

DESIGN BRIEF FOR PCHWP

PORT CREDIT HARBOUR WEST PARKS



SHOREPLAN





SHOREPLAN



**DOCUMENT PREPARED BY
DILLON CONSULTING LIMITED IN
PARTNERSHIP WITH THE CITY OF
MISSISSAUGA AND SHOREPLAN
ENGINEERING LIMITED.**

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Waterfront Trail Pedestrian Bridge Painting



1.0 INTRODUCTION



View of Marina Park and Lighthouse from Credit Village Marina

SITE OVERVIEW

Port Credit Harbour West Parks will be transformed into a functional, aesthetically pleasing waterfront destination that allows for programmable multi-use spaces, open green space, landscape, naturalization and a water's edge promenade that incorporates the cultural heritage of Port Credit while addressing the waterfront recreational uses of local and visiting users.

The Port Credit Harbour West Parks project is a continuation of the work completed during the Class EA in 2013 and refines the existing Large Block Concept Plan into a design plan with detailed costing for:

- Port Credit Memorial Park West
- Lakeshore Road bridge underpass
- Marina Park
- Rivergate Easement

J.C. Saddington Park was included in the Class EA, however, due to budget limitations, it is excluded from the scope of this project.

To date the project team has completed a number of steps to obtain information and feedback in order to arrive at the preferred concept plan presented in this document. These steps included:

- Pre-Engineering Studies
- Coastal Engineering Detailed Technical Design
- Assessment of Potential Realignment of the Pedestrian/Cycling Bridge Landing in Marina Park
- Stakeholder Engagement Sessions

- Public Open House
- Meetings with Credit Valley Conservation
- Meetings with City of Mississauga Committees
 - Crime Prevention Through Environmental Design Action Committee
 - Facility Accessibility Design Subcommittee
 - Heritage Advisory Committee
 - Mississauga Urban Design Advisory Panel

This design brief is supported by technical information contained in the *Pre-Engineering Investigations & Site Analysis Report (2018)*, the *Port Credit Harbour West Parks Pre-Design/Environmental Study Report (2013)* and the *Coastal Engineering Report (2018)*.



PIC Meeting May 30th, 2017

2.0 SITE CONTEXT



SITE CONTEXT

The design development and understanding of issues includes a review of several contextual locations and study sites that are located in the immediate neighbourhood and that provide a design context for the West parks sites.

The study sites are located in the Village of Port Credit on the banks of the Credit River straddling Lakeshore Road. Further, Marina Park is included in the Old Port Credit Village Heritage Conservation District Plan and is traversed by the City's Waterfront Trail.

The surrounding area continues to be a focus of growth for the City of Mississauga. Several major studies and community master plans are underway, they include:

- Lakeshore Connecting Communities
- Cycling Master Plan Update
- Front Street Pumping Station EA
- Port Credit West Village Master Plan (Imperial Oil Lands, 70 Mississauga Road)
- 1 Port Street East Comprehensive Master Plan
- Port Credit GO Station Area Master Plan
- Port Credit & Lakeview Parking Strategy
- Old Port Credit Village Heritage Conservation District Plan Update
- Waterfront Parks Strategy Update

In addition to the above future planned developments, the area also contains a number of existing community facilities including:

- JJ Plaus Park
- JC Saddington Park
- Credit Village Marina
- Port Credit Public Library
- Port Credit Memorial Arena
- Royal Canadian Legion
- Mississauga Canoe Club
- Don Rowing Club
- Riverside Public School



Waterfront Trail / Pedestrian Bridge



Port Credit Memorial East



Mouth of the Credit River to Lake Ontario



Credit Village Marina Pier



Port Credit Library and The Waterside Inn



J.C. Saddington Boardwalk Connection

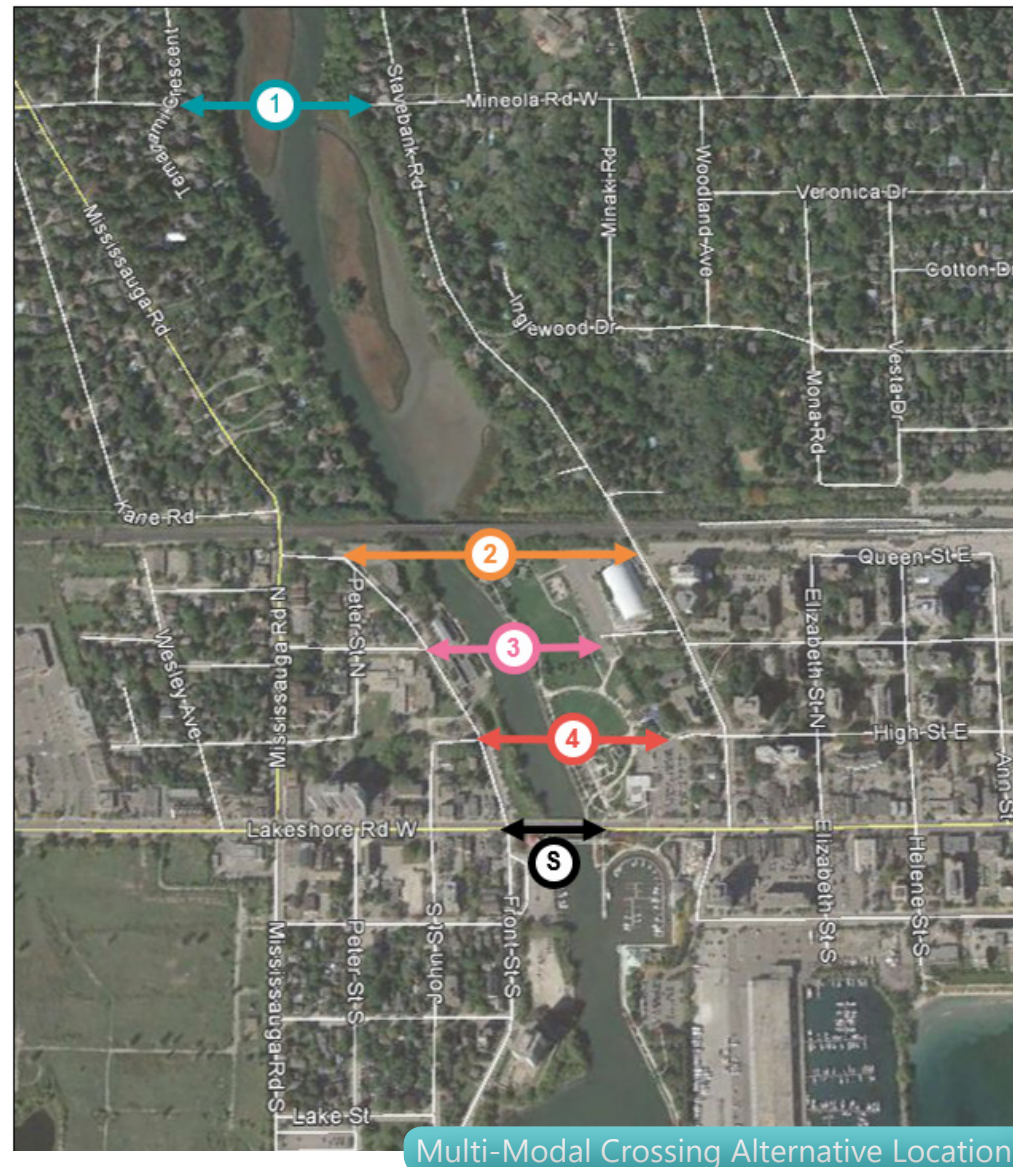
3.0 CONCURRENT CITY AND REGIONAL PROJECTS AND STUDIES

LAKESHORE CONNECTING COMMUNITIES

The City of Mississauga is undertaking the Lakeshore Connecting Communities Study to guide the planning of Lakeshore Road (from Southdown Road to the east City limit) and Royal Windsor Drive (from Southdown Road to the west City limit). The purpose is to provide a unified and seamless vision that recognizes different characteristics of the area, supports all modes of transportation, connects people to places, moves goods to markets, and supports existing and future land uses. The study will also establish an implementation plan to make this vision a reality

The study will deliver a Transportation Master Plan (TMP) and Implementation Strategy for the Study Corridor and will be completed in accordance with Phase 1 and 2 of the Municipal Class Environmental Assessment (EA) process).

The report looks at a technical review and analysis of potential alternative crossing locations of the Credit River based on multi-modal and non-vehicular types. The study recommends a new crossing at Queen Street (south of the railway) and two lanes on the existing Lakeshore Bridge to accommodate transit only. Both or these recommendations will carry forward and are subject to further study



CYCLING MASTER PLAN UPDATE

The 2018 Cycling Master Plan Update aims to further transform Mississauga into a more bicycle friendly city and present cycling as a more viable form of transportation for many. The plan recommends an expanded network of cycling facilities that are comfortable for cyclists of all ages and abilities.

The Cycling Master Plan update emphasizes network connectivity and continuity, and therefore seeks to have a completed trail system in this section of the Waterfront Trail as it crosses the Port Credit Harbour West parks.

The plan for Port Credit Harbour West Parks aims to enhance the multi-modal Waterfront Trail. The trail currently follows the west side of Front Street South and exists as a signed bike route along the street. The proposed route places the Waterfront Trail along the eastern side of Front Street South and will link into the local streetscape to the south of the site.

FRONT STREET PUMPING STATION

The iconic Lighthouse building located in Marina Park contains the Front Street Pumping Station which is maintained by the Region of Peel.

The Region of Peel has identified the need to address the current Front Street Station catchment area wastewater flows to align with the Region's long-term sustainable plan to provide wastewater services. As a result, a Schedule 'B' Class Environmental Assessment (EA) has been initiated to identify a solution for this infrastructure need.

The Region of Peel is also in the process of studying the decommissioning of the Front Street Pumping Station building and sewer. This involves the capping of existing sewers, equipment removal, and decommissioning of existing infrastructure. The Region of Peel's work on this project would begin in 2019 and be completed by 2027. It was noted that the Region's work will require construction staging space to complete the decommissioning work.



Front Street Pumping Station

4.0 SITE CHALLENGES

The Port Credit West Parks offer a scenic waterfront setting and significant open space opportunity to create accessible river’s edge connections while supporting the concept of a working and active port and sport fishery. While the site has many existing features and functions, the West Parks require both the coastal improvements and parkland revitalization needed to create a new waterfront space within the emerging urban landscape surrounding the mouth of the Credit River.

There are significant opportunities to establish new pedestrian oriented river’s edge spaces that accommodate and attract visitors and residents to the Port Credit Waterfront. Similarly, the functioning Port continues to support a demand for the sport fishing experience including many boat charter services, and boat access to Lake Ontario.

While there are significant opportunities, there are many existing site challenges to resolve through the design process. Previous and current studies, public and stakeholder consultation, and on site evaluation in considering the design development of the parkland has identified specific opportunities and issues that drive the design approaches. We have outlined the key opportunities and challenges in the following section and indicate a preliminary approach to the areas of challenge and opportunity. This information

forms the basis of the guiding design principles for the site design approach.

CHALLENGE #1: PORT CREDIT LIGHTHOUSE

The existing Lighthouse and the Front Street South Pumping Station building are iconic landmarks in the Port Credit area. The Region of Peel is in the process of completing a study on the decommissioning of the Front Street Pumping Station building and sewer. This involves the capping of existing sewers, equipment removal, and decommissioning of existing



infrastructure. However at present, the park layout must maintain access for maintenance vehicles and an unobstructed area outside the southern side of the building. The provision of storage and public washrooms is also an important element of the buildings.



Lighthouse and Front Street South Pumping Station



Pedestrian/Cycling Bridge Landing



The pedestrian and cycling bridge that lands in the Marina Park parking lot has a number of safety concerns including conflicts between pedestrians crossing along the bottom of the bridge and vehicular traffic in the parking lot. The bridge carries the Waterfront Trail and is heavily used in the warmer months. The team investigated alternative landing options for the bridge, including creating an upper

CHALLENGE #2: WATERFRONT TRAIL + PEDESTRIAN BRIDGE LANDING

podium around the lighthouse to safely direct users to the intersection of Lakeshore Road and Front Street. Unfortunately, given existing infrastructure constraints, it was determined not to be feasible. Instead, the team will take advantage of the proposed raised grades that allow a reduction of the bridge and circulation conflicts.



Marina Park Parking Lot



There are roughly 40 existing regular parking spaces in Marina Park and 1 accessible space. The parking lot is bisected by queuing lanes that support the launch ramps. Public consultation revealed that the parking facilities must be maintained as closely as possible to existing numbers. However, opportunities for reorganization of the entire park mean that efficiencies can be made in an effort to formalize the

CHALLENGE #3: CAR PARKING

footprint of the parking area without losing capacity. In Port Credit Memorial Park West, a bank of parking exists perpendicular to Front Street North close to the intersection at Lakeshore Road. It was determined that given the spatial limitations of the park, this parking would be removed and replaced with on-street parking over this section.

CHALLENGE #4:
CHARTER BOATS

The charter boat operators are a staple on the Port Credit waterfront but present some challenges for public access to the water's edge and connection to the river. Throughout the design process, the team investigated alternative locations for the charter boat fleet. However, the public was very clear that the charter boats should remain. In the current



location, the charter boat operators requested secure separation of the docks from the public areas of the park. As such, new separated floating docks are being proposed for the charter boats with one secure access point to the public River Promenade.



Marina Park Charter Boat Docks viewed from Pedestrian Bridge

CHALLENGE #5:
LAKESHORE ROAD CROSSING

Given the desire to develop Port Credit Memorial Park West and Marina Park into a continuous waterfront experience, a major obstacle is to create a pedestrian connection across the Lakeshore Road barrier. The EA identified the need to develop an underpass similar to the one on the east side of the river. This is challenged by intermittent flooding and



low head clearances below the bridge. The resulting underpass would have to be closed at certain times of the year when flooding is a concern. Additionally, it is suggested that the City investigate the potential for a signalized pedestrian crossing at Front Street to accommodate cyclists and pedestrians crossing at times when the underpass is closed.



Future Lakeshore Road Underpass



Existing Boat Launch Facilities



There is a three-bay existing motorized watercraft launch ramp in Marina Park. Throughout public consultation, it was determined that this use is seen as an important part of maintaining the “port” in Port Credit.” However, the City would prefer the public use the launching facilities at Lakefront Promenade Park instead. As a result, the decision was made to

CHALLENGE #6: LAUNCH RAMPS

re-organize the launching facilities, keeping two bays for motorized watercraft and converting the third ramp to a non-motorized launching area.



Existing Marina Park Car-Trailer Parking Lot



The existing car-trailer parking is severely under-serving existing launching facilities in the park. According to marina planning guidelines, approximately 40 car-trailer spaces should be provided for each launching bay. As a result, the current 35 spaces in Marina Park is under designed by roughly 85 spaces. Given the City’s desire to redirect users to

CHALLENGE #7: CAR-TRAILER PARKING

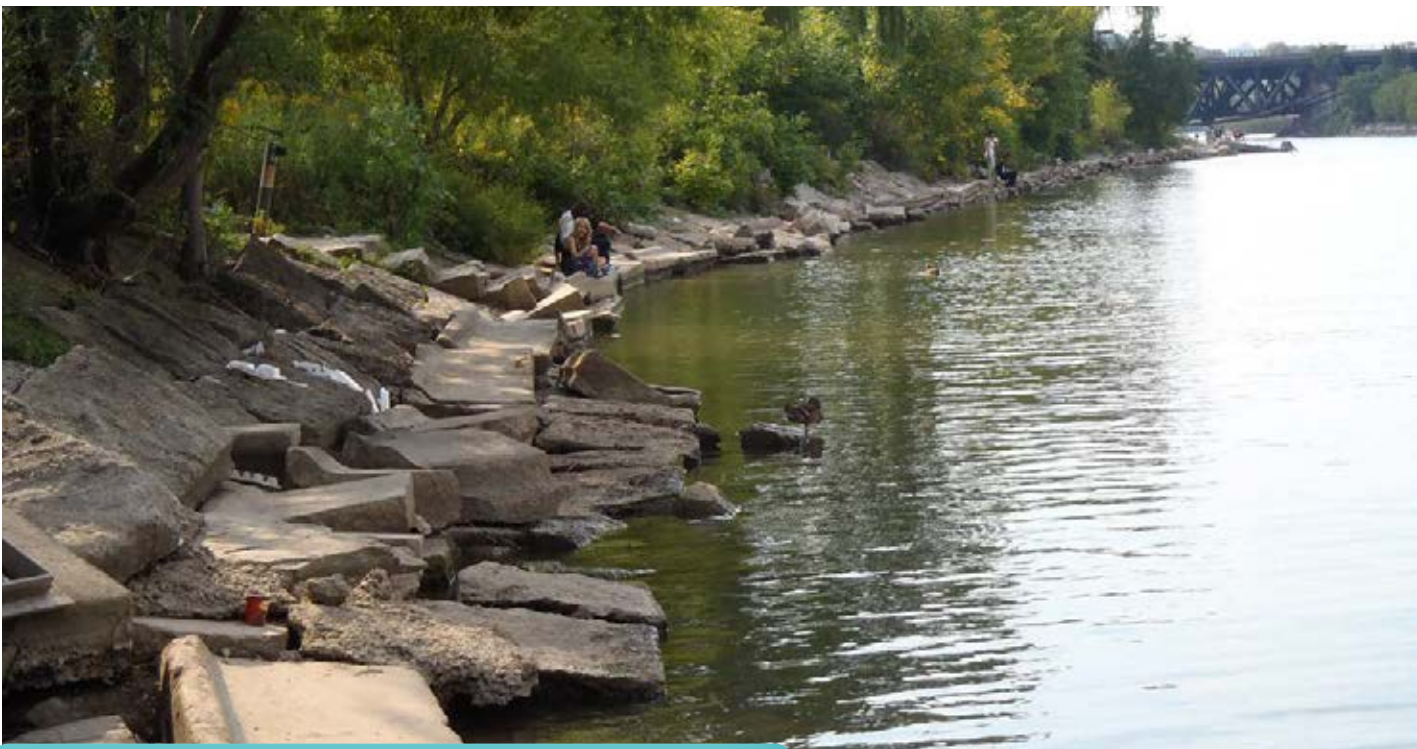
Lakefront Promenade Park and create a balance of uses in Marina Park, the number of car-trailer spaces will be formalized and designed to be more efficient.

CHALLENGE #8: IMPROVED COASTAL EDGE

The entire coastal edge of the park requires improvement. The elevation of the edge must be raised in Marina Park to protect against increasingly high water levels. The existing sheet pile wall (where the charter boats dock) is in disrepair and needs rebuilding. Elsewhere, the shoreline needs to be protected from erosion while also providing



opportunities to enhance an important migratory bird and aquatic species corridor. Natural materials will be used as much as possible to provide a more sensitive approach to reinforcement of the coastal edge. In-water features will provide opportunities for fish habitat and naturalized planting in the riparian edge will create cover and forage for migratory birds.



Existing Port Credit Memorial Park West Coastal Edge

CHALLENGE #9: FRONT STREET SOUTH

Front Street South, in its current configuration, is a 12-metre wide vehicular travel-way with sidewalks on either side. In an effort to reduce travel speeds and to create a multi-modal Waterfront Trail along the Marina Park frontage, the design team proposes a road diet. This will provide additional space to create a landscape buffer to disguise the parking lots from neighbours across the street. The narrowed roadway



width will also maintain on street parking along the eastern side of the roadway edge. Front Street South also faces challenges with its obstructive overhead hydro lines. Solutions to be explored include relocating the hydro underground or elevating the hydro lines and replacing the existing wood poles with concrete poles.



Existing Front Street South Looking North towards Lakeshore Road

CHALLENGE #10:
RIVERGATE EASEMENT

To the south of Marina Park is the Rivergate Apartments. This property currently interrupts the continuous waterfront experience from J.C. Saddington Park (and the Imperial Oil lands beyond) to Marina Park, Port Credit Memorial Park West, and the Waterfront Trail. The EA identified this as a key connection in



creating a continuous public waterfront for the City of Mississauga. As such, an elevated boardwalk is proposed to connect the River Promenade with Front St. South and the trails of J.C. Saddington Park.



Rivergate Easement as seen from Front Street South Connection to Existing J.C. Saddington Park Trails

CHALLENGE #11:
FISH CLEANING AND WASTE STATION

A city operated fish cleaning station presently resides within Marina park. The facility has exceeded its design life and the Region of Peel has stated that it is not the “best practice” to drain fish waste into the sanitary sewer. Consultation with the water users indicated strong demand to retain the fish cleaning function as it is a core support element of the sport fishing.



Existing Fish Cleaning Station

CHALLENGE #12:
CONTINUOUS ACCESSIBLE
SHORELINE EDGE

Along the Credit River’s west edge access to the shoreline and along the water’s edge is significantly disconnected and has a variety of challenges in reaching the water’s edge. This is mainly due to grading, the Lakeshore Boulevard overpass, existing vegetation, and boating access support requirements. In association with challenge #10, the EA and public comments have identified that the creation of a continuous, safe, and accessible River’s edge promenade is required. The River’s edge promenade



provides a connection with the water’s edge and completes a core link in creating a linked water’s edge route. In addition to the River promenade, the Waterfront Trail is proposed along the east side of Front Street. This will provide an improved link by connecting the trail from the pedestrian bridge and providing multi-modal use along Front Street, connecting South to JC Saddington Park.







5.0 DESIGN CONCEPT DESCRIPTION

5.1 INTRODUCTION TO THE DESIGN CONCEPT

The design for Port Credit Memorial Park West and Marina West Park proposes a unified and continuous parkland experience with a balanced resolution of the multiple requirements to be accommodated within the park sites. The approach incorporates the functional site requirements of an operational port while creating an attractive and interesting waterfront experience for visitors and residents. The following description of the plan organizes the outline based on 1. **Core Design Principles**, 2. **Site Themes and Strategies**, and 3. **Site Features and Components**.

5.2 CORE DESIGN PRINCIPLES

The design principles have been defined in response to the many background studies, review of local case study sites, stakeholder and public input, site analysis, and identification of key challenges. The core principles set the approach of animated and successful public realm spaces, while recognizing the unique qualities and characteristics of the West Parks location. The principles provide a framework for the design development and approach. The Core principles build directly on the understanding gained from the review of site challenges + opportunities and include the following key elements;

BALANCE SITE REQUIREMENTS

The West Parks, particularly Marina Park, present unique challenges given the number of multiple uses that are requested for the site. Through stakeholder

and public consultations, it is clear that the waterfront land base must provide a range of support facilities and operational accommodations balanced with an attractive and engaging public realm space. To achieve this, the concept proposes a continuous rivers edge pedestrian promenade framed within a landscape setting, while important support facilities are separated and located adjacent to the Front Street edge. The concept supports the working port concept, providing parking, car trailer parking, fish cleaning stations, secured charter boat docking, launch ramp facilities and shore fishing locations. Equally, the creation of the river promenade, including the Harbour boardwalk, passive parkland spaces, event areas, and non-motorized recreational launch facilities support the site as an equally attractive place to enjoy passive and recreational opportunities along the riverfront. The design proposes multi- use areas that are designed as flex spaces. The flex space strategy allows the intensive program and facility demands to be accommodated within the site.

CREATE A CONNECTED AND CONTINUOUS RIVER’S EDGE EXPERIENCE

The disconnected parkland of Port Credit Memorial Park West and Marina Park at Lakeshore Road, and the missing pedestrian link to the south of Marina Park creates a sense of disparate landscapes located along the waterfront. The current area also exists as a barrier to the continuity of the Waterfront Trail, as there is no clear physical connection for the trail through the site. The connection of the open spaces will form a continuous waterfront edge linking back to the community at key points. As well, the Harbour



Waterfront Trail

Boardwalk will bridge a connection between Marina Park and J.C. Saddington Park. A design language of consistency in form, materials and landscape is important to enhance the unity of the spaces and provide a beautiful landscape throughout the connected sites. The unified park promotes a stronger park identity and experience that will support safe and continuous access. The enhancement of the Waterfront Trail along the Front Street south edge will strategically improve a poor connection in the Waterfront Trail network and will serve to enhance corridors and connections along Mississauga’s waterfront.



Toronto Waterfront

CONNECT WITH THE CREDIT RIVER

The masterplan design is a unique opportunity to embrace the riverfront with new and improved boating access connections to the river mouth and Lake Ontario and pedestrian access along the river’s edge. The design approach focuses on improving functional aspects of boat and charter boat access to Lake Ontario with new launching ramps, charter boat docking, and improved car and trailer parking and circulation. The new pedestrian and cycling connections to the water’s edge proposed as a continuous link along the waterfront will support a meaningful connection with the waterfront. The waterfront promenade features seating areas, viewing decks, seating terraces, scenic outlooks, the Harbour Boardwalk, and soft landscaped areas that will each bring opportunities to enjoy and connect with the water. Local themes associated with the heritage of the waterfront further connect park visitors with



Chicago Waterfront

OVERALL CONCEPT PLAN





Flooding Under Lakeshore Rd

the waterfront and its past. Conceptually the park is designed to strengthen access from the surrounding neighbourhoods, where park walkway and entrance circulation is aligned with surrounding sidewalks and streets. The connection with the surrounding grid supports transparent and direct access to the water through the site.

SUPPORT A WORKING PORT AND AN ACTIVE SPORT FISHERY

Maintaining active fishing charter boats and an active harbor is identified as an essential aspect of the waterfront park plan. This includes the continuing support of sport fishing events, and improved access to Lake Ontario. Components include 2 new launch ramp facilities, car trailer parking, 2 fish cleaning stations, car parking, new charter fleet facilities and docking, and an open festival space in support of on-site events. The history of the area as an active port, including stone hooking and fishing activity will be illustrated within the site theming program.

CREATE A DISTINCTIVE DESTINATION.

Input from stakeholders and the public emphasized that the West Parks Plan must reflect the character and scale of Port Credit and create a waterfront park that is distinctive, and reflect the heritage of the site. Ultimately, the design for Port Credit Memorial Park West and Marina Park will create a unified public space that is a destination for the community and reflects the scale and evolving urban landscape of Port Credit. Theming, materials, forms, scale and signage will reinforce the sense of place.

REVITALIZE THE COASTAL EDGE

The renewal of Port Credit Memorial Park West and Marina Park is driven by requirements for a revitalized functioning and effective shoreline system that builds resilience and reflects the changing coastal conditions of climate change. The concept is driven to establish new grade elevations to address climate change flooding impacts and establish both shoreline facilities and on land spaces that will withstand the coastal erosion and flooding conditions currently experienced on the site. The coastal work further supports a range of river edge conditions that contribute to enhancing the shoreline ecology. The enhanced coastline also aims to create in-water features for the creation of fish habitats and an enhanced riparian zone. In addition to this habitat, naturalized planting further from the river's edge will serve to create added habitat for migratory birds on site.

The detailed Coastal Engineering work is outlined in a separate document, Port Credit Harbour West Parks Coastal Report (2018).

INTEGRATE A CULTURAL EXPERIENCE AND REFLECT THE HERITAGE

A rich history is associated with the Port Credit Harbour and shoreline including Indigenous settlements and trails, commercial port activities, a base for Lake Ontario's sport fishing, and the home of the Don Rowing and Mississauga Canoe Clubs. The stories are integral in the design language, themes, interpretive information, and materials of the site. The expression of the site's heritage is an important element in creating a distinctive character that is reflective of its location and appropriate for Port Credit harbour. The extensive heritage of the Indigenous community in the waterfront area will be a primary influence on the themes, public art, forms and materials of the new waterfront park.

CREATE ANIMATED SPACES

The park design incorporates strategies to enhance and support programming of the waterfront park. The approach builds on the waterfront setting

that is a significant attraction, however the design incorporates a series of components to support daily and four season activities and interest. For example these components will include;

- Creation of flex space to host various uses, particularly the central multi-use plaza that supports medium sized fishing derbies, and local events.
- An intensive theming approach, including public art, including interesting materials and signage.
- A designed illumination strategy to enhance nighttime events and use.
- Small terraced spaces that may accommodate small events and displays.
- Established seating terraces to view river events
- Marine activities such as launch facilities and charter boats that create interest and support the working port concept.
- Recommendations for programming to maintain events and on site interest and animation.
- Interesting and diverse 4 season landscapes



Winnipeg Public Port



Brisbane - Terraced Seating

5.3 SITE THEMES AND STRATEGIES

This section provides a summary description of the overall design themes and strategies that involve the park systems and general approaches to the park design. This section is intended to inform the next detailed design phase and offers a summary of the approach to the overall design elements.

The information focuses on four key areas including vehicular and pedestrian circulation, wayfinding, environmental strategies and systems, a park lighting vision, and an approach to the heritage and interpretive themes. A more specific description of individual areas and detailed park components is provided in the following section.

5.3.1 SITE CIRCULATION AND ACCESSIBILITY

The Circulation and Accessibility approach aligns pedestrian routes, vehicular circulation, and the Waterfront Trail into an integrated approach to resolve movement throughout the site. The three key components are described in the following sections.

5.3.2 PEDESTRIAN AND CYCLING CIRCULATION CONCEPTS

The design concept plan envisions a complete and continuous river's edge pedestrian walkway experience in Port Credit Memorial Park West connecting at the Lakeshore Road underpass to the Marina Park promenade that subsequently connects with a southern section of elevated boardwalk. The plan creates a continuous green waterfront connection placing pedestrians and human experience at the forefront. The park circulation plan supports east west

connections aligned with the adjacent neighbourhood streets with walkways connecting directly to the water's edge. The pedestrian circulation plan creates a series of potential walkway loops of varying distances with different landscape characteristics located throughout the entire site.

THE RIVER PROMENADE

The River Promenade is the primary feature of the public realm experience on the site. The wide water's edge walkway provides the spaces where visitors can connect to the water and links with the many facilities and spaces along the route. The form of the promenade is a contemporary approach that follows the new coastal revitalization plan. The expanding and contracting spaces of the promenade allow opportunities for passive seating zones, shade structures, viewing decks and places for small events. The back edge landscapes range from formal landscapes to restored river landscapes. The walkway will be illuminated and will create spaces to integrate the theming and wayfinding information. The River Promenade will establish a fully accessible route, and

in two locations of grade change, accessible ramps have been incorporated into the design.

The materials are a unit paving applied on a concrete sub-base to support maintenance and access to charter boats and loading. The patterns and colors are inspired by the fishery themes and can potentially interpret the scaled patterns of the local fish species into a rich paving texture. LED lighting will be added to the paving patterns and add to the interpreted themes.

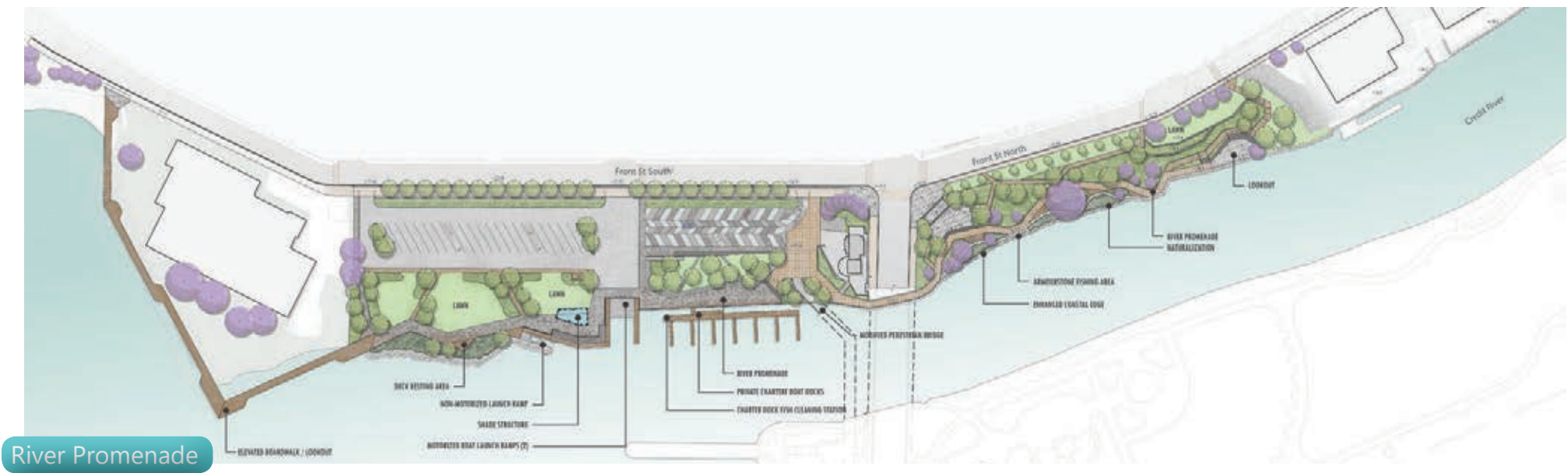
Viewing deck areas will be located at points along the promenade where seating and information points are provided. The deck zones are level with the promenade and have scenic views on the water. The wood material will be Douglas Fir and it is recognized that this material will have a shorter life span, but is important in creating a welcoming and warm character for the park.

WAYFINDING

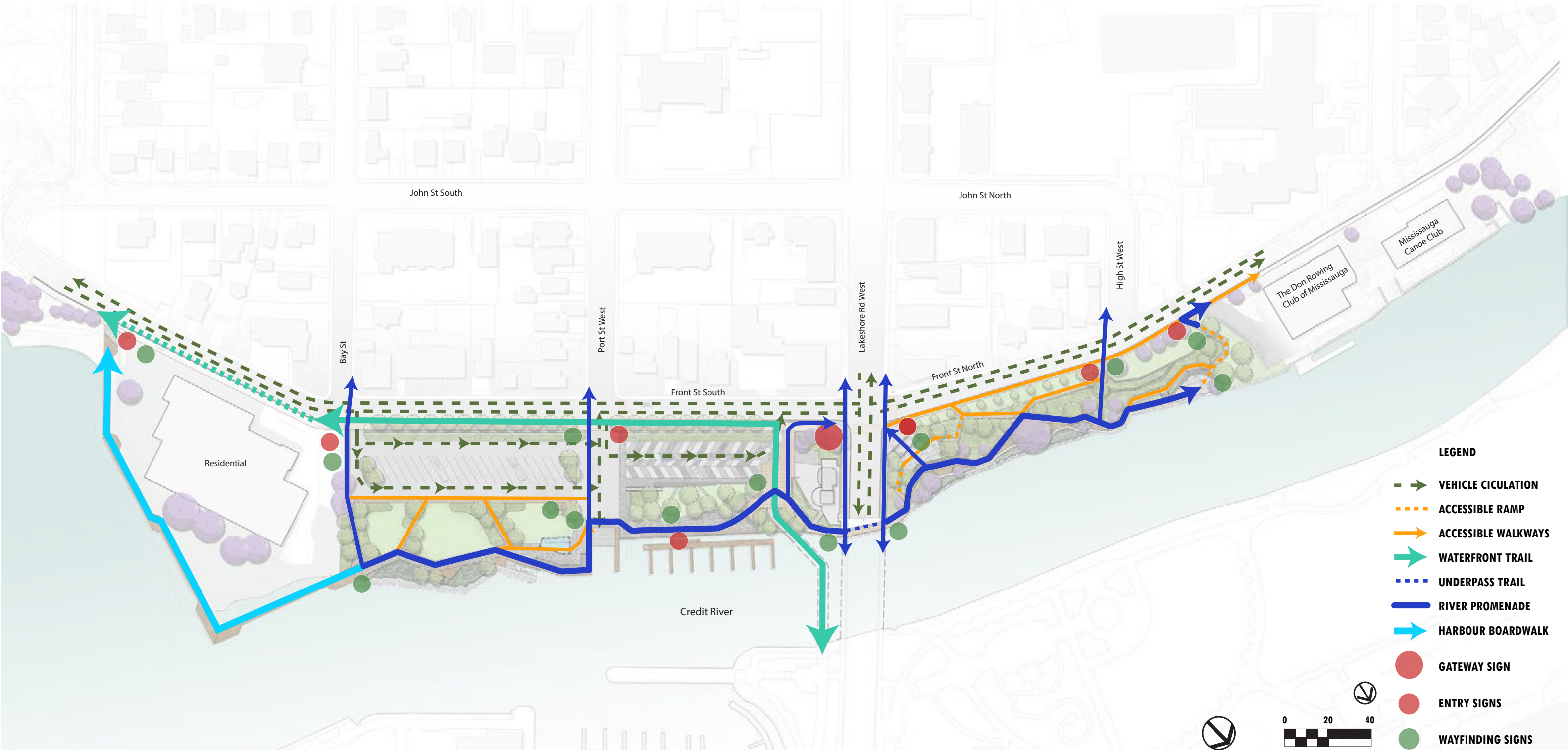
Wayfinding approaches are embedded into the plan, and the circulation patterns and public access points have been organized to support and highlight

points of access information and to provide directions throughout the site. As the site includes a range of varying park segments and connections with the surrounding community, the wayfinding elements are important to help clarify the many features and routes that are possible within the site. The wayfinding will contribute to organizing vehicular traffic as well as pedestrian circulation. The hierarchy of the wayfinding will include primary key gateway signs, secondary entrance signage, and in park identification of key facilities, as well as routes, distances, and confirmation of accessibility.

The detailed design phases will require a detailed wayfinding and signage design and subsequent contract document package for the system. As an integral part of the theming strategies the overall information systems will be woven together in a unified site approach. The Circulation and Wayfinding plan illustrates a conceptual approach to the wayfinding and gateway strategy.



CIRCULATION PLAN



LAKESHORE UNDERPASS

Lakeshore Road East functions as a barrier between the two parks and to address this core issue providing the link between Port Credit Memorial Park West and Marina Park and the surrounding context is a primary component of the plan. The design proposes a pedestrian underpass that connects the two parks and reflects the approach to the underpass created on the East side of the river. The connection will be fully accessible and safely illuminated. Comments from reviews recommend that the illumination of the underpass will be important to enhance the connection, and may integrate with the theming and public art gateway approaches.



Underpass art - Credit: Warren Langley

HARBOUR BOARDWALK

To complete the promenade connection the plan proposes an elevated boardwalk structure wrapping around the Rivergate Apartments from Marina Park to Front Street South. The City will work with CVC and the owners of the Rivergate Apartments to prepare new easement documents to allow for the construction and maintenance of the proposed harbour boardwalk. This approach will create an essential connection between Marina Park and J.C. Saddington Park. The elevated boardwalk provides the southern connection route that follows a set legal easement along the water’s edge of the Rivergate Apartments. To avoid interference with the apartment building’s underground parking structure, the elevated boardwalk is moved south and east of the easement and within the water lot leased to CVC from MNR. The boardwalk engineering is outlined within the Coastal engineering report. The boardwalk includes areas of seating in expanded zones for resting along its 225 m length.

The structure is a wood deck supported over a metal sub-structure on driven piles, and is set at approximately 3 meters over water levels. The elevation is designed to ensure safety and protect people and the structure from significant wave action in this area of the Riverfront. Shading canopies are proposed in the detailed design of the resting locations. A full railing system with low lighting within the railing system is proposed along the length of the boardwalk.

The riparian edge below the boardwalk structure will be restored with native shoreline species to contribute to the natural landscapes and wildlife linkages



Boardwalk - Credit: Austin Downtown Diary

connecting throughout the park. At the southern connection to Front Street South, a small entrance area with seating will provide an arrival gateway to the south end of the Harbour Boardwalk. This will be a designated location to contribute to the park themes.

WATERFRONT TRAIL

The Waterfront Trail section facilitates the improvement of a multi- modal route from the Pedestrian Bridge connecting southward to J.C. Saddington Park. The Waterfront Trail will be located along the eastern side of Front Street South, improving upon the current connection that follows the west side of Front Street South and exists as a signed bike route along the street. The Front Street trail will link into the local streetscape to the south of the site, and it is recommended that upon further review of the streetscape frontage at the Rivergate Apartments, enhancements of the sidewalk cross sections are considered to support the full width of the Waterfront Trail in this section. The Waterfront Trail is designed to carry the majority of the “active pass through traffic” of the Waterfront Trail, allowing

the River Promenade to focus on a more passive and safe pedestrian oriented environment.

CREDIT RIVER PEDESTRIAN BRIDGE
WATERFRONT TRAIL CONNECTION

The pedestrian bridge that conveys the Waterfront Trail system currently terminates within a central location in Marina Park. The existing layout configuration disrupts the planned River Promenade and conflicts with circulation and parking within the new vehicle parking lot.

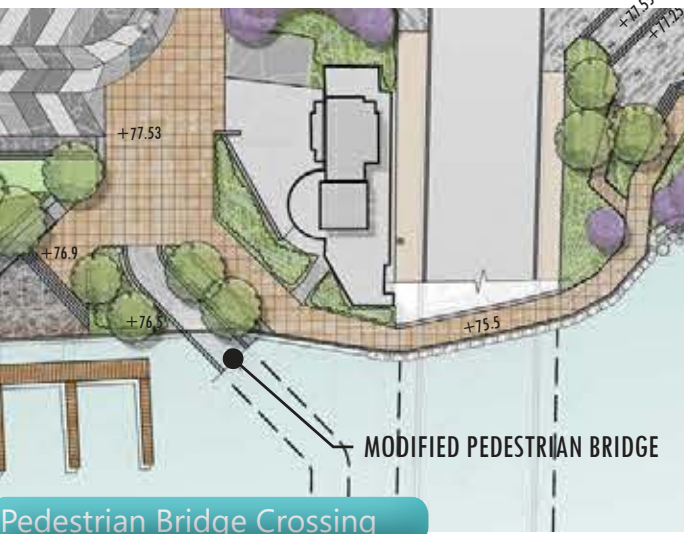
A series of options were investigated to determine the optimum alignment and resolution of the pedestrian bridge terminus. The engineering evaluation of options is outlined in the Pre-Engineering Investigations and Site Analysis. The bridge alignment alternatives considered a realignment of the western bridge section to connect with the upper levels of the Lighthouse Structure, and to remove the terminus from the park area, create an unobstructed River Promenade, and connect Waterfront Trail users directly to Front Street. As a result of significant underground utilities in the alignment of the proposed relocated bridge section, and unresolved plans for the future of the Lighthouse Building, it was determined that the pedestrian bridge should remain independent of the Front Street Pumping Station structure and follow the existing alignment.

In order to address the circulation conflicts, the terminus of the bridge will be shortened to create less intrusion into the park space. This is possible as a result of the increased elevations of Marina Park allowing the reduced bridge length to meet grade and provide accessible grades on the bridge outlet ramp. The small plaza and wide walkway will link the bridge

outlet to Front Street South and the Waterfront Trail. As the River Promenade and Waterfront Trail cross at the bridge outlet, bollards and signage is required to have cyclists walk through this section of the park.

It is recognized that as the future plans for the Lighthouse Building become clearer, the western bridge segment re-alignment and attachment to the building could be reconsidered.

The Lighthouse also houses existing public washroom facilities that are unpleasant. Future plans for the light house need to improve facilities and meet accessibility guidelines for the public washroom facilities.



GRADE CROSSING AT LAKESHORE AND FRONT STREET

An at grade crossing of Lakeshore Rd at Front Street has been considered as part of the pedestrian circulation planning, and this option remains under review by the City of Mississauga Transportation and Works. The signaled crossing could provide critical connections between the south and north sides of Lakeshore, and this would be significant when the underpass walkway connection experiences flood conditions. Key challenges to this location involve

the short distance to the Lakeshore intersection, considered to be below acceptable distances between signaled intersections.

5.3.3 VEHICULAR CIRCULATION

Vehicular circulation focuses on the support of on-site parking, vehicle and trailer parking for the boat launch operations, the access to the launch ramps, and adjacent on street parking. The plan balances the provision of the vehicular access and parking with the creation of separated and safe pedestrian environments.

CAR PARKING AREA/EVENT SPACE

The parking area can be accessed from the central entrance from Front Street South, providing a one way directional circulation route that exits to Front Street at the north end of the parking area. The roadway access is combined with the entrance to the boat launch zone, and has been separated from the pedestrian circulation routes at the north end with bollards and pavement changes.

CAR AND TRAILER PARKING CIRCULATION

Circulation in the car trailer area creates a continuous one way pull through route that connects into the launch turning and preparation area. Following launching, vehicles with trailers can exit onto Front Street south and re-enter the car trailer parking lot at the southern entrance to park. A secondary lane along the eastern edge of the car trailer area facilitates queuing for access into the launch ramp area.

LAUNCH RAMP AND TURNING ZONE

The launching facilities propose two new launch ramps for motorized boats with the associated shared turning and launch zones. Access into the

launch zone will be from the one way access out of the car/trailer queuing line, allowing a pull forward and backing pattern into the launch ramps, and following boat launching, vehicles will move forward to Front Street South and enter the southern entrance to park the car and trailer. The launch zone supports dual launching and collection operations for peak periods. Signage will be required to define entrances and parking exits.

ACCESS FOR CHARTER BOATS

At the Charter Boat docking, access for loading operations is required. Vehicular access from the launch ramp turning area onto the river promenade will be provided to allow for early morning loading operations. The Promenade will be designed to support vehicular load standards. Signage to highlight each charter boat will be integrated into the dock railing system.

5.3.4 ENVIRONMENTAL FEATURES

The design for Port Credit Memorial Park West and Marina Park includes a number of environmental features to be protected and proposed on site. These features address environmental concerns that include energy efficiency, drainage and discharge to the river, the enhancement of the riparian edge, a landscape strategy that creates native and natural landscape areas, and also creates opportunities for wildlife habitats and connectivity.

LIGHTING

In order to create an energy efficient environment, the plan proposes that all pedestrian lighting on site be low energy LED fixtures. In addition, the pedestrian light fixtures will be down-lit to reduce light pollution for the surrounding community.

FISH CLEANING STATIONS

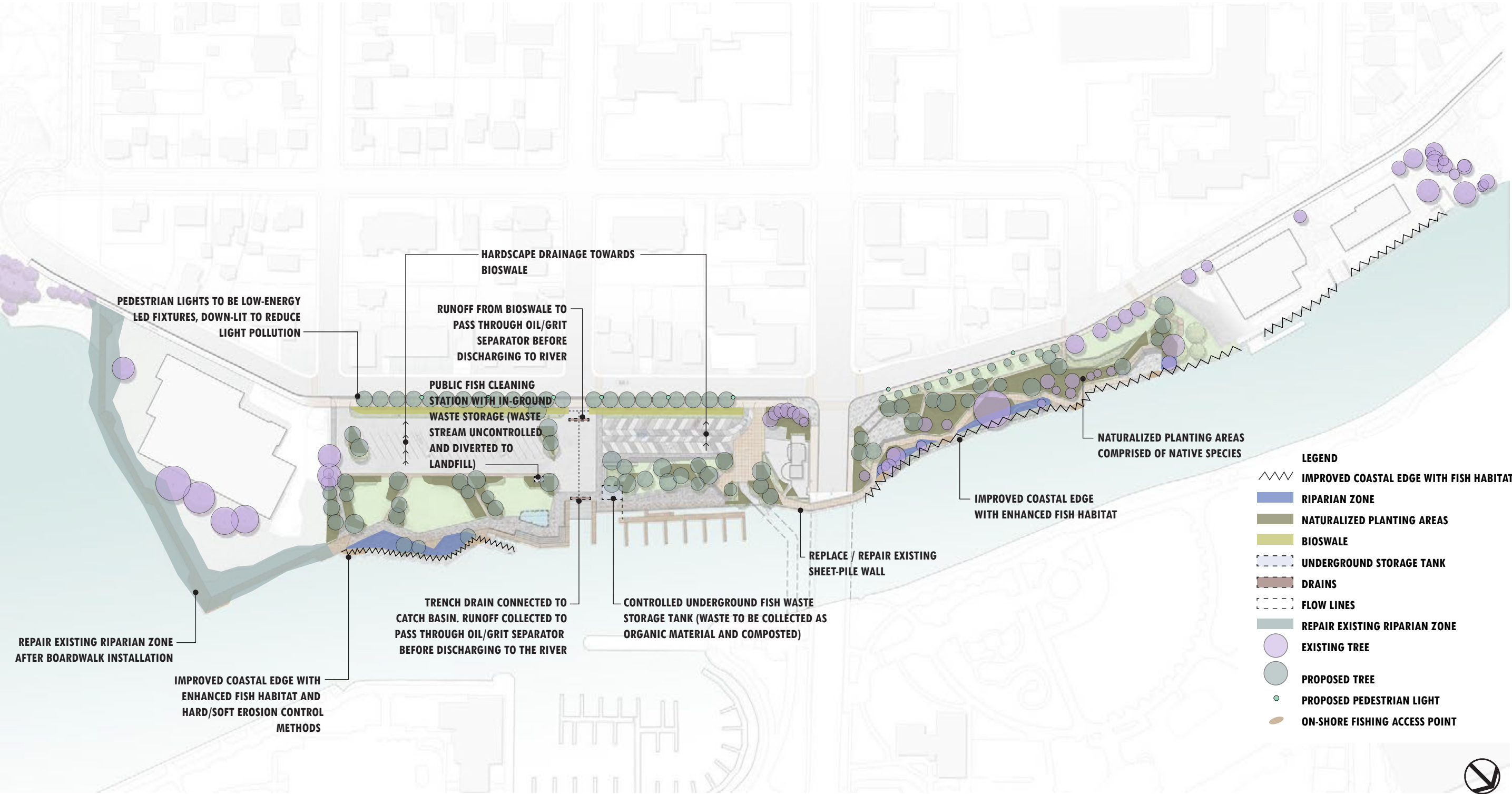
The proposed fish cleaning stations require alternative solutions for waste handling, as draining to the municipal sanitary system is no longer acceptable. The design proposes two separate fish cleaning stations located on the secured Charter boat dock and a public station at the launch ramp area. The cleaning stations require a holding tank component where the secured station's waste will collect the organic waste material and be transported to a compost facility. The public station waste will be collected and directed to a landfill.

STORMWATER AND DRAINAGE

The site design proposes solutions to mitigate harmful discharge into the Credit River. Hardscaping throughout the site provides drainage that reverses the direction of stormwater towards bio-swales along the Front Street edge. These bio-swales then serve to filter the runoff that eventually passes through an oil/grit separator before it is discharged into the river. For stormwater that is collected by a catch basin, a trench drain is connected to ensure that runoff is collected and then passed through an oil/grit separator before being discharged into the river. The



ENVIRONMENTAL FEATURES PLAN



car trailer and car parking lots are graded to drain back towards a bio-swale that runs parallel to Front Street South. The swale is intended to capture and clean runoff before discharging into the river and is designed to accommodate normal rain events. A detailed stormwater strategy is included in the Pre-Engineering Investigation Report.

COASTAL COMMUNITIES

The coastal edge of the site will be enhanced to improve its ecology and habitats. After the promenade is installed along the water’s edge, the riparian zone will be enhanced through in-water features and naturalized planting that will create opportunities for fish habitat and cover for migratory birds. The improved coastal edge will take a sensitive approach to reducing erosion through hard/soft erosion control methods installed on site. In addition, naturalized planting areas will be located throughout the site, utilizing native species and encouraging further habitat creation.

SHADE AND SHELTER

The retention of existing mature trees and extensive planting of significant new trees to create areas of shade canopy and cooling are proposed throughout the landscape plan. Seating zones and a shade structure are further components to create comfortable conditions and reduce heating effects from the pavement.

LANDSCAPE STRATEGIES

The landscape approach optimizes opportunities to create a restored River edge landscapes typology, while also offering parkland open space and extensive tree planting. The landscapes are intended to create links for wildlife to move along the water’s edge, as

well as for people to enjoy a passive park setting at the water.

In Port Credit Memorial Park West the sloped landscapes and riparian landscapes are proposed as naturalized landscape surfaces, while park walkways and places to stop are inset into this landscape. Species specific to the coastal edge, including aquatic plants are proposed in the near shore edges. Once established, the natural areas will require reduced maintenance, particularly in the Port Credit Memorial Park West area. Existing mature vegetation will be retained along the river’s edge wherever possible and integrated with grading and coastal protection works.

The parkland open spaces will include turf areas to provide activity based landscape zones that offset the urban promenade. The turf areas will incorporate areas of native shrubs to provide visual screens, wildlife links, and four season park interest.

The landscape provides a design that appeals to visitors throughout each season, including colourful flowering shrubs at entry locations, native ornamental grasses for year round interest, coniferous planting for winter vegetation, and deciduous native trees for shading and fall colors. Hardy, and low maintenance shrub material is needed to reduce maintenance



Native Shurbs

weeding requirements.

Within the bio-swale areas, the native plants and grasses will be selected to ensure that the material will improve water quality. The species will also reflect the need for the material to be appropriate for an urban bio-swale function, and provide controlled and manageable growth characteristics.

Within the Front Street South right of way and adjacent to the existing boat storage zone, the existing over mature vegetation has been evaluated by the City’s Forestry Department and a number of the existing trees in poor condition have been identified to be removed in order to create a safe, diverse and healthy tree community. The street edge planting will allow improved views from the street and adjacent homes through to the waterfront, while also enhancing the streetscape environment. Street trees in the Front Street South right of way will be planted in expanded soil zones to assist in maintaining healthy and sustainable urban trees.

While the urban forms and materials are selected to reinforce a sense of unity between the park segments, the landscape is an opportunity to allow for differing experiences and different landscape character in localized areas on the site. The natural character of Port Credit Memorial Park West, the urban landscape of Marina Park, and the coastal experience and riparian landscape at the Harbour boardwalk will each offer a varied and distinct landscape experience, aligned appropriately to the length of the promenade.

4.3.5 INTERPRETIVE THEMES

The design for Port Credit Memorial Park West and Marina Park proposes a number of interpretive themes to be incorporated into the landscape of the

site. These themes relate to the history and present use of the site. These site specific interpretive themes include Indigenous history, stonehooking, fishing, and paddle sport themes.

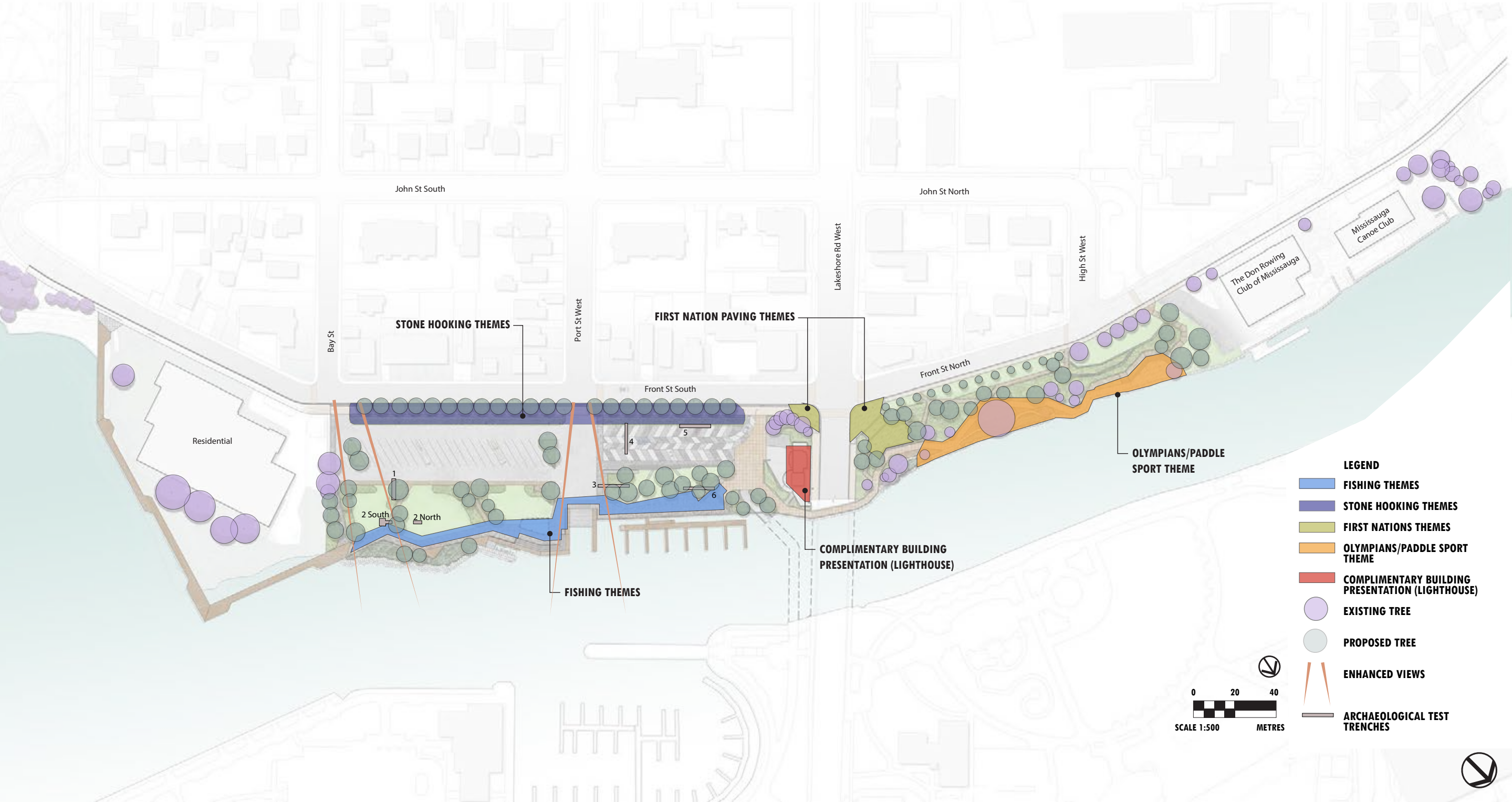
Port Credit is an important site of Indigenous history in Mississauga. The location of Port Credit was the land of the Mississauga Ojibwe band and the river was known to them as the Missinhe or “Trusting Creek”. This land later became a meeting place for the Mississauga Ojibwe and the white traders. The Indigenous history of Port Credit will be commemorated through indigenous paving themes located at the entryway to the site.

The stonehooking interpretive theme will explore the rich history of the industry on site. Stonehooking was a method of gathering stone slabs from the lake shore for use in building construction. Port Credit was a primary location for this practice throughout the 19th and early 20th centuries. This practice will be commemorated on site through the landscape walls to reflect the character of stonework used in the Port Credit area.

Port Credit exists today and historically as a key location for fishing in Mississauga. Historically, the



HERITAGE & THEMING PLAN



village of Port Credit was a working fishing port and regional trading center. Today, the mouth of the Credit River offers year round opportunities to catch a wide variety of fish. The placement of fish cleaning stations as part of the park as well as other elements recognizing the importance of fishing to the site will serve to mark fishing as an important theme on site.

Finally, the design will draw on Port Credit's history as a rowing and paddling destination in Mississauga. The Don Rowing Club moved to Port Credit in 1960 and has operated at the banks of the Credit River since that time. The rowing club attracts a wide range of novice, community and competitive athletes to the Credit River and hosts a number of regattas during the year. The Mississauga Canoe Club was founded in 1958 along the banks of the Credit River by Bert Oldershaw. The club has had a history of producing top level paddlers who have gone on to represent Canada in international competition and the Olympics. The landscape design will acknowledge the importance of rowing and paddling on site through the landscape of Port Credit Memorial Park West located adjacent to the Don Rowing Club and the Mississauga Canoe Club.



Don Rowing Club

5.3.6 LIGHTING STRATEGY

The park lighting approach proposes the safe illumination of key pedestrian routes and park spaces, and contributes to the design and sense of attraction and animation of the key places within the park. In order to create an energy efficient environment, the plan proposes that all pedestrian lighting on site be low energy LED fixtures. In addition, the pedestrian light fixtures will be down-lit to reduce light pollution for the surrounding community.

Lighting of the River Promenade is proposed as a series of pedestrian LED lights in the areas of Marina Park while the Port Credit Memorial Park West waterfront lighting, and harbour boardwalk will use low LED lighting along the walkway edges. Design of the Boardwalk section will include lighting integral in the railing, while the Port Credit Memorial Park West River Promenade will include bollard lighting.

Key east west connective walking routes include pedestrian light standards. Lighting is proposed to create a sense of entry and animation at several locations, and an opportunity to enhance some of the themes and seating areas within the park. Lighting of the underpass walkway is an opportunity to create a welcoming gateway and connection that creates a safe pedestrian space. Additional “in paving” LED lighting in the River Promenade and plaza spaces will also enhance the evening experience.

The Waterfront Trail and Front Street North road edge section include pedestrian lights to define the streetscape edge, and provide an illuminated urban walkway. The light poles will include banner

connections, and are proposed as concrete poles and decorative metal light fixtures.

The parking lot areas and launch ramps will include higher level pedestrian lights to illuminate these functional locations. The lighting in these parking areas is important as early morning and night time use of the facilities is routine.

5.4

PARK CONCEPTS

The following section provides specific descriptions for the features and components of the site, and are organized based on the Marina Park and Port Credit Memorial Park West areas of the site.

5.4.1 MARINA PARK

Marina Park represents the park section that extends southward from the Lakeshore Roadway bridge to the entrance to the elevated boardwalk at the edge of the private residences. This section of the parkland is required to accommodate a diverse range of support facilities while creating the setting for a beautiful Riverfront Promenade walkway. The park area will transform primarily from a support service area for the sport fishery to an integrated waterfront civic space providing multi-layered uses and retaining sport fishing facilities. The following section provides a descriptive detail for each of the specific facilities and components proposed within Marina Park.

MARINA PARK



FRONT STREET SOUTH

Through the analysis of the site, it became apparent that Front Street South’s wide right-of-way presented an opportunity to gain critical parkland and create an improved multi-modal walkway. This opportunity also presented a solution to reduce travel speeds along Front Street South and reduce disturbances through a landscape buffer and reduced roadway width. In addition to changing the traffic experience on Front Street South, the design aims to enhance the streetscaping along this corridor. This is achieved through enhanced street lighting, planting, seating, decorative walls, paving and raised power lines. The Waterfront Trail will be located along the eastern side of Front Street South, improving upon the current connection in the Waterfront Trail system. The Front Street trail will connect with the local streetscape to the south of the site and create direct access to J.C. Saddington Park. A low natural stone wall, a feature of the stonehooking themes will be set along the east side of the Waterfront Trail, and will provide screening of the two parking areas from the residents across the street. Views to the waterfront will be maintained.

The existing poles along the car-trailer parking edge will be replaced in order to move the power lines to a higher elevation, above the trees and create views to the water. The pole locations are proposed inside (east of) the stone wall. See next page for cross section.

VEHICLE /TRAILER PARKING

The car trailer parking area provides support to the central boat launch area, accommodating 22 car trailer spaces with lengths of 17m. The car trailer

parking is asphalt and two islands within the area are proposed to provide shading and screen views in the area.

VEHICLE PARKING/MULTI- USE EVENT SPACE

The car parking area addresses the significant demand for on- site parking, while recognizing and providing a space that can host a range of small to medium scale events in the core of Marina Park. As a result, the parking area is designed as a dual purpose space with a large-scale chevron paving pattern creating a highly visible and urban central public plaza, that in non-event use periods functions to provide 40 parking spaces. The angled parking spaces are defined by the overall chevron pattern. The paving material is proposed as a patterned coloured concrete surface.

RAISED GARDEN

The raised garden is positioned to establish a buffer separating the vehicle parking from the River Promenade setting. The garden landscape creates an elevated terrace overlooking the charter boats and River Promenade, with scenic views of the water, and terraced stepped seating at the edge of the garden area. The garden overlooks the parking area to the west and adds supporting open space for events in this location. The garden is an important green open space element, a wildlife link, and provides shading as an offset to the substantive amount of hard surface in this location. The garden is envisioned as a turf surface that incorporates accessibility from the surrounding edges. The garden will include seating, and a grove of native deciduous trees to create the canopy.

THE LIGHTHOUSE AND PARK WASHROOMS

The Lighthouse building within Marina Park is an important visual focal point that identifies the West Parks locations and the Port Credit Harbour. The building currently provides support services to the park including washroom and storage facilities. As a key component of Peel Regions infrastructure, the Front Street Pump Station facilities are subject to a Class Environmental Assessment which is nearing completion and the recommendation going forward is that the operational aspects of the facility will be decommissioned. The tourism and landmark qualities of the Lighthouse require that the architectural component will remain as a visible component of the West Parks.

To address this, the park design accommodates the existing service and pedestrian access to the building, with direct connections at grade. The existing surface infrastructure will be integrated within its current location, and any decommissioning of the structures would allow additional public realm space to be added at the Front Street South and Lakeshore Road area in place of the structures. Landscape screening of the surface infrastructure and the operational character of the lower areas of the building will improve the north edge visual conditions of Marina Park

As the surrounding grades of the adjacent park spaces are proposed to be higher transitional grading into the Lighthouse site is required. A retaining edge with railings and a ramped access driveway/walkway is required to resolve this location. Drainage collection within the lighthouse site will be required.

MOTORIZED BOAT LAUNCH RAMPS

The motorized boat launch and docking is a central facility for the overall park support functions and a core element of the sport fishing operations. The existing docking and ramp facility will be reconstructed to create two combined ramp sections with associated finger dock supports for motorized watercraft. The launching facilities are organized to maximize vehicular access and turning movement, and to create the most efficient and manageable launching and car trailer parking sequence.

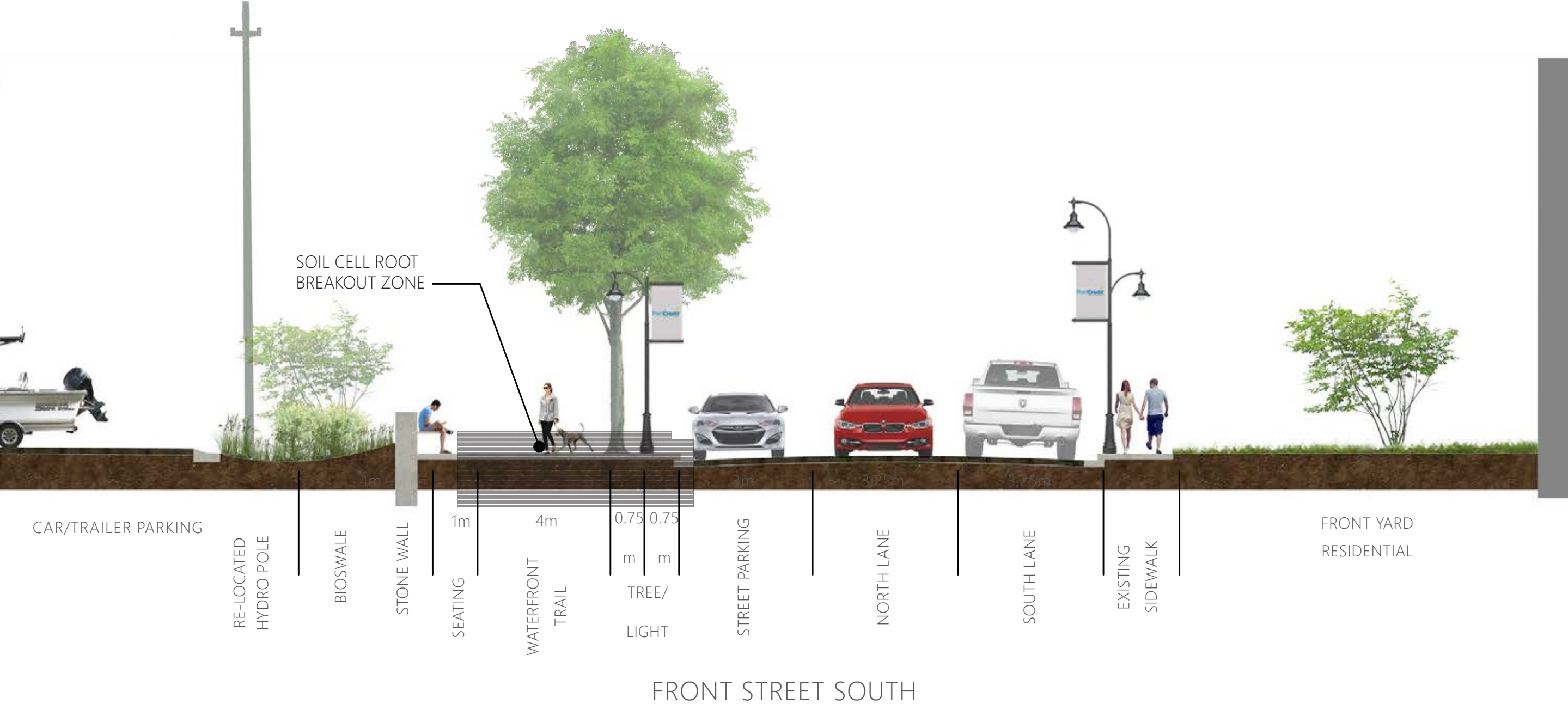
The River Promenade will cross the top of the launch ramp zone, and this area will be defined by the continuity of the promenade paving, signage, and bollards to define the potential conflict area. Local pedestrian level lighting is required to create effective light levels in the area of the launch ramp area. The detailed marine engineering is provided in The Port Credit Harbour West Parks Coastal Report.

SHADE STRUCTURE

The southern shade structure is an important feature that provides a scenic focal point along the south Riverfront Promenade, and is part of a series of seating areas and rest points along the promenade.



FRONT STREET SOUTH CROSS SECTION



The structure is proposed as a contemporary feature with an emphasis on a shading trellis to create a comfortable and protected space. The interior will be open to maintain safe personal conditions and line the inclusion of the interpretive story can be part of the area surrounding the shade pavilion. Two smaller overhead trellis structures are proposed at the deck lookout seating zones.

NON- MOTORIZED LAUNCH RAMPS

As a recommendation from the 2013 EA plan, a non-motorized boat launch area is proposed south of Lakeshore Road. The launch facility accommodates canoes, paddle boards and kayaks and meets a significant demand for these launch facilities. The site, located south of the motorized launch ramps, creates a ramped launching space to the water as well as a supporting accessible walkway ramp. The site is protected by a coastal pier that mitigates the surrounding wave action, protecting the ramp facility and creating easier boarding conditions. The open space lawn located West of the launch area allows for staging and launching of the paddle craft.

CHARTER BOAT FINGER DOCKS AND ACCESS SPINE

The Charter Boat docking slips are proposed as a rebuilt facility within the existing location of the charter boat operations, offering access to charter tours directly from the nearby car parking area on site. Temporary support access will be provided along the water’s edge promenade to allow for direct loading operations for each of the boats. The access to the Charter Boats is controlled

through a card reading security gate that accesses the main dock spine. A ramp system will allow access from the gate to the main floating dock spine to accommodate river level changes. The ramp will be primarily within a 5% slope range for median water levels but may become steeper in low water conditions.

The docking area includes a main floating dock and finger dock system connected to a fixed driven pile system. The docks will be removed during the winter and stored in a protected location. The dock system will be anchored to a vertical sheet pile wall that is proposed along this section of the river’s edge to replace the existing sheet pile wall. Located at the south end of the main dock spine is the fish cleaning station.

The technical aspects of the charter boat dock system is covered in additional detail within the Coastal Report 2018.

FISH CLEANING STATIONS

The resolution and replacement of the existing fish cleaning station is planned as two separated systems that include one location on the secure charter boat docks and a second public station near the launch ramps and car trailer parking. The new facilities were not acceptable to outlet the waste products to the municipal sewer system and as a result, both stations propose a holding tank facility. Station 1, located within the secured docking spine of the charter boat zone will drain from the dock area into an onshore holding tank. As this location can be managed more closely, the waste material will be collected and transferred to a composting facility.

The waste material connection line will require a design to allow flexibility, as the dock will change in elevation due to water levels. The second location will have a reduced level of oversight and as a result this location proposes a holding tank that will be collected and directed to a standard waste facility.

Station 1 requires power for the grinder pumps, and overhead lighting. Each location will require a water supply for fish cleaning and clean up. Additionally, each location will require a regular operations plan, monitoring, and a regular scheduled pump out plan for the peak use period.

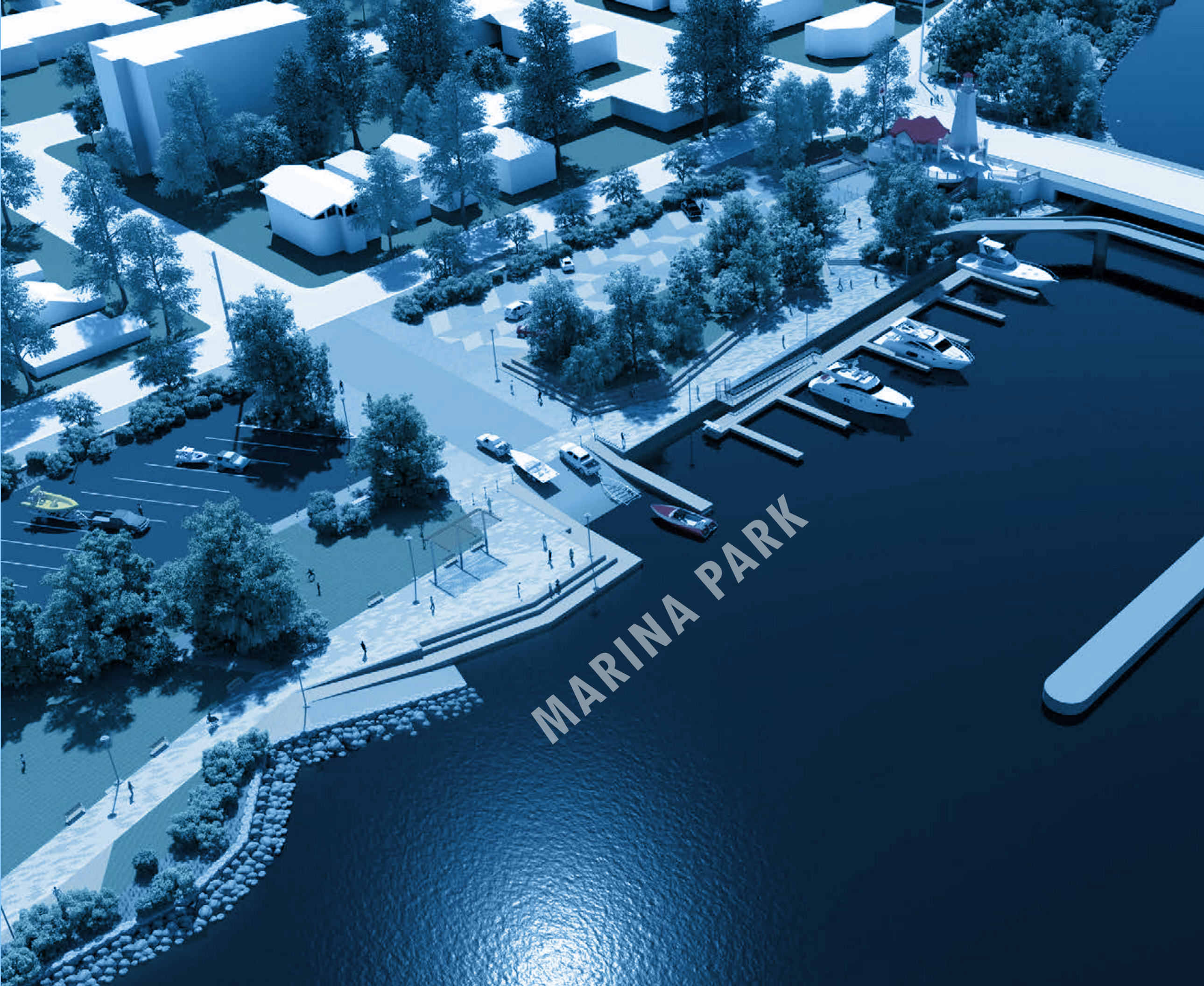
EXISTING SOUTH RETAINING WALL

A conditions assessment of the 37 meter South retaining wall was completed by Shoreplan, and the detailed comments are provided in their Coastal

Engineering Report. The wall is in a deteriorated condition and has shifted. The recommendation requires removal of the rubble and gabion basket wall, and replacement with an armour stone wall configuration. Wall details are included in the Coastal Report.



Non-Motorized Launch Ramps



MARINA PARK CROSS-SECTION



SECTION D

Section D crosses the southern portion of Marina Park and crosses the park from the improved coastal edge to Front Street South. The section shows the streetscape detailing the bioswale, Waterfront Trail, and Front Street South. It also shows the central area of the park including the activity lawn and the parking area. Finally, the section illustrates the improved coastal edge, and lookout deck and river promenade that run along the shore and the river.

MARINA PARK CROSS-SECTION



SECTION C

Section C crosses the northern half of Marina Park and illustrates the space between the floating charter boat docks to the streetscape at Front Street South. The streetscape shows the bioswale running along the improved Waterfront Trail and its interface with Front Street South. The section illustrates the multi-use plaza and parking in addition to the treed terraces along the river promenade. Finally, it details the floating charter boat docks on the Credit River.



5.4.2 PORT CREDIT MEMORIAL PARK WEST

Port Credit Memorial Park West covers the section of parkland located North of the Lakeshore Roadway. The site will be generally passive, and offers an upper terrace that is a more formal park approach, while the remainder will create a restored river's edge landscape. The River Promenade, a series of interesting walkways and a civic terrace at the Lakeshore Road edge provides the framework for the site.

PORT CREDIT MEMORIAL PARK WEST



It is noted that drainage in this location is critical. Backfill with a drainage layer of the wall, and a storm inlet will be required at the base of the wall.

PORT CREDIT MEMORIAL PARK WEST PLAZA

The Port Credit Memorial Park West Plaza area is a transitional space that supports a small gathering point. This location creates a smooth transition from the urban character of Lakeshore Road to the passive park spaces throughout the north areas of Port Credit Memorial Park West. The plaza space supports the resolution of the 5m change of grade at Front Street North to the Riverfront Promenade and Underpass connection, and includes accessible strategies to enjoy all areas of the site. The design of the space provides seating to view activities on the waterfront, and will incorporate elements of the theming strategies, particularly related to Indigenous stories and elements. The plaza will be an inviting space offset and visible from Lakeshore Road, and will be an opportunity to host small gatherings and displays for special events in the waterfront area.

FRONT STREET NORTH

The Front Street North roadway edge proposes “on street parking” along the east edge of the roadway in place of the existing “in park” parking area. This will allow for the connection of the sidewalk, creating a continuous pedestrian walkway extending north to the rowing clubs. Consultation with the City of Mississauga and the Transportation and Works Parking Review has confirmed this approach is the preferred and safest approach to car parking in this area. The walkway link is also a potential route connecting with the future Port Credit Trail

System. The Western edge of the park (East side of Front Street North) includes existing trees and the existing power supply poles to be retained, and as a result the two way traffic on the roadway, parking, and sidewalk edge are carefully aligned to meet minimum width standards in this streetscape edge area. Page 38 indicates a cross sectional approach to this location. There will be parking spaces created along the roadway edge.

NORTHERN LOOKOUT TERRACE

At the Northern limit of the park, a rivers edge terrace and stepped seating create a logical terminus and maintenance turn-around at the end of the promenade. The site includes a place for theme elements and features, terraced seating, a small civic space, and serves as a destination in the park. The terraced seating overlooks the water and will support viewing opportunities of events on the river, such as the paddle clubs regattas. The terraced seating accommodates the significant grades of the area and is envisioned as a concrete material to create the stepped seating. An open lawn directly north of this area provides some separation between the rowing and canoe club areas further north, and allows for shore based staging of the paddle club crafts.

LANDSCAPE

The landscape of Port Credit Memorial Park West includes both an upper terrace landscape and a rivers edge natural landscape approach. The retention of existing trees within Port Credit Memorial Park West is a priority. Coastal restoration and the required site grading will impact on a few

of the existing trees, however an aggressive planting approach supports an enhanced canopy in the park area. The upper streetscape level is a formalized open space, that contributes visible and accessible parkland to the adjacent neighbourhood edge, and provides picnicking and a small active open turf zone. From the upper terrace, views of the waterfront, with an overlook of the river will allow for scenic views and a place to watch river events. New deciduous native trees provide shade along the edge of the Front Street North sidewalk and define the urban edge of the upper terrace parkland.

The river’s edge natural landscape includes the sloped landscaped areas that extend toward the river’s edge from the upper terrace. The natural landscape areas support a contrasting landscape experience from the upper terrace with plants to support a wildlife zone as well as a demonstration of a rivers edge landscape typology. This area involves restoration of native grasses, plants and trees while integrating existing trees into a passive landscape. At the shoreline, a riparian landscape zone including aquatic plant species within the shallow wetland edge zones is proposed. Once established, the natural areas of Port Credit Memorial Park West are planned as low maintenance landscapes.

THE LAKESHORE UNDERPASS

The Lakeshore underpass is a strategic part of the masterplan that provides the unifying pedestrian connection between Port Credit Memorial Park West and Marina Park, creating a consolidated parkland experience. The connection is similar in elevation to the eastern side of the Lakeshore Bridge where an existing pedestrian walkway connects the north

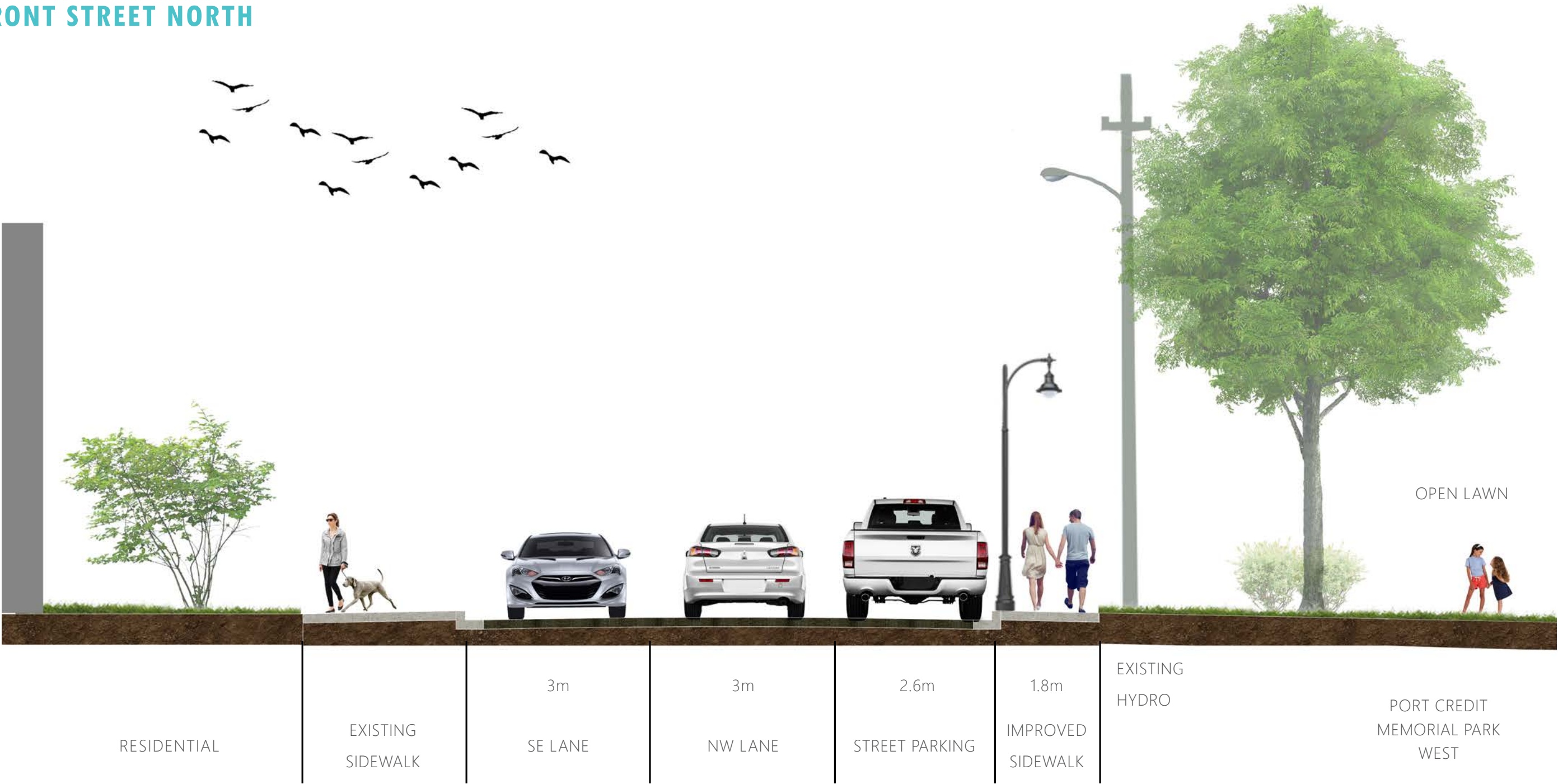
and south sections of the east side urban parks. The walkway is 2m in width and is placed within the existing limit of shoreline armouring of the Lakeshore Bridge abutment, and set at an elevation of 75.5m (0.5m above the typical water level). This elevation allows access at regular and low water levels but may have occasional flooding in high water conditions, and will need to be closed during those conditions. The overhead clearance will provide approximately 2.3 meters of clearance, and this represents the balance between the maximum headroom possible below the bridge structure while maintaining a walkway elevation above normal water levels.

In recognition of the flooding conditions of the underpass location the walkway is proposed as a concrete material to withstand the adverse conditions in this location. As well, railings require a design of the footings and material to withstand flood conditions. The detailed engineering of this location is included in the Coastal Report 2018.

LOOKOUTS AND FISHING AREAS

Unique attributes of the Port Credit Memorial Park West’s river’s edge promenade are a series of water’s edge seating decks and walkway points located at the water’s edge. The layout supports a series of seating zones in shaded landscapes overlooking the water. This provides opportunities to enjoy the waterfront in quiet passive environment that offers a level of separation between each of the viewing deck locations. In association with these points several additional water’s edge points support river’s edge shore fishing that is popular in this location. The design promotes a shared experience of separate seating deck zones, fishing locations, and the integration of pedestrian traffic along the waters edge.

FRONT STREET NORTH



FRONT STREET NORTH

PORT CREDIT MEMORIAL PARK WEST CROSS-SECTIONS

SECTION A

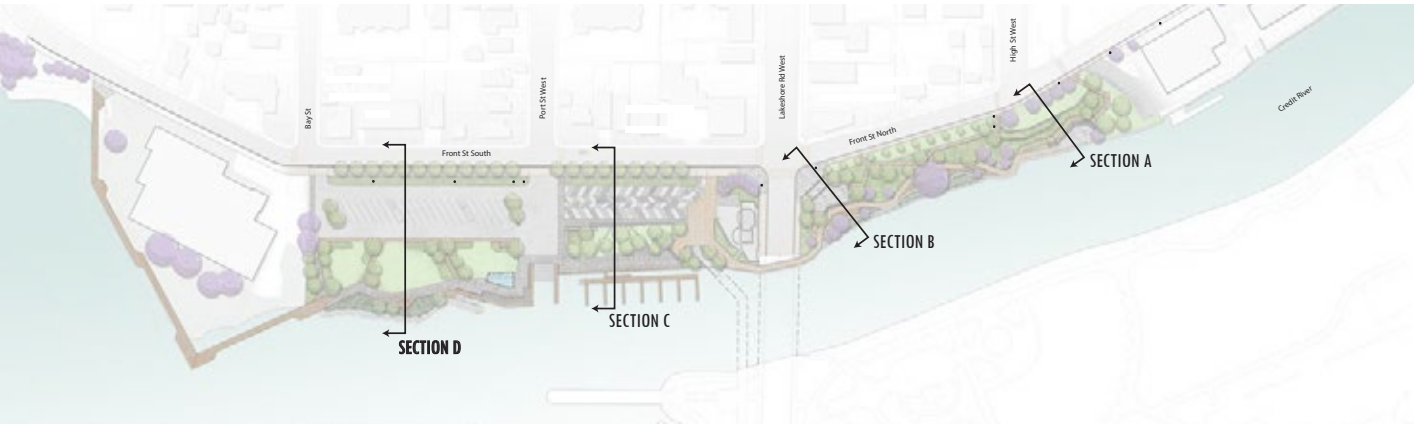
Section A crosses the northern portion of Port Credit Memorial Park West from the revitalized coastal edge to Front Street North. It illustrates the River Promenade, Accessible Walkway, and terraced seating in Port Credit Memorial Park West. It also details the streetscape where the upper lawn meets the existing sidewalk.



PORT CREDIT MEMORIAL PARK WEST CROSS-SECTIONS

SECTION B - VIEW SOUTH

Section B crosses the southern portion of Port Credit Memorial Park West, illustrating the park from the revitalized coastal edge to Front Street North. It shows the River Promenade and its relationship to the Civic Plaza and Arrival Plaza.





PORT CREDIT MEMORIAL PARK WEST

6.0 MATERIALS AND PRODUCTS SUMMARY

This section provides a preliminary summary of materials and furnishings proposed for the park areas. The information is provided in a table below and indicates the components and proposed material plans for the project.

The materials selected present a contemporary landscape character and environment that does reflect characteristics of the Port Credit heritage. The Unit paving of the River Promenade and the Harbour Boardwalk add a texture and color to enrich the environment. Site furnishings will be simple and promote a contemporary approach. Materials and

products also are selected on the basis of materials that are safe, accessible, and that will be durable to recognize life cycle requirements.

The selection of products responds to a design language that has the qualities and materials that are consistent and support a sense of quality and local

character. The materials and technical information is the basis of the project costing analysis for site specific details. The detailed design process will review each of the material and product requirements, and refine selection based on technical and design and costing requirements.

COMPONENT	DESCRIPTION	COMMENTS
1) Paving a) Park Walkways b) Waterfront Trails c) River Promenade	a) Concrete/sandblast flush (125 mm) b) Edge unit paving on concrete base c) Unit paving on concrete base (125 mm)	
2) Harbour Boardwalk	- Elevated metal structure with wood decking (see engineering report)	- On driven piles - Concrete caps - Wood decking
3) Benches (25)	- Contemporary wood benches on concrete base	- Review with Port Credit standard
4) Waste Receptacles (17)	- Contemporary stainless steel waste receptacles	- To be included unless city standard is preferred option
5) Front Street Retaining Wall (<1m)	- Stone (from stone hooking materials) on concrete wall, full foundation	- Dry stone wall appearance
6) South Marina Park Retaining Wall - Concrete Walls	- Armour stone (see engineering)	- Replace existing gabion wall
8) Decking Lookouts	- Douglas Fir (3x8)	- May need replacement 10-15 years

COMPONENT	DESCRIPTION	COMMENTS
7) Lighting - Promenade (20) - Parking (7) - Ped. Links (20) - Street Ped. (15)	- Bollards with lighting - Contemporary pedestrian lights - LED in paving for the River Promenade - Underpass lighting - Parking lot lightng	- Contemporary pedestrian lights to be included unless city standard is preferred option
8) Bike Racks	- Contemporary stainless steel bike racks	- To be included unless city standard is preferred option
9) Stairways + Railings	- Sandblasted concrete - Metal hand rails	- Investigate building code spacing
10) Parking Lots	- Car trailer lot - asphalt - Car/festival space - patterned concrete and coloured concrete	
11) Shade Structures (1 large, 2 trellis)	- Trellised metal overhead	
12) Accent Trees (12)	- Native species	- Meet city of Mississauga tree species
13) Street Trees (21)	- Hardy species	
14) Large Shade Trees (57)	- Native species	

7.0 COST ESTIMATE

The estimated budget costs associated with the park construction budget have been developed on the basis of the park concept plans, and the Coastal Engineering works. The Coastal engineering cost analysis is based on a more detailed technical drawing that has been prepared for the coastal works and reflects a **Class C cost** estimate level. The analysis is presented based on the Coastal Revitalization works that follows the organization of the previous Environmental Assessment work for the shoreline works. The land based park works includes surfaces, servicing and utilities, amenities, landscape and roadworks.

COASTAL REVITALIZATION SHORELINE WORKS

This table provides the cost analysis for the coastal engineering works, and has been organized to follow the previous EA breakdown categories and components. This covers all marine coastal related works, as well as water access to the shoreline for in water works. This is based on detailed technical coastal drawings that have defined the shoreline in the range of coastal protection strategies for the site. Table 6.1 illustrates the shoreline based construction components.

7.1 COASTAL REVITALIZATION SHORELINE WORKS COST ESTIMATE

Area	Sub-Area	Section	Section Length	Treatment	Shoreline Unit Cost	Shoreline Cost
Memorial Park West						\$1,056,670
	Mississauga Canoe Club	1	69	Stepped Armour Stone Wall	\$4,440	\$306,360
	Don Rowing Club	2	20	Stepped Armour Stone Wall	\$2,860	\$57,200
		3	50	Revetment with Planting Area	\$2,770	\$138,500
	Port Credit Memorial West	2	21	Stepped Armour Stone Wall	\$2,860	\$60,060
		3	84	Revetment with Planting Area	\$2,770	\$232,680
		4	42	Revetement	\$2,110	\$88,620
		5	55	Stepped Wall (includes transition)	\$3,150	\$173,250
Underpass						\$161,240
	Lakeshore Road Bridge	6	26	Armour Stone Seawall	\$5,240	\$136,240
		6	1	Concrete Headwalls	\$25,000	\$25,000
Marina Park						\$2,388,450
	North Area	7	103	SSP Wall and Concrete Cap	\$10,730	\$1,105,190
		8	1	Charter Docks & Ramp	\$240,200	\$240,200
		8	1	Dredging at Charter Docks Only	\$50,000	\$50,000
		9	15	Launch Ramp replacement	\$10,240	\$153,600
		10	15	South SSP walls	\$3,140	\$47,100
		10	1	Docks and Anchor System	\$73,700	\$73,700
	South Area	11	26	Stepped wall with Planting area	\$5,450	\$141,700
		12	16	SSP, Armour stone and Launch ramp	\$11,950	\$191,200
		13	1	Docks and Anchor system	\$50,310	\$50,310
		14	75	Revetment	\$3,930	\$294,750
	South Retaining Wall	17	37	Stepped wall	\$1,100	\$40,700
Rivergate Easement						\$3,495,950
	River Side	15	65	Armour Stone Revetment Repair	\$6,490	\$421,850
	Hacienda Bay Side	16	115	Armour Stone Revetment Repair	\$2,940	\$338,100
		15&16	250	Boardwalk	\$8,944	\$2,236,000
		15&16	1	Marine Construction Access	\$500,000	\$500,000
					Sub total	\$7,102,310
					20% Contingency	\$1,420,462

7.2 SITE BASE PARK IMPLEMENTATION WORKS COST ESTIMATE

SITE BASED PARK IMPLEMENTATION WORK

This table provides a detailed breakdown and opinion of land based construction costs. These are based on a detailed landscape concept, including the site specific components described in the report outline. The costs currently reflect 2018 costing analysis and accordingly will be adjusted based on construction timing. Table 6.2 illustrates the land based project construction components.

The summary of costs are proposed as the coastal and land based work totaling **\$14,892,056.40** for the overall project construction costs. A 20% contingency is included within the estimated opinions of cost. Design and contract administration fees have not been included in the total costs, or any potential additional site investigations or studies. The numbers exclude taxes.

DESCRIPTION	QTY.	UNIT	UNIT PRICE	AMOUNT	EXTENDED TOTAL
Demolition					
					\$152,000.00
Construction					
Site Servicing					\$206,250.00
Electrical					\$226,750.00
Earthworks					\$115,000.00
Landscape (Planting)					\$393,058.00
Landscape (Hardscape)					\$3,053,335.00
Site Amenities					\$1,023,000.00
Roadwork					\$138,344.00
Landscape Subtotal including contingency					\$6,369,284.40
Shoreline Subtotal including contingency - See Table 7.1 for detailed breakdown					\$8,522,772.00
Total - Not including H.S.T.					\$14,892,056.40

8.0 NEXT STEPS

With the completion of the Port Credit Harbour West Parks Master Plan, the next phase of the project is the development of the detailed design, agency consultation, approvals and preparation of contract documents for tender. The next phase will include approvals, coastal engineering contract documents, detailed design and contract documents for the park implementation, and the servicing contract documents. The detailed design and contracts document phases will provide the information needed to undertake tendering of the project and selection of the contractor, and the implementation phase of the project.

As part of the next phase there are specific tasks that must be considered within the design development and contract drawings phase and a brief outline of these points is presented in the following outline.

- The City is to work with CVC and the owners of the Rivergate Apartments (35 Front St South) to prepare new easement documents to allow for the construction and maintenance of the proposed harbour boardwalk within the waterlot adjacent to 35 Front St S.
- Retain project consultants to address Coastal Engineering, Site Landscape Architectural Works and Servicing and Utilities for the detailed design and preparation of a coordinated contract document submission for tender.
- Integrate Region of Peel Pumping Station Environmental Assessment conclusions and potential impacts (e.g. shaft locations) within Marina Park in design development
- Coordinate Front Street South roadway design and construction with Alectra, Transportation and Works and the Region of Peel
- Relocated Hydro Poles- resolve the power utility easement along Front Street South as the relocated hydro lines will require costing and an agreement or easement resolution with Alectra
- Assess Lakeshore Road for a possible signalized pedestrian crossing in association with Mississauga Transportation Planning, Active Transportation Plans, and the Cycling Master Plan
- Continue discussions with Credit Valley Conservation for final sign off the Park plans and coastal engineering. Preliminary approval in principle has been provided, however final review of the technical documents is required. This relates to the coastal engineering, storm water management systems and the wildlife enhancement components.
- CVC has also recommended that the Species at Risk reviews undertake an update review, particularly related to bats and eels that have recently found habitat in the area. This work will be coordinated with the Ministry of Natural Resources and Forestry
- Confirm complimentary use of the Light-House by Community Services for uses related to the park. Review opportunities for upgrades to the public washroom facilities, access, and storage.
- Integrate general comments (detailed comments have been incorporated) from the Mississauga Urban Design Advisory Panel and review detailed plans as an information session update with the

group prior to contract document completion.

- Additional design review comments recommend a detailed review of OBC and AODA requirements related to required railings for the terraced seating and stair site components. The potential for extensive numerous railings would be visually distracting and the terraced stairways design development must resolve this issue.
- The Mississauga Urban Design Advisory Panel comments suggested that the promenade should develop different site experiences and offer diverse landscape character along the length of the River Promenade. The proposed plan inherently creates three distinct zones, a natural landscape in Port Credit Memorial Park West, an urban active space in the Marina park zone, and the Harbour Boardwalk at the southern section located over the water's edge. These characteristics help to define the three experiences. While we believe that consistency and unity of site materials and the River promenade brings a level of continuity and consistency that is required for this site, individual locations and specific themes are required to bring diversity, interest, and animation to locations throughout the park.
- Develop the themes and site design in association with public art strategies.
- Present the detailed design to the Stakeholders and public in a PIC information session for final comments prior to preparation of contract documents and update the project website to share timing and construction information as those phases begin.

Before construction of the park facilities can begin, several approvals and permits may be required. These permits and approvals will be obtained following the detailed design. The following approvals and permits are likely required (see the Coastal Report for more detail):

- The Credit Valley Conservation Authority approval for development permit in the regulated area under Ontario Regulation 160/06;
- Ministry of Natural Resources and Forestry under the Public Lands Act
- Endangered Species Act
- Fisheries and Oceans Canada; Under the Fisheries Act
- Transport Canada under the Navigation Protection Act.
- Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses Regulation (Ontario Regulation 160/06)

See the Pre-Engineering Report for more details on the following approvals and permits:

- Municipal Approvals
- Endangered Species Act
- Heritage, Culture and Tourism



View Towards Port Credit Harbour West Parks



SHOREPLAN

