lift the spirit and support a sense of belonging to the community;
e) Increase the availability, choice and awareness of recreational opportunities and public activities throughout the year; and
f) Protect, improve and where possible extend the Martin Goodman/Waterfront Trail as a continuous waterfront route for cyclists, pedestrians and people with disabilities.

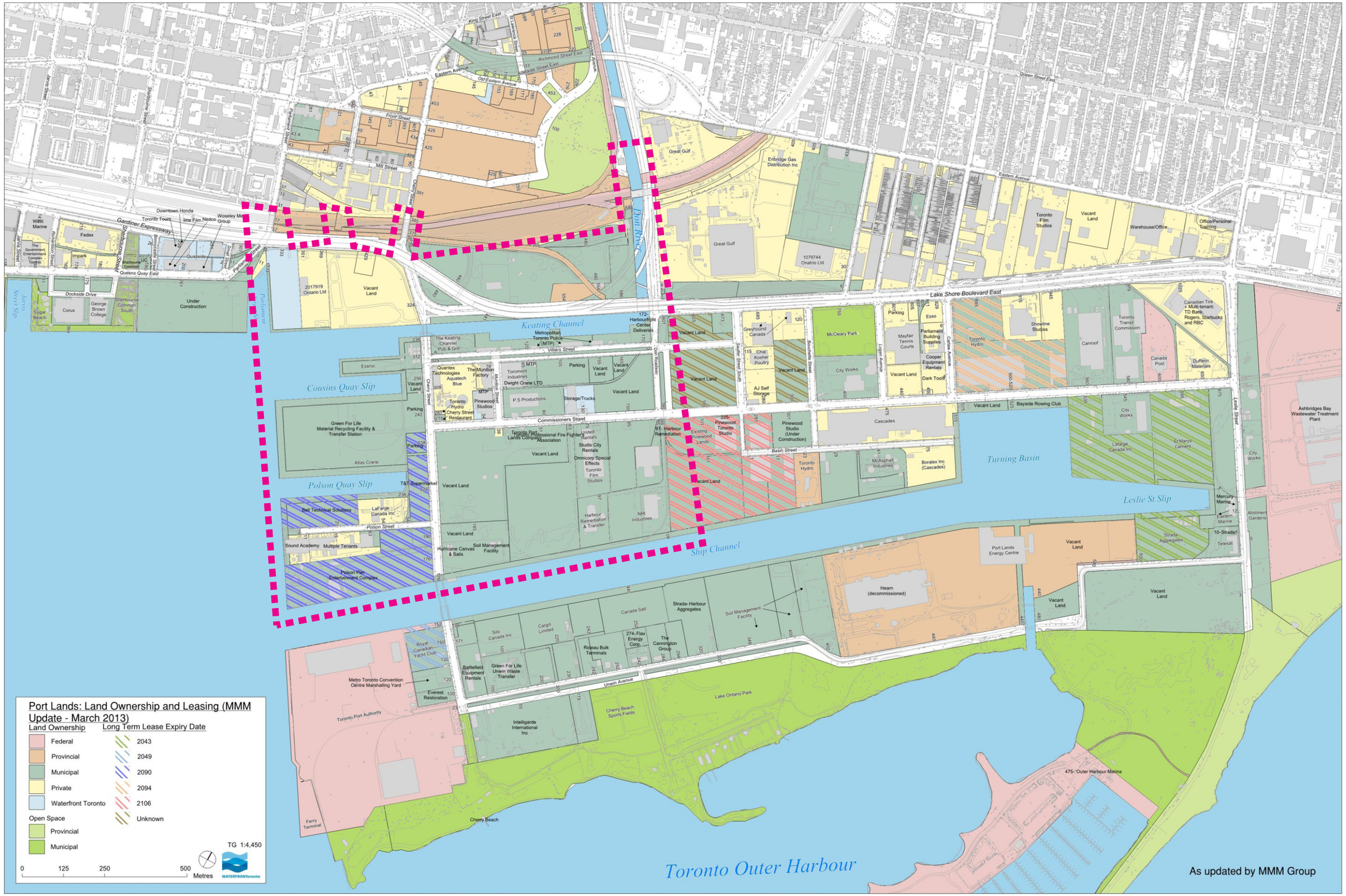


FIGURE 5.2: *Land Ownership and Property Leasing (2013)*

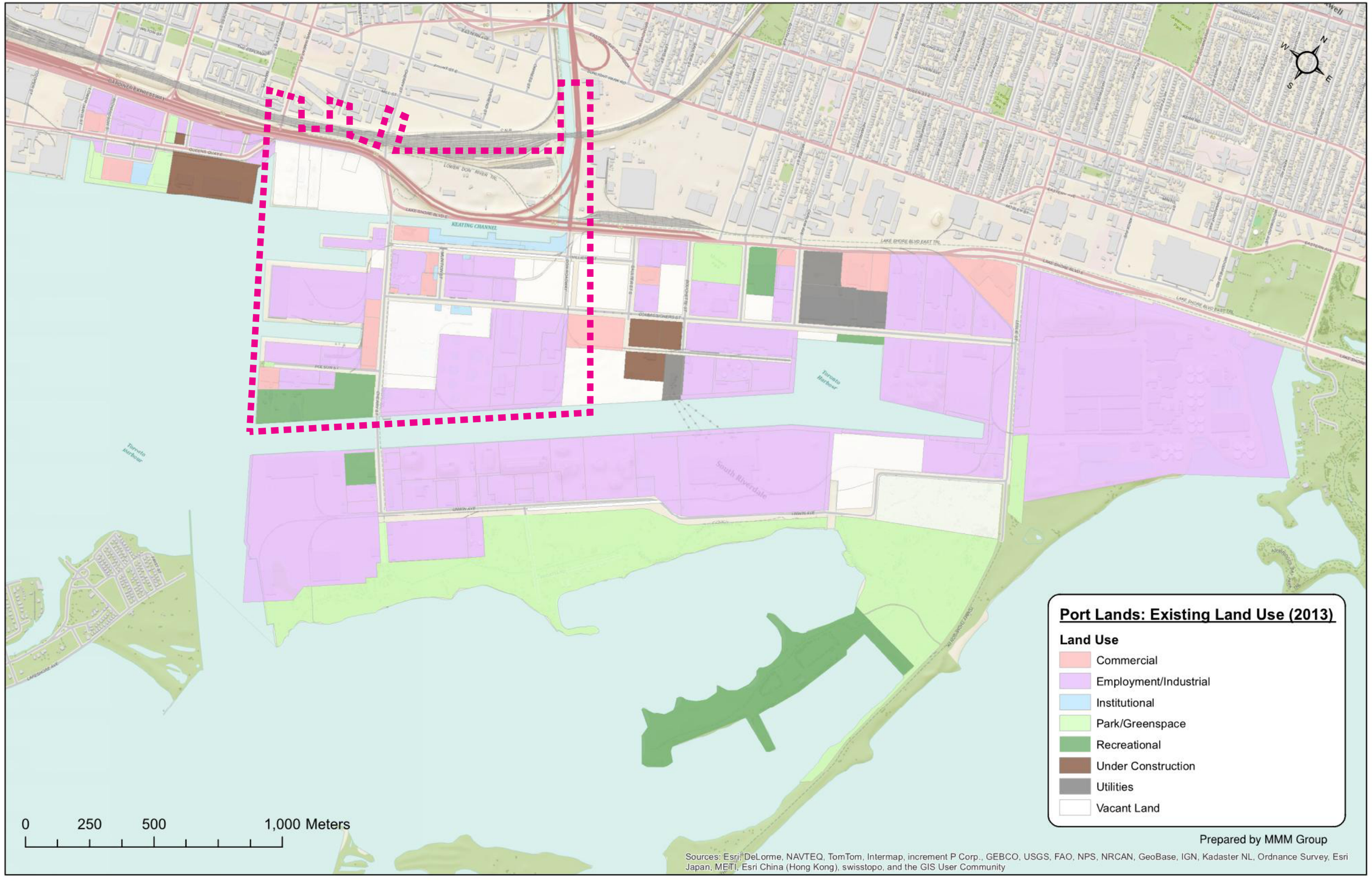


FIGURE 5.3: *Existing Land Use (2013)*

Private development and public works on lands along the water's edge or in its vicinity will:

a) Improve public spaces in the waterfront; and
b) Maintain and increase opportunities for public views of the water, and supports a sense of belonging to the community.

The physical and visual continuity of the waterfront corridor will be maintained and enhanced.

The sale or disposal of publicly owned lands on the water's edge will be discouraged.

5.2.2.2 Central Waterfront Secondary Plan (2003)

The CWSP was adopted by the City of Toronto in 2003. The 2010 LDL EAMP also identifies that Precinct Implementation Strategies (aka precinct planning) for key revitalization areas are required to be undertaken to implement the policies of the CWSP. Precinct planning is more detailed planning that defines the local street and block structure, the location of schools, neighbourhood parks, the amount and location of residential development and mix of residential and non-residential development, among others. The Secondary Plan was appealed to the Ontario Municipal Board and is not currently in force for the majority of the Central Waterfront area.

On August 17, 2010, an amendment to the former City of Toronto Official Plan and CWSP (OPA 388) to address changes in the Lower Don Lands area was approved by Council (Figure 5-4). This amendment addresses the need for realignment of the mouth of the Don River and associated parks, open spaces, infrastructure, and developable land (Figure 5-5). This amendment is under appeal to the Ontario Municipal Board, and as such, it is not yet in force and effect.

5.2.2.3 Special Policy Area

The 2010 LDL EAMP explains that portions of the Lower Don Lands study area are located within a provincially approved Special Policy Area (SPA) in the former City of Toronto Official Plan. The SPA allows for a reduction in floodplain standards due to the social and economic viability of the area, permitting limited development and alteration to occur. SPAs have been applied to flood-susceptible historic communities such as downtown areas in the past.

In addition to the SPA approach, flooding hazards may be managed through the use of a One Zone Concept or Two Zone Concept. The One Zone Concept manages flood risk through the planning process, generally requiring that no new development be permitted within the floodplain. This is the primary provincial approach to flood risk management. The Two Zone Concept identifies the "floodway" where site alteration would threaten public health and safety, and the "flood fringe" where development may be permitted subject to established standards and procedures.

As noted in the previous section, the City of Toronto, in cooperation with Waterfront Toronto and with support from the Ministry of Municipal Affairs and Housing and the Ministry of Natural Resources, adopted OPA 388 to address changes associated with the proposed realigned Don River mouth through the Lower Don Lands. OPA 388 removed the SPA from a portion of the Lower Don Lands and replaced it with a Two Zone Concept for floodplain management. The amendment also designated certain lands within the new valley system as Parks and Open Space Areas where development is not permitted. The purpose of the OPA was to facilitate future Don River mouth naturalization works as well as realize redevelopment in accordance with the CWSP's vision for the area.

As noted above, OPA 388 was appealed to the Ontario Municipal Board, and as such, it is not yet in force and effect. The PLAI and work completed in 2013 on the 2014 DMNP EA and this 2014 LDL EAMP Addendum and ESR will result in the need for further amendments to the CWSP.

5.2.2.4 Precinct Plans

Precinct planning is being carried out for the communities of the East Bayfront, West Don Lands and in portions of the Lower Don Lands. Precinct Plans provide urban design, planning and development guidance for the revitalization of individual precincts in the Toronto waterfront consistent with the direction of the CWSP.

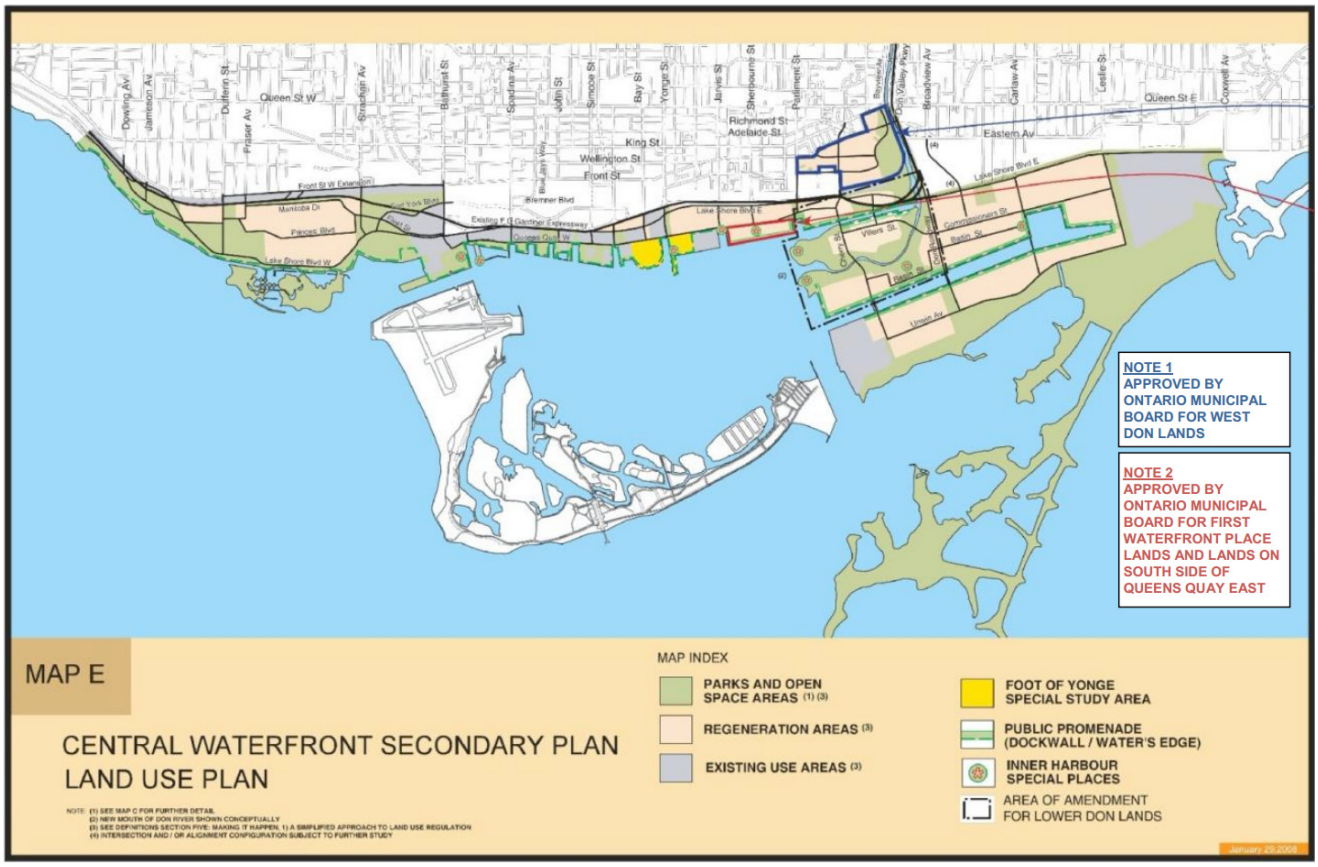
The Keating Channel Precinct Plan falls partially within the Lower Don Lands study area and was the first Precinct Plan to be developed in the Lower Don Lands. The Precinct Plan was completed in May 2010 and is discussed further in Section 5.2.3. The City of Toronto and Waterfront Toronto are embarking on Precinct Plans for the Film Studio Precinct and Villiers Island (formerly Cousin's Quay).

Further precinct plans (one or more) will be prepared for the balance of the lands in the study area as lands become feasible for redevelopment.

5.2.2.5 City of Toronto Zoning Requirements

Currently, the Lower Don Lands are primarily zoned industrial. As stated in the 2010 LDL EAMP, the intent of Precinct Plans is to establish principles and guidelines to allow the City to move from Official Plan policies to Zoning By-law provisions. Zoning By-law amendments are typically brought forward as part of precinct planning efforts. The CWSP states that rezonings will generally only be considered once precinct planning has been completed.

5.2.3 Existing and Future Neighbourhoods



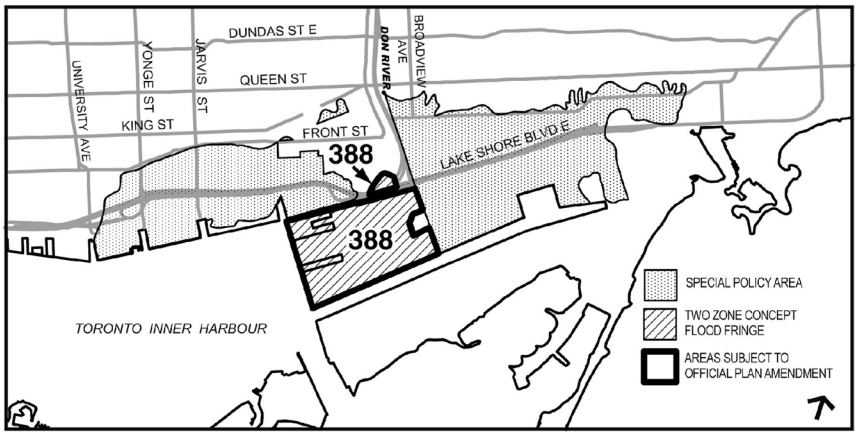


FIGURE 5-4 (BOTTOM): *Area Impacted by OPA 388 ("Flood Fringe" under the Two Zone Concept for Flood Risk Management)*

FIGURE 5-5 (TOP): *Central Waterfront Secondary Plan - Land Use Plan*

Existing and future neighbourhoods that surround the Lower Don Lands study area are illustrated and described in the 2010 LDL EAMP. Since that time, there has been considerable progress in the development of these plans as outlined below.

East Bayfront Precinct Plan

The East Bayfront Precinct extends from Jarvis Street in the west to Parliament Street in the east. The East Bayfront Precinct Plan was completed in 2005, and its associated Zoning By-law amendment was adopted by the City of Toronto on September 27, 2006.

Development of the East Bayfront precinct began in fall 2007 at the foot of Jarvis Street. Phase One of the East Bayfront is now complete and includes two public parks: Sugar Beach and Sherbourne Common; Corus Quay, the new corporate headquarters of Corus Entertainment; and the new George Brown College Waterfront Campus.

East Bayfront is slated for full build-out over the next 10 to 15 years. The 23-hectare, complete community will include:

- 6,000 residential units;
- Up to 3,000,000 square feet of non-residential space including commercial retail, community and institutional; and
- 5.5 hectares of parks and public spaces including 1.5 hectares of continuous water's edge promenade.

West Don Lands Precinct

The West Don Lands precinct is located southeast of Downtown Toronto and north of the Lower Don Lands study area. The West Don Lands Precinct Plan was approved by the City in May 2005 and work began in May 2006.

Municipal infrastructure including roads and a stormwater treatment facility are under construction. The community's parks are well underway, the largest of these is the 7.3-hectare Corktown Common, which sits atop of a flood protection landform (FPL) that prevents flooding from the Don River into the downtown area of Toronto also opened in 2013 with completion expected in 2014.

FIGURE 5-6: *Rendering of the Completed East Bayfront Community*

The West Don Lands has been selected as the site for the 2015 Pan/Parapan Am Games Athletes' Village. It will include a YMCA recreational facility, George Brown College's first student residence, two affordable housing residential buildings and two market residential development sites. The Athletes' Village will be completed in early 2015, well in advance of welcoming over 10,000 athletes, coaches and team officials in July 2015.

Following the Games, the benefits of the Athletes' Village will bring many positive impacts to the community, including:

- More than 300 families will have access to affordable rental and ownership (ARH) with a move in date set for spring 2016 (in addition to the 243 units of ARH in Phase 1 of WDL).
- The new George Brown College residence will provide housing for 500 students.
- The former industrial lands will be transformed into a sustainable mixed-use neighbourhood.

The new community will be accessible and LEED Gold certified.

The completed 32-hectare West Don Lands community will include a total of 6,000 new residential units and 9.3 hectares of parks and public space.

Keating Channel Precinct Plan

The Keating Channel neighbourhood is located in the northern portion of the study area and north of the Keating Channel. As noted previously, the Keating Channel Precinct Plan was completed in 2010. The portion west of Cherry Street was approved by City Council. A Zoning By-law Amendment for these lands was also adopted by City Council but has been under appeal since 2011. No rezonings have been brought forward for the lands east of Cherry Street. This is on hold pending completion of the current EA process for the Gardiner Expressway.

The Precinct Plan consists of 25 blocks featuring a variety of built forms, a series of parks and

FIGURE 5-7: *Rendering of the Completed West Don Lands Community*

FIGURE 5-8: *Keating Channel Precinct Aerial View Looking East*

promenades, and a total of approximately 4,000 new residential units. The community is to be anchored by the man-made Keating Channel traversed by a series of new bridges. Transportation infrastructure within the Lower Don Lands study areas must be integrated with the Keating Channel Precinct's roads, bridges, pathway and transit routes.

5.2.4 Residential Areas

There continue to be no existing residential areas within or adjacent to the Lower Don Lands study area. However, following the 2010 LDL EAMP, construction activities have commenced in the East Bayfront and West Don Lands communities as noted above, which are expected to be complete mixed-use neighbourhoods prior to implementation of the 2014 LDL EAMP Addendum and ESR.

5.2.5 Tourism/Recreation/Parks

Table 5-6 within the 2010 LDL EAMP provides a description of existing and proposed recreational uses within and adjacent to the LDL study area. Updates to Table 5-6 are provided at the end of this chapter in Table 5-1.

5.2.6 Marine Uses

No significant changes to marine uses in proximity to the Lower Don Lands study area have occurred since the 2010 LDL EAMP.

5.2.7 Noise and Vibration

No significant changes to noise and vibration in the vicinity of the Lower Don Lands study area have occurred since the 2010 LDL EAMP.

5.2.8 Air Quality

No significant changes to existing air quality conditions in the vicinity of the Lower Don Lands study area have occurred in recent years.

The 2010 LDL EAMP described the City of Toronto's Ashbridges Bay Odour Control efforts. This initiative has progressed over recent years. Construction began in 2009 with improvements to ventilation and odour control systems at several pumping stations, improvements to preliminary treatment and grit/screenings handling processes, and the installation of a new biofilter with a dedicated stack. The next stage in the process involves improvements to the collection and dispersion system of the odourous air emissions from the aeration tanks. The implementation schedule remains unchanged, with completion expected in 2019.

5.3 CULTURAL HERITAGE ENVIRONMENT

A complete description of the Cultural Heritage Environment is included as Section 5.3 of the 2010 LDL EAMP. No changes to the cultural heritage environment of the Lower Don Lands study area have occurred following the 2010 LDL EAMP and no update is required. Cultural Heritage to be further reviewed during the preparation of the Precinct Planning.

5.4 SOCIO-ECONOMIC ENVIRONMENT

5.4.1 Commercial/Industrial/ Retail Land Uses

A 2013 field visit revealed that the majority of the business activity in the Lower Don Lands study area remains industrial in nature, with some commercial uses. A number of recreational, entertainment, food, transportation, telecommunications, financial and internet technology services are also located in this area.

Industrial businesses within the study area include Lafarge Canada Incorporated, Essroc Italcementi Group, Green for Life Environmental Corporation, Aqua Tech Blue Ltd., Quantex Technologies, Toromont Industries, Harbour Remediation and Transfer Inc., and N.R. Industries. Polson Pier Entertainment is the primary recreational and entertainment business is the area; the entertainment complex within the southwest portion of the Lower Don Lands includes the Sound Academy venue, a driving range, a drive-in movie theatre, and go-karts. Polson Street also houses a variety of telecommunications, finance, technology and other services including Bell Technical Solutions, Dazmo Digital, Club Finance Corporation, Brink Studio, RZA Architects, Live Wire Remote Recordings, Super Rocket Inc., and Wahooz Stills & Motion Picture. Food service businesses in the Lower Don Lands study area include the Keating Channel Pub & Grill, Cherry Street Restaurant, and T&T Supermarket.

As development progresses, existing heavy industries and businesses will be replaced with light industry, commercial, residential and institutional uses, as detailed in Waterfront Toronto's Port Land Business and Implementation Strategy (2009).

Land within the study area is primarily owned by the City of Toronto and the Toronto Port Lands Company, with some smaller provincial government holdings. Some private land holdings are located along Cherry Street, Commissioners Street, and Polson Street.

A rezoning application was submitted to the City for the property at 309 Cherry Street, south of Villiers Street, to permit a 26-storey mixed use building with 340 residential dwelling units, retail, and office uses. This application applies to the northern portion of the property and would serve as Phase 1 of a larger development concept. The application was submitted on March 5, 2012 and is on hold at the request of the owner.

5.4.2 Population, Demographics, and Employment

This 2014 LDL EAMP Addendum and ESR utilizes the population and employment projections from the 2010 LDL EAMP as the basis for amending the Master Plan and completing Phases 3 and 4 of the Class EA process for applicable projects.

Although the PLAI contemplates increased population and employment in certain precincts in the study area, population and employment projections will be confirmed through Precinct Planning. If the projections necessitate a change to the infrastructure in this plan, the City and Waterfront Toronto will follow the process in Chapter 11 to assess whether it is a significant change and whether a further addendum would be required.

5.5 SOILS

5.5.1 Soils and Geology

No significant changes to the soil conditions or geology of the study area have occurred following the 2010 LDL EAMP.

5.5.2 Hydrogeology

No significant changes to the study area's existing hydrogeological conditions have occurred following the 2010 LDL EAMP.

TABLE 5-1: RECREATIONAL USES WITHIN AND ADJACENT TO THE AREA: 2013 UPDATE

Recreational Area	Description
Don River Bikeway	No significant changes to the Don River Bikeway have been made. The Bala Underpass, under GO Transit's Bala Subdivision, now connects to Corktown Common in the West Don Lands.
Martin Goodman Trail	Improvements are being made to Martin Goodman Trail across the waterfront. A new 1.3 km stretch of the Martin Goodman Trail opened in 2009 through Ontario Place from Marilyn Bell Park to Lake Shore Boulevard, linking the 56 km trail. A 480 metre stretch on the south side of Queens Quay between Yonge Street and Lower Jarvis Street was opened in 2013.
Corktown Common	Construction of the 7.3-hectare Corktown Common, on the west side of the Don River within the West Don Lands community, began in September 2010. The park opened in 2013 with ribbon cutting event on July 10, 2014. The re-naturalized public park will be integrated into the area's (FPL) and will provide a variety of programming and a multi-functional Pavilion. The park will provide meandering trails, multi-use paths, a boardwalk, and flexible spaces for a range of recreational uses. An urban prairie will be created on the landform's eastern slope according to FPL restrictions to active recreation and woody vegetation on this slope. A wet meadow is included as a part of the park-wide ecological stormwater recycling system.
Sherbourne Common	Sherbourne Common, previously referred to as "Sherbourne Park" in the 2010 LDL EAMP, is a 1.5-hectare urban waterfront park within the in-progress East Bayfront community. It spans approximately two city blocks from Lake Ontario to Lake Shore Boulevard, and includes open greenspace, a winter skating rink / summer splash pad, a Pavilion, and water channel. The southern portion of Sherbourne Common opened in September 2010, and the northern portion opened in July 2011. Sherbourne Common is the first Canadian park to use an ultraviolet facility for neighbourhood-wide stormwater treatment. It also includes bicycle storage, water efficient landscaping, and light pollution-reducing features.
Lake Ontario Park (Proposed)	The proposed Lake Ontario Park (LOP) is a 375-hectare waterfront park that would encompass 37 km of shoreline along the Outer Harbour from Cherry Beach to Ashbridges Bay. The Master Plan was completed in 2008 and has not yet approved by Council. The park is identified by Waterfront Toronto as a "future project". Waterfront Toronto is currently reviewing a matrix of LOP quick start options.
Cherry Beach (within the LOP master plan boundary)	Landscape improvements to Cherry Beach completed in 2004. The first phase of the improvements included landscaping and the construction of a trail, overall clean-up, installation of restroom facilities, rebuilt change houses, and transit access via the new seasonal bus route 72B Pape. The second phase included restoration of the life guard station and improved landscaping and lighting for the western and eastern parking lots. Cherry Beach is planned to become the western arm of the proposed Lake Ontario Park.
Tommy Thompson Park (within the LOP master plan boundary)	Improvements to Tommy Thompson Park, located on the 500-hectare Leslie Street Spit extending 5 km into Lake Ontario from the Port Lands, were completed in spring 2013. The park includes some of the largest existing natural habitat in Toronto's waterfront. Improvements included three small shelters designed to minimize environmental impacts, new trails, and aquatic, wetland and terrestrial habitat enhancements.
Water's Edge Promenade	The first phase of the nearly 3 km Water's Edge Promenade, along York Quay, was completed in 2006. The next phase, a section at the Portland Slip, is underway and nearing completion. The water's edge promenade with provide continuous access to the lake, from Ireland Park to Parliament Slip and over the Keating pedestrian bridge to Promontory Park.

6 LOWER DON LANDS TRANSPORTATION

Transportation planning alternatives for the Lower Don Lands have been reassessed to ensure coordination with the PLAI and amendments to 2014 DMNP EA. This section presents this reassessment.

6.1 RATIONALE FOR THE TRANSPORTATION ADDENDUM

6.1.1 Overview of the Previous 2010 LDL EAMP Approvals for Transportation Infrastructure

The May 2010 Lower Don Lands Class EA Master Plan completed Phases 1 and 2 of the Municipal Class EA process for the Lower Don Lands study area. Phases 3 and 4 of the Class EA process were completed for the Keating Channel Precinct. A Notice of Completion for Schedule B and C projects west of, and including Cherry Street, north of the Keating Channel was issued. The remainder of the Keating Channel ESR was put on hold pending completion of the Gardiner Expressway EA.

Table 6-1 of the 2010 LDL EAMP lists each of the alternatives considered in the EA process along with a brief description. Section 6.2.3 listed the eight major evaluation criteria used to assess the alternatives including: Natural Environment, Social Environment, Economic Environment, Cultural Environment, Sustainability, Land Use and Property, Transportation and impact to Municipal Services.

The 2010 LDL EAMP selected a preferred network of transportation planning alternatives, as shown in Figure 6-1.

As a reminder, the Keating Channel (within the boundary of the 2010 LDL EAMP) completed Phases 3 and 4 of the Class EA process for the following applicable projects:

- Cherry Street between Mill Street and Villiers Street;
- Lake Shore Boulevard between Parliament Street and the Don River;
- Queens Quay between Parliament Street and Cherry Street;
- Munition Street between Lake Shore Boulevard and Villiers Street;
- Villiers Street between Cherry Street and the bridge over the Don River; and
- Bridge connections across the Keating Channel.

The alternative designs of the Keating Channel ESR were evaluated based on eight major evaluation criteria and public consultation and the recommended Transportation Master Plan.

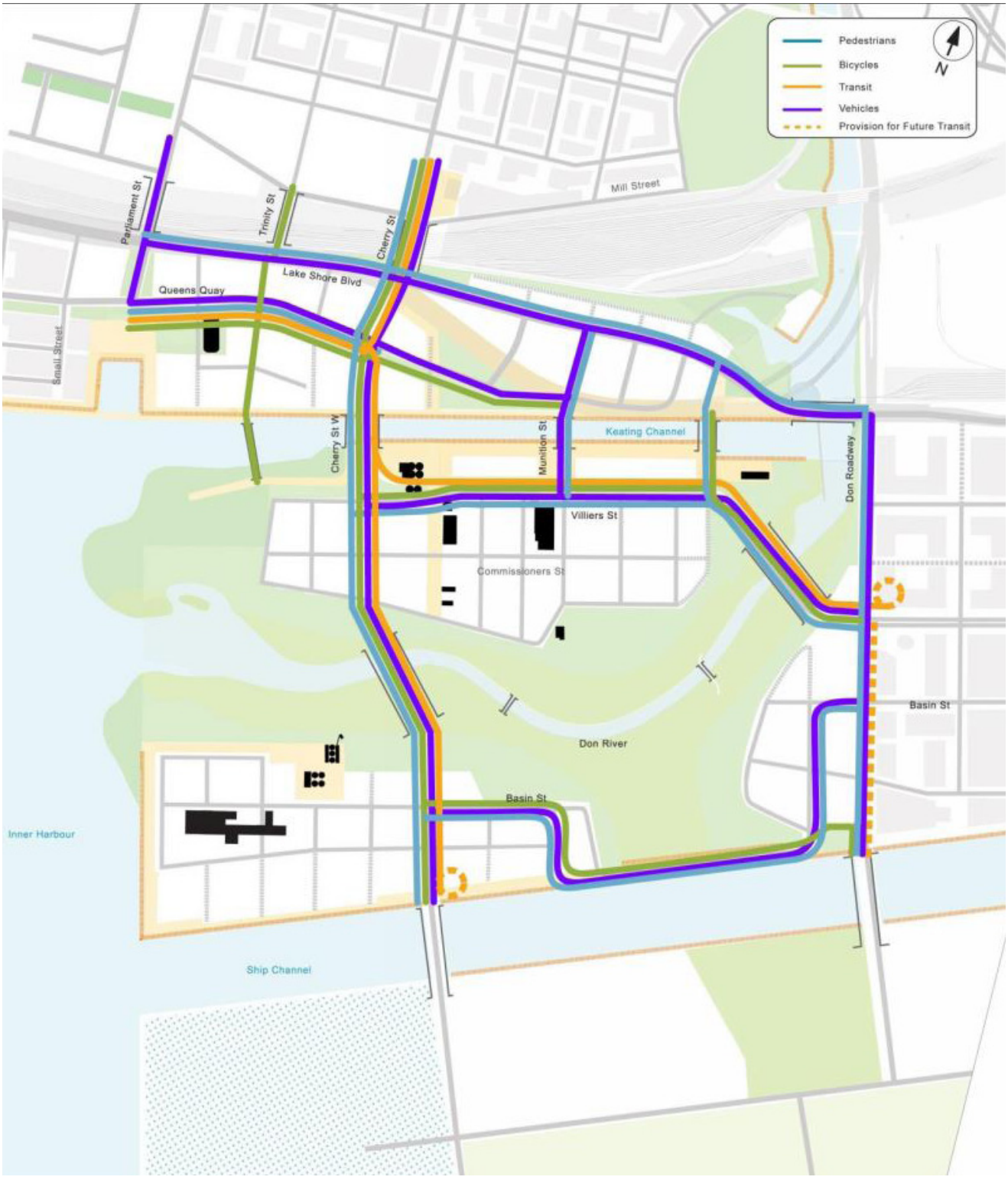


FIGURE 6-1: *Preferred Transportation Planning Network (2010 LDL EAMP)*

6.1.2 Implications of the PLAI

The following Table 6-1 explains the implications of the PLAI on the various transportation infrastructure components.

This 2014 LDL EAMP Addendum and ESR relies on the traffic analysis done for the 2010 LDL EAMP which was based on population and employment distributions found in the LDL Framework Plan, derived from estimates prepared for the CWSP.

During the PLAI process, Waterfront Toronto and the City of Toronto revised the estimated gross floor area calculations for the areas west of Cherry Street. This was done for the purposes of financial modeling during PLAI. Ultimately, any decisions made on future population and employment distribution will be reviewed at the time that Precinct Plans are prepared.

TABLE 6.1: PLAI IMPLICATIONS BY INFRASTRUCTURE SEGMENT

Infrastructure Segment	Implications of PLAI
Lake Shore Boulevard East (from Parliament Street to The Don Roadway)	Unaffected.
Queens Quay (from Parliament Street to Cherry Street)	Unaffected.
Improvements to portals or new portals under the main rail embankment at Cherry Street, Parliament Street and Trinity Street	Unaffected.
Cherry Street from the West Don Lands to the Ship Channel	The 2010 LDL EAMP gained full EA approval of the reconstruction of Cherry Street from the underpass of the main rail line south to Villiers Street in the Port Lands. This portion of the road remains approved under the Municipal Class EA. The PLAI has shifted the outfall location of the new river mouth. This has caused a minor change in the alignment of Cherry Street as it crossed the river. The road remains generally in the same location and has the same components. The minor change in the alignment of the road as outlined in the 2014 LDL EA Addendum and ESR, and the road cross section that is used to the north needs to be reviewed in the area from Villiers Street to the Ship Channel.
Commissioners Street and Villiers Street (from Cherry Street to The Don Roadway)	Commissioners Street becomes the new main east-west street in the Port Lands, and Villiers Street no longer connects directly south-east to Commissioners Street. This changes the planned character of both Villiers Street and Commissioners Street, along with the transit service and bridges that cross the future river/spillway. This is discussed in further detail in this 2014 LDL EA Addendum and ESR The previous 2010 LDL EAMP addressed the alignment of these facilities and this 2014 LDL EA Addendum and ESR revisits that analysis. This 2014 LDL EA Addendum and ESR also completes the Municipal Class EA requirements for this facility in terms of alternative designs.
Keating Channel Crossings	The PLAI shows fewer crossings being constructed and one vehicular crossing (at Munition Street) is only intended to be constructed as a multi-use pathway crossing. The approvals under the previous 2010 LDL EAMP remain in place, and they would allow construction of these facilities should the City choose to do so at some future date The proposed Phasing Strategy outlined in the Amended 2014 DMNP EA, indicates that the removal of the existing Cherry Street Bridge at the Keating Channel is a critical element of the Phase 1 activities.
Munition Street (north of Villiers Street on a new crossing to connect with Lake Shore Boulevard East)	The PLAI defers this facility. The approvals under the previous 2010 LDL EAMP remain in place, and they would allow construction of these facilities should the City choose to do so at some future date (when required from a capacity perspective. Completion of Phases 3 and 4 would also be required. Precinct planning and redevelopment should be protecting for this connection.

TABLE 6.1: CONT.

Infrastructure Segment	Implications of PLAI
Don Roadway (from Lake Shore Boulevard East to the Ship Channel)	This facility is unchanged under the PLAI, although further modifications to the grading are arising from the completion of the 2014 DMNP EA. The previous 2010 LDL EAMP addressed the alignment of this facility. As this facility is being reconstructed for the same purpose and capacity, albeit at a different grade and with enhanced streetscaping, no further EA approval is required. For information purposes, this addendum includes information on the new road profile and cross section to assist in coordination with the 2014 DMNP EA. The 2010 LDL EAMP includes Commissioners Street and Basin Street connections to The Don Roadway which includes the Right-of-Way corridors and elevation of Top of Road.
Parliament Street	Unaffected by PLAI. The new road segment remains approved under the Municipal Class EA.
Basin Street (from Cherry Street to The Don Roadway)	Basin Street remains a key secondary east-west street in the Port Lands. As a result of the reconfiguration of the development areas under the PLAI the alignment needs to be revisited. The previous 2010 LDL EAMP addressed the alignment of these facilities and this Addendum revisits that analysis. This Addendum also completes the Municipal Class EA requirements for this facility in terms of alternative designs, focusing on the key alternatives of how the road crosses the spillway (Don Greenway) that would have meaningful environmental considerations.
Trinity Street	Unaffected by PLAI. The new road segment remains approved under the Municipal Class EA.
Future transit service options into the Lower Don Lands connected to the proposed systems in East Bayfront and West Don Lands	The transit service along Cherry Street proposed in the 2010 LDL EAMP requires a minor alignment adjustment to reflect the different condition of the river as it connects to the Inner Harbour. The PLAI moved the east-west component from Villiers to Commissioners and this requires updating through this Addendum. The previous 2010 LDL EAMP addressed the alignment of these facilities and this Addendum revisits that analysis. This Addendum also completes the Municipal Class EA requirements for this facility in terms of alternative designs as a coordinated analysis with the road facilities for both Cherry Street and Commissioners Street.

6.1.3 Review of the Cherry Street Alternative Solutions (Phase 2 of the Municipal Class EA)

The 2010 LDL EAMP showed an alignment for Cherry Street as it crossed the new Don River. As a result of the changes in the river alignment from the PLAI, the inflection of the road is varied very slightly to cross the river.

The different alignment would have no meaningfully different implications in terms of the consideration of the three different alternatives described in Table 6-1 of the 2010 LDL EAMP. If all three alternatives were reconsidered, all three would incorporate this minor alignment change, and the conclusions of the evaluation in Table 6-3 of the 2010 LDL EAMP would remain unchanged since there would be no different implications to the natural, social, economic and cultural environment, sustainability, transportation and municipal services. The changes in the alignment are very minor, and the property implications are confined to lands owned by the City of Toronto and the Toronto Port Lands Company (as were all three of the original alternatives).

The 2010 LDL EAMP recommended a bundled cross section for the road alignment, combining all mobility elements (road, cycling, transit) into a single cross-section with the transit on the east side. This evaluation of alternatives in Table 6-3 remains valid.

6.1.4 Consideration of Alternative Designs for Cherry Street (Phase 3 of the Municipal Class EA)

The 2010 LDL EAMP relied on the evaluation of street alternative cross sections prepared in the West Don Lands Transit EA, as that process did an extensive review and evaluation of alternatives to identify a preferred cross section. The segment of Cherry Street from the West Don Lands to the Villiers Street was approved in 2010 LDL EAMP.

Section 11.1.1 of the 2010 LDL EAMP described the cross section of Cherry Street that would go south to Villiers Street. It would comprise:

- 1.6 metre bicycle lanes
- 3.5 metre vehicular lanes
- 5 metre sidewalks on both sides of the road
- LRT on the east side of the travel lanes of the road

The approved cross-section is shown in Figure 6-2.

There are no significant differences in Cherry Street between Villiers Street and the Ship Channel that would warrant a different configuration of the road and transit cross section. A review of the analysis used for the two approved segments to the north would not conclude any differently in terms of implications to the natural, social, economic and cultural environment, sustainability, transportation, municipal services and property. So the previously approved road cross section alternative remains the preferred road cross section alternative for the segment from Villiers Street to the Ship Channel. Figure 6-2 illustrates an updated cross section for Cherry Street as a result of PLAI.

The vertical profile of Cherry Street from Villiers Street to the Ship Channel is shown in Figure 6-3.

Figure 6-5 illustrates the minimum design requirements of the new bridge that will cross the river at Cherry Street. The purpose of this illustration is to show the minimum transportation modal elements and the minimum flood elevations that the bridge must conform to. The minimum low chord elevation of the crossing will be 0.5m above the regional flood level. During the detailed design process, Waterfront Toronto and the City of Toronto may elect to develop a more elaborate or aesthetic bridge design without further EA approvals, provided that the minimum design requirements in Figure 6-5 are adhered to.

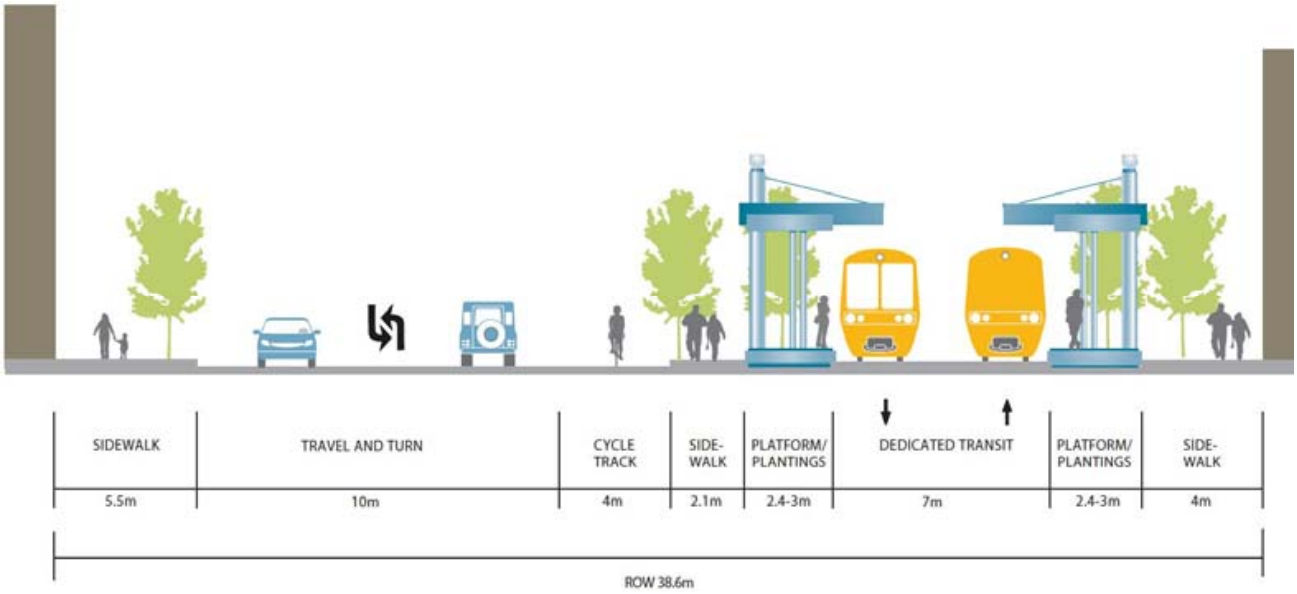


FIGURE 6-2: *Cross-section for Cherry Street between Lake Shore Boulevard and Villiers Street (north of Commissioners Street, facing north) Proposed R.O.W.'s provided by City Planning April 2014*

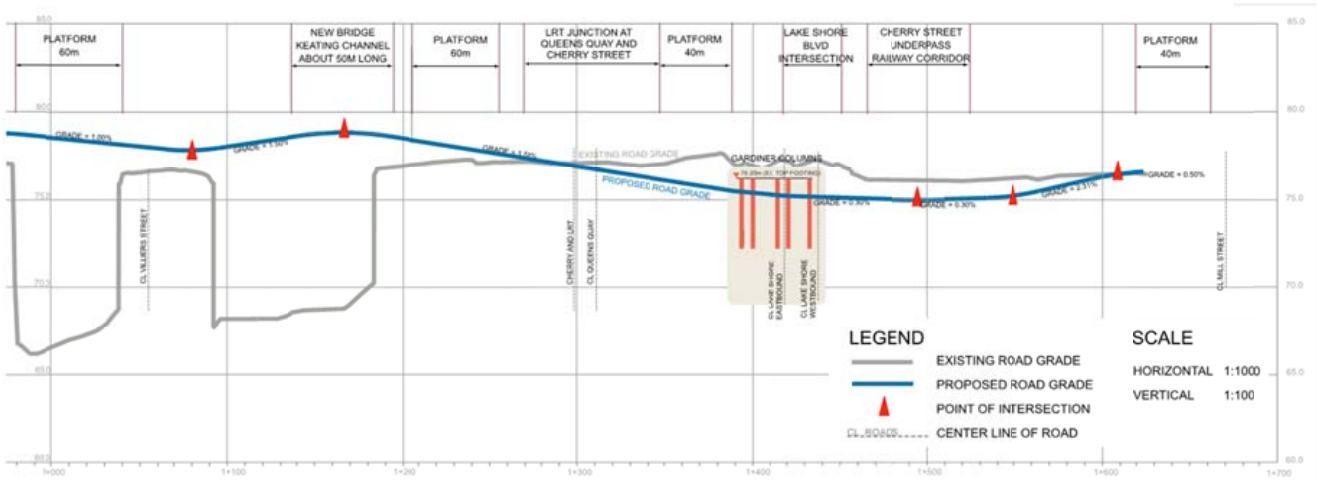


FIGURE 6-3: *Cherry Street Vertical Profile*

The Framework Plan for the Lower Don Lands (May 2010) showed the Martin Goodman Trail crossing the Keating Channel from East Bayfront at Trinity Street, going through a waterfront park on Cousin's Quay, crossing the new river alignment, and rejoining Cherry Street in the vicinity of Polson Street.

Currently, the Waterfront Trail is on the west side of Cherry Street until Commissioners, where it crosses to the east side of the street to approach the bridge over the Ship Channel, continuing on to Cherry Street. Figure 6-4 illustrates the future route of the Martin Goodman Trail, in a similar configuration to the Framework Plan. It would stay within the park space west of Cherry Street until it crossed the new river alignment, at which point in time, the trail would rejoin Cherry Street.

In either event, the logical place for the trail to cross Cherry Street will be at Commissioners Street, as it is today.

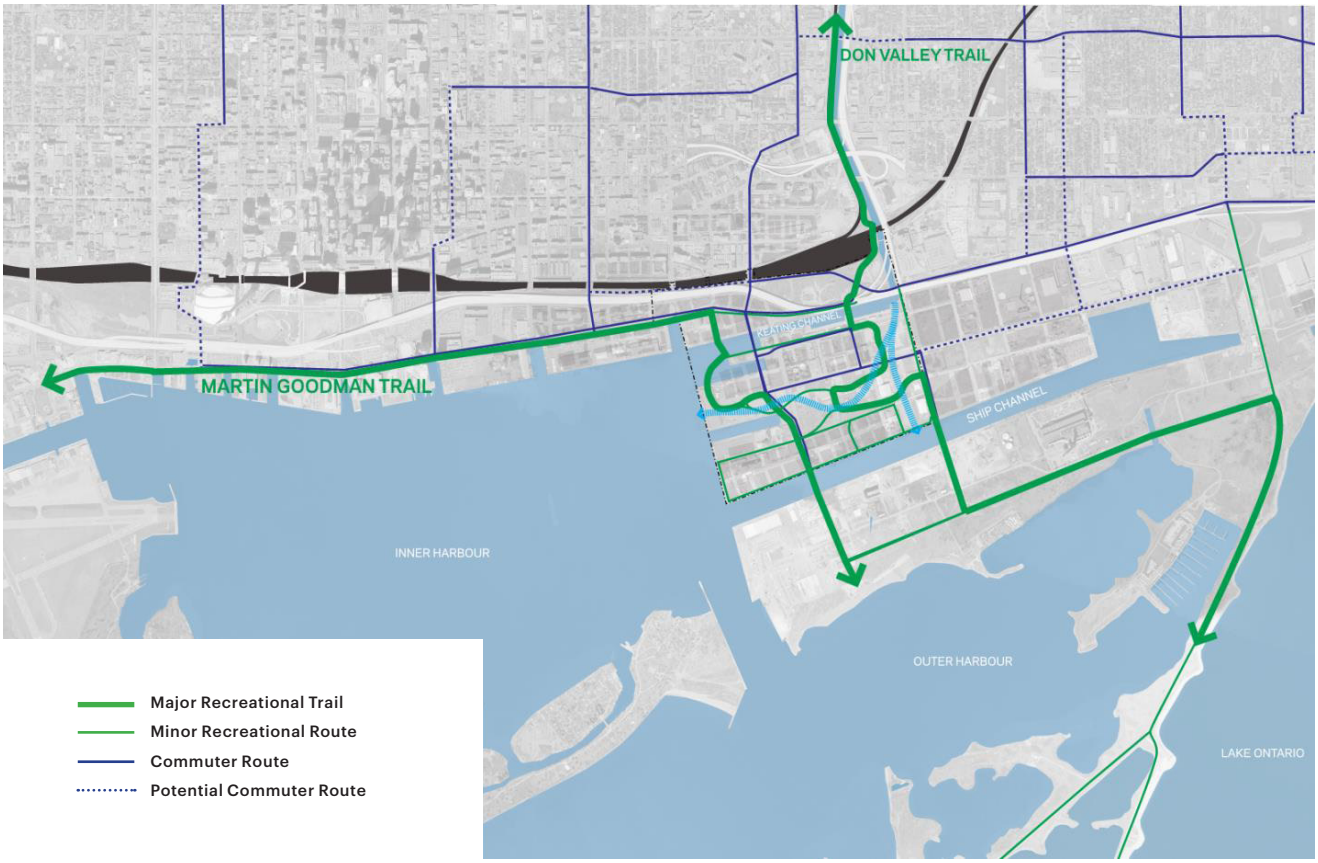
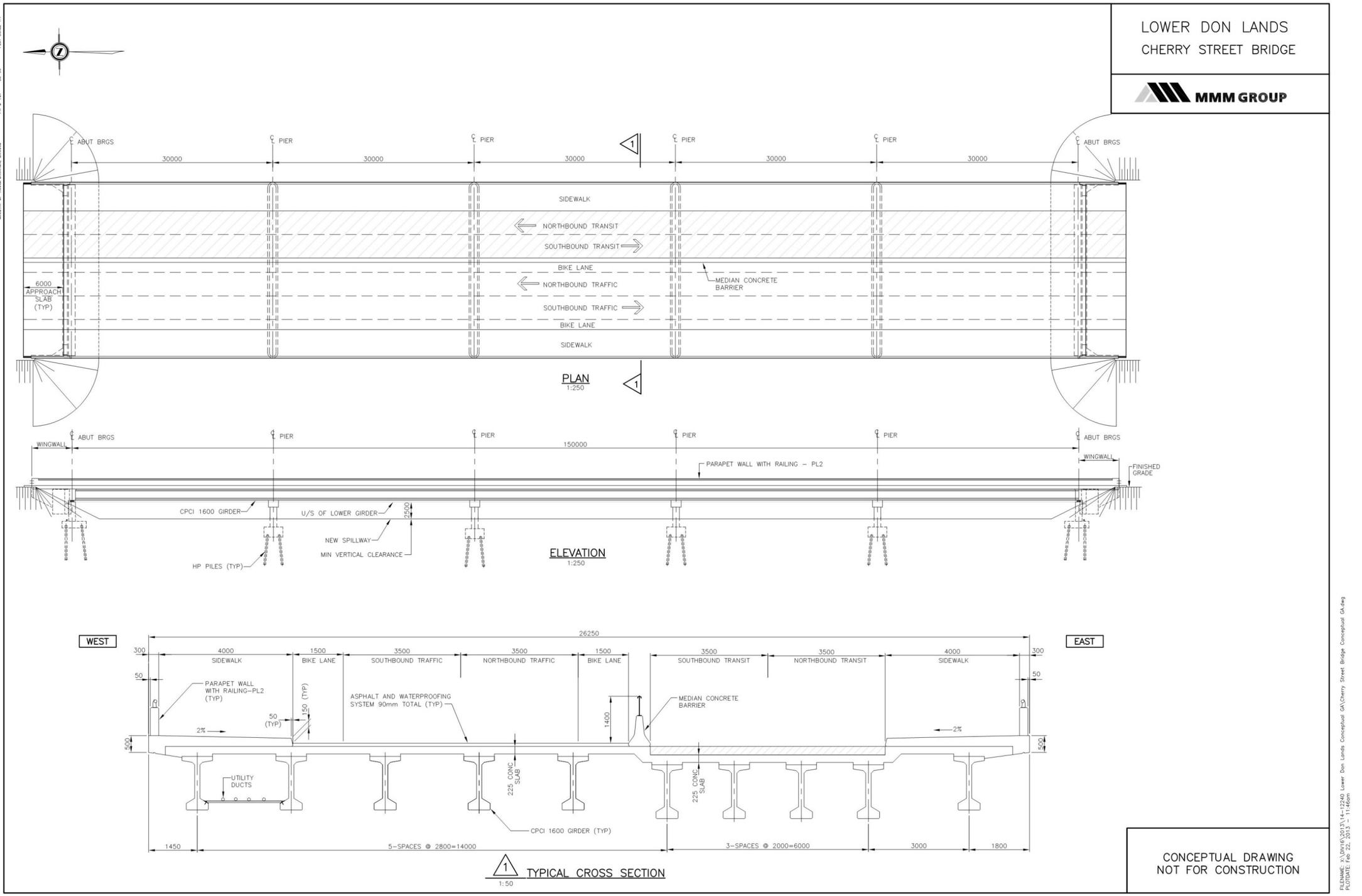


FIGURE 6-4: *Circulation Base Plan for Biking*

LOWER DON LANDS
CHERRY STREET BRIDGE

MMM GROUP



CONCEPTUAL DRAWING
NOT FOR CONSTRUCTION

PLOT SCALE 1:1
88–05
PR–D–707
MINISTRY OF TRANSPORTATION, ONTARIO
MODIFIED:
DRAWING NAME:
CREATED:
FILENAME: X:\DW16\2013\14–12240 Lower Don Lands Conceptual GA\Cherry Street Bridge Conceptual GA.dwg
PLOTDATE: Feb 22, 2013 – 11:46am

FIGURE 6.5: *Cherry Street Bridge Redesign*

6.1.5 Review of the Commissioners Street Alternative Solutions (Phase 2 of the Municipal Class EA)

Commissioners Street is the primary east-west "spine" of the Port Lands, and it is currently designated as a collector street with four auto travel lanes and sidewalks on both sides of the street. The CWSP recognized the role of Commissioners Street as a neighbourhood main street providing multi-modal access to land. The Secondary Plan identifies a 40-metre right-of-way for Commissioners Street.

The preferred solution in 2010 LDL EAMP was to re-align the main east west spine west of The Don Roadway to curve north and occupy the current Villiers Street alignment. This change was reflected in the Lower Don Lands Framework Plan which led to OPA 388 which amended the CWSP. The function of the road would be to provide sidewalks on both sides of the road, on-street bicycle lanes, a dedicated TTC transit right of way, transit stops to accommodate LRT vehicles. Two vehicular travel lanes with protected turn-lanes at intersections where needed.

The three alternatives solutions considered in the 2010 LDL EAMP were:

1. Commissioners Street is aligned on the north side of the Keating South precinct along Villiers Street;
2. Commissioners Street is aligned in the middle of the Keating South precinct (roughly mid-block between the existing Villiers and the existing Commissioners); and
3. Commissioners Street is aligned on the south side of the Keating South precinct along the alignment that would front the new park.

The PLAI report concluded that a variation on alternative solution number 3 above be reconsidered. The PLAI concluded that the existing Commissioners Street alignment should remain the main east-west collector road north of the Ship Channel. The rationale for the change is that it maintained the historic alignment of Commissioners Street and reduced the overall cost of the project by providing a crossing of the new Don River and Spillway of a significantly reduced length. Since the PLAI did not envisage the development of the City-owned lands north of the Keating Channel within the planning horizon of the Official Plan, there was no net advantage to providing transit service to a planned development area to the north. In addition, the existing Commissioners Street alignment became the north boundary of the park land adjacent to the new Don River mouth in the PLAI plan.

Since this change results in the use of an existing road alignment, with any required widenings taken on the south side from lands owned by the City's Toronto Port Lands Company, there was no effect of the alignment on private property to retain the existing Commissioners Street alignment.

6.1.6 Consideration of Alternative Designs for Commissioners Street (Phase 3 of the Municipal Class EA)

The 2010 LDL EAMP considered three alternative cross sections for the main east-west collector road, which was then presumed to be Villiers Street. These alternatives are shown in Figure 6-6. Alternative 1 had transit on the north side of the road allowance (north of all auto lanes). Alternative 2 had transit in the middle of the road allowance (with auto lanes on either side). Alternative 3 had transit on the south side of the road allowance (south of all auto lanes).

The review of alternatives concluded that all three alternatives were similar in terms of impact to the Natural Environment, Sustainability and impacts to Municipal Services. Two of the alternatives (both with transit on the sidwe of the road allowances) were preferred due to a smaller overall width, and the resulting less impact to property. Alternative 1 was the preferred alternative since it located the transit closest to the public open space providing enhanced public access. Furthermore, this alternative had transit on the opposite side of the street from where most of the development blocks would be, thereby reducing future traffic conflicts with vehicular access to development blocks and promoting transit priority.

Commissioners Street is now the main east-west collector, and it is no longer Villiers Street. In this configuration, the park land is on the south side of the street, and future development will occur on the north side of the street.

Using the same logic and rationale as the original analysis, the preferred Alternative Design would be the mirror image of the approved cross section from 2010, which places the transit on the south side of the reconstructed road allowance. This is the equivalent of Alternative 3 from the previous analysis. With transit on the south side, adjacent to the park, this would provide enhanced access to the public realm, reduce conflicts with future development sites, and promote transit priority.

Figure 11-20 Cross-section for Villiers Street Alternative 1

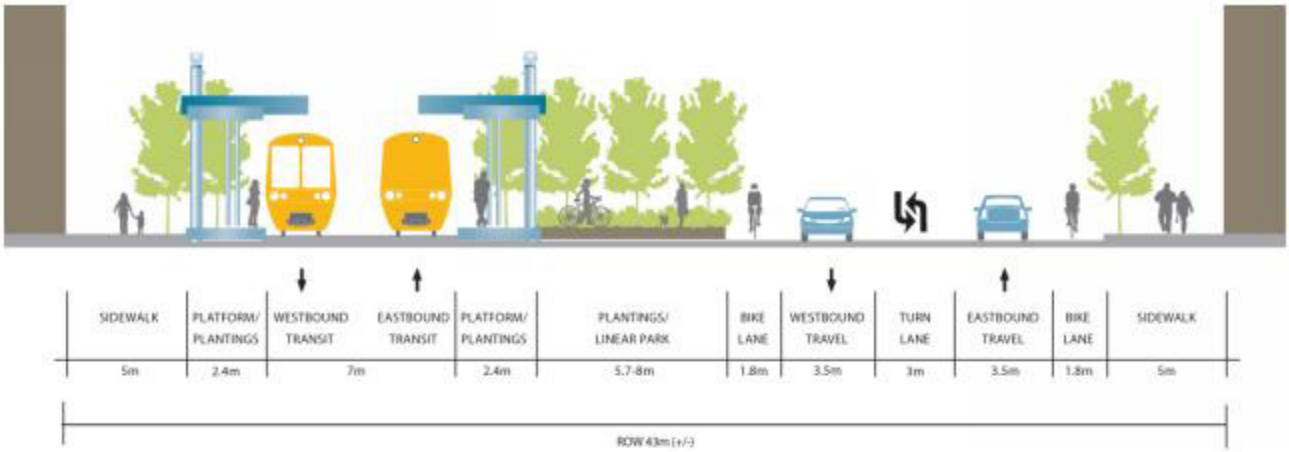


Figure 11-21 Cross-section for Villiers Street Alternative 2

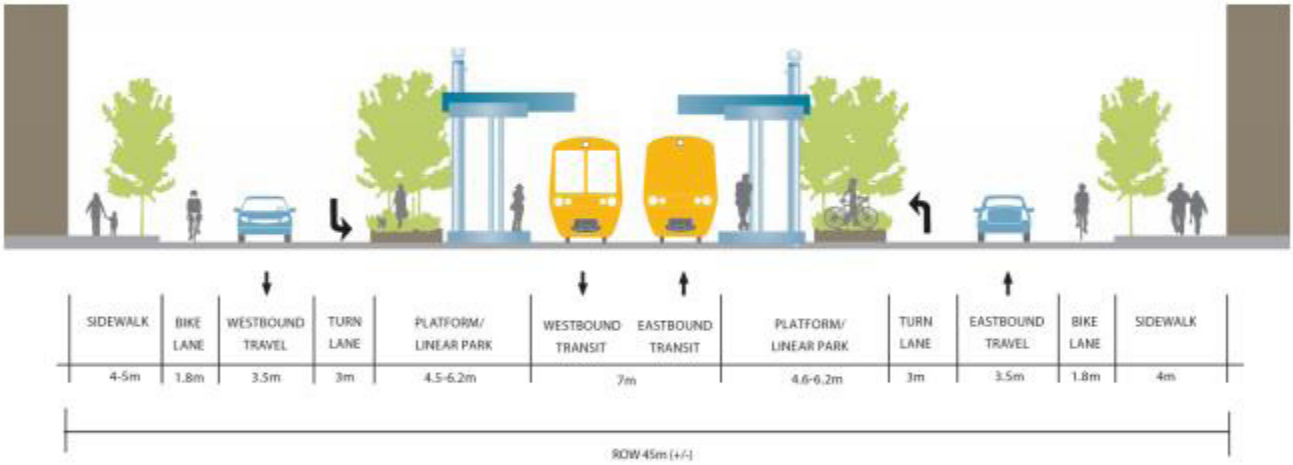


Figure 11-22 Cross-section for Villiers Street Alternative 3

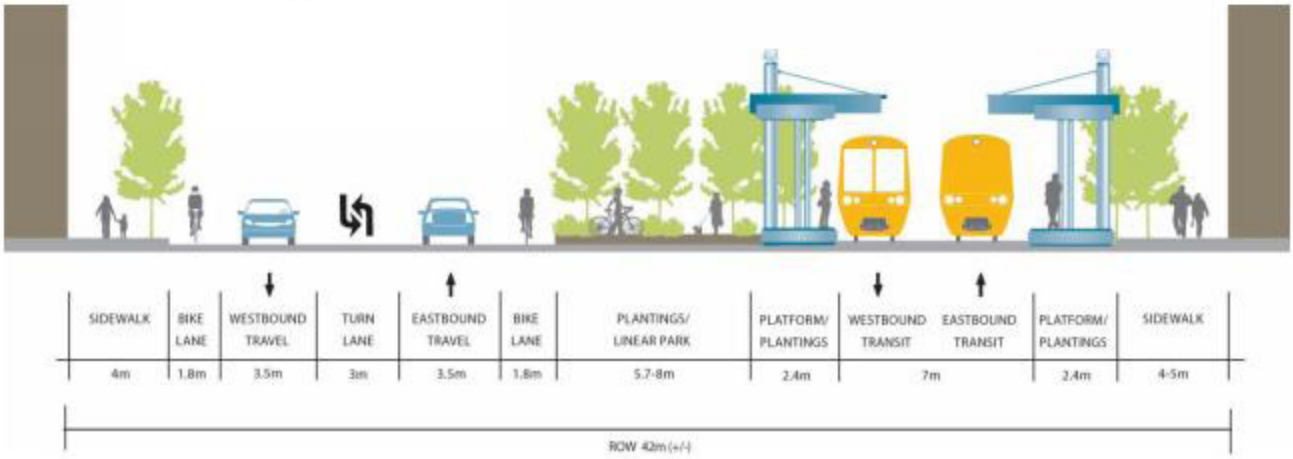


FIGURE 6-6: *Alternative Cross Section for VIlliers Street Identified in the 2010 LDL EAMP*

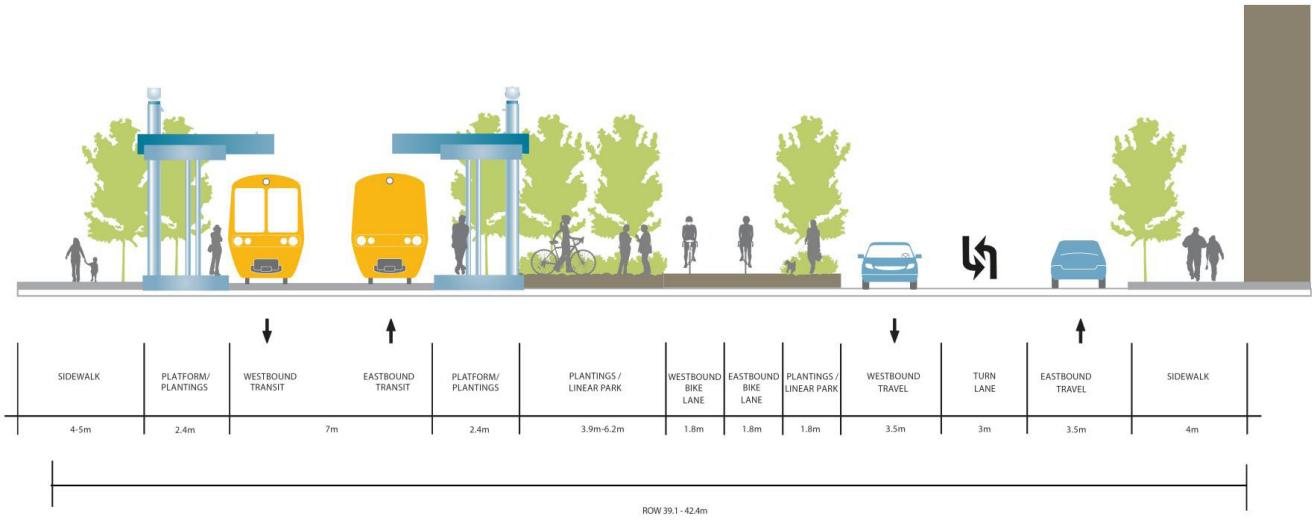


FIGURE 6.7: *Commissioners Street Cross Section*

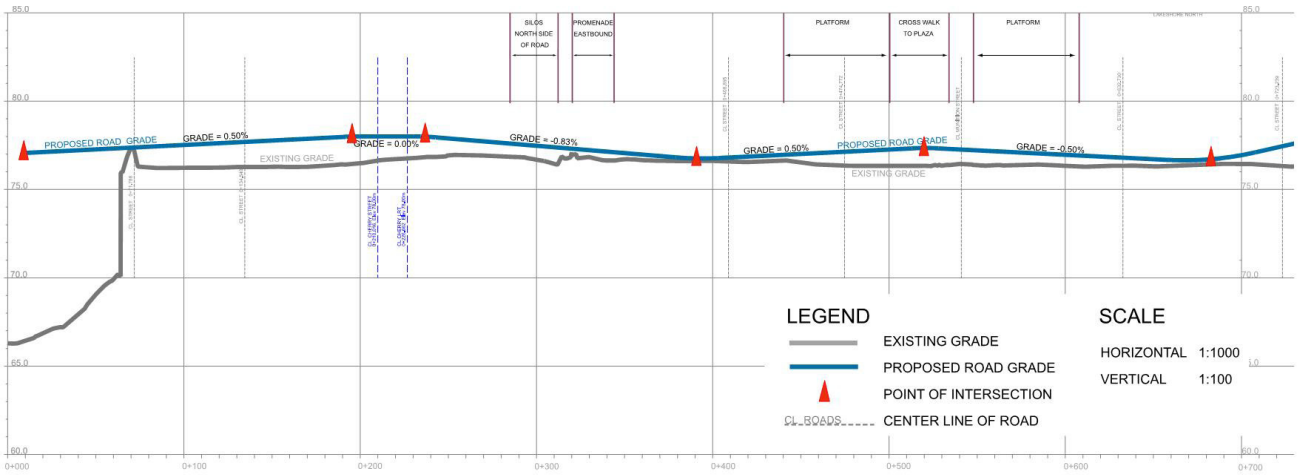


FIGURE 6.8: *Commissioners Street Vertical Road Profile*

During the stakeholder consultation process for this 2014 LDL EAMP Addendum and ESR a number of citizens questioned the location of the cycling lanes within the cross section and preferred that separated cycling facilities be considered. After additional discussion with the City of Toronto, it was agreed that the cross section could be modified between The Don Roadway and Cherry Street so that both the east and westbound cycling lanes were part of the plantings/ linear park area. Consequently, the alternative cross section for Commissioners shown in Figure 6-7 above is the preferred cross section.

Figure 6-8 shows a cross section of Commissioners Street in the Vertical Road Profile. Road profiles are based on elevations required to be consistent with the 2014 DMNP EA.

Figure 6-9 illustrates the minimum design requirements of the new bridge that will cross the river and spillway at Commissioners Street. The purpose of this illustration is to show the minimum transportation modal elements and the minimum flood elevations that the bridge must conform to. During the detailed design process, Waterfront Toronto and the City of Toronto may elect to develop a more elaborate or aesthetic bridge design without further EA approvals, provided that the minimum design requirements in Figure 6-9 are adhered to. The full build-out of Commissioners Street may be developed through a phased construction approach to be determined by the proponents.

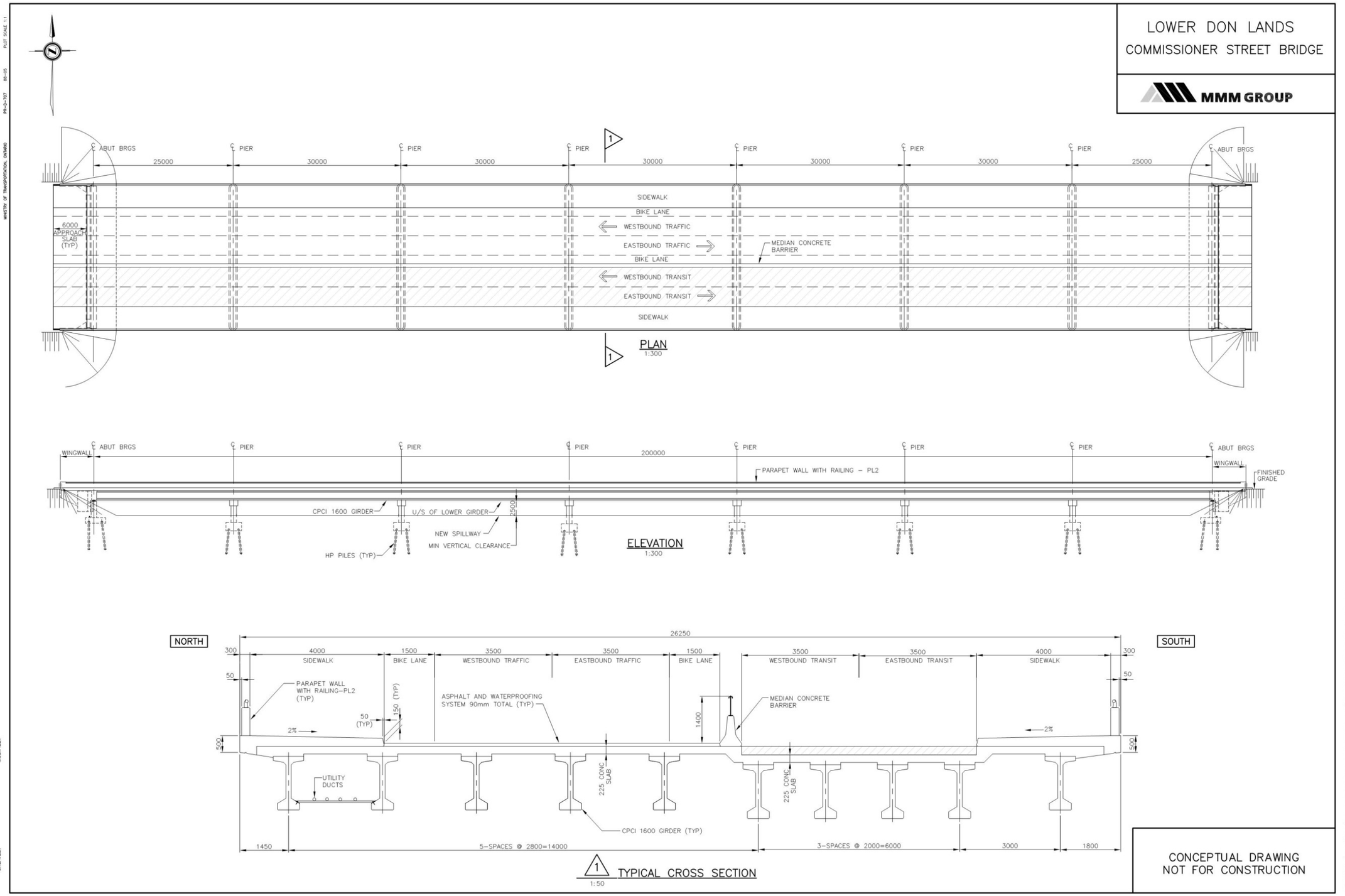


FIGURE 6.9: *Commisioners Street Bridge Redesign*

6.1.7 Review of the Basin Street Alternative Solutions (Phase 2 of the Municipal Class EA)

Basin Street was originally identified in the CWSP as a major east-west "spine" of the Port Lands north of the Ship Channel. The Official Plan Amendment for the Lower Don Lands (OPA 388) shifted this function to Villiers Street/Commissioners Street as the main street of the new Port Lands communities from Cherry Street to Leslie Street.

Currently, Basin Street is a public street from Bouchette Street to the Turning Basin. Basin Street does not currently exist between Cherry Street and The Don Roadway. The connection of Basin Street is envisioned as extending from Cherry Street to a future southward extension of Carlaw Avenue in the CWSP. The development of the film studio site has protected for a future connection to the public road allowance from The Don Roadway to Bouchette Street.

The planned purpose of Basin Street is to provide greater network connectivity between the Cherry Street and Don Roadway corridor to distribute traffic, provide access to large areas of land for future development, and to provide a secondary egress route for the lands south of the river in the event of a major flood event.

In the 2010 LDL EAMP, the proposal was to create a new segment of Basin Street starting on the eastern side from the existing terminus of the protected allowance at Don Roadway. The road would go mid-way through the two development areas south of the River. The road would include two vehicular travel lanes with protected turn-lanes at intersections where needed.

The three alternatives solutions considered in the 2010 LDL EAMP relate to how the road would cross the flood protection spillway, then located further to the southwest of Commissioners Street. They were:

- A modified Secondary Plan alignment which would cross the spillway roughly mid-block;
- Southern alignment which would go mid-block until it hit the spillway, then drop to run adjacent to the Ship Channel, and then resume its course mid-block; and
- Discontinuous alignment between the segment east of The Don Roadway and the segment east of Cherry Street.

The 2010 LDL EAMP preferred the southern alignment since it could feasibly provide transportation service to the two neighbourhood areas and it left the largest contiguous area for naturalization in the spillway (Don Greenway). The discontinuous alignment was not feasible since it would not provide adequate traffic distribution to serve future development needs, and it would have not provided a secondary egress route.

The PLAI reconsidered the location of the spillway (Don Greenway) and the organization of the future development lands south of the future river. The neighbourhood immediately south of the new river and immediately west of The Don Roadway was consolidated with development sites to the west. This change in development sites makes the southern alignment of Basin Street technically not feasible, since from an engineering and grading perspective, the road must connect at The Don Roadway away from the Ship Channel edge in order to protect for a future bridge crossing, and to provide safe sight lines and turning geometrics. With no neighbourhood west of The Don Roadway, there is no possibility of providing a technically feasible connection at the Ship Channel without a significant reconfiguration of the spillway (Don Greenway).

Consequently, the modified Secondary Plan alignment (mid-block) is the preferred Alternative Planning Solution for Basin Street.

Since all three alternatives involve the construction of a road in the future, tied to the development of the lands, and all alternatives are on lands owned by the City's Toronto Port Lands Company, there is no effect of the alignment on private property.

6.1.8 Consideration of Alternative Designs for Basin Street (Phase 3 of the Municipal Class EA)

The Basin Street extension is classified as a Schedule C project under the Municipal Class Environmental Assessment. As such, further consideration of Alternative Designs is required in order to complete the Class EA process. This analysis was not completed in the 2010 LDL EAMP.

In the 2010 LDL EAMP, alternative designs were evaluated using the following criteria: Natural Environment, Social Environment, Economic Environment, Cultural Environment, Sustainability, Land Use and Property, Transportation and Municipal Services.

The three alternative designs address different conceptual design approaches to how the road would cross the flood protection spillway, and are illustrated in Figure 6-10:

Alternative 1:

Bridge across the spillway: a structure comprised of piers supporting a deck. The road deck is above the projected flood level.

Alternative 2:

Causeway: a combination of fill embankments and a series of smaller box culvert structures where water can pass through. The road surface is above the projected flood level.

Alternative 3:

At-grade river ford: the road is built at grade down into the spillway and it would flood during large storm events (and it would not be usable in those events).

Using the evaluation criteria, Table 6-2 summarizes the evaluation of the three alternatives.

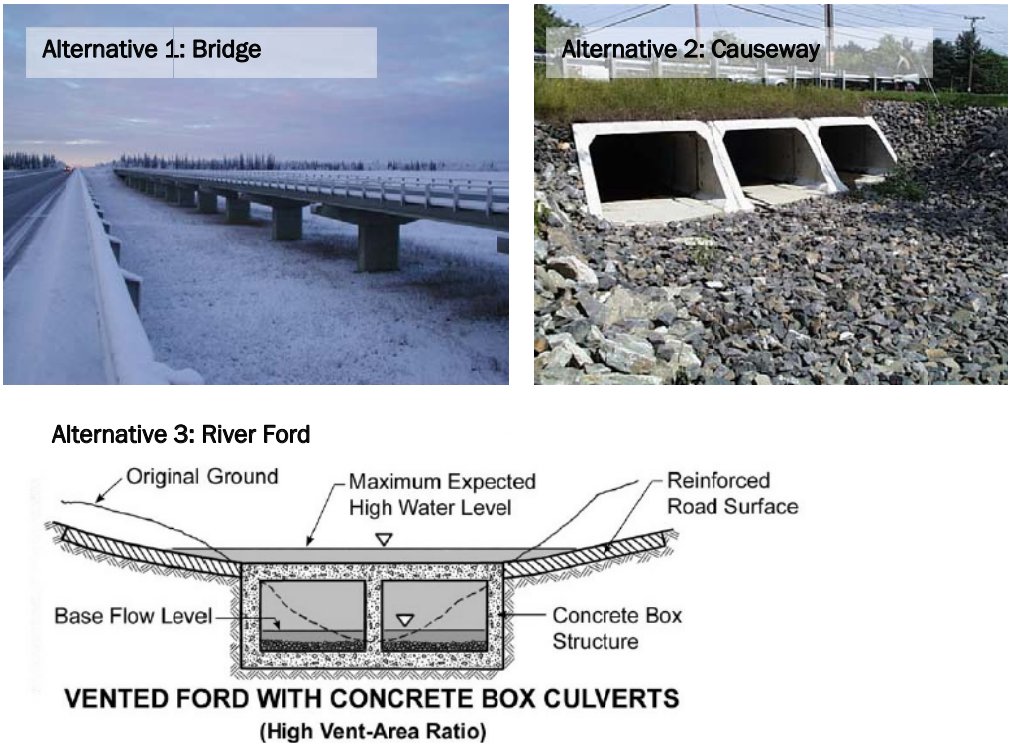


FIGURE 6.10: *Basin Street Alternatives*

TABLE 6.2: EVALUATION OF BASIN STREET ALTERNATIVES

Criteria	Alternative 1: Bridge	Alternative 2: Causeway	Alternative 3: At-grade river ford
Natural Environment	The bridge would provide both movement of peak flood flows and the potential for some natural elements beneath the bridge depending on final bridge design.	The causeway would provide for movement of peak flood flows, but since the structure would have more structural impediments, it would require more land for the spillway north of the roadway. Since the water would move through culverts beneath the road, there is no opportunity to naturalize that area.	The bridge would provide both movement of peak flood flows and the potential for some natural elements adjacent to the road, but it would not be possible to naturalize within the road.
Social Environment	Since all three routes occupy the same general area, and there are no nearby residences, the three alternatives would have the same social impact.		
Economic Environment	Likely to add the most economic benefit, as it would provide full access to all planned development lands.	Less economic benefit, as the causeway would require a larger spillway to the north to accommodate flood waters, reducing the future development area.	Likely to add the most economic benefit, as it would provide full access to all planned development lands. Likely to be the least expensive to construct.
Cultural Environment	No significant cultural resources are likely to be affected by any of the alternatives		
Sustainability	Both the bridge and causeway would provide numerous opportunities for the accomplishment of sustainable construction practices for the roadway.		The roadway would probably require more maintenance and rebuilding after every major flood event.
Land Use and Property	Requires land currently owned and leased by TPLC. The road would be constructed in the future at the time of redevelopment, so any leased land holdings could be addressed by then.	Also requires lands owned and leased by TPLC, but the causeway would cause the need for a larger area north of the roadway to be set aside as open space to accommodate flood water backup created by the causeway, so less property is available for development.	Requires land currently owned and leased by TPLC. The road would be constructed in the future at the time of redevelopment, so any leased land holdings could be addressed by then.
Transportation	The bridge and the causeway would provide adequate transportation access to allow future development and network traffic distribution.		The river ford would also provide adequate transportation access and traffic distribution most of the time, but in the event of a major flood, access would be cut off in this route, so there would not be a secondary egress route, so this option is inferior.
Municipal Services	All three alternatives would be built in an area where the municipal services are being completely reconstructed for the flood protection spillway, so there is no difference.		
Preferred Alternative	X		

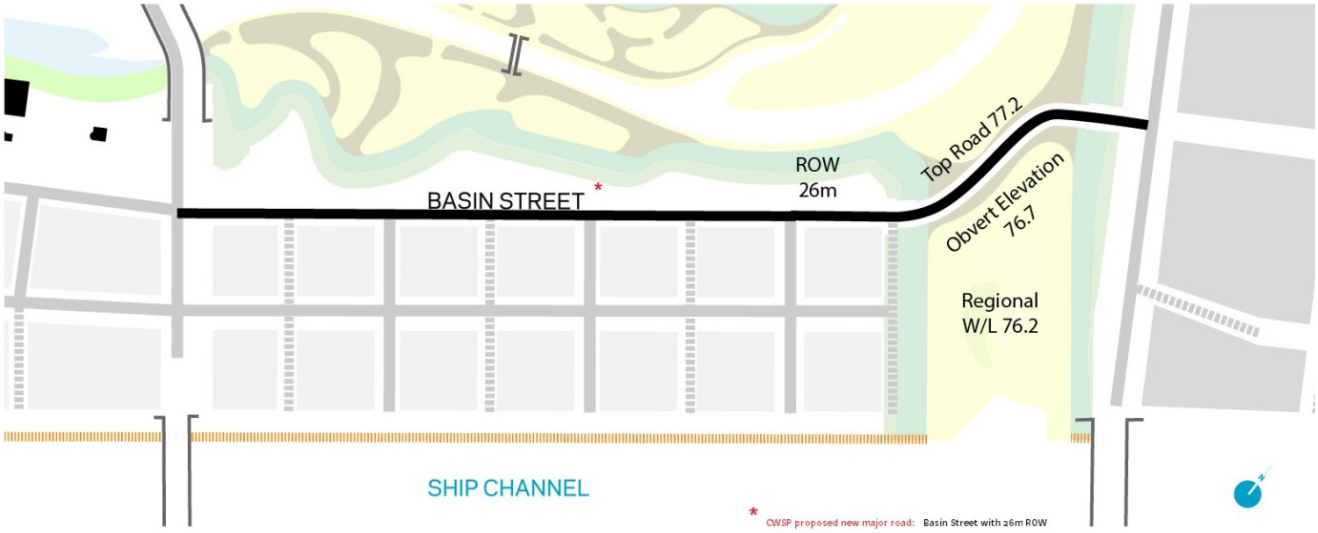


FIGURE 6-11: *Basin Street plan view*

In Schedule A to the CWSP, Basin Street is planned to have a 26m right of way. The 2010 LDL EAMP identified that the street would be a local/collector street which would provide access to development parcels, adjacent parks and open spaces, and on-street parking. In order to meet the needs of pedestrians, transit and vehicular transit, the cross-section was to include:

- Wide sidewalks on either side with tree planting;
- On-street parking;
- Two auto travel lanes; and
- On-street cycling lanes.

Pedestrian and cycling amenities within the right-of-way were an important component of the street since the street terminated at Cherry Street, an important transit node.

For the purposes of this 2014 LDL EAMP Addendum and ESR and to satisfy the requirements for Basin Street identified in the 2010 LDL EAMP, the Basin Street cross-section is proposed to include the following:

- 4.0 metre wide sidewalks on either side with tree planting;
- 2.6 metre lay-by on-street parking;
- 3.5 metre vehicular travel lanes; and
- 1.8 to 2.0 metre wide on-street cycling lanes.

Design refinements within the cross section for Basin Street may occur within a future precinct planning exercise without the need for EA approval or additional addenda provided that similar types of facilities are kept within the right-of-way width of 26 metres.

Figure 6-11 illustrates the proposed ROW and connection point to The Don Roadway for Basin Street.

6.1.9 Recommended Configuration of The Don Roadway (Reconstruction of an Existing Road and Streetscaping)

The 2010 LDL EAMP considered two alternative solutions for The Don Roadway as part of the overall transportation network. The first alternative was to leave the existing Don Roadway from Lake Shore Boulevard East to Commissioners Street, reconstructing the road to provide a new cross section, and to make the minimum elevation of the road consistent with the design for flood protecting lands east of the road. Alternative 2 proposed the same elements of the cross section and increased the elevation, but extended the roadway to the Ship Channel, protecting for the possibility of a new bridge over the Ship Channel in the future. Any new bridge would be the subject of its own environmental assessment at some future date. We understand this connection across the Ship Channel is being addressed in the Port Lands and South of Eastern Transportation and Servicing Master Plan.

The 2010 LDL EAMP concluded that the preferred alternative was to extend The Don Roadway to the Ship Channel as it would improve the economic viability of blocks and provide improved vehicular

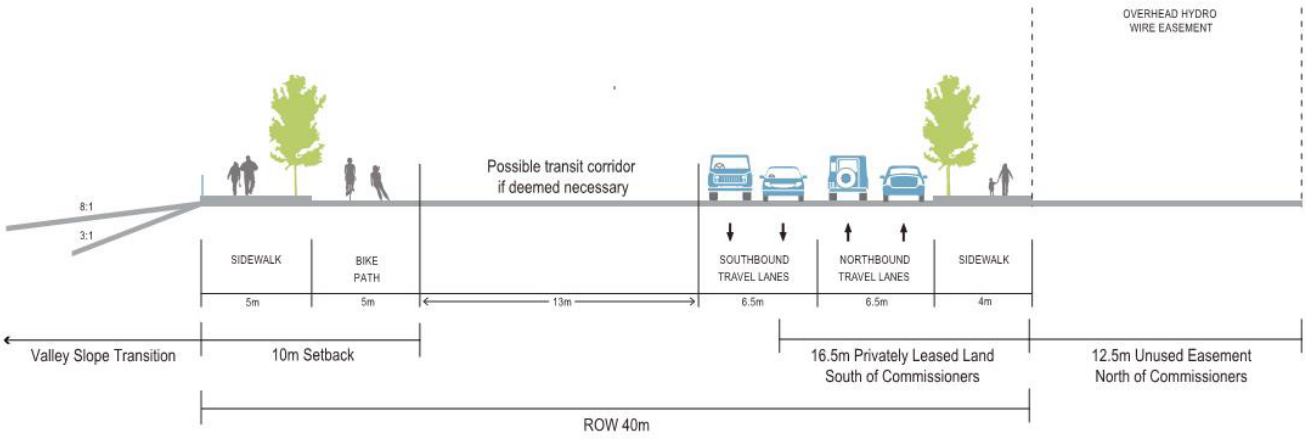


FIGURE 6-12: *Cross section for Don Roadway between Lake Shore Boulevard East and the ship channel*

circulation. There were no impacts to private property as the future road alignment was contained to lands owned by the City's Toronto Port Lands Company.

The Don Roadway north of Commissioners Street remains a collector road, providing for two vehicular travel lanes with protected turn-lanes at intersections where needed, and sidewalks on each side. This would be the reconstruction of an existing roadway at a higher flood protection elevation and with streetscaping elements.

The Don Roadway south of Commissioners Street remains a local access roadway servicing development immediately adjacent to it. The Don Roadway would be reconstructed in the same alignment but at a higher flood protection elevation, with comparable sidewalk and streetscaping treatments as the road to the north of Commissioners Street.

Figure 6-12 illustrates the future cross section of The Don Roadway. The raising of the grade of The Don Roadway is a result of the implementation of the flood protection measures and is part of the mitigation measures to flood protect the lands to the east. The reconstruction of the road includes the same alignment, use and capacity, although the cross section presented below proposes enhanced streetscaping and improved pedestrian and cycling conditions.

The 2010 LDL EAMP identified that The Don Roadway could be a potential transit corridor. The cross-section accommodates this future function. The Port Lands and South of Eastern Transportation and Servicing Master Plan has identified The Don Roadway as an alternative for the extension of Broadview Avenue, including transit. For the purposes of this 2014 LDL EAMP Addendum and ESR, The Don Roadway cross section is classified as a Schedule A+ activity in the Municipal Class EA.

Figure 6-13 illustrates the future vertical profile of The Don Roadway, not taking into account any grading required for a future bridge, which would need to be considered in detailed design.

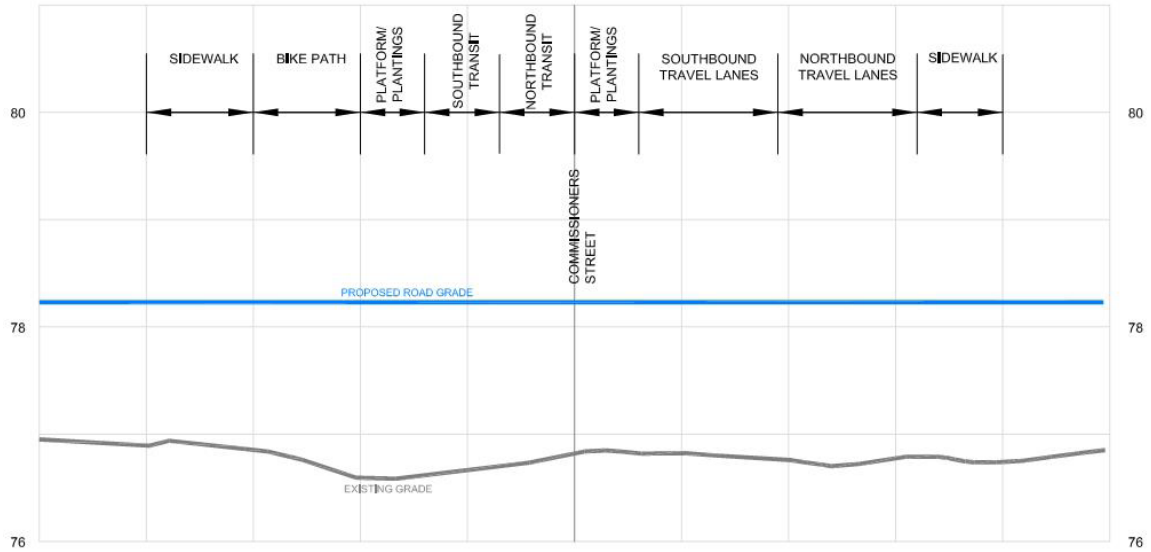


FIGURE 6-13: *Don Roadway Vertical Road Profile*

6.1.10 Recommended Configuration of Villiers Street (Cherry Street to New Don River) – Reconstruction of an Existing Road and Streetscaping and Decommissioning of an Existing Road

Section 11.5 of the 2010 LDL EAMP showed a new preferred cross section for Villiers Street predicated on the fact that Villiers Street would become part of the main east-west network of the Port Lands, providing cycling, vehicular and transit service.

The PLAI relocated the transit service to the existing Commissioners Street alignment. Consequently, Villiers Street would now perform a local road function providing access to development blocks west of the new Don River. Consequently, the new preferred cross section for Villiers Street is a 26m right of way, situated based on the existing southerly right of way boundary for the southern half of Villiers Street.

Figure 6-14 illustrates the preferred road right of way design. The two separated two-lane sections of The Don Roadway north and south of the rail siding would be combined into one road right of way. The rail siding and any surplus roadway beyond the 26m would be abandoned at the time of implementation. The surplus property would be consolidated into adjacent development parcels.

This segment of roadway will be subject to further planning in a precinct planning process.

6.1.11 Summary of Changes to the Road and Transit Network in the Lower Don Lands

Figure 6-15 and Figure 6-16 show the preferred road plan and transit plan for the Lower Don Lands. This network of transportation facilities includes pedestrian and cycling facilities in the road cross-sections. This network of facilities is considered in the subsequent chapter that reviews the implications of the changes in the transportation system to the conclusions of the 2010 LDL EAMP on potential environmental effects and recommended mitigation strategies.

The sidewalk and boulevard dimensions identified for the different streets are minimum dimensions to be used as a starting point in precinct planning and detailed design. Final sidewalk and boulevard dimensions will be established taking into account considerations such as built form conditions adjacent to the streets, land use and planting strips and space requirements. Any changes will be addressed in accordance with Section 11.5.

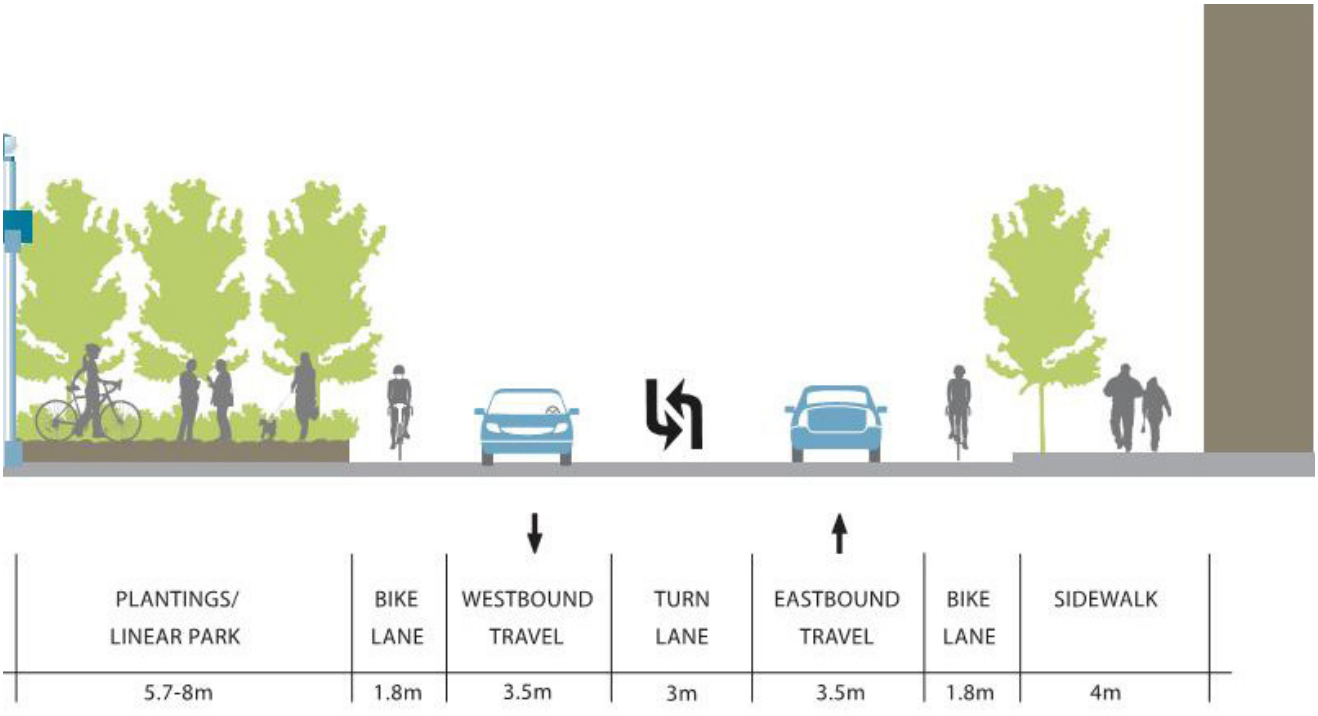


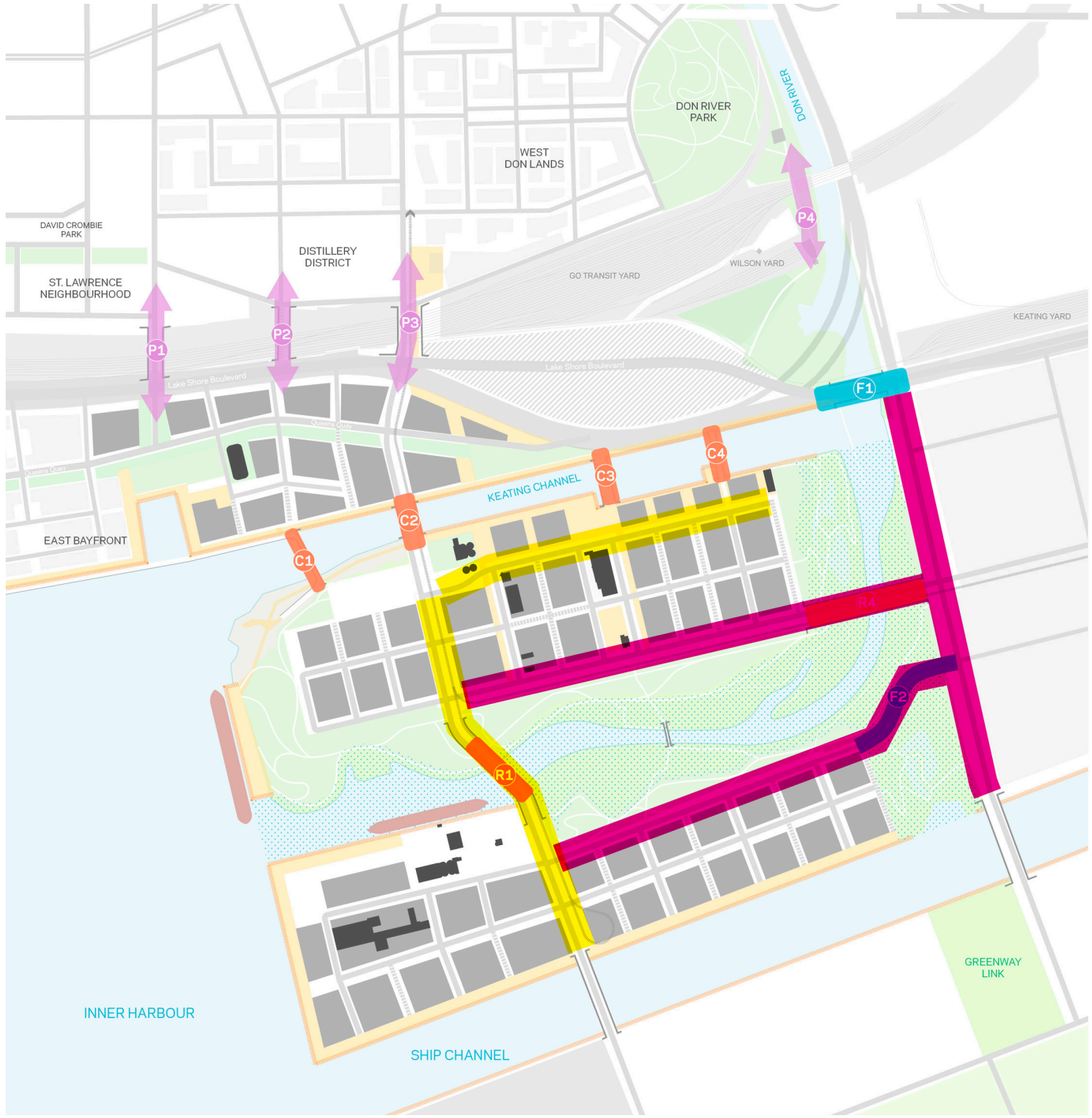
FIGURE 6-14: *Preferred Villiers Street Right of Way Design*

APPROVED EA MASTER PLAN- ROADS & BRIDGES

COMPLETE PHASES 3 AND 4 OF CLASS EA: INFRASTRUCTURE LOCATION NOT CHANGED FROM 2010

PROPOSED OR RELOCATED IN THIS ADDENDUM

2013 LDL MP EA STUDY- ROADS AND BRIDGES



KEATING CHANNEL BRIDGES
RIVER BRIDGES
PORTALS
FLOOD CONVEYANCE CROSSINGS

N
0 50M 100M 150M 200M

KEATING CHANNEL BRIDGES
RIVER BRIDGES
PORTALS
FLOOD CONVEYANCE CROSSINGS

N
0 50M 100M 150M 200M

FIGURE 6.15: *Changes to Preferred Roads and Bridges*

APPROVED EA MASTER PLAN- TRANSIT

COMPLETE PHASES 3 AND 4 OF CLASS EA: INFRASTRUCTURE LOCATION NOT CHANGED FROM 2010

PROPOSED OR RELOCATED IN THIS ADDENDUM

2013 LDL MP EA STUDY- TRANSIT

LRT STOP
TRANSIT LINE

N
0 50M 100M 150M 200M

FIGURE 6.16: *Changes to Transit Plan*

7 WATER AND WASTEWATER

7.1 WATER INFRASTRUCTURE

7.1.1 Overview of the Previous 2010 LDL EAMP Approvals for Water Infrastructure

The proposed re-development of the Lower Don Lands will require the removal of much of the existing water supply network and the water demands will increase. The 2010 LDL EAMP completed a number of steps as part of the Municipal Class EA process:

- It evaluated the water distribution system servicing the study area to determine the improvements required to meet the projected needs in terms of quantity and supply points for potable water for the residential, commercial and other development uses, and for firefighting.
- It assessed the ability of alternatives to incorporate water conservation measures that meet the sustainability objectives of Waterfront Toronto and that minimized the use of potable water to the extent that is practical and cost effective.
- It determined the amount of utility infrastructure required to connect the planned neighbourhoods with each other and the existing City infrastructure network.
- It described and assessed four water supply alternatives:

  - **Alternative 1 -** Do nothing.
  - **Alternative 2 -** Conventional servicing, by providing all developments with access to adequately sized water mains in the streets ROW.
  - **Alternative 3 -** Conventional servicing and water efficiency measures.
  - **Alternative 4 -** Alternative 3 with the addition of non-potable water supply systems as follows:
    - *Alternative 4A:* Public Operated Non-Potable Water Supply Systems (mainly landscape and parks irrigation)
    - *Alternative 4B:* Private Operated Non-Potable Water Supply Systems (both irrigation and toilet flushing)
    - *Alternative 4C:* Public and Private Operated Non-Potable

- Section 7.2.3 of the 2010 LDL EAMP listed the seven major evaluation criteria used to assess the alternatives including: Natural Environment, Social Environment, Economic Environment, Cultural Environment, Sustainability, Land Use and Property, Municipal Services.

7.1.2 Implications of the PLAI

The PLAI process reconfigured the layout of future development areas in the Lower Don Lands. This changes the deployment of potable water distribution facilities within the road allowances, as the roads themselves change. The infrastructure requires new locations to correspond to the changes in development blocks and open spaces.

7.1.3 Review of the Alternative Planning Solutions (Phase 2 of the Municipal Class EA)

Table 7-2 of the 2010 LDL EAMP provided a summary evaluation of the Alternative Planning Solutions for the four water supply alternatives. Evaluation criteria were developed to support the Problem and Opportunity Statement and were presented to technical agencies, stakeholders and the public. The alternatives were comparatively evaluated based on a descriptive and or qualitative assessment. As a result of the changes from PLAI there are no changes to the alternative solutions, rather a redrawing of the routing of the infrastructure to match the PLAI plan.

Alternative 1: Do Nothing

The Do Nothing alternative has the advantage of having a low initial cost, no impact on current properties and utilities and no new impacts to the

natural and historic environments. This alternative will, as per the 2010 LDL EAMP, not be compatible with a new river alignment through the study area and restrict the design and construction of a new natural area. It would not support new higher density development in the LDL, it would limit opportunities for new land use and is not compatible with the public realm. By doing nothing, the very old infrastructure that may require replacement in the near future will not be replaced. Alternative 1, as per the conclusion of the 2010 LDL EAMP analysis, is therefore not carried forward for further consideration.

Alternative 2: Conventional Servicing, by providing all developments with access to adequately sized watermains in the street ROWS

The 2010 LDL EAMP explains that this conventional servicing alternative represents the normal urban water supply method where the infrastructure is sized to be adequate for typical water demands, as experienced historically in similar environments. This system would tie into the nearby existing water treatment and trunk distribution systems of the City of Toronto.

The 2010 LDL EAMP concluded that Alternative 2 makes use of proven technology, is technically feasible and is fully compatible with the new PLAI river alignment and block redevelopment proposals. It allows full access to water for all proposed occupancies, is flexible, and the infrastructure installation will not be damaging to the present and proposed natural environments. This alternative however, is not optimized in terms of water and energy usage efficiencies and is therefore more costly and somewhat more taxing on the environment than the alternatives that are described below. This conclusion remains an accurate reflection following the changes proposed by PLAI. The only change to Alternative 2, as a result of PLAI, is re-routing/re-configuration of the proposed servicing infrastructure to match the PLAI plan.

Alternative 3: Conventional Servicing and Water Efficiency Measures

The 2010 LDL EAMP sets out the details for Alternative 3 which is essentially the same as Alternative 2, but with the addition of managed implementation and promotion of water use efficiency measures. More specifically, water demands can be reduced by application of water efficiency measures such as metering at individual dwellings, pricing strategies, promoting and requiring the use of high efficiency fixtures / appliances, low water landscaping and water conservation consciousness / public support programs. These measures are generally to be implemented by the City as a combination of regulatory measures and pricing strategies, and by solicitation of consumer support for the programs. The City's published "Water Efficiency Plan" covers much of the requirements needed to implement meaningful and efficient water use efficiency measures.

The 2010 LDL EAMP explained the advantages of Alternative 3 which include the reduction of wasteful use of water, reduction of resources usage needed for the treatment and distribution of water and potential reduction of the sizes of water supply infrastructure. The diameters of lower order watermain is generally will not reduce in size given that the fire protection needs will dictate that the larger diameters be maintained. Disadvantages include the cost and operation requirements associated with the provision, operation and maintenance of some of the measures, such as water metering at individual dwellings in multi-apartment buildings.

Alternative 3, as per the 2010 LDL EAMP, is considered more beneficial than Alternative 2. As per Alternative 2, the only change to Alternative 3, as a result of PLAI, is re-routing/re-configuration of the proposed servicing infrastructure to match the PLAI plan.

Alternative 4: Addition to Alternative 3 of Non-potable Water Supply Systems

The 2010 LDL EAMP provides an overview of the advantages of the addition of non-potable water supply systems which include the potential reduction in the need to improve external trunk watermain servicing the study area and reduction of demand on the water treatment and transmission systems of the City of Toronto. Disadvantages include the cost and operation requirements associated with the provision, operation and maintenance of the additional non-potable water supply and distribution systems. Other disadvantages are:

a) Water quality care is required to ensure the water does not pose a health threat to humans from unintended consumption or contact, and does not cause an aesthetic nuisance;
b) Water quality care is possibly required to meet environmental requirements;

c) Cross-connection with potable water systems has to be prevented;
d) Public perception may have to be managed; and
e) Public education is critical to the success of a non-potable water supply system.

A summary of measures for managing risks of non-potable water can be found in Appendix 7-A2 of the 2010 LDL EAMP. The sub-alternatives are formulated to distinguish between publically owned and operated non-potable water systems (Alternative 4A), privately owned non-potable water systems (Alternative 4B), and a combination of the two (Alternative 4C).

The publically or community owned system is dependent on the local operating authority (City of Toronto in this case) approving and accepting such a system. The City of Toronto presently does not own and operate a non-potable water system and is concerned with the risks of accidental cross connections with potable water systems and the health and liability consequences thereof. Alternatives 4A and 4C may therefore not gain acceptance by the City of Toronto. Alternative 4B, however, is allowable in terms of the Ontario Building Code and also represents the alternative with the highest use efficiency.

As per Alternatives 2 and 3, the only change to Alternative 4, as a result of PLAI, is the re-routing/re-configuration of the proposed servicing infrastructure to match the PLAI plan.

7.1.4 Preferred Planning Alternative (Phase 2 of the Class EA process)

The 2010 LDL EAMP concluded the preferred alternative to be Alternative 4B since it represents the highest degree of water use efficiency, without having the potential disqualification factors.

The 2010 LDL EAMP also considered Alternative 4C as the overall preferred planning alternative but that it is only feasible if the City has plans to own and operate a community non-potable water supply and distribution system. The City has indicated that they have no current plans to do so and before they would consider this, a comprehensive feasibility study would be required to understand all aspects of implementation, operation and maintenance including a cost/benefit analysis.

The primary benefit of Alternative 4C over Alternative 4B (and the other alternatives) is the further reduction in the average daily demand for potable water. In terms of sizing the water distribution pipework, the fire protection needs of the community is the driving factor in sizing the pipework.

The 2010 LDL EAMP concluded that elements of Alternative 4C should be introduced wherever localized low cost solutions are at hand, such as the following:

a) Rainwater harvesting and discharge to riverside wetlands where buildings border on such wetlands and otherwise for irrigation of shrubs and trees in the streets ROW; and
b) Landscape irrigation in areas nearby a suitable non-potable water source (e.g., the lake).

The 2010 LDL EAMP determined that Alternatives 4B and 4C have risks associated with their implementation, such as implementation economics, acceptance by the users and successful introduction of additional operations and maintenance systems. Should these risks not be successfully mitigated, the fall-back position would be Alternative 3. This can be done without difficulty, since Alternative 3 forms the backbone from which Alternatives 4 is built out.

The review of alternatives used in the 2010 LDL EAMP would not be any different if it were applied to the Lower Don Lands using the new land use configuration in the PLAI.

The rationale to select Alternative 4B is equally valid and it remains the Preferred Planning Alternative.

7.1.5 Configuration

As a result of the changes from PLAI the proposed infrastructure for the water distribution system servicing the study area has been re-routed to match the PLAI plan.

Figure 7-1 illustrates the changes between the 2010 LDL EAMP configuration and the proposed revisions to match the PLAI plan. Readers should refer to section 13.1 of the 2010 LDL EAMP for the rationale for the overall network organization.

This includes:

- Relocation of the proposed 400mm watermains to cross Keating Channel and connect at Commissioners St.;
- A new watermain along Commissioners St.;

- A realigned Cherry St. watermain when the river is built; and
- Reconfiguration and new watermains to serve lands south of Polson St.
- Locations of new watermains must avoid encroachment by future TTC tracks or trees and their soil cells.

The potable water servicing schematic was refined to create redundancy for added protection of water supply and to improve the pressure throughout the system. Dead-ends within a water distribution system are not encouraged because of the dramatic reductions in pressure due to hydraulic losses; furthermore, maintaining good circulation at all times is paramount. Therefore, watermains enter Communities 1 and 2 from several locations. This kind of looped water network, shown is an accurate depiction of the system which will ultimately be constructed.

The Preferred Planning Alternative consists of a combination of Schedule A and Schedule B activities and as such further design evaluation of alternative design solutions for implementation of the Preferred Planning Alternative including mitigating measures will take place during the implementation phase of the project as per the Class EA requirements.

If minor adjustments are required to the configuration of the network as a result of any future precinct planning process, they will not require an EA addendum provided the water distribution infrastructure remains within the public road rights of way.

During implementation, designers should refer to Section 13.1 of the 2010 LDL EAMP for additional design considerations, including geotechnical conditions, excavation considerations and abandonment of existing watermains. Toronto Water prefers that water infrastructure is built wherever possible beneath the travel lanes of roadways.

7.2 WASTEWATER INFRASTRUCTURE

7.2.1 Overview of the Previous 2010 LDL EAMP Approvals for Wastewater Infrastructure

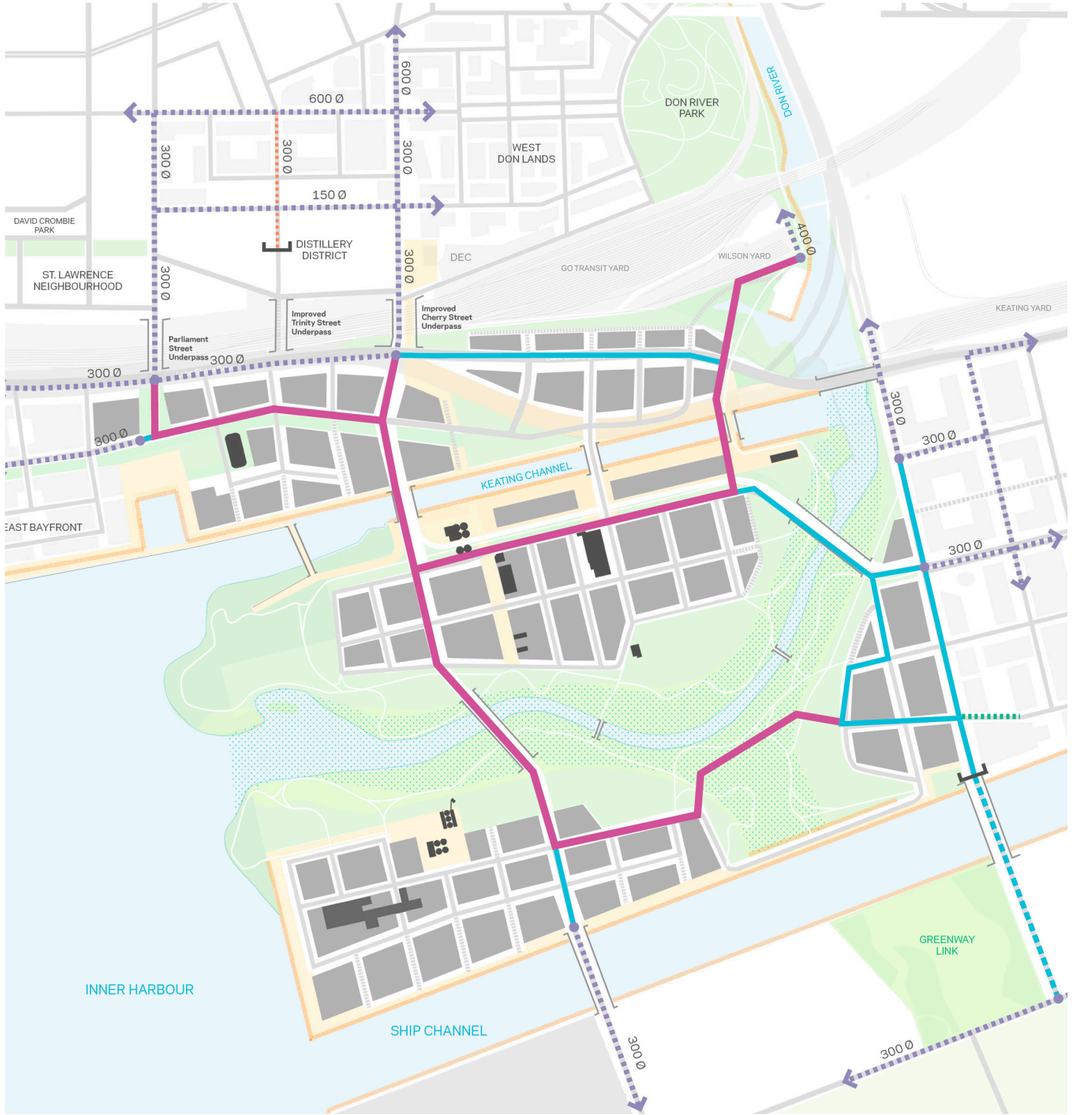
The 2010 LDL EAMP established that the proposed re-development of the Lower Don Lands will require the removal of much of the existing wastewater discharge networks and will also require higher capacity systems than presently provided. Since the majority of the proposed wastewater servicing needs to entail the construction of new sanitary sewers in new streets (new ROW) to service new development in an existing urban area, the EA for this component proceeded as a Schedule 'B' Municipal Class EA. The 2010 LDL EAMP completed a number of steps as part of the Municipal Class EA process:

- It evaluated the new sanitary system(s) capacity to adequately deal with the new development flows while utilizing the existing infrastructure wherever appropriate.
- It assessed the ability of alternatives to incorporate Waterfront Toronto principles of sustainability and principles established by the City of Toronto for the separation of storm and sanitary flows.
- It determined the amount of utility infrastructure required to connect the planned neighbourhoods with each other and the existing City infrastructure network.
- It described and assessed five sanitary servicing alternatives:

  - **Alternative 1 -** Do nothing.
  - **Alternative 2 -** Conventional gravity flow sanitary servicing:
    - *Alternative 2A:* Rehabilitate, reconstruct and construct new sewers.
    - *Alternative 2B:* Rehabilitate, reconstruct and construct new sewers, including a new Commissioners Street Outlet (east of the Don Roadway)
  - **Alternative 3 -** Combination of gravity flow sewers with pumping systems and/or inverted siphons:
    - *Alternative 3A:* Alternative 2 A/B, with pump stations and force mains.
    - *Alternative 3B:* Alternative 3A, supplemented with inverted siphons.
  - **Alternative 4 -** Vacuum sanitary system.
  - **Alternative 5 -** Ship Channel West Eco-Island.

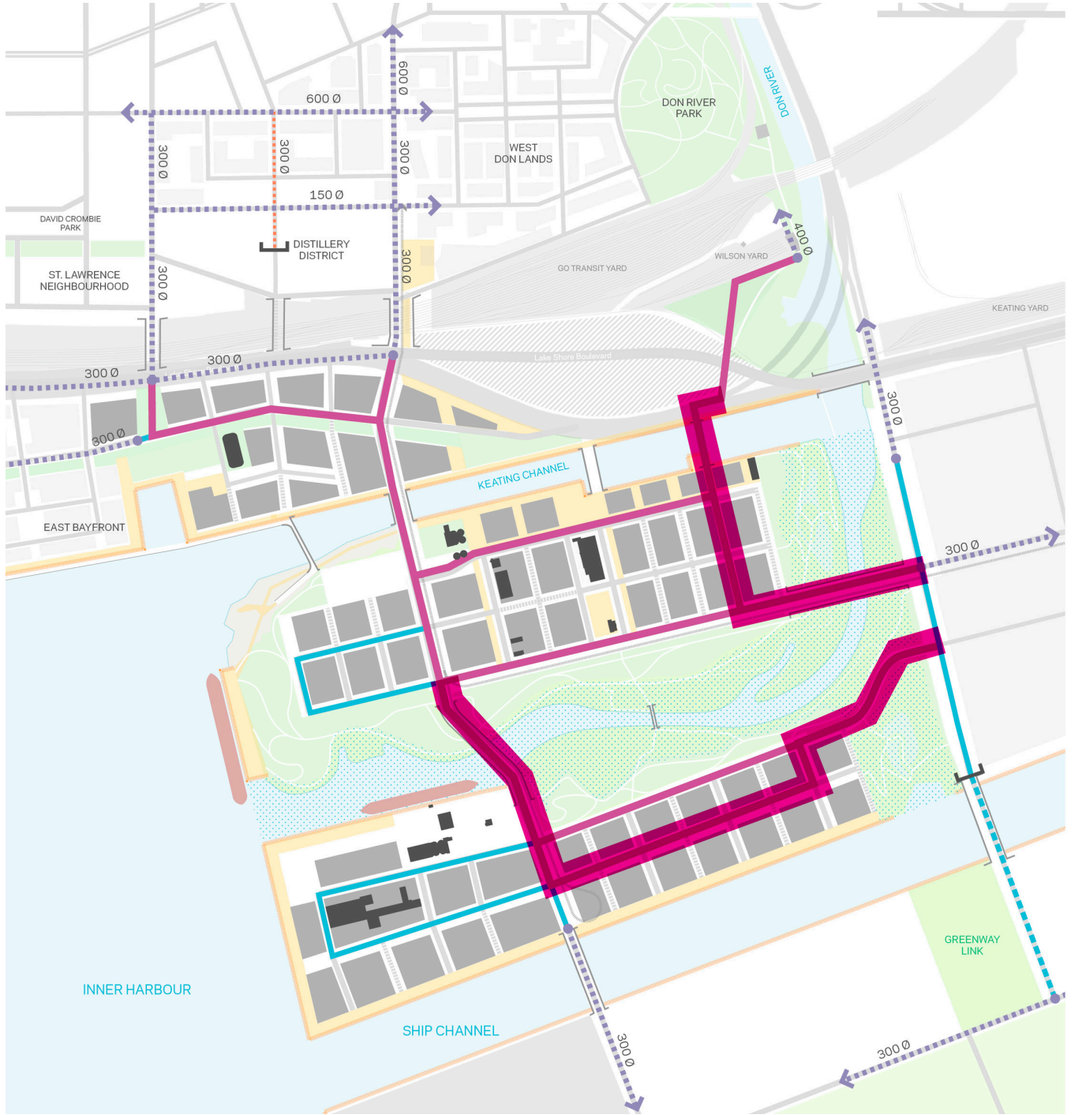
- Section 7.2.3 of the 2010 LDL EAMP listed the seven major evaluation criteria used to assess the alternatives including: Natural Environment, Social Environment, Economic Environment, Cultural Environment, Sustainability, Land Use and Property, Municipal Services.

APPROVED EA MASTER PLAN- WATER SUPPLY INFRASTRUCTURE



PROPOSED OR RELOCATED IN THIS ADDENDUM

2013 LDL MP EA STUDY- WATER SUPPLY INFRASTRUCTURE



- EXISTING WATERMAIN
- CONNECTION TO EXISTING MAIN
- PROPOSED 300MM MAIN
- PROPOSED 400MM MAIN
- PIPE CAP
- FUTURE WATERMAIN AND CONNECTION BY OTHERS
- FUTURE 300 MM FILM PORT WATERMAIN
- FUTURE 300 MM WATERMAIN ON TRINITY STREET
- OPEN SPACE

N

0 50M 100M 150M 200M

- EXISTING WATERMAIN
- CONNECTION TO EXISTING MAIN
- PROPOSED 300MM MAIN
- PROPOSED 400MM MAIN
- PIPE CAP
- FUTURE WATERMAIN AND CONNECTION BY OTHERS
- FUTURE 300 MM FILM PORT WATERMAIN
- FUTURE 300 MM WATERMAIN ON TRINITY STREET
- OPEN SPACE

N

0 50M 100M 150M 200M

FIGURE 7.1: *Proposed Revisions to Water Supply Infrastructure*

7.2.2 Implications of the PLAI

The PLAI process reconfigured the layout of future development areas in the Lower Don Lands. Although this changes the deployment of wastewater distribution facilities within the road allowances, as the roads themselves changed. The infrastructure requires new locations to correspond to the changes in development blocks and open spaces.

7.2.3 Review of the Alternative Planning Solutions (Phase 2 of the Municipal Class EA)

Table 7-3 of the 2010 LDL EAMP provided a summary evaluation of the Alternative Solutions for the five sanitary servicing alternatives. Evaluation criteria were developed to support the Problem and Opportunity Statement and were presented to technical agencies, stakeholders and the public. The alternatives were comparatively evaluated based on a descriptive or qualitative assessment. As a result of the changes from PLAI there are no changes to the alternative solutions, rather a redrawing of the routing of the infrastructure to match the PLAI plan.

Alternative 1: Do Nothing

The 2010 LDL EAMP concluded that although the Do Nothing alternative has the lowest initial cost, no impact on current properties, archaeological resources, heritage structures, impervious surfaces and utilities, it is the least suitable solution for servicing the Lower Don Lands. This alternative, as per the 2010 LDL EAMP, is not compatible with the new PLAI river alignment through the study area and with the proposed redevelopment of the Lower Don Lands. The capacity of the existing sewer system does not meet the technical and physical requirements of the proposed residential and employment uses. By doing nothing the very old infrastructure that may require replacement in the near future will not be replaced. Alternative 1 also does not resolve problems with the existing wastewater discharge system that presently includes combined storm and sanitary sewers. Alternative 1, as per the conclusion of the 2010 LDL EAMP analysis, is therefore not carried forward for further consideration.

Alternative 2A: Rehabilitate, reconstruct and construct new sewers (ultimate conventional gravity flow system) only gravity flow is relied upon for the conveyance of wastewater from the project site. It would have advantages of no energy input and moderate cost.

The 2010 LDL EAMP noted the existing land relief of Keating North is conducive to gravity sewers if long-term capacity is available in the Low Level Interceptor (LLI) at Cherry Street. Toronto Water has confirmed this would be permitted on an interim basis. The City however has since developed and approved a Wastewater Sanitary Servicing Master Plan for the Toronto Waterfront. The Waterfront Sanitary Master Servicing Plan Final Report dated October 17, 2012 prepared by XCG Consultants defines an approved strategy for wastewater servicing for Toronto Central Waterfront area, The Study Area included the East Bayfront, West Don Lands, North Keating Area, Lower Don Lands and Port Lands redevelopment precincts. The City has accepted the consultant's recommended strategy and a Notice of EA Completion was issued on October 25, 2012.

A new 825 mm diameter gravity sewer on Cherry Street as recommended in the Wastewater Sanitary Servicing Master Plan is now constructed to connect the West Don Lands, North Keating Area and East Bayfront east of Lower Sherbourne Street to the Low Level Interceptor (LLI). The LLI is a deep trunk sewer running west to east along Front Street and Eastern Avenue and outlets to the Ashbridges Bay Sewage Treatment Plan. The Lower Don Lands south of Keating Channel are not serviced by the Cherry Street gravity system.

As per the conclusion of the 2010 LDL EAMP, Alternative 2A is an overall long term or ultimate solution and cannot be relied upon given the unknown timelines for completion.

Alternative 2B: Rehabilitate, reconstruct and construct new gravity flow sanitary sewers, including a new Commissioners Street Outlet (extending east of The Don Roadway)

Alternative 2B is also a gravity flow system, but is not restricted to the levels of existing trunk sewers. The 2010 LDL EAMP noted this alternative will result in deep sewers, and will require that pumping be implemented at some point along the Commissioner Street trunk sewer to lift the wastewater to the Ashbridges Bay Treatment Plant inlet. It is considered a high cost alternative that will not reduce the energy input requirements associated with other pump alternatives, and will experience significant constructability issues, regarding local, groundwater and/or soil conditions. A benefit of this system is the reduction of wastewater loadings to the LLI located

on Eastern Avenue which could represent significant savings in terms of planned capital improvements to the LLI.

As per the conclusion of the 2010 LDL EAMP, Alternative 2B is not preferred since the timing to construct the Commissioner Street Sewer east of The Don Roadway is unknown. A modified version of this alternative was considered which incorporates pumping systems to render new trunk sewers feasible on Commissioners Street up to The Don Roadway.

Alternative 3A: Alternative 2 A/B, with Pump Stations and Force Mains

Alternative 3A combines gravity flow sewers with pumping systems to overcome the low level and physical barrier constraints, and includes the option of providing a new trunk main along Commissioners Street within the LDL up to The Don Roadway. The 2010 LDL EAMP concluded that energy requirements, ongoing high operations and maintenance input requirements were the main drawbacks of this type of system. However, it has the flexibility to support various development scenarios within the LDL and overcomes physical barriers that face gravity flow systems. It can be set up to lift wastewater to existing trunk sewers, and/or to new trunk sewers that may not need to be constructed to exceptionally deep levels.

The 2010 LDL EAMP therefore determined Alternative 3A a feasible alternative that may in the long run emerge as a preferred alternative. As a result of the changes from PLAI a redrawing of the routing of the infrastructure to match the PLAI plan was required; however, there are no changes to the alternative solution.

Alternative 3B: Alternative 3A, Supplemented with Inverted Siphons

For Alternative 3B the 2010 LDL EAMP established the use of gravity flow inverted siphons instead of pumping systems, or deep level gravity systems for the Don River and flood valley crossings to service the South Keating and Ship Channel West neighbourhoods. Otherwise Alternative 3B is essentially the same as Alternative 3A, and also includes the option of providing a new trunk main along Commissioners Street. Its main advantage over Alternative 3A is that the number of pump stations is reduced; thereby the operations and maintenance cost that are associated with such pump stations is also reduced.

Alternative 3B at this stage continues to be the overall preferred planning alternative since it is technically and environmentally feasible, complies with new site layout requirements, has flexibility to accommodate planning and loading changes and minimizes energy input requirements. Final feasibility is dependent on final site grading. As a result of the changes from PLAI, a redrawing of the routing of the infrastructure to match the PLAI plan was required; however, there are no changes to the alternative solution. The revisions included:

- a new "ultimate" gravity flow trunk sewer within Community 2 extending to The Don Roadway and north to the temporary pumping station at Commissioner Street / The Don Roadway.
- a new "ultimate" gravity flow trunk sewer within Community 1 along Commissioners Street to the temporary pumping station at Commissioner Street / The Don Roadway.
- Relocation of the Pump station and gravity flow sewer to Cherry Street at Lakeshore Boulevard.

The above noted revisions reflect the ultimate design of the City approved future gravity trunk system denoted as Alternative 2B within XCG Consultants Master Sanitary Servicing Report dated October 2012. In response to the City approved sanitary servicing plan, the following three (3) gravity flow alternatives were evaluated. Each of the alternatives require a temporary pumping station at the intersection of The Don Roadway and Commissioners Street to discharge into the existing sanitary sewer draining north on The Don Roadway. The pumping station would be abandoned once the future gravity sewer is constructed on Commissioner Street east of The Don Roadway. Timing is unknown.

Alternative 3B.1 – Two Siphons

In Alternative 3B.1 (shown in Appendix A), Community 2, located at the south end of the Lower Don Lands, would be drained by new trunk sewer that flows toward the middle of the site. The flows would be directed north into a siphon that crosses under the proposed river valley to connect with a new sanitary system within Community 1. The location of the siphon is most likely in the vicinity of the Munitions Street alignment. The sanitary flows from Community 1, plus the flows from Community 2, would then drain eastward within a new sanitary trunk gravity sewer on Commissioners Street to a second siphon crossing under the proposed

river valley immediately west of The Don Roadway. For this to work, a temporary pumping station would lift the sewage approximately 2 meters into the existing sewer running north on The Don Roadway.

When the new gravity trunk sewer is constructed east of The Don Roadway, then the pumping station would be removed and the trunk sewer in Community 1 would be high enough to directly connect into the new future gravity trunk sewer on Commissioner's Street east of The Don Roadway.

Alternative 3B.2 – One Siphon

Alternative 3B.2 (shown in Appendix A) is identical to Alternative 3B.1; however, in place of constructing a siphon before the temporary pump station, a straight piece of sanitary sewer would be installed deeper and flow by gravity to the temporary pump station. The downside of this alternative is that the sewage will need to be lifted 4m at the temporary pumping station, compared to only 2 meters in Alternative 1. The upside is the straight piped sewer will be high enough to connect directly into the future gravity sewer constructed on Commissioners Street east of The Don Roadway.

Alternative 3B.3 – No Siphons

Alternative 3B.3 (Figure 7 2) proposes draining Community 1 and 2 eastward to The Don Roadway via separate gravity trunk sewers. The proposed gravity sewer servicing Community 2 will flow north on The Don Roadway to Commissioner's Street. Both sewers will connect into the temporary pumping station where the combined sewage will be lifted to an approximate maximum height of 4 meters to connect into the existing gravity sewer running north on The Don Roadway. Both sewers will be high enough to connect into the future gravity sewer running along Commissioners Street.

Alternative 4: Vacuum Sanitary System

The 2010 LDL EAMP considered the use of a full, or partially applied vacuum-transmission system in the Lower Don Lands as the flat grade of the Lower Don Lands, the high water table and ecosystem protection requirements would favour this type of system. This applies particularly for the Keating South and Shipping Channel West neighbourhoods. The system requires ongoing energy input and is reported to be competitive with pumping systems in its range of feasible operability. In the Lower Don Lands though, this range is exceeded by the high residential development density. The 2010 LDL EAMP therefore determined that the vacuum sewer system is not recommended at this location for the development as a whole. There may nevertheless be localized applications where it could be considered as a supplement to the gravity flow/pumping alternatives. Such possible applications can be evaluated during the detailed design stage of the project.

As per the conclusion of the 2010 LDL EAMP, Alternative 4 is therefore not recommended as a general solution.

Alternative 5: Ship Channel West Eco-Island

The 2010 LDL EAMP examined the eco-island concept for the southern-most island – part of the Lower Don Lands only. It represents an innovative solution and is aimed at creating a sustainable self-supporting environment. The Lower Don Lands "islands" are not remote from existing services. The land use requirements, the very high development cost and ongoing operations and maintenance demands of this concept may render it not competitive. An in-depth analysis is required if this option is to be taken forward as a preferred alternative for part of the Lower Don Lands.

The 2010 LDL EAMP concluded that Alternative 5 was incorporated in the list of alternative solutions to leave the door open for the potential implementation of future innovative wastewater treatment and re-use servicing methods. Alternative 5 as a project wide wastewater servicing solution is not considered practical given the proximity of the project to cost effective wastewater servicing solution. As such undertaking a detailed analysis is not required by the EA process at this point in time.

7.2.4 Preliminary Preferred Planning Alternative

The 2010 LDL EAMP concluded the Preferred Planning Alternative to be Alternative 3B since it is technically and environmentally feasible, complies with new site layout requirements, has flexibility to accommodate planning and loading changes and minimizes energy input requirements and is consistent with the City approved ultimate sanitary gravity trunk sewer system.

Following PLAI, Alternative 3B remains

the Preferred Planning Alternative with the only adjustments being re-configuration / re-routing of the infrastructure to match the PLAI plan.

The preferred planning alternative is Alternative 3B.3 – No Siphons. This solution will require a temporary pumping station to lift the sewage to the existing gravity sewer running north on The Don Roadway. Alternative 3B.3 is illustrated in Figure 7-2. This preferred alternative solution consists of a combination of Schedule A and Schedule B activities and as such further evaluation of alternative designs for implementation of the preferred planning solution including mitigating measures will take place during the implementation phase of the project as per the Class EA requirements.

7.2.5 Configuration

As a result of the changes from PLAI the proposed infrastructure for the sanitary system servicing the study area has been re-routed from that configured for the 2010 LDL EAMP to match the PLAI plan.

Figure 7-2 illustrates the changes between the 2010 LDL EAMP configuration and the proposed revisions to match the PLAI plan. Readers should refer to section 13.2 of the 2010 LDL EAMP for further rationale for the system configuration.

This includes:

- a new gravity flow trunk sewer within Community 1 along Commissioners Street to a temporary pumping station at Commissioner Street and The Don Roadway.
- a new gravity flow trunk sewer within Community 2 extending to The Don Roadway and north to the temporary pumping station at Commissioner Street and The Don Roadway.
- a recently constructed gravity flow trunk sewer to Cherry Street at Lakeshore Boulevard.

Locations of new sewers must avoid encroachment by future TTC tracks or trees and their soil cells.

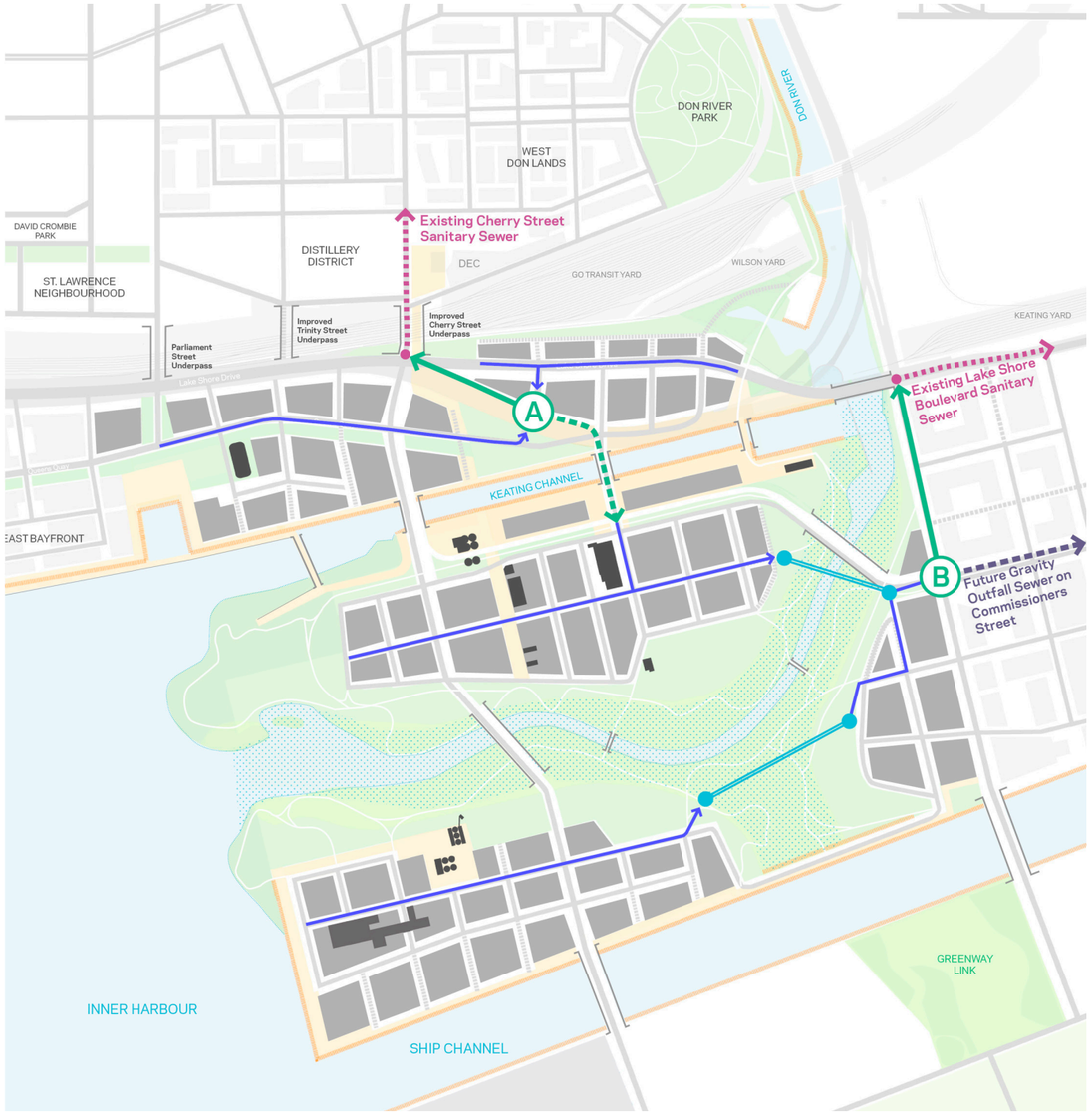
If minor adjustments are required to the configuration of the network as a result of any future precinct planning process, they will not require an EA addendum provided the wastewater collection system remains within the public road rights of way.

During implementation, designers should refer to section 13.2 of the 2010 LDL EAMP for additional design considerations. Toronto Water prefers that wastewater collection infrastructure is built wherever possible beneath the travel lanes of roadways.

Sanitary Sewer Recommendations

1. The sanitary sewer should be concrete encased, and a buried riffle, equivalent to the City's construction in East Highland, should be placed over top of the sanitary sewer.

APPROVED EA MASTER PLAN- SANITARY SEWER



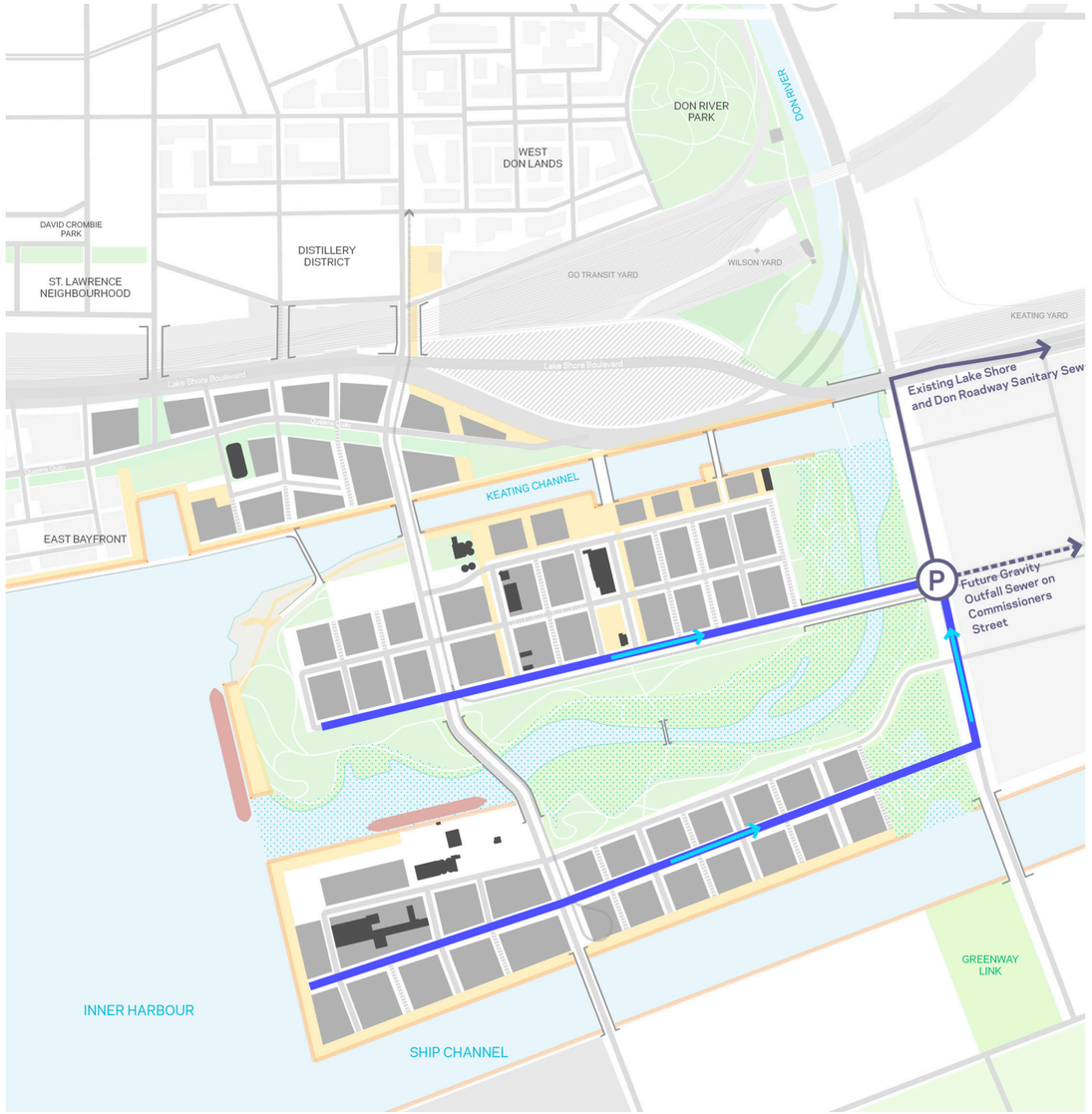
- CONNECTION TO EXISTING SANITARY SEWER
- GRAVITY-FLOW SEWER
- INVERTED SIPHON
- FORCE MAINS FOR INITIAL DEVELOPMENT
- ALTERNATE FORCE MAIN IF THE LLI AT THE CHERRY STREET OUTLET DOES NOT HAVE SUFFICIENT CAPACITY AS DETERMINED BY THE TORONTO CSO CLASS EA
- (A) PUMP STATION
- POTENTIAL FUTURE TRUNK SEWER FOR PORT LANDS IF THE TORONTO CSO CLASS EA DETERMINES THAT THIS SOLUTION ADDRESSES THE OPERATIONAL NEEDS OF THE LLI
- OPEN SPACE

N

0 50M 100M 150M 200M

FIGURE 7.2: *Proposed Sanitary Sewer Revisions*

2013 LDL MP EA STUDY- SANITARY SEWER



- GRAVITY-FLOW SEWER
- (P) PUMP STATION
- CONNECTION TO EXISTING GRAVITY-FLOW SEWER
- CONNECTION TO FUTURE GRAVITY-FLOW SEWER

N

0 50M 100M 150M 200M

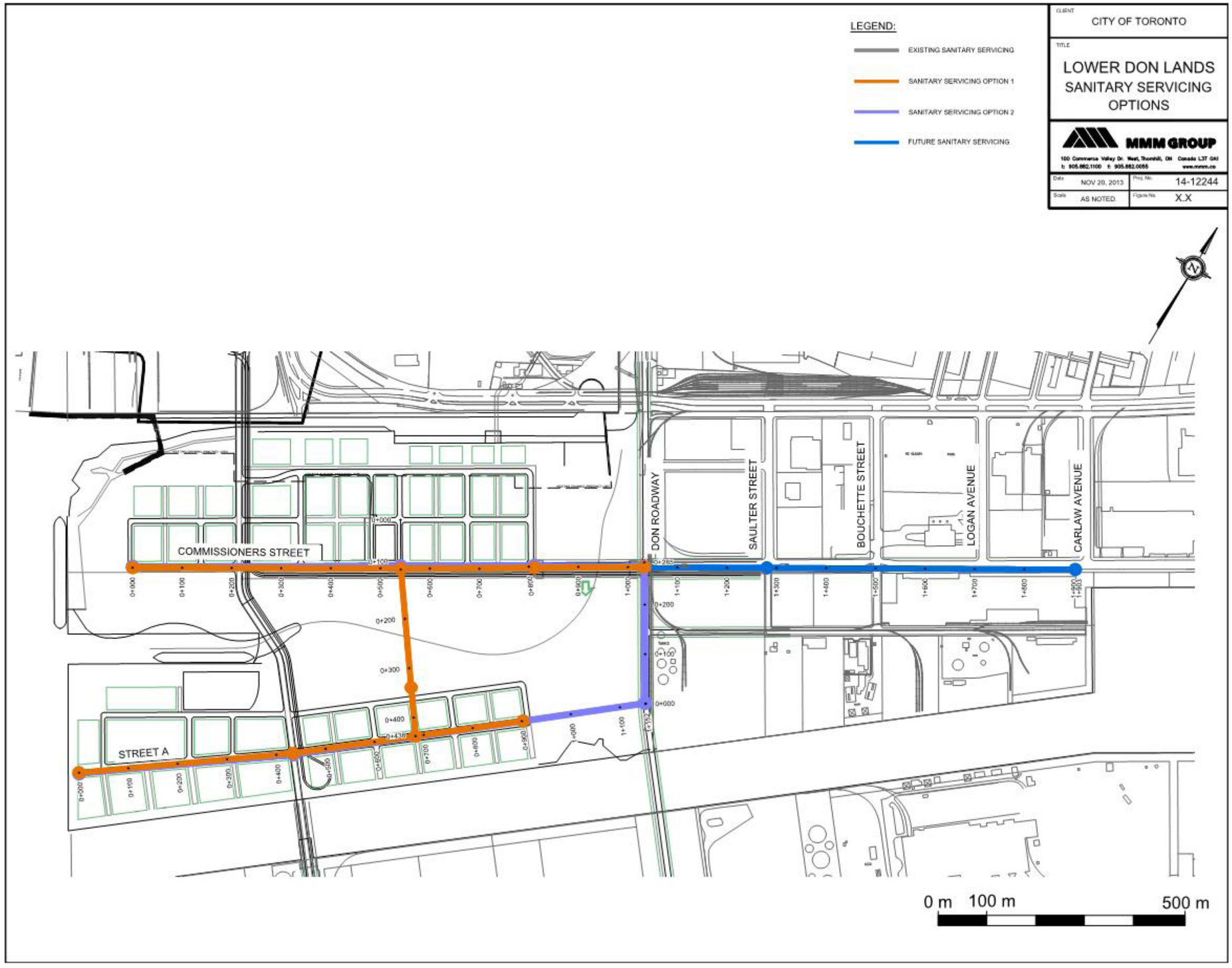


FIGURE 7.3: *Sanitary Servicing Options*

8 STORMWATER MANAGEMENT

8.1 OVERVIEW OF THE PREVIOUS 2010 LDL EAMP APPROVALS FOR STORMWATER MANAGEMENT INFRASTRUCTURE

The existing Lower Don Lands have a conventional stormwater collection system that consists of short run sewers that discharge directly to the surrounding water bodies including the Keating Channel, the Ship Channel and the Inner Harbour. There are no stormwater quantity control measures and no stormwater quality treatment. This is not surprising since most of the existing storm water infrastructure was constructed between the 1920s and the 1940s.

The proposed re-development of the Lower Don Lands will require the removal of much of the existing storm drainage infrastructure network as the grades are raised for flood protection create the new river valley system and flood protection spillway. The existing stormwater drainage system will need to be replaced with a modern stormwater management system.

The City of Toronto has adopted a number of key policy documents that set criteria for the management of stormwater, including the Toronto Wet Weather Flow Management Guidelines and the Toronto Green Development Standards. These exist in tandem with the Province of Ontario's Ministry of Environment and Climate Change Stormwater Management Planning and Design Manual and various requirements of the Toronto Region Conservation Authority. These guidelines all denote current standards for an acceptable management of both quantity and quality of stormwater for all new land development projects.

The 2010 LDL EAMP completed a number of steps as part of the Municipal Class EA process:

- It evaluated the stormwater collection system servicing the study area to determine the improvements required to meet the projected needs in terms of on-site stormwater management, conveyance controls and water quality treatment measures.
- It determined the amount of infrastructure required to connect the planned neighbourhoods with each other and the existing City infrastructure network, including locating stormwater quality treatment facilities at key locations, and providing for a system of directing cleaner rainwater to riverine seepage wetlands.
- It described and assessed four (4) stormwater management planning alternatives:
    - **Alternative 1** – Do nothing.
    - **Alternative 2a** – Use Oil/Grit Separators to help reduce Total Suspended Solids (TSS) for water quality treatment.
    - **Alternative 2b** – Use Detention Pond/ Sediment Trap to help reduce TSS.
    - **Alternative 3** – Integrated Treatment Train Approach to manage Rate, Volume, Quality and Delivery of stormwater surface runoff to Receiving Water.
- Section 8.2.2 of the 2010 LDL EAMP listed the seven major evaluation criteria used to assess the alternatives including: Natural Environment, Social Environment, Economic Environment, Cultural Environment, Sustainability, Land Use and Property, Municipal Services

8.2 IMPLICATIONS OF THE PLAI

The PLAI process re-configured the layout of future development areas in the Lower Don Lands. Although this changes the deployment of stormwater conveyance systems within the road allowances, as the road alignments changed, the only significant change resulting from the PLAI is the location of the stormwater water quality treatment facilities. The facilities require new locations to correspond to the changes in development blocks and open spaces.

8.3 PREFERRED STORMWATER MANAGEMENT PLANNING SOLUTION (PHASE 2 OF THE MUNICIPAL CLASS EA)

The 2010 LDL EAMP concluded that the Preferred Planning Solution is Alternative 3 – an Integrated Treatment Train Approach. This industry accepted Treatment Train Approach includes the following components as described in the 2010 Addendum:

- **Source controls:** include the use of water retention/detention methods to manage the amount of stormwater runoff close to the source. This includes but not limited to the use of green roofs and/or cisterns for water reuse. Other measures are available and can be considered in the later design stages.
- **Conveyance controls:** includes the use of stormwater quality treatment methods designed to reduce the amount of stormwater runoff as well as provision for the removal of sediments from the stormwater runoff. This includes the use of oil/grit separators. Conveyance controls apply to locations where stormwater runoff is being conveyed from a particular source to a receiving water body. This applies to roads and walkways.
- **End of pipe controls:** includes the use of devices that will help clean the stormwater runoff for the required water quality levels. This includes the use of ponds, tanks and other large devices. In addition, disinfection of runoff is also a consideration. The End-of-Pipe controls are located prior to ultimate discharge to a receiving water body. For the location, the receiving water would be either the Don River or Lake Ontario.

The 2010 LDL EAMP proposed that stormwater runoff directed to the areas adjacent to the new Don River could be used as resource. As sites are re-developed, the "clean" stormwater could be used to support high quality wetlands, seeps and rivulet outlets in the river valley. This way, sensitive ecological elements that were part of the naturalization design could be supported with a water supply provided it had little, if any, road salt or contaminants that could not be managed through natural filtration processes. Runoff from green roofs or impervious roof areas was the most suitable source for these features as it is deemed by industry standards to be "clean" water.

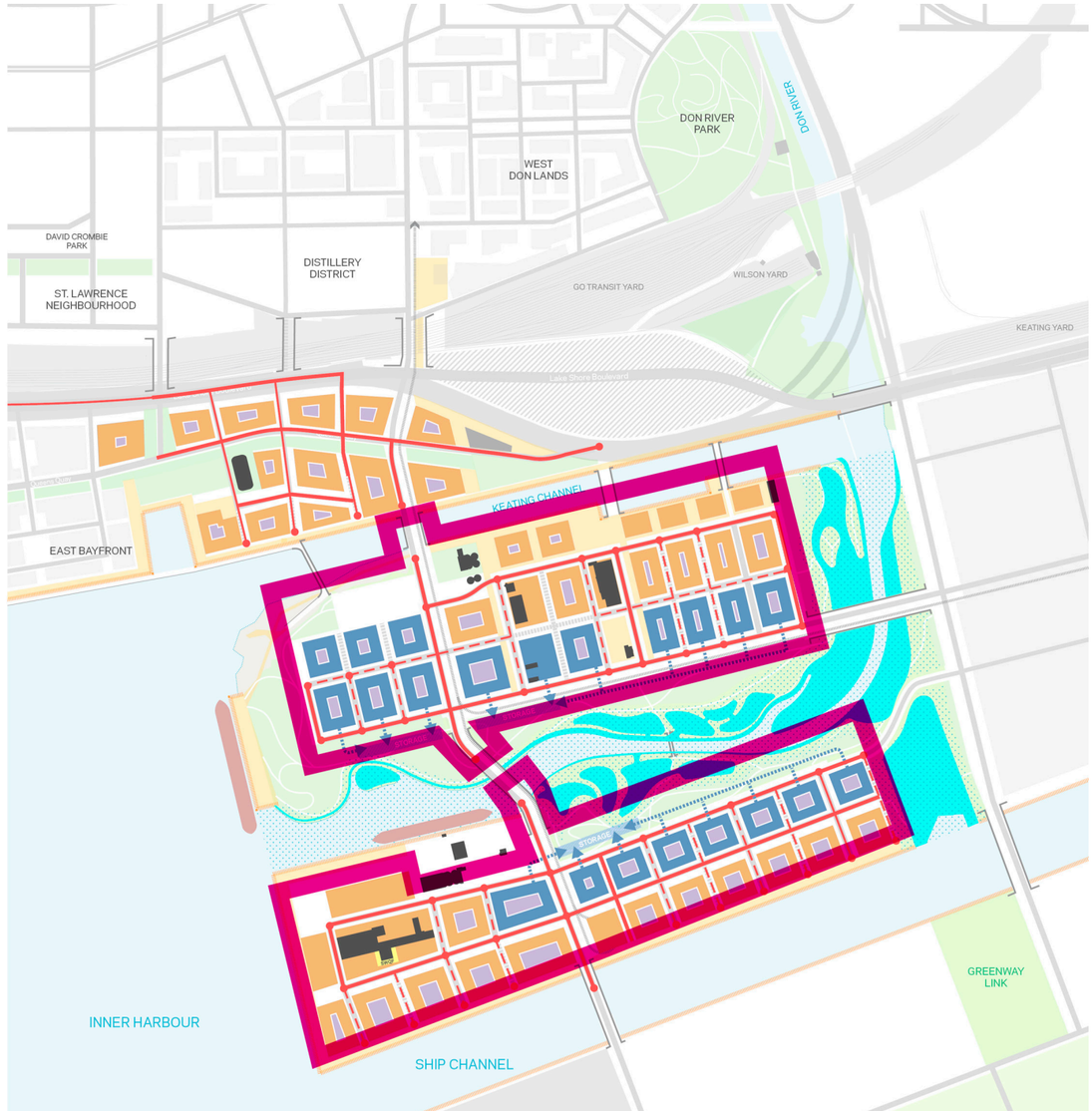
CHANGES TO THE 2010 LDL EAMP CONFIGURATION

As a result of the changes from PLAI, the proposed infrastructure for the stormwater drainage system was reconfigured to match the PLAI plan. Figure 8-1 highlights the changes between the 2010 LDL EAMP stormwater drainage system and the proposed configuration to the stormwater drainage system to match the PLAI plan based on the initial review as part of this addendum.

APPROVED EA MASTER PLAN- STORMWATER DRAINAGE

PROPOSED OR RELOCATED IN THIS ADDENDUM

2013 LDL MP EA STUDY- STORMWATER DRAINAGE



- ROOFS OF BLOCKS DRAINED TO HIGH-QUALITY WETLANDS
- ROOFS OF BLOCKS USED FOR STREET TREE IRRIGATION AND FLUSHING OF SALT RUNOFF
- STREET RUNOFF ACHIEVES MOE ENHANCED STORMWATER QUALITY
- NON-ROOF, NON-ROAD (PRIVATE)
- PARKLAND
- SEEPAGE WETLAND
- RIVERINE WETLAND
- STORAGE
- OIL/GRIT SEPARATOR
- UV TREATMENT

N

0 50M 100M 150M 200M

- ROOFS OF BLOCKS DRAINED TO HIGH-QUALITY WETLANDS
- ROOFS OF BLOCKS USED FOR STREET TREE IRRIGATION AND FLUSHING OF SALT RUNOFF
- STREET RUNOFF ACHIEVES MOE ENHANCED STORMWATER QUALITY
- NON-ROOF, NON-ROAD (PRIVATE)
- PARKLAND
- RIVERINE WETLAND
- POTENTIAL STORAGE

N

0 50M 100M 150M 200M

FIGURE 8.1: *Proposed Stormwater Drainage Revisions*

8.4 CONSIDERATION OF ALTERNATIVE DESIGNS FOR PHYSIO-CHEMICAL STORMWATER QUALITY (PHASE 3 OF THE MUNICIPAL CLASS EA)

REVIEW OF THE 2010 LDL EAMP

Most stormwater management infrastructure is categorized under Schedules A, A+ or B of the Municipal Class Environmental Assessment. As such, the completion of Phases 1 and 2 in a Master Plan is sufficient to complete the Class EA process. However, infrastructure for the mechanical treatment of stormwater is found under Schedule C of the Municipal Class EA. For those components of the system, proponents are required to consider Alternative Designs, which is addressed in Phase 3 of the Class EA process.

The 2010 LDL EAMP completed Phase 3 of the Class EA for the Keating Precinct; however, it did not address the lands south of Villiers Street; namely the Lower Don Lands.

The 2010 LDL EAMP assessed six (6) stormwater quality treatment Design Alternatives:

- Alternative 1 – Development Blocks have Individual Treatment Systems
- Alternative 2 – Development Blocks have Individual Treatment Systems with One Common Disinfection Facility
- Alternative 3A – Common Facility for All Stormwater Treatment to Service One Precinct Only – But Linked to Adjacent Precinct Systems
- Alternative 3B – Common Facility for All Stormwater Treatment to Service One Precinct Only
- Alternative 4A – Common Facilities Optimized to Meet Water Quality Targets
- Alternative 4B – Common Facilities Optimized to Meet Water Quality Targets and Sized Based on Available Space

Alternative 4B was the Preferred Stormwater Quality Design Alternative for the Keating Precinct. The rationale is as follows:

- It maximizes efficiencies with adjacent stormwater treatment facilities and land uses;
- It was most compatible with the City of Toronto's goals for stormwater management in the waterfront area;
- It uses less land in each separate neighbourhood since integrated facilities are used;
- It ensures that the precinct stormwater is dealt with appropriately, regardless of the outcome of the adjacent studies and supports mixed land use for a vibrant community;
- It is cost effective to build since it is integrated with stormwater treatment in adjacent neighbourhoods;
- It includes natural processes in the design and confirms appropriate water quality targets;
- It will meet sustainability targets by improving water quality, reducing impervious surfaces and addressing both the City and Waterfront Toronto sustainability standards and framework; and
- It would achieve technical sustainability and other engineering aspects with a common facility for UV treatment.

The review of Stormwater Quality Treatment Design Alternatives that applied to the Keating Precinct would not be any different if applied to the remaining Lower Don Lands. The rationale to select a Common Facilities Optimized to Meet Water Quality Targets and Sized Based on Available Space is equally valid and remains to be the Preferred Alternative. Notwithstanding, proposed stormwater management facilities will be sized to achieve the necessary quality control targets and to facilitate operations and maintenance to the requirements of the City.

8.4.1 Recent Advances in Stormwater Quality Treatment Process

Since 2010, Waterfront Toronto and the City of Toronto have continued to explore innovative technologies for stormwater quality treatment. The 2010 LDL EAMP referred to a UV disinfection process. As detailed design and construction advances on the West Don Lands and East Bayfront stormwater quality treatment works, the process that has been approved for pre-treatment of the stormwater before UV disinfection is called a Ballasted Flocculation technology (BF).

BF was traditionally used throughout Europe to treat water. BF is a high-rate, physical-chemical clarification process involving the fixing of flocs, or suspended solids, onto ballast (sand) with the aid of a polymer. A combination of a metal-salt coagulant,

micro-sand (or sludge recycle), and enhanced clarifier features (such as lamella settlers) increase settling. The resulting sludge, which contains the micro-sand mixture, collects at the bottom of the sedimentation basin for pumping to hydrocyclones, where the sludge is centrifuge-separated from the micro-sand. The residual solids are sent through a sludge processing system and the recovered micro-sand is recycled to the injection tank (Source: www.wateronline.com).

The Lower Don Lands is expected to be developed in a series of phases that could extend over 2 or 3 decades. It is very likely that Waterfront Toronto and the City will continue to review new technologies as they become available in order to promote sustainable development. In this light, future changes in the stormwater quality treatment technology will not necessitate an Addendum to this Class EA Master Plan as long as the design consists of a common facility (such as the 480 Lakeshore Ballasted flocculation facility (BFF) site) that is optimized for several development areas and includes a stormwater disinfection process.

Figure 8-2 illustrates the combined components of the Preferred SWM Planning Alternative (an Integrated Treatment Train Approach) and the Preferred Stormwater Quality Design Alternative (Common Facilities Optimized to Meet Water Quality Targets and Sized Based on Available Space). The innovative features of the preferred Stormwater Management system is the adoption of the Ballasted Flocculation technology (BF) and UV Disinfection, similar to the system recently constructed at 480 Lakeshore Road East in the West Don Lands. Notwithstanding the "Road (public)" component of stormwater management shown on Figure 8-2, a comprehensive feasibility study would be required to understand all aspects of implementation, operation and maintenance including a cost / benefit analysis of any other component shown of Figure 8-2, if the City were to undertake a role in such component.

The 2010 LDL EAMP completed Schedule B (Phase 2) requirements of the Municipal Class EA process. It did not complete the EA requirements for siting of BFF/UV stormwater treatment systems south of the Keating Channel. The mechanical stormwater treatment systems are subject to a Schedule C EA evaluation which requires completion of Phases 3 and 4 within the Master Plan EA process.

Alternative Designs of the Preferred Stormwater Quality Design Alternative is addressed in the following section.

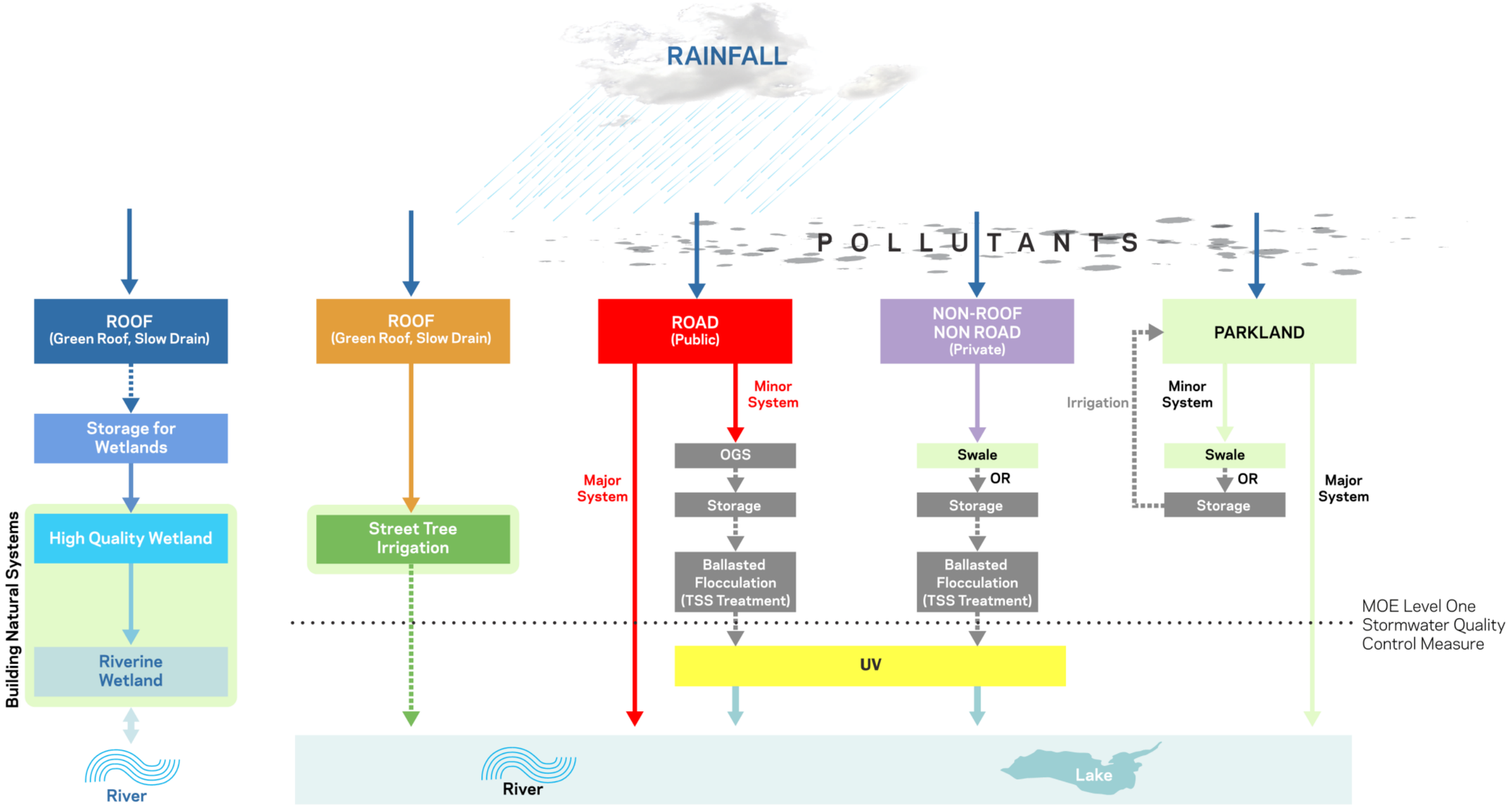


FIGURE 8.2: *Water Quality Treatmetn Process*

8.5 ALTERNATIVE DESIGNS OF THE STORMWATER CONVEYANCE AND QUALITY CONTROL FOR COMMUNITIES 1 AND 2 IN 2013 LDL UPDATE (CONTINUANCE OF PHASE 3 OF CLASS EA PROCESS)

These following sections address alternative designs for the Preferred Stormwater Quality Control Design Alternative (stormwater conveyance and stormwater quality treatment); whereas the previous section summarized the Preferred SWM Planning Alternative and the Preferred Stormwater Quality Control Treatment Design Alternative.

This is a continuance of the Phase 3 Class EA process to further refine the desired features of the Preferred Stormwater Quality Treatment Design Alternative.

In response to the detailed design of the new BFF / UV stormwater quality system adopted for the West Don Lands, the stormwater quality treatment concept proposed in the 2010 LDL EAMP was re-evaluated. The 2010 LDL EAMP was based on the concept that an Oil Grit Separator (OGS) technology was used to achieve a UV treatable stormwater for Community 1 (Cousins Precinct) and Community 2 (Polson Precinct). This 2013 evaluation concluded that OGS treatment alone would not provide adequate level of treatment for effective UV disinfection. The revised Stormwater Quality Treatment solution includes a conventional gravity piped system draining to an OGS for pre-treatment and then draining to a storage tank and subsequently pumped to a BFF and UV disinfection for a high level of stormwater water quality treatment.

The exact locations of the preferred SWM infrastructure will be determined through the Precinct Planning process and detailed design stage (Phase 5 of the Class EA process) and subsequent development approvals. Furthermore, the following are some additional considerations:

- The OGS and BFF/UV facility must be sized to meet the anticipated development area and anticipated runoff (taking into account impervious surface areas and the amount of water that may be reused for irrigation or directed to naturalized areas);
- The OGS and BFF/UV facility should be located in areas where they do not interfere with other infrastructure or in areas where the surface condition of the facility would diminish usable park space or put limitations on how park space could be used.

8.6 ALTERNATIVE DESIGNS FOR THE MECHANICAL STORMWATER QUALITY CONTROL PROCESS

Two variations of Alternative 4B, the Preferred Stormwater Quality Control Design Alternative, were evaluated and they clearly have a different EA status under the Municipal Class EA process, as follows:

ALTERNATIVE 4B.1: GRAVITY DRAIN ALL STORMWATER RUNOFF TO THE NEW BFF/ UV FACILITY AT 480 LAKESHORE

If this Alternative is selected as the Preferred Design, then the EA process conducted to date is sufficient to satisfy Schedule B requirements of the Municipal Class EA process. This is because the West Don lands EA was amended to accommodate BFF / UV facilities. However, a significant limiting factor is the BFF / UV facilities were not designed to accommodate the stormwater from the Lower Don Lands.

During the public consultation and technical review process, the City noted their preference, from solely an operations and maintenance perspective, was to convey all of the minor drainage stormwater runoff from the Lower Don Lands northerly to the new BFF/ UV facilities at 480 Lakeshore within the West Don Lands. The City also expressed a strong desire for one centralized stormwater treatment facility. This position is reasonable since the City will ultimately be responsible for the long term operation and maintenance of the BFF / UV facilities.

Three (3) alternative designs for transporting the minor drainage stormwater runoff from the Lower Don Lands to the 480 Lakeshore BFF /UV facilities were considered. The alternative designs include 3 options B1, B2 and B3. A description and the schematics of the 3 alternative designs are include in Appendix B. Furthermore, all three design alternatives are based on the new Cherry Street alignment.

During technical discussions, the City also expressed their preference for a gravity flow system. Again, this is from an operations and maintenance perspective. Since the bottom of the new river valley is designed to be substantially deeper downstream of Munitions St. then the alignment for a gravity system was moved further upstream to the mid-block in the vicinity of Munitions Street.

A very preliminary schematic for a gravity flow system for stormwater runoff draining to the 480 Lakeshore BFF / UV via mid-block is illustrated in Figure 4 within Appendix B. The profile approximates the (i) current elevation of land in Communities 1 and 2, (ii) the new design depth of the river bottom at

Munitions Street and Cherry St, (iii) the depth of the Keating Channel, and (iv) the current elevation of land, the depth of bedrock and the design depth of WDL shaft at 480 Lakeshore BFF site, and (v) the depth that a pipe / tunnel would need to be to transport stormwater to the WDL shaft.

From this very preliminary illustration, a gravity flow system from the Lower Don Lands south of Keating Channel to 480 Lakeshore BFF / UV stormwater quality treatment facility appears viable.

ALTERNATIVE 4B.2: ONE BFF / UV FACILITY CONSTRUCTED IN COMMUNITIES 1 OR 2

If a new BFF /UV facility is constructed in Communities 1 or 2 to achieve UV treatable stormwater then additional EA activities are required to meet the requirements of a Schedule C project (Phases 3 and 4 of the Master Plan EA process). This is the reason for continuance of the Phase 3 Class EA process to further refine the design features of the Preferred Stormwater Quality Control Design Alternative.

A preliminary schematic depicting the single BFF / UV treatment system serving Communities 1 and 2 is illustrated in Figure 5 within Appendix B.

One possible siting for the BFF/UV facility has been set aside as a temporary placeholder in the Cousins Precinct Land Use Concept Plan. Community 2 is linked via a new horizontal shaft tunneled under the proposed river valley. From the design team's perspective, one facility in each Community (i.e. on either side of the new river mouth) was advocated to maximize opportunities for reuse of treated stormwater. From the City's operations and maintenance perspective, a single BFF / UV facility within the Lower Don Lands is strongly preferred.

ALTERNATIVE 4B.3: TWO BFF / UV FACILITIES CONSTRUCTED IN COMMUNITY 1 AND 2

Same as above, if two BFF / UV facilities are constructed in Communities 1 and 2 then some additional EA activities are required to meet the requirements of a Schedule C project (Phases 3 and 4 of the Master Plan EA process). Again, this is the reason for continuance of the Phase 3 Class EA process to further refine the design features of the Preferred Stormwater Quality Treatment Design Alternative.

A preliminary schematic depicting the two BFF / UV treatment systems, each serving Communities 1 and 2 respectively, is illustrated in Figure 6 within Appendix B.

A possible siting for each BFF/UV facility has been set aside as a temporary placeholder in the Cousins Precinct and the Polsons Precinct Land Use Concept Plan. From the design team's perspective, one facility in each Community (i.e. on either side of the new river mouth) would maximize opportunities for reuse of high quality treated stormwater. On the other hand, the City is not in favour of having two BFF/ UV facilities within the LDL since this would further increase the annual operations and maintenance costs.

Note to Reviewer: At this stage of the Phase 3 analysis, the City of Toronto asked Waterfront Toronto to carry out some additional work, specifically to:

1. Conduct a high level review of practical discharge locations for treated stormwater;
2. Estimate capital cost for one vs. two BFF / UV facilities, and
3. Estimate Life cycle operating costs for one vs. two BFF / UV facilities.

The outcome of this additional analysis is presented in the following sections.

8.7 HIGH LEVEL REVIEW OF POTENTIAL DISCHARGE LOCATIONS FROM LDL STORMWATER QUALITY FACILITY (SWQF)

During preliminary discussions on the stormwater management (SWM) Design Solutions, a concern was raised about where the treated storm water would be discharged. In response, the team completed a high level review of the potential discharge locations, including a summary of the relative advantages and disadvantages of each and a matrix evaluation using a variety of EA parameters. The outcome is presented in Table 8-1. An illustration of the three discharge locations is presented in Figure 8-3.

The following three (3) alternative discharge locations all drain directly into Lake Ontario:

1. Ship Channel
2. Keating Channel
3. New River Valley

The Matrix Evaluation of Discharge Locations presented below in Table 8-2 is based on the following assessment parameters reproduced from Section 8.2.2 of the LDL Class EA Infrastructure Master Plan, 2010. A description of each EA parameter is defined in Appendix C.

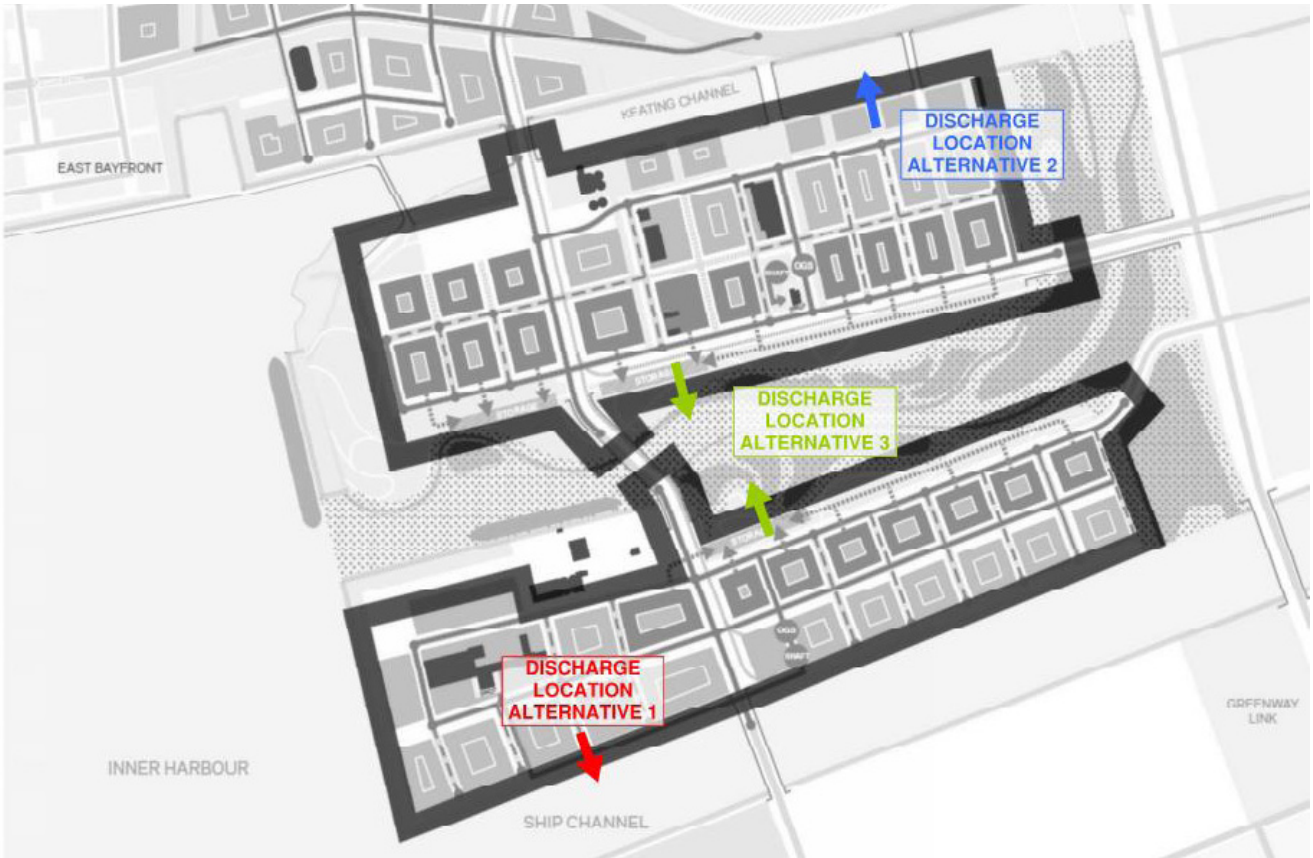


FIGURE 8.3: *Lower Don Lands Stormwater Facility (SWQF) Potential Discharge Locations for treated/clarified water (MMM - November 2013)*

TABLE 8-1: ADVANTAGES AND DISADVANTAGES OF DISCHARGE LOCATIONS

SWM Discharge Locations	Advantages	Disadvantages
1. Ship Channel	• Convenient SWM outlet for Polson Precinct. Distance would be short. • The building and surface grates would be the only visible infrastructure.	• Not convenient for Cousins Precinct unless it is a combined SWQF • Navigational waterway, therefore the outlet would likely need to be deeper and submerged (as required for SWM outlet from WDL)
2. Keating Channel	• Convenient SWM outlet for Cousins Precinct. Distance would be short. • SWM outlet to upstream (east) end of Keating Channel would improve circulation in channel • The building and surface grates would be the only visible infrastructure.	• Not convenient for Polson Precinct unless it is a combined SWQF • Navigational waterway, therefore the outlet would likely need to be deeper and submerged (as required for SWM outlet from WDL)
3. New River Valley	• Centrally located. Convenient discharge location for either Cousins or Polson Precincts. Distance would be short for either Precinct. • Discharge is an excellent source of recharge for proposed wetland areas • Outlet would likely be shallower • The building and surface grates would be the only visible infrastructure.	• Additional erosion protection may be required at outlets down to river low flow channel • Must coordinate location of works with other proposed municipal services proposed on Commissioners Street and Unwin Ave

TABLE 8-2: MATRIX EVALUATION OF DISCHARGE LOCATIONS

Main Criterion	Keating Channel	River Valley	Ship Channel
Natural Environment	Direct discharge. Treated stormwater will help contribute to a healthier quality of water in the existing navigational waterway when the low flows are permanently re-directed to the naturalized River Valley.	Discharge via buried pipe or open channel to river. Discharge can provide additional flow to help recharge constructed wetlands in naturalized river valley (in addition, the Master Plan includes use of clean rooftop discharge for wetland recharge as well).	Direct discharge. Treated stormwater will help contribute to a healthier quality of water in the existing navigational waterway
Social Environment	No impairment to access to navigational waterway	No impairment to access to water naturalized river valley	No impairment to access to navigational waterway
Economic Environment	No impairment. Majority of the SWM infrastructure is below grade, thereby permitting maximum use of surface for development.	No impairment. Majority of the SWM infrastructure is below grade, thereby permitting maximum use of surface for development.	No impairment. Majority of the SWM infrastructure is below grade, thereby permitting maximum use of surface for development.
Cultural Environment	No obvious impacts	No obvious impacts	No obvious impacts
Sustainability	UV treated discharge will help contribute to a healthier quality of water in the existing navigational waterway once the low flows are re-directed to the new River Valley.	UV treated discharge will help support healthy constructed wetlands (http://en.wikipedia.org/wiki/Wetlands and naturalized valley wall plantings).	UV treated discharge will help contribute to a healthier quality of water in the existing navigational waterway
Land Use and Property	The building housing the SWQF and surface grates would be the only visible infrastructure.	The building housing the SWQF and surface grates would be the only visible infrastructure.	The building housing the SWQF and surface grates would be the only visible infrastructure.
Municipal Services	Must coordinate works with other new municipal services & utilities proposed on Commissioners Street and Unwin Ave	Must coordinate works with other new municipal services & utilities proposed on Commissioners Street and Unwin Ave	Must coordinate works with other new municipal services & utilities proposed on Commissioners Street and Unwin Ave

In summary, it appears there are no clear differences in the various discharge locations that would strongly favour one location over another. It is expected that any perceived adverse impacts can be properly mitigated during the Precinct Plan detailed design process. It needs to be confirmed at the Precinct Planning stage that this outcome is compatible with the recommendations in the 2014 DMNP EA.

8.7.1 Preliminary Cost Estimates and O & M Cost Estimates

A final selection of the preferred SWM Design Alternative will depend on the outcome of a review of the Capital Costs and the Life Cycle Operating and Maintenance Costs of the various alternatives. Our preliminary assessment is addressed using recent construction tender costs and estimated O & M costs for the SWM system servicing the West Don Lands and East Bayfront. The preliminary estimates for one BFF / UV facility within the Lower Don Lands vs. two independent BFF / UV facilities is presented in Appendix B.

The preliminary assessments suggest the estimated Capital Cost between 1 or 2 BFF / UV facilities is very similar ranging between $ 38 Million to $ 42 Million.

The O & M costs are based on the assumptions used for the 480 Lakeshore Rd SWM facility. The estimated annual costs for the Lower Don Lands SWM system are expected to be about $ 1 Million.

This includes frequent removal of debris from the OGS's; operation of the storage shaft lift pump; and maintenance of the SWQF.

The Capital Cost estimate and the O & M estimates include a contingency of 40%.

8.8 OVERALL COMPARISON OF ALTERNATIVE DESIGNS

The EA & design team completed a high level review of the Alternative Designs for Mechanical Stormwater Treatment, including a summary of the relative advantages and disadvantages of each and a matrix evaluation using a variety of EA parameters. The results are presented below in Table 8-3 and Table 8-4.

TABLE 8-3: ADVANTAGES AND DISADVANTAGES OF ALTERNATIVE DESIGNS FOR MECHANICAL STORMWATER QUALITY CONTROL

Alternative Design	Advantages	Disadvantages
Alternative 4B.1: Gravity drain all stormwater runoff to the new BFF/ UV Facility at 480 Lakeshore / Keating Precinct	• Connection to the existing facility would promote a centralized system for easier Operation and Maintenance. • It appears the Lower Don Lands south of Keating Channel (Lower Don Lands) could be connected via a gravity pipe tunneled to the 480 Lakeshore facility / Keating Precinct (480)	• Construction of current 480 Lake Shore stormwater quality control facility is imminent and is under specific deadlines for completion which would make changes to accommodate LDL south of Keating Channel difficult. • The high quality stormwater discharge would be directed to the existing UV outlet at the Keating channel & not available for use within the LDL • Tunneling from the LDL to 480 Lakeshore creates uncertainty since the possible obstructions /constraints are unknown. Possibly interfere with existing infrastructure.
Alternative 4B.2: One BFF / UV facility constructed in Community 1 or 2	• A new BFF / UV with Cousins Precinct will create independence for future development planning with no risk of dependence on the 480 BFF / UV facility. • There is more flexibility in discharge locations. • Treated discharge is an excellent source of recharge for proposed wetland areas / planted landscapes. • The building and surface grates (OGS, BFF & UV) would be the only visible infrastructure.	• New BFF / UV creates additional operation and maintenance annual costs for the City in the range of $ 1 M • Requires the construction of a tunneled gravity piped connection under the new river channel.
Alternative 4B.3: Two BFF / UV facilities constructed in Community 1 or 2	• A new BFF / UV within each Precinct creates independence for future development planning • There is much more flexibility in discharge locations. • Treated discharge is an excellent source of recharge for proposed wetland areas / planted landscapes. • The building and surface grates (OGS, BFF & UV) would be the only visible infrastructure • No SWM connection between the 2 Precincts • The timing for development of the Polson's Precinct is expected to be several decades. In that time frame, a more advanced & less expensive SWM technology may be available.	• Two BFF / UV facilities creates additional operation and maintenance annual costs for the City in the range of $ 1.2 M • At this point the City will have a least 3 BFF/UV facilities to operate & maintain.

8.8.1 Preferred Alternative Design for Mechanical Stormwater Quality Control

A consultant team has been retained to prepare the Villier's Island Precinct Plan, formerly known as the Cousins Quay Precinct Plan, which was determined through a request for proposal (RFP) design competition that was issued by Waterfront Toronto in collaboration with the City of Toronto and the Toronto Region and Conservation Authority. The Lower Don Lands has an area of approximately 85 ha and is bounded by the Keating Channel to the north, Toronto Harbour to the West, Polson Slip to the south and Munition Street to the east.

Upon completing a high level review of the Alternative Designs for Mechanical Stormwater Quality Control, including a summary of the relative advantages and disadvantages of each and a matrix evaluation using a variety of EA parameters as presented in Tables 8-1 and 8-2 respectively; it is the opinion of the design team the Preferred Design is Alternative 4B.2: One BFF / UV facility constructed in Communities 1 or 2. A further review of the preliminary Life cycle cost analysis together with confirmed locations for a BFF are suggested, which would be completed during the Phase 5 component of the Class EA process. Tunnelling of the infrastructure is most likely the construction method that will be chosen. Bore-hole information within the suggested alignments will be required.

Additionally, locations of all associated storm sewers must avoid encroachment by future TTC tracks or trees and their soil cells.

Our recommended next steps are to complete the following tasks to help refine the design features and location of the infrastructure for Alternative 4B, the Preferred Design Alternative.

TABLE 8-4: MATRIX EVALUATION OF ALTERNATIVE DESIGNS FOR MECHANICAL STORMWATER TREATMENT

Main Criterion	Alternative 4B.1: Connect to 480 Lakeshore	Alternative 4B.2: One BFF/UV Facility	Alternative 4B.3: Two BFF/UV Facilities
Natural Environment	Treated stormwater will help contribute to a healthier quality of water in the existing navigational waterway (Keating Channel).	Until such time the new river valley is constructed, the Treated stormwater will help contribute to a healthier quality of water in the existing navigational waterway (Keating Channel).	Treated stormwater will help contribute to a healthier quality of water in the existing navigational waterway (Keating Channel), new river valley and Ship Channel.
Social Environment	No impairment to access to navigational waterway (Keating Channel).	No impairment to access to navigational waterway (Keating Channel).	No impairment to access to navigational waterways (Keating & Ship Channels) or the new river valley.
Economic Environment	No impairment. Majority of the SWM infrastructure is below grade, thereby permitting maximum use of surface for development.	No impairment. Majority of the SWM infrastructure is below grade, thereby permitting maximum use of surface for development.	No impairment. Majority of the SWM infrastructure is below grade, thereby permitting maximum use of surface for development.
Cultural Environment	No obvious impacts	No obvious impacts	No obvious impacts
Sustainability	UV treated discharge will help contribute to a healthier quality of water in the existing navigational waterway (Keating Channel).	Ultimately, UV treated discharge will help support a healthier quality of water in the existing navigational waterway and healthy constructed wetlands (http://en.wikipedia.org/wiki/Wetlands and naturalized valley wall plantings).	Ultimately, UV treated discharge will help support a healthier quality of water in the existing navigational waterway and healthy constructed wetlands (http://en.wikipedia.org/wiki/Wetlands and naturalized valley wall plantings).
Land Use and Property	The building housing the BFF/UV facilities and surface grates would be the only visible infrastructure.	The building housing the BFF/UV facilities and surface grates would be the only visible infrastructure.	The building housing the BFF/UV facilities and surface grates would be the only visible infrastructure.
Municipal Services	Must coordinate works with other new municipal services & utilities.	Must coordinate works with other new municipal services & utilities.	Must coordinate works with other new municipal services & utilities.

Recommended Additional Tasks in Support of Decision Making

The following are representative of tasks / studies needed to assist in decision making:

1. Obtain bore-hole information since tunnelling of storm-sewers will likely be the construction method chosen for a gravity system. Tunnelling may be needed through fill of unknown geotechnical properties and/or in organic peat deposits.
2. A more comprehensive capital cost estimate for Alternative 4B would be established during the detailed design stage in Phase 5 of the EA process.
3. Conduct a more detailed operations, maintenance and life cycle cost analysis of Alternative 4B. This analysis would supported by the outcome of the forthcoming costs associated with the new BFF / UV facility at 480 Lakeshore.
4. Evaluate alternative locations for siting BFF / UV treatment facilities and siting the discharge locations for the UV treated stormwater within Communities 1 & 2.
5. Evaluate the required flushing rate of the Keating Channel (after baseflow is cut off, due to construction of the new river mouth).
6. Quantify the effect of additional flow from a BFF located at the eastern-most end of the Keating Channel (serving Communities 2 and 3). Determine whether available flows from this location make much of a contribution to the flushing of Keating Channel, and the influence within the Inner Harbour have on flushing (if anything) and other flow augmentation options
7. Further assess the environmental impact / benefit of locating a BFF / UV facility within Communities 1 or within Community 2. Since the creation of a precinct plan for Community 1 is presently underway by Waterfront Toronto then the expectation is the BFF / UV facility will in located in Community 1. This needs to be confirmed.

Additional tasks required by the City are as follows:

8. Develop a plan for the minor stormwater system (size of pipe, direction of flow, location of outlets-stormwater will likely be discharged without physical chemical treatment in winter months).
9. Develop a plan for the major stormwater system (direction of flow, location of outlets).
10. Develop location for intercepting minor pipe system to feed spine of stormwater collected for treatment.
11. Confirm (using modelling means) effect on circulation and receiving water quality of selected points for treated stormwater discharges, and direct discharges from minor and major system.
12. Provide a below ground profile of the spine of gravity flow stormwater collection and treatment elements of the system.

9 PUBLIC CONSULTATION SUMMARY

Public and government review agency consultation is a key feature of the Class EA process. To this end, the project team have engaged the public and relevant review agencies to ensure that they were informed of the study and given the opportunity to provide input to the decision-making process in written and verbal form. The public consultation process was open, flexible and responsive to stakeholder and project needs. The public consultation process undertaken for the 2014 LDL EAMP Addendum and ESR is described below.

9.1 2014 DMNP EA & 2014 LDL EAMP ADDENDUM AND ESR PUBLIC MEETING

The public consultation process undertaken as part of this 2014 LDL EAMP Addendum and ESR involved a public meeting held by Waterfront Toronto, TRCA, and the City of Toronto. The meeting was held on July 24, 2013 at 6:00pm at the EMS Training Centre (Toronto Fire Academy) at 895 Eastern Avenue, Toronto.

The public meeting was held to provide an update on the proposed changes to the 2010 DMNP EA and the 2010 LDL EAMP and to seek feedback on the updated plans. Information was presented on display boards as well as a formal presentation, followed by a discussion wherein participants were encouraged to comment and ask questions on each of the studies.

A total of 125 people attended the public meeting. A total of seven (7) participants submitted written comments at the meeting. Participants were asked to submit any additional comments prior to August 8, 2013; a total of four (4) participants submitted comments following the meeting.

Participants asked questions and commented on changes to both the 2010 LDL EAMP and the 2010 DMNP EA. Participants generally expressed support for the proposed changes to the 2010 LDL EAMP. There were a few participants who identified concerns and offered suggested refinements to the proposed changes in their comments during the facilitated discussion at the meeting, and through written comments that were submitted after the meeting. The following summarizes the comments of support and suggested refinements received which are relevant to this particular project:

- Support was expressed for improved phasing and efforts to accelerate plan implementation;
- Participants expressed concern that placement of the Commissioners Street and Cherry Street streetcar tracks along one side of the street would create conflicts with other forms of transportation and future transit connections. Preference for placing streetcar tracks in the middle of the right-of-way was expressed;
- Participants provided comments on the placement of cycling lanes and asked that there be some consideration for reconfiguring the cycling lanes to provide better protection from traffic lanes;
- Concern for the lack of planned regional transit connections within the Lower Don Lands;
- Concerns that the configuration of development blocks would encourage high density development, and that roads create a barrier between development and greenspace;
- A participant suggested that a pedestrian bridge be added crossing the river between Commissioners Street and Basin Street Bridges. This would improve pedestrian connectivity;
- Preference for iconic or commemorative bridge and building design was expressed by several participants, as well as to promote stunning architecture throughout the Port Lands with the suggestion of holding design competitions;
- A participant noted that with the provision of greenspace, wildlife will be encouraged to enter the site. Measures (e.g. certain types of vegetation) should be in place to protect this wildlife from

vehicular traffic;
- Negotiation of a land exchange between the City of Toronto and Lafarge was suggested to help relocate Lafarge's existing plant; and
- Consideration of higher development charges to reduce the total amount of development required to help fund infrastructure and flood protection.

Participant feedback has been used to inform the finalization of the proposed changes to the LDL EAMP and completion of Phase 3 for applicable projects, as set out in this 2014 LDL EAMP Addendum and ESR. Participant feedback on issues outside the scope of the two EAs will be incorporated into other Port Lands planning processes that are currently unfolding (e.g. the Port Lands Planning Framework, the Port Lands and South of Eastern Class EA, and various Precinct Plans). There will be opportunities to provide feedback on these processes directly through public meetings scheduled to start in late 2013.

Public meeting materials, meeting summary, questions of clarification and comments are available in Appendix D. This includes the meeting agenda, display boards, presentation slides, and other comments submitted following the meeting.

9.2 2014 STAKEHOLDER ADVISORY COMMITTEE (SAC) AND LAND OWNER AND USER ADVISORY COMMITTEE (LUAC)

The study team undertook extensive agency and landowner consultation throughout the 2014 LDL EAMP Addendum process. A PLAI Stakeholder Advisory Committee (SAC) and a Land Owner and User Advisory Committee (LUAC) were established to ensure that key stakeholders were fully engaged in the process. A combined meeting of the two committees took place on May 23, 2012 and was attended by over 60 representatives from the member organizations (see Appendix D for a participant list and a summary of feedback and advice received). Each committee was also consulted with prior to the July 24, 2013 public meeting to obtain their feedback on the information to be presented.

In addition, a number of one-on-one meetings were held with stakeholders such as Lafarge, the Toronto Public Utilities Coordinating Committee, Toronto Port Authority and a landowners group between May 2013 and July 2013 as part of the 2014 DMNP EA consultation process. These meetings provided additional opportunities for the project team to provide updates on and obtain comments pertaining to the 2014 LDL EAMP Addendum and ESR. Feedback received as part of these meetings included:

- The road network design should account for and accommodate trucking activity for the Lafarge Port Lands Cement Terminal and Commissioners Street facility;
- Planning for future land uses adjacent to Lafarge facilities needs to address noise from silo operations;
- The request for policies to protect the Lafarge site from potential issues related to adjacent development;
- Concerns about access and traffic flow to development south of the river due to frequency of repairs to the Cherry Street Ship Channel Bridge; and
- Questions pertaining to funding and the timing of construction.

On-going discussions and meetings were also held with City of Toronto Planning and City of Toronto Water subsequent to the July 24, 2013 public meeting. The project team sought input related to the various servicing alternatives, which was then incorporated into the finalization of the preferred alternatives. Following release of the draft 2014 LDL EAMP Addendum and ESR in early 2014, City of Toronto Planning and City of Toronto Water were again engaged through discussions, meetings and correspondence in order to obtain their comments. Any comments received were considered and incorporated into the final document as applicable. General agreement in principle with City staff was obtained on key issues prior to finalizing the 2014 LDL EAMP Addendum and ESR.

9.3 ABORIGINAL CONSULTATION ACTIVITIES

On August 28, 2013, the Study Team met with representatives from the Mississaugas of Scugog Island, Curve Lake, Alderville and Hiawatha First Nations to discuss the amendments being made to the DMNP and LDL EAMP. Discussions included current and future archaeological studies, future planning and the effects of contaminated soils on the naturalized river. An overview of geography, details and status of the legal process related to the Williams Treaty Specific Claim was also provided.

10 ENVIRONMENTAL CONDITIONS, IMPACTS & MITIGATION

The 2010 LDL EAMP addressed Phases 1 and 2 of the Municipal Class EA process. Therefore a detailed assessment of the environmental effects and proposed mitigation measures (Phase 3) was not required. This was only undertaken for the Keating Channel ESR which completed Phases 3 and 4 of the Municipal Class EA process.

This 2014 LDL EAMP Addendum and ESR updates Phases 1 and 2 of the 2010 LDL EAMP to reflect the results of the PLAI and amended 2014 DMNP EA, and therefore completes the Schedule 'B' Class EA requirements for all of the water and wastewater works and most of the major stormwater works. This 2014 LDL EAMP Addendum and ESR also fulfills Phases 3 and 4 of the Class EA planning process for the following Schedule 'C' projects within the Lower Don Lands Study Area::

- Cherry Street to the Ship Channel;
- Commissioners Street based on the previous alignment for Villiers Street in the approved Master Plan; and
- Mechanical stormwater treatment facilities.

This 2014 LDL EAMP Addendum and ESR confirms and validates that there are no changes to the anticipated environmental effects of the 2010 LDL EAMP, and this report recommends the implementaion of additional mitigation measures.

Due to the study area overlap and similar context, this Section explains the proposed effects and mitigation as set out in the Keating Channel ESR and provides a summary of the proposed effects analysis and mitigation to meet the requirements for Phases 3 and 4 for the components within this 2014 LDL EAMP Addendum and ESR.

As a result of the changes from PLAI and amended 2014 DMNP EA, there are some new effects which have been analyzed and mitigation measures proposed. The 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.

10.1 NATURAL ENVIRONMENT

10.1.1 Natural Heritage Policies

There are no changes to the existing conditions and proposed effects as described for the Keating Channel Precinct north of the Keating Channel. The proposed infrastructure improvements within the Lower Don Lands south of the Keating Channel are consistent with the management programs guidelines for river crossings.

Mitigation: The mitigation measures proposed for the Keating Channel ESR remain acceptable and applicable.

10.1.2 Vegetation and Flora

There are no changes to the existing conditions and proposed effects as described for the Keating Channel Precinct north of the Keating Channel. The proposed roadway network impacts a minimal amount of vegetation. The redevelopment of land uses as well as earth works required for the overall development is expected to result in the loss of low quality vegetation. However the Lower Don Lands vegetation will be significantly enhanced by the provision of new parkland and naturalization associated with the new Mouth of the Don River alignment.

Mitigation: The proposed mitigation measures, as described for the Keating Channel ESR, are acceptable and applicable.

10.1.3 Wildlife Resources and Linkages

There are no changes to the existing conditions and proposed effects as described for the Keating Channel Precinct north of the Keating Channel. Wildlife linkages and habitat will be significantly enhanced by the provision of new parkland and naturalization habitat associated with the new Don River alignment. As a result these areas will provide new and enhanced habitat and potential to attract wildlife into the area. Measures are therefore required to ensure that wildlife encouraged to come into the area is protected from vehicular traffic on the roads that will now run adjacent to habitat areas in the Greenway and river mouth.

Mitigation: There is limited opportunity to provide terrestrial greenspace linkages across Lake Shore Boulevard, south into the Lower Don Lands from the Don Trail due to the number of traffic lanes and the absence of any ability to provide table land habitat under the existing or future Lake Shore crossing of the Don River.

However, the new river design combined with the large bridge crossings at Commissioners Street, Basin Street and Cherry Street (Polson Slip) all provide excellent space for terrestrial migration locally within the greenspace created through the implementation of the 2014 DMNP EA.

As part of the plan to create wildlife habitat the location and structure of vegetation plantings can be developed in a strategic manner to enhance wildlife use of the interior portions of the riparian area of the river and to then also dissuade use and access toward the periphery of the riparian corridor where the roads occur. This strategy considers protection from road mortality for the more vulnerable slow moving wildlife groups such as amphibians and reptiles. This vegetation planting and wildlife protection strategy will be confirmed during detailed design.

10.1.4 Surface Water

As per the Keating Channel ESR, significant improvements to surface water conditions are expected as a result of the proposed infrastructure works. Flooding will be eliminated within the Lower Don Lands through the hydraulic conveyance mechanisms being implemented and the future realignment of the Don River.

Significant improvements to the treatment of stormwater will also improve water quality.

As previously indicated, the PLAI process reconfigured the layout of future development areas in the Lower Don Lands. Although this changes the deployment of stormwater conveyance facilities within the road allowances, as the roads themselves changed, the only significant change resulting from the PLAI is the location of the stormwater quality treatment facilities. The facilities require new locations to correspond to the changes in development blocks and open spaces.

As most stormwater management infrastructure is found under Schedules A, A+ or B of the Municipal Class EA, the completion of Phases 1 and 2 in a Master Plan is sufficient to complete the Class EA process. Phases 3 and 4 of the Municipal Class EA process were previously only undertaken for the Keating Channel ESR. However, infrastructure for the mechanical treatment of stormwater is found under Schedule C of the Municipal Class EA, so for those components of the system, Alternative Designs have been considered.

In addition to this 2014 LDL EAMP Addendum and ESR, updates to Phases 1 and 2, the EAMP Addendum also fulfills Phases 3 and 4 of the Class EA planning process for the following components within the Lower Don Lands:

- Cherry Street to the Ship Channel;
- Commissioners Street based on the previous alignment for Villiers Street in the approved Master Plan;
- Villiers Street;
- Basin Street from Cherry Street to The Don Roadway; and
- Mechanical stormwater quality control facilities.

Mitigation: The 2010 LDL EAMP examined 6 alternatives and selected Alternative 4B as the preferred alternative. The exact location of the infrastructure will be determined through the Precinct Planning process, and subsequent development approvals. A mitigation plan will be developed to address any potential impacts arising from the detailed design and location selection. Future changes in technology will not necessitate an Addendum to the 2010 LDL EAMP or this 2014 LDL EAMP Addendum and ESR as long as they are still a Common Facility

that is optimized for several development areas, and provides a disinfection process.

As noted in the Keating Channel ESR, 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. This will be developed in accordance with MOECC's Planning and Design standards for stormwater management.

As per the Keating Channel ESR, 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 Environment and Climate Change Stormwater Management Planning and Design Manual and 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.

In addition, as described for the Keating Channel ESR, sediment and erosion control during construction will be confirmed through detailed design for the infrastructure improvements. The MOECC Guideline B-6, 'Evaluating Construction Activities Impacting on Water Resources' will be used to plan and construct the project.

10.2 SOCIAL ENVIRONMENT

There have been some changes to property leasing since the 2010 LDL EAMP, however, most of the properties required for the proposed infrastructure improvements continues to be owned by the Toronto Port Lands Company, although some private property will also need to be acquired. Of particular note, one heritage interest building on Commissioners Street will need to be relocated when the widening for transit occurs. The details of which are discussed in Cultural Environment below.

Mitigation: As per the 2010 LDL EAMP, property owners impacted by the proposed works have been consulted throughout the study. Property requirements will be confirmed during detailed design. Should acquisition of any properties be required to support the recommended infrastructure the City will follow their standard planning practices.

10.2.1 Land Uses and Planning Context

As per the Keating Channel ESR, the proposed road, transit, water, wastewater and stormwater improvements are compatible with future land use designations in the area, which includes residential and commercial uses as well as extensive parkland, public open space and community facilities.

Portions of the Lower Don Lands are 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 permitted unless the flood risk is permanently addressed.

Flood protection in the Lower Don Lands will be accomplished through the hydraulic conveyance mechanisms being implemented and the future realignment of the Don River and the implementation. Once these flood protection works are in place, the City of Toronto will seek approval from the Minister of Municipal Affairs and Housing and the Minister of Natural Resources to remove the Special Policy Area.

Mitigation: Future Official Plan Amendment(s) and Zoning By-laws will be prepared to address the changes identified in this 2014 LDL EAMP Addendum and ESR.

10.2.2 Existing and Future Neighbourhoods

The existing neighbourhood in the Lower Don Lands is largely industrial. Future neighbourhoods are planned associated with the East Bayfront precinct which has been partly completed, the West Don Lands which is under construction and the Keating Channel precinct on the north side of Keating Channel. These areas will include residential, retail, commercial and institutional land uses as well as public open spaces and water access.

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

10.2.3 Tourism/Recreation

There are some existing recreational uses within the Lower Don Lands, such as Polson Pier, Cherry Beach Playing fields, boating facilities, and the Martin Goodman Trail. The proposed infrastructure improvements will enhance access to the area and improve mobility, which will support the continued use of existing uses and future tourism and recreational land uses.

10.2.4 Marine Uses

Existing marine uses in the Lower Don Lands are primarily for industrial shipping. With the proposed redevelopment of the area, new opportunities for marine uses will be created. These include small boat operation for canoes, kayaks, low profile barges, small powerboats and water taxis.

The exchanges to the Keating Channel at Cherry Street were approved in the previous EAMP and outside the scope of this 2014 LDL EAMP Addendum and ESR. The infrastructure deployment for the remaining areas of the Lower Don Lands covered in this 2014 LDL EAMP Addendum and ESR are all land-based and have no effect on marine uses.

10.2.5 Noise and Vibration

There are no changes to the existing conditions and proposed effects as discussed in the Keating Channel ESR.

Mitigation: The proposed mitigation measures, as described for the Keating Channel ESR remain acceptable and applicable to the larger study area.

10.2.6 Air Quality

There are no changes to the existing conditions and proposed effects as outlined in the Keating Channel ESR.

Mitigation: The proposed mitigation measures, as described for the Keating Channel ESR remain acceptable and applicable to the larger study area.

10.2.7 Utilities

As per the Keating Channel ESR impacts to existing utility infrastructure are expected. Utilities will be reconstructed or relocated as necessary with full coordination of the applicable utility at the time of municipal infrastructure reconstruction.

Additionally, all opportunities shall be taken to pre-build components of water, wastewater, and stormwater infrastructure recommended herein, before or during implementation of recommendations from the 2014 DMNP EA.

Mitigation: The proposed mitigation measures, as described for the Keating Channel ESR, remain acceptable and applicable to the larger study area. Mitigation strategies will be determined during detailed design.

10.3 CULTURAL ENVIRONMENT

10.3.1 Archaeological Resources

As discussed in the 2010 LDL EAMP, the Central Waterfront Archaeological Master Plan identifies some areas of Level 1 and 2 Archaeological Potential as shown in Figure 10 1 below.

Mitigation: Archaeological monitoring is recommended during earth excavation in these areas. Proposed development plans should also be reviewed against the inventory of potential archaeological resources as complied by the Waterfront Toronto's Archaeological Conservation and Management Strategy (ACMS) to determine if the proposed undertakings have the potential to impact upon an identified resource. Should resources be identified, further archaeological mitigation will be required in accordance with Waterfront Toronto's ACMS and the ACMS Contingency Plan.

10.3.2 Cultural Heritage Resources

The Lower Don Lands contains a number of heritage structures and features. Built heritage features include the dock walls of the Keating Channel, bridges including the Cherry Street Bridge, the Polson Dock Wall, and streetscapes such as Polson Street and Commissioners' Street.

There are several heritage structures in the Lower Don Lands, no impacts are expected as a result of the new Cherry Street alignment.

An environmental effect to a cultural heritage resource has been identified on the property located at 39 Commissioners Street – Fire Hall No. 30. This

property was listed on the City's Inventory of Heritage Properties in 2003. It is not currently designated under the Ontario Heritage Act. The widening of Commissioners Street to accommodate dedicated transit on the southern edge of the existing right-of-way will require relocating this cultural heritage resource. A heritage strategy, required by the 2003 CWSP to be completed as part of the development of the Cousins Quay Precinct Plan (also known as the Villier's Island Precinct), will be prepared by Waterfront Toronto. The heritage strategy will identify an appropriate relocation strategy for this heritage property.

Mitigation: Mitigation will be undertaken to address the heritage conservation impacts of both the built heritage and cultural heritage landscapes. This will include appointment of a heritage preservation architect, preparation of a building conservation and relocation plan, and relocation to another nearby location through a collaborative process involving the Toronto Professional Fire Fighters Union, Greater Toronto Multiple Alarm Association, the City of Toronto, Toronto Port Lands Company and Waterfront Toronto. City of Toronto Heritage Preservation Services will be consulted extensively during the detailed design stage prior to making an application to alter or move the building. The construction of dedicated transit will not occur in the initial places of redevelopment of the area, so there is considerable time for the City to consult with the various parties to negotiate an appropriate arrangement.

Roadway grading impacts in other heritage sites will also be confirmed at the detailed design stage. Mitigation may be required to minimize any further identified impacts to heritage structures and will be confirmed during detailed design.

10.3.3 Aboriginal Interests

Consultation with the Mississaugas of Scugog Island was undertaken as part of the 2010 LDL EAMP and the 2014 DMNP EA. The Lower Don Lands area is in the Mississaugas of Scugog Island Claim area. In general, they seemed supportive of naturalization of the Don River and the redevelopment of the Lower Don Lands area.

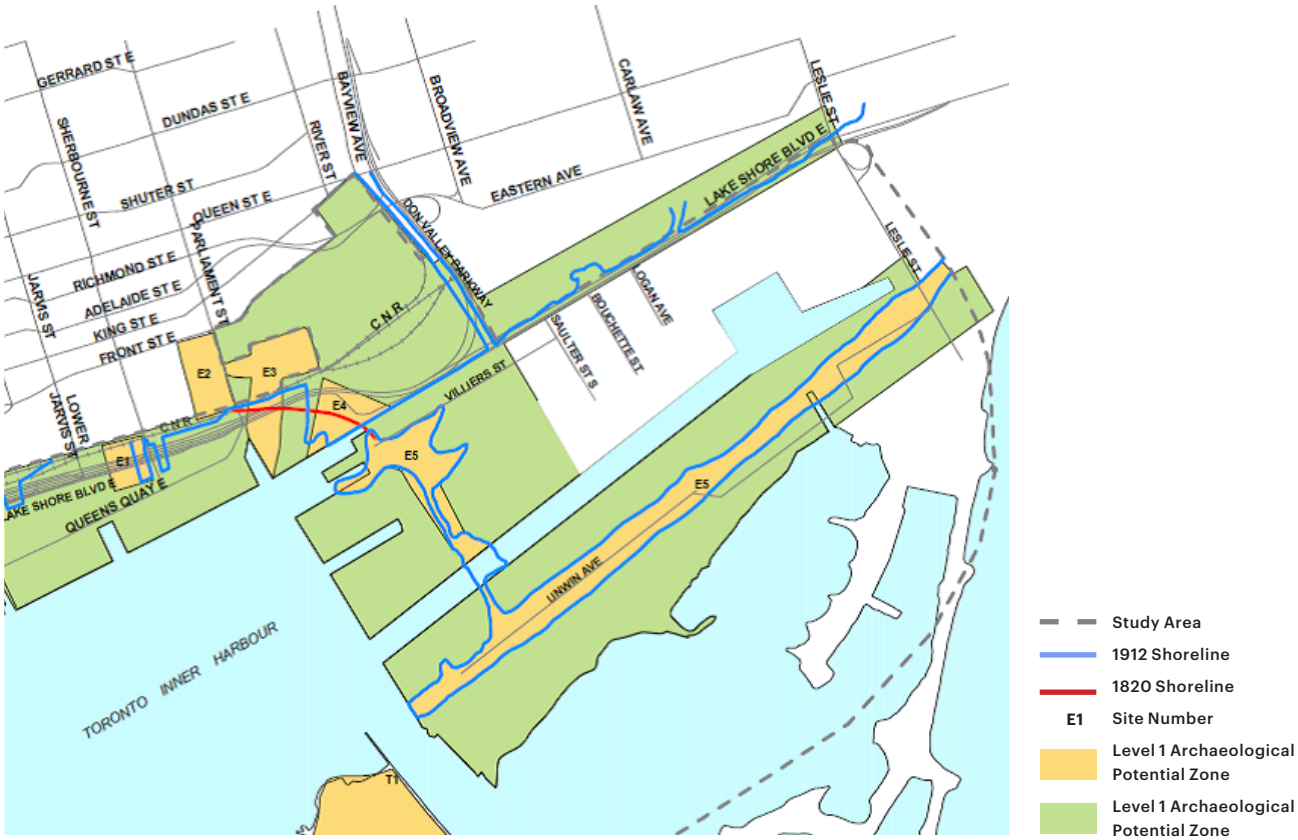


FIGURE 10-1: *East Waterfront Toronto Archaeology from the Central Waterfront Archaeological Master Plan*

Mitigation: The proposed mitigation measures, as described for the Keating Channel ESR remain acceptable and applicable. As per the Keating Channel ESR it is anticipated that continued consultation with First Nations will be required throughout the detailed design and construction phases. Furthermore, construction phases should include monitoring plans to ensure that in the event that aboriginal artifacts are encountered, proper responses to protocols are implemented.

10.4 SOCIO-ECONOMIC ENVIRONMENT

10.4.1 Commercial/Industrial Land Uses

As described in the Keating Channel ESR, the proposed infrastructure improvements will not significantly impact existing commercial or industrial land uses. Both Cherry and Polson Streets will remain open with access to and from the commercial/industrial sites in the area. Sites such as the Lafarge plant located on Polson Street, and other commercial/industrial sites will continue to have access from such streets. However, the construction of certain components may alter how access is gained to the area. For example, access to parts of the study area may not be feasible during the realignment and naturalisation of the Don River and during construction of flood conveyance crossings and bridges such as on Cherry Street and Commissioners Street. Such impacts from the construction will have to be part of the 2014 DMNP EA.

Mitigation: The proposed mitigation measures, as described for the Keating Channel ESR remain acceptable and applicable for the larger study area.

As per the Keating Channel ESR, 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.

As described in the Keating Channel ESR, the long-term redevelopment of the area will result in former industrial land uses being replaced with future residential, commercial and open space areas. This regeneration will result in a significant overall improvement to the area as the new land uses are more compatible with the 2014 DMNP EA and Waterfront Toronto's plans for the area.

10.4.2 Population and Demographics

New population growth scenarios are being developed through the Cousins Quay Precinct Plan and other planning initiatives underway in the area. The infrastructure improvements proposed support the population projections and densities as identified in the 2010 LDL EAMP. Further refinement to population projections and densities, and any further amendments needed to this 2014 LDL EAMP Addendum and ESR will be identified through the other studies underway.

10.4.3 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, entertainment, retail and commercial uses.

10.5 SOIL AND GROUNDWATER CONDITIONS

The soil and groundwater within the Lower Don Lands has been impacted due to the historic infilling activities and the long history of industrial land use. Environmental investigation activities previously completed within the Lower Don Lands 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 Keating Channel ESR.

10.5.1 Soil

The Keating Channel ESR explained that Phase I and II Environmental Site Assessments (ESAs) have been completed on a number of properties within the study area to investigate potential areas of environmental concern and investigate soil and groundwater quality. Contaminants were detected at concentrations above the generic standards developed by the MOECC.

The soil impacts north of Keating Channel were found to extend to depths of 3 metres Below Ground Surface (mBGS) east of Cherry Street and 4 mBGS west of Cherry Street. South of Keating Channel, the impacts extend to 2 mBGS east of Cherry Street and depths ranging from 3 to 4 mBGS west of Cherry Street. Localized impacts have been found to extend to depths of 6 mBGS on properties adjacent to Villiers Street. Fill material was also encountered at many of the investigative locations.

Mitigation: The proposed mitigation measures, as described for the Keating Channel ESR remain acceptable and applicable. These included:

- Utilising Waterfront Toronto's 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. This will ultimately approve the proposed means and methodology of dealing with contaminated soils during the redevelopment of Toronto's Waterfront. The soils impacted by the proposed infrastructure improvements described in this 2014 LDL EAMP Addendum and ESR are to be dealt with as part of the overall development strategy for soils management in the area.
- The determination of the location of potential and existing underground storage tanks. 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.
- Soils requiring excavation in support of the proposed infrastructure improvements 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 may be completed to further characterize the soils to determine appropriate management options.
- Potential 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 could be treated at the new treatment facility and subsequently re-used within the study area as backfill.

Additionally, the design and construction of servicing infrastructure shall be done in accordance with all applicable environmental legislation respecting human and environmental health, due to the presence of contaminated soil and groundwater.

10.5.2 Groundwater

Similar to the soil analysis, the Keating Channel ESR identified groundwater impacts in localized areas containing contaminants at concentrations above the generic standards developed by MOECC.

Mitigation: The proposed mitigation measures, as described for the Keating Channel ESR remain acceptable and applicable. These included:

- Additional analytical testing to further characterize the groundwater quality in the areas of the proposed infrastructure to determine appropriate management options.
- Management options including onsite treatment and discharge to the municipal services and off-site treatment.
- In conjunction with the Soil Management Study Waterfront Toronto is conducting studies to assess the best means of dealing with and treating the contaminated groundwater within the study area.
- As the Lower Don Lands are in close proximity to the Toronto Islands Provincially Significant Wetland, avoidance/mitigation measures include: minimization of construction area disturbance/ duration, implementation of erosion and sedimentation control measures and re-vegetation of exposed areas immediately after completion of construction activities. The net effect after the implementation of these measures would be minimal.

TABLE 10-1: SUMMARY OF POTENTIAL ENVIRONMENTAL EFFECTS AND PROPOSED MITIGATION MEASURES

Environmental Factors		Potential Environmental Effects	Potential Environmental Management Practices
Natural Environment	**Natural Heritage Policies**	No changes from Keating Channel ESR	No changes from Keating Channel ESR
	Vegetation and Flora	Impacts to existing vegetation are expected to be minimal. Potential impacts future re-naturalized areas.	No changes from Keating Channel ESR
	Wildlife Resources and Linkages	No changes from Keating Channel ESR Measures are required to ensure that wildlife encouraged to come into the area is protected from vehicular traffic on the roads that will now run adjacent to habitat areas in the Don Greenway and Don River Mouth.	No changes from Keating Channel ESR Location and structure of vegetation plantings to be developed in a strategic manner to enhance wildlife use of the interior portions of the riparian area of the river and to dissuade use and access toward the periphery of the riparian corridor where the roads occur. This strategy considers protection from road mortality for the more vulnerable slow moving wildlife groups such as amphibians and reptiles. This vegetation planting and wildlife protection strategy will be confirmed during detailed design.
	Surface Water	New locations for stormwater management facilities are needed to respond to changes resulting from the PLAI.	A mitigation plan will be developed to address and potential impacts arising from detailed design and location selection. Water quality targets will meet City of Toronto Wet Weather Flow Management Guideline, Ministry of the Environment Stormwater Management Planning and Design Manual, and TRCA criteria. Sediment and erosion control during construction to be confirmed through detailed design and will follow MoE Guideline B-6: Evaluating Construction Activities Impacting on Water Resources.
Social Environment	**Private Property**	Some private property acquisitions will likely be needed.	Property requirements to be confirmed in detailed design. City of Toronto and Waterfront Toronto to negotiate financial compensation or land exchange for property owners.
	Land Uses and Planning Context	Proposed infrastructure improvements are compatible with future land uses in the area.	The relevant planning documents will be subject to future amendments2010 LDL EAMP.
	Existing and Future Neighbourhoods	No changes from Keating Channel ESR	No changes from Keating Channel ESR
	Tourism/Recreation	Proposed infrastructure improvements are expected to support existing and future tourism and recreational land uses.	None required.
	Marine Uses	No negative impacts to marine uses expected.	None required.
	Noise and Vibration	No changes from Keating Channel ESR	No changes from Keating Channel ESR
	Air Quality	No changes from Keating Channel ESR	No changes from Keating Channel ESR
	Utilities	No changes from Keating Channel ESR	No changes from Keating Channel ESR Mitigation strategies will be determined during detailed design.

TABLE 10-1 (CONT): SUMMARY OF POTENTIAL ENVIRONMENTAL EFFECTS AND PROPOSED MITIGATION MEASURES

Environmental Factors		Potential Environmental Effects	Potential Environmental Management Practices
Cultural Environment	**Archaeological Resources**	Some areas of Level 1 and 2 Archaeological Potential have been identified.	Archaeological monitoring is recommended during earth excavation. Proposed development plans will be reviewed against the Waterfront Toronto Archaeological Conservation and Management Strategy (ACMS) inventory of potential archaeological resources. Should resources be identified, further archaeological mitigation will be required in accordance with ACMS.
	Heritage Structures	River re-alignment impacts are addressed in 2014 DMNP EA. Fire Hall no. 30 (39 Commissioners Street) will be relocated when widening for transit occurs.	Waterfront Toronto will develop a plan to relocate Fire Hall no. 30 during detailed design of transit facilities.
	Aboriginal Interests	Study area falls within Mississaugas of New Credit Claim area. Consultation was undertaken as part of 2010 LDL EAMP and 2014 DMNP EA and generally indicated support for the project.	No changes from Keating Channel ESR. Continued consultation with the Mississaugas of New Credit will be undertaken during detailed design and construction phases. Construction phases will include monitoring plans addressing discover of aboriginal artifacts.
Socio-Economic Environment	**Commercial/Industrial Land Uses**	No changes from Keating Channel ESR Access to the study area may be impacted during construction.	No changes from Keating Channel ESR. Impacts to access will be confirmed during detailed design and communicated to affected groups.
	Population and Demographics	The proposed infrastructure improvements will support the projected Lower Don Lands population.	Population and demographics will continue to be refined through precinct planning and other studies underway.
	Employment	Employment opportunities will be created through construction and the introduction of new land uses.	None required.
Soil and Groundwater Conditions	**Soil**	No changes from Keating Channel ESR. Impacts of soil contamination have been found up to 6 metres below ground surface.	No changes from Keating Channel ESR. Proposed mitigation measures include utilising Waterfront Toronto's Soil Management Study guidelines, avoiding damage to underground storage tanks, managing soil excavations in accordance with O. Reg. 347, and potential development of a soil treatment facility.
	Groundwater	No changes from Keating Channel ESR. Groundwater contamination expected in localized areas.	No changes from Keating Channel ESR. Proposed mitigation measures include additional analytical groundwater quality testing, onsite treatment and discharge to the municipal services and off-site treatment, and avoidance/mitigation measures to minimize impacts to the Toronto Islands Provincially Significant Wetland.

11 NEXT STEPS

11.1 NOTICE OF STUDY COMPLETION

As this ESR comprises both an addendum to the 2010 Lower Don Lands Class EA Master Plan and completes further planning steps in the Municipal Class EA, a Notice of Study Completion is required when filing the Addendum and ESR.

Waterfront Toronto, the TTC and the City of Toronto will issue the Notice of Study Completion to all stakeholders who participated in the process, to potentially affected members of the public and applicable review agencies. During the 30 day review period stakeholders may request a Part II Order from the Minister of Environment and Climate Change. If no Part II Order requests are received within the review period, or if the Minister denies the request, the project may proceed to implementation and construction.

11.2 FRAMEWORK PLANNING AND PRECINCT PLANNING

The Lower Don Lands is a vast area, and it will be implemented gradually over many years. The City will be undertaking a comprehensive amendment to the CWSP to complete the changes required to implement the PLAI and other studies currently underway. Waterfront Toronto and the City of Toronto are developing Precinct Plans for smaller areas within the Lower Don Lands. The first Precinct Plans is for Cousins Quay. A Precinct Plan is also under development in the Film Studio Precinct (which is adjacent to, not within the Lower Don Lands). Precinct plans look at specific areas of the waterfront to define the location and character of parks, public spaces and promenades, blocks and streets, building form and location, transportation and community facilities. It is the final planning step before by-laws are enacted, and the detailed design and construction starts on streets, homes, parks and businesses.

Since Precinct Plans look at these areas at a finer scale, they may propose minor modifications to the deployment of infrastructure. Minor modifications can be addressed at the detailed design process for the infrastructure elements. If deemed necessary, significant modifications will need to be addressed as Addenda to this 2014 LDL EAMP Addendum and ESR, as outlined in Section 11.5.

11.3 FURTHER DESIGN REQUIREMENTS

Infrastructure elements in this 2014 LDL EAMP Addendum and ESR will be further developed during the detailed design process. This future design work will include confirmation of details such as geotechnical requirements, road excavation and transit requirements, construction staging, as well as pipe sizes and specific locations for water, wastewater and stormwater facilities.

During the detailed design, additional consideration will be given to integrating infrastructure facilities from an aesthetic and functional perspective into roadway design, bridge design, parks and the relationship to development blocks. Wherever feasible, care should be given to the location of outfalls, access shafts, above-ground utility installations and other elements that are needed to make the infrastructure function properly so that they do not interfere with the intended uses of development blocks or the public realm, however shall not compromise the function of such infrastructure.

As described in this 2014 LDL EAMP Addendum and ESR, certain features shown are minimum design requirements to meet the functional needs of the infrastructure or to provide for flood protection. If the resources exist to enhance design, that can be done without an Addendum to this 2014 LDL EAMP Addendum and ESR.

The 2010 LDL EAMP includes a Chapter 18 that addresses preconstruction monitoring, monitoring during construction and post construction monitoring.

The measures described in that section remain valid and appropriate and should be included in guidelines for detailed design and constructions specifications for contractors.

11.4 FURTHER APPROVALS

The implementation of the infrastructure in this 2014 LDL EAMP Addendum and ESR is dependent on the approval of the Don Mouth Naturalization and Port Lands Flood Protection Project Environmental Assessment (2014 DMNP EA). City Council provided direction to revise, as necessary, the 2010 LDL EAMP. This 2014 LDL EAMP Addendum and ESR, which acts to amend the 2010 LDL EAMP and completes Phases

3 and 4 of the Class EA process for applicable Schedule 'C' projects, will require City Council endorsement.

The 2010 LDL EAMP includes Table 20-1 that lists potential permits and approvals necessary for the implementation of the various individual infrastructure elements. This list will be reviewed in detailed design and the appropriate approvals obtained prior to construction.

11.5 FURTHER ADDENDA TO THIS 2014 LDL EAMP ADDENDUM AND ESR OR THE 2010 LDL EAMP

During the time that the Lower Don Lands infrastructure outlined in this report is implemented, it may be necessary to amend this 2014 LDL EAMP and ESR for a number of reasons:

- Extend the applicability of the 2014 LDL EAMP Addendum and ESR beyond ten years from the date of the filing of the Notice of Study Completion, if there are delays in implementing the project (refer to section 10.5)
- Major changes to the original assumptions
- Significant changes to project elements described in this 2014 LDL EAMP Addendum and ESR
- Significant new environmental effects
- Major changes in the proposed timing of projects

Section A.4.3 of the Municipal Class EA describes a process of completing an Addendum in the event that there is a "significant modification" to this 2014 LDL EAMP Addendum and ESR. It does not define "significant modification". For the purposes of 2014 LDL EAMP Addendum and ESR, significant modifications include:

- New infrastructure elements not shown in the original 2010 LDL EAMP or this 2014 LDL EAMP Addendum and ESR; and
- A change in the location of a stormwater facility, sewer or water main where such a change would take the infrastructure outside of a public road allowance or publicly-owned land (i.e., where it would require the taking of private property).
- Changes in the diameters of underground services, provided the location of the services is not substantially changed, are not a significant modification to this 2014 LDL EAMP Addendum and ESR. If during Precinct Planning or detailed design, Waterfront Toronto and the City of Toronto decide to modify the organization and dimensions of individual components within a road cross section this is also not a significant modification provided there is no change in the purpose, use or capacity within the cross-section, and provided they do not increase the right of way width such that a further private land taking is required.

Where an Addendum is required, the following process will be followed:

- Waterfront Toronto, the Toronto Transit Commission (TTC) and the City of Toronto will review the planning and design process to ensure that the project and the mitigation measures are still valid given the current planning context.
- Waterfront Toronto, the TTC and the City of Toronto will document the circumstances necessitating the change, the environmental implications of the change, and what, if anything can and will be done to mitigate any negative environmental effects.
- Notifications to interested stakeholders and agencies are mandatory for any Addenda to this2014 LDL EAMP Addendum and ESR.

Waterfront Toronto, the TTC and the City of Toronto will issue a Notice of Filing of an Addendum to all potentially affected members of the public and review agencies. Stakeholders can ask for a Part II Order during this public review period. If no request is received, or if the Minister of the Environment dispenses with the request, the project may proceed to implementation and construction.

11.6 TEN YEAR REVIEW REQUIREMENTS

This 2014 LDL EAMP Addendum and ESR is valid for ten years once the public notice period has expired after a Notice of Study Completion without any Part II Order Requests, or if the Ontario Minister of the Environment has disposed of any Part II Order Requests.
If no major changes occur in the study area, the infrastructure improvements may be constructed once all approvals are required.

If any specific project in this 2014 LDL EAMP Addendum and ESR commences after ten years, Waterfront Toronto, the TTC and the City of Toronto will review the planning and design process and the current environmental setting to ensure that the project and the mitigation measures are still valid given the current planning context. This review will be placed on the public record as an addendum to this 2014 LDL EAMP Addendum and ESR. The addendum will require a Notice of Filing of Addendum which will provide for a 30 day public review. Stakeholders can ask for a Part II Order during this public review period. If no request is received, or if the Minister of the Environment dispenses with the request, the project may proceed to implementation and construction.

12 CONCLUSION

This document represents one critical step in a significant city building project that better implements the principles of the Central Waterfront Secondary Plan and enables the construction of vital infrastructure needed for the revitalization of the Lower Don Lands.

APPENDIX A

Waste Water - Alternative Solutions Not Being Carried Forward

FIGURE 1: ALTERNATIVE 3B.1- TWO SIPHONS AND ONE PUMP STATION

Gravity-Flow Sewer

P Pump Station

Connection to Existing Gravity-Flow Sewer

Connection to Future Gravity- Flow Sewer

"Connection to Future Gravity - Flow Sewer" is based upon recommendation of the Waterfront Sanitary Servicing Master Plan EA.

FIGURE 2 : ALTERNATIVE 3B.2 - ONE SIPHON AND ONE PUMP STATION

Gravity-Flow Sewer

Pump Station

Connection to Existing Gravity-Flow Sewer

Connection to Future Gravity- Flow Sewer

"Connection to Future Gravity - Flow Sewer" is based upon recommendation of the Waterfront Sanitary Servicing Master Plan EA.

APPENDIX B

Stormwater Alternatives

Alternative 4B.1: Linking LDL to 480 Lakeshore BFF / UV Facilities

Options tabled during the 2013 LDL update considered combinations of forcemain (pumping) and traditional gravity flow from Community 1 and 2 to the 480 Lakeshore BFF site. A high level summary of each Option is included in below. The three (3) Options presented are based on an alignment along Cherry Street. During this initial investigation, the City have indicated their approval in principle for integrating the LDL SWM strategy with the WDL Stormwater Quality Treatment Facility (SWQF) at 480 Lake Shore Blvd. The SWQF has been designed by RV Anderson, originally intended to serve just the WDL area, but EA addenda are incorporated runoff from East Bayfront (EBF) area. The LDL is excluded.

The chain of treatment processes proposed for the **minor stormwater drainage system only** in the LDL is detailed below – this is the same treatment train sequence that has been established through work by RVA, MMM and others on the WDL and EBF precincts within the Waterfront area.

1. Oil-Grit Separator (OGS) – provides pre-treatment for removal of TSS, as well as screening for removal of floating litter/debris (depending on OGS manufacturer selected).
2. Storage – tanks/shafts provided to attenuate peak flows and allow a constant flow rate to be delivered to the subsequent treatment facility.
3. Pumping – runoff is lifted from the storage facilities (typically provided at depth) and conveyed via forcemain to the SWQF at the target treatment rate.
4. Ballasted Flocculation (BF) – the first stage of treatment located within the SWQF provides clarification of stormwater via a ballasted flocculation process.
5. Ultraviolet (UV) – the second stage of treatment within the SWQF provides disinfection of runoff via UV treatment for removal of microbial contamination.
6. Discharge – following treatment the runoff is suitable for discharge to Lake Ontario.

There are three SWM strategy alternatives under consideration for the Lower Don Lands. All options follow exactly the same chain of treatment processes as outlined above – the differences are just in terms of the physical location and configuration of the first three elements (OGS, storage, and pumping facilities). A summary of the three options follows below – reference should be made to the attached sketches for illustration of the alternative strategies. It should also be noted that storage volumes provided at this point are pro-rated estimates based on the proposed EBF facility – final required volumes will be subject to an optimization exercise in conjunction with RVA during design of the expanded WDL SWQF.

Option B1
Separate storage and pumping facilities are provided for each of the Cousins and Polson precincts. Storage facilities are proposed in close proximity to river/channel locations to allow safe routing of overflows during large storm events. Storage could take the form of tanks, or deep circular shafts constructed down to bedrock (as used successfully at WDL, and currently proposed at EBF). Runoff is pre-treated by an OGS in each precinct before discharging into the storage chambers. Separate forcemains from each storage facility are provided to convey flow to the WDL SWQF.

Option B2
A single storage facility is provided in the form of a deep pipe/tunnel below the re-aligned Cherry Street, crossing underneath the Keating Channel to a circular shaft within the North Keating area, which provides additional storage and contains the pump facility required to lift water and convey it to the

SWQF. Runoff is pre-treated by OGS unit(s) in each precinct before discharging into the storage tunnel. Outflow from the Polson precinct OGS is connected to the storage facility by a deep gravity sewer below the new river valley.

Option B3
Two interlinked storage facilities are provided on the north and south sides of the new river valley – hydraulically connected by a deep gravity sewer pipe below the future river. Storage likely takes the form of large, circular shafts as described above. Runoff is pre-treated by OGS unit(s) in each precinct before discharging into the storage facilities. A pump is provided within the northern shaft with a force main to convey flow to the SWQF in WDL.

Option	Advantages	Disadvantages
B1	• Each precinct is served by an independent storage/pumping system, so phasing is not an issue. • No deep gravity sewers need to be constructed below either the Keating Channel or the new river valley. • All required storage can be provided by (what is expected to be) the most cost effective method – circular shafts founded on bedrock.	• Two separate storage and pumping facilities will require operation and maintenance.
B2	• Only a single storage/pumping facility will require operation and maintenance.	• Construction of the deep storage tunnel is expected to be expensive. • Gravity pipework needs to be installed below both the Keating Channel and the new river valley. • All storage required for both precincts would need to be constructed upfront.
B3	• Only a single storage/pumping facility will require operation and maintenance. • All required storage can be provided by (what is expected to be) the most cost effective method – circular shafts founded on bedrock. • Construction of the storage facility within each precinct can be timed to suit development phasing.	• Gravity sewer connection is still required below the future river valley to interlink the two storage facilities (and avoid the need for pumping from the Polson precinct).

FIGURE 1: ALTERNATIVE 4B.1

GRAVITY DRAIN ALL STORMWATER RUNOFF TO THE NEW BFF/ UV FACILITY AT 480 LAKESHORE: OPTION 1

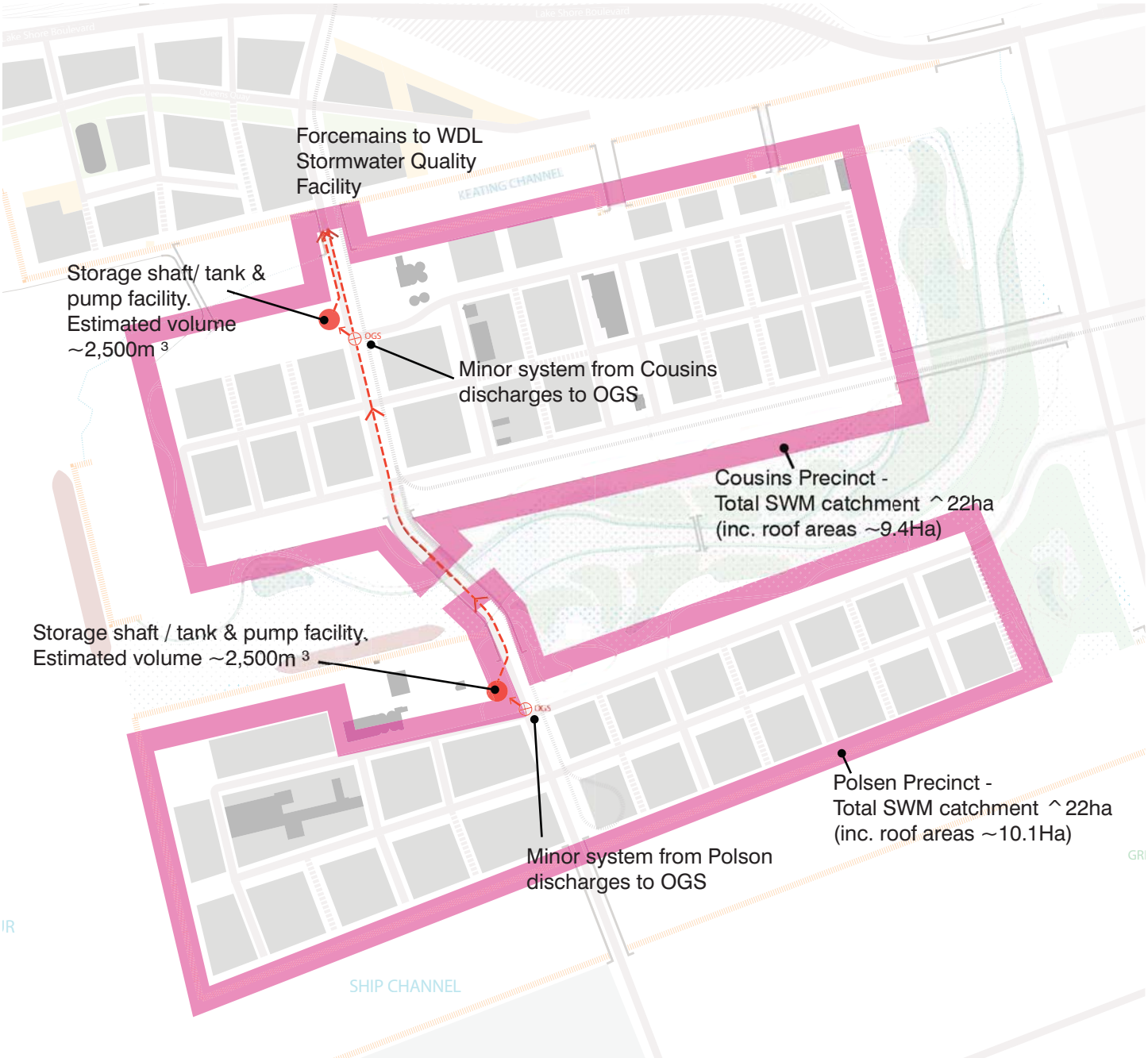


FIGURE 2: ALTERNATIVE 4B.1

GRAVITY DRAIN ALL STORMWATER RUNOFF TO THE NEW BFF/ UV FACILITY AT 480 LAKESHORE: OPTION 2

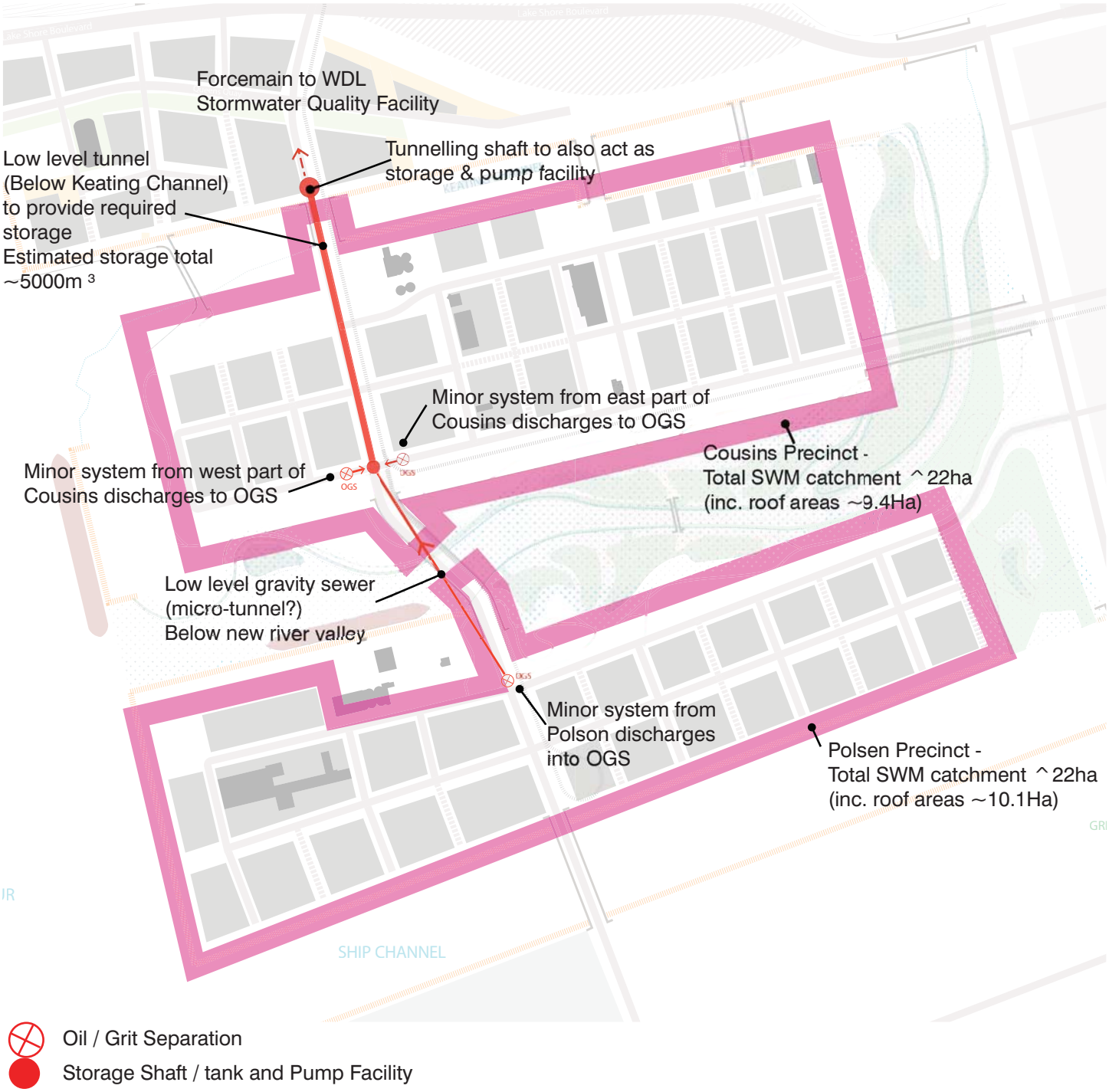
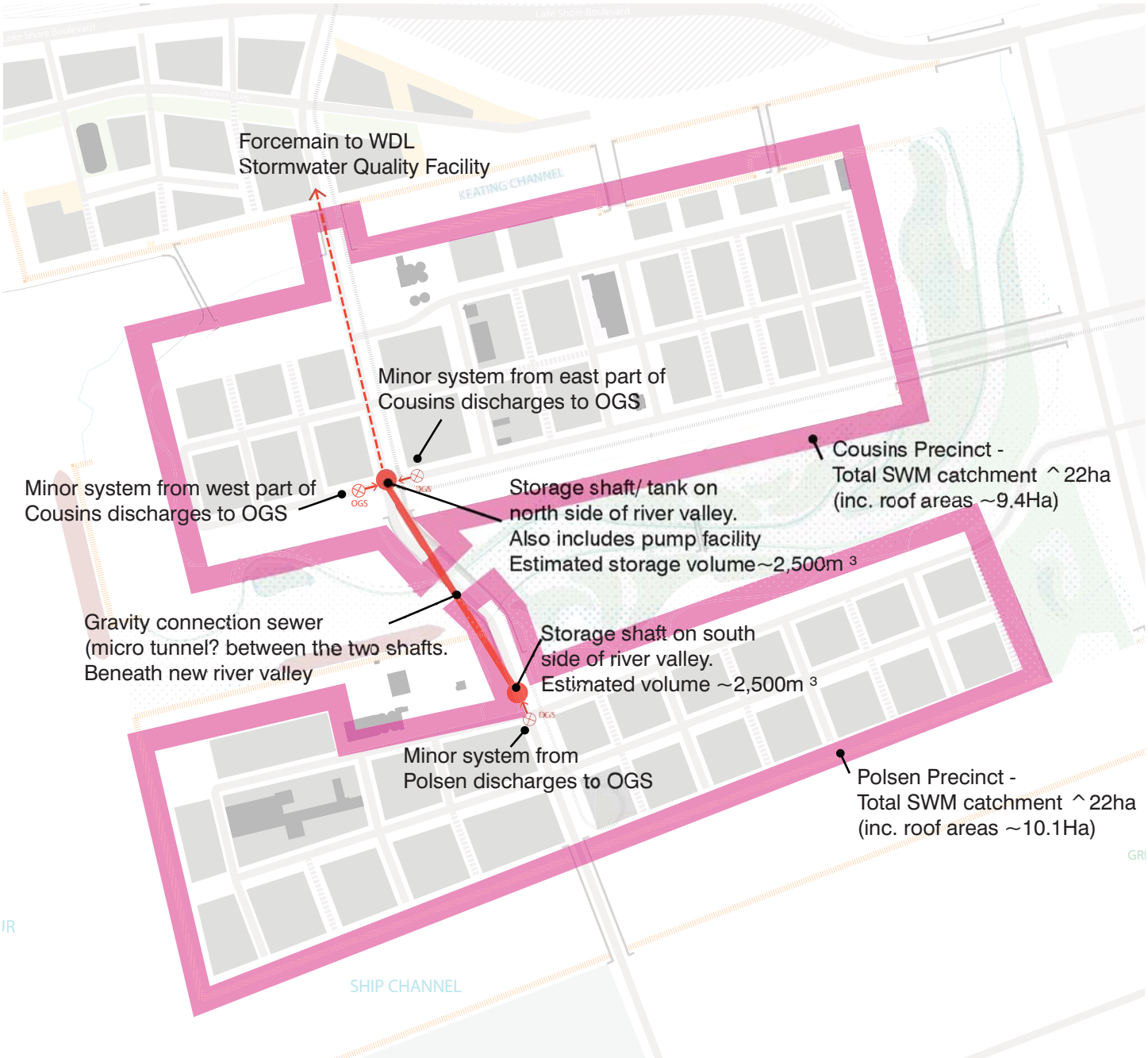


FIGURE 3: ALTERNATIVE 4B.1

GRAVITY DRAIN ALL STORMWATER RUNOFF TO THE NEW BFF/ UV FACILITY AT 480 LAKESHORE: OPTION 3



Oil / Grit Separation

Storage Shaft / tank and Pump Facility

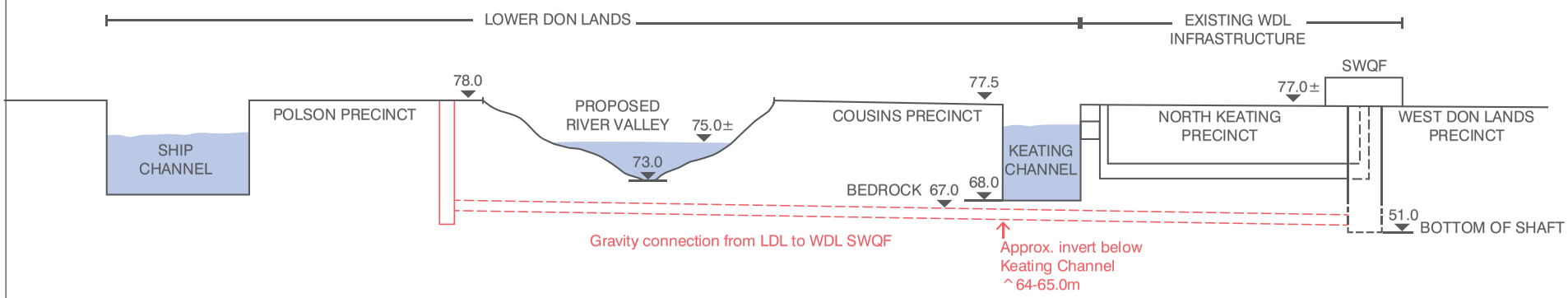


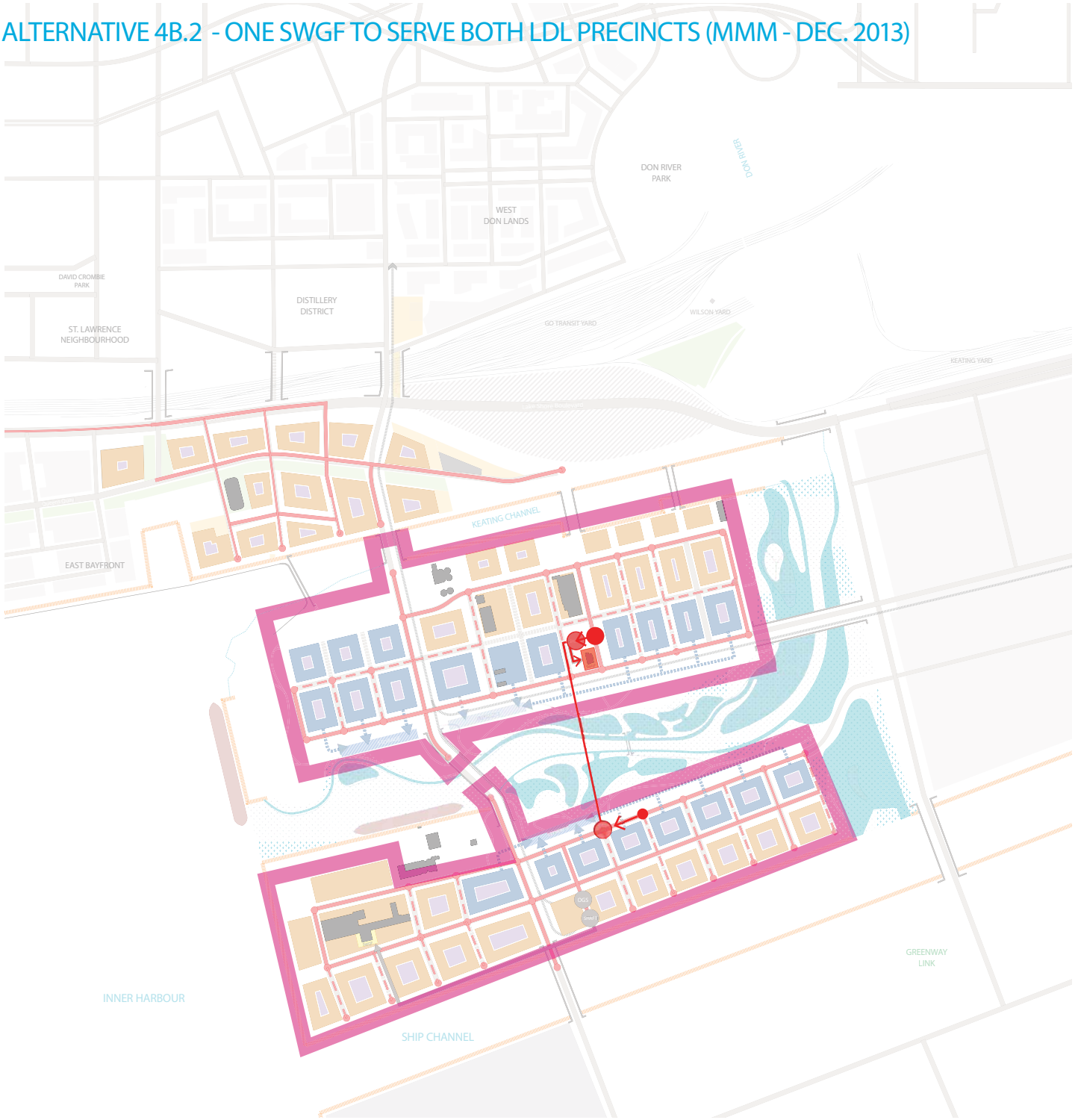
FIGURE 4: ALTERNATIVE 4B.1 - LINKING LDL BY GRAVITY TO 480 LAKESHORE BFF / UV FACILITIES

- For discussion purposes only-

Client:	Waterfront Toronto
Title:	Figure 4: Alternative 4B.1 - Linking LDL by Gravity to 480 Lakeshore BFF / UV Facilities
Prepared by:	MMM GROUP
Scale: N/A	Review:
Date: Jan. 07, 2014	Figure: 4

FIGURE 5: LDL STORMWATER QUALITY FACILITY (SWQF) ALTERNATIVES

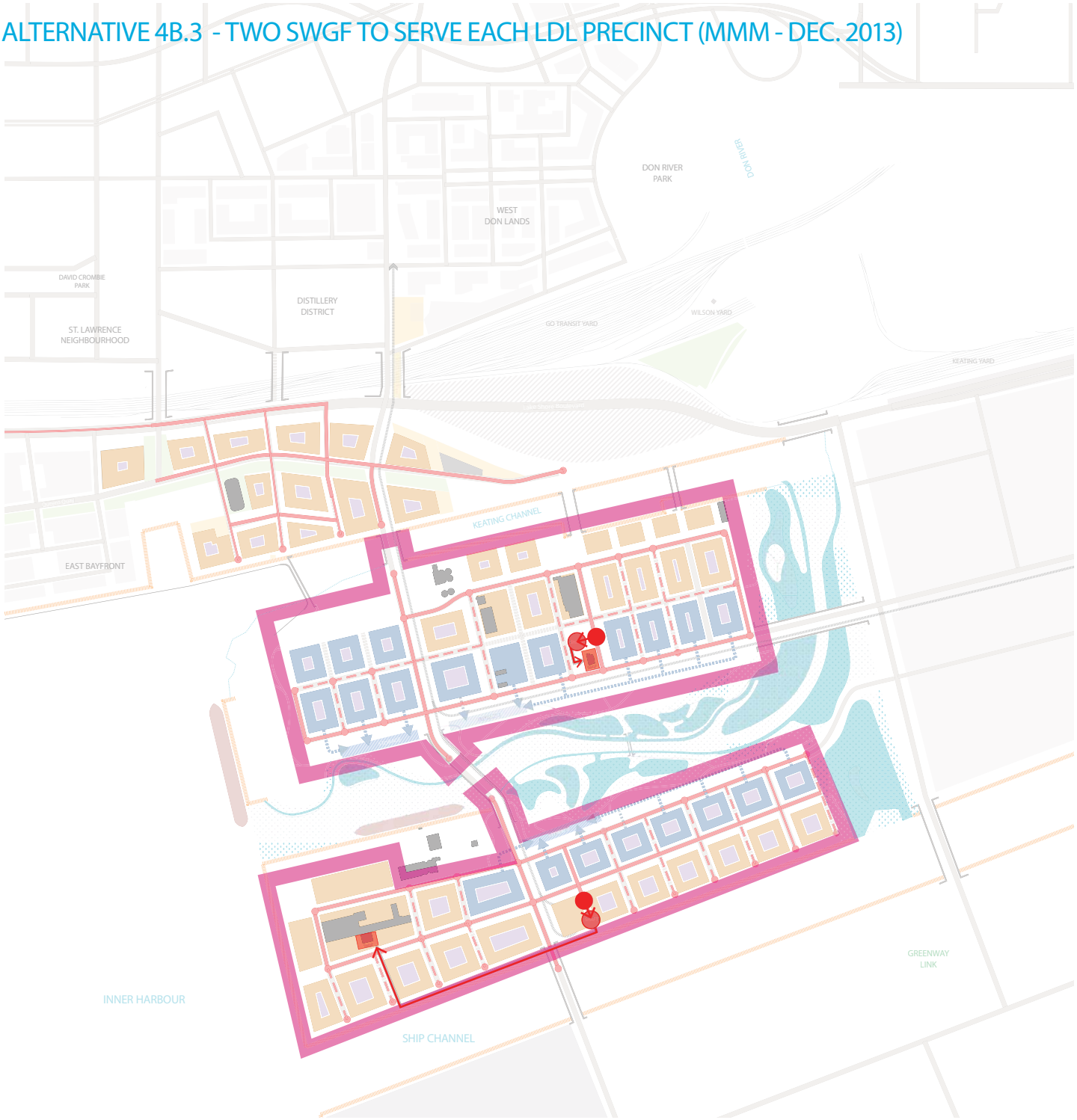
ALTERNATIVE 4B.2 - ONE SWGF TO SERVE BOTH LDL PRECINCTS (MMM - DEC. 2013)



- Roofs of Blocks Drained to High Quality Wetlands
- Roof of Blocks Used for Street Tree Irrigation and Flushing of Salt Runoff
- Street Runoff Achieves MOE Enhanced Stormwater Quality
- Non-Roof, Non-Road (Private)
- Parkland
- Riverine Wetland
- Potential Storage
- Oil/ Grit Separation
- Storage Tank and Pump Facilities
- Pumped Stormwater
- Stormwater Quality Control Facility

FIGURE 6: LDL STORMWATER QUALITY FACILITY (SWQF) ALTERNATIVES

ALTERNATIVE 4B.3 - TWO SWGF TO SERVE EACH LDL PRECINCT (MMM - DEC. 2013)



- Roofs of Blocks Drained to High Quality Wetlands
- Roof of Blocks Used for Street Tree Irrigation and Flushing of Salt Runoff
- Street Runoff Achieves MOE Enhanced Stormwater Quality
- Non-Roof, Non-Road (Private)
- Parkland
- Riverine Wetland
- Potential Storage
- Oil/ Grit Separation
- Storage Tank and Pump Facilities
- Pumped Stormwater
- Stormwater Quality Control Facility

PRELIMINARY COST ESTIMATES
Lower Don Lands - Storm Water Quality Facility (SQWF) Alternatives
ALTERNATIVE 4B.2 - ONE SWQF TO SERVE BOTH LDL PRECINCTS

Januray 10 2014

Item	Description	Estimated Qty	Unit	Unit cost ($)	Total ($)	Comments
Cousins Precinct (Community 1)						
1	Oil Grit Seperator (OGS) unit to provide pre-treatment of inflows from Cousins Precinct minor storm sewer system.		Lump Sum		$ 1,500,000	*OGS in WDL valued at $1.8M. There was additional complexity due to the adjacent railway. In response, we brought the price down $300K.*
2	Gravity sewer from OGS to Storage Shaft.	30	m	$ 650	$ 19,500	*MMM unit price book from temders - length estimated from Precinct Concept Plan*
3	**Storage Shaft (volume: 2,500 m^3).**	20	Per Vertical Meter in Soil	$ 225,000	$ 4,500,000	*MMM tunneling expert, Hamid Javady estimated $ 75 K per vertical meter for a shaft in soil; then multiplied by 3 to get construction estimate. WDL tenders quoted an average price of $ 5.5M costs.*
4	Pump system to lift stormwater at a controlled rate from Cousins Storage shaft to SWQF.		Lump Sum		$ 750,000	*MMM pumping station expert, Mike Pearce provided estimate*
5	Forcemain from Storage Shaft to SWQF (assumed 500mm diameter).	40	m	$ 600	$ 24,000	*Unit price estimated with Mike Pearce*
6	**One SWQF (BF and UV treatment processes) to serve both LDL precincts.**	44	Per Hectare	$ 312,500	$ 13,750,000	*Unit constructed for WDL was $10 M & services 32 ha. For LDL, we converted to unit cost per ha of $ 312,500. Note: Excludes Building Costs. (one consideration is to house the unit within an existing heritage building)*
			SUBTOTAL # 1		**$ 20,543,500**	
Polson Precinct (Community 2)						
7	Oil Grit Seperator (OGS) unit to provide pre-treatment of inflows from Polson Precinct minor storm sewer system.		Lump Sum		$ 1,500,000	*same comment as above for Item 1.*
8	Gravity sewer from OGS to Storage Shaft.	70	m	$ 650	$ 45,500	*same comment as above for Item 2.*
9	**Storage Shaft (assumed volume: 2,500 m^3).**	20	Per Vertical Meter in Soil	$ 225,000	$ 4,500,000	*same comment as above for Item 3.*
10	**Tunnelled Gravity Pipe connection beneath new river valley to connect storage shafts (1500 mm pipe diameter)**	310	m	$ 10,000	$ 3,100,000	*MMM tunneling expert, Hamid Javady estimated $ 10 K per vertical meter for 1500mm diameter tunnel in bedrock*
			SUBTOTAL # 2		**$ 9,145,500**	
Connections						
11	Gravity connection (or forcemain) carrying treated/clafified water from SWQF to discharge location (into Ship Channel, Keating Channel, or River Valley - TBD).	100	m	$ 650	$ 65,000	*MMM unit price book from temders - length estimated from Precinct Concept Plan*
12	Forcemain connection carrying effluent sludge from SWQF to nearby sanitary sewer system.	100	m	$ 600	$ 60,000	*MMM unit price book from temders - length estimated from Precinct Concept Plan*
			SUBTOTAL # 3		**$ 125,000**	
Operations & Maintenance						
	Reference: O & M estimate for WDL SWM system is $ 325 k per year for a 400 L/s facility.					
13	Oil Grit Seperators cleansing & debris removal	18	for 2 OGS	$ 3,000	$ 54,000	*Frequency of Removing debris from OGS in WDL is unknown. Initial guess by RVA is every 6 weeks. This implies cleaning up to 9 X per year per OGS unit & disposal of debris off-site*
14	Storage Shaft Lift Pump (sized to pump 800L/s).	1	Per Station	$ 120,000	$ 120,000	*MMM pumping station expert, Mike Pearce provided estimate*
15	Stormwater Quality Facility (SWQF).	1	Per 800L/s Facility	$ 552,500	$ 552,500	*WDL O & M cost for operating and maintaining a 400L/s facility is $ 325 K / yr. We applied only 85% of this cost assuming there will be less O&M needed for one larger facility compared with two smaller ones.*
			SUBTOTAL		**$ 726,500**	
Summary of Estimated Costs						
	SWM System		**SUBTOTAL # 1, 2 and 3**		**$ 29,814,000**	
			40% Contingency (incl HST)		**$ 11,925,600**	
			TOTAL		**$ 41,739,600**	
	O & M		**SUBTOTAL**		**$ 726,500**	
			40% Contingency (incl HST)		**$ 290,600**	
			TOTAL		**$ 1,017,100**	

TABLE 1

PRELIMINARY COST ESTIMATES
Lower Don Lands - Storm Water Quality Facility (SQWF) Alternatives
ALTERNATIVE 4B.3 - TWO SWQF TO SERVE BOTH LDL PRECINCTS

Januray 10 2014

Item	Description	Estimated Qty	Unit	Unit cost ($)	Total ($)	Comments
Cousins Precinct (Community 1)						
1	Oil Grit Seperator (OGS) unit to provide pre-treatment of inflows from Cousins Precinct minor storm sewer system.		Lump Sum		$ 1,500,000	*OGS in WDL valued at $1.8M. There was additional complexity due to the adjacent railway. In response, we brought the price down $300K.*
2	Gravity sewer from OGS to Storage Shaft.	30	m	$ 650	$ 19,500	*MMM unit price book from temders - length estimated from Precinct Concept Plan*
3	**Storage Shaft (volume: 2,500 m^3).**	20	Per Vertical Meter in Soil	$ 225,000	$ 4,500,000	*MMM tunneling expert, Hamid Javady estimated $ 75 K per vertical meter for a shaft in soil; then multiplied by 3 to get construction estimate. WDL tenders quoted an average price of $ 5.5M costs.*
4	Pump system to lift stormwater at a controlled rate from the Storage shaft to SWQF (assumed to have a flow of 400 L/s and to be integrated with the storage shaft structure)		Lump Sum		$ 450,000	*MMM pumping station expert, Mike Pearce provided estimate*
5	Forcemain from Storage Shaft to SWQF (assumed 500mm diameter).	40	m	$ 600	$ 24,000	*Unit price estimated with Mike Pearce*
6	**Cousins Precinct SWQF (BF and UV treatment processes) serving only Cousins Precinct.**	22	Per Hectare	$ 312,500	$ 6,875,000	*Unit constructed for WDL was $10 M & services 32 ha. For LDL, we converted to unit cost per ha of $ 312,500. Note: Excludes Building Costs. (one consideration is to house the unit within an existing heritage building)*
			SUBTOTAL # 1		**$ 13,368,500**	
Polson Precinct (Community 2)						
7	Oil Grit Seperator (OGS) unit to provide pre-treatment of inflows from Polson Precinct minor storm sewer system.		Lump Sum		$ 1,500,000	*same comment as above for Item 1.*
8	Gravity sewer from OGS to Storage Shaft.	30	m	$ 650	$ 19,500	*same comment as above for Item 2.*
9	**Storage Shaft (assumed volume: 2,500 m^3).**	20	Per Vertical Meter in Soil	$ 225,000	$ 4,500,000	*same comment as above for Item 3.*
10	Pumping system to lift stormwater at a controlled rate from the storage shaft to the SWQF (assumed to have flow of 400 L/s and to be integrated with the storage shaft structure).		Lump Sum		$ 450,000	*same comment as above for Item 4.*
11	Forcemain from Storage Shaft to SWQF (assumed 500mm diameter).	450	m	$ 600	$ 270,000	*same comment as above for Item 5.*
12	**Polson Precinct SWQF (BF and UV treatment processes) serving only Polson Precinct.**	22	per hectare	$ 312,500	$ 6,875,000	*same comment as above for Item 6.*
			SUBTOTAL # 2		**$ 13,614,500**	
Connections						
13	Gravity connection (or forcemain) carrying treated/clafified water from SWQF to discharge location (into Ship Channel, Keating Channel, or River Valley - TBD).	100	m	$ 650	$ 65,000	*MMM unit price book from temders - length estimated from Precinct Concept Plan*
14	Forcemain connection carrying effluent sludge from SWQF to nearby sanitary sewer system.	100	m	$ 600	$ 60,000	*MMM unit price book from temders - length estimated from Precinct Concept Plan*
			SUBTOTAL # 3		**$ 125,000**	
Operations & Maintenance						
	Reference: O & M estimate for WDL SWM system is $ 325 k per year for a 400 L/s facility.					
15	Oil Grit Seperators cleansing & debris removal	18	for 2 OGS	$ 3,000	$ 54,000	*Frequency of Removing debris from OGS in WDL is unknown. Initial guess by RVA is every 6 weeks. This implies cleaning up to 9 X per year per OGS unit & disposal of debris off-site*
16	Storage Shaft Lift Pump (sized to pump 400L/s).	2	Per Station	$ 75,000	$ 150,000	*MMM pumping station expert, Mike Pearce provided estimate*
17	Stormwater Quality Facility (SWQF).	2	Per 400L/s Facility	$ 325,000	$ 650,000	*WDL O & M cost for operating and maintaining a 400L/s facility is $ 325 K / yr. We applied only 85% of this cost assuming there will be less O&M needed for one larger facility compared with two smaller ones.*
			SUBTOTAL		**$ 854,000**	
Summary of Estimated Costs						
	SWM System		**SUBTOTAL # 1, 2 and 3**		**$ 27,108,000**	
			40% Contingency (incl HST)		**$ 10,843,200**	
			TOTAL		**$ 37,951,200**	
	O & M		**SUBTOTAL**		**$ 854,000**	
			40% Contingency (incl HST)		**$ 341,600**	
			TOTAL		**$ 1,195,600**	

TABLE 2

APPENDIX C

Definition of EA Parameters

DEFINITION OF EA PARAMETERS

NATURAL ENVIRONMENT – Having regard for protecting the natural and physical components of the Environment and the extent to which each alternative supports the planning and urban design goals of the Lower Don Lands revitalization:

- Don Mouth Naturalization and New Natural Area (Wetlands)

SOCIAL ENVIRONMENT – Having regard for the potential impact related to residential and recreational needs, income generation, noise and vibration and health and safety:

- Vibrant, mixed use community and Access to water

ECONOMIC ENVIRONMENT – Having regard for the potential impact related to employment activity, the costs associated with each alternative and the capability of each alternative to adequately service the study area:

- Economically viable blocks and Cost-effective to build

CULTURAL ENVIRONMENT – Having regard for the potential impact related to aboriginal people, archaeology and cultural heritage resources:

- Aboriginal people, Heritage structures, and Archaeology

SUSTAINABILITY – Having regard to the resource sustainability, technical sustainability, reliability, longevity and other engineering aspects of each alternative solution, including considerations in respect of:

- WT Sustainability Framework, City sustainability standards, Impervious surfaces, and Water Quality Improvement

LAND USE AND PROPERTY – Having regard for the potential impact related to proposed land use, private property and public realm:

- New land uses, Public realm goals, Property

MUNICIPAL SERVICES – Having regard for the potential impact related to land use compatibility, capability of each alternative to adequately service the study area, utility impacts, traffic disruption, and health and safety:

- Municipal infrastructure, Utilities

APPENDIX D

2014 DMNP EA & 2010 EAMP Public Meeting and Consultation Summary

Port Lands Acceleration Initiative 2013

Don Mouth Naturalization and Port Lands Flood Protection Project Environmental Assessment
&
Lower Don Lands Master Plan Environmental Assessment Study
Backgrounder

Overview

Waterfront Toronto (WT), the City of Toronto, and Toronto and Region Conservation Authority (TRCA) are amending and finalizing the Individual EA for the Don Mouth Naturalization and Port Lands Flood Protection Project (DMNP). Concurrently, the 2010 Class EA Lower Don Lands Master Plan (LDL MP) is being finalized to reflect the amendments that arose out of the Port Lands Acceleration Initiative 2012.

These two EAs represent key pieces in the revitalization of Toronto's Port Lands. Their approval will enable the TRCA, the City of Toronto and Waterfront Toronto to move forward with the implementation of the flood protection and infrastructure works necessary to support the revitalization of the Port Lands and naturalization of the mouth of the Don River.

The mouth of the Don River is one of Toronto's great unrealized assets and the centrepiece of major revitalization initiatives on the waterfront. A plan has been developed that will integrate this incredible asset into the ecological and urban fabric of Toronto. The Individual EA for the DMNP will provide the basis for transforming the existing mouth of the Don River into a healthier, more naturalized river outlet to the lake, while at the same time, removing the risk of flooding to urban land to the east and south of the river. Once completed, the EA will be submitted to the Ministry of the Environment for review and approval.

The LDL MP EA is being carried out to reflect the amendments to the DMNP and will address all of the infrastructure needed to support the revitalization of the Lower Don Lands. The amended Master Plan will consider servicing (water, sanitary sewers and storm water management), streets and public transit in dedicated rights-of-way and will complete Phase 3 and 4 requirements of the Municipal Class EA for all Schedule C projects in the Lower Don Lands.

History

The Don Mouth Naturalization and Flood Protection Project Environmental Assessment (DMNP EA) was initiated in 2005 by Toronto and Region Conservation (TRCA) and Waterfront Toronto. The DMNP EA will transform the existing mouth of the Don River into a more naturalized river outlet, and eliminate the risk of flooding from the Don River to lands east and south of the river.

After consultation with regulators, stakeholders, and the public, the preferred alternative was chosen and the EA was submitted to the Ministry of the Environment (MOE) for approval in 2010. The EA was amended in April of 2011 as part of the MOE review process to address comments received from stakeholders during the 30 day

public review period. The remainder of the EA review process was paused in July 2011, prior to the completion of the MOE review and release of the EA amendments.

Port Lands Acceleration Initiative

On September 21, 2011, Toronto City Council unanimously adopted a protocol, later to be called the Port Lands Acceleration Initiative (PLAI), to review the city's priorities for the Port Lands. The purpose of the PLAI was to refine the DMNP EA and to develop a business and implementation plan with the objective of accelerating revitalization in the Port Lands. In response to the City's resolution, TRCA and Waterfront Toronto requested that the MOE pause their review and approvals of the DMNP EA until October 2012. The MOE granted the extension.

In October 2011, Waterfront Toronto, the City of Toronto and TRCA initiated planning on the PLAI. As part of the process a number of technical studies were undertaken related to land use assessments, flood modeling, value engineering studies, and funding mechanisms. Extensive community consultation was also conducted. Ultimately, the goal of the initiative was to deliver a strategy for accelerating development and maximizing the value of the Port Lands as a unique city legacy.

The PLAI resulted in an amended concept design based on the original preferred alternative from the DMNP EA. A key recommendation of PLAI was the creation of an implementation plan that phases development, which allows for the significant infrastructure costs to potentially be offset by revenue generated from development.

Key activities of PLAI included, but were not limited, to the following:

- confirmation of the best approach to provide flood protection to the Port Lands within the framework of the approved DMNP EA Terms of Reference;
- conduct a re-evaluation of City of Toronto priorities for development within the Port Lands;
- develop a business plan and strategy for implementation of the necessary flood protection and infrastructure works; and
- conduct value engineering for the construction of the valley system and other infrastructure elements.

City Council Direction on PLAI

A report on the outcomes of the PLAI was presented to City Council at its October 5th, 2012 meeting. Toronto City Council endorsed the recommendations contained in the report and provided further direction to the City of Toronto, Waterfront Toronto and the TRCA. The Ministry of Environment approved a further extension of the EA review pause until September 2013, in order to incorporate the amended concept design as the preferred alternative in the DMNP EA and to conduct appropriate consultation.

Toronto City Council directed that Waterfront Toronto, TRCA and the City of Toronto:

- Amend the DMNP EA based on the 2012 "4WS Re-aligned" option and submit to the Ministry of the Environment (MOE) for approval;
- Revise the Lower Don Lands (LDL) Master Plan and Keating Channel Precinct Class EA to align with the PLAI direction as required;
- Protect the proposed valley and stream corridors from encroachment by development;
- Complete a high-level planning framework for the entire Port Lands;
- Confirm precinct boundaries and initiate precinct planning, inclusive of business and implementation planning, for the Cousins Quay, Polson Quay and Film Studio Precincts.

Environmental Assessment Amendments
Following Council's directive, TRCA, Waterfront Toronto and the City of Toronto, developed a work program in fall 2012 to amend the 2010 Environmental Assessment document to reflect the alignment and phasing strategy determined through the PLAI, coordinated with the amendment process for the Lower Don Lands Master Plan Environmental Assessment Study.

Public consultation continues to be a primary objective of the PLAI. Waterfront Toronto, the City of Toronto, and TRCA have held several meetings with members of the public, stakeholder advisory and community liaison committees, and a Port Lands landowner and user advisory committee, including holding a public meeting on July 24, 2013 to present the EA amendments and obtain feedback and input from the public.

2013 PLAI - Current Status

DMNP EA and LDL MP EA Study Amendments Background
The DMNP EA Amendment establishes:

- River channel and Greenway configurations for flood conveyance;
- Naturalization and city building;
- Adaptive management strategy;
- Proposed phasing strategy for removing regulatory flood zone;
- Minimum elevations for surrounding lands; and
- Flood protection requirements.

The LDL MP EA Study establishes:

- The transportation and servicing infrastructure necessary to support revitalization and refines it to coincide with the optimized river valley; and
- Minimum elevations of bridges and roads to match DMNP EA.

Phases 3 and 4 of the Municipal Class EA process are being completed for Schedule C projects including streets and coordinated stormwater management infrastructure within the Lower Don Lands.

2013 PLAI Optimized Phasing – Overview
Building the permanent condition in a phased approach minimizes and/or eliminates throwaway costs of interim construction and meets accelerated urban development goals.

Phasing Summary:

1 – Phase 1: The majority of the Cousins Quay Precinct can be developed and Polson Quay are flood protected
2 – Phase 2: The remainder of Cousins Quay and Film Studio District Precinct and lands east of Don Roadway are flood protected
3 – Phase 3: The River Valley Precincts are flood protected
4 – Phase 4: Naturalization of the south side of Polson Slip occurs

Phase 1

- **Flood Protection Elements**
  - Phase 1 Interim spillway no longer necessary
  - Construct new Keating Channel bridge
  - Remove old Keating Channel bridge and abutments
- **Additional Works Required to Facilitate Development**
  - Raise the land in the Cousins and Polson Quays Precincts, with the exception of Lafarge
  - Realign and reconstruct Cherry Street
  - Fill Essroc Quay

Phase 2

- **Flood Protection**
  - Construct Greenway, including Ship Channel wetland
  - Construct flood protection landform on First Gulf site
  - Construct valley wall feature between Lake Shore Boulevard to Ship Channel from Don Roadway to approximately Saulter Street
  - Modify Eastern Avenue underpass
  - Construct sediment and debris management area including lengthening of Lake Shore Keating Rail Spur bridges
  - Remove utility bridge and relocate infrastructure north of Lake Shore bridge

Phase 3

- **Flood Protection Elements**
  - Construct Polson Slip bridge
  - Construct river valley system, including the low flow channel and flood control weirs
- **Additional Works Required to Facilitate Development**
  - Raise lands north and south of river valley
  - Construct Basin Street bridge

Phase 4

- **Naturalization**
  - Naturalize Polson Quay south dockwall
- **Additional Works Required to Facilitate Development**
  - Raise the land on Lafarge site for final development with Polson Quay Precinct

For more information on the PLAI, visit the Port Lands Consultation website:
http://www.portlandsconsultation.ca/

Don Mouth Naturalization EA &
Lower Don Lands Infrastructure Class EA

Public Meeting
Wednesday, July 24, 2013
6:00 – 9:00 p.m.
EMS Training Centre (Toronto Fire Academy)
895 Eastern Avenue

AGENDA

6:00	Open House – View display panels and one-on-one Q&A with staff	
7:00	• Welcome / Agenda Review	*Nicole Swerhun, Facilitator*
7:05	Update Presentation, including: • Don Mouth Naturalization and Port Lands Flood Protection Project (DMNP) • Lower Don Lands Infrastructure Class EA (LDL)	*David Kusturin, Waterfront Toronto*
7:50	Questions of Clarification	*Facilitator*
8:00	Discussion: • What do you like about the updated plans? • What don't you like about the updated plans? • Do you have any suggested refinements?	*Facilitator*
8:50	Next Steps	*David Kusturin, Waterfront Toronto*
9:00	Adjourn	

The presentation will be available at waterfrontoronto.ca on July 26th. The video will be available starting July 27th, 2013. **The deadline for additional comments and feedback is Thursday, August 8th, 2013.**

Send additional comments and feedback on the DMNP to: Michael Charendoff, Toronto and Region Conservation Authority at **mcharendoff@trca.on.ca/416-661-6600 Ext. 5280**

Send additional comments and feedback on the LDL EA to: **info@waterfrontoronto.ca**

WORKSHEET

1. What do you like about the updated plans?

2. What don’t you like about the updated plans?

3. Do you have any suggested refinements?

Port Lands Acceleration Initiative 2013

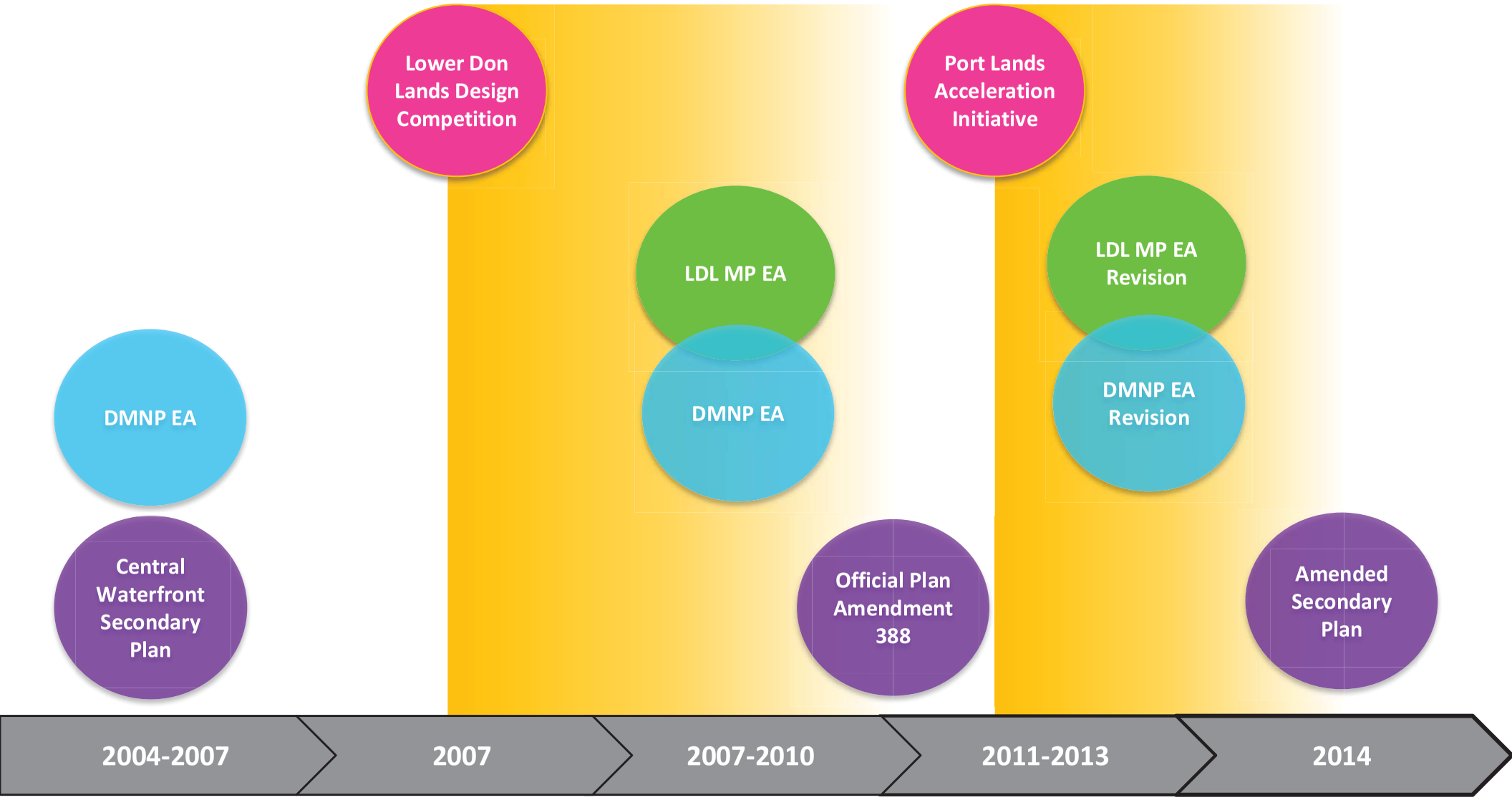
Don Mouth Naturalization and Port Lands Flood Protection Project Environmental Assessment

& Lower Don Lands Master Plan Environmental Assessment Study

Public Meeting

TORONTO
Toronto and Region Conservation for The Living City
WATERFRONTToronto

Port Lands Planning Context



October 2012 City Council Direction

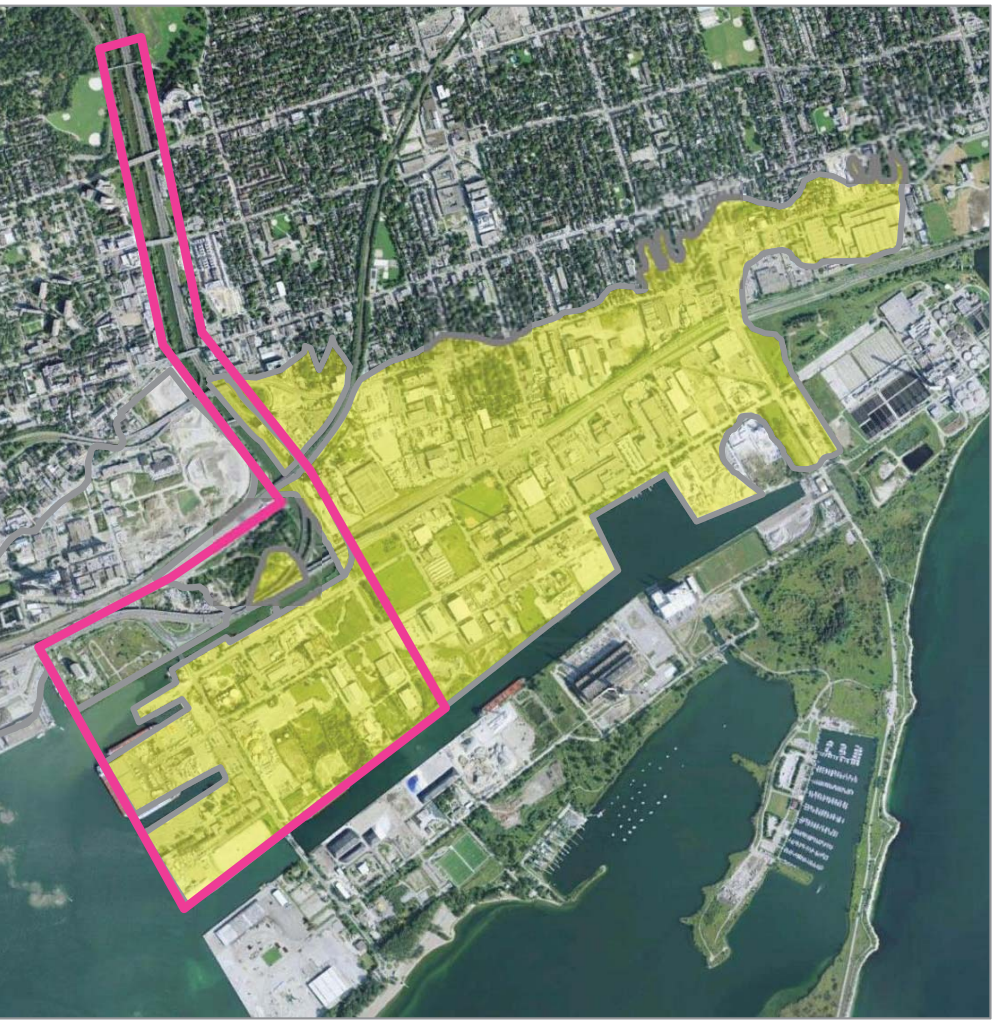
- Amend the DMNP EA based on the 2012 "4WS Re-aligned" option and submit to the Ministry of the Environment (MOE) for approval;
- Revise the Lower Don Lands (LDL) Master Plan and Keating Channel Precinct Class EA to align with the PLAI direction;
- Protect the proposed valley and stream corridors from encroachment by development;
- Complete a high-level framework plan for the entire Port Lands;
- Confirm precinct boundaries and initiate precinct planning, inclusive of business and implementation planning, for the Cousins Quay, Polson Quay and Film Studio Precincts

TORONTO
Toronto and Region Conservation for The Living City
WATERFRONTToronto

The Need for Flood Protection

- Permanent removal of flood risk from 240 ha of land

DMNP EA Amendment – Purpose



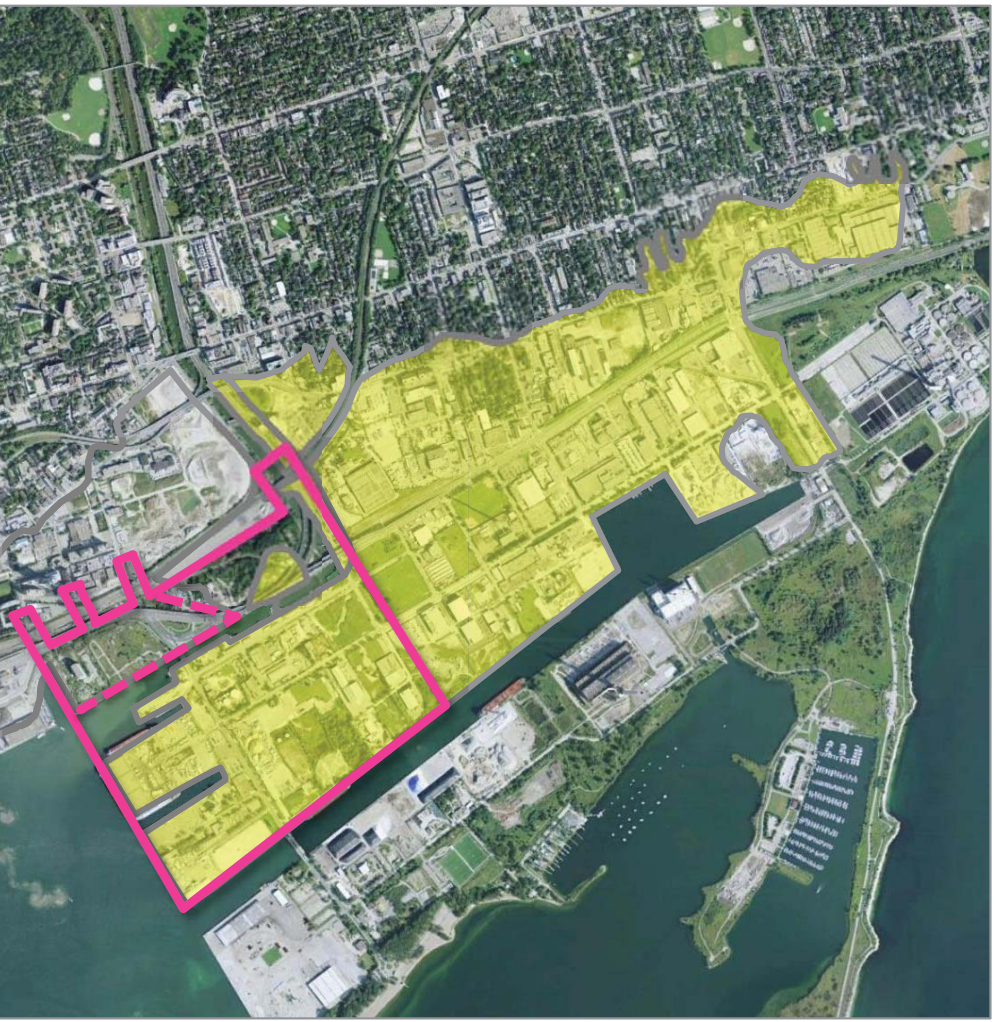
DMNP EA Study Area

DMNP EA establishes:

- River channel and Greenway configurations for flood conveyance
- Naturalization and city building
- Adaptive management strategy
- Proposed phasing strategy for removing regulatory flood zone
- Minimum elevations for surrounding lands
- Flood protection requirements

TORONTO Toronto and Region Conservation for The Living City WATERFRONTToronto

LDL MP EA Study – Purpose

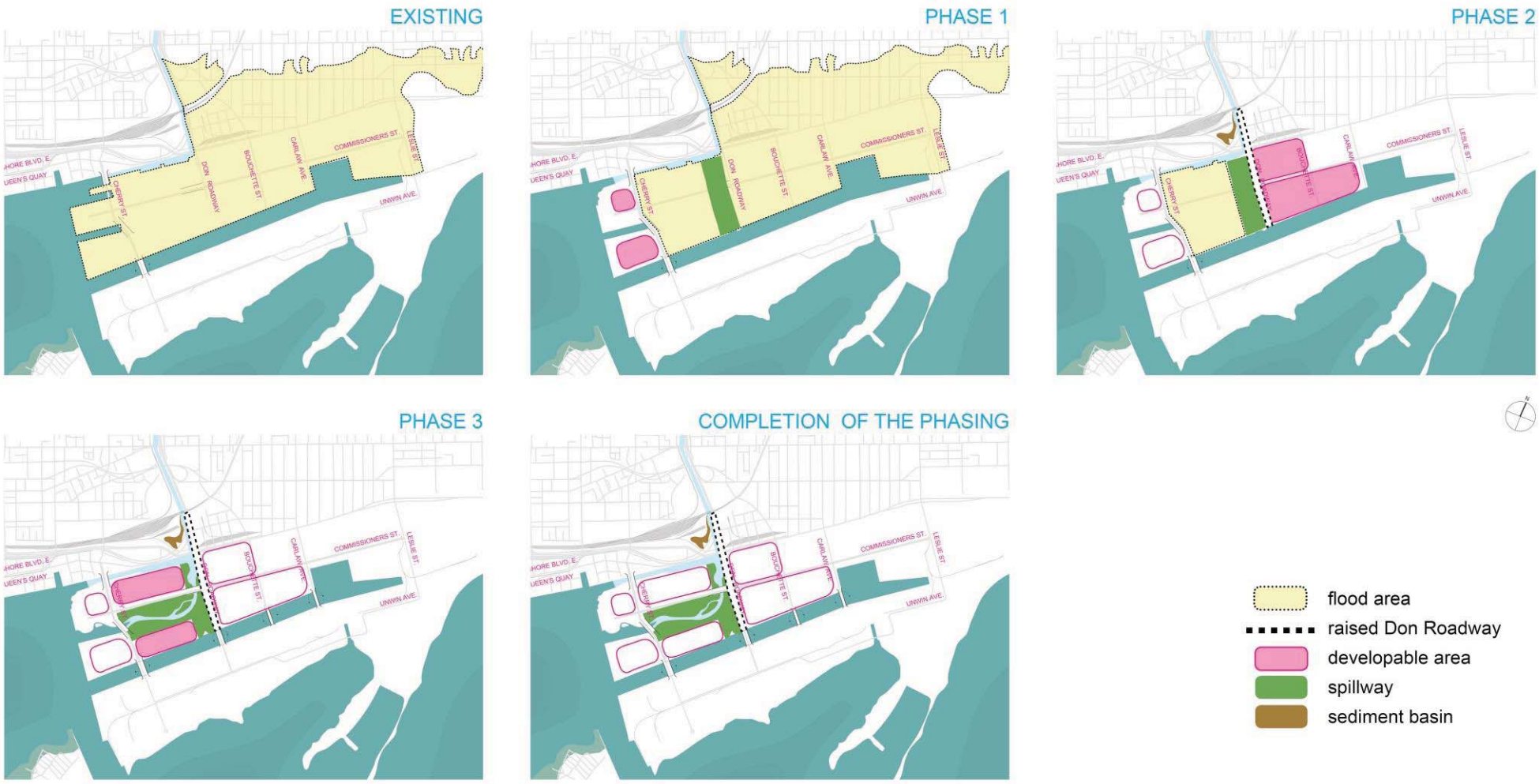


LDL MP EA Study Area

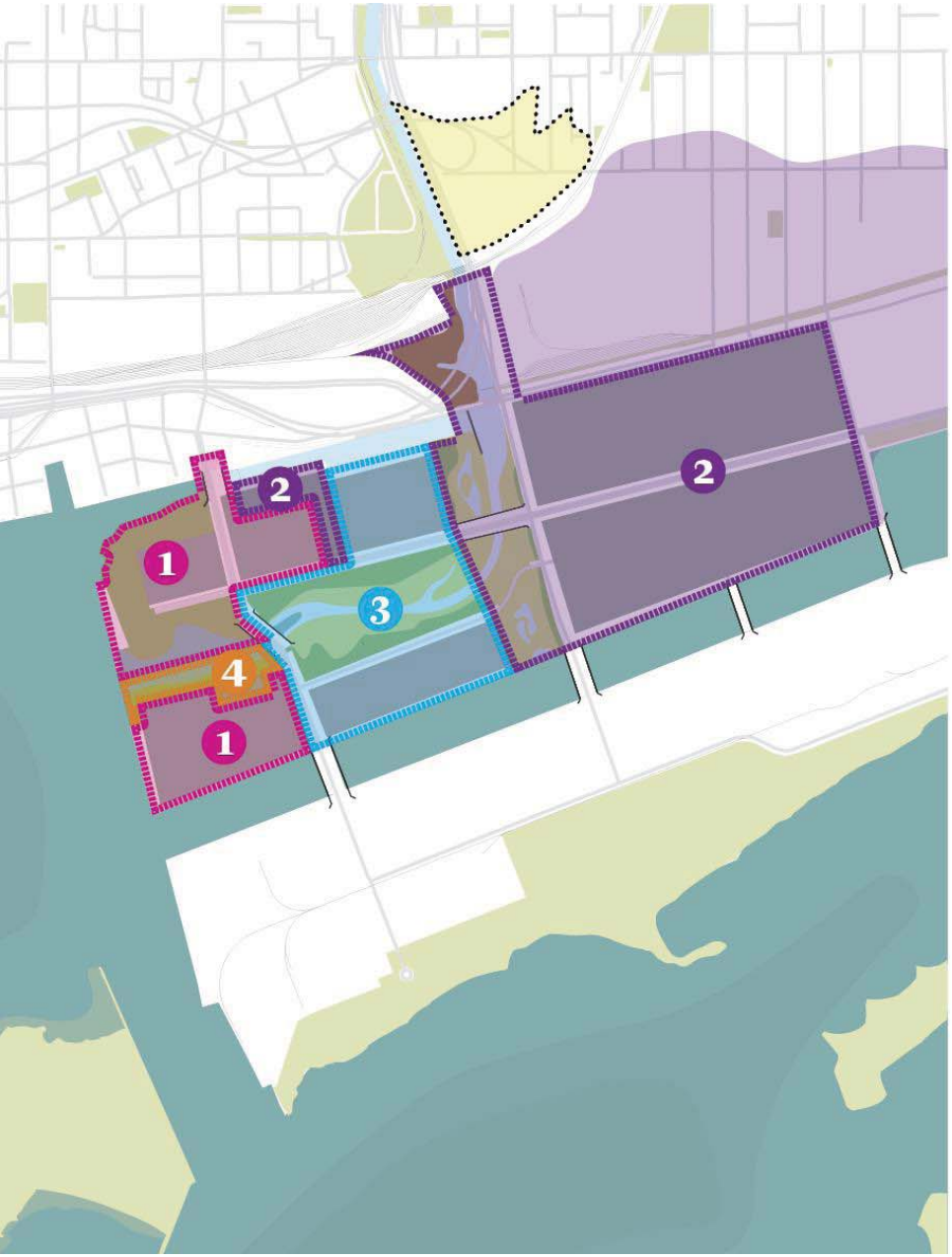
The LDL MP EA Study:

- Servicing infrastructure necessary to support revitalization and refines it to coincide with the optimized river valley.
- Phases 3 and 4 are being completed for Schedule C projects including streets and coordinated stormwater management infrastructure.
- Minimum elevations of bridges and roads to match DMNP EA

2012 PLAI Phasing



2013 PLAI Optimized Phasing – Overview



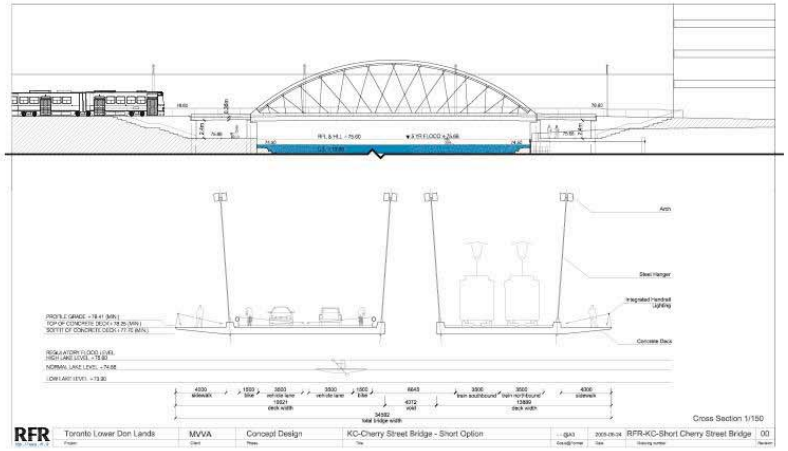
1 Phase 1

2 Phase 2

3 Phase 3

4 Phase 4

2013 PLAI – Phase 1 – Flood Protection



- Phase 1 Greenway no longer necessary
- Construct new Keating Channel bridge
- Remove old Keating Channel bridge and abutments

2013 PLAI – Phase 1 – Development

- Raise and fill Cousins and Polsons Quay Precincts (including 309 Cherry, excluding Lafarge)
- Realign and reconstruct Cherry Street
- Fill Essroc Quay

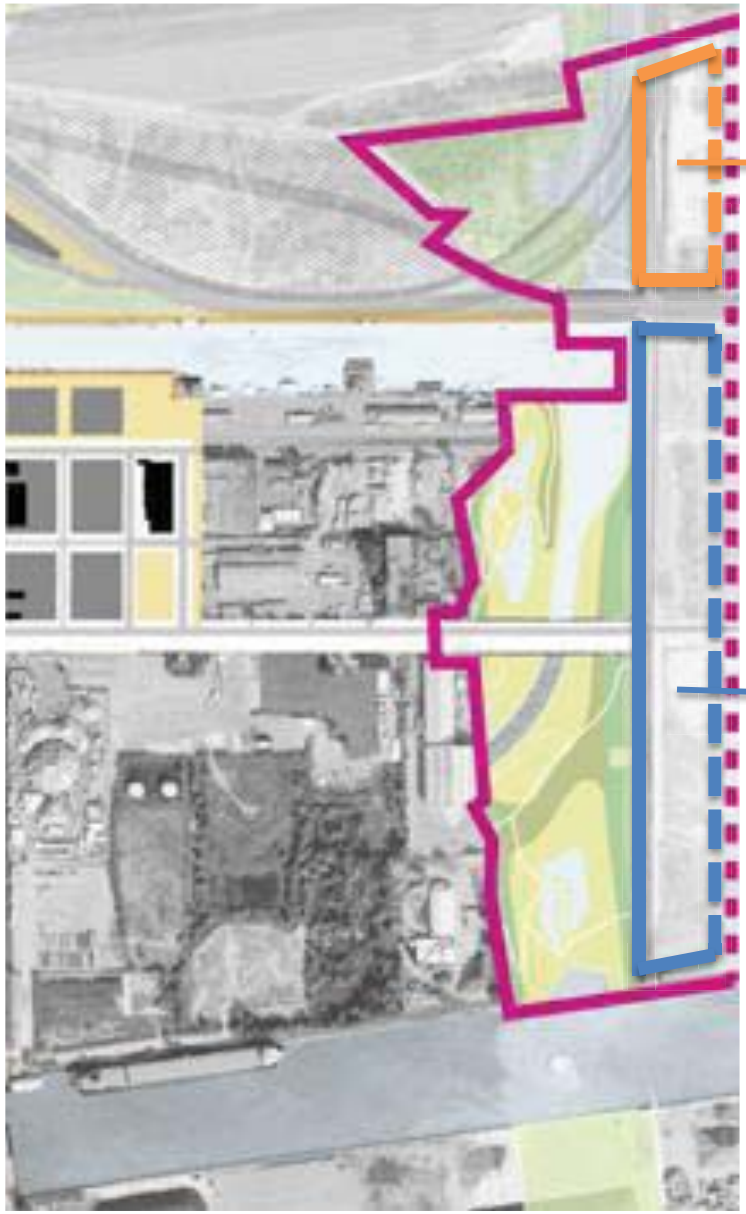
2013 PLAI – Phase 2 – Flood Protection

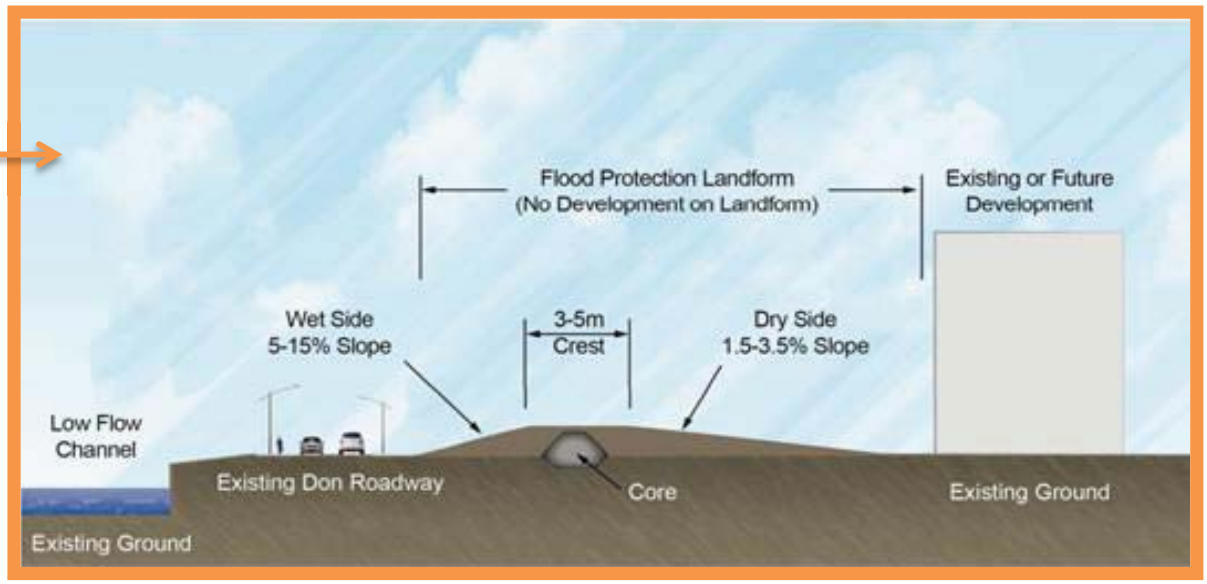
Don Valley Trail bike path over sediment management area

- Construct Greenway
- Construct flood protection landform on First Gulf site
- Construct valley wall feature on east side of Don Roadway
- Modify Eastern Avenue underpass
- Construct sediment and debris management area including lengthening of Lake Shore bridge

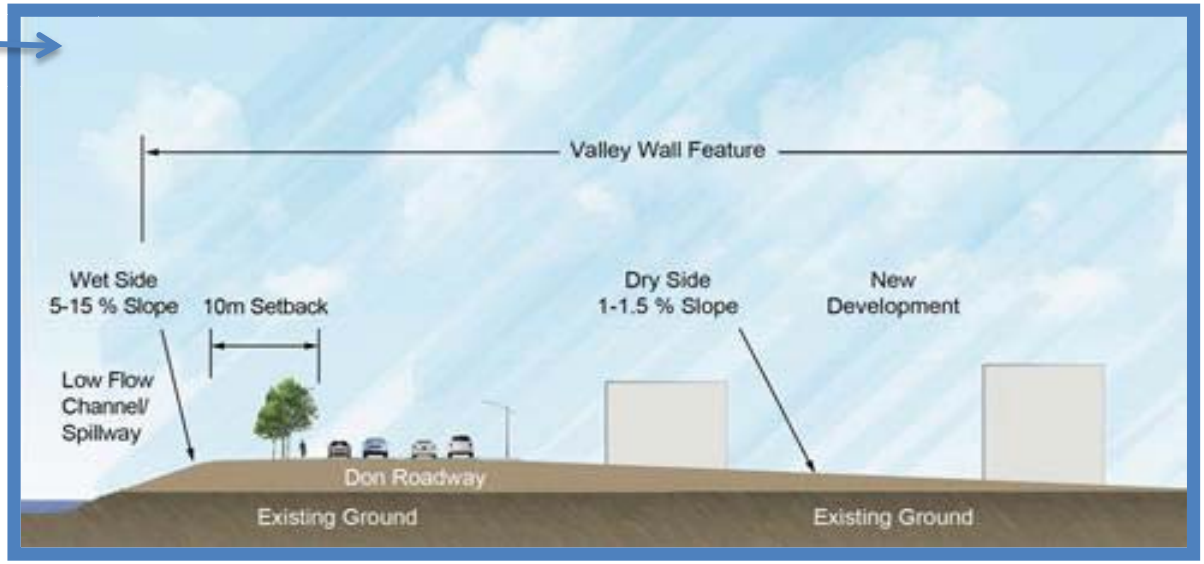
TORONTO
Toronto and Region Conservation for The Living City
WATERFRONTToronto

2013 PLAI – Phase 2 – Flood Protection - Detail





FLOOD PROTECTION LANDFORM



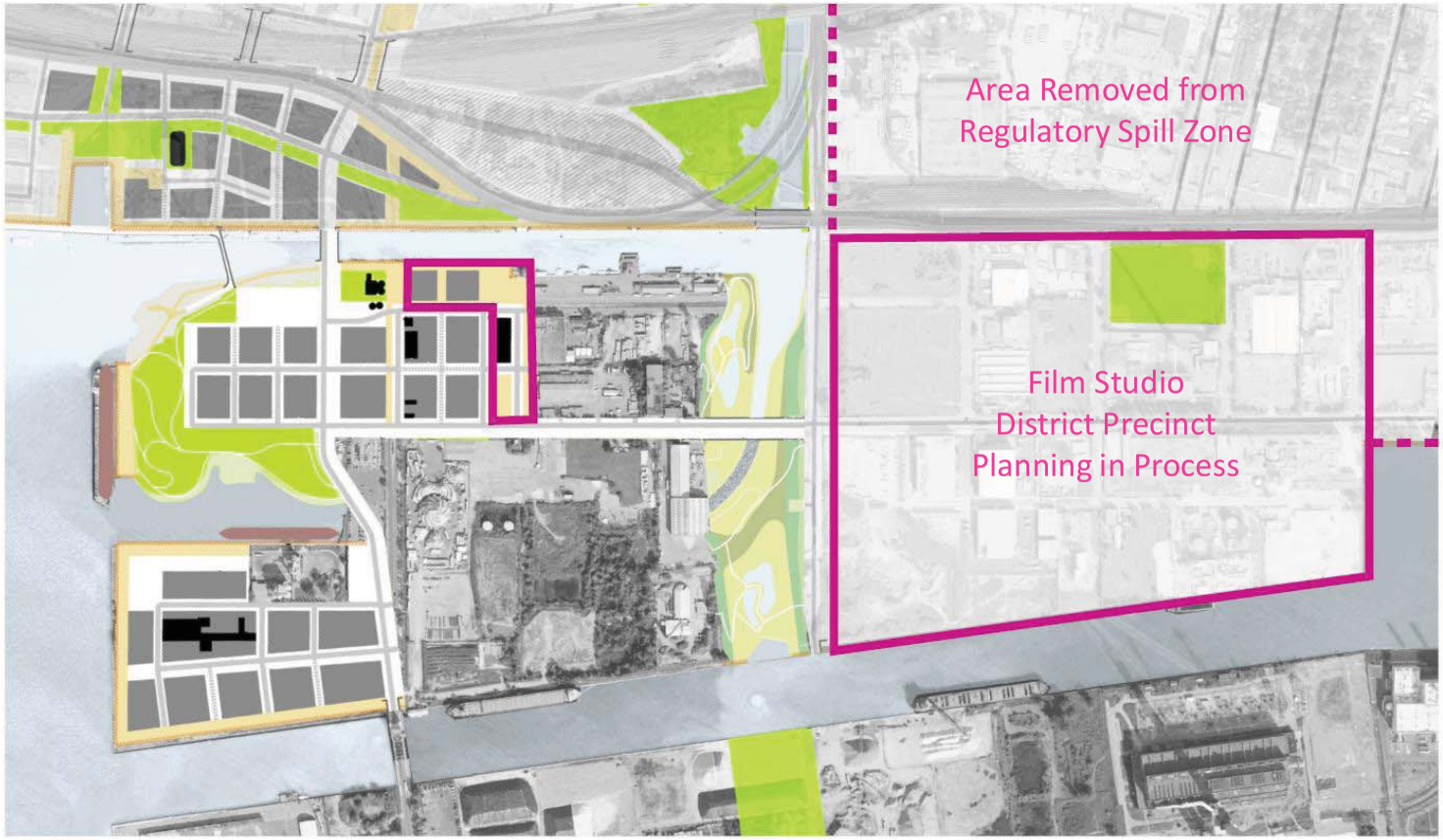
VALLEY WALL FEATURE

TORONTO

Toronto and Region Conservation for The Living City

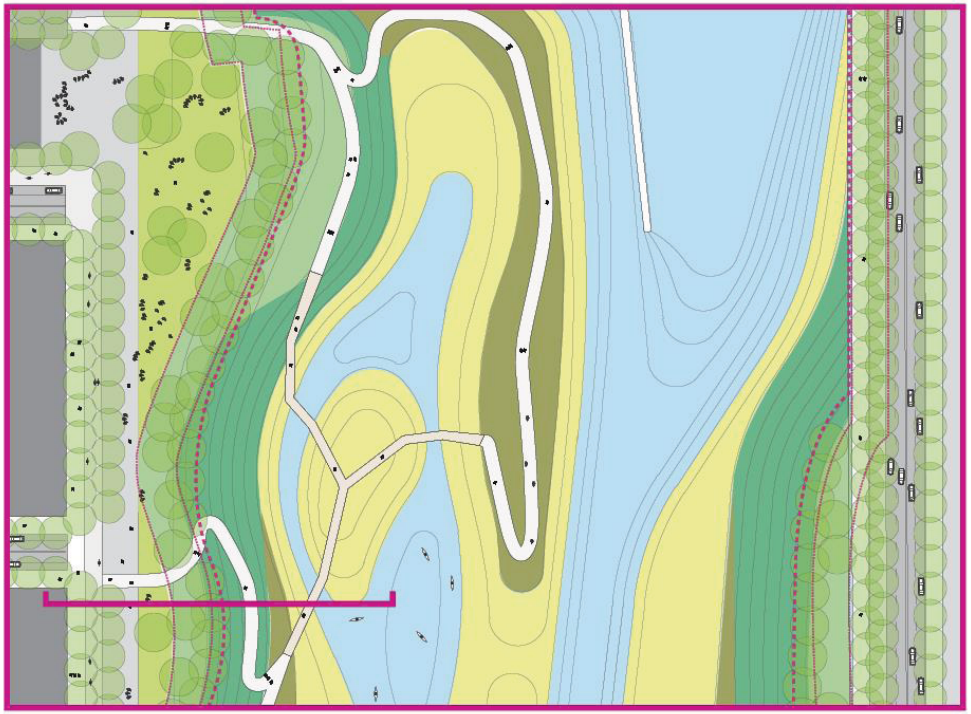
WATERFRONTToronto

2013 PLAI – Phase 2 – Development



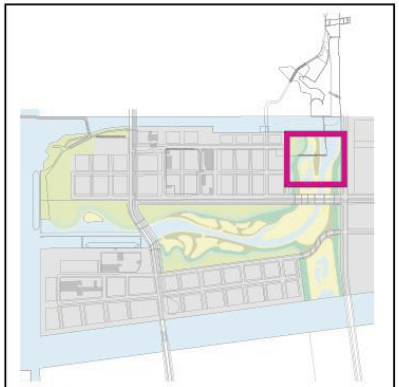
- Development to Munitions Block
- Film Studio District Precinct and lands east of Don Roadway are flood protected

2013 PLAI – Greenway

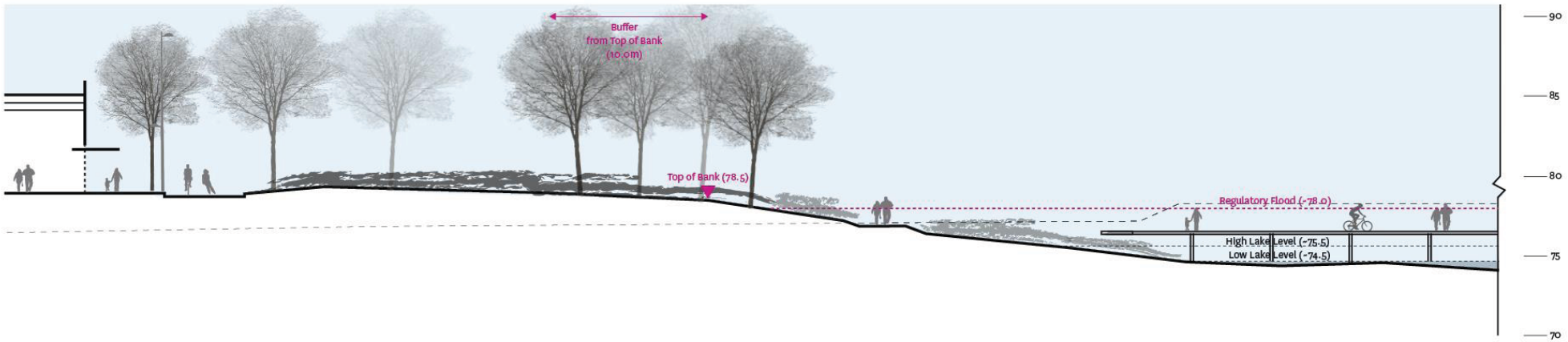


Legend

- Future Floodplain (Approximate)
- Phase 3 Grading
- Potential Development Area (Approximate)
- Aquatic Habitat
- Wetland Habitat
- Levee Habitat
- Valley Slope Transition
- Open Space/Setback
- Park (Recreation)

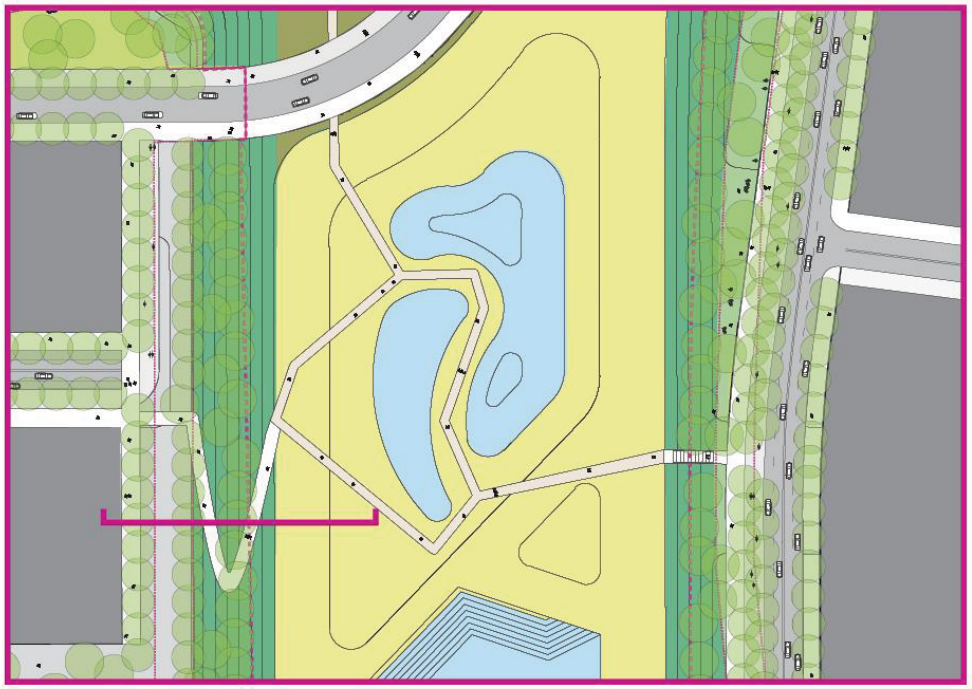


Key Plan



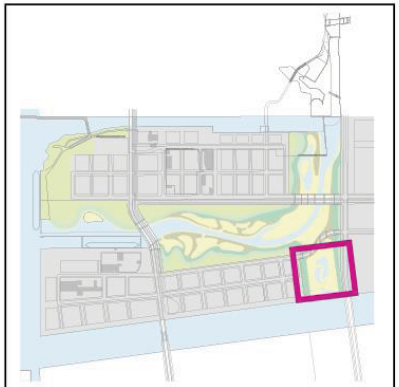
TORONTO
Toronto and Region Conservation for The Living City
WATERFRONTToronto

2013 PLAI – Greenway

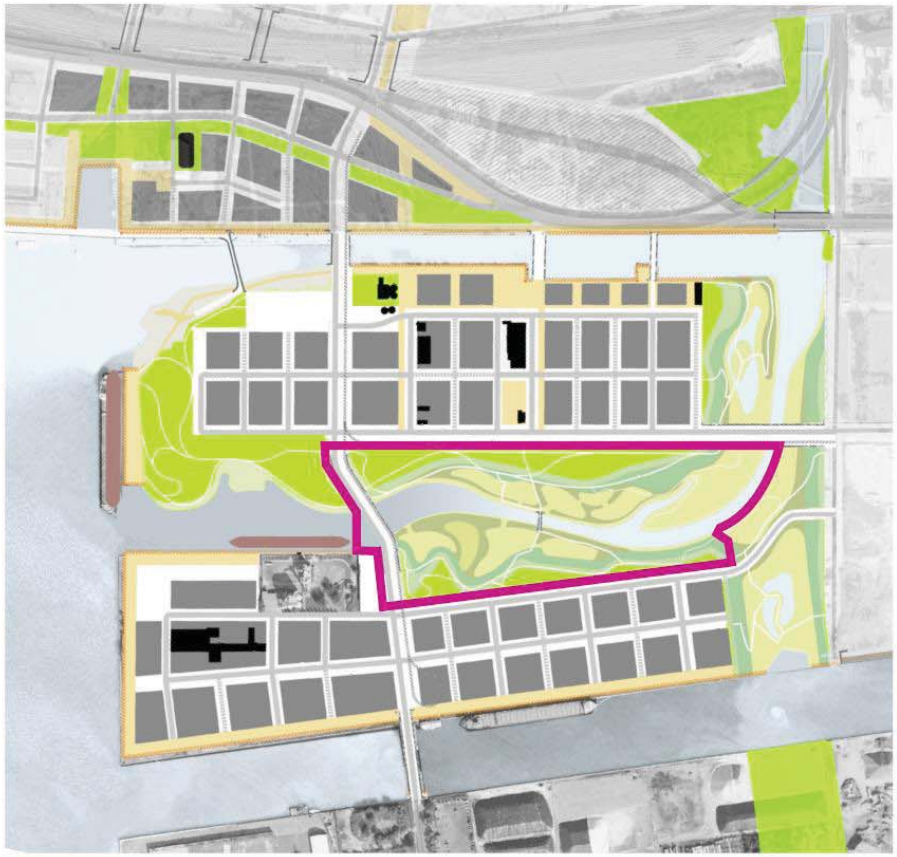


Legend

- Future Floodplain (Approximate)
- Phase 3 Grading
- Potential Development Area (Approximate)
- Aquatic Habitat
- Wetland Habitat
- Levee Habitat
- Valley Slope Transition
- Open Space/Setback
- Park (Recreation)

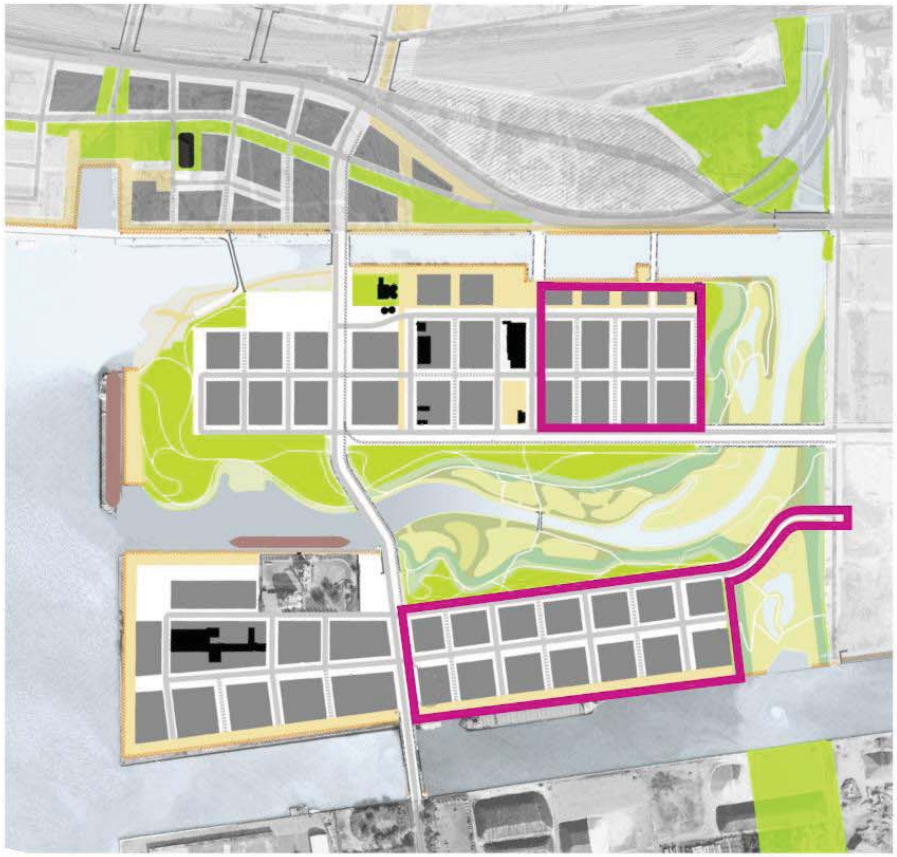


2013 PLAI – Phase 3 – Flood Protection



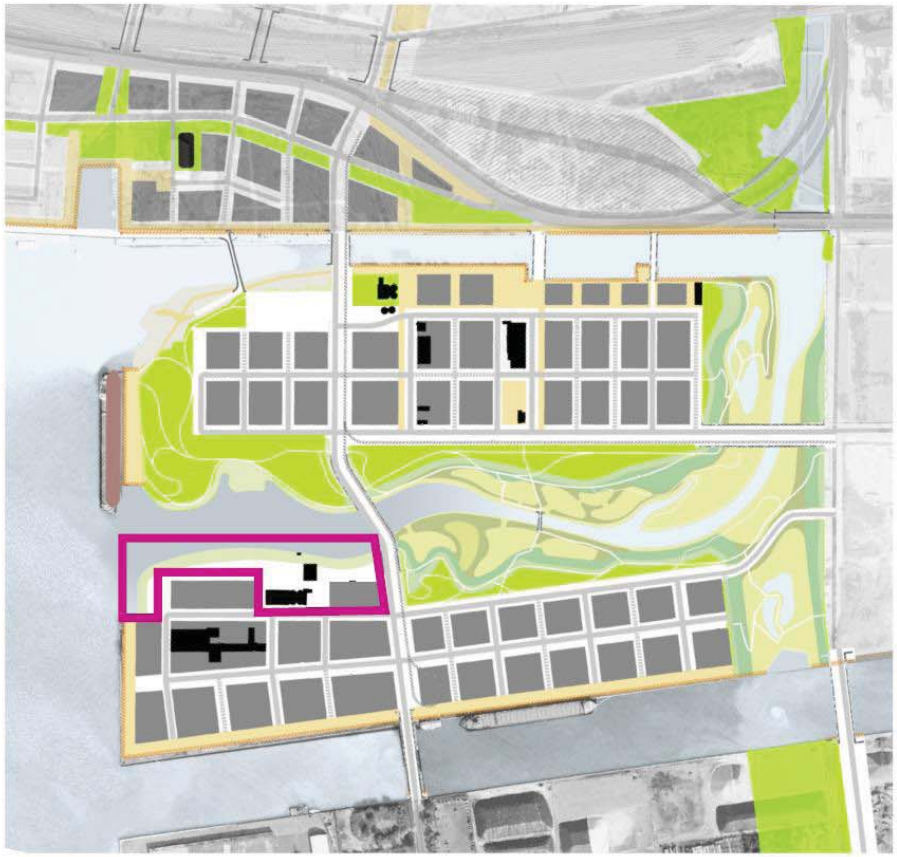
- Construct Polson Slip bridge
- Construct river valley system, including the low flow channel and flood control weirs

2013 PLAI – Phase 3 – Development



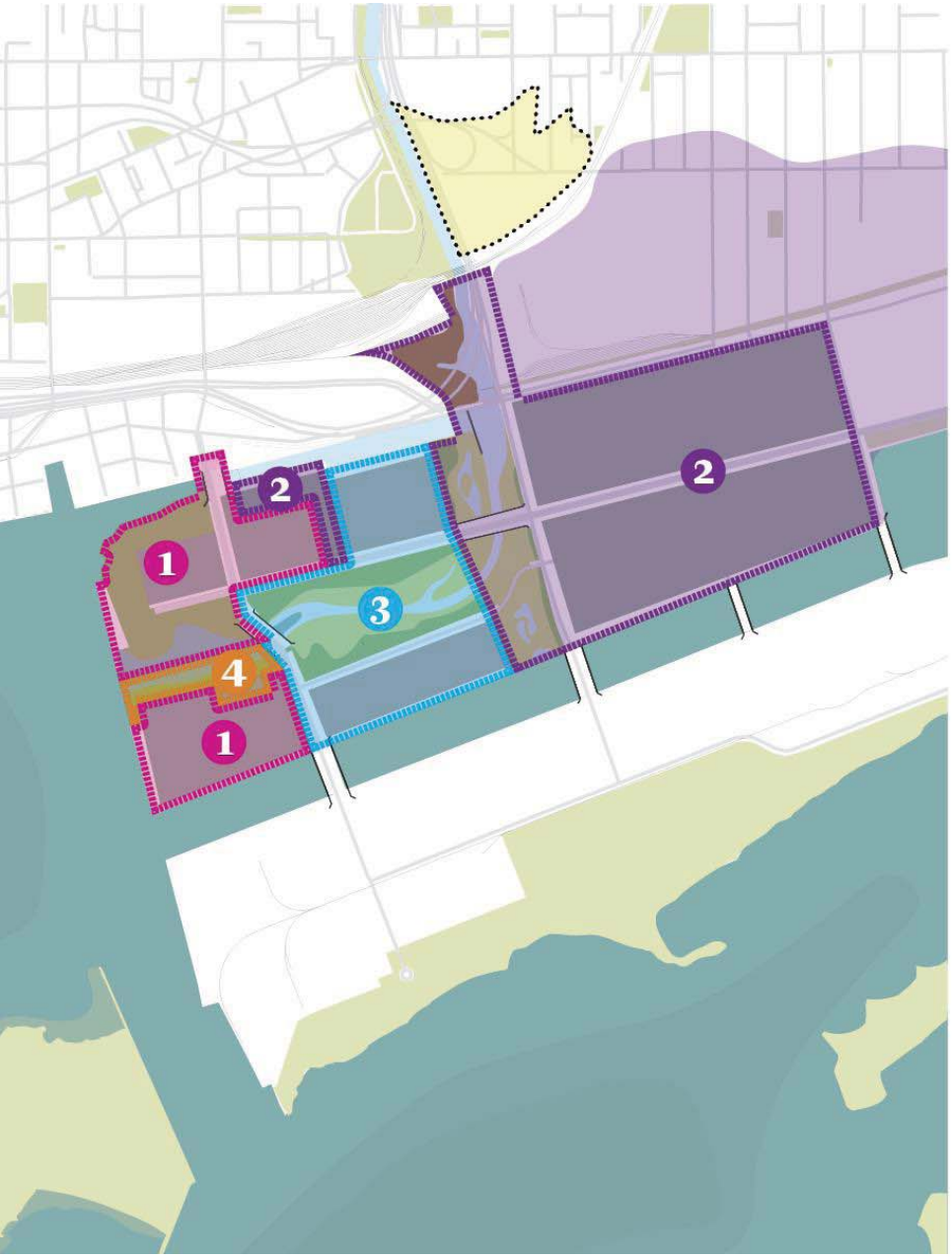
- River Valley Precincts
- Construct Basin Street bridge
- Raise and fill north and south of river valley

2013 PLAI – Phase 4 – Naturalization



- Naturalize Polson Quay south dockwall

2013 PLAI Optimized Phasing – Conclusion



- Building the permanent condition in a phased approach both:
  - minimizes/eliminates throwaway costs of interim construction and
  - meets accelerated urban development goals

DMNP EA

TORONTO
Toronto and Region Conservation for The Living City
WATERFRONTToronto

Progression of the DMNP EA

Central Waterfront Secondary Plan, 2003

Approved EA Terms of Reference, 2006

Lower Don Lands Design Competition, 2007

DMNP EA Conceptual Design, 2010

Port Lands Acceleration Initiative (PLAI), 2012

DMNP EA Amendment, 2013

Informed EA Process

Informed EA Process

2004 2006 2008 2010 2012 2014

Terms of Reference | **EA Process** | **EA Submission** | **EA Paused** | **PLAI** | **EA Amendment**

TORONTO Toronto and Region Conservation for The Living City WATERFRONTToronto

DMNP EA Process

1

Develop Long List of Alternatives Based on:

1. Discharge Points
2. River Characteristics
3. Channel Shape (Cross-Section)
4. Habitat Types (What Grows in the Channel)

2

Evaluate Alternatives and Identify a Short List of Alternatives Based on Technical Feasibility, Including:

- Recreational Opportunities within the River Valley System
- Integration with Infrastructure
- Management of Sediment, Debris, and Ice; Navigation

3

Comparative Evaluation of Short List of Alternatives

4

Select Preferred Alternative for Further Evaluation

5

Confirm and Describe Preferred Alternative

Amended Preferred Alternative

Preferred Alternative, 2013

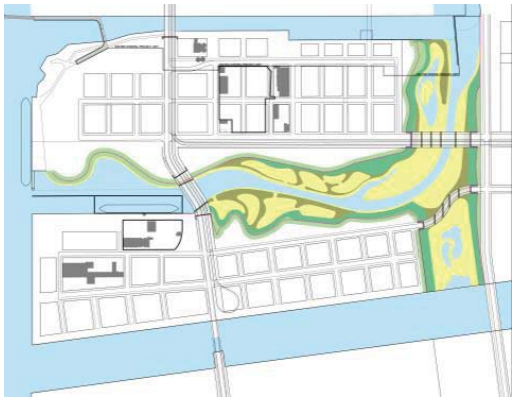
- Realignment of the Greenway
- Phased Implementation of Flood Protection
- Accommodation of Lafarge During Phasing
- Rationalizing Developable Land and Naturalization
- Removal of Inner Harbour Promontories

How does the Amended Alternative Fulfill the Project Goals?

Flood Protection

Permanent removal of flood risk from 240 ha of land

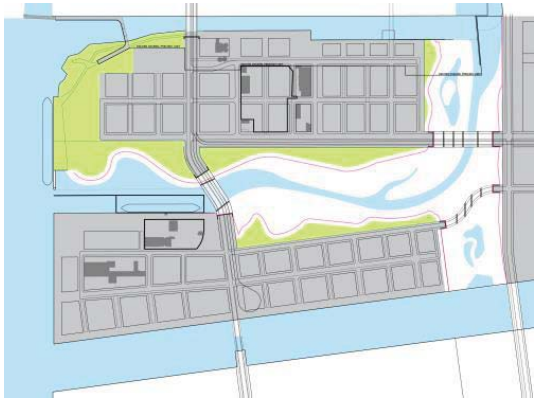
Naturalization



Aquatic Habitat:
14 Hectares

Naturalization (Terrestrial / Wetland):
16 Hectares

Revitalized City Environment



Phased flood protection allows development to proceed in step with completion of the new river valley

TORONTO
Toronto and Region Conservation for The Living City
WATERFRONTToronto

Overview of the Effects and Mitigation

Flood Protection

- Phased construction of river will progressively remove lands from flood risk without increasing flood risk elsewhere
- Permanent removal of 240 ha of land from flooding

Naturalization

- Creation of 14 ha of high quality aquatic habitat
- Creation of 16 ha of naturalized habitat (wetland/terrestrial) which is expected to attract locally significant species

Recreational and Cultural Opportunities

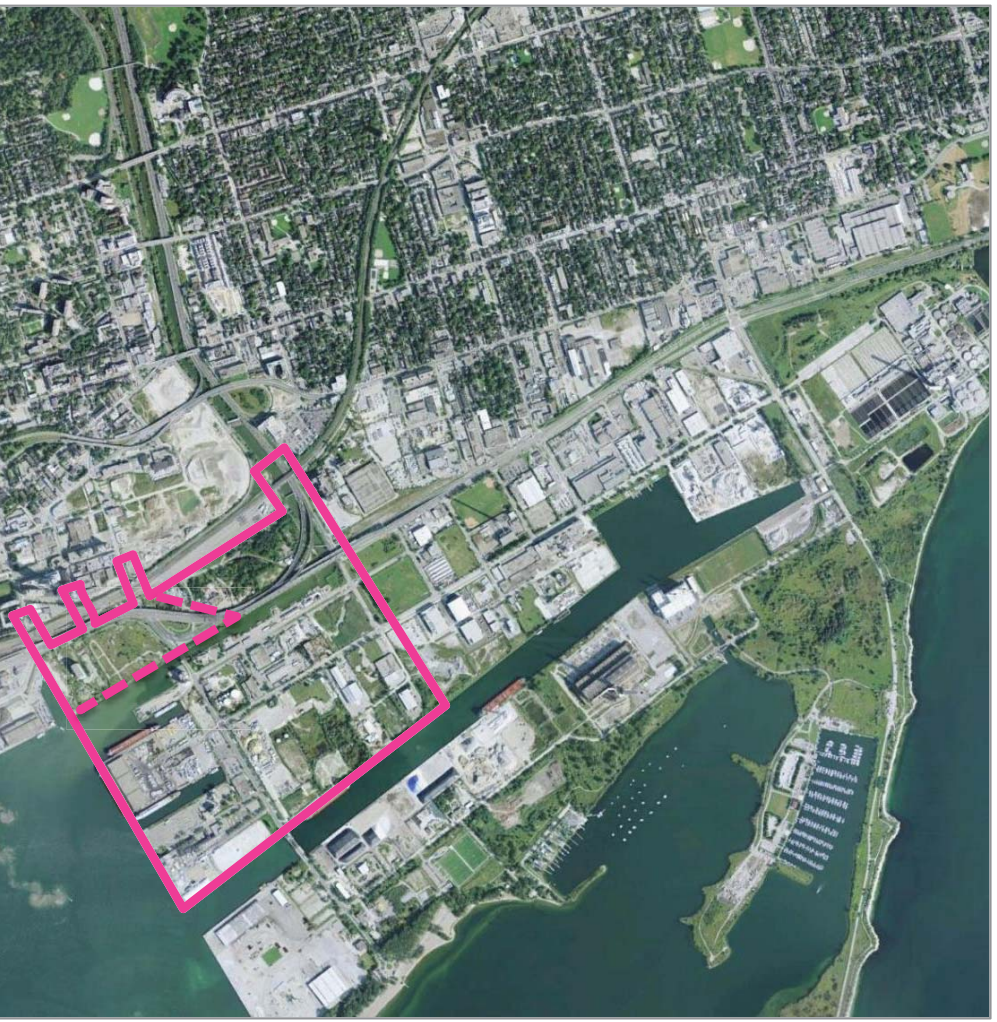
- New river mouth provides greater recreational opportunities than the existing river (e.g., boating, trails, enjoyment of naturalized landscapes)
- Heritage resources within the footprint of the river valley system will be conserved, relocated, raised, or commemorated

Overview of the Effects and Mitigation

Operational Management and Constructability	• Flood protection minimizes throwaway costs between phases • Sediment management uses existing infrastructure where possible and allows for the use of dredgate during lakefilling • Design and phasing limits impacts to existing operations and shipping
Planned Land Use	• Nuisance effects on existing/future residents and businesses (e.g., noise, dust, and traffic) due to construction will be mitigated
Sustainability Framework	• Excavated soil will be treated and reused on-site where appropriate • Remaining soils that must be transported off-site will have minimal effects on traffic, air quality, and noise.

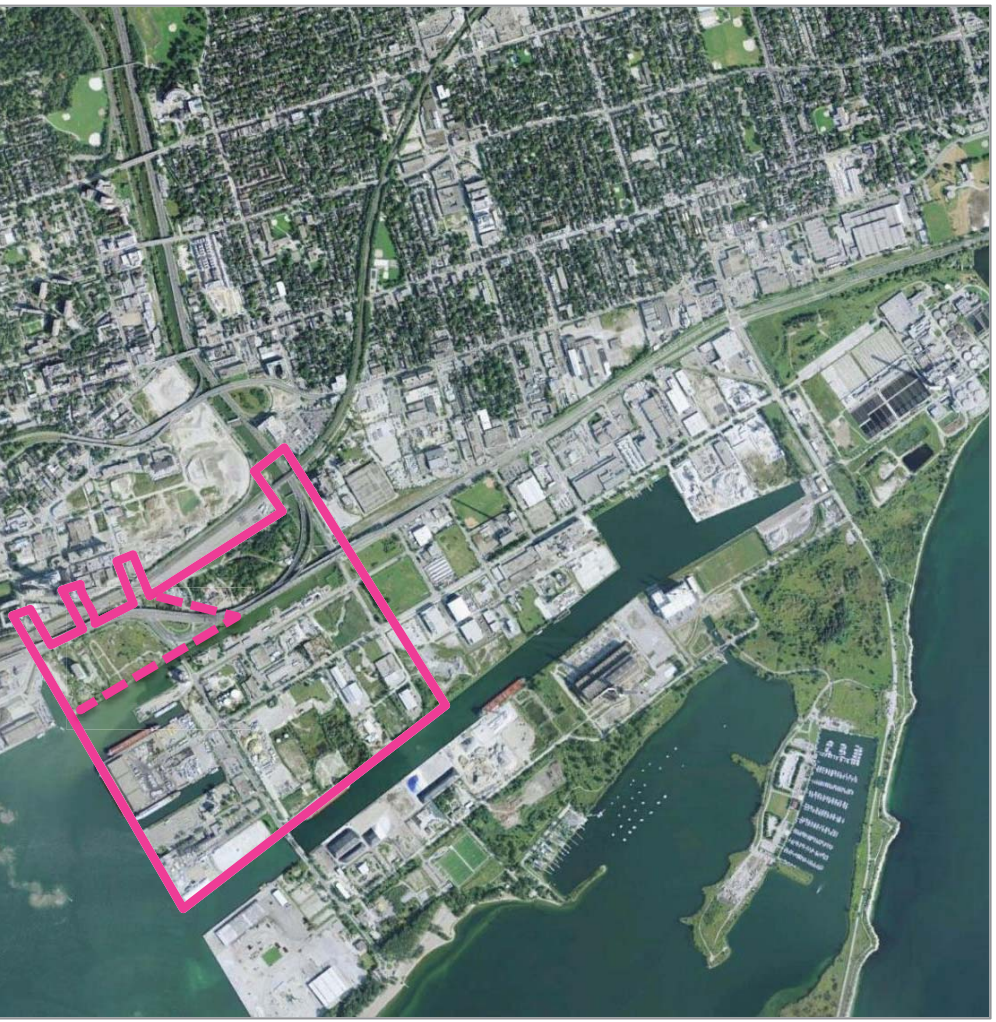
LDL EA MP Study

LDL EA MP Study - Overview



- In 2010 City Council approved a Transportation and Infrastructure Master Plan (Phases 1 and 2) for the entire LDL and completed the EA process (Phases 3 and 4) for the Keating Precinct.
- The completed EA was approved for the lands west of Cherry Street. The remainder was put on hold pending the completion of the Gardiner Expressway EA.
- 2012 PLAI Plan requires revisions to the approved Master Plan.
- Phases 3 and 4 of the Class EA are being completed for all lands south of the Keating Channel.

LDL EA MP Study - Content



Scope for LDL EA MP:

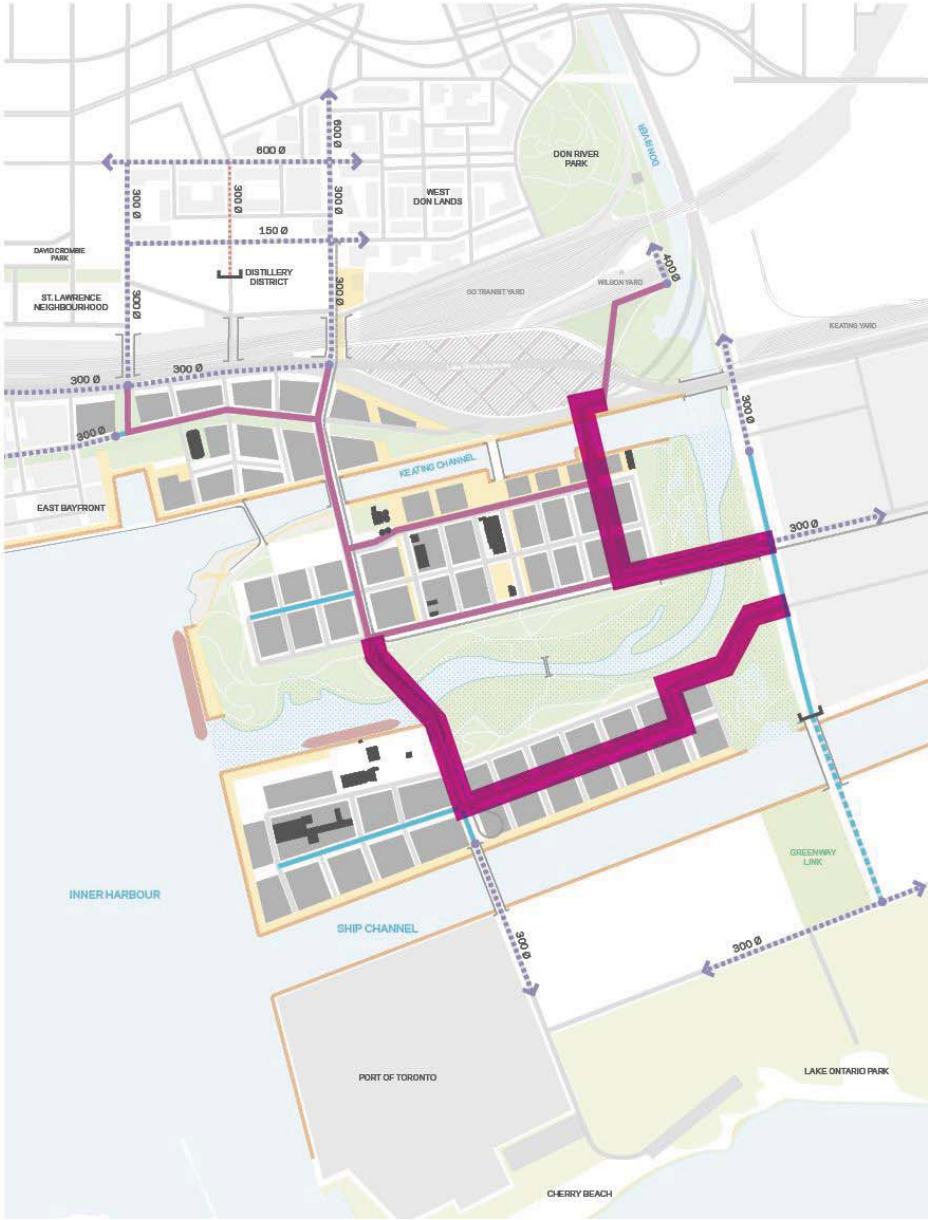
- Water
- Sanitary
- Roads
- Bridges
- Transit
- Stormwater

Water

Approved EA Master Plan

Proposed or Relocated in this Addendum

2013 LDL MP EA Study



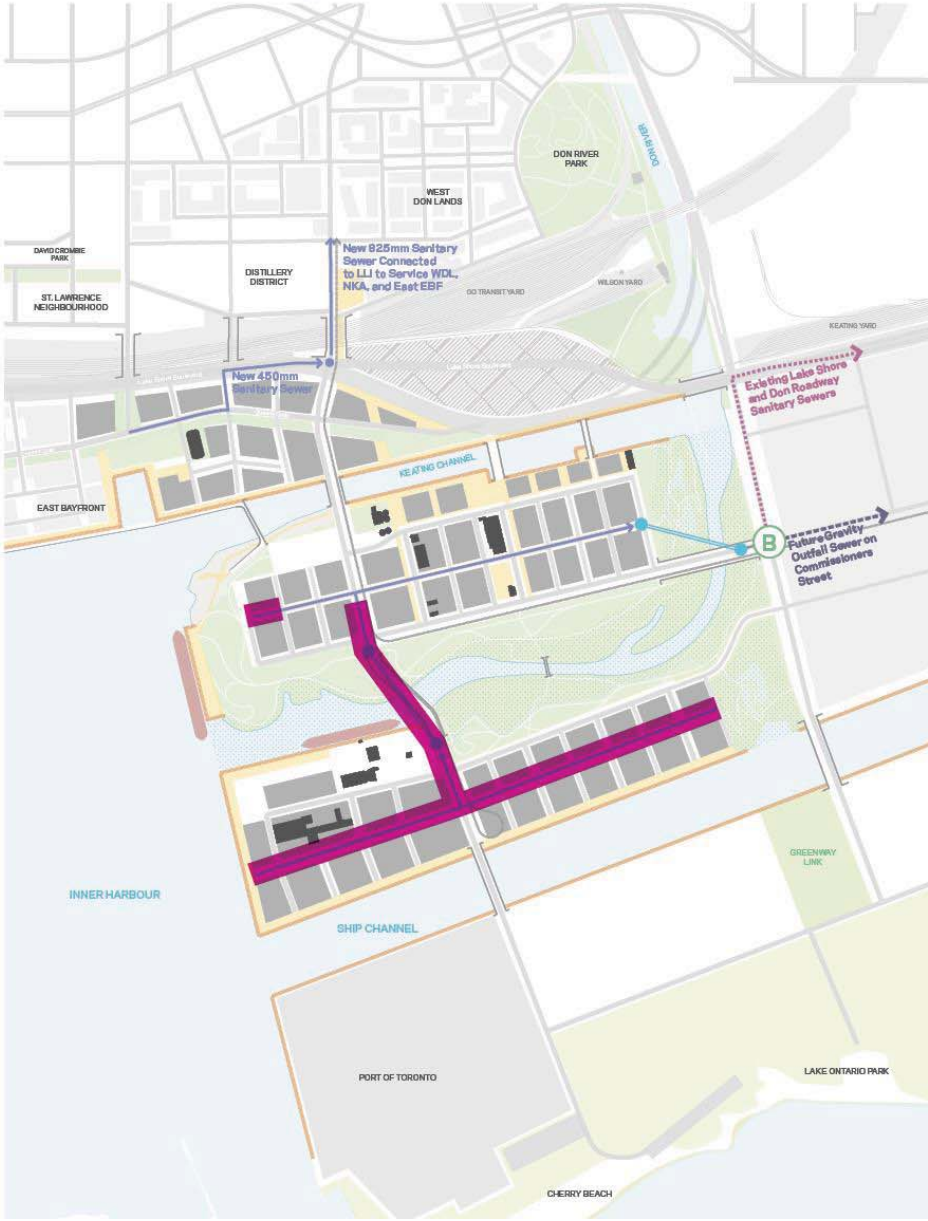
TORONTO
Toronto and Region Conservation for The Living City
WATERFRONTToronto

Sanitary

Approved EA Master Plan

Proposed or Relocated in this Addendum

2013 LDL MP EA Study



TORONTO
Toronto and Region Conservation for The Living City
WATERFRONTToronto

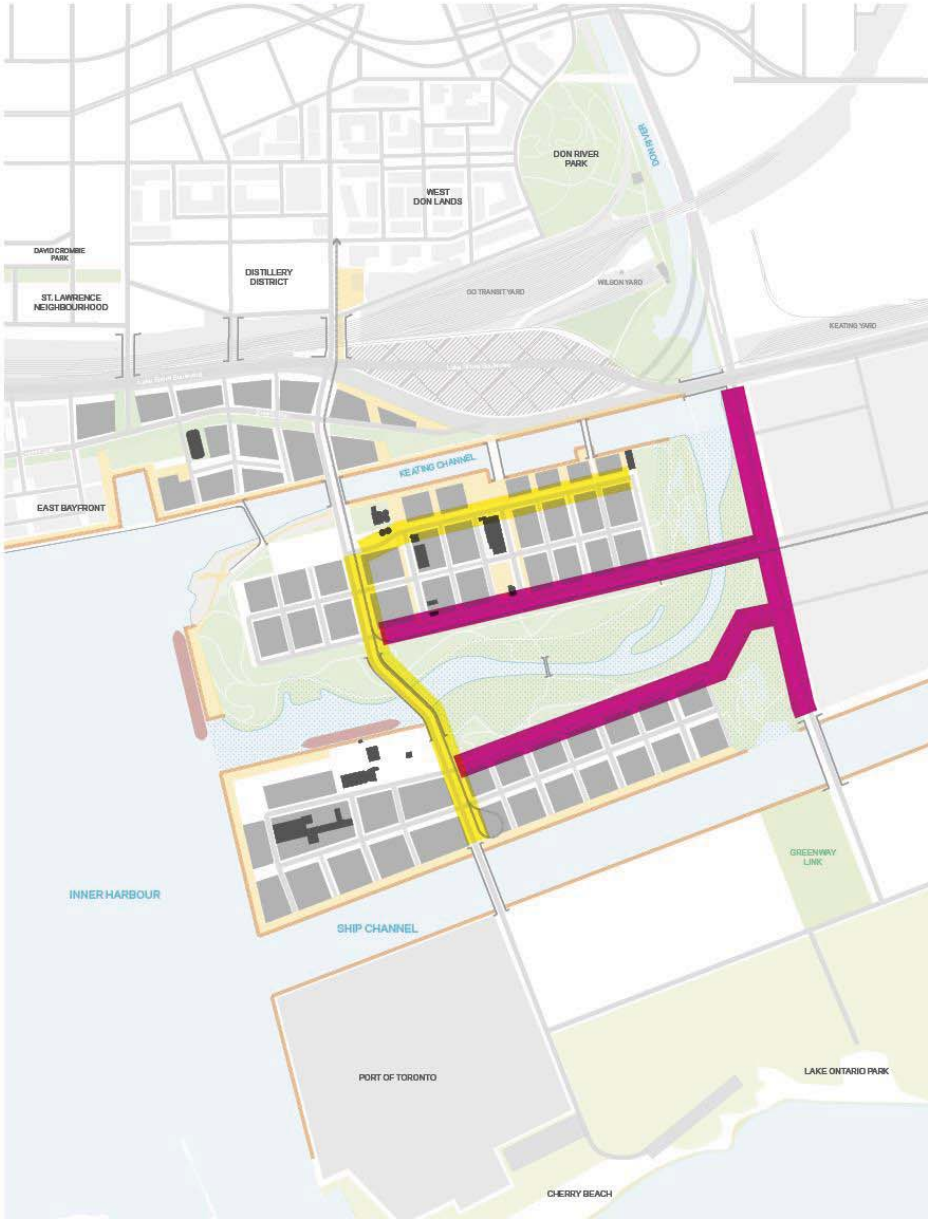
Roads

Approved EA Master Plan

Complete Phases 3 and 4 of Class EA: Location not Changed from 2010

Proposed or Relocated in this Addendum

2013 LDL MP EA Study



TORONTO
Toronto and Region Conservation for The Living City
WATERFRONTToronto

Roads – Cross Sections

Figure 11-2 Cross-section for Cherry Street between Lake Shore Boulevard and Villiers Street

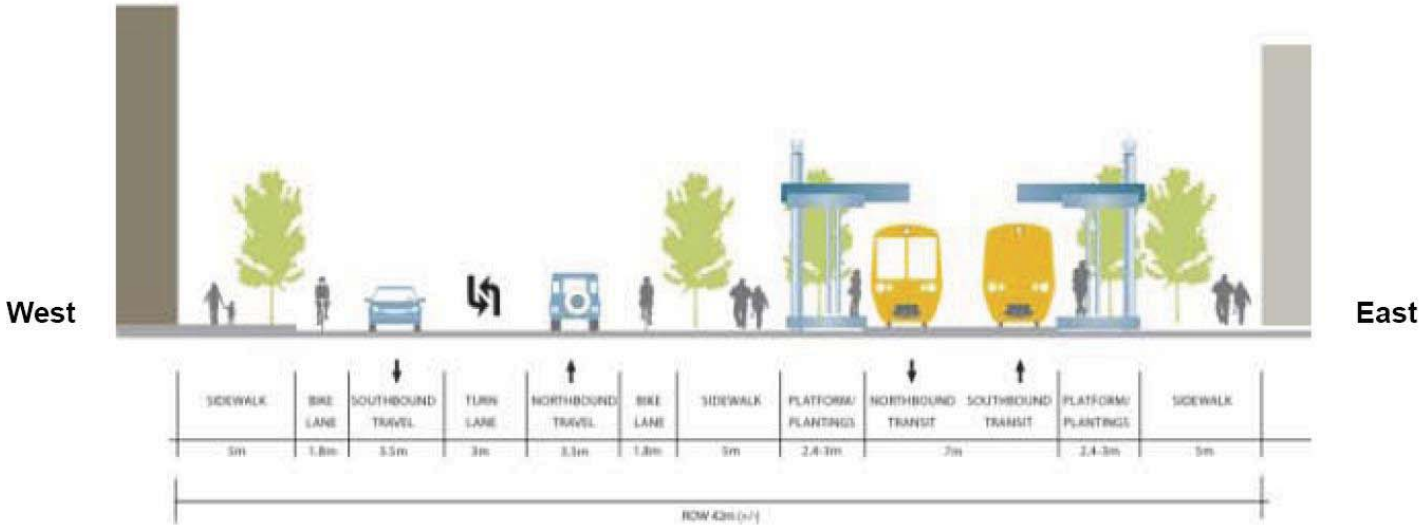
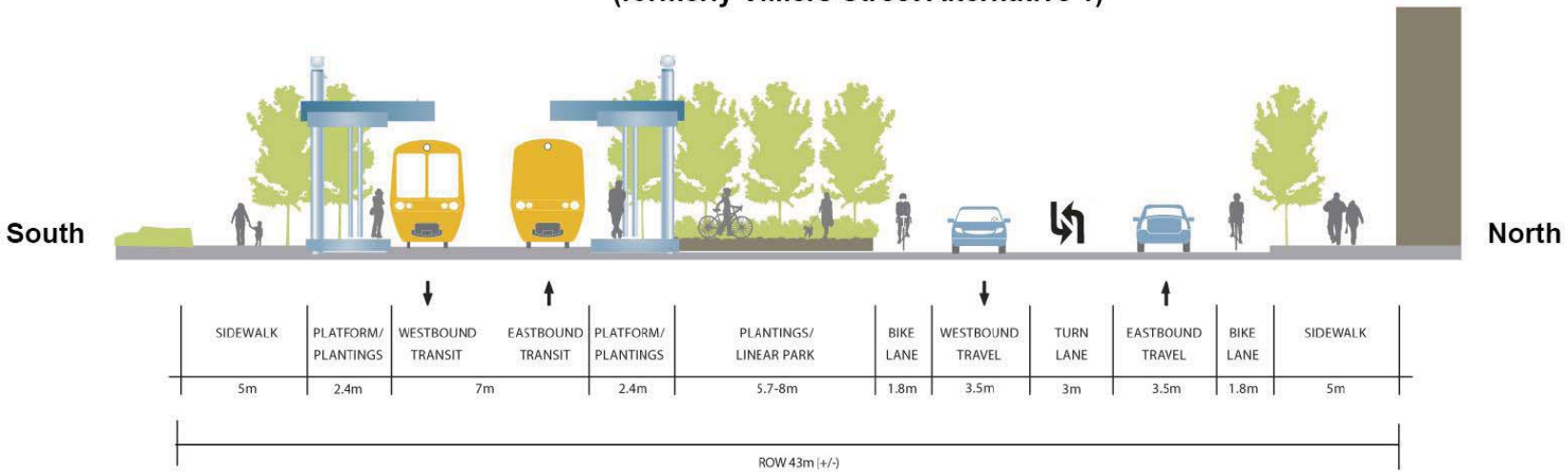


Figure 11-20 Cross-section for Commissioners Street (formerly Villiers Street Alternative 1)



Roads – Basin Street Alternatives

Alternative 1 – Bridge – structure comprised of a deck on piers

Alternative 2 – Causeway and Bridge – combination of filled embankment and smaller bridges where the water has to pass through – underneath the bridge deck could be completely open or box culverts.

Alternative 3 – River Ford – where the road is built at-grade down into the spillway and floods during 1 in 25 year events and is impassable at that time.

Criteria	Alternative 1: Bridge	Alternative 2: Causeway	Alternative 3: At-grade river ford
Natural Environment	The bridge would provide both movement of peak flood flows and the potential for some natural elements beneath the bridge depending on final bridge design.	The causeway would provide for movement of peak flood flows, but since the structure would have more structural impediments, it would require more land for the spillway north of the roadway. Since the water would move through culverts beneath the road, there is no opportunity to naturalize that area.	The at-grade river ford would provide both movement of peak flood flows and the potential for some natural elements adjacent to the road.
Social Environment	Since all three routes occupy the same general area, and there are no nearby residences, the three alternatives would have the same social impact.		
Economic Environment	Likely to add the most economic benefit, as it would provide full access to all planned development lands.	Less economic benefit, as the causeway would require a larger spillway to the north to accommodate flood waters, reducing the future development area.	Likely to add the most economic benefit, as it would provide full access to all planned development lands.
Cultural Environment	No significant cultural resources are likely to be affected by any of the alternatives		
Sustainability	Both the bridge and causeway would provide numerous opportunities for the accomplishment of sustainable construction practices for the roadway.		The roadway would probably require more maintenance and rebuilding after every major flood event.
Land Use and Property	Requires land currently owned and leased by TPLC. The road would be constructed in the future at the time of redevelopment, so any leased land holdings could be addressed by then.	Also requires lands owned and leased by TPLC, but the causeway would cause the need for a larger area north of the roadway to be set aside as open space to accommodate flood water backup created by the causeway, so less property is available for development.	Requires land currently owned and leased by TPLC. The road would be constructed in the future at the time of redevelopment, so any leased land holdings could be addressed by then.
Transportation	The bridge and the causeway would provide adequate transportation access to allow future development and network traffic distribution.		The river ford would also provide adequate transportation access and traffic distribution most of the time, but in the event of a major flood, access would be cut off in this route, so there would not be a secondary egress route, so this option is inferior.
Municipal Services	All three alternatives would be built in an area where the municipal services are being completely reconstructed for the flood protection spillway, so there is no difference.		
Preferred Alternative	X		

TORONTO Toronto and Region Conservation for The Living City WATERFRONTToronto

Bridges

Approved EA Master Plan

Complete Phases 3 and 4 of Class EA: Location not Changed from 2010

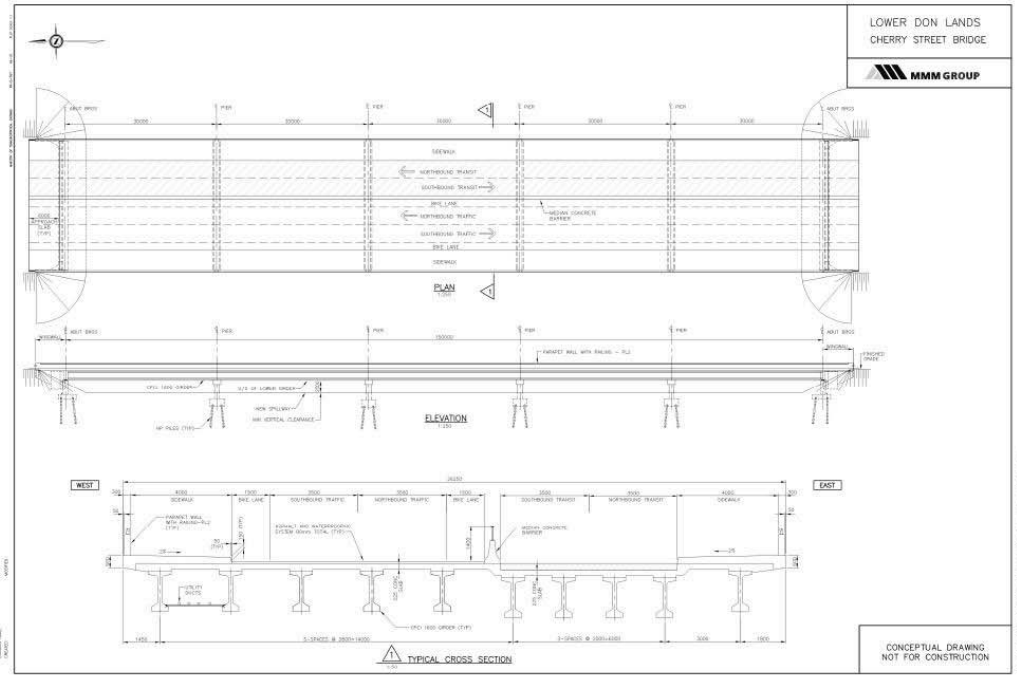
Proposed or Relocated in this Addendum

2013 LDL MP EA Study

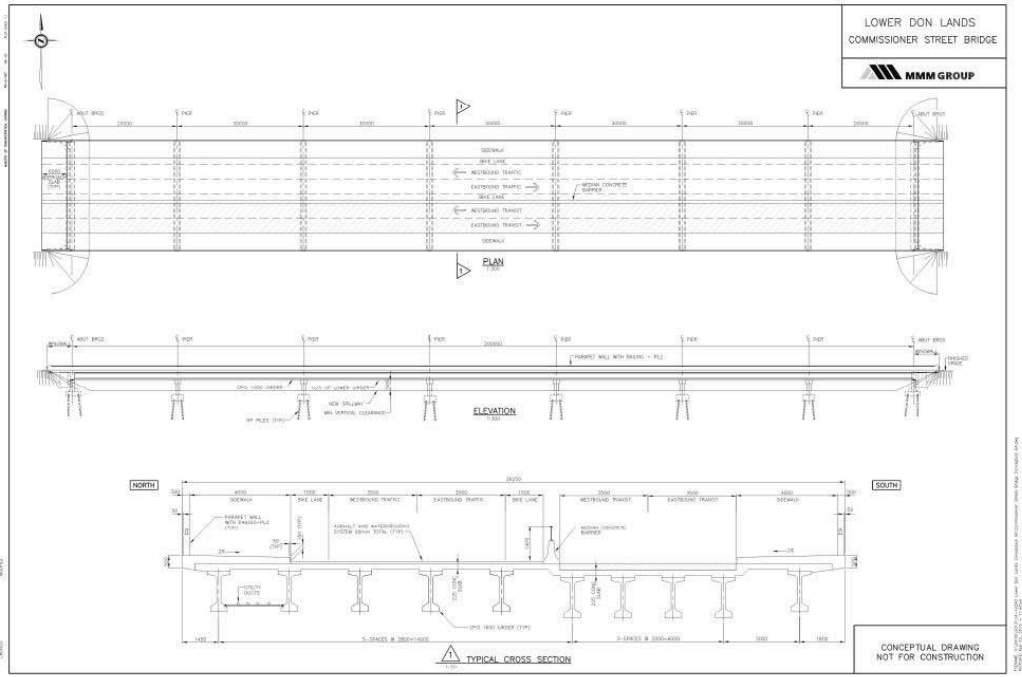
TORONTO
Toronto and Region Conservation for The Living City
WATERFRONTToronto

Bridges – Conceptual Drawings

Polson Slip Bridge



Commissioner Street Bridge



Transit

Approved EA Master Plan

Complete Phases 3 and 4 of Class EA: Location not Changed from 2010

Proposed or Relocated in this Addendum

2013 LDL MP EA Study

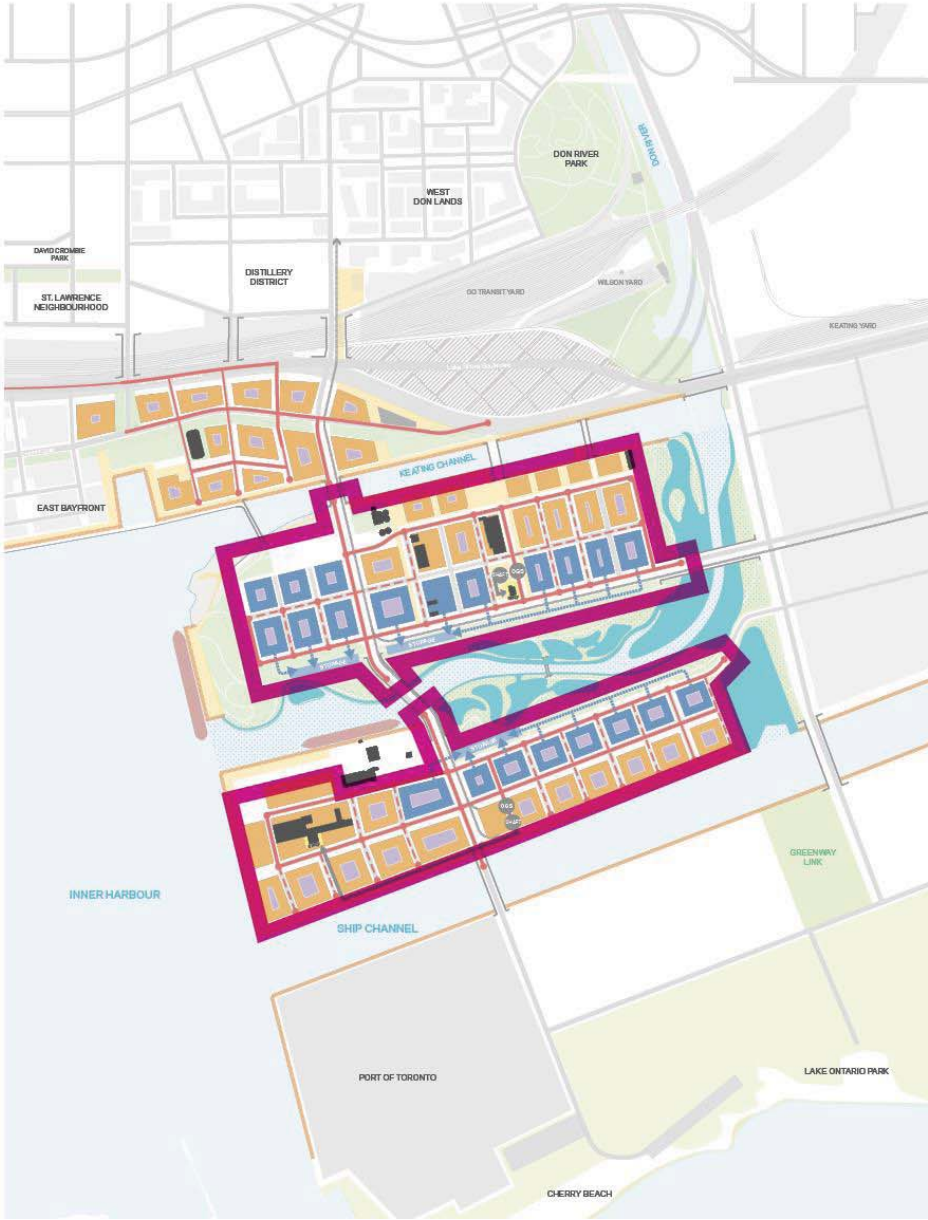
TORONTO
Toronto and Region Conservation for The Living City
WATERFRONTToronto

Stormwater

Approved EA Master Plan

Proposed or Relocated in this Addendum

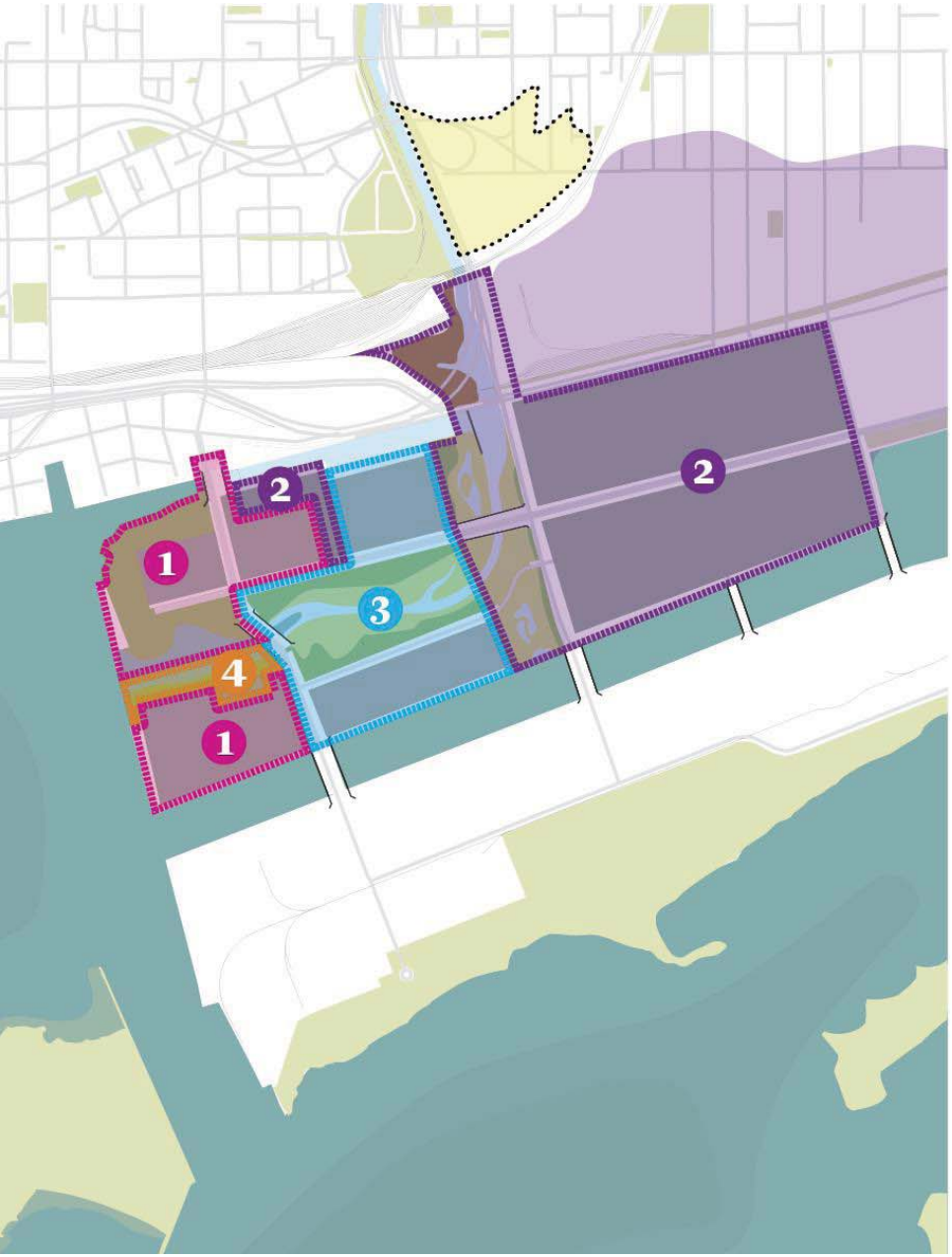
2013 LDL MP EA Study



TORONTO
Toronto and Region Conservation for The Living City
WATERFRONTToronto

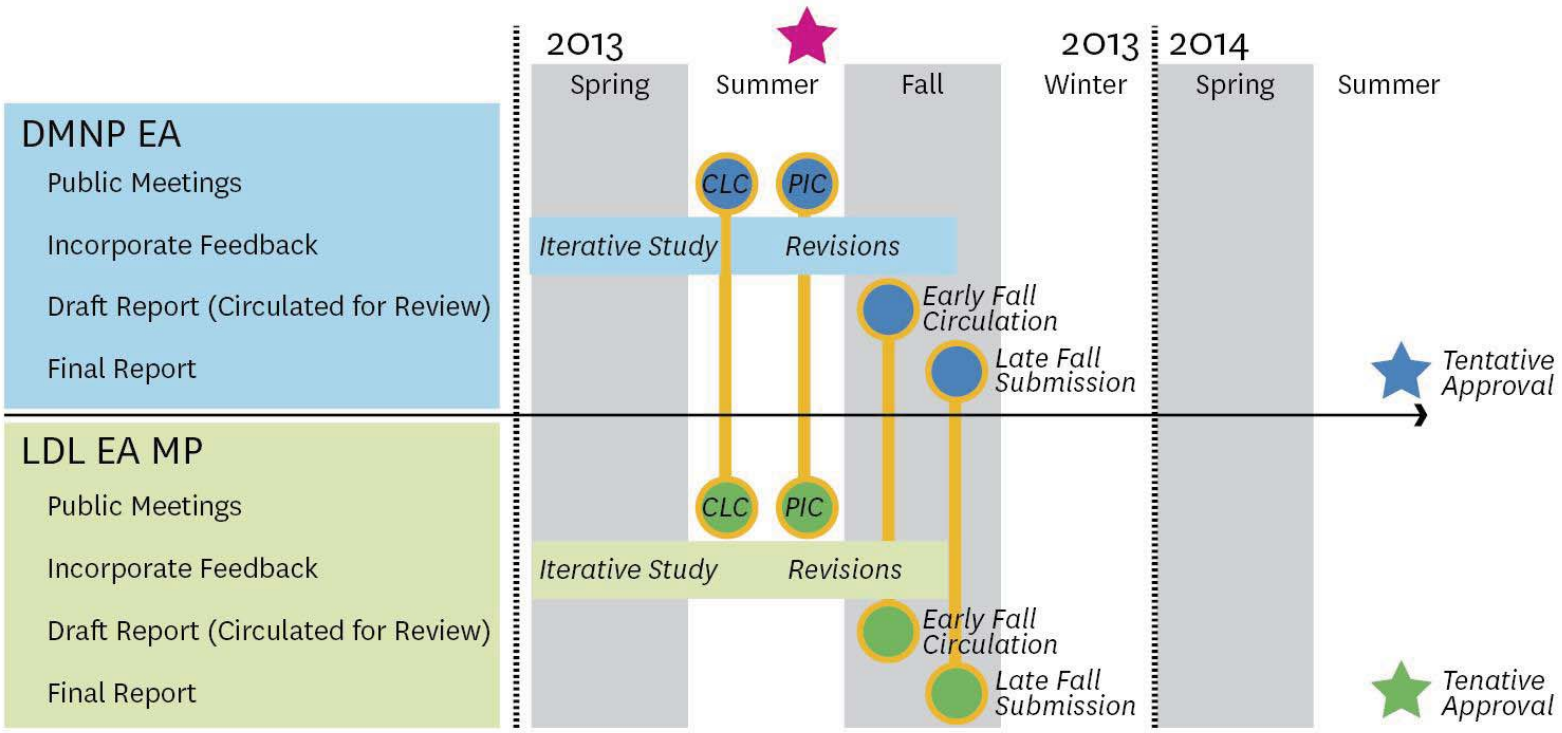
Next Steps

PLAI Financing Strategy



- The City has included in its Development Charges report to City Council provision for City-wide development charges. This is now before City Council.
- City is exploring the potential for area-specific development strategies.
- The landowners have formed a group to explore funding infrastructure costs once the EA has been adopted.
- City, WT, and TRCA will continue to pursue funding from senior levels of government when and if funds are available coordinated with other City and Waterfront renewal efforts.

Next Steps


2013
Spring
Summer
Fall
2013
Winter
2014
Spring
Summer
DMNP EA
Public Meetings
Incorporate Feedback
Draft Report (Circulated for Review)
Final Report
CLC
PIC
Iterative Study
Revisions
Early Fall Circulation
Late Fall Submission
Tentative Approval
LDL EA MP
Public Meetings
Incorporate Feedback
Draft Report (Circulated for Review)
Final Report
CLC
PIC
Iterative Study
Revisions
Early Fall Circulation
Late Fall Submission
Tenative Approval

Continued Planning in the Port Lands

Planning Frameworks

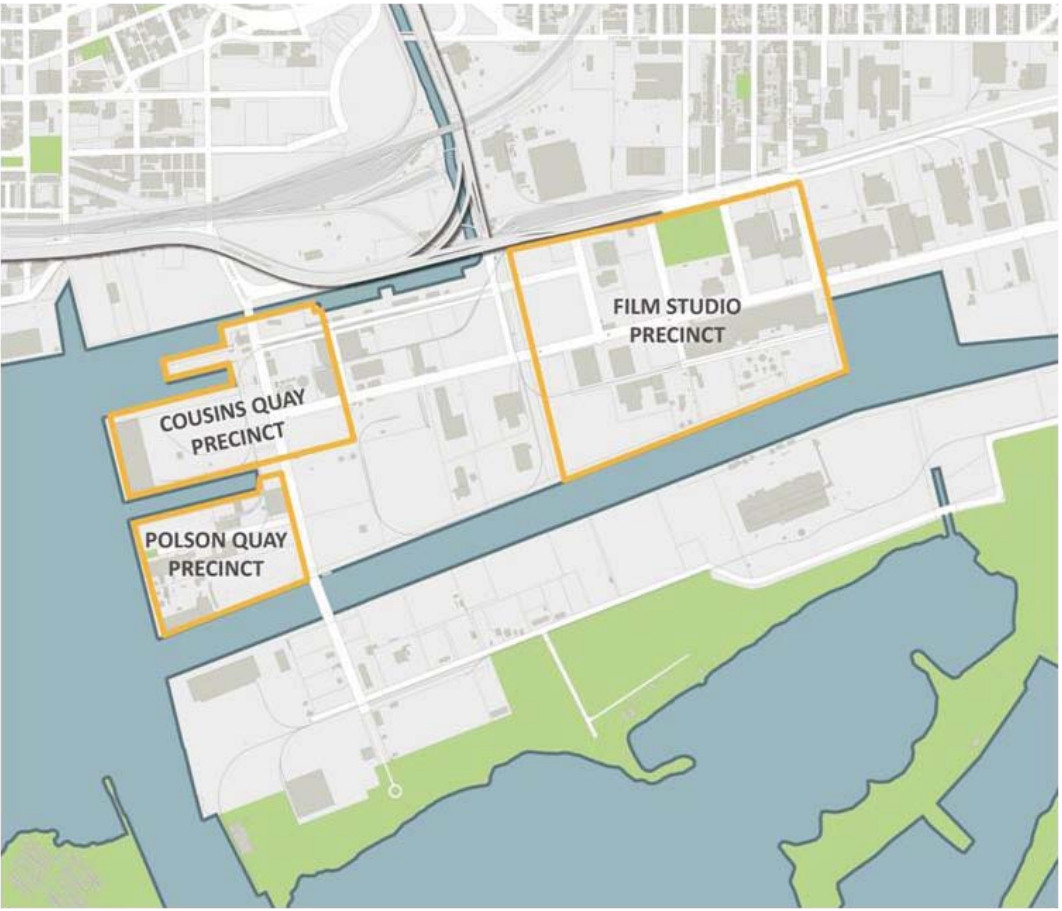
- Port Lands Planning Framework:
  - High-level framework to articulate the vision for the Port Lands
- South of Eastern Strategic Direction:
  - A three-pronged strategy to plan and facilitate investment and economic growth in the South of Eastern area

Port Lands and South of Eastern Class EA

- Arterial and collector streets, including:
  - Planned function and character of Lake Shore Boulevard
  - North-south connections
  - Potential connections across the Ship Channel
  - Transit routes
  - Pedestrian and cycling facilities
- Servicing infrastructure for anticipated development (water, storm and sanitary)

Continued Planning in the Port Lands

Precinct Planning



- The City and Waterfront Toronto are developing precinct plans for Cousins Quay and the Film Studio Precinct
- The Precinct Plan for Polson Quay is currently on hold
- Central Waterfront Secondary Plan sets out that precinct plans be prepared prior to enacting zoning by-laws
- The establish the location, scale and character of:
    - blocks and streets
    - type and amount of development
    - Building heights
    - parks and public spaces; and
    - community facilities
- More detailed urban design guidelines are developed

TORONTO Toronto and Region Conservation for The Living City WATERFRONTToronto

Continued Planning in the Port Lands

	Q2 2013	Q3 2013	Q4 2013	Q1 2014
Port Lands Planning Framework / Port Lands and South of Eastern Class EA	Initiation/Background	Vision/Objectives	Alternatives/Analysis SAC CCM SAC CCM	Recommendations SAC CCM
Film Studio Precinct Plan	Initiation/Background	Vision/Objectives	Options/Analysis	Recommendations SAC CCM SAC CCM
Cousins Quay Precinct Plan	Initiation/Analysis	Vision/Objectives DC SAC CCM	Alternatives/Implementation SAC	Recommendations SAC CCM

TORONTO Toronto and Region Conservation for The Living City WATERFRONTToronto

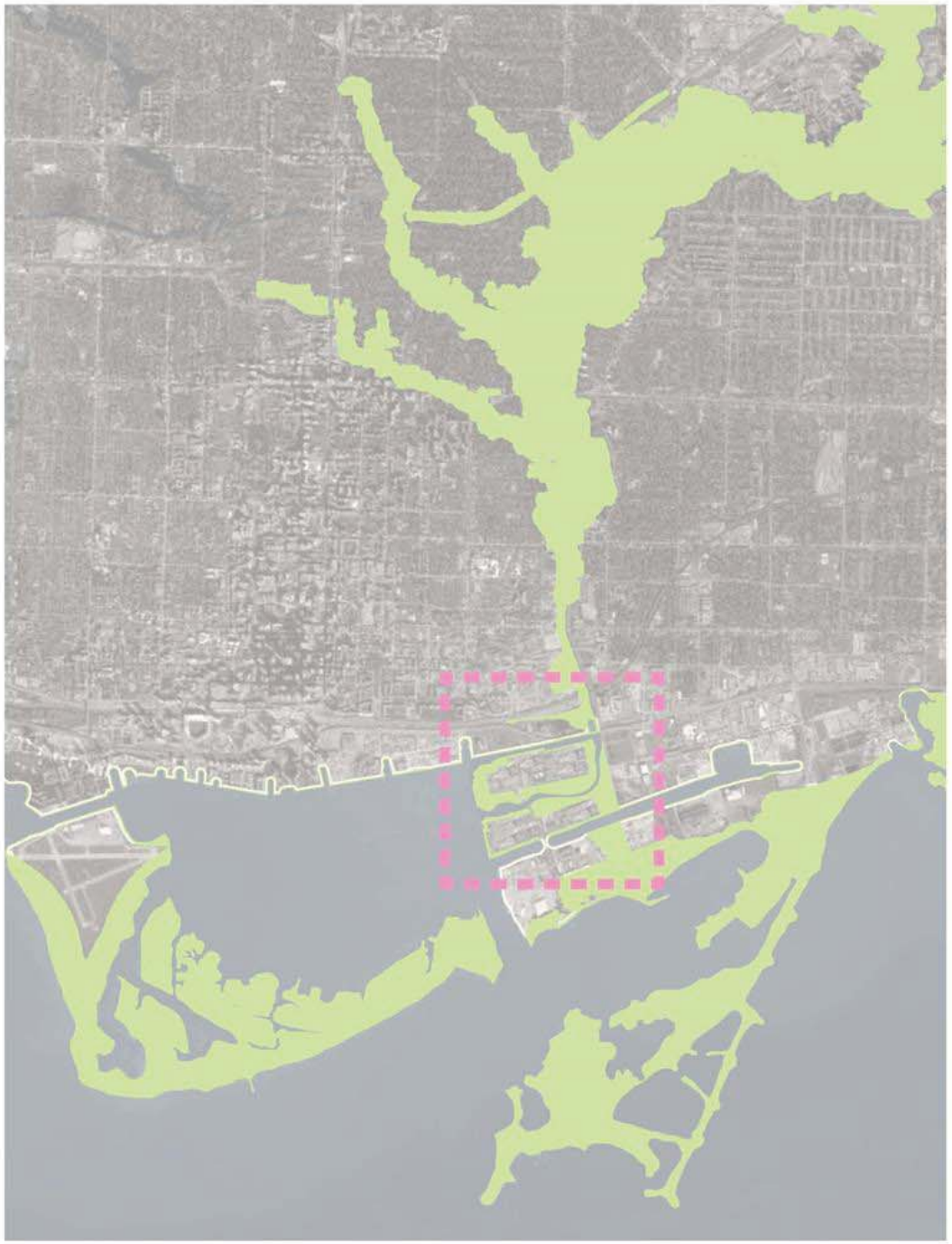
Discussion

Don Mouth Naturalization and Port Lands Flood Protection Project Environmental Assessment

&

Lower Don Lands Master Plan Environmental Assessment Study

Public Meeting
July 24, 2013



Project Study Areas

Need for Flood Protection
Permanent Removal of Flood Risk from 240 ha of Land

Don Mouth Naturalization and Port Lands Flood Protection Project Environmental Assessment (DMNP EA) Study Area

Lower Don Lands Master Plan Environmental Assessment (LDL MP EA) Study Area

Port Lands Acceleration Initiative 2013 Phasing

Phase 1

Flood Protection
- Phase 1 Greenway no longer necessary
- Construct new Keating Channel bridge
- Remove old Keating Channel bridge and abutments

Development
- Raise and fill Cousins and Polson Quay Precincts (including 309 Cherry, excluding Lafarge)
- Realign and reconstruct Cherry Street
- Fill Essroc Quay

Phase 2

Flood Protection
- Construct Greenway
- Construct flood protection landform on First Gulf site
- Construct valley wall feature on east side of Don Roadway
- Modify Eastern Avenue underpass
- Construct sediment and debris management area including lengthening of Lake Shore Boulevard bridge

Development
- Development to Munitions Block
- Film Studio District and lands east of Don Roadway are flood protected

Phase 3

Flood Protection
- Construct Polson Slip bridge
- Construct river valley system, including the low flow channel and flood control weirs

Development
- River Valley Precincts
- Construct Basin Street bridge
- Raise and fill north and south of river valley

Phase 4

Flood Protection
- None required

Development
- Naturalize Polson Quay south dockwall

DMNP: Progression of the EA

Central Waterfront Secondary Plan, 2003

Approved EA Terms of Reference, 2006

Lower Don Lands Design Competition, 2007

DMNP EA Conceptual Design, 2010

Port Lands Acceleration Initiative (PLAI), 2012

DMNP EA Amendment, 2013

Informed EA Process

Informed EA Process

2004 2006 2008 2010 2012 2014

Terms of Reference

EA Process

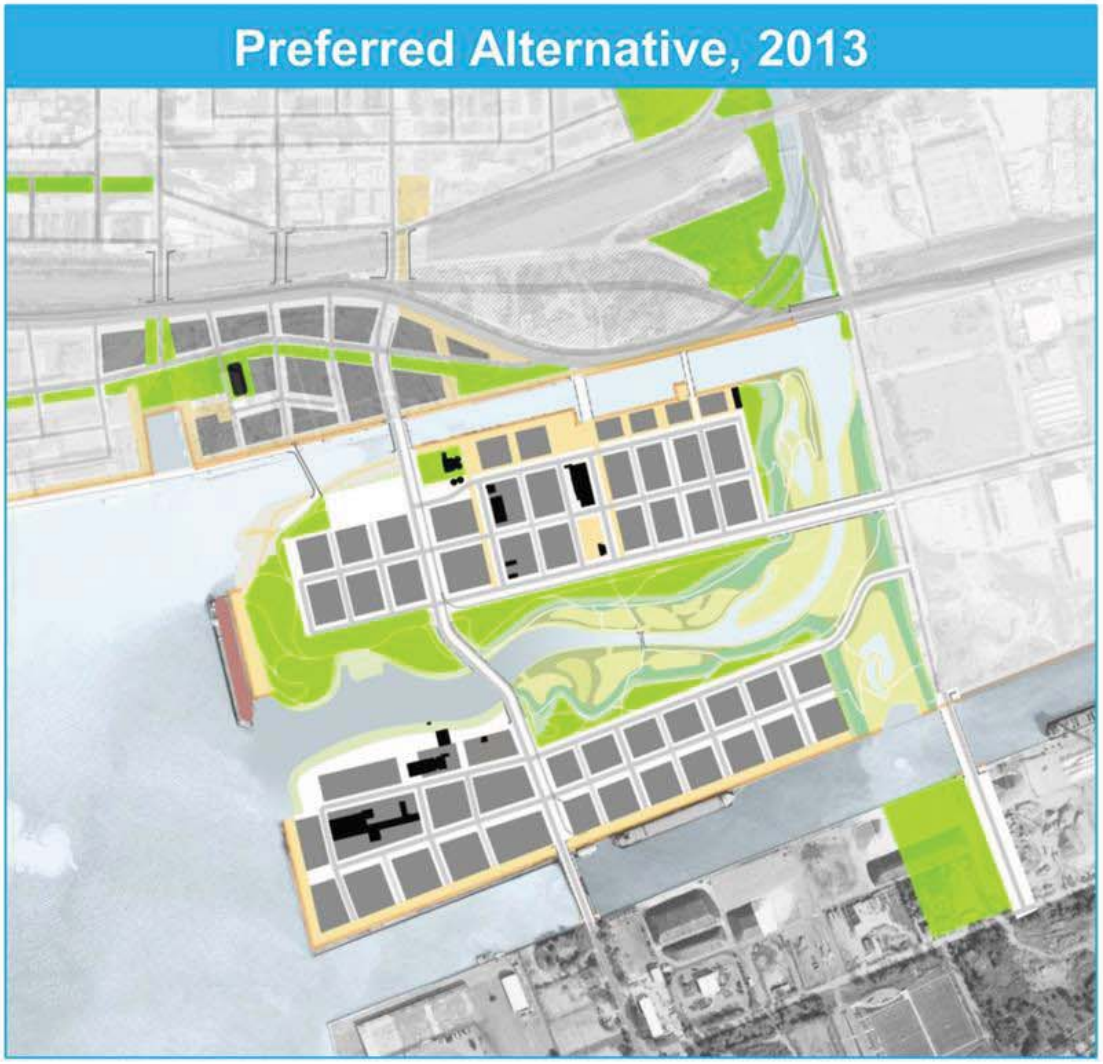
EA Submission

EA Paused

PLAI

EA Amendment

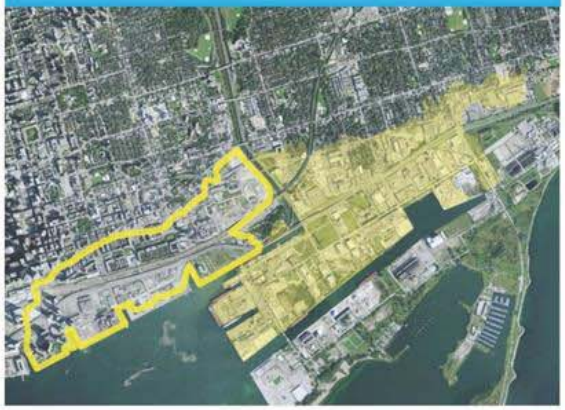
DMNP: Amended Preferred Alternative



- Realignment of the Greenway
- Removal of Inner Harbour Promontories
- Phased Implementation of Flood Protection
- Accommodation of Lafarge During Phasing
- Rationalizing Developable Land and Naturalization

DMNP: Fulfilling the Project Goals

Flood Protection



Permanent removal of flood risk from 240 ha of land

Naturalization

Aquatic Habitat:
14 Hectares

Naturalization (Terrestrial / Wetland):
16 Hectares

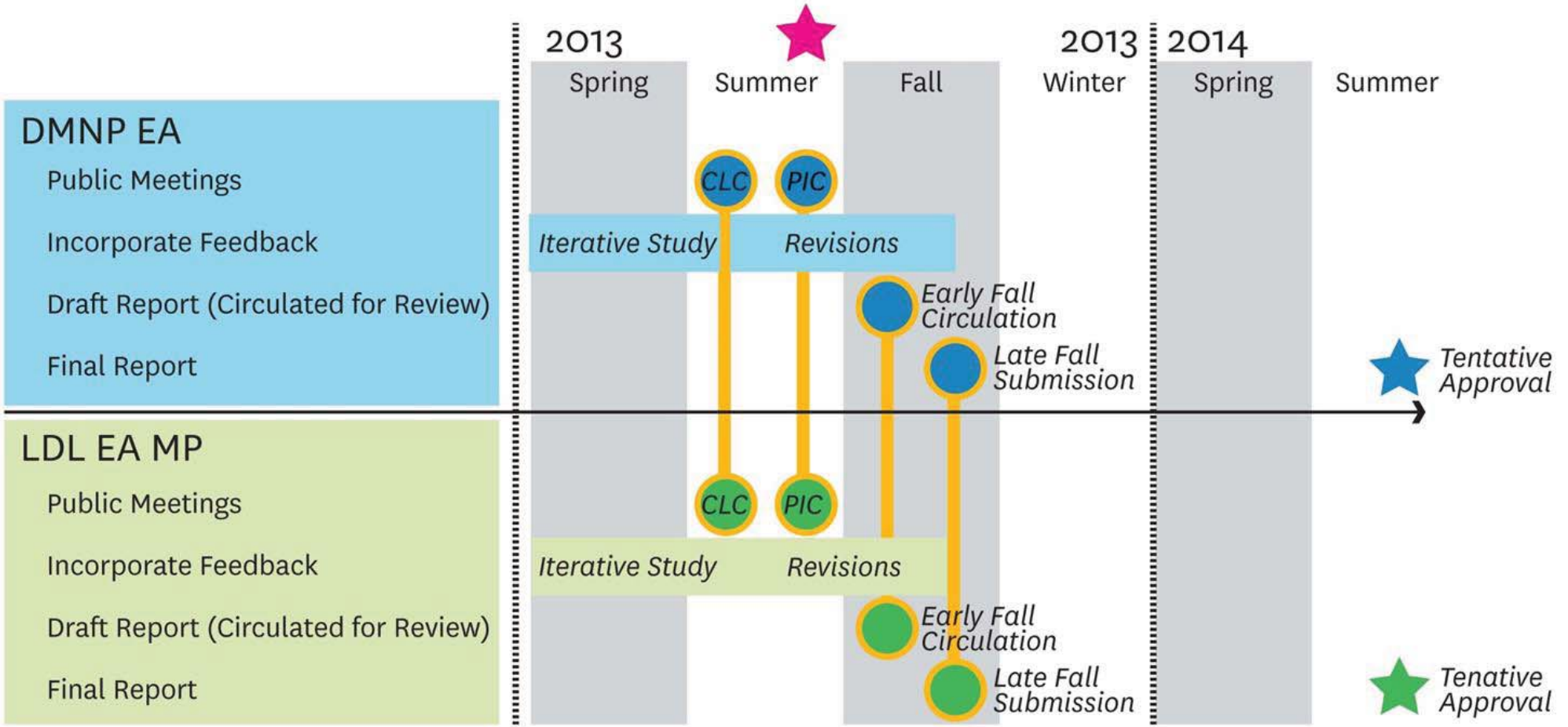
Revitalized City Environment

Phased flood protection allows development to proceed in step with completion of the new river valley

DMNP: Overview of the Effects and Mitigation

Flood Protection	• Phased construction of river will progressively remove lands from flood risk without increasing flood risk elsewhere • Permanent removal of 240 ha of land from flooding
Naturalization	• Creation of 14 ha of high quality aquatic habitat • Creation of 16 ha of naturalized habitat (wetland/terrestrial) which is expected to attract locally significant species
Recreational and Cultural Opportunities	• New river mouth provides greater recreational opportunities than the existing river (e.g., boating, trails, enjoyment of naturalized landscapes) • Heritage resources within the footprint of the river valley system will be conserved, relocated, raised, or commemorated
Operational Management and Constructability	• Flood protection minimizes throwaway costs between phases • Sediment management uses existing infrastructure where possible and allows for the use of dredgate during lakefilling • Design and phasing limits impacts to existing operations and shipping
Planned Land Use	• Nuisance effects on existing/future residents and businesses (e.g., noise, dust, and traffic) due to construction will be mitigated
Sustainability (Soil Mgmt.)	• Excavated soil will be treated and reused on-site where appropriate • Remaining soils that must be transported off-site will have minimal effects on traffic, air quality, and noise

Next Steps: Project Schedule



Relationship to the Don Mouth Naturalization and Port Lands Flood Protection EA (DMNP EA)

The EA Addendum to the approved Lower Don Lands Infrastructure EA Master Plan is closely integrated with the DMNP EA. The DMNP EA is being carried out as a separate study but is closely linked to this undertaking, as described below.

DMNP EA

- River channel and spillway configurations for flood conveyance
- Adaptive management for naturalization
- Proposed Regulatory Flood Zone
- Minimum elevations for surrounding lands
- Flood Protection landform features

Infrastructure EA Master Plan

- Location and basic dimensions of relocated municipal infrastructure
- Right of ways to protect in future precinct planning
- Minimum elevations of bridges and roads to match DMNP EA
- Coordinated stormwater management strategy

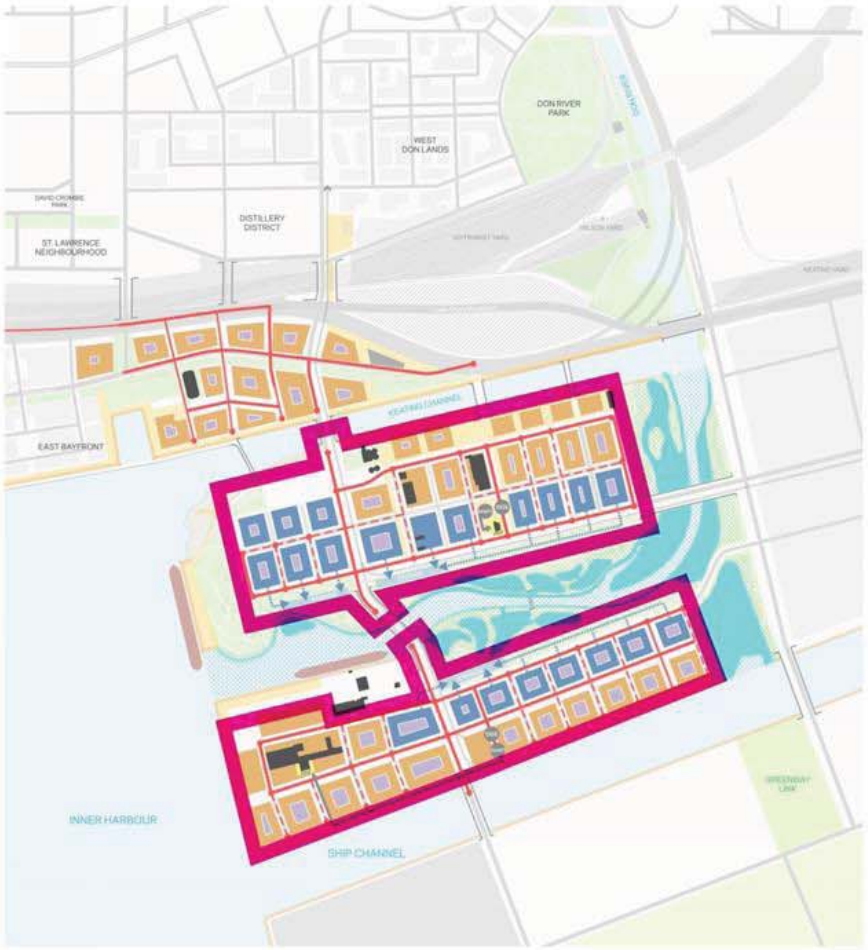
Stormwater Management

Approved EA Master Plan

Roofs of Blocks Drained to High-Quality Wetlands
Roof of Blocks Used for Street Tree Irrigation and Flushing of Salt Runoff
Street Runoff Achieves MOE Enhanced Stormwater Quality
Non-Roof, Non-Road (Private)
Parkland
Seepage Wetland
Riverine Wetland
Storage
Oil/Grit Separator
UV Treatment

Proposed or Relocated in this Addendum

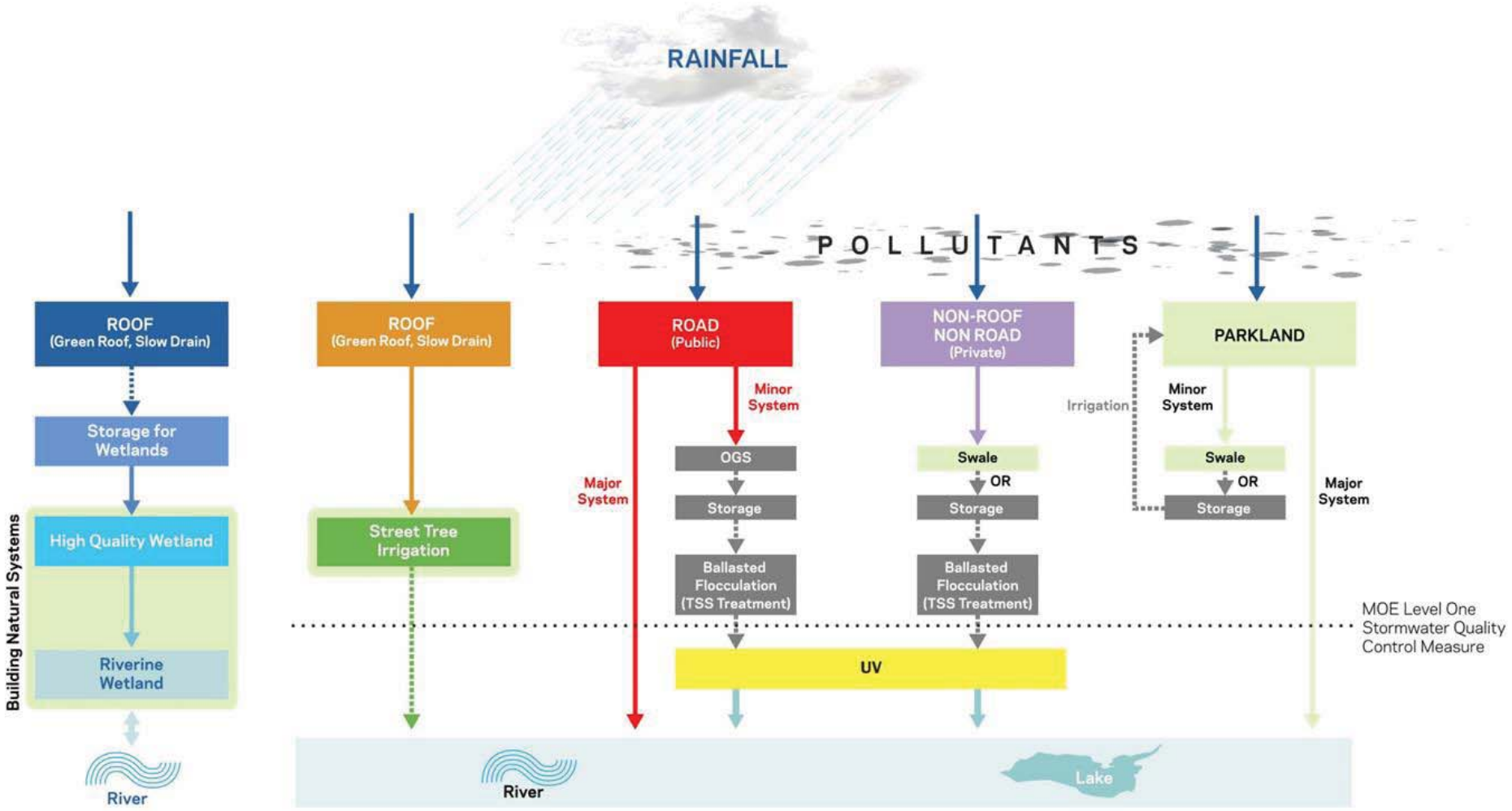
2013 LDL MP EA Study



Roofs of Blocks Drained to High-Quality Wetlands
Roof of Blocks Used for Street Tree Irrigation and Flushing of Salt Runoff
Street Runoff Achieves MOE Enhanced Stormwater Quality
Non-Roof, Non-Road (Private)
Parkland
Riverine Wetland
Potential Storage
Oil/Grit Separator
Storage Tank and Pump Facilities
Pumped Stormwater
Stormwater Quality Control Facility (BFF)

WATERFRONToronto
TORONTO

Stormwater Management



WATERFRONToronto

TORONTO

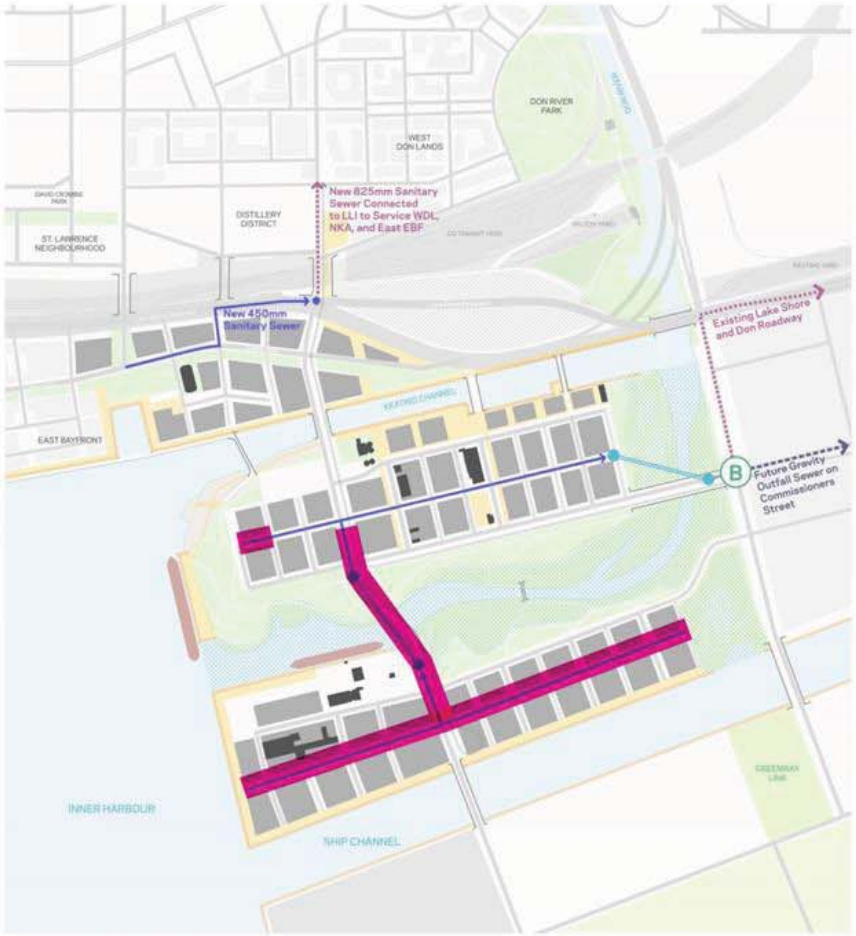
Sanitary Sewer

Approved EA Master Plan

Connection to Existing Sanitary Sewer
Gravity-Flow Sewer
Inverted Siphon
Force Mains for Initial Development
Alternate Force Main if the LLI at the Cherry Street Outlet Does Not Have Sufficient Capacity as Determined by the Toronto CSO Class EA
(A) Pump Station
Potential Future Trunk Sewer for Port Lands if the Toronto CSO Class EA Determines That This Solution Addresses the Operational Needs of the LLI
Open Space

Proposed or Relocated in this Addendum

2013 LDL MP EA Study



Existing Sanitary Sewer
Gravity-Flow Sewer
Inverted Siphon
Force Mains for Initial Development
(A) Pump Station
Potential Future Trunk Sewer for Port Lands if the Toronto CSO Class EA Determines That This Solution Addresses the Operational Needs of the LLI
Open Space

WATERFRONTToronto
TORONTO

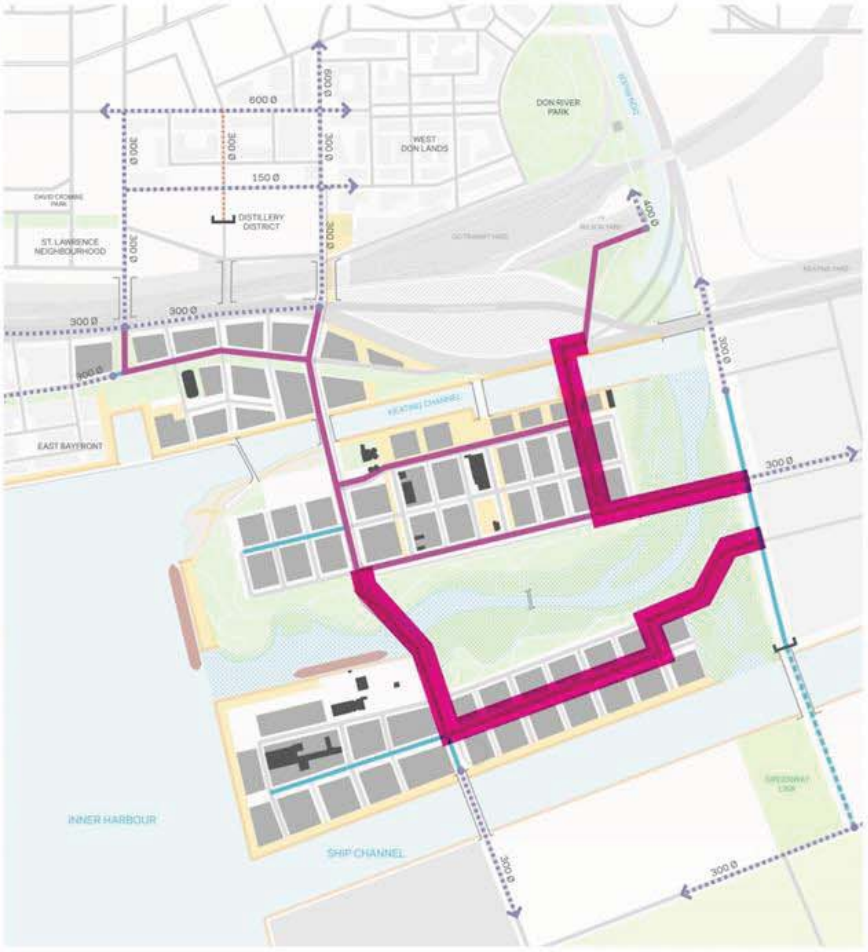
Water Supply

Approved EA Master Plan

Existing Watermain
Connection to Existing Watermain
Proposed 300 mm Diameter Watermain
Proposed 400 mm Diameter Watermain
Pipe cap
Future Watermain and Connection by Others
Future 300 mm Ø Film Port Watermain That may be Provided by Others and Become Available to Provide Additional Connectivity
Future 300 mm Ø Watermain on Trinity Street That Will be Provided by Others and could be Connected to, if Required to Improve Connectivity to Lower Don Lands via Trinity Street Underpass
Open Space

Proposed or Relocated in this Addendum

2013 LDL MP EA Study



Existing Watermain
Connection to Existing Watermain
Proposed 300 mm Diameter Watermain
Proposed 400 mm Diameter Watermain
Pipe cap
Future Watermain and Connection by Others
Future 300 mm Ø Film Port Watermain That may be Provided by Others and Become Available to Provide Additional Connectivity
Future 300 mm Ø Watermain on Trinity Street That Will be Provided by Others and could be Connected to, if Required to Improve Connectivity to Lower Don Lands via Trinity Street Underpass
Open Space

WATERFRONTToronto
TORONTO

Roads & Bridges

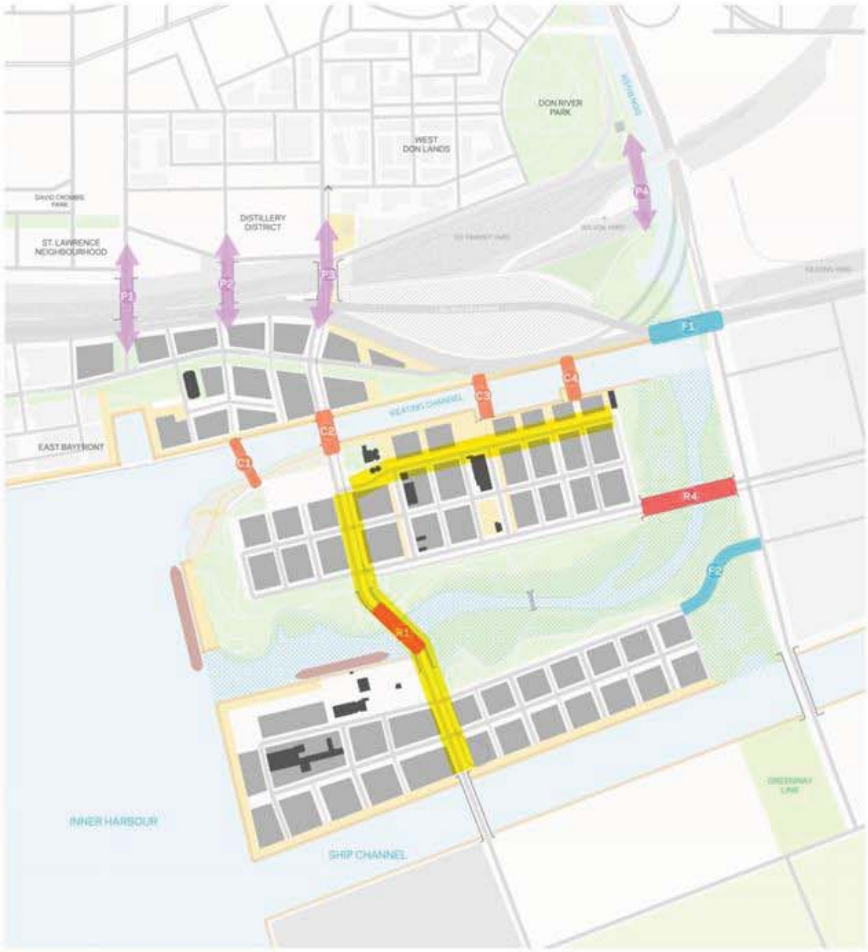
Approved EA Master Plan

Keating Channel Bridges
River Bridges
Portals
Flood Conveyance Crossings

Complete Phases 3 and 4 of Class EA: Location not Changed from 2010

Proposed or Relocated in this Addendum

2013 LDL MP EA Study



Keating Channel Bridges
River Bridges
Portals
Flood Conveyance Crossings

WATERFRONTToronto

TORONTO

Transit

Approved EA Master Plan

Complete Phases 3 and 4 of Class EA: Location not Changed from 2010

Proposed or Relocated in this Addendum

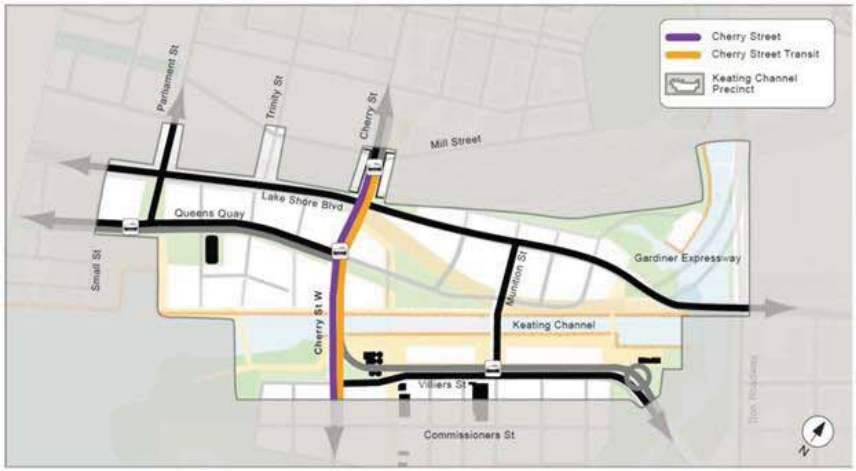
2013 LDL MP EA Study

WATERFRONTToronto

TORONTO

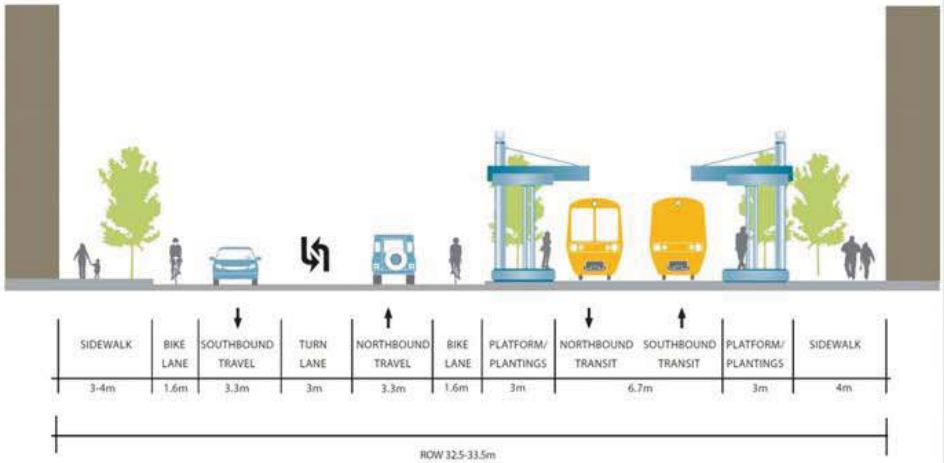
Cherry Street – Preferred Street Layout

The design for Cherry St. relies on the evaluation of alternatives originally undertaken in the 2009 Lower Don Lands Infrastructure EA. The 2009 preferred alternative, which aligns with the roadway currently under construction in the West Don Lands to the north, will continue to be used. Street cross sections are shown below.



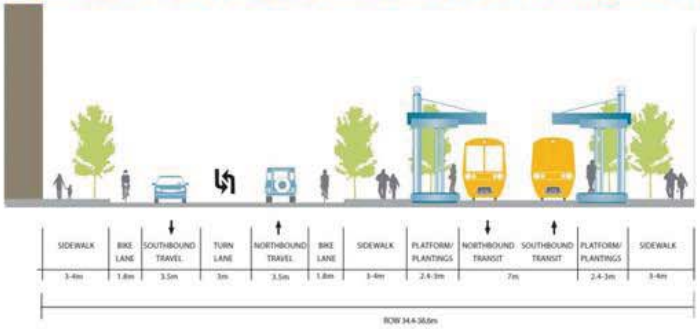
Cherry Street, between Mill Street and Lake Shore Boulevard, will have two lanes for vehicular traffic, a turning lane at intersections and no parking. A two-wat Light Rail Transit (LRT) line runs along the east side of the street in dedicated transit lanes. On-street bicycle lanes are provided on either side of the vehicular traffic lanes. There are 3- to 4-metre sidewalks on both sides of the street.

Between Mill St. and Lake Shore Blvd. (facing north)



Between Lake Shore Boulevard and Villiers Street, another 3- to 4-metre sidewalk is added between the bicycle and LRT lanes. In addition, a wide predestrian-only street runs behind the development along the eastern edge of Cherry Street.

Between Lake Shore Blvd. and Villiers St. (facing north)



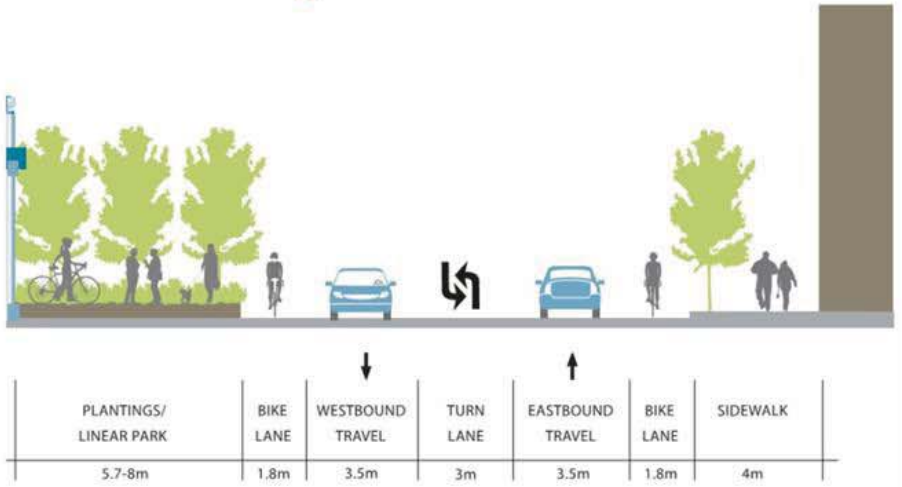
WATERFRONToronto

TORONTO

Villiers Street – Preferred Street Layout

The revised Infrastructure EA Master Plan reverts Villiers Street to a local road rather than a main east-west collector.

Villers Street runs east-west within the Keating Channel Precinct. On the north side of the street there are two-way dedicated Light Rail Transit (LRT) lanes. Two lanes of vehicular traffic and one shared turning lane, along with two on-street bicycle lanes are separated from the LRT by a wide, landscaped linear park. For pedestrians there are also 4- to 5-metre sidewalks on both sides of the street.



WATERFRONTToronto

TORONTO

Commissioners Street Cross Section

The 2009 Environmental Study Report :

- Defined a new alignment for Commissioners St. at Villiers St.
- Identified and evaluated three alternative cross sections for Villiers St. between Cherry St. and the Don River crossing, each involving the addition of a two-way dedicated LRT right-of-way, two lanes of traffic, and two on-street bicycle lanes.

The proposed LRT line has since been relocated from Villiers St. to Commissioners St.

Commissioners St. currently serves as the Port Lands' primary east-west roadway, with four vehicle travel lanes.

The previous evaluation, will now be used to determine the final recommended Commissioners St. cross section.

Approved EA Master Plan: Commissioners Street Cross Section Alternatives

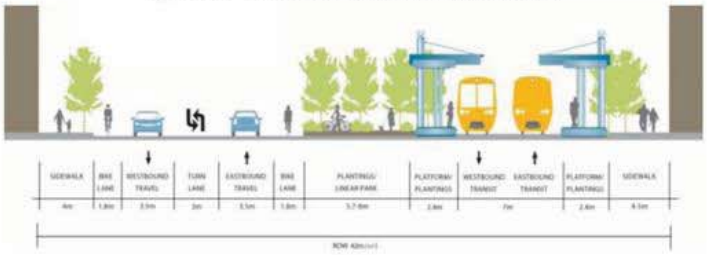
Figure 11-20 Cross-section for Villiers Street Alternative 1

Alternative 1:
Dedicated LRT line located on the north side of the vehicle lanes, with a linear park separating the LRT from traffic and 5m wide sidewalks on each side of the roadway.

Figure 11-21 Cross-section for Villiers Street Alternative 2

Alternative 2:
Dedicated LRT line located in the centre of the eastbound and westbound travel lanes, separated by a narrow linear park on both sides. 4m to 5m sidewalks are provided on each side of the roadway.

Figure 11-22 Cross-section for Villiers Street Alternative 3



Alternative 3:
Dedicated LRT line located on the south side of the vehicle lanes, with a linear park separating the LRT from traffic and 4m to 5m sidewalks on each side of the roadway.

WATERFRONTToronto

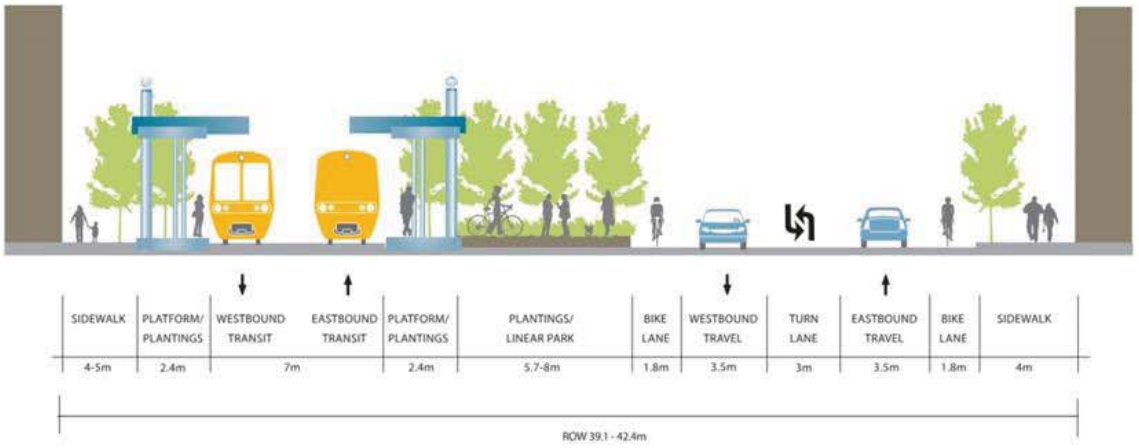
TORONTO

Commissioners Street Cross Section

Evaluation Summary

The three alternatives were found to have similar degrees of natural environment, sustainability, and municipal services impacts. Two of the alternatives (both with transit on the side of the road allowances) were preferred due to a smaller overall width, and the resulting less impact to property.

Alternative 1 is the preferred alternative as it locates the LRT route on the south side of the reconstructed road allowance. In this configuration, the park land is on the south side of the street, and future development will occur on the north side of the street. This provides direct access for pedestrians, promotes transit priority and reduces future traffic conflicts with direct vehicular access to development blocks.



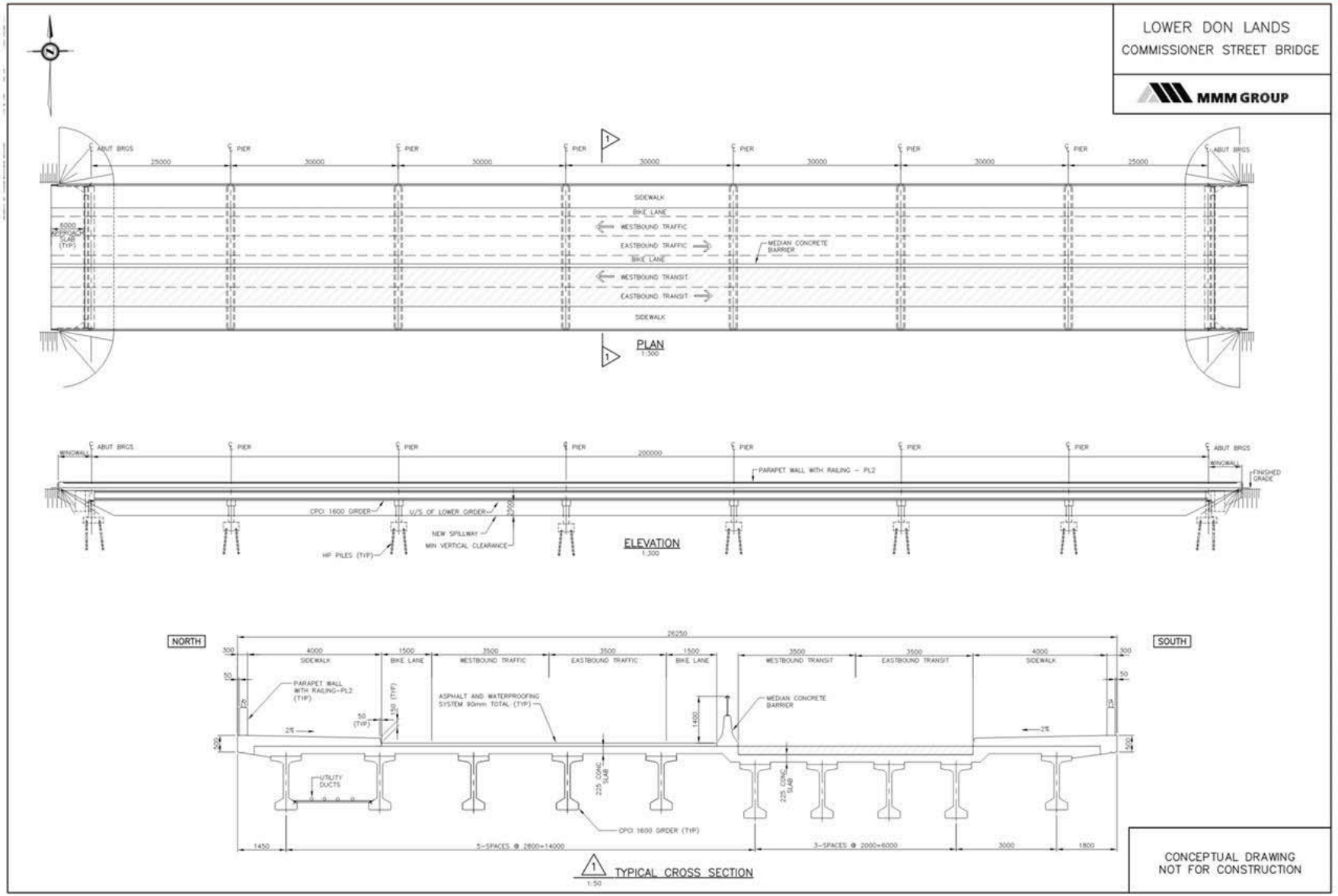
Commissioners Street Preferred Alternative

2013 Modifications

The proposed LRT line has been relocated from Villiers Street to Commissioners Street.

The assessment follows the same logic as that previously carried out for Villiers Street. It favours the mirror image of the original cross section in the new plan. This is the equivalent of Alternative 3 from the previous analysis.

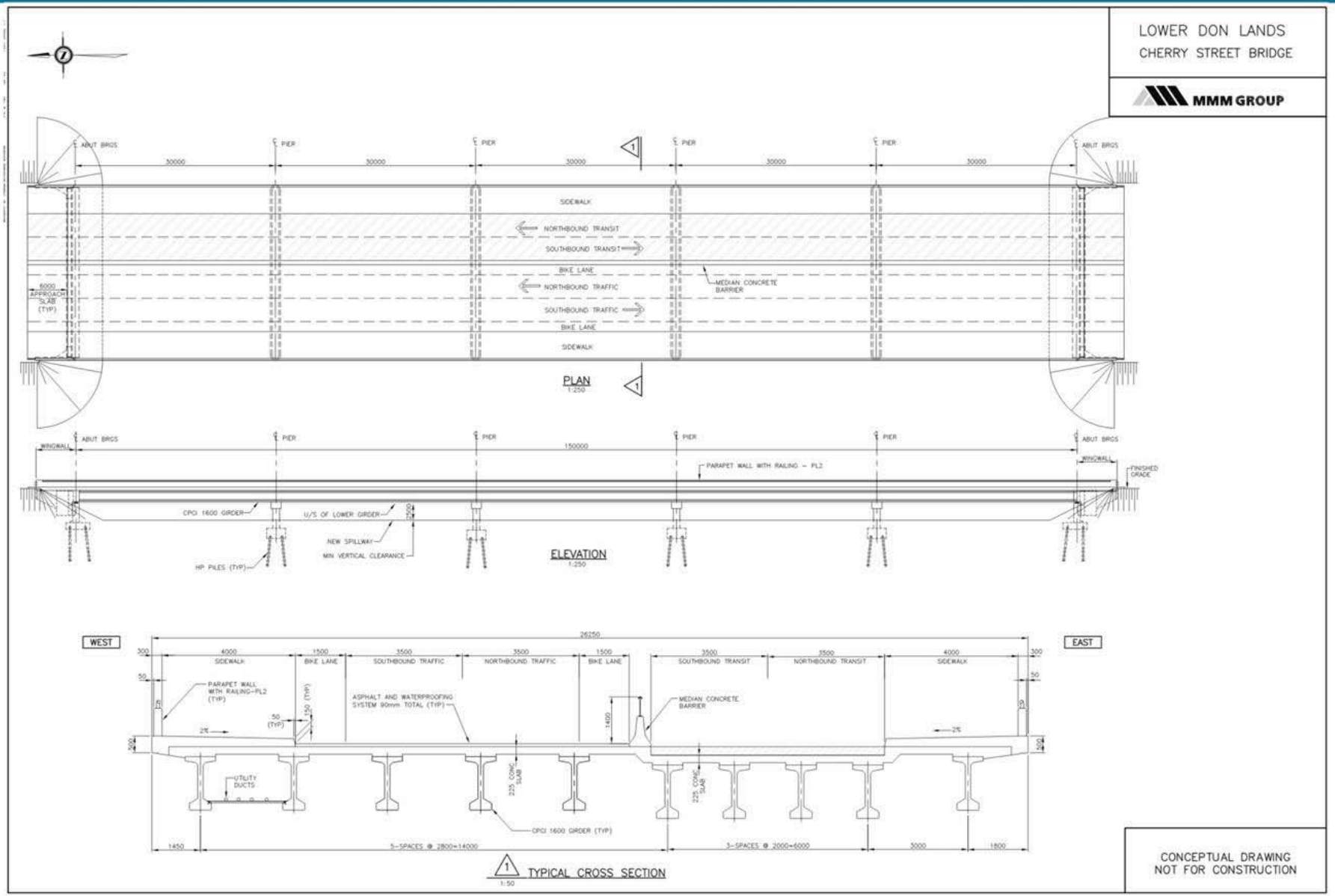
Bridges – Commissioners Street Bridge (minimum requirements)



WATERFRONToronto

TORONTO

Bridges - Cherry Street Bridge (minimum requirements)



Lower Don Lands Infrastructure Master Plan
Environmental Study Report - Addendum

WATERFRONToronto

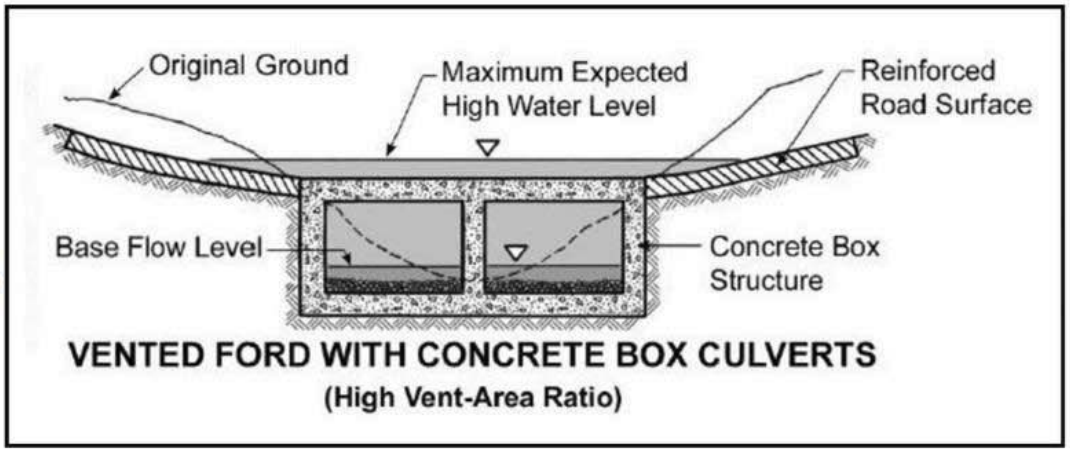
TORONTO

Basin Street Alternatives

Alternative 1: Bridge
Structure comprised of a deck on piers.

Alternative 2: Causeway and Bridge
Combination of filled embankment and smaller bridges where the water has to pass through – underneath the bridge deck could be completely open or box culverts.

Alternative 3: River Ford
Where the road is built at grade down into the spillway and floods during 1 in 25 year events and is impassable at that time.



WATERFRONToronto
TORONTO

Next Steps

- Integrate stakeholder and agency input
- Confirm the Mitigation Strategy
- Coordinate with DMNP EA
- Complete the EA Master Plan Addendum Environmental Study Report
- Submit the report to the Waterfront Toronto and City of Toronto for approval
- Issue Notice of Completion
- File for 30 Day Public Review

WATERFRONTToronto

TORONTO

Continued Planning in the Port Lands

Planning Frameworks

- **Port Lands Planning Framework:**
  - High-level framework to articulate the vision for the Port Lands
- **South of Eastern Strategic Direction:**
  - A three-pronged strategy to plan and facilitate investment and economic growth in the South of Eastern area

Port Lands and South of Eastern Class EA

- Addresses arterial and collector streets, including:
  - Planned function and character of Lake Shore Boulevard
  - North-south connections
  - Potential connections across the Ship Channel
  - Transit routes
  - Pedestrian and cycling facilities
- Servicing infrastructure for anticipated development (water, storm and sanitary)

Precinct Planning

- The City and Waterfront Toronto are developing precinct plans for Cousins Quay and the Film Studio Precinct
- The Precinct Plan for Polson Quay is currently on hold
- The Central waterfront Secondary Plan sets out that precinct plans be prepared prior to enacting zoning by-laws
- They establish the location, scale and character of:
  - Blocks and streets
  - Type and amount of development
  - Building heights
  - Parks and Public Spaces; and
  - Community Facilities
- More detailed urban design guidelines are developed

Timelines	Q2 2013	Q3 2013	Q4 2013	Q1 2014
Port Lands Planning Framework / Port Lands and South of Eastern Class EA	Initiation/Background	Vision/Objectives	Alternatives/Analysis SAC CCM SAC CCM	Recommendations SAC CCM
Film Studio Precinct Plan	Initiation/Background	Vision/Objectives	Options/Analysis	Recommendations SAC CCM SAC CCM
Cousins Quay Precinct Plan	Initiation/Analysis	Vision/Objectives DC SAC CCM	Alternatives/Implementation SAC	Recommendations SAC CCM

TORONTO Toronto and Region Conservation for The Living City WATERFRONTtoronto

Don Mouth Naturalization and Port Lands Flood Protection EA & Lower Don Lands Infrastructure Class EA

PUBLIC MEETING SUMMARY

6:00 – 9:00 p.m., Wednesday, July 24th, 2013
EMS Training Centre (Toronto Fire Academy), 895 Eastern Avenue

Work is underway to revise the Don Mouth Naturalization and Port Lands Flood Protection Environmental Assessment (DMNP EA) and the Lower Don Lands Infrastructure Class Environmental Assessment (LDL EA). These changes are based on the Realigned 4WS Option that was endorsed by Council following the Port Lands Acceleration Initiative (PLAI) in 2012.

A public meeting was held on July 24th, 2013 to provide an update on the proposed changes to the DMNP and LDL EAs and to seek feedback on the updated plans (for further details, see Attachment 1: Agenda). The meeting was attended by 125 participants.

The summary below provides highlights of overall feedback, followed by participants' questions of clarification and answers provided by project team members at the meeting. This summary was subject to participant review prior to being finalized.

OVERALL FEEDBACK

Participants generally supported the proposed changes to the DMNP and LDL EAs. There were a few participants who identified concerns with and offered suggested refinements to the proposed changes in their comments during the facilitated discussion at the meeting, and through written comments that were submitted after the meeting, up to August 8th (see Attachment 2: Worksheet Feedback and Attachment 3: Additional Submissions). These concerns and suggestions are as follows:

- In written comments, a few participants expressed concern about the configuration of development blocks, including: that it will lead to denser development; that it negatively affects the configuration of green space (i.e. that green space is separated from city blocks by a road rather than immediately next to these blocks); and that it looks duller than what was last proposed in 2010.
- One participant during the plenary discussion and a few additional participants through written comments expressed concern about the placement of the dedicated streetcar right-of-way (ROW) on one side rather than in the middle of the road on Commissioners Street and Cherry Street. It was felt that this would create conflicts with other forms of transportation and would make it more difficult to provide for future transit connections.
- Suggested refinements included:
  - Adding a pedestrian bridge across the river between the Commissioner Street and Basin Street Bridges to help increase connectivity between districts on either side of the Greenway.
  - Consider iconic and/or commemorative designs for the new bridges.
  - Provide measures (e.g. certain types of vegetation) to help protect wildlife that is being encouraged to come into the area from vehicular traffic on the roads that will now run adjacent to habitat areas in the Greenway and river mouth.
  - Rather than trying to design an iconic bridge or civic building begin, by consider the Greenway and or the River Mouth as icons themselves.
  - Consider negotiating a land swap in the future between the City and Lafarge to help the relocate their existing plant.
  - Promote stunning architecture in the Port Lands through design competitions. This could produce the same level of creativity in built form as has been done with the landscape
  - Consider higher development charges to reduce the total amount of development required to help fund infrastructure and flood protection.

QUESTIONS OF CLARIFICATION

The following are the questions of clarification that were asked during the public meeting. They have been grouped into ten categories: Upstream Flooding, Flood Modelling, Greenway, Bridges and Roads, Soil Remediation, Funding/Financing, Gardiner EA, Existing Uses, Catalyst Uses, and Precinct Planning. Responses that were provided to these questions of clarification at the meeting are noted in *italics.*

UPSTREAM FLOODING

There is a bike path in the Don Valley that people use to commute to school and work and this path occasionally floods. Is anything being done to prevent flooding in the Don Valley upstream as far as Taylor Creek?
The Toronto and Region Conservation Authority (TRCA) has looked at what could be done and because of the way the river reacts to rainfall and the position of the pathways, there's very little that can be done to reduce flooding there, short of raising the pathways significantly. Flooding where the pathways are will not be made worse as a result of DMNP EA flood protection measures.

Will flood protection measures around the mouth of the Don River prevent the flooding of the Don Valley Parkway (DVP)?
The DVP was built within the flood plain of the Don River with the knowledge that part of it would flood occasionally. It is a challenge to remove it from the flood plain as it would require raising the ground level of the DVP (which would require raising the height of bridges that cross the DVP to maintain clearance) or building a dike. Building a dike would require closing portions of the DVP for 6 – 8 months, and this has been viewed as having a significantly greater impact than the limited number of days that the DVP is closed due to flooding.

Some people have suggested that the West Don Lands Flood Protection Landform (FPL) caused more flooding on the DVP than would otherwise have been the case. Did the FPL cause excessive flooding of the DVP during the July 8th, 2013 storm?
No. The river's water level has to be much higher than what happened on July 8th to even get to the bottom of the FPL. Additionally, the FPL is designed so not to create any negative off-site impacts due to flooding The 21 metre widening of the CN railway bridge crossing over the Don River north of Lake Shore, completed by TRCA and Waterfront Toronto in 2007 was designed specifically to ensure there was no increase in flood levels elsewhere as a result of the West Don Lands FPL under extreme flood events..

FLOOD MODELLING

I understand that flood modelling has been done to test how DMNP flood protection would function during a Hurricane Hazel-type storm. Has any modelling been done to test how flood protection would function during a storm similar to the one that happened on July 8th but that was centred on the Don River?
We have modelled the July 8th storm. That storm was orders of magnitude smaller than Hurricane Hazel. The flood resulting from the July 8th storm was between a 5 and 10 year flood. The flood modelling undertaken depicts the water levels that would occur from baseflow conditions (at 3-4 m^3/sec), up to and including the Regulatory Flood event.

GREENWAY

Where the Greenway intersects the ship channel, what will happen to the existing dock wall?
Where the Greenway intersects with the north side of the ship channel, the dock wall will be cut down because there will be a wetland habitat. There will still be dock wall below

lake level. The south side of the ship channel will be looked at as part of the Port Lands and South of Eastern EA.

Is the City committed to making a green connection from the Don Valley all the way down to Tommy Thompson Park?
A green connection has been shown as part of the future of the Port Lands since the completion of the Central Waterfront Secondary Plan. The green connection will be refined as part of the Port Lands Planning Framework and the Port Lands and South of Eastern EA.

Is it possible that the construction of the Greenway will be delayed by private landowners?
The Greenway only crosses through publicly owned land. Any land owner that would like to redevelop their land is in support of the construction of the Greenway.

BRIDGES AND ROADS

What new bridges will be built?
There will be new bridges connecting Cherry Street across the Keating Channel and across the new river mouth near Polson Slip. There will be new bridges across the Greenway at Commissioners Street and at Basin Street. Both the Commissioners Street Bridge and bridges along Cherry Street will include bridges that are able to accommodate transit.

The sidewalks shown in the cross-sections of Commissioners Street and Cherry Street seem abnormally wide at 5m. What is the purpose of a sidewalk that wide, and what does it add (other than cost)?
That size of sidewalk may not seem very realistic given current demand, but over time with development, we think that there will be a high demand for pedestrian space, approaching what's seen on Queens Quay. It may be determined in detailed design that a 5m sidewalk is not necessary. Including a 5m sidewalk in the EA provides designers with the flexibility to design a sidewalk up to that width, in light of more precise demand projections available when that work is undertaken.

SOIL REMEDIATION

Could you provide more information on soil remediation?
All of the lands in the Port Lands are contaminated to a greater or lesser degree. Under the Ministry of Environment's protocol, contaminated soil can be removed and remediated, or capped so that there is a physical separation between people and the contaminated soil. Raising the ground level to support development also serves to cap contaminated soil. We will try to remediate the soil that is removed following the excavation of the new river valley system and use it to raise the ground level/cap other lands.

FUNDING/ FINANCING

Who will have primary responsibility for raising money to implement the results of these EAs? Is Waterfront Toronto thinking about seeking the ability to borrow money?
Waterfront Toronto is working very closely with the City on this. The City is currently undertaking a Development Charge Study that includes City-wide (and may include area-specific) development charges aimed at funding Port Lands flood protection and infrastructure. Waterfront Toronto has also made preliminary enquiries with the Provincial and Federal governments regarding funding for flood protection. Funding would still be necessary to pay back money raised through financing. Ultimately, we want to involve the private sector – who have a great deal to gain from the provision of flood protection and new infrastructure.

Are there developers that are interested in developing something specific now?
Absolutely. Port Lands land owners have set up a group that is looking at how they can provide funding and advanced financing for development-enabling flood protection and infrastructure.

GARDINER EA

How does the LDL EA interact with the Gardiner EA?
We have been coordinating with the Gardiner EA team to keep each other informed about our respective projects. The Gardiner EA may have an impact on the area north of the Keating Channel, slightly west of the Don River. To the extent that Gardiner EA impacts the LDL EA, those impacts will be addressed in the Gardiner EA, and if required, amendments to the LDL EA will be undertaken to reflect any specific changes resulting from the Gardiner EA.

EXISTING USES

Is it possible to move the Lafarge plant to the cement campus by the turning basin?
While the concrete campus is owned by City and leased to different users, Lafarge owns their property. Lafarge has invested a lot of money in their plant recently, including a Research & Development facility. They aren't interested in walking away from their investment and we can't afford to buy them out.

There is major hydro infrastructure just east of the Don Roadway. How will that infrastructure be accommodated?
The DMNP EA acknowledges that this infrastructure is there and will identify potential ways to address this infrastructure. The Port Lands and South of Eastern EA will also identify the hydro corridor and look at how to address it comprehensively as part of the visioning for the future of those communities. We know that we will have to raise the ground level of the land that the hydro infrastructure sits on. Ultimately, we think that there will be a need to bury that infrastructure, but we also need to consider the existing heritage view corridor.

CATALYST USES

During the Port Lands Acceleration Initiative 2012, some catalyst sites (e.g. the Hearn) were identified. I didn't see any catalyst sites identified in the presentation. What has happened to these catalyst sites?
The catalyst sites haven't disappeared, they will be considered in further detail under the Port Lands Framework plan and precinct planning processes. We think that catalyst sites are a key and we are actively looking at potential opportunities. The Hearn in particular will be looked at under the framework plan.

You mentioned that you couldn't speak to catalysts in particular, but could you speak in general what kind of uses they are?
We think that a catalyst use is a public facility that is iconic and will help trigger further development, something like the Bilbao Guggenheim or the Sydney Opera House. It's not a condo, office or retail store.

Could the naturalization of the mouth of the Don be considered a catalyst?
Naturalizing the mouth of the Don will be a catalyst but it's also something that is absolutely necessary to do – flood protection has to happen before any land can be redeveloped to a higher and better use. A naturalized Don mouth is unique, but we think that there's also a need for an iconic building.

PRECINCT PLANNING

If zoning by-laws won't get approved until precinct plans are complete, how can potential developers talk intelligently about plans within precincts if they don't have some idea about what the zoning will look like? What will the precinct planning process look like?
The precinct planning process will have its own extensive consultation program, including consultations with land owners to ensure that they are provided with information about how the work is unfolding and have an opportunity to provide feedback on the precinct planning.

During the presentation, it was mentioned that the Cousins Precinct planning process is moving forward but the Polson Precinct planning process is not because of landowners there. How much land is privately owned in the Polson Precinct?
The Polson Precinct includes a site that is owned by Lafarge, who have expressed an interest in maintaining their operations there for the foreseeable future. Other land users in the Polson Precinct are similarly not currently interested in redevelopment. For comparison, land in the Cousins Precinct is partially owned by the City and partially privately owned. The owner of the private portion has already submitted a plan to develop that land.

How will storm water management be accommodated within the EAs?
We're using the storm water standards that currently exist, but we want to incorporate them in a way that is principle-based and flexible, so as to allow for changes in standards and technology as the plan is rolled out over a number of years. In addition to the storm water performance standards within the EAs, a detailed assessment of storm water management design will be undertaken during precinct planning.

NEXT STEPS

The meeting wrapped up with representatives of the Project Team thanking participants for their feedback and reminding them that additional feedback could be submitted up until Thursday, August 8th. Participant feedback will be used to inform the finalization of the proposed changes to the DMNP and LDL EAs. Both EAs will be submitted to the Ministry of Environment for their review and approval in late fall 2013. Participant feedback on issues outside the scope of the two EAs will be incorporated into other Port Lands planning processes that are currently unfolding (e.g. the Port Lands Planning Framework, the Port Lands and South of Eastern Class EA, and various Precinct Plans). There will be opportunities to provide feedback on these processes directly through public meetings scheduled to start in late 2013.

ATTACHMENT 1: AGENDA

Public Meeting Agenda

Don Mouth Naturalization EA &
Lower Don Lands Infrastructure Class EA

Public Meeting
Wednesday, July 24, 2013
6:00 – 9:00 p.m.
EMS Training Centre (Toronto Fire Academy)
895 Eastern Avenue

AGENDA

6:00	Open House – View display panels and one-on-one Q&A with staff
7:00	Welcome / Agenda Review
7:05	Updates Presentation, Including: • Don Mouth Naturalization and Port Lands Flood Protection Project (DMNP) • Lower Don Lands Infrastructure Class EA (LDL)
7:50	Questions of Clarification
8:00	Discussion • What do you like about the updated plans? • What don't you like about the updated plans? • Do you have any suggested refinements?
8:50	Next Steps
9:-00	Adjourn

ATTACHMENT 2: WORKSHEET FEEDBACK

Seven individual participant worksheets were submitted at the conclusion of the public meeting. Feedback from these worksheets has been compiled below.

What do you like about the updated plans?

- Okay, so far
- The decision for a new Cherry St bridge, and the improved phasing
- Greenway going directly south and plenty of wetlands, accelerated action, clearer transit plans
- As much natural and floodplain land as possible
- More logical – the changes from the approved EA Master Plan looks good for the most part
- Consultation, response to flooding questions
- In general, appreciate the refinements of the Plans as they have evolved, support the Plan as proposed
- Thanks for the good work you've done

What don't you like about the updated plans?

- No "transit first" but after flood protection, timelines/options
- No regional transit connections put forward
- With Essroc leaving and Polson/Lafarge in 10 years why does there have to be a hard edge on the west side of the Phase 1 area?
- Residential area looks dull in straight lines
- Little sense of community gathering
- We've lost the environmental, prize-winning setting of build up to best use light and sun
- Loss of parkland in Polson's Quay
- The original design allowed for better spacing of green space, now there are many square blocks and green space at the end of a square block of buildings
- I really liked the original design, now it seems more dense as opposed to clusters of buildings with green land interspersed
- In previous meetings, there was a lot of attention paid to it being a walking community; can you safely build a community around a cement factory?
- Concerns are at detail level; e.g. Road cross-sections do not support transit on one side or the other, should be centre, prepared to be connected forever
- Overall concern that higher levels of governments (yes, I mean federal) must change its priorities and again become a partner in city building

Do you have any suggested refinements?

- Main purpose is for the public to enjoy the waterfront around the inner harbour by walking, biking, etc.…
- Put in the green component right away
- Build walking and bike trails, plant trees and green the water's edge so the city can enjoy its waterfront right away
- Would be nice to develop an area of the waterfront to use for quick exercises for the people who work downtown
- The south half of the Port Lands has potential today for high-tech and biotech industries. Jobs that may support the residential and commercial development in the north half

- Ideas: Roll on/off ferry terminal for great lakes and St. Lawrence connections
- Biotech campus to take advantage of Redpath, Lafarge natural gas plant and water treatment plant neighbours
- Surface LRT loop, like Chicago L-Train Loop with multiple lines
- Set aside substantial space for a key public attraction, such as a sports facility, museum, concert/entertainment venue
- There should be public park area on the lakeside everywhere
- Keep as much public space as possible
- Design for wildlife, birds need a migration corridor, design windows to prevent collisions as we have in downtown
- I think that a “catalyst” for the further development for the Lower Don Lands should be the building of a circular pedestrian/bicycle pathway around the inner harbour, similar to Stanley Park’s famous sea wall
- This sea wall/bicycle walkway is a major world attraction, I don’t see why we can’t build this circular pathway now
- Please include maps on “worksheet” to collect drawn ideas
- Keep the buildings as low as possible – not like the condos at the foot of Yonge
- Bike lanes should be a core component of the transportation planning, should be entire length; a useful example to consider is the Eglinton Connects, which has managed to incorporate bike lanes, generally in association with, but separate from pedestrian sidewalks

ATTACHMENT 3: ADDITIONAL SUBMISSIONS

Following the public meeting, members of the public were provided with the opportunity to submit additional comments and feedback by email on the DMNP and LDL EAs. The deadline for these additional submissions was Thursday, August 8th. The four submissions that were received are included in this attachment in full.

PROPOSAL

AN "EMERALD PATHWAY", Circling "the Toronto Islands and Waterfront"

- For the *Public Good* – Making Big Things Happen!
- Costing Millions to Return Billions
- Enhanced quality of life for all
- Zero Carbon Footprint and Carbon Credit viability
- A venue small enough for the community and large enough for the WORLD
- A year round easily accessible meeting place for all to enjoy

Glimpsing the future of city's Port Lands

Toronto Star

Build Port Lands green bits now

Re Slow and steady works, Editorial March 11

While it may be true that it will take 88 years to build out the commercial potential and 16 years for the residential component of the Port Lands, there's no reason why we can't put in the green component right away.

Build the walking trails and bike trails, plant the trees and green the water's edge so Torontonians can enjoy that component of the mix now. The buildings can come later.

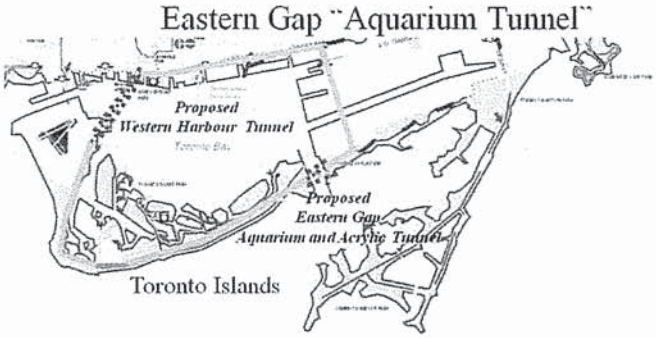
Bruce Gates, Toronto

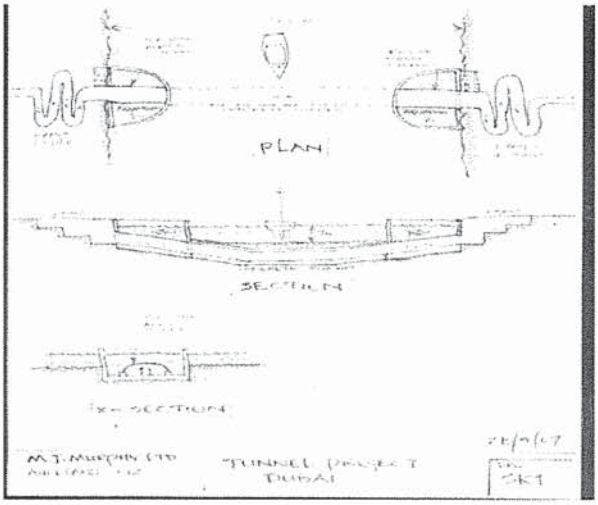
"Se tenir debout"
is standing up for
what is right

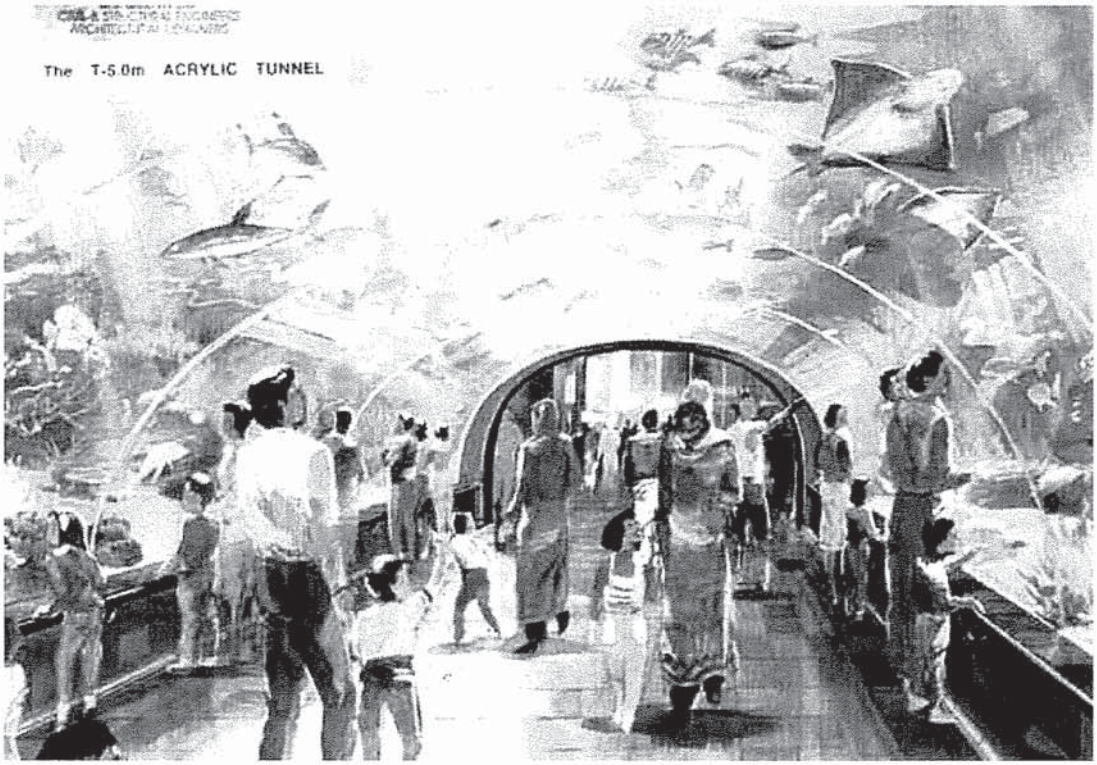
Robert Deluce, 56

President and CEO of Porter Airlines, has been busy with the car launch on Oct. 23. He wakes at 3 a.m. — though he says he sometimes sleeps in until 4 — and jumps on his computer to deal with emails. "I'd love to be able to work in a 45-minute run or a bike ride. My cardio and my exercise routine have taken a major kicking over the last six months. I miss that more than anything."

— files from Patricia Hluch


Eastern Gap "Aquarium Tunnel"
Proposed
Western Harbour Tunnel
Proposed
Eastern Gap
Aquarium and Acrylic Tunnel
Toronto Islands


PLAN
SECTION
M.T. MURPHY LTD
TUNNEL PROJECT
DUBAI


The T-5.0m ACRYLIC TUNNEL

UNSOLICITED QUOTATION/PROPOSAL
CONCEPT PLAN COVER SHEET

Submission Date: *July 14, 2011 (revised Nov. 16, 2012)*

Organization Name: *The Emerald Green Pathway Vision*

Address: [redacted]

Type of Organization: *Non-Profit (without share capital)*

Principal Contacts:
Howard Hollands, Phone: [redacted]
E-mail Address: [redacted]
Robert Hollands, Phone: [redacted]
E-mail Address [redacted]

Proposal Title: *The Emerald Green Pathway Vision for Toronto (The Emerald City)*

Proposed Pathway & Tunnel Locations *– see Cover Pages.*
Project Duration: *To be completed by July 2015, in time for the Pan-American Games*

Proposed Starting Date: *March 2013*

Amount of City Funding Requested: *$20,000.*

- *To fund promotion and presentation costs associated with project.*
- *To provide feasibility study of the proposal by city staff to ensure a close estimate of costs.*

Financial Benefit to the City:

- *Revenue derived from admission charges to tunnels.*

($16 million based on 4 million visits a year at $4.00 each round trip) less operating and maintenance costs of $5 million.

- *Extensive Advertising Opportunities (see Pages 14-15) $3 million/Year (estimate)*
- *Return on investments over life span of tunnels (50 to 100 years)*

Names of Other Parties Receiving the Initial Proposal:
Porter Airlines; Toronto Port Authority; my former City Councillor Cliff Jenkins and Jaye Robinson, my present Councillor Ward 25, and other Councillors (Pam McConnell Ward 28, Adam Vaughn Ward 20, Paula Fletcher Ward 30, Bill Saundercook and Carol Stintz); MPP Kathleen Wynn, solicitor Margaret Turvey Haig (incorporation of organization); John Campbell and Elaine Baxter Trahair, Toronto Waterfront Assn; Wally Kowalenko, City Surveyor; Warren Brown CPA; Ray Hutton, McNally Corp. (boring and tunneling contractor); Ken Blundy, Toronto City Airport; Ann Saito, President, George Brown College.

The Proposal Contains Proprietary Information: YES

Name of Person Representing the Proponent: Howard G. Hollands / Robert F. Hollands

#1 Statement of Need: Identify and briefly explain the issue or need to be addressed by the proposed project.

Toronto and GTA need an accessible pedal and pedestrian paradise:

- *An "Emerald Necklace" Pathway – an urban pathway to facilitate uninterrupted, easy access around Toronto's inner harbor, which would connect Toronto Island to the mainland via two underground, underwater tunnels.*
- *Year-round access ensured via two pedestrian/ bicycle tunnels from the mainland to the island.*
- *A pathway providing remarkable panoramic views of Toronto's glorious inner harbour, waterfront and Lake Ontario.*
- *A circular closed circuit pathway to rival that of Vancouver's world famous seawall with its continuous flow of pedestrian and bicycle traffic around the edge of Stanley Park.*
- *A family fun zone to support healthy living.*

Quotes:
Toronto Star: "We need an Olympic Sized Saviour"
TD Bank – Keep Ontario Healthy – "Premier should set a goal of making Ontario the healthiest province in Canada to help control the escalating costs of healthcare and to provide an enhanced quality of life for all."

- *Let's ensure that the inner harbour shoreline and Toronto Island will be permanently protected for public pleasure and the public good.*
- *Build an attraction for citizens and tourists alike that will promote Toronto as a city committed to green ideals and a healthier gentler world.*

Needs:
As more and more people move into the city and into the downtown waterfront area, Toronto will increasingly need:

- *A safe, natural environment and a year-round gathering place with easy, affordable access for regular physical exercise and outdoor recreation in order to relieve the stress of city living and provide a contrast to the hustle and bustle of the downtown area.*

- *A centerpiece for the city -- a large outdoor venue, small enough for creating community, large enough for world events. A complement to the waterfront Blue Line project.*

- *A venue as attractive as an "Emerald Necklace", maintaining pathway and island park space for affordable easy access to picnic grounds, enhanced swimming beaches, gardens,*

park benches and a broad pathway suitable for pedestrians, strollers, bicycles, skateboards, rollerblades, senior's electric carts (no motorized vehicles allowed).

- *A showcase for major city events as well as fundraising walkathons, marathons, bicycle races, etc, which now require the closure of major downtown streets.*

- *A safe aquatic park (the inner harbour) for summer water sports and gradual replacement of our large ageing ferries with smaller, less expensive, more flexible ferries.*

- *With tunnels, the seven hundred permanent island residents and members of the four yacht clubs and marina as well as the public would have year-round access from the mainland to the islands. Note: Only one of the four present ferries operates from December to March due to winter ice conditions, effectively reducing winter use of the islands for X-country skiing, skating, hiking by the public. Why not promote a winter wonderland, and perhaps a winter carnival, to make more effective use of Toronto Island in the winter?*

Toronto needs a powerful new symbol –a closed-loop, green foliaged pathway in the heart of the city, named "The Emerald Necklace" or alternatively, The Jack Layton OR Jane Jacobs National / Provincial Park.

Other needs to be served by multi-purpose tunnels:

1. *A new water main under the Western Gap is planned which will supply Toronto water to the Toronto Island.*

2. *A pedestrian tunnel has recently been approved to provide access to the Toronto Island airport at Bathurst Street under the Western Gap for the exclusive use of Porter and Air Canada passengers. This tunnel will replace extensive use of the Toronto Airport ferry which now impedes the flow of marine traffic through the Western Gap. Why not extend this tunnel to Hanlan's Point, enabling the public to access the pathway around the Island?*

3. *OPTION: An aquarium tunnel, as proposed by Ripley Inc and similar to that in the Atlanta Aquarium, could be integrated into the proposed Eastern Gap tunnel at the end of Cherry Street. It would provide a world class attraction as well as provide controlled access for bikers and pedestrians to and from Toronto Island. The rest of the ten acre Aquarium site could be developed as funds and qualified employees became available.*
   [Since the Ripley Inc Aquarium is currently under construction next to the CN Tower, this option is no longer available.]

#2 Proposal Overview: A concise abstract describing the nature of the proposed initiative and the scope of work involved.

Project Name: The Emerald Necklace Pathway Vision.

Code Name: ENP (Emerald Necklace Pathway)

Proposal: To obtain the City of Toronto's support and resources for building a seamless, safe, secure pedestrian/ bicycle pathway (like an Emerald Necklace) around the perimeter of Toronto's glorious Inner Harbour.

- *A hub for recreational activities and to reconnect with nature*
- *A family fun zone and a destination for all citizens, visitors and tourists*
- *Immediate seamless access to the perimeter of the Inner Harbour and Toronto Island.*

Profile of Proponent: (see also #7)

- *A non-profit corporation without share capital*
- *A purpose complementary and not inconsistent with:*
    1. *the Waterfront Toronto Blue Line project;*
    2. *the Billy Bishop Airport pedestrian tunnel,*
    3. *the proposed construction of a new city water supply tunnel to Toronto Island, and*
    4. *the proposed Ripley Aquarium near the waterfront*

Nature of Proposal Initiative: (see figures #1 A, B and C attached)

- *Plan, design and construct (bore):*
    1. *Two (2) pedestrian/ bicycle tunnels, one under the Eastern Gap at the south end of Cherry Street, and one under the Western Gap at Bathurst Street (beside or under the airport runway)*
    2. *Connect the tunnels to the Toronto Island main pathway at Hanlan's Point and near the Ward Island Beach.*
    3. *Enhance and beautify (to City standards) the existing mainland pedestrian/ bicycle pathways surrounding the Inner Harbour, especially Cherry Street.*
    4. *Plant a canopy of trees along the pathways to combat climate change.*
    5. *Integrate the Emerald Necklace Pathway with the Waterfront "Long Blue Line", to eventually become the border to a world class "Stanley Park"*

Nature and Scope of Work:

- *Other Essential Qualities and Characteristics:*

    1. *A safe, secure, natural environment and year-round gathering place.*
    2. *Immediate easy access to Toronto Island via controlled tunnel entrances*
    3. *No automobile access, except for emergency and service vehicles.*
    4. *Tunnel ramps with no more than a one or two degree slope to promote pedestrian, bicycle and seniors' use year-round.*

5. *A road-width pathway (a circular closed loop, like a necklace), to allow a continuous, uninterrupted flow of pedestrian and bicycle traffic on and around the Island and Inner Harbour.*
6. *A "Stanley Park seawall" setting that would include a safe, freshwater aquatic park (the Inner Harbour) suitable for both water sports and winter sports with the ENP serving as a viewing point for national and international events to be held in Toronto and the GTA.*

- *Initial Activities*

1. *Seek funding required to promote the Emerald Necklace Pathway Vision to City staff and Council, public and private partnerships and the public, emphasizing the world class nature of the ENP and the health benefits of daily exercise in a setting adjacent to but separate from the hustle and bustle of the city.*
2. *Conduct environmental impact studies and sustainability required for the project.*
3. *Consider adopting the environmental studies and tunnel specifications approved for the Billy Bishop Airport tunnel, should we form an alliance to extend the tunnel under or beside the airport land to Hanlan's Point. The pedestrian tunnel would then serve the public walking/ cycling the ENP as well as private airline passengers. See Figures 1.a, b, c, d attached.*
4. *Conduct public consultative meetings for interest and feedback on the ENP project.*
5. *Send project descriptions to*
   - *government agencies (Federal, Provincial, Municipal)*
   - *non-governmental organizations*
   - *down-town and Island residents.*
   - *newspapers, television and radio stations*
   - *various business organizations*
6. *Seek and evaluate bids from:*
   - *planning and design architectural companies*
   - *local tunneling and construction companies*
   - *landscape architects and Parks Board*
   - *security companies*
   - *wireless companies*

7. Select and employ companies and city departments required to plan, oversee and carry out the project, to be completed by 2015, in time for the Pan American Games to be held in Toronto and GTA. Also an attraction for possible future Olympics.

#3 *Planned Objectives & Outcomes & Expected Benefits to the City*

Objectives:
To plan, design and build two single or multi-purpose pedestrian/ bicycle tunnels joining the mainland to Toronto Island under the Eastern and Western Gaps, enabling a broad circular pathway around the Inner Harbour – similar to the Stanley Park seawall.

Outcomes:

1. *Acceptance of Emerald Necklace Pathway (ENP) proposal for evaluation and approval by Toronto Office of Partnerships and other city staff..*
2. *Submission and promotion of ENP to City Council.*
3. *Environmental assessment and initial public meetings relating to Pathway.*
4. *Land acquisition, where necessary.*
5. *Plan, design and construct an Eastern Gap Tunnel, connecting Cherry Street to existing pathways on Toronto Island.*
6. *Plan, design and construct a Western Gap Tunnel, connecting existing pathways on Hanlan's Point (Toronto Island) to the mainland at the foot of Bathurst Street, as proposed by the Toronto Island Water Supply Route Study. This tunnel could perhaps be combined with the already approved pedestrian tunnel to the Billy Bishop City Airport.*
7. *Involve city departments (mandatory)*
8. *Involve external entities (both mandatory and optional).*
9. *Consult with the Toronto Port Authority, the Toronto Waterfront Corporation, Toronto Island Water Supply Route Study and Ripley Aquarium authorities, to determine their interest and cooperation in building multi-purpose vs single- purpose tunnels.*
10. *Immediate "shovel-in-the-ground" employment for:*
    o Summer students and unemployed to build and enhance the Emerald Necklace Pathway under the supervision of Parks and Recreation.
    o Tunneling Companies (local)
    o Landscape Architects, etc
    o Security Companies
    o Recreational Facilities
    o Wireless companies (The use of "intelligent pathways" around the Emerald Pathway to ensure a close, safe, secure link to the waterfront.)

Expected benefits to the City:

- *As more and more people move into the city and into the downtown (waterfront) area, Torontonians need a year-round, safe secure natural park environment, "a Stanley Park", with affordable easy access for daily physical exercise and outdoor recreation, enhancing the opportunity for Toronto to become the greenest city in North America - a powerful new symbol – "The Emerald Necklace Pathway. Walking, running and biking are a key to happiness, providing major health and economic benefits for both citizens and tourists.*

- *The inner harbour shoreline will be permanently protected for public pleasure and the public good.*

- *The Emerald Pathway around the circumference of the inner harbour will complement what is already being done and proposed for the waterfront.*
- *Those living on the Islands will benefit from a year-round seamless, secure and convenient pathway from the islands to the mainland, equipped with closed circuit cameras and with restricted access after hours to ensure the Islanders' privacy and security.*
- *Financial return to the city-$10,475,000.00 per year including the employment of 10 people to operate the tunnels (see page 18).*

#4 Deliverables and Timelines: Identify the critical dates and proposed work schedule for:

1. *Acceptance of proposal*
2. *Planning, Designing and Building two tunnels*
3. *Planning, Designing and Building Circular Pathway*

Timelines, Deliverables: Proposed Work Schedule:

December 2012 Acceptance of Emerald Necklace Pathway Proposal (ENP) by *Toronto Office of Partnerships for Study and Evaluation.*

- *Provide "Order of Magnitude" cost estimate to be supplied by McNally Corp. based on selected tunnel diameters and length of tunnels (including ramps) required for project.*
- *Prepare cost/benefit analysis re. single purpose vs. multipurpose tunnels.*
- *Send ENP project description to City Parks Department and City Planning, Design, Construction departments and seek meeting with*
- *Other selected parties of interest*
    - *Mayor Rob Ford/ Toronto City Council*
    - *Pedestrian and bicycle committees-- seek meeting dates. Prepare a "motion" to be delivered to the above committees*
    - *Selected Councillors affected by proposal – TTC Chair, Carol Stinz, Councillors whose wards impinge on ENP proposal*
    - *Toronto Waterfront Corporation – John Campbell*
    - *Toronto Water General Manager – Lou D. Gironomo*
    - *Toronto Port Authority (Federal Govt.) – Alan Paul, Chief Executive*
    - *City Aquarium Evaluation Committee – Ripley Corp.*
    - *Porter Airlines / Air Canada*
    - *Provincial Govt. – Transportation Minister – MPP Kathleen Wynn*

March 2013 *Neighbourhood Associations:*

(prepare presentations & arrange meetings)

- *York Key Neighbourhood Association*
- *Community Air Association*
- *Toronto Island Associations –*
    - *Wards Island Association*
    - *Algonquin Island Association*
    - *Toronto Island Marina*
    - *Toronto Island Restaurants (Island Paradise, Carousel Café, Rectory Café)*

- *Toronto Island Yacht Clubs (RCYC, Queen City, Island Yacht Club & Harbour City Yacht Club)*
- *Island Art Club*

- *Health Council of Canada*
  - *Tourist Associations*
  - *Hotel Management Associations*
  - *Pan American Games Representative*
  - *Public interest groups*
  - *Metcalfe Foundation Grant*
  - *Toronto Park People*
    David Harvey Lobby Group www.parkpeople.ca
    Catherine Porter- cporter@thestar.ca

2013 Sept. *Collect required data to establish baseline conditions*

- *Obtain copies of environmental assessments for study evaluation:*
  - *Toronto Port Authority (Billy Bishop Airport tunnel)*
  - *Toronto Water (Enwave Energy Corp.)*

Seek Public/Private Partnerships to participate in Planning, Design & Build Pathway

- *Toronto Port Authority*
- *Canada Pension Plan Investment Board*
- *Condominium Developers*
- *Ontario Teachers' Pension Plan / CAAT Pension Plan*
- *City of Toronto*
- *Fund Raising – Walk-a-thons, Bike-a-thons*
- *Parking lot revenues*
- *Tourist industry*

Involve Media Groups (Mandatory)

- *Radio Interviews – John Tory*
- *TV Ontario – Steve Paikin*
- *CTV*
- *Toronto Star – Metro Paper*
- *Globe & Mail*
- *National Post*
- *CMA*
- *Citizen Opinion Surveys re Emerald Necklace Pathway Proposal*

Involve External Entities (Optional)

- *Wireless Companies – to create 'intelligent pathways' to ensure safe, secure links around pathway*
- *Recreational Companies*
- *Employment of qualified summer students and unemployed*

Involve External Entities (Mandatory)

- *Toronto area tunnelling companies and boring equipment companies*
- *Toronto area tunnelling and landscape companies*
- *Building architects*
- *Potential Public Private Partnerships*

Determine Milestones of Project Proposal (Mandatory)

- *Environmental Assessment – including examination of environmental assessments carried out by Toronto Port Authority and Toronto Water related to the Western Gap Tunnelling Projects.*
- *Land Aquisition: approximately 9 hectares (20 acres) fronting on the Eastern Gap Tunnel (Mandatory) and a future Aquarium site (Optional)*
- *Approximately three hectares (six acres) fronting on the Western Gap to accommodate the Western Gap Tunnel ramp (Mandatory)*
- *Appropriation of inner harbour water's edge to prevent private ownership of shoreline (Mandatory)*

2013/14

Construction of Western Gap Multi-purpose Tunnel

- *Approximately 10m wide X 4 m high X 120 m long and 12 m deep under the Gap (Mandatory)*
- *Ramps to tunnel would connect Hanlan's Point (Toronto Island) to the mainland at the foot of Bathurst St. And would follow the same path as that proposed by the Toronto Island Water Supply Route Study*
- *Also possibly join forces with the Toronto Port Authority which has received Federal Govt. Funding to build a private pedestrian tunnel linking the Billy Bishop Airport with the mainland (currently under construction.)*

Construction of Eastern Gap Multi-purpose Tunnel

- *Approximately 10 m wide X 4m high X 200m long and 12m deep under the Gap (Mandatory)*

- *Ramps to tunnel would connect Wards Island pathway on Toronto Island to the south end of Cherry St. (Mandatory)*
- *To include the building of an Aquarium Tank (100m long, 60m wide and 12m deep) through which an acrylic portion of the Eastern Gap tunnel will pass before going under the Eastern Gap (Optional – model & diagram available)*

Common Elements for both tunnels

- *Provision of 2⁰, 3⁰, or 4⁰ slopes of ramps to tunnels suitable for pedestrians, cyclists and seniors' electric carts (Mandatory)*
- *Note: Ramp lengths depend on degree of slope selected.*
- *Alternatively fitted with moving sidewalks or escalators with elevator back-ups (Optional)*
- *Tunnels must be large enough to accommodate a maximum 4 million people over time per year as determined by an "order of magnitude" study to be provided by a selected tunnelling company (Mandatory)*
- *The above ramps (surface) would be available for alternative use (Optional)*
- *Suitable lighting, air conditioning and communication devices to ensure complete safety, security and comfort of citizens, tourists and visitors.*
- *Multi-purpose tunnels could save the city millions of dollars by combining the construction of the Emerald Pathway with that of the*
    - *Toronto water supply pipe to Hanlan's Point from Bathurst St. To Toronto Billy Bishop pedestrian tunnel.*
    - *Building an Aquarium Tank and acrylic tunnel into the Eastern Gap Tunnel as the first stage of the New Toronto Ripley Aquarium. The location of which would allow for a world class aquarium similar in size to the Atlanta Georgia Aquarium. (Atlanta Aquarium illustrated book available.)*

Involve City Departments (Mandatory)

- *Engage the cooperation and available services of the City Departments:*
    - *City Parks and Recreation Dept. (through Toronto Office of Partnerships, Planning, Design, construction, City Survey*
    - *Pedestrian/bicycle Committees*
    - *TTC*
    - *Economic Development Department*
    - *Concierge and Service of Deputy City Manager*
    - *City Councillors of Wards affected by proposal:*
        - *Pam McConnell – Ward 28*

- *Paula Fletcher – Ward 10*
- *Adam Vaughan – Ward 22*
- *Jaye Robinson – Ward 25 (our City Councillor)*

- *Lands Department and Legal Department*
- *Toronto Waterfront Corp. – John Campbell*

- *Involve Emerald Green Pathway Vision Company to:*
  - *Provide input where qualified for the planning, design, land acquisition and construction of Emerald Necklace Pathway*

2012-2015 *Act as coordinator (runner) to expedite the ENP project through various city departments in order to avoid delays in implementation*

- *Act as volunteer staff person to actually follow an application through the process and babysit it from desk to desk ie, walk it through the various offices and make sure it moves along.*
-

EMERALD GREEN PATHWAY VISION

*Cost Estimate: A bold but simple plan that will cost **millions** but will return **multimillions** over 50 to 100 years tunnel life.*

Two tunnels - $10,000.00 - $12,000.00 per metre x 1930 metres	*23,160,000*
Purchase or Rental of tunnel boring machine	*23,000,000*
Pathway development / improvement @ $1,000,000 per km	
10 x $1,000,000	*10,000,000*
Gated Community and new School for islanders	*2,000,000*
Construction of Aquarium Tank – 100 m x 60m x 12m (optional)	*10,000,000*
Architectural planning and design	*3,000,000*
Contingency +15% - 10%	*10,674,000*
Total Cost Estimate	*81,834,000*

Capital Cost investment through Toronto Office of Partnerships joint venture with:

- *Toronto Port Authority*
- *Toronto Water*
- *Ripley*
- *Canada Pension Plan Investment Board*
- *Ontario Teachers' Pension Plan Investment Board/ CAAT Pension Plan*
- *Provincial Government*
- *City of Toronto*
- *Federal Government*

- *Private construction firms*
- *Architectural firms*
- *Eco trust funds*
- *Infrastructure Ontario*

Note: No community wants to be stagnating. This is an opportunity to improve both the security of the islanders and transportation to the mainland.

- *Tunnel circumference – maximum 14 metres – minimum 10 metres, based on order of magnitude costs.*
- *Ramp slopes – minimum slope 2⁰, maximum slope 3⁰ determines total length of tunnels.*
- *Tunnel diameter costs based on order of magnitude to be provided by McNally Corp. for example, to choose best tunnelling methods; sequential excavation; new Austrian tunnelling or other appropriate methods to be considered.*

Risks: Possible cost overruns due to unforeseen tunneling problems and material costs.

RATIONALE FOR PROPOSAL – (NEEDS TO BE MET)

- *The inner harbour shoreline will be permanently protected for public pleasure and the Public Good.*

- *The Emerald Pathway around the circumference of the inner harbour will complement what is already being done and proposed for the waterfront.*

- *The islanders lifestyle will be further enhanced by providing a seamless, secure and convenient pathway, from the islands to the mainland 24/7, equipped with closed circuit TV and restricted access, to ensure the islanders privacy and security.*

- *As more and more people move into the city and into the downtown (waterfront) area, Torontonians NEED a year-round, safe secure natural park environment, "a Stanley Park", with affordable easy access for daily physical exercise, outdoor recreation, enhancing the opportunity for Toronto to become the greenest city in North America, -- a powerful new symbol -- "The Emerald Necklace Pathway. – Physical activity – walking, running, biking, skating, cross-country skiing – is a key to happiness, providing major health and economic benefits for both citizens and tourists.*

EMERALD GREEN PATHWAY VISION

Income Statement

City of Toronto – The Emerald Green Pathway (Vision) Year 1 (opening year)

The Emerald Necklace National Park

Revenue:	
• *Ticket sales at 4 million visitors x $4 per ticket*	*16,000,000*
• *Advertising on tunnel walls, etc.*	*3,000,000*
• *Sports, leisure activities, band concerts, marathons*	*4,000,000*
• *Other potential sources of funding:*	*12,000,000*
○ *Governments – National Parks status*	
○ *Tourist industry – hotels, etc.*	
○ *Developers, Associations, Clubs*	
○ *Canada Pension Plan Development Board/ CAAT Pension Plan*	
Total	*35,000,000*
Cost of Sales:	
• *Ticket sales (printing costs)*	*1,000,000*
• *Advertising sales, promotion*	*2,000,000*
• *Administration of activities*	*1,000,000*
• *Seeking additional funding sources*	*1,000,000*
Total	*5,000,000*
Gross Profit (Loss)	*30,000,000*
Operating Expenses:	
• *Accounting*	*100,000*
• *Advertising Promotion-T.B.D.*	
• *Amortization/Depreciation 81,834,000 over 40 years 25%*	*4,700,000*
• *Bad debts*	*2,000*
• *Commissions*	*Nil*
• *Contract labour/ service: police, security, safety*	*1,000,000*
• *Miscellaneous (specify) T.B.D.*	
• *Delivery Expenses*	*1,000,000*
• *Equipment/Machinery: air conditioning, escalators, moving sidewalks*	*2,000,000*
• *Maintenance/Repairs*	*1,000,000*
• *Insurance: public liability, equipment failure, etc.*	*5,000,000*

• *Interest*	*1,000,000*
• *Legal*	*1,000,000*
• *Office expenses: bus cards, computer service, paper*	*T.B.D.*
• *Operating supplies – paper, etc.*	*T.B.D.*
• *Other (specify) – City Parks and Recreation coordination*	*2,000,000*
• *Permits and licences*	*T.B.D.*
• *Property Taxes – (city owned)*	
• *Rent – (city owned)*	
• *Telephone*	*1,000*
• *Travel*	*2,000*
• *Utilities – lighting, air conditioning, heating*	*500,000*
• *Vehicle expenses – maintenance and supply costs*	*20,000*
• *Wages/Benefits – city employees @ $50,000 per employee x 10*	*500,000*
Total Expenses	*19,525,000*

Net Income (Loss) Before Income Taxes

- ***Gross profit $30 million***
- ***Less total expenses $19,525,000 = $10,475,000.***

5. *Responsibilities of the Proponent and the City:*

Responsibilities of the Proponent:

1. *Meet with city officials, provincial and federal government representatives and potential partners regarding their interest, investment and level of participation in the planning, design, organization and construction of the Emerald Necklace Pathway (ENP) and associated tunnels.*
2. *Help the city promote the ENP to the public – local communities, private and government organizations:*
    - *Conduct public interest surveys*
    - *Newspaper articles*
    - *Media interviews*
    - *Organize public meetings*
    - *Develop promotional materials*
3. *Provide consulting input, where appropriate, to facilitate the project.*

Responsibilities of the City:

1. *Toronto Office of Partnerships to evaluate the ENP proposal and, if acceptable, to recommend its adoption by a motion to the Pedestrian / Bicycle Committee of the Toronto City Council, who would then present it to council.*
2. *Do a cost/benefit analysis of single-purpose pedestrian tunnels versus multi-purpose tunnels to determine overall savings to interested parties – The Toronto Water supply group, Toronto Port Authority, Billy Bishop City Airport and the Ripley aquarium group.*
3. *On adoption of the proposal, in full or in part, the City is to be responsible for the planning, design, organization, construction and operation (oversight) of the ENP project.*
4. *Provide support in the promotion of the project.*
5. *Plan and arrange meetings with councillors and government representatives, and other interested parties such as service clubs, corporations and philanthropists who may share our enthusiasm for the ENP vision.*
6. *Provide an adequate budget to enable our non-profit organization to carry out the Proponents' responsibilities as outlined above.*

Proposed Timeline: To be completed by 2015, in time for the Pan American Games or to be part of a proposal for hosting future Summer Olympic Games.

#6 *Other: (available on request)*

Relevant Background Files on the EN Pathway Project:

1. *Incorporation Documents*
2. *Toronto Office of Partnerships*
3. *Diagrams, maps and models of ENP*

   Eastern Gap Tunnel:
   - *diagram of tunnel*
   - *aquarium model of proposed acrylic tunnel entrance*
   - *background materials – The Creation of the Georgia Aquarium –an illustrated book telling the story of how the aquarium in Atlanta, Georgia was conceived, planned, designed and constructed, with video to illustrate. (Bernie Marcus the co-founder of Home Depot was its major benefactor.)*
   - *Dubai Aquarium tunnel details*

   Western Gap Tunnel:
   - *diagram of tunnel*
   - *articles re proposed Billy Bishop City Airport tunnel*
   - *Toronto Water Study (new pipe through tunnel to Toronto Island)*
4. *Possible Financial Costs of ENP Project based on proposed parameters (length and size) of tunnels under Eastern and Western Gaps.*
5. *Background for Emerald Necklace Pathway Vision*
   - *CPTED (Crime Prevention Through Environmental Design)*
   - *Maps of Toronto Island and amenities*
   - *Comparisons with Vancouver Stanley Park; Long Blue Line; NYC Central Park; Calgary city centre Princes Island Park.*
   - *Toronto Ferry Services*
   - *TTC*
   - *Billy Bishop City Airport*
   - *Toronto Port Authority*
   - *Marathons presently held in downtown area*
   - *List of important contacts*
   - *Fund-raising ideas*
   - *Pan American games*
   - *Related articles re benefits of regular exercise*

7. *Profile of the Proponent*

Objectives of the Emerald Necklace Pathway (ENP) Vision:

1. The objects for which the corporation was incorporated are:

The establishment and operation of a community organization or support group for the purposes of:

(a) promoting the establishment, construction and maintenance of a continuous pathway around the Inner Harbour of the City of Toronto for use exclusively by pedestrians, and persons using bicycles, skateboards and in-line skates, electric wheelchairs and cross-country skiis (save and except for emergency vehicles).

(b) Promoting the connection of such pathway from the mainland to Toronto Island by means of underwater tunnels or such other connections as may be appropriate, to further facilitate non-vehicular movement around the Toronto Harbour.

(c) Promoting the construction of an aquarium at Cherry Street on the Eastern Gap site. One of the aquarium tanks would include a Plexiglas section leading to the Eastern Gap tunnel that would serve as a pathway through which pedestrians could observe fish as they proceeded to the tunnel under the Gap to the Toronto Island (optional).

2. The special provisions are:

The corporation shall be carried on without the purpose of financial gain for its members, and any profits or other accretions to the corporation shall be used in promoting its objects.

3. Biographical Information on Key Personnel:

- *Howard Hollands, Director*
  [redacted]
  Resident of Toronto for 40 years
  Co-author of The Emerald Green Pathway/ Necklace Proposal
  Retired Professor (Seneca College); Personnel and Industrial Relations Manager
  Graduate of University of Western Ontario and Queen's University
  No previous work experience in field of proposal but previous experience in marketing supervisory and management development programs to business and industry.

- *Robert Hollands, son and Director*
  [redacted]
  Resident of Toronto for 40 years
  Co-author of The Emerald Green Pathway/ Necklace Proposal
  Attended Seneca College and studied Electronic Technology
  Work experience in field of proposal includes:
  Experience in wireless sensor and lighting automation and controls;

presently involved in business development with private and public partnerships; previous sales professional experience with Sprint Canada, Gandalf Data, AT&T Paradyne, 3MCorp..

- *Marjorie Hollands, wife, Secretary to the Corporation*
  [redacted]
  Resident of Toronto for 40 years
  Registered dietitian and diabetes educator, at Women's College Hospital before retirement. Co-author of 6 books in Choice Menus series (HarperCollins) designed to help people with type 2 diabetes prevent/ manage diabetes, involving research and analysis and computer skills.
  Graduate of University of Western Ontario and University of Toronto

[redacted]

From: [redacted]
Sent: August-08-13 1:08 PM
To: mcharendoff@trca.on.ca; info
Subject: July 24 meeting comments

Dear sir/madam,
I attended the july 24th meeting at the EMS Training Centre and would like to submit my feedback for the official record.
I am thoroughly familiar with all previous and current versions of the DMNP and LDL plans.

Q1.Likes.
The continued emphasis on naturalizing the mouth of the Don is very commendable. The plans presented tonight are thorough, achievable and will satisfy all my wishes for the re-naturalizing.
The new channel is great.

The realignment of the Don Greenway is necessary and OK.

The new neighbourhood street plan is a very big improvement. The continuation of Commissioners St. as a strait, wide, arterial boulevard integrates it into the street plan of the larger city.

The new interior street grid plan is much improved. It maintains the rhythm and edge of Toronto's angular urban grid. This is a huge improvement from the previous plan of crescents, loops and dead end streets. Excellent work.

If it's actually possible to finance this newest plan then I'm delighted. Let's get on with it!

Q2 Dislikes.
None.

Q3. Suggestions

Please ensure the new channel will be accessible to small watercraft such as canoes and rowboats.
I want to be able to row north up the Don as far as possible.

No mention is made of the Gardiner / Lakeshore Blvd. access ramps but we use them daily and must be kept functional at all times, for the benefit of all Torontonians. This highway access is essential for keeping traffic volumes lower in surrounding neighbourhoods.

Thanks
[redacted]

[redacted]

From: [redacted]
Sent: August-08-13 7:49 AM
To: info; TRCA
Subject: Re: July 2013 Newsletter

I am replying to both Waterfront Toronto and the TRCA as there may be some overlap in my comments and I am not sure where the divisions in your respective responsibilities are. The meeting of July 24th was the first that I have attended, indeed I only became aware of the scope of this project a few months ago. My thanks to all of those who have sought to re-claim the Don for so long and to those who have conceived such a beautiful solution for doing so.

I do think that the original plan was superior, but I accept the need to modify that design with a view to easing the financing and accelerating the development: accelerating it but I hope not compromising it. Even if the La Farge plant can not be re-located I think that the concept borders on perfection. That leads me to my biggest concern of the moment, the perceived need to embellish or enhance the project with iconic built form.

Frank Lloyd Wright't Fallingwater is iconic. Perhaps it is one of the best examples of site inspired architecture designed for a purely natural site. I think that it is beautiful. The house without the waterfall would be a peculiar curiosit the waterfall without the house would be what it always has been, beautiful. Native laurel and rhododendron flowering in the spring and early summer, a mixed hardwood bush changing colour in the fall, ice encrusted riverbanks in the winter, the omnipresent sound of flowing water; naturally beautiful.

A "natural" river mouth, discharging its' flow in the centre of a large urban development, has to be relatively unique. I think that it is its' own catalyst. Will it draw everyone? Of course it won't. But then, has every citizen of the city, every tourist to the city, been drawn to the AGO, the ROM, Woodbine racetrack or the CN Tower? It will have its' own audience and we need to grow that audience. What better location than the heart of this new city within a city?

I have no doubt that something of beauty and originality could be built, but at best it may prove to be superfluous, and at the worst it may diminish what has already been beautifully imagined

The built forms which are essential, which are not in any way superfluous, are the bridges. Perhaps, taken collectively, we could make their design and construction the iconic link between the natural and human. Although the bridges serve different purposes, have longer and shorter spans, and will be built over a long period of time, maybe they could be designed at the outset as separate installations of one over-arching art project. An international competition to design the complete set of required bridges before any one of them is built. We have the time.

An international competition would draw much attention to this development, attention that would be re-freshed throughout the project: the initial announcement, the naming of finalists, the naming of the winner, the start and completion of each installation (ie a bridge), the completion of the construction of the entire set of bridges, pedestrian and vehicular, and finally, the ongoing enjoyment of experiencing great design. I don't have the ability to imagine this, but somewhere in the world there are those who do.

Thank you for all you have done and for affording me this opportunity to participate

Sincerely,

[redacted]

- chair/facilitate negotiations
- aboriginal land/pollution claims
- co-management advisory services

John Campbell/CEO/Waterfront Toronto
Michael Charendoff/Toronto Region Conservation Authority

1 August, 2013

Dear: Chris Re. **Reconfiguration of the Mouth of the Don River**

I've attended Waterfront Toronto/Toronto Waterfront Revitalization meetings since they were first initiated. I attended the last one on July 24th at the EMS Training Centre.

Like most who have participated in these public meetings, I was motivated by the 'THEFT' of Toronto's Waterfront under previous city administrations with the complicity of dreadful, shortsighted planning.

The present draft, to the extent it was discussed on July 24th and to the extent that visual literature images project, is **UNACCEPTABLE.**

(1) **Acceleration of the Process**: the process has been contaminated ever since the intervention of Doug Ford and his ferris wheel, mega mall, corporate takeover attempts earlier this year. The introduction of the word "acceleration" has clearly had a damaging impact on the process. The reconfiguration of the mouth of the Don River is an historical opportunity. There is no room in the process for "acceleration" simply to pacify the objectives of those who have virtually no concept of nor interest in the naturalization of one of Toronto's greatest natural assets.

(2) **Contraction/Minimizing of Green Spaces**: as Ken Greenberg and others have pointed out, redrafts have already eliminated 40 acres of green space and increased development lands. We've had the Toronto Port Authority, one of the leading proponents of maximizing waterfront development while damaging natural spaces (the massive infrastructure of Porter Airlines on the Island Airport lands, the incredible airline noise and activity, the push for jet aircraft) carving sections off the draft proposal to facilitate shipping, an almost non-existent activity.

(3) **Reconfiguration of Development Areas**: I am particularly upset at the planning decision to create suburb-like box development of development units lined up like toy soldiers rather than the more flexible development patterns highlighted in earlier drafts. Waterfront Toronto presented this as an improvement from earlier drafts. I have two granddaughters involved in design; one an architect; one a superb designer. We often discuss the importance of design. DESIGN TRUMPS EVERYTHING. Check out the success of Apple Computer. The new development images remind me of the debacle that the Dept. of Indian Affairs has made in housing developments on northern reserves. Houses lined up like soldiers. It's ugly, its impractical and its an insult to creative design.

(4) **The Floodway/Spillway/Wetlands Concept from the Existing Mouth of the Don River/ Keating Channel, down through the Shipping Channel to empty into Lake Ontario in the Area between the Two New Soccer Pitches & the Old Hearn Generating Station**:
The attached photocopy (Exhibit A) A Vision for Cherry Beach (drafted by Urban Design Associates of Pittsburgh) shows the natural flow-through of the Don River to Lake Ontario to the South. Exhibit B is a draft submitted by the East Toronto Climate Action Group. It echoes concepts of wetland/spillway areas directly SOUTH between the new soccer pitches and the Hearn Plant.

Most recent images provided by Waterfront Toronto exclude any details of the "spillway" area between the pitches and the Hearn.

QUESTION: has the SPILLWAY concept been scrapped? If so why? Is the spillway now simply a green space or is it a true WETLAND. I don't recall any detailed discussion of the scrapping of the SPILLWAY/WETLAND at any Waterfront Toronto meetings.

Concluding Comments: I'm hugely supportive of Waterfront Toronto's efforts. Sherbourne Common Park/Spillway, the Mini-Beaches etc. However the apparent 'cave-in' to ignorant political interests and pro-development interests is about to destroy/undermine a fabulous once-in-several centuries opportunity of the Don Mouth Reconfiguration.

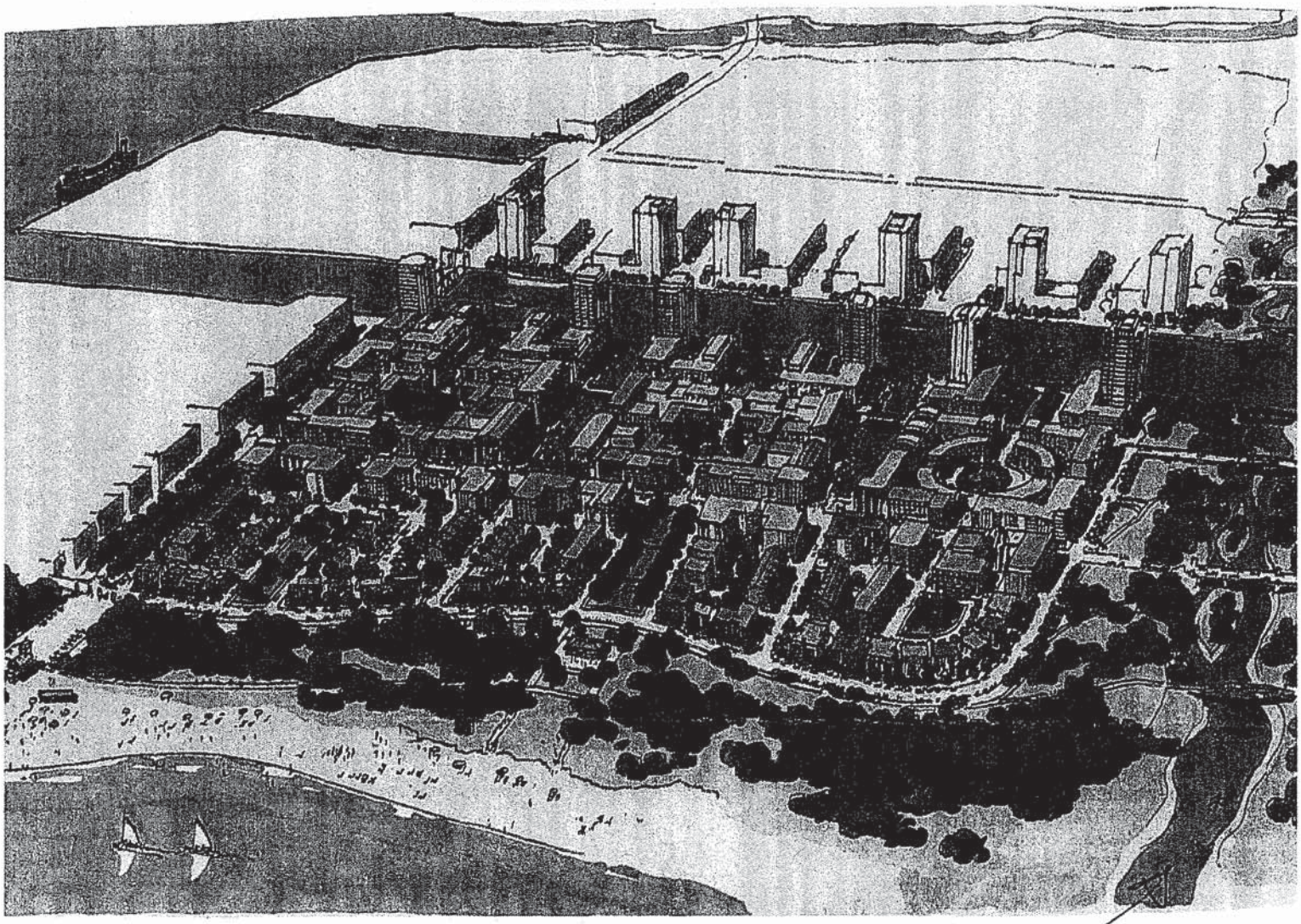
It's very disheartening to have politicians elected in 2010 undermine a public consultation project now into its second decade. My sense is that too many important decisions are being impacted and made behind closed doors. You need to remind yourselves that you have enormous public and councillor support if you choose to PUSH-BACK.

You don't have to buy my arguments. Attached is a copy of Ken Greenberg's thoughts. As Ken points out, the plan that won international awards and was approved by Council in 2010 continues to contract and minimize. What was the point of the competition? The current draft is UNACCEPTABLE in the legacy of inadequacy it will leave this city in the future. An opportunity squandered.

cc. Ken Greenberg/Architect
Christopher Hume/TorStar

A Vision for Cherry Beach

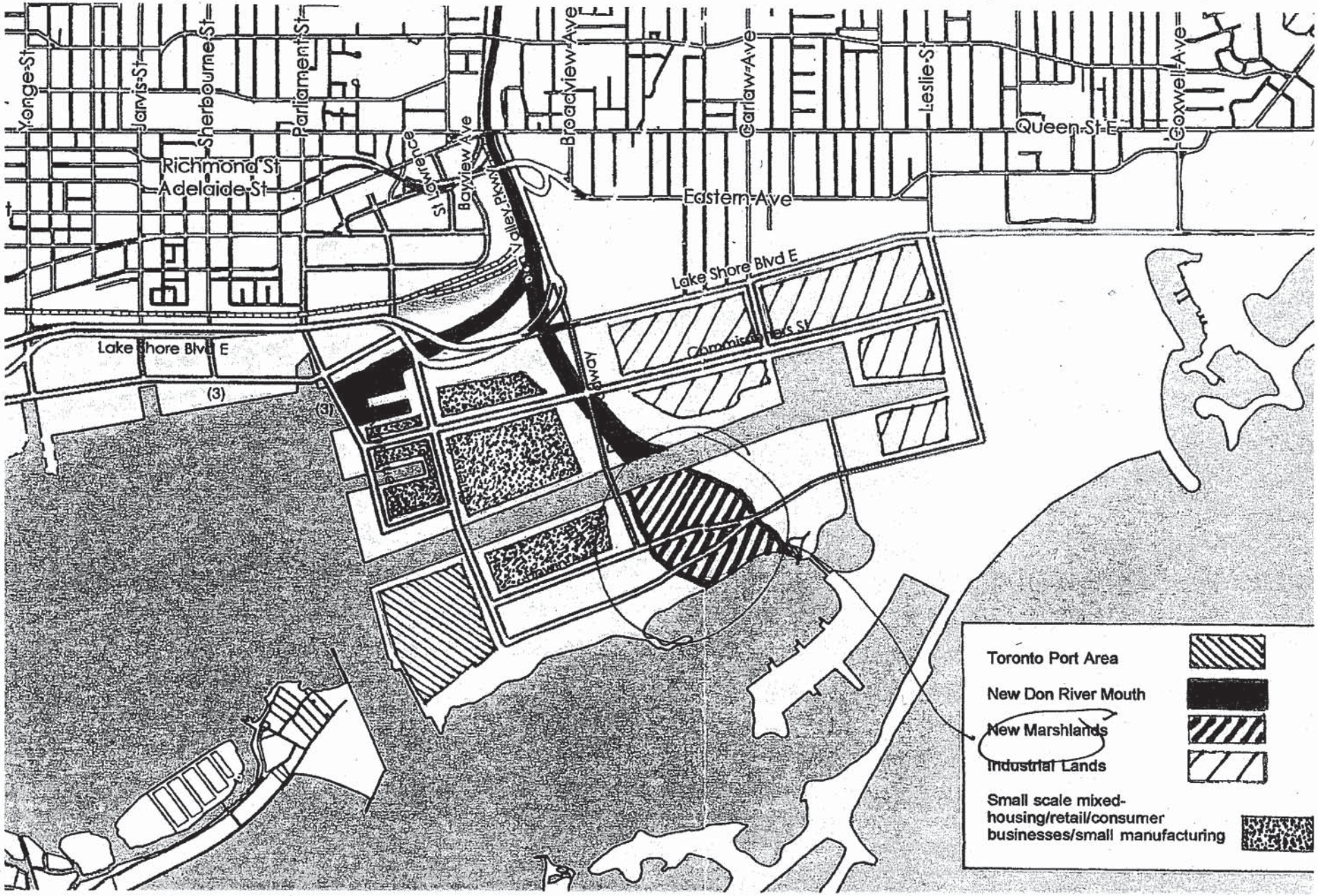
Intense and thoroughly urban, this proposal deals with the large tract of land in the east docklands south of the shipping channel. Although the scheme includes considerable expanse of green space, especially at the south end by the water, it also provides various types of housing ranging from four-storey buildings near Lake Ontario and Cherry Beach to high-rises along the shipping channel. Prepared by Urban Design Associates of Pittsburgh, the plan seeks to integrate the city and Lake Ontario in a way that makes the water a feature of daily life. It also separates recreational functions from residential and commercial with an extensive wooded area that allows for dramatically different uses within the precinct. The proposal doesn't shy away from the densities and even the tall buildings about which Torontonians sometimes have grave doubts. The strength of this approach is that it opens up the lake while adding a new neighbourhood to Toronto.



???

Exhibit A

Exhibit B


Yonge St
Jarvis St
Sherbourne St
Parliament St
Richmond St
Adelaide St
St Lawrence
Bayview Ave
Broadview Ave
Carlaw Ave
Leslie St
Queen St E
Coxwell Ave
Eastern Ave
Lake Shore Blvd E
Commissioners St
(3)
Toronto Port Area
New Don River Mouth
New Marshlands
Industrial Lands
Small scale mixed-housing/retail/consumer businesses/small manufacturing

Latest temptation for Toronto's waterfront

Proposed changes to the award-winning plan for the Lower Don Lands risk repeating Harbourfront Corp.'s mistake that created the infamous wall of condos

KEN GREENBERG

After thousands of Torontonians spoke up last November to resist overturning the fruit of years of effort that had gone into shaping plans for the Lower Don Lands, the idea was to move forward not backward.

But, as evident in Waterfront Toronto's revised proposal released last week, this exercise has been hijacked by the not too hidden agenda of the Ford administration to undo and undermine everything that has come before, especially anything that expresses a generosity of spirit for the public or that is not of a commercial nature.

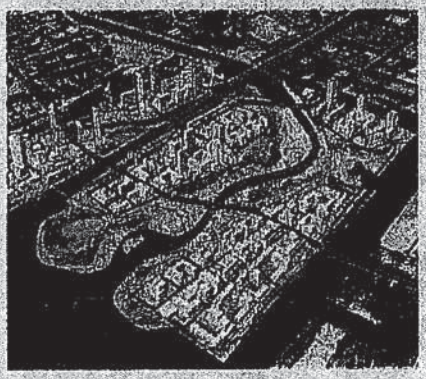
The new plan for the 1,000-acre Port Lands cuts about 40 acres of green space and would add more development on the unsubstantiated theory that this would cut costs and entice developers. You can almost hear the Fords saying, "I told you so."

The whole point of the international competition held by Waterfront Toronto and the city with great fanfare in 2007 was to connect the dots by looking holistically at the issues of flood-proofing, naturalization, parks, land use, transit and urban infrastructure with an eye to creating an exemplary new part of Toronto's waterfront.

The outcome was a plan approved by council in 2010 that has won eight major international awards and brought Toronto to the forefront of forward-looking, sustainable city building.

The original Lower Don Lands plan would introduce urban development, native ecologies and public infrastructure on 280 acres accommodating housing for 25,000 residents and 10,000 employees. It would create a variety of hard and soft public spaces at the water's edge, including a major public park at the heart of an urban river estuary with room for organized sports on four regulation-sized fields, informal pickup games, small boat launching, jogging

WATERFRONT TORONT



This image from the original winning design for the Lower Don Lands shows a kayaker in the Keating Channel. The site encompasses 1,000 acres.

the lands by getting them into the hands of developers as quickly as possible with minimal commitments.

Our city is economically robust compared to most others. We are in the midst of a development boom that surpasses by far all other cities in North America, but even our heated market has limits. What is the unholy rush? We have lands on the waterfront in the East Bayfront and north of the Keating

acres of parkland. It is about our capac ity to create a very special place wher land meets water and the Don Rive enters the harbour and Lake Ontario, place for Torontonians and visitors t enjoy and share.

Council never voted to kill the plan fo the Lower Don Lands and I would urg councillors to insist on an update on th progress of this study and its finding before this latest version goes too fa Let's get the approved scheme back a the preferred starting point and do th one simple study that was never done which is to examine how it could b refined to deal with new technical in puts and phased in over a realistic tim frame without sacrificing its quality.

Great cities do not seek to simpl "monetize" their waterfront assets b unloading public land in the most expe

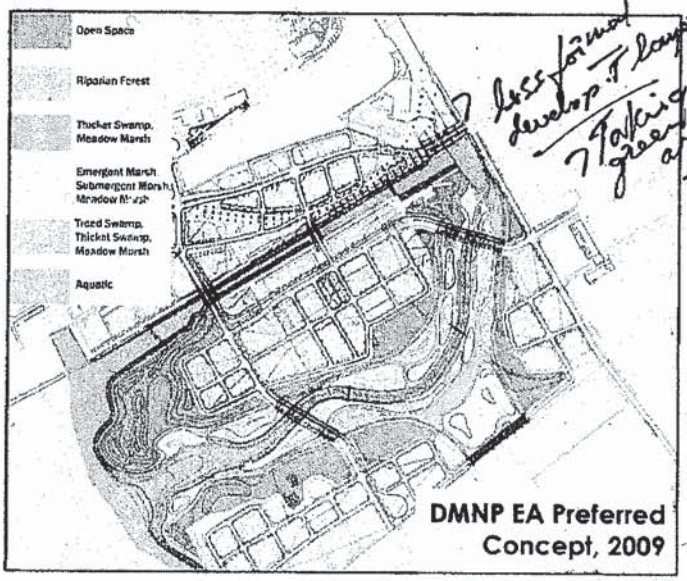
Don Mouth Naturalization & Port Lands Flood Protection Project

Volume #10, July 2013

Background

The Don Mouth Naturalization and Port Lands Flood Protection Project Environmental Assessment (DMNP EA) was initiated in 2005 by Toronto and Region Conservation Authority (TRCA) and Waterfront Toronto as a key deliverable necessary to facilitate the regeneration of the Toronto Waterfront. The DMNP EA will transform the existing mouth of the Don River into a more naturalized river outlet, and eliminate the risk of flooding from the Don River to lands east and south of the river.

After consultation with regulators, stakeholders, and the public, a preferred alternative was chosen and the EA was submitted to the Ministry of the Environment (MOE) for approval in December 2010. The EA was amended in April of 2011 as part of the MOE review process to address comments received from stakeholders during the 30 day public review period. The remainder of the EA review process was paused in July 2011, prior to the completion of the MOE review and release of the EA amendments.



DMNP EA Preferred Concept, 2009

Port Lands Acceleration Initiative

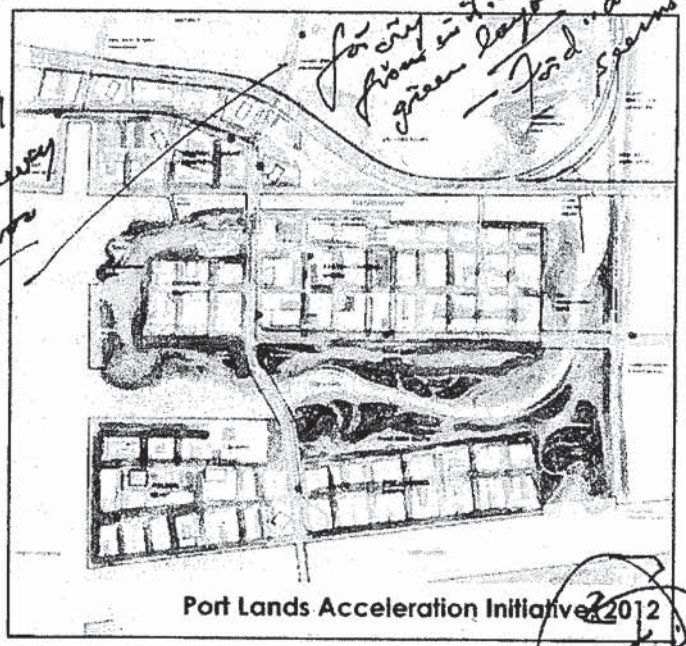
On September 21, 2011, Toronto City Council unanimously adopted a protocol, later to be called the Port Lands Acceleration Initiative (PLAI), to review the City's priorities for the Port Lands. In October 2011, Waterfront Toronto, the City of Toronto and TRCA initiated planning on the PLAI. The PLAI included technical studies undertaken for land use assessments, flood modeling, value engineering studies, and funding mechanism studies. Ultimately, the goal of the initiative was to deliver a strategy for accelerating development and maximizing the value of the Port Lands as a unique city legacy.

Public consultation was a primary objective of the PLAI and as a result, Waterfront Toronto, the City of Toronto, and TRCA held several meetings with members of the public, a stakeholder advisory committee, and a Port Lands landowner and user advisory committee.

The PLAI resulted in an amended concept design based on the original preferred alternative from the DMNP EA. A key recommendation of the PLAI was the creation of an implementation plan that phases development, which allows for high infrastructure costs to potentially be offset by revenue generated from development.

For more information on the results of the PLAI, go to the Port Lands Consultation website:

http://www.portlandsconsultation.ca/



Port Lands Acceleration Initiative, 2012

EA Amendment Process

Toronto City Council resolved on October 5, 2012 that the DMNP EA should be amended to reflect the results of the PLAI. The Ministry of Environment approved a further extension of the EA review pause until September 2013, in order to incorporate the amended concept design as the preferred alternative in the DMNP EA and to conduct appropriate consultation.

In the fall of 2012, TRCA, Waterfront Toronto and the City of Toronto, developed a work program to amend the 2011 document to reflect the alignment and phasing strategy from the PLAI and to be coordinated with the amendment process for the Lower Don Lands Class EA.

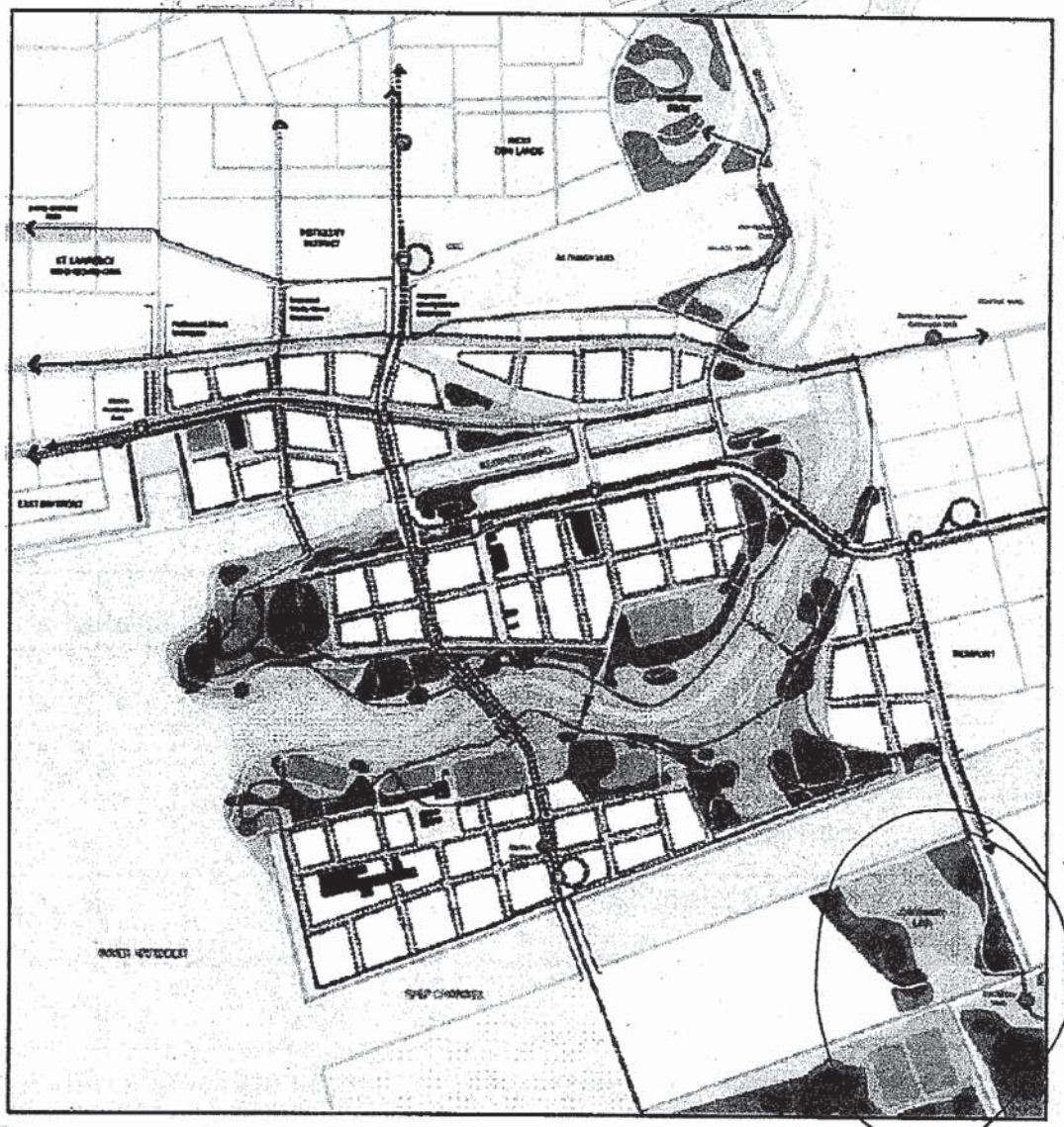
As a part of the amendment process, Waterfront Toronto, the City of Toronto, and TRCA have held meetings with a community liaison/ stakeholder advisory committee, the Port Lands landowner and user advisory committee, and will be holding a public meeting on July 24, 2013 to present the DMNP EA amendment results and obtain feedback.

WATERFRONTToronto

Toronto and Region Conservation for The Living City

TORONTO

DMNP EA
Preferred 4WS



Jarvis St.
Parliament St.
Cherry St.
Leslie St.
Coxwell Av.
3
2
4
A
H
F
G
A
G
A
Subject to environmental assessment
Phased park extension
drive
development areas

Port Lands Acceleration Initiative

STAKEHOLDER ADVISORY COMMITTEE/ LANDOWNER AND USER ADVISORY COMMITTEE COMBINED MEETING 4

6-8pm, Wednesday May 23rd, 2012
EMS Training Centre (Toronto Fire Academy)
895 Eastern Avenue

The combined fourth meeting of the Port Lands Acceleration Initiative Stakeholder Advisory Committee (SAC) and Land Owner and User Advisory Committee (LUAC) was attended by over 60 representatives from the member organizations (see participant list attached). The purpose of the meeting was to brief SAC and LUAC representatives on the current findings and recommendations from the Port Lands Acceleration Initiative and seek their feedback and advice (see meeting agenda attached). A facilitated discussion followed the presentations. The summary below organizes feedback from the facilitated discussion into key advice from the SAC and LUAC for the Port Lands Acceleration Initiative Project Team to consider. This summary was available for participant review prior to being finalized.

The mandate of both the SAC and LUAC is to provide a forum for feedback, guidance and advice to the Project Team at key points during the public consultation process. Please visit the project website (portlandsconsultation.ca) for more information on the Port Lands Acceleration Initiative's public consultation process.

FEEDBACK SUMMARY

Feedback from SAC/LUAC representatives is organized here into six areas, including: More Information on 4WS Comparison; Timing and Order of Phasing; More Information on Costs (and Opportunities to Review Numbers); More Information on Peer-Review; More Information on Detailed Design; and Greater Certainty for South of Ship Channel.

MORE INFORMATION ON 4WS COMPARISON

- Comparison of original and realigned 4WS could benefit from additional information, including: hydrological modeling; provision of wetland; impacts on health, environment, quality of life, and land value ; more detailed breakdown of cost, including phase by phase cost for original 4WS.

TIMING AND ORDER OF PHASING

- Support for idea of phasing with suggestion to consider implementing parks and public realm as early as possible to ensure implementation and increase land value.
- More information on the projected timeline for completing phases 1 through 5 would be helpful.
- Some concern that the land released for development as a result of phase 1 flood protection might not be the best place to start development. Consider performing phase 1 and 2 of flood protection together so that film district lands (where there is already activity) can be released earlier.

MORE INFORMATION ON COSTS AND OPPORTUNITIES TO REVIEW NUMBERS

- It would be useful to have more detail on the costs of the different phases, particularly the cost of flood protection in phase 1 and 2.
- Consider presenting costs on a year-by-year basis in addition to the phase-by-phase basis presented.
- Consider including the net benefit of additional development land in the business and implementation plan – it currently isn't clear how much more funding this additional land will contribute to paying for the cost of flood protection and other development-enabling infrastructure.
- Consider the full cost of transit (capital and operating).
- Would be useful to have greater opportunity to dive into numbers in more detail (e.g. having copy of presentation before meeting, having physical copy of presentation at meeting, additional Advisory Committee meetings). Would like to fully understand the costs, benefits, gains and losses so that SAC/LUAC representatives can communicate an accurate picture to the communities that they represent.

MORE INFORMATION ON PEER-REVIEW

- Would be helpful to have more information on the scope (e.g. specific elements of PLAI to be reviewed) and procurement process for the peer-review.
- Consider conducting a peer-review of the realigned 4WS, including costs and value of additional development land.

MORE INFORMATION ON DETAILED DESIGN

- It would be useful to have more information on detailed design, including process (e.g. what agency will lead and who will undertake design work) and timing (e.g. detailed design of naturalized space before or after finalization of EA).
- Consider continuing to seek the Waterfront Design Review Panel's comments on realigned 4WS as it undergoes detailed design.

GREATER CERTAINTY FOR SOUTH OF SHIP CHANNEL

- Even though the lands south of the ship channel are not the focus of this discussion it would be useful to have greater certainty on what will happen there, particularly with respect to the green link to Lake Ontario Park from the ship channel.

Next Steps

The meeting wrapped up with representatives of Waterfront Toronto and the City of Toronto confirming that the timeline for completing the Port Lands Acceleration Initiative has been extended, with a report going to Executive Committee in September, and Council in October 2012. This extension will provide an opportunity for a peer-review of the business plan, the continued development of the business and implementation plan, and an additional round of public consultation. These activities will ensure that the emerging framework is based on sound financial modeling, fits within a broader city-building context, and allows for incremental implementation.

SAC/LUAC Meeting 4 Attendance

309 Cherry Street
3C Lakeshore
475 Commissioner Street/75 Basin Street
Arhon Investments
Beach Waterfront Community Association
Building Industry and Land Development Association (BILD)
Canada Green Building Council
Canadian Salt
Canadian Urban Institute
Castlepoint
Chai Poultry
Cherry Beach Sound
CIMCO Refrigeration
City of Toronto - Real Estate Services
Cityzen Development
CodeBlueTO
Colliers
Corktown Residents and Business Association
Councillor Fletcher's Office
CycleToronto
Don Watershed Council
East Toronto Community Coalition
Eastern Marine
EN Consulting (on behalf of Castlepoint)
Essroc
Fasken Martineau (on behalf of Sifto)
Federation of North Toronto Resident Associations
First Gulf Don Valley
Friends of the Spit
Gooderham Worts Neighbourhood Association
Infrastructure Ontario
Johnston Litavski Ltd.
LaFarge
National Rubber Technologies
Ontario Power Generation
Outer Harbour Sailing Federation
planningAlliance
Port Land Owners Group
Redpath Sugar
Rideau Bulk Terminal
Rose Corp
Sherwood Park Resident Association
South Riverdale Community Health Centre
Toronto Board of Trade
Toronto Field Naturalists
Toronto Green Community
Toronto Industry Network
Toronto Park People
Toronto Port Authority
Toronto Port Lands Company
Toronto Waterfront Studios Development Inc
United Rentals of Canada
Urban Strategies Inc.
Waterfront Action
West Don Lands Committee
Weston Village Residents' Association

SAC/LUAC Meeting 4 Agenda

Port Lands Acceleration Initiative
STAKEHOLDER ADVISORY COMMITTEE/
LAND OWNER AND USER ADVISORY COMMITTEE
MEETING #4
Wednesday, May 23, 2012
EMS Training Centre (Toronto Fire Academy)
895 Eastern Avenue
6:00 – 8:00 pm

PROPOSED AGENDA

6:00 pm Welcome, Introductions and Agenda Review
Nicole Swerhun, LURA/SWERHUN Facilitation Team

6:10 Executive Update
John Campbell, Waterfront Toronto
John Livey, City of Toronto

6:15 Briefing on Current Findings and Conclusions
David Kusturin, Waterfront Toronto

Questions of Clarification

7:00 Facilitated Discussion

1. What do you think about the current findings and recommendations?
2. Do you have any suggested refinements to the current findings and recommendations?

7:55 Next Steps

8:00 Adjourn