Draft Environmental Study Report

Version: Final Draft

Ontario Place Redevelopment Project
Ministry of Infrastructure Category C Public Work Class Environmental Assessment

Infrastructure Ontario

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Executive Summary

Ontario Place was originally constructed in the late 1960s using urban fill from other construction projects in Toronto. The site includes three artificially made islands and covers an approximate 155-acre area of land and water. Ontario Place opened in 1971 as a theme park with the Cinesphere and pods, a forum, and three 'village' clusters set within a naturalized landscape of canals, lagoons, and a marina. The Children's Village was added in 1972. Ontario Place was decommissioned in 2012 due to declining attendance and annual financial loses. The Government of Ontario is redeveloping Ontario Place to create a remarkable world-class, year-round destination that will include family-friendly entertainment, public and event spaces, parkland, and waterfront access.

Project Description

The redevelopment of Ontario Place will result in a mix of uses, including enhanced public spaces, as well as accessible programming and activities that will appeal to visitors of all ages. These experiences will be available across the site, united by a new design for the public spaces and parkland (the public realm), and site improvements.

The Government of Ontario's vision includes the integration of both tenanted and non-tenanted lands that cover the majority of Ontario Place. The government-led development activities that are subject to this Class Environmental Assessment (EA) occur on the non-tenanted lands (that is, the public realm). The redevelopment of the public realm component of Ontario Place (the Project) is being completed by Infrastructure Ontario (IO) on behalf of the Ontario Ministry of Infrastructure (the Proponent) (previously on behalf of the Ontario Ministry of Heritage, Sport, Tourism, and Culture Industries). An EA has been undertaken for the government-led redevelopment activities.

The Government of Ontario will be undertaking the following two activities that apply to the public realm redevelopment:

1. Site preparations
2. Site development

Site preparations will take place across the whole Ontario Place site, apart from Trillium Park and the William G. Davis Trail. Development work led by the private sector will occur on tenanted lands, and government-led development activities are limited to areas outside of those tenanted boundaries.

The government-led scope of work will include the following key types of activities:

- Planning approvals and realty activities
- Building decommissioning and removal
- Grading and landscaping
- Park, trail, and open space development

- Shoreline repairs and flood mitigation
- Site access and parking
- Ontario Science Centre incorporation
- New building and supporting site infrastructure construction

Because the redevelopment of the public spaces at Ontario Place is a government-led activity, the public realm works are subject to the Ontario *Environmental Assessment Act*. Therefore, the Project is following the Ministry of Infrastructure (2012) Public Work Class Environmental Assessment (PW Class EA) process, which focuses on provincial government realty and infrastructure projects. Figure ES-1 shows the public realm lands at Ontario Place that are subject to the (2012) PW Class EA process.

Figure ES-1. Ontario Place Public Realm Redevelopment Lands

Approach and Methodology

Potential environmental, cultural and socio-economic impacts, as well as public input related to redevelopment activities, were initially identified through the completion of a Consultation and Documentation (C&D) Report. The C&D Report was completed for redevelopment activities and was used to confirm the Project is a Category C undertaking, based on the potential environmental impacts and the level of public interest. Therefore, it was determined that the Project would proceed through the Category C EA process for the design and implementation of the public realm lands. The Category C process documents the full planning and decision-making process, and outlines the potential impacts, including the mitigation and monitoring measures that will be implemented to eliminate, reduce or control an effect. This Category C EA was completed using guidance available from the (2012) PW Class EA Class EA and includes all mandatory requirements.

Alternatives

The assessment of alternatives to the undertaking (in this case, the Project) is a step in the (2012) PW Category C Class EA process. “Alternatives to the Undertaking,” or just “Alternatives To,” refers to the different solutions that may be considered to address an identified problem or opportunity. The (2012) PW Class EA Class EA Framework recognizes that for most Public Work projects, this step occurs outside that framework as part of another planning or policy decision-making process. For the Ontario Place redevelopment, this step occurred outside the EA process. Alternatives to the Ontario Place redevelopment were assessed by the Government of Ontario and the decision to redevelop Ontario Place was made as part of a decision-making process.

Based on that decision, this report only considers “alternative methods” and describes the alternative methods of carrying out the undertaking (that is, government-led redevelopment activities), the evaluation methodology, and outcomes of the evaluation. The “alternative methods” refers to different ways of doing the same activity. For the Ontario Place redevelopment project, this could include considering one or more of the following: alternative sites for a proposed undertaking (such as, parking), alternative designs (such as, design concepts), and alternative technologies. For most of the Ontario Place public realm redevelopment, the “alternative methods” that were under consideration relate to the design of the public realm.

Alternatives Description

The Project footprint covers a large area, so to help identify and navigate design concepts (alternatives), the public realm was divided into five different zones. Two design concepts were created for each zone to show how the Government of Ontario’s vision, and feedback from the public, Indigenous communities, and stakeholders, could be realized onsite. The design concepts also aimed to resolve key issues impacting the site. Table ES-1 summarizes the design concepts that were evaluated for each zone.

Table ES-1. Summary of the Design Concepts for Each Zone

Zone	Design Concepts
Zone 1: Water's Edge	Concept A: Stone Lookouts Concept B: Planted Piers
Zone 2: The Marina	Concept A: Park Marina Concept B: Ontario Port
Zone 3: Brigantine Cove	Concept A: Event & Activities Concept B: Wetland & Nature
Zone 4: The Mainland	Concept A: Urban and Active Concept B: Green Gateway
Zone 5: The Forum	Concept A: Fountain and Flexible Space Concept B: Sports and Recreation Hub

In addition to Concepts A and B for Zone 4: The Mainland, alternatives were also developed and evaluated for parking and for a new main building for the Ontario Science Centre (OSC). These were evaluated separately because both parking and the OSC were required, regardless of the design concept selected for the Mainland Zone. Parking alternatives that were considered included location alternatives and structure type alternatives. The parking location alternatives included:

- Onsite parking facility
- Offsite parking facility

For parking structure types, the following alternatives were identified:

- An aboveground structure
- A belowground structure
- Surface parking lots only
- A combination of a surface parking lot and a belowground structure
- Alternatives considered and evaluated for the OSC main building include:
  - Location
  - Height and massing
- Based on the space required to accommodate the OSC functional program, existing lease agreements for sections of the site, and proposed public realm improvements, feasible location alternatives for the OSC at Ontario Place include:
  - Mainland (P1)
  - Mainland (P2)

- The following were the alternatives for height and massing:
  - Low (maximum two storeys; up to 80% P1 site coverage)
  - Medium (three to six storeys; up to 55% P1 site coverage)
  - Tall (seven plus storeys; up to 25% P1 site coverage)

Both OSC and parking alternatives were evaluated separately from the zones and design concepts.

Preferred Undertaking

Through the EA evaluation process and based on feedback from the public, Indigenous communities, and stakeholders, a preferred design or alternative was identified for each zone, the OSC, and parking. The preferred design shown in Figure ES-2 is at a conceptual design level (approximately 30% design) with detailed design as the next stage following completion of the EA process.

Water's Edge

The preferred design for the Water's Edge is Concept A: Stone Lookouts, with modifications to include additional vegetation. The recommended design addresses flooding and wave up-rush occurrences by pulling the water's edge further into the island. Access to the water is proposed to be improved with new features, including natural stone terraces, piers, and lookouts. The stone terraces create stone piers of varying sizes.

Marina

The preferred design for this zone is Concept A: Park Marina, with some preferred elements from Concept B, including the wood boardwalks; space for commercial opportunities, such as food and beverage; and the Cultural Pavilion. The preferred design also includes open-air park pavilions, flexible plaza spaces, and expansions of the lighthouse pier and a pier to the south. The marina will once again become a destination where visitors can gather, relax, play, and enjoy the lake.

Brigantine Cove

The preferred design for this zone is Concept B: Wetland & Nature, with modifications to include a children's play village, recreational opportunities, and increased access to the water (such as by providing a beach). Floating wetlands in the preferred design create a green edge and provide refuge and spawning habitat for aquatic species. The design also provides space for a children's play village inspired by Indigenous storytelling traditions. The East Bridge (replacing the existing culvert) allows for canoe and kayak passage, while improving water quality and circulation within the cove. The design is also modified to add water fountains to further improve water circulation. The design for this zone also includes supporting amenities, such as washrooms and changing rooms.

Mainland

The preferred design for the Mainland is Concept A: Urban and Active with multiple plaza and flex spaces, and modifications to increase greenspace and vegetation. The design also includes modifications to add food and beverage opportunities in response to public and stakeholder feedback. The preferred design includes a north shore promenade that connects the eastern and western edges of Ontario Place with a multi-mode pedestrian path. The design also includes a pickup and drop off hub and a public bus loop (transit or mobility hub), and widens the existing Martin Goodman Trail along Lakeshore Boulevard.

Parking (part of the Mainland)

The preferred parking alternative is to have a combination of surface parking (using the existing P2 parking lot located on the east side of the Mainland) and belowground parking (located west of the central gateway entrance) onsite. The existing surface parking lot is upgraded and includes the use of green pavers, vegetation, and a natural bioswale to collect stormwater and prevent it from reaching Lake Ontario.

Ontario Science Centre (part of the Mainland)

The preferred alternative for the OSC main building is to have a medium (three to six storeys; up to 55% P1 site coverage) building within P1 (existing parking lot to the west of the central gateway) on the Mainland. The main building includes connections to the underground parking lot for easy access and a connection to the existing pods and Cinesphere, which are re-purposed to form part of the OSC.

Forum

The preferred design for the Forum is Concept A: Fountain and Flexible Space, with modifications to incorporate bioswales to better address stormwater management. The design features a 1-acre play fountain, a stone bluff berm with appropriate vegetation along the south edge to provide protection from south shore winds, and a series of forest trails connecting the Forum to the south shore and Trillium Park. In response to stakeholder and public feedback, the design was also modified to include a market alley space to accommodate temporary food and beverage.

Overall Preferred Design

As Figure ES-2 shows, the preferred design or alternative for each zone, parking, and OSC was brought together to form an overall preferred public realm design. This design incorporates Trillium Park, as well as the proposed tenant-led redevelopment of the West Island.

Figure ES-2. Preferred Public Realm Design

Ontario Place Masterplan

April, 2023

0m 25m 50m 100m 250m

North

Infrastructure Ontario

LANDinc MSP STUDIO tla

Potential Impacts, Mitigation Measures and Monitoring Plan

A qualitative assessment was completed to identify potential environmental, socio-economic, technical, and cultural impacts of the preferred design (that is, preferred undertaking) within the spatial boundaries defined for the Project. The assessment also evaluated Project activities required to carry out the preferred undertaking, and the associated potential impacts. Potential impacts were identified through the results of the following activities:

- Project-specific desktop studies and field investigations
- Applicable regulatory requirements
- Consultation with Indigenous communities, key stakeholders, review agencies, and the public
- Review of the impacts and mitigation measures described in the Category B Site Servicing C&D Report
- Professional experience of the assessment team

Where a potential impact is likely, the assessment identified appropriate technically and economically feasible site-specific mitigation, enhancement, and monitoring measures to reduce or eliminate impacts, or to enhance positive effects. These mitigation measures will be further refined during detailed design once the magnitude of the net impacts has been identified for the final design. The need for mitigation measures and monitoring plans is typical for construction-related projects, such as the redevelopment of the public realm. Typical mitigation measures related to the natural, cultural, technical and social environment have been developed to address impacts such as sediment and erosion control, soils, wildlife habitats, climate change, and dewatering.

Overall, the preferred public realm design was developed to a conceptual level (approximately 30% design level) to support an evaluation of the environmental impacts, the identification of mitigation measures, and the determination of net environmental effects. However, the mitigation measures and monitoring plans will be refined based on detailed design and the completion of additional site-specific studies, where applicable.

Based on the preferred design for the public realm, the anticipated Project-related environmental impacts are manageable with typical mitigation measures. Therefore, significant impacts are not anticipated to remain from the Project. The potential impacts from construction, operations, and maintenance will be further assessed during detailed design, which will include refining the Project-specific mitigation measures. Minor construction-related impacts are anticipated over varying lengths of time, because the redevelopment of the public realm will be undertaken through stages. The extent, duration and magnitude of the potential environmental impacts will be more fully determined during detailed design and the construction planning stage. Potential impacts and recommended mitigation measures and monitoring plans will be refined during detailed design and finalized before construction begins; this includes any ongoing consultation with Indigenous communities.

Monitoring, which could include Indigenous archaeological, environmental and construction monitoring, will occur throughout and after construction, to confirm compliance with mitigation measures and commitments specific to the undertaking. Monitoring activities will be appropriate for Project-related activities and associated effects, and will continue to be developed throughout detailed design.

Compliance monitoring will also take place to evaluate how well the undertaking is meeting specifications and commitments outlined in this Environmental Study Report or by regulations. Specifically, post-construction monitoring will take place and will include an assessment of landscape reclamation, revegetation, drainage, erosion control, weeds, and other issues related to areas disturbed during construction. The monitoring parameters, analyses, and measures for success will be finalized during detailed design, when vegetation species and associated locations are known. Ongoing consultation will continue with Indigenous communities to determine their desired level of involvement in monitoring programs and activities.

This Project will be implemented in accordance with all applicable municipal, provincial, and federal laws. The Government of Ontario is generally not subject to the legal requirements of municipal by-laws or the permitting processes of conservation authorities; however, the government will work closely with all authorities having jurisdiction to achieve conformance to their requirements.

Consultation

A Consultation Plan was prepared at the launch of the EA, and identified the methods proposed to engage with Indigenous communities, stakeholders and the public with the potential to be directly affected by or have interest in the Project. That Consultation Plan included various forms of engagement and consultation such as, but not limited to, virtual meetings, website postings, and presentations.

Consultation and Engagement with Indigenous Communities

Seven First Nations were invited to and participated in the EA and design process, and additional Indigenous communities, organizations, and urban Indigenous groups were invited to review conceptual and recommended designs. A combination of multiple onsite and virtual engagement meetings, as well as email and telephone outreach (among other methods), were conducted to ensure opportunities for participation.

Physical, educational, programming and environmental ideas were shared by First Nations and Indigenous communities and groups during Indigenous-focused engagement sessions, and recommendations were shared on how their ideas could be incorporated into the public realm design of Ontario Place. Additionally, Indigenous communities provided days of significance to be considered for Indigenous education and programming onsite. Considerations about how to incorporate specific design suggestions and programming for Indigenous Placekeeping nodes within the design are beyond a conceptual design level, and are therefore outside the scope of

the EA. These ideas will continue to be explored after the EA process as part of the detail design phase of the public realm design.

Indigenous communities were also given the opportunity to review and provide feedback on the EA evaluation criteria, the public realm design concepts, and the recommended design. This feedback was considered in the selection of a recommended design and in the refinement and confirmation of the preferred design.

Stakeholder Consultation

A Technical Group was established to provide a streamlined technical consultation process. This group consisted of technical stakeholders and review agencies (federal, provincial, and municipal) with an interest in the Project. The Project team held two meetings with the Technical Groups (October 2022 and April 2023). Members from the parties who participated in the Technical Group provided feedback on the draft evaluation criteria used to evaluate the conceptual designs, the proposed design concepts. and the recommended design for the public realm, contributing to the confirmation of a preferred design.

Virtual meetings were held with the Toronto and Region Conservation Authority (TRCA) and the Project team to review and provide feedback at key milestones. Throughout the EA process, TRCA provided feedback on the draft evaluation criteria and on the preliminary results of the EA evaluation for each zone as it pertains to their areas of interest. TRCA also provided suggestions and input on the technical feasibility of shoreline works through the design.

Additional key stakeholders were consulted for the Project.

Public Consultation and Engagement

In February 2022, a dedicated Project website (engageontarioplace.ca) was launched to provide the public, Indigenous communities, and stakeholders with information about the redevelopment project, including updates, information on how to participate, opportunities for submitting feedback, and relevant project documents and reports. Virtual public engagement rooms (VPERs), which included opportunities to provide feedback, were also launched on the Project website for each of the three public engagement events.

In April 2022, the first public engagement event (Engagement Event 1) was held to seek input, ideas, and preferences related to the public spaces at Ontario Place. The event consisted of two opportunities for public input, including a VPER and a live, virtual workshop on public realm design visioning (held on April 12, 2022). This feedback was considered in the development of the public realm design concepts and draft evaluation criteria.

Engagement Event 2 took place in October 2022 and consisted of a live, virtual consultation event (held on October 27, 2023) and a 'VPER 2.0'. The purpose of this event was to consult on the draft EA evaluation criteria and the public realm design concepts. Feedback from the VPER and consultation event was considered in the refinement of the EA evaluation criteria and in the identification of a recommended and then preferred design for the public realm.

Engagement Event 3 took place in April 2023 and consisted of a live, virtual engagement event (on April 27, 2023) and a 'VPER 3.0'. This event was used to gather input on the recommended design for the public realm. Feedback from the VPER and consultation event was used to further refine the design and confirm a preferred public realm design.

Four newspaper notices were prepared for the EA engagement activities:

1. Notice of Commencement and Consultation Event (Engagement Event 1)
2. Notice of Engagement Event 2
3. Notice of Engagement Event 3
4. Notice of Completion

The Notice of Completion has also been posted on the Environmental Registry of Ontario.

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Acronyms and Abbreviations

Acronyms and Abbreviations	Definitions
°C	degree(s) Celsius
C&D Report	Consultation and Documentation Report
cm	centimetre(s)
DFO	Fisheries and Oceans Canada
EA	environmental assessment
ESR	Environmental Study Report
GTA	Greater Toronto Area
IO	Infrastructure Ontario
km	kilometre(s)
LEA	LEA Consulting Ltd.
LSA	local study area
m	metre(s)
MECP	Ontario Ministry of Environment, Conservation and Parks
MH	Morrison Hershfield
mm	millimetre(s)
MOI	Ontario Ministry of Infrastructure
OSC	Ontario Science Centre
O. Reg.	Ontario Regulation
Project	redevelopment of the public realm component of Ontario Place
Proponent	Ontario Ministry of Infrastructure
Public realm	non-tenanted area; government-led redevelopment area
PW Class EA	Public Work Class Environmental Assessment
SAR	species at risk
SARA	*Species at Risk Act*
Shoreplan	Shoreplan Engineering Ltd.
Terrapex	Terrapex Environmental Ltd
TRCA	Toronto and Region Conservation Authority
VPER	Virtual Public Engagement Room

1. Introduction and Background

Ontario Place is an artificially created waterfront property in Toronto, Ontario, at 955 Lake Shore Boulevard West, which includes the following existing amenities:

- Public parks
- Trails
- An outdoor music venue
- A marina
- Outdoor gathering and event spaces
- A cinema (the Cinesphere)
- A series of five interlinked "pods" suspended above Lake Ontario

Ontario Place was originally constructed in the late 1960s, using urban fill from other construction projects in Toronto. The site (Figure 1-1) consists of three artificially made islands, linked to the waterfront via a network of plazas, bridges, and pathways. The entire property covers an approximate 155-acre area of land and water. In 1971, Ontario Place opened as a theme park with the Cinesphere and pods, a forum, and three 'village' clusters set within a naturalized landscape of canals, lagoons, and a marina. The Children's Village was added in 1972. Ontario Place was decommissioned in 2012 due to declining attendance and annual financial loses. The Government of Ontario is now redeveloping Ontario Place. The Government of Ontario assessed different solutions to address the opportunity for redeveloping Ontario Place, which resulted in a new vision for the site that includes the following goals:

- Enhancing public and event spaces, parkland, and waterfront access
- Focusing on family-friendly entertainment and recreation
- Recognizing and celebrating the legacy of Ontario Place
- Modernizing the site with environmental sustainability and climate resilience measures
- Creating a centrepiece for the Province's heritage, tourism, recreation and culture

Over the coming years, the private and public sectors will work together to deliver the government's vision for Ontario Place. Recreation- and entertainment-based attractions will be provided by anchor tenants (that is, private [tenanted] developments). Upgrades to the park and public spaces (that is, non-tenanted government-led developments or the public realm) across the entire site will be accessible and inclusive for all visitors, free of charge. Enhanced and modernized infrastructure will support the vision, including new transit connections, improved site access, soil remediation, and sitewide flood protection.

The redevelopment of the public realm component of Ontario Place (the Project) is being completed by Infrastructure Ontario (IO) on behalf of the Ontario Ministry of Infrastructure (MOI) (the Proponent) (previously on behalf of the Ontario Ministry of Heritage, Sport, Tourism, and Culture Industries). An Environmental Assessment (EA) has been undertaken for the government-led redevelopment activities.

Figure 1-1. Ontario Place Public Realm Redevelopment Lands

1.1 Purpose of the Environmental Study Report

As the redevelopment of the public spaces at Ontario Place are being led by the Ontario government, the public realm works are subject to the Ontario *Environmental Assessment Act*. Therefore, the Project is following the Public Work Class Environmental Assessment (PW Class EA) process which focuses on provincial government realty and infrastructure projects.

This Environmental Study Report (ESR) provides a record of process, analyses, and the results obtained throughout the Project. The Project was carried out under the (2012) PW Class EA as a Category C undertaking because of the potential for significant predictable adverse environmental effects and the high level of public interest in the Project. The *Environmental Assessment Act* sets out the requirements for the approval of Class EAs.

The purpose of this ESR is to document the planning and design procedures set out in the Class EA that were followed for the Project. The data and information used here were derived from a variety of sources (listed in Section 7 of this ESR), as well as feedback collected during the consultation and engagement process (described in Section 6 of this ESR).

1.1.1 Environmental Assessment Process

1.1.1.1 Environmental Assessment Act (Ontario)

The Ontario *Environmental Assessment Act* (applies to the work being completed by or on behalf of the Government of Ontario, including site preparations across Ontario Place and redevelopment activities for the public realm. The purpose of the Ontario *Environmental Assessment Act,* R.S.O. 1990, c. E. 18 is to protect, conserve, and manage the environment for the people of the whole or any part of Ontario. Under the *Environmental Assessment Act,* proponents are to consider the possible impacts (or effects) of projects early in the planning process, when concerns may be most easily resolved, and to select a preferred alternative with the fewest identified impacts.

The *Environmental Assessment Act* requires the study, documentation, and examination of the environmental effects that could result from projects or activities. The *Environmental Assessment Act* requires that an EA must consist of the following components:

"(a) a description of the purpose of the undertaking;

(b) a description of and a statement of the rationale for,

> *(i) the undertaking,*
>
> *(ii) the alternative methods of carrying out the undertaking, and*
>
> *(iii) the alternatives to the undertaking;*

(c) a description of,

> *(i) the environment that will be affected or that might reasonably be expected to be affected, directly or indirectly,*

(ii) the effects that will be caused or that might reasonably be expected to be caused to the environment, and

(iii) the actions necessary or that may reasonably be expected to be necessary to prevent, change, mitigate or remedy the effects upon or the effects that might reasonably be expected upon the environment, by the undertaking, the alternative methods of carrying out the undertaking and the alternatives to the undertaking;

(d) an evaluation of the advantages and disadvantages to the environment of the undertaking, the alternative methods of carrying out the undertaking and the alternatives to the undertaking; and

(e) a description of any consultation about the undertaking by the proponent and the results of the consultation."

The *Environmental Assessment Act* defines "environment" very broadly:

- *"Air, land, or water*
- *Plant and animal life, including human life*
- *Social, economic, and cultural conditions that influence the life of humans or a community*
- *Any building, structure machine, or other device or thing made by humans*
- *Any solid, liquid, gas, odour, heat, sound, vibration, or radiation resulting directly or indirectly from human activities*
- *Any part or combination of the foregoing, and the interrelationships between any two or more of them, in or of Ontario"*

When applying the requirements of the *Environmental Assessment Act* to projects, there are two types of planning and approval processes:

1. Comprehensive EAs: Comprehensive EAs are prepared for large-scale, complex projects with the potential for significant environmental effects, requiring Ontario Ministry of Environment, Conservation and Parks (MECP) review and approval.
2. Streamlined EAs: Streamlined EAs can be used for routine projects that have predictable and manageable environmental effects. The proponents of these project follow a self-assessment and decision-making process, and MECP approval is not directly granted. A Class EA process sets out the requirements of the streamlined self-assessment process.

The MOI (2012) PW Class EA is a planning tool, consisting of procedures that allow the MOI to comply with requirements of the *Environmental Assessment Act* using a streamlined approach.

1.1.1.2 Impact Assessment Act (Canada)

The *Impact Assessment Act* outlines the federal process for assessing the impacts of major projects and projects carried out on federal lands. The *Impact Assessment Act* S.C. 2019 received royal assent in June 2019 and replaced the *Canadian Environmental Assessment Act* S.C. 2012. Projects are subject to this act if they are listed within the Schedule in the Physical Activities

Regulations, also known as the "Project List." Examples of projects on the Project List include nuclear facilities; oil, gas and other fossil fuel facilities; new dams; and mining projects. The Project is not subject to the *Impact Assessment Act* because it is not in the Schedule of Physical Activities.

1.1.1.3 Submission Requirements

The Project was conducted as a Category C Class EA under the MOI's (2012) PW Class EA guidance. A Category C applies to undertakings that have the potential for significant environmental impacts and must proceed under the full planning and documentation procedures. The environmental impacts are assessed and mitigation measures, monitoring plans, and public consultation are documented.

When the Project is complete, a Notice of Completion of the ESR is advertised and the final draft ESR is placed on the public record for a minimum 30-day comment period. It is anticipated that this ESR will be available for a 60-day comment period. The ESR will also be filed with the MECP EA Branch and the MECP Central Region Office. The ESR will be made available online for comment during the 60-day comment period. Additional copies (paper copies) will be made available upon request. In addition, the Notice of Completion of the ESR will also be posted on the Environmental Registry to indicate the draft ESR is available for comment.

A Section 16 Order is the legal mechanism that can elevate the status of an undertaking (that is, elevated to be completed as a Comprehensive EA or have further conditions imposed) before the project can progress to implementation. The Minister of the Environment, Conservation and Parks has the authority and discretion to make a Section 16 Order if the following conditions exist:

- There is outstanding concern that a project going through the Class EA process may have a potential adverse effect on existing constitutionally protected Aboriginal and treaty rights.
- There is an assertion that a Section 16 Order may prevent, mitigate, or remedy this impact.

The MECP will not accept a Section 16 Order in an attempt to delay or stop the planning or implementation of a project proceeding through a Class EA process.

1.1.1.4 Additional Regulatory Requirements

In addition to meeting the requirements of the *Environmental Assessment Act*, this Project will need to comply with all other applicable federal, provincial, and municipal statutory requirements and applicable policies, such as:

- *Migratory Bird Convention Act*
- *Species at Risk Act*
- *Canadian Navigable Waters Act*
- *Fisheries Act*
- *Ontario Environmental Protection Act*
- *Ontario Endangered Species Act*

- *Ontario Heritage Act*
- *Ontario Conservation Authorities Act*
- *Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*
- Toronto and Region Conservation Authority (TRCA) Living Cities Policy

1.1.1.5 Project Boundaries

Project activities and associated impacts were identified based on the following boundaries.

- Administrative: aspects of the Project a proponent or client ministry or agency has jurisdiction over (that is, MOI)
- Spatial: potential impacts, including cumulative effects, within the areas potentially affected by the Project
- Footprint: the land area directly disturbed by physical activities (that is, its construction and implementation)
- Local Study Area (LSA): an area where potential impacts that may extend beyond the Footprint (such as a spill on land migrating to water)
- Regional Study Area: a larger geographical area where Project impacts may contribute to cumulative impacts or other human activities (such as the city of Toronto)
- Temporal: the temporal extent of interactions between the Project and the natural, cultural, and social elements, including the duration and frequency of activities contributing to impacts (such as construction activities).

1.2 Project Background

In 1971, Ontario Place opened to the public as a main attraction showcasing the province's history, natural resources, and diversity (Steven Burgess Architects Ltd.). As an attraction, it offered recreational activities, science programming, and access to the waterfront. Since that time, Ontario Place has a history of several redevelopment efforts, including becoming an amusement park and a waterpark, with each redevelopment hoping to recreate the original goal of attracting local, provincial, and national visitors. Ultimately, the Live Nation Amphitheatre has been the only economically viable development over the long term. The number of other paid attractions decreased throughout the site until their closure in 2012 (Government of Ontario 2021).

In 2019, the Government of Ontario launched a formal Call for Development and searched for partners with ideas that would transform the site. The Government of Ontario sought development concepts that include family-friendly entertainment, recreation, sports, and hospitality. In 2021, IO (on behalf of the Ministry of Tourism, Culture and Sport as the original Proponent of the Project) initiated the redevelopment of Ontario Place to create a new world-class, year-round destination that will include family-friendly entertainment, public and event spaces, parkland, and waterfront access.

1.3 General Description of The Undertaking

Ontario Place was decommissioned in 2012 because of declining attendance and annual financial loses, and the Government of Ontario is looking to redevelop it. The purpose of the undertaking (the Project) is to redevelop Ontario Place into an accessible and inclusive experience for all Ontarians that reflects the diversity of the province and celebrates the legacy of its waterfront location.

The Government of Ontario will be undertaking the following two activities that apply to the public realm redevelopment activities:

1. Site preparations
2. Site development

Site preparations will take place across the whole Ontario Place site, except for Trillium Park and trails. Development work led by the private sector will occur on tenanted lands, and government-led development activities are limited to areas outside of those tenanted boundaries.

The government-led scope of work will include the following key types of activities:

- Planning approvals and realty activities
- Building decommissioning and removal
- Grading and landscaping
- Park, trail, and open space development
- Shoreline repairs and flood mitigation
- Site access and parking
- Science-based learning program incorporation
- New building and supporting site infrastructure construction

The overall redevelopment area is made up of the tenanted and non-tenanted lands. Apart from overall site preparations, the government-led development activities that are subject to this Class EA occur on non-tenanted lands (Figure 1-1). The Project, as described, is subject to the MOI PW Class EA process, including a complete public consultation program.

1.4 Related Studies

A Development Application was submitted to the City of Toronto in November 2022. This included an Official Plan Amendment for the overall Ontario Place site, including the current parking areas on the Mainland, and a Zoning By-law Amendment that applies to the entire Ontario Place site. The Development Application also included a rezoning component for the West Island tenant-led developments, with a future rezoning application expected for the Centre Island tenant-led development. Several supporting planning studies have been prepared to support the Development Application, including a Comprehensive Plan (Urban Strategies Inc. 2022a),

Planning Justification Report (Urban Strategies Inc. 2022b), conceptual and perspective drawings, Public Utilities Plan (TYLin 2022), and Underground Garage Plans (BDP Quadrangle 2022).

In preparation for redevelopment activities, IO completed a Consultation and Documentation Report (C&D Report) for the Category B Ontario Place Site Servicing Project in July 2022. Site servicing includes the following activities to prepare the site for redevelopment (IO 2022):

- Design services
- Decommissioning and removal of infrastructure with no remaining purposes
- Modifications of existing, or construction of new, site servicing and related supporting infrastructure
- Grounds maintenance and landscaping
- Related realty activities if required to facilitate coordination of the approvals and agreements, such as acquisition, leasing or letting, or a combination thereof

The site servicing project includes the following tasks:

- Reconfiguring and updating infrastructure to current code
- Upgrading the existing onsite underground utilities (such as water, wastewater, electrical, gas)
- Providing redundant or backup offsite service connections to external infrastructure networks (such as City of Toronto, hydro, gas)
- Including stormwater management

The full *Category B Ontario Place Site Servicing C&D Repor*t (IO 2022) is available online in the document library at www.engageontarioplace.ca.

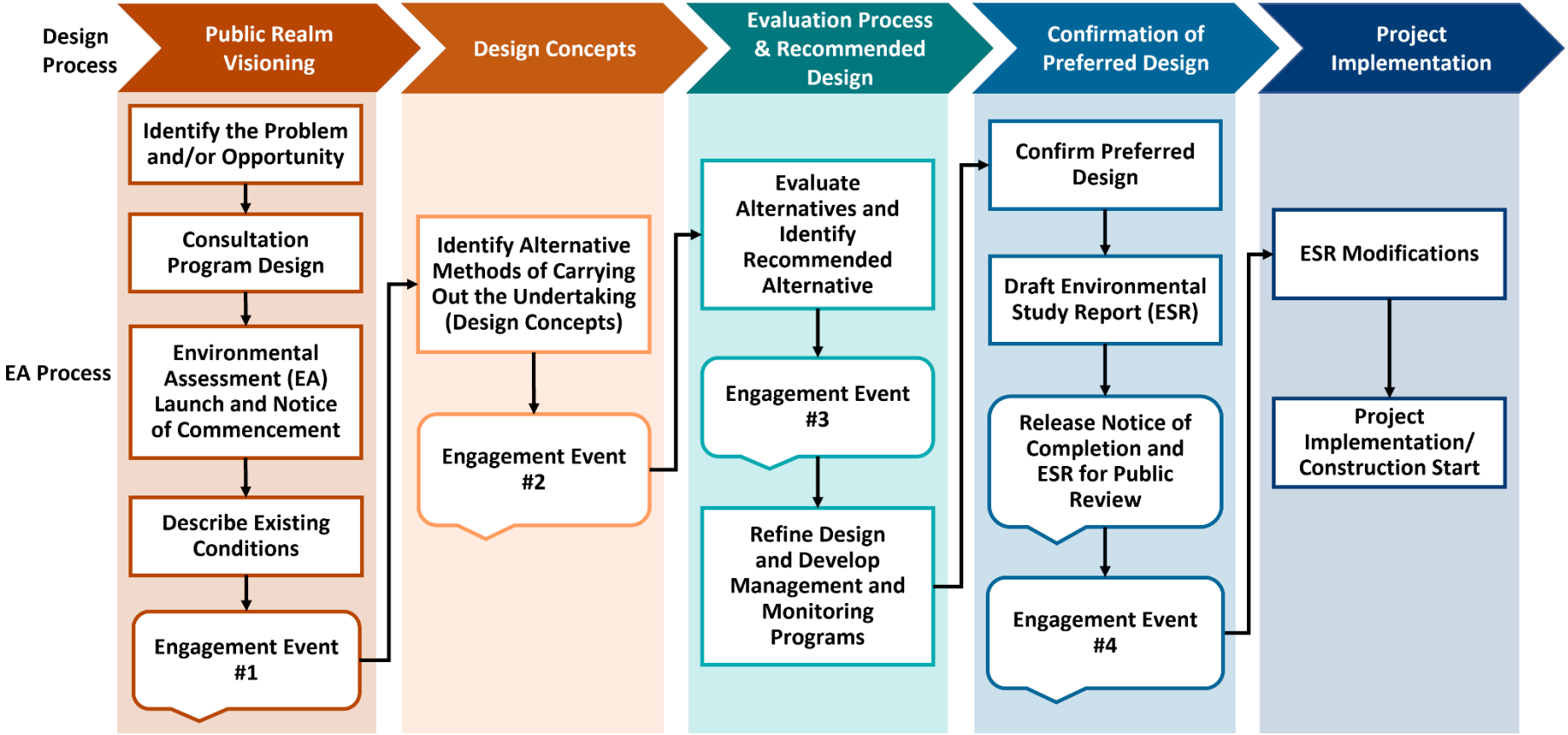
1.5 Assessment and Implementation Schedule

The Category C PW Class EA was officially launched in March 2022 with the release of the Notice of Commencement (Appendix A).

EA-specific public engagement events (shown in Figure 1-2) were planned to: incorporate input from the public early in the process (the public realm visioning in April 2022), create and present design concepts (October 2022), present the evaluation of design concepts and identify a recommended design alternative (April 2023), confirm the preferred alternative (the ESR comment period), and implement the Project.

The Category C Class EA must be completed before major construction related to the undertaking can be implemented onsite. Construction is anticipated to begin in late 2023 or early 2024.

Figure 1-2. EA and Design Process Steps



2. Approach and Methodology

This section describes the data collected for the Project, the technical approach to the assessment, the Project team organization, and the consultation program designed for this Class EA.

2.1 Approach to the Assessment

The scope of the assessment focuses specifically on the government-led activities described in Section 1.3. Figure 2-1 shows the Primary Study Area (the Study Area), which is the area where the government is solely responsible for the design, approval, and construction for the public realm and where activities subject to the Category C Class EA will take place. The Secondary Study Area includes areas where tenant development will occur, including publicly accessible areas within the tenanted area. The landscape design team is collaborating with tenants to integrate the designs developed for both study areas. The Project team (outlined in Section 2.3) will provide integration across and between both government-led public realm activities and the tenanted lands.

The potential environmental and social impacts of the Project are identified by data collection and analysis within the Study Area. Section 3 of this ESR describes the existing conditions, including how and when appropriate data were collected. Section 4 and Appendix B of this ESR present the evaluation of potential impacts, based on the likely interactions of the Project within the existing conditions of the Study Area.

Feedback from stakeholders and Indigenous communities is an integral part of the EA process. Section 6 and Appendix A of this ESR describes inputs gained from consultation with the public, key stakeholders, review agencies, technical groups, and Indigenous communities.

2.1.1 Categorization Activities

Categorization is when an EA category is assigned to a Project based on its possible environmental effects or because of the level of public interest.

The (2012) PW Class EA defines various categories of projects based on their anticipated environmental impacts (or effects):

- Category A: These projects are exempt from the EA Act (no EA action is required).
- Category B: These projects have some potential for adverse environmental effects. However, the effects are well-understood from a technical perspective and are minor in nature. The effects are often regulated by existing guidelines, approved policies, and legislation, and they have mitigation measures that can typically address them. Consultation takes place with directly affected parties. The conclusion of the Category B is completion of a C&D Report.
- Category C: These projects have a greater potential for significant environmental effects. A public consultation plan is required, and alternatives must be considered. The conclusion of

the Category C project is completion of an ESR that documents the EA process and consultation program.

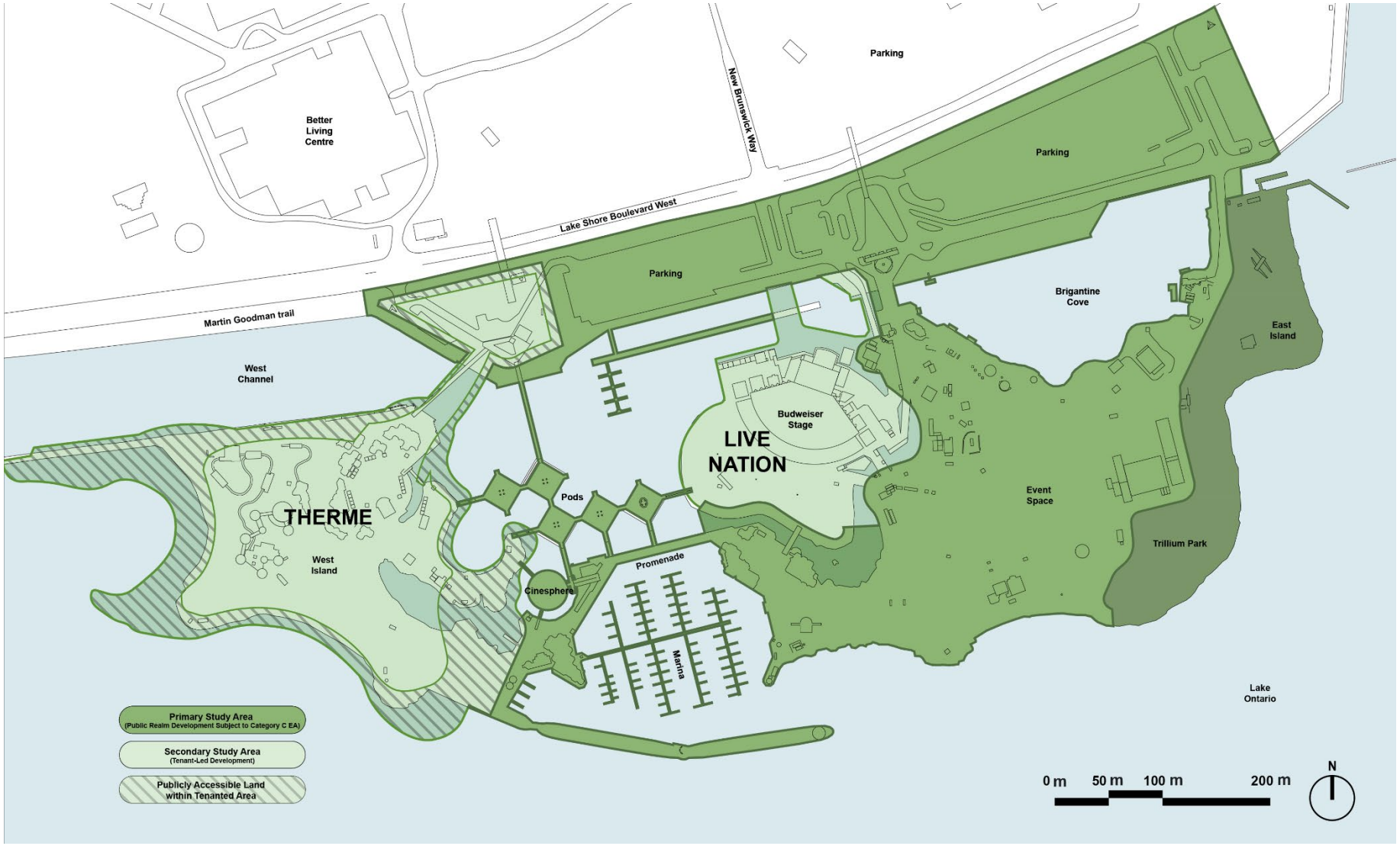
- Category D: This is not part of the Class EA process, and requires the completion of a Comprehensive EA.

Table 2.1: EA Category Identification Table from the PW Class EA (MOI 2012) was completed for the Project. The following screening criteria were identified for the Project:

- Potential long-term changes to the social structure (how individuals are interacting with their environment)
- Potential local, long-term changes significant enough to threaten the habitat of provincially or nationally rare, or vulnerable, threatened or endangered species (for example, barn swallow, American eel)
- Potential to block or restrict wildlife movement or migration through the construction of fencing or barriers (which can include buildings)
- Substantial level of public interest anticipated in relation to the Project

Potential environmental and socio-economic effects and public concerns related to redevelopment activities were initially identified through the completion of a C&D Report. The C&D Report was completed for redevelopment activities, and was used to confirm the Project is a Category C project, based on the potential environmental effects and the level of public interest. Therefore, it was determined that the Project would proceed through the Category C EA process for the design and implementation of the public realm lands.

Figure 2-1. Primary and Secondary Study Areas



2.1.2 Overview of the Category C Process

The Category C EA is a comprehensive process that is applied to undertakings with the potential for significant environmental effects (irreversible effects that are beyond environmental or regulatory standards). The Category C process documents the full planning and decision-making process, and outlines the potential effects, including the mitigation and monitoring measures that will be implemented to eliminate, reduce, or control an effect.

This Category C EA was completed using guidance available from the PW Class EA (MOI 2012) and the proposed Government Property Class EA process (MECP 2020) and includes all mandatory requirements of both. This hybrid approach included the following tasks:

- Complete the C&D Report.
- Describe the undertaking and Background (Sections 1.2 and 1.3 of this ESR).
- Develop a consultation plan (Section 6 of this ESR).
- Announce the Project (Appendix A-2 of this ESR).
- Consult with Indigenous communities throughout the Project (Appendix A-4 of this ESR).
- Describe the existing conditions (Section 3 of this ESR).
- Identify and Evaluate Alternatives (Section 2.1.3 of this ESR)
- Consult with review agencies and the public (Section 6 of this ESR).
- Select the preferred alternative (Section 2.1.3 of this ESR).
- Identify and Evaluate Alternative Methods of Carrying out the Undertaking (Section 4 of this ESR).
- Consult with agencies and the public again (Section 6 of this ESR).
- Select the preferred alternative method (Section 5 of this ESR).

2.1.3 Documentation of Alternatives to the Undertaking

The assessment of alternatives to the undertaking (in this case, the Project) is a step in the PW Category C Class EA process. “Alternatives to the Undertaking,” or “Alternatives To,” refers to the different solutions that may be considered to address an identified problem or opportunity. For example, alternatives to a site development can range from “do nothing” (maintaining the current situation), to the building of new facilities.

The PW Class EA Framework recognizes that for most Public Works projects, this step occurs outside that framework as part of another planning or policy decision-making process. For the Ontario Place redevelopment, this step occurred outside the EA process and will not be included in the EA methodology.

Alternatives to the Ontario Place redevelopment were assessed as part of an Ontario Government priority initiative.

The assessment was based on a commitment to support the provincial government's vision of Ontario Place as a world-class year-round destination that would attract local, provincial, and international visitors – with potential landmarks such as sports and entertainment attractions and retail. These landmarks could be complemented by recreational facilities, public space and parks, and the existing amphitheatre.

The undertaking seeks to uphold the government's vision for Ontario Place, which includes the following tenets:

- Emphasize recreational and cultural programming across the entire site
- Upgrade the public realm, with a focus on accessibility and sustainability
- Create public access across the site
- Enhanced waterfront access and activities (swimming, boating, dining, recreation)
- Provide sustainable design, where possible (buildings and landscape)
- Make the site integrable and compatible with Exhibition Place, including Ontario Line last-mile transit solutions
- Provide family-friendly entertainment

The redeveloped site will not include casinos, or condominiums or other residential uses, and the government will continue to own the land. In addition, key heritage and recreational features will be brought up to modern standards and integrated into the redevelopment, including the Cinesphere, the Pod complex, the marina, Trillium Park, and the William G. Davis Trail. The government is committed to repairing and updating the site's existing infrastructure so the structures are brought up to current standards, and can support future redevelopment; this includes full-servicing, soil remediation, site access improvements, flood mitigation, and the public realm construction of all non-tenant areas.

Table 2-1 represents timelines and activities involved in the alternatives to the Ontario Place redevelopment decisions.

Table 2-1. "Alternatives To" Timeline

Timeline	Activity
2012 to 2018	The Government of Ontario closes Ontario Place and begins identifying long-term plans for the site.
May 2019	Following input from stakeholders, the Government of Ontario announces residential development and casinos will be excluded from any future site redevelopment.

Timeline	Activity
January to September 2019	The Ministry of Heritage, Sport, Tourism and Culture Industries retains IO to design and deliver a Call for Development process to meet the vision for Ontario Place. Through the assessment process, IO identifies that no single submission meets the Government of Ontario's desire for a comprehensive sitewide solution. Consequently, the preferred approach to redevelopment is a consolidation of the best-in-class submissions.
September to November 2019	Following the assessment process, IO proposes that the Government of Ontario proceed with engaging a shortlisted group of participants as part of a multi-partner, multi-phase approach to site redevelopment.
December 2019	The resulting redevelopment strategy for Ontario Place receives support from the Premier of Ontario.
May 2020	The redevelopment strategy receives formal endorsement from the Treasury Board.

As mentioned, the provincial government assessed alternatives to the Project outside the EA process, as permitted by the PW Class EA process. This EA does not assess the decisions listed in Table 2-1. However, the alternative methods of the government-led component of the Project will be assessed with public, stakeholder and Indigenous community input (refer to Section 4).

2.2 Approach to the Design

The redeveloped Ontario Place will offer a cohesive landscape that seamlessly integrates the tenant-led developments with public spaces across the site. The design of the public realm component seeks to celebrate the original vision for Ontario Place by preserving key heritage attributes (specifically, architectural and landscape heritage elements and topography) and enhancing them through redevelopment. The design of the public realm also aims to reinterpret the original designer Michael Hough's landscape intent (such as open spaces with intimate wooded spaces), and create opportunities for recreation. Design and landscape architecture firms LANDinc. and Martha Swartz Partners (MSP) are leading the design of the public realm land, and approached this redevelopment with the following goals:

- Ensure public access to the fullest extent possible.
- Improve site connectivity and accessibility.
- Maintain, enhance, and create interactions with the water's edge.
- Integrate the public realm with Exhibition Place and the city beyond.
- Enhance long-term resilience, environmental performance and sustainability.
- Respect heritage features, including the pods and Cinesphere.
- Respect and enhance the cultural heritage landscape of public open spaces.

To facilitate input from the public, technical groups, and Indigenous communities, several design concepts were created for the public realm areas. These concepts were created to foster discussion and feedback regarding the preferred design.

The design process integrates into the EA by following these main steps.

1. Public Realm Visioning: Gather information from the public to inform a "vision" of the future of the Ontario Place public realm.
2. Design Concepts: Use the public realm visioning to inform the development of design concepts (multiple concepts [that is, options] are created).
3. Evaluation Process and Recommended Design: Evaluate the design concepts and recommend a design option.
4. Preferred Design Confirmation: Refine the recommended design and confirm it is the preferred design concept, then include it in the ESR.
5. Project Implementation: Construct and operate the preferred design.

2.3 Project Team

The Project team consists of members of the government, technical consultants, and subconsultants and special advisors (Table 2-2).

Table 2-2. Project Team

Project Team Role	Name
Proponent in charge of the Undertaking and responsible for meeting the terms and conditions of the (2012) PW Class EA process	▪ Ministry of Infrastructure
Agent in charge of the assessment and Implementation	▪ Infrastructure Ontario
Consultants and Subconsultants	▪ Jacobs – EA ▪ LANDinc. – Design and Indigenous Engagement ▪ MSP – Design ▪ MinoKamik Collective – Indigenous Engagement ▪ Bespoke – Public Consultation ▪ Good Digital Culture – Website Design ▪ MH – Natural Heritage ▪ Urban Strategies Inc. – Planning Consultants ▪ LEA – Transportation Analysis ▪ Shoreplan – Coastal/Shoreline Assessment

Notes:

MH = Morrison Hershfield

MSP = Martha Swartz Partners

2.4 Internal Participation

Table 2-3 lists the IO and MOI divisions, departments, and regional and district offices that participated in the Project.

Table 2-3. Internal Government Participation

Department/Division	Nature and extent of participation, comments, issues, or concerns
Ministry of Infrastructure: ▪ Ontario Place Redevelopment Secretariat	▪ Project team responsible for providing EA direction and delivering the government's vision and priorities for the site. Client team for Infrastructure Ontario.
Infrastructure Ontario: ▪ Environmental Projects ▪ Development (Landmark Projects) ▪ Project Delivery	▪ Environmental Projects – responsible for managing the delivery of the MOI PW Cat C Class EA for the site preparation and public realm redevelopment based on MOI direction. ▪ Development – Landmark Projects – responsible as the master developers for the overall site. IO department leading the delivery of the full project scope and reporting to Ministry client. ▪ Project Delivery – responsible for managing the delivery of the Public Realm Design component of the project.

2.5 Consultation Overview

The *EA Act* requires proponents to consult with interested or potentially affected parties as part of the planning process. Consultation is the process by which interested or affected individuals and organizations both receive information regarding the Project and provide input into the decision-making process. The purpose of consultation is to provide opportunities for the Indigenous communities, agencies, and the public to contribute to and influence decisions relating to development. Per the (2012) PW Class EA, the "public" includes:

- General public: individual members of the public who are interested in or may be affected by the undertaking
- First Nations and Indigenous communities: organizations or individuals who are living in the vicinity of the undertaking, interested in the undertaking or may be affected by the undertaking
- Non-government organizations and special interest groups: public and private interest groups whose mandate or interest pertains to the undertaking
- Government review agencies: municipal, provincial, and federal government agencies that have an interest in an undertaking or have been designated to review EA documentation, or both

For this Project, the team considered consultation and engagement to include the broad definition of "public." This ESR separates this into activities with the public, Indigenous communities, agencies, and other stakeholders.

Appendix A-1 provides a Project-specific contact list.

Effective consultation involves the flow of two-way information between the proponent and those interested or affected by the Project (or both). The proponent is responsible for providing accurate and understandable information to those being consulted, and must establish a basis for useful input or feedback.

The consultation program for the Project was designed to include consultation and engagement events before key decision-making milestones, to gather ideas and perspectives that could be included in the EA and design process (Figure 2-2). When consultation is initiated before decisions are made, it can result in the identification of innovative ideas and perspectives. For example, the April 2022 engagement event was designed as a visioning workshop to collect ideas about how the redevelopment of the public realm lands at Ontario Place can look. The Project team heard that considerations including accessibility for all, access to the shoreline, and increased green space were important issues to many participants, which influenced the conceptual designs presented at the second engagement event in October 2022.

The public engagement events were designed to allow several ways for interested or affected parties to provide feedback:

- Verbally and through written comments during breakout session at virtual engagement events
- Online, by leaving comments via the Virtual Public Engagement Room
- Electronically, via email to members of the Project team

Engagement for the Project began in fall 2021 and is anticipated to continue through to the end of 2023. EA-specific consultation began in March 2022 with the Notice of Commencement and Consultation Event (Engagement Event 1) (Appendix A-2). Public participation and consultation have been included throughout the subsequent EA and design process. Engagement with Indigenous communities has been ongoing throughout the EA process since February 2022. Section 6 of this ESR provides a detailed discussion about consultation, including an overview of the consultation process completed for the Project, how consultation was implemented, who was consulted and how, and the results of consultation and how comments were addressed.

Figure 2-2. Consultation with the Public

3. Existing Conditions

This section describes the existing conditions in the natural, socio-economic, cultural heritage, and built environments associated with the Project. The PW Class EA (MOI 2012) requires a description of the existing environment that will or is reasonably expected to be affected, either directly or indirectly, by the Project.

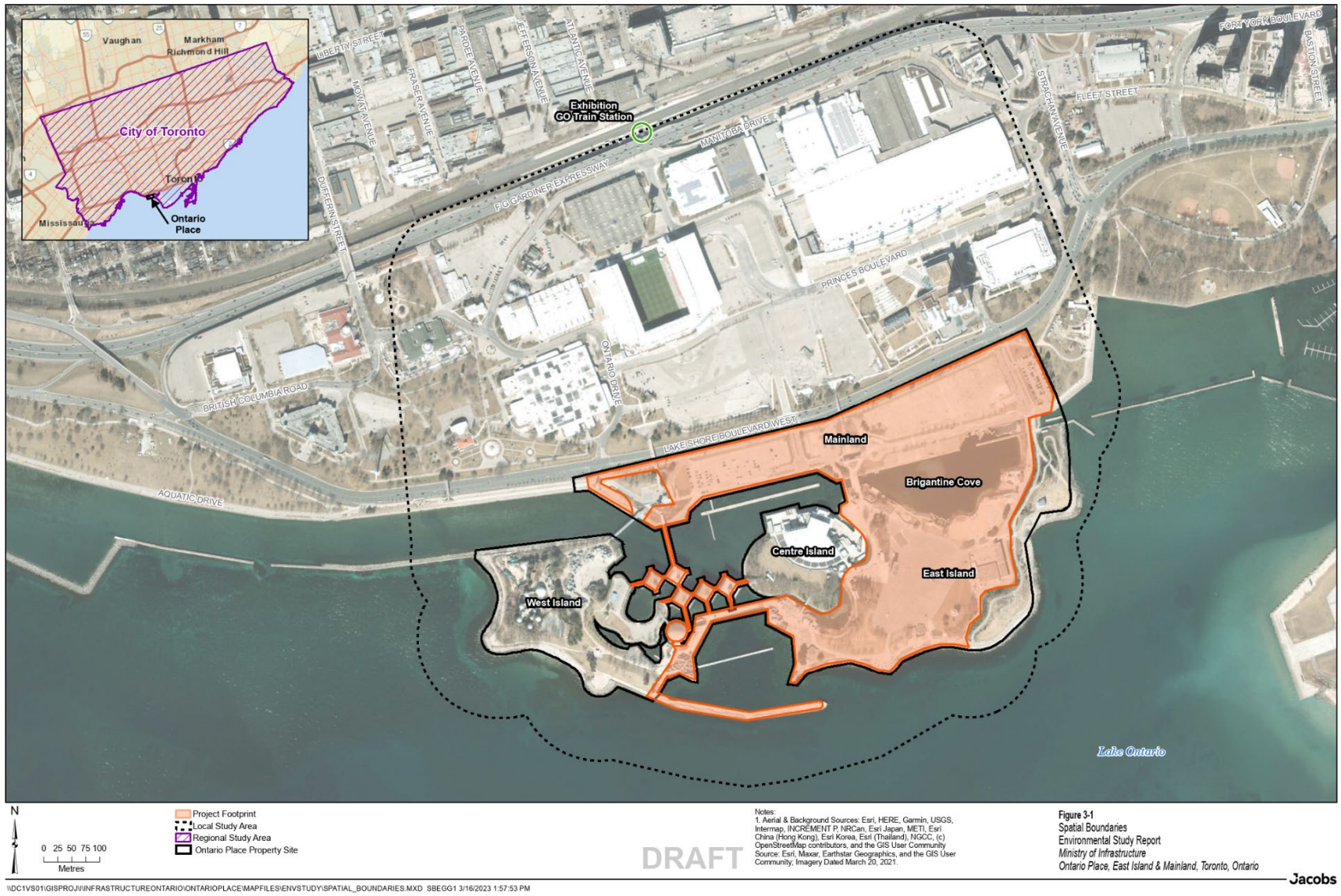
Spatial boundaries are defined to focus the collection of relevant existing condition information and to identify the Project's potential direct and indirect impacts. Spatial boundaries represent the area the impacts of a project are expected to occur within, and include boundaries extending beyond the project's physical boundary. This Project includes the following spatial boundaries (Figure 3-1):

- The Project footprint is the land area directly disturbed by physical activities associated with the public realm redevelopment. These include building decommissioning, construction activities (for example, grading and landscaping), and new infrastructure (buildings; supporting site infrastructure).
- The LSA extends beyond the Project footprint to incorporate areas where indirect impacts may also occur. The LSA will include a 120-metre (m) buffer around the entire Ontario Place site (to include the terrestrial wildlife study area) and will extend up to 500 m north of the Mainland (to include information and potential impacts, such as pedestrian connectivity and existing or planned transit).
- The regional study area extends beyond the LSA where impacts from a project may be realized (for example, employment opportunities) or where a project may act in combination with other activities or developments to contribute to cumulative impacts. The regional study area will include the boundaries of Toronto, Ontario.

Within the Project footprint, five zones were established to define the character of Ontario Place and focus the design of the public realm, including understanding the existing conditions (Figure 3-1).

1. Water's Edge
2. Forum
3. Brigantine Cove
4. Marina
5. Mainland

Figure 3-1. Spatial Boundaries



3.1 Natural Environment

The natural environment consists of biophysical elements such as air, land, and water that encompasses plant, animal, or human life. These elements include buildings, structures, or other constructed infrastructure. For the natural environment, the spatial boundaries used to gather existing condition information are generally limited to the Project footprint and the LSA.

3.1.1 Physical Environment

Ontario Place is a human-made site composed of the East and West Islands, existing pods and Cinesphere complex, Marina, and Mainland. The West Island and Trillium Park are not included in government-led redevelopment activities; therefore, the description of the physical environment will not focus on these portions of Ontario Place.

The overall landscape is a mix of hard and soft surfaces. Topography at the Project footprint is generally level (that is, there are no steep slopes). Most of the Project footprint has an elevation between 76 and 79 m above sea level. In the middle and southeastern portions of the Project footprint, the elevations reach highs of 85 and 82 m above sea level, respectively (Terrapex 2022a).

The Forum is largely paved, with some ornamental vegetation, while Brigantine Cove and the Water's Edge contain impervious pathways mixed with vegetation. Echo Beach is located within Brigantine Cove. The pods and Cinesphere complex are currently undergoing maintenance and repairs to confirm the facilities are safe for ongoing use for science-themed tourism and education programming. The Marina operates seasonally and consists of boat slips, buildings (office, washrooms, shops) and a lighthouse. The Mainland is predominately paved surfaces used for vehicular parking and roadways. A series of bridges and a causeway connect the various parts of Ontario Place.

3.1.2 Soils

As mentioned, Ontario Place is a human-made site. It was constructed by infilling Lake Ontario, using debris from other construction projects. The fill materials included concrete, brick, and various excavated soils. The shorelines of Ontario Place are currently protected by stone or riprap revetments, stacked stone and rubble, and steel sheet pile or timber pile walls.

Terrapex (2022a) summarizes the findings from in-ground investigations conducted at Ontario Place, including geotechnical and hydrogeological studies and environmental site assessments (Appendix C). Findings include:

- The current surface cover onsite consists of topsoil and pavement structures (asphaltic concrete and interlocking pavers).
- Boreholes measured topsoil ranging in thickness from 25 to 600 millimetres (mm), asphaltic concrete ranging in thickness from 50 to 203 mm, and interlocking-pavers ranging in thickness from 50 to 100 mm.

- Under the pavement structures, there is granular material that consists of a brown sand, angular gravel, and fines ranging in thickness from 125 to 2,100 mm.
- Granular material is underlain by the following fill materials:
  - Clayey silt
  - Silt
  - Gravelly sand
  - Silty sand
  - Sandy silt
  - Silty clay
- This fill material also contains the following components:
  - Traces of gravel
  - Asphalt pieces
  - Slag pieces
  - Brick fragments
  - Cinders
  - Metal pieces
  - Organics
  - Wood pieces
  - Topsoil pockets
- The fill is underlain by native sandy silt till, sand, silty sand, gravel soils, and native silty clay. The thicknesses of the native overburden soils range from 0.2 m to 0.9 m on the islands and from 1.1 m to 3.5 m on the Mainland.

Throughout the East Island and Mainland, soil has been identified as having contaminants of concern exceeding provincial regulatory limits. These include polycyclic aromatic hydrocarbons, petroleum hydrocarbons, and volatile organic compounds (Jacobs 2022). Additional investigation is not required because risk management measures are expected to mitigate the identified risks and no offsite impacts are expected (refer to Section 5).

There is no agricultural soil within the LSA.

3.1.3 Environmentally Significant Areas

Environmentally Significant Areas have significant natural resource value or important ecological functions (or both) that are susceptible to disturbance from human activities (Ministry of Infrastructure 2012). The following list provides the results of the assessment of the key Environmentally Significant Areas:

- Provincially significant wetlands: not present within the LSA (Ministry of Natural Resources and Forestry 2022)
- Areas of Natural and Scientific Interest: not present within the LSA (Ministry of Natural Resources and Forestry 2022)
- Areas designated in official plans under the Planning Act: not present within the Project footprint (City of Toronto 2022)
- Areas determined by Conservation Authorities: not present within the Project footprint (Infrastructure Ontario 2022)
- Geographic, biophysical, and landscape features protected by special designation: the Project footprint does not encounter the Niagara Escarpment Plan or Greenbelt boundary (Ministry of Natural Resources and Forestry 2022)
- Habitats of threatened, rare, vulnerable and endangered species: present and discussed further in Section 3.16 and Appendix B
- Significant woodlands: not present within the Project footprint (Appendix B)
- Key areas designated in the Oak Ridges Moraine Conservation Plan: not present within the Project footprint (Ministry of Natural Resources and Forestry 2022)
- Groundwater recharge sites or aquifers identified in official plans: there are no groundwater recharge sites in the LSA; however, Ontario Place is located within a highly vulnerable aquifer (IO 2022)
- Federal lands and facilities designated as environmentally significant: none present within the LSA

3.1.4 Vegetation

In 2020 and 2022, the following field surveys took place to investigate existing conditions relevant to vegetation:

- Ecological Land Classification
- Tree Inventory
- Butternut Search and Health Assessment

Detailed results of these surveys are included in the *Natural Heritage Impact Study for the Redevelopment of Ontario Place* (MH 2023a) (Appendix B) and the *Arborist Report* (MH 2023b). The applicable information is summarized here. Ecological Land Classification communities and vegetation survey areas are shown on Figure 6 of Appendix B.

The overall vegetation composition throughout the LSA is approximately equally native and non-native, and largely ornamental. Because the Project footprint is human-made, most of the vegetated areas onsite are of anthropogenic origin and are continually landscaped and maintained. Very few vegetated areas onsite are natural to the landscape.

More than 800 trees were identified throughout the public realm Project footprint at the time of the survey, ranging in species, sizes, and origins (MH 2023b). Of the total trees within the public realm Project footprint, approximately 52% are native species, 37% are non-native species, and 10% are unknown (because they are dead or otherwise unidentifiable).

During the 2022 field investigations, approximately half of the identified vascular plant species were determined to be native.

3.1.4.1 Vegetation of Significance

Vegetation of significance includes native species and species at risk (SAR).

One species of vegetation significance, Honey locust (*Gleditsia triacanthos*), was identified on the Project footprint during field surveys and has been assigned an S2 Imperiled conservation ranking, meaning there are few occurrences, severe threats, or other factors restricting its range.

The following additional species of vegetation significance are known to occur within the LSA:

- Kentucky coffee-tree (*Gymnocladus dioicus*) is listed under Schedule 1 of the Canadian Species at Risk Act (SARA) and by the Committee on the Status of Endangered Wildlife in Canada. This species was once listed as Threatened in Ontario but is not considered Threatened in Toronto. This species has been assigned an S3 Vulnerable conservation ranking, meaning it is rare to uncommon in Ontario.
- Ohio buckeye (*Aesculus glabra*) was assigned an S1 Critically Imperiled conservation ranking, meaning there are very few populations or occurrences, severe threats, or other factors restricting its range.
- Canadian redbud (*Cercis canadensis*) was assigned an SX Presumed Extirpated conservation ranking, meaning the species are believed to have no likelihood of rediscovery.

The species listed here are presumed to have been planted (they are not naturally occurring) and were therefore ranked L+ (that is, introduced species) by TRCA (except for Canadian redbud, which is not ranked by TRCA). Ontario Place is considered outside these species' current, native range.

Additional vegetation of significance includes 15 species that are considered Species of Regional Conservation Concern (L1-L3) by TRCA, including white spruce (*Picea glauca*), white oak (*Quercus alba*), and slippery elm (*Ulmus rubra*). Another 15 species are considered Species of Conservation Concern in Urban Areas (L4) by the TRCA, such as silver maple (*Acer saccarinum*), white birch (*Betula papyrifera*), red oak (*Quercus rubra*), and American beech (*Fagus grandifolia*).

None of the plant species found within the Project footprint require protection under current legislation, because most native species are not naturally occurring, and many are ornamental landscape varieties.

There are no significant woodlands at the Ontario Place site (MH 2023a).

3.1.4.2 Invasive Species

Within the Project footprint, two species identified as invasive under the *Invasive Species Act Regulations* (Ontario Regulation [O. Reg.] 354/16) are known to occur:

1. Common reed (*phragmites australis ssp. australis*) is present along the eastern edge of the Water's Edge zone and western edge of the Mainland (Appendix B; Figure 7).
2. Japanese knotweed (*Reynoutria japonica*) is present along the southwestern edge of Brigantine Cove (Appendix C; Figure 7).

Pale swallow-wort (*Cynanchum rossicum*) is also present at the West Island (outside of the Project footprint but within the LSA).

Emerald ash borer (*Agrilus planipennis*), an invasive wood-boring beetle that threatens ash tree species, is known to occur (MH 2023b). Within the Project footprint, green ash (*Fraxinus pennsylvanica*) and European ash (*Fraxinus excelsior*) have been impacted by emerald ash borer.

3.1.5 Wetlands

There are currently no Provincially Significant Wetlands or significant coastal wetlands in the LSA (Appendix B). There are no delineated wetlands (evaluated or unevaluated) on the Project footprint (MNRF 2022).

3.1.6 Wildlife and Wildlife Habitat

The Ontario Place site provides unique habitat for terrestrial species, given the mix of vegetation and proximity to Lake Ontario. Existing vegetation that provides habitat for a variety of wildlife species, including mammals that are adapted to urban environments and shorelines (such as eastern grey squirrel [*Sciurus carolinensis*], racoons, American mink [*Mustela vison*]), birds (America robin [*Turdus migratorius*]), and insects (like the monarch butterfly [*Danaus plexippus*]). The LSA provides a variety of quality wildlife habitat, considering the urbanized setting; these include bat maternity roosting trees in the Forum (Appendix B, Figure 3) and landbird migratory stopover areas. Considering the Project footprint includes a public park, the level of human activity and associated noise is generally high (for example, boat use in the Marina, pedestrian and cyclist traffic throughout the site, and noise from the adjacent Live Nation Amphitheatre), and wildlife species onsite are assumed to have adjusted to this.

The Ontario *Endangered Species Act* automatically protects wildlife and associated habitat from being harmed or harassed if they are classified as Endangered, Threatened, or Extirpated. Species classified as Special Concern are not included in this protection. Most species of birds in Canada are protected under the federal *Migratory Birds Convention Act*, including their nests and

shelters. The federal SARA provides legal protection for wildlife species listed as Endangered, Threatened, or Extirpated.

Table 1 of Appendix C lists the dates and conditions relevant to wildlife and wildlife habitat surveys.

3.1.6.1 Avifauna

Existing avifauna habitat within the LSA includes trees and vegetation, water, and existing structures that contribute to landbird migratory stopover areas, and breeding bird habitat.

There have been 113 migrating (transient) and breeding (semi-permanent) bird species observed on and around Ontario Place over the course of avian surveys conducted from April to August 2022 (Appendix B; Figure 4). Most of these species were observed to be using the site for feeding and foraging during summer months, or for stopover and staging during spring and fall migration. Approximately 15% of the observed avian species were confirmed as breeding, and 11% were recorded as probably or possibly breeding.

Table 3-1 summarizes the bird species that are considered rare or at-risk in Ontario and that were observed to be nesting on infrastructure (for example, buildings, bridges, structures) or in vegetation within the Project footprint, or observed during migration as part of the field surveys that took place from April to August 2022. Large numbers of cliff swallow and barn swallow nests were observed. These nesting sites were observed on human-made structures and are not considered significant under Significant Wildlife Habitat guidelines. However, they are recognized as significant to these species considering the scale of nesting activity and the lack of appropriate nesting structures near suitable foraging and feeding habitat for swallows in the area.

Table 3-1. Select Avifauna Species Observed within the Project Footprint

Species	SARO	S-Rank	SARA	TRCA L-Rank	Observed
American robin (*Turdus migratorius*)	Not at Risk	S5	N/A	L5	Breeding onsite (infrastructure)
Barn swallow (*Hirundo rustica*)	Threatened	S4B	Threatened[a]	L4	Breeding onsite (infrastructure)
Chimney swift (*Chaetura pelagica*)	Threatened	S3B	Threatened	L4	Flying, foraging
Cliff swallow (*Petrochelidon pyrrhonota*)	Not at Risk	S4S5B	N/A	L5	Breeding onsite (infrastructure)
Common grackle (*Quiscalus quiscula*)	Not at Risk	S5	N/A	L5	Breeding onsite (infrastructure)
Eastern wood-pewee (*Contops virens*)	Special Concern	S4B	Special Concern	L4	Observed onsite during breeding period but not confirmed to be breeding
European starling (*Sturnus vulgaris*)	Not at Risk	SNA	N/A	L+	Breeding onsite (infrastructure)
Grasshopped sparrow (*Ammodramus savannarum*)	Special Concern	S4B	Special Concern	L2	Observed during migration
Great egret (*Ardea alba*)	Not at Risk	S2B S3M	N/A	L3	Migrating (Waterfowl Stopover Survey Area)
Horned grebe (*Podiceps auratus*)	Special Concern	S1B S3N S4M	Special Concern	N/A	Observed in open water during migration
House finch (*Haemorhous maxicanus*)	Not at Risk	SNA	N/A	L+	Breeding onsite (infrastructure)
House sparrow (*Passer domesticus*)	Not at Risk	SNA	N/A	L+	Breeding onsite (infrastructure)

Species	SARO	S-Rank	SARA	TRCA L-Rank	Observed
Killdeer (*Charadrius vociferus*)	Not at Risk	S4B	N/A	L4	Breeding onsite (exposed areas amongst gravel or small rocks)
King eider (*Somateria spectabilis*)	Not at Risk	SHB S2N	N/A	N/A	Migrating (Waterfowl Stopover Survey Area)
Peregrine falcon (*Falco peregrinus*)	Special Concern	S4	N/A	L4	Observed flying through and over the site
Pied-billed grebe (*Podilymbus podiceps*)	Not at Risk	S4B S2N	N/A	L3	Migrating (Waterfowl Stopover Survey Area)
Tree swallow (*Tachycineta bicolor*)	Not at Risk	S4S5B	N/A	L4	Breeding onsite

Notes:

[a] Status on Schedule 1 of SARA is under consideration for status change with the Governor in Council decision currently pending at the time of writing.

B – breeding

L1 - Species of Regional Conservation Concern, regionally scarce due to either accidental occurrence or extreme sensitivity to human impacts

L2 - Species of Regional Conservation Concern, somewhat more abundant and generally slightly less sensitive than L1 species

L3 – Species of Regional Conservation Concern, generally less sensitive and more abundant than L1 and L2 ranked species

L4 – Species of Urban Concern; occur throughout the region but could show declines if urban impacts are not mitigated effectively

L+ - introduced species, not native to the Toronto region

M – migrant

N – nonbreeding

N/A = not applicable

S1 – critically imperiled

S2 – imperiled

S3 – vulnerable

S4 – apparently secure

S5 – secure

SARO = Species at Risk in Ontario

SNR – unranked

3.1.6.2 Herpetofauna

The existing habitat within the Project footprint that reptiles and amphibians may use includes slow-moving open water, rock crevices, sand and gravel areas may be suitable for amphibian breeding areas, reptile hibernaculum, turtle wintering areas, and turtle nesting areas.

According to MH (2022a), four reptile and amphibian species were observed during herpetofauna surveys that took place from April to August 2022 (Appendix B; Figure 5):

1. American toad (*Anaxyrus americanu*) is classified as Not at Risk in Ontario and assigned an S5 Secure conservation ranking, meaning the species is common.
2. Midland painted turtle (*Chrysemys picta marginata*) is classified as Not at Risk in Ontario and assigned an S4 Apparently Secure conservation ranking, meaning the species is uncommon but not rare.
3. Northern map turtle (*Graptemys geographica*) is listed as Special Concern in Ontario and assigned an S3 Vulnerable conservation ranking.
4. Red-eared slider (*Trachemys scripta elegans*) is listed as Not at Risk in Ontario, assigned an SNA conservation and TRCA ranking (that is, not applicable).

There is also potential that snapping turtles (*Chelydra serpentina*), a species of Special Concern under the Ontario *Endangered Species Act*, are present within the same habitat as map turtles; however, they were not observed during field studies, possibly due to their discreet nature, which makes them difficult to detect without more invasive surveys.

No herpetofauna breeding or nesting activity was observed, although the American toad call was identified during amphibian breeding surveys and is likely breeding within the LSA.

Based on the times of year turtle species were observed onsite, it is likely that midland painted turtle, northern map turtle, and red-eared slider (*Trachemys scripta elegans*) (a non-native introduced species), use parts of the site for basking and feeding habitat during the summer, and for wintering areas during brumation. It is possible that snapping turtles also use the site for basking, feeding, and wintering.

TRCA considers midland painted turtle and map turtle to be Species of Regional Conservation Concern (L2-L3), and American toad to be a Species of Conservation Concern in Urban Areas (L4).

3.1.6.3 Mammals

There is generally limited available habitat for mammals within the LSA. However, according to MH (2023a), seven mammals were directly observed during numerous site visits spanning several season and times of day (Appendix B):

1. American mink (*Mustela vison*)
2. Beaver (*Castor canadensis*)

3. Eastern cottontail (*Sylvilagus floridanus*)
4. Eastern grey squirrel (*Sciurus carolinensis*)
5. Raccoon (*Procyon lotor*)
6. Red squirrel (*Tamiasciurus hudsonicus*)
7. Striped skunk (*Mephitis mephitis*)

These species are listed as Not at Risk in Ontario, and assigned an S4 – S5 ranking. The American mink, beaver, eastern cottontail, eastern grey squirrel, and red squirrel are considered Species of Conservation Concern in Urban Areas by TRCA (L4-L5).

An unidentifiable species of vole (*Microtus sp.*) and evidence of red fox (*Vulpes vulpes*) were also observed onsite.

No SAR mammals were observed during the field surveys that took place from April to August 2022.

The eastern red bat (*Lasiurus borealis*) and hoary bat (*Lasiurus cinereus*), along with one or two other species assumed to be big-brown bats (*Eptesicus fuscus*) or silver-haired bats (*Lasionycteris noctivagans*) or both, were recorded during acoustic surveys (Appendix B; Figure 3). Big-brown bats and silver-haired bats create similar call sequence patterns, so it can be difficult to differentiate them with high levels of certainty. Generally, the detected bat species were not directly observed during surveys. However, based on the extent and frequency of the call sequence observations, these species likely use site maternity roost trees as rearing and roosting habitat, and use the site for feeding and foraging. None of the bat species recorded onsite are SAR. However, the TRCA considers the big-brown bat to be a Species of Conservation Concern in Urban Areas (L4), and all recorded bats are protected under the *Fish and Wildlife Conservation Act*.

3.1.6.4 Invertebrates

There is generally limited available habitat for most insects within the LSA. However, according to MH (2023a), four species of invertebrates were recorded during numerous site visits spanning several seasons and times of day (Appendix B):

1. Bald-faced wasp (*Dolichovespula maculate*) is listed as Not at Risk in Ontario and has been assigned an S4 Apparently Secure conservation ranking.
2. Cabbage white butterfly (*Pieris rapae*) is listed as Not at Risk in Ontario and has been assigned a SNA conservation ranking.
3. European Honey Bee (*Apis mellifera*) is listed as Not at Risk in Ontario and has been assigned an SNA conservation ranking.
4. Monarch butterfly (*Danaus plexippus*) is listed as Special Concern in Ontario and has been assigned an S2N Imperiled Non-breeding, S4B Apparently Secure Breeding conservation ranking.

Cicadas, crickets, grasshoppers, and katydids were also observed in the LSA.

3.1.6.5 Significant Wildlife Habitat

The following Significant Wildlife Habitat types were identified within the Project footprint. These habitat types fall within two of the four broad categories of Significant Wildlife Habitat defined in the *Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E* (Ministry of Natural Resources and Forestry 2015).

1. Seasonal Concentration Areas of Animals
    a. Bat maternity colonies
    b. A confirmed turtle wintering area
    c. A confirmed landbird migratory stopover area
2. Habitats of Species of Conservation Concern (confirmed by the following species' presence)
    a. Special Concern and Rare Wildlife Species:
        i. Great egret
        ii. King eider
        iii. Pied-billed grebe
        iv. Eastern wood-pewee
        v. Horned grebe
        vi. Monarch
        vii. Peregrine falcon
        viii. Grasshopper sparrow
        ix. Northern map turtle

3.1.7 Aquatic Life and Aquatic Habitat

The existing shoreline habitat is a result of historical lake infilling. Since Ontario Place was constructed, changes to the surrounding lake and land uses, as well as subsequent stabilization efforts, have significantly modified the shoreline habitat. Erosion, other fluvial influences, and anthropogenic influences have posed and continue to pose a risk to the existing shoreline habitat and water quality. Shoreline and open water habitat within the Project footprint include the following components (Appendix B; Figure 8):

- Shoreline Habitat
    - Back Channel Protected Slope Shoreline: Defined by banks composed of boulder, riprap, or armour stone providing moderate fish habitat through refuge spaces, nutrient collection, or potential spawning locations. This habitat is adjacent to backchannel habitat and contains soft substrates, such as muck, silt, sand, and detritus.

  - Back Channel Vertical Walled Shoreline: Defined by banks that are composed of vertical wall of either concrete, steel pilings, or wood pilings that do not provide fish habitat refuge spaces, nutrients, or spawning locations. This area is adjacent to backchannel habitat and contains soft substrates such as muck, silt, sand, and detritus.
  - Marina Basin Vertical Walled Shoreline: Defined by banks composed of vertical wall of either concrete, steel pilings, or wood pilings that do not provide fish habitat refuge spaces, nutrients, or spawning locations. This shoreline is adjacent to or within the marina basin, where recreational use and docking of boats occur.
  - Open Water Protected Slope Shoreline: Defined by banks that are composed of boulder, riprap, or armour stone and provides moderate habitat for fish through refuge space, nutrient collection, or potential spawning locations. This habitat is adjacent to the open waters of Lake Ontario and suitable to function as refuge habitat for American eel. The water is approximately 2 to 4 m deep at the shoreline, increasing with distance from the shore.
  - Open Water Vertical Walled Shoreline: Defined by banks composed of vertical wall of concrete, steel pilings, or wood pilings and does not provide habitat for fish through refuge spaces, nutrients, or spawning locations. The water is approximately 6 to 8 m deep at the shoreline and increases with distance from the shore.
- Open Water Habitat
  - Basin Habitat: Defined as open water areas not subject to the substantial wind and wave action that occurs in open Lake Ontario because protection is provided by break walls or Ontario Place itself. The estimated average depth is 4 m.
  - Marina Basin Habitat: Defined as open water areas that are not subject to the substantial wind and wave action that occurs in open Lake Ontario. This habitat has higher levels of boat traffic, mooring, and boat refueling. The estimated average depth is 6 m.
  - Open Water Habitat: Surrounds the site and is part of the larger Lake Ontario habitat system. This habitat experiences substantial natural wind and wave action. The bottom substrate is dominated by sand, and water depth increases with distance from the shore.

According to MH (2023a), despite shoreline changes and influences, the aquatic habitat in and around Ontario Place has been found to support resident and migratory fish species and generally provide cover, nutrient input, foraging opportunities, nursery areas, and spawning opportunities for warmwater species. Fish species known to occur in the local study area include brook stickleback (*Culaea inconstans*), largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), northern pike (*Esox Lucius*), and rainbow trout (*Oncorhynchus mykiss*).

The aquatic vegetation along Ontario Place's shoreline was found to be submerged and in habitat areas (that is, the Marina Basin and Back Channel habitats), where finer substrates are found and are less subject to wind and wave action. Both native and non-native aquatic vegetation species exist in these locations. An abundance of algae also exists within the Marina

Basin and Back Channel habitats. Zebra mussels were also found in abundance during sediment sampling (MH 2023a).

The Lake Ontario shoreline along Ontario Place is subject to the federal *Fisheries Act,* which provides protection for all fish and fish habitat. Fish habitat along the Lake Ontario shoreline at Ontario Place is generally understood to be located below the highwater mark, which is 75.3 m above sea level (MH 2023a).

3.1.7.1 Fish Species of Significance

Three protected fish species have been identified in Lake Ontario around Ontario Place:

1. American eel (*Anguilla rostrata*): listed as Threatened by the Committee on the Status of Endangered Wildlife in Canada (not listed on Schedule 1 of SARA) and as Endangered in Ontario
2. Shortnose cisco (*Coregonus reighardi*): listed as Endangered under SARA and in Ontario
3. Deepwater sculpin *(Myoxocephalus thompsonii*): listed as Special Concern under SARA and considered Not at Risk in Ontario

American eel is the only species that has been found within the LSA with suitable habitat identified throughout the Project footprint (Appendix C; Figure 9). Large, coarse rock in water deeper than 1 m is suitable habitat for the American eel. This suitable habitat is present along the southern shoreline of Ontario Place, adjacent to the open water. Shoreline alterations and redevelopment activities may trigger the Ontario *Endangered Species Act*. Shortnose cisco and deepwater sculpin prefer deeper water habitat not found within the Project footprint.

3.1.8 Water Resources

Surface water resources within the LSA include Lake Ontario. The lake borders the entire East Island and the southern side of the Mainland. A detailed assessment of Lake Ontario was not undertaken as part of this study.

To characterize the subsurface groundwater conditions, Terrapex Environmental Ltd. (Terrapex) reviewed borehole logs and in-ground investigation reports for the site (2022b). Based on this review, groundwater elevations for the site were interpreted to be directly influenced by the lake. Groundwater was also interpreted to generally be flowing north (coming inward from the lake) but this was presumed to vary seasonally. A review of the hydrochemical analyses of groundwater conditions showed contamination exceedances when results were compared to the Provincial Water Quality Objectives standards for discharging to the lake. As a result, during construction, groundwater will need to be treated at the site before it discharges.

Most of the Ontario Place site is within a source water protection Highly Vulnerable Aquifer; this excludes the southern shore of Brigantine Cover, areas within the Marina, the southeast shore of the Water's Edge, and the western side of the Mainland. (MECP 2023). A Highly Vulnerable Aquifer is particularly susceptible to contamination due to its location near the ground's surface or where certain materials in the ground around it are highly permeable (CTC Source Protection

Committee 2022). However, Project activities are not considered to be a prescribed threat specific to this vulnerable zone other than potentially during construction. This was further considered while developing mitigation measures related to spills and other possible contaminants that could impact the aquifer (refer to Section 5 of this ESR).

3.1.9 Floodplains and Shoreline

The Project footprint is not within TRCA-regulated floodplain limits (TRCA 2022, IO 2022).

Shoreline conditions were determined based on a coastal analysis that took place to identify existing wind, wave, ice, and water level conditions (Shoreplan 2022). The analysis yielded the following conclusions:

- The Mainland consists of approximately 888 m of shoreline, which includes concrete-capped timber crib breakwater and steel sheet pile walls.
- The Water's Edge shoreline consists of grouted armour stone revetement with concrete rubble, and there are loose stones near the waterline.
- The Brigantine Cove shoreline is composed of steel sheet pile walls, riprap on fill material, riprap fronting concrete walls, stacked armour stone walls, concrete block walls, a boat launch ramp, and unprotected or naturalized shoreline.
- The Marina shoreline is made up of two steel sheet pile walls capped with a steel channel.
- The breakwater at the southern edge of the Water's Edge is made up on three sunken ships filled with stone material and topped with a concrete berm.

Wave uprush calculations determined the flood hazard limits currently onsite; however, these will not apply once the site is developed, and protection work is modified (Shoreplan 2022).

3.1.9.1 Drainage Conditions

Within the Project footprint, the Mainland is generally flat paving, with most of the area sloping to the south toward Lake Ontario, and directing stormwater in that direction. There is a small north sloping area fronting Lake Shore Boulevard that directs runoff toward the Lake Shore Boulevard West right-of-way. Drainage from the existing parking lots is captured through a network of catchbasins and storm sewers that discharge into the lake through combined sewer outfalls. The remainder of the Mainland runoff is captured in catchments that flow overland south and discharge into the lake (C.F. Crozier & Associates Inc. 2022).

The East Island is generally flat, with some slopes forming berms to the south. The central area of the island consists of a large, paved area with a catchment that generally slopes north. The area includes several catchbasins and storm sewers that have not been clearly mapped, and it is therefore unclear how each catchbasin is connected in the system. No outlet locations have been identified, but the storm system in this general area is speculated to outlet north into Brigantine Cove and west into the canal located on the western side of the East Island, between the East Island and the Live Nation grounds. At the existing maintenance building to the southeast, there does not appear to be any stormwater infrastructure in the area. The existing grades direct runoff

overland north toward the centre catchment, ultimately discharging to Brigantine Cove. The remainder of the East Island either drains uncontrolled toward the south, discharging directly into Lake Ontario, or drains overland northwest toward the canal between the East and Centre Islands (C.F. Crozier & Associates Inc. 2022).

3.1.10 Atmospheric Environment

The atmospheric environment is a component of the environment that includes air quality (including greenhouse gas emissions) and noise.

3.1.10.1 Air Quality

Air quality within the LSA is influenced by vehicular traffic along local roads and highways. These include Lake Shore Boulevard West and the Gardiner Expressway, which experience regular traffic from transport trucks and personal vehicles. Traffic emits volatile organic compounds, nitrogen oxides, particulate matter, carbon monoxide, and sulphur oxides.

Billy Bishop airport is located approximately 1.5 kilometres (km) east of Ontario Place and averages 4 flights per day (Ports Toronto 2023). Airports contribute to local air quality through airplane use, including idling. Airplanes release carbon dioxide, nitrogen oxides, volatile organic compounds, particulate matter, and sulphur dioxide.

Additional sources of air contaminants include ferry use, houses and apartments, manufacturing, and power generation, all of which occur within the LSA.

An air quality assessment was not completed for the Project. However, continuous monitoring stations are located approximately 5 km east of the Project footprint. These indicate intermittent exceedances of particulate matter with a diameter of 10 micrometres or smaller (typically due to road dust), polycyclic aromatic hydrocarbons, and total suspended solids compared to Ontario's Ambient Air Quality Criteria (WSP 2022).

3.1.10.2 Noise

Noise within the Project footprint is influenced by events held at the Live Nation Amphitheatre (within Ontario Place), by Billy Bishop Airport (approximately 1.5 km east of the study area), and by traffic along Lake Shore Boulevard West (immediately north of the Mainland). Additional sources that may contribute to cumulative noise levels in the area include events from Exhibition Place, the Better Living Centre, and BMO Field.

There are also seasonal sources of noise, such as boat use within the Marina and noise from events within the LSA (like the Honda Indy). Existing noise from park users does not contribute to noise levels beyond these sources.

3.2 Climate Change

Spatial boundaries are not defined for climate change, because the increase in greenhouse gas emissions and subsequent contribution to climate change is considered a global trend that cannot be captured by Project-specific boundaries.

A Climate Risk and Resilience Assessment was prepared for Ontario Place to inform redevelopment activities across this site by identifying the likelihood of climate hazards and potential impacts to infrastructure, and determining recommended adaption measures (IBI Group, 2022). The Climate Risk and Resilience Assessment focuses on climate hazards that apply to the geographic location of the site, including:

- Extreme heat: The average daily temperature in Toronto is 9.4 degrees Celsius (°C), with average daily maximum temperatures in July and August of 26.6 and 25.5°C, respectively. However, extremely high temperatures reach 32.2°C to 37.8°C between April and September (Environment and Climate Change Canada 2022). The average temperature in Toronto has risen by 2.7°C since the late 19th century and is expected to continue in the coming decades, meaning a typical hot summer day could reach 38.4°C by 2050 (IBI Group 2022).
- Extreme cold: The average daily minimum temperatures between December and March range from -2.1°C to -1.9°C; however, extremely low temperatures reach -30.0°C to -32.8°C between December and January (Environment and Climate Change Canada 2022). Extreme cold parameters indicate a decrease in intensity and frequency; however, extreme peaks will continue which poses a risk to infrastructure, natural systems and health (IBI Group 2022).
- Rainstorms: The average annual rainfall in Toronto is 714.0 mm with monthly highs ranging from 70.9 mm to 84.7 mm between May and September, and an extreme monthly average of 98.6 mm (Environment and Climate Change Canada 2022). More intense rainfall is expected throughout southern Ontario combined with a shortened reoccurrence time between events (IBI Group 2022). Increased rain can contribute to flooding and sweeping currents that can damage infrastructure and pose a threat to human life.
- High lake levels: Climate impacts on static water levels within the Toronto Island will be less than natural variability (Baird 2019). However, high lake levels have previously caused damage to the area and interrupted services (for example, ferry service, events at the Live Nation Amphitheatre).
- Snow and ice storms: The average annual snowfall in Toronto is 121.5 centimetres (cm), with average daily maximum depths ranging from 8.3 cm to 19.8 cm between November and March; however, extreme daily snowfall has reached 48.3 cm in the past (Environment and Climate Change Canada 2022). While climate data indicate more mild winters, extreme winter weather events still occur and result in impacts to infrastructure and reducing services (for example, cancelled flights) (IBI Group 2022). Ice accumulates during freezing rain events, which contributes to impacts on natural features (for example, broken or fallen trees) and infrastructure (for example, broken powerlines).
- Intense wind events: Several recent events indicate intense wind is a climate variable that is increasing in terms of impacts on infrastructure (IBI Group 2022). Considering the location of Ontario Place on the lake, the site is generally more exposed to wind, which increases the potential for hazards from intense wind.
- Wildfire smoke: Direct exposure from wildfire is considered minimal; however, Ontario Place is exposed to the air quality impacts of distant wildfires in northwestern Ontario. Increasing temperatures due to climate change are anticipated to contribute to increased frequency of

wildfires across forested areas of Ontario, contributing to impacts on the natural environment and human health (IBI Group 2022).

- Lightning/thunderstorms: The average number of days per year with lightning is 40.5; however, there is insufficient data to determine how these events may change as a result of climate change (IBI Group 2022). Regardless, it is anticipated that a lightning or severe thunderstorm event will cause damage to infrastructure at Ontario Place.

Based on the Climate Risk and Resilience Assessment (IBI Group 2022), the following climate hazards were found to pose the greatest risk to features within the public realm of Ontario Place:

- Rainstorms, with impacts to water quality, fish and fish habitat, amphibians and reptiles, buildings, sanitary and storm sewers, mechanical and electrical systems, and bridges and walkways
- Extreme heat, with impacts to water quality, fish and fish habitat, amphibians and reptiles, breeding birds, hardscaping, buildings, mechanical and electrical systems, overhead and aboveground utilities, and bridges and walkways
- Intense wind events, with impacts to the Cinesphere
- Wildfire smoke, with impacts to buildings, mechanical systems, and bridges and walkways

Initial adaption and resilience recommendations (for example, physical interventions) were developed and considered in the public realm design (Sections 4 and 5 of this ESR).

3.3 Socio-economic Environment

The socio-economic environment consists of current and proposed land use(s) and the economic relationship between the undertaking and the surrounding area, as applicable.

The public realm study area assessment boundaries associated with the social environment that were used to gather existing condition information are generally limited to the Project footprint, the LSA, and the regional study area (Figure 3-1).

3.3.1 Land Use

Ontario Place is in the southwestern portion of Toronto, within the Central Waterfront area. Over the last two decades, the waterfront has undergone substantial change, with new development and projects like Sugar Beach, the WaveDecks, and Queen's Quay.

The Project footprint is designated as Open Space in the Toronto Official Plan (City of Toronto 2022). The current uses of Ontario Place include:

- Music festivals and concerts
- Drive-in movie screenings
- Boat launching and mooring
- Water-based activities (for example, kayaking, canoeing)

- Active transportation (for example, walking, biking)
- Passive and active recreation
- Yoga classes
- Art exhibits
- Public parking

The Toronto Official Plan (City of Toronto 2022) designates land along the Mainland shoreline outside of Ontario Place as Parks, and the Water's Edge to the west as Natural Areas.

Recreational use within the Project footprint includes multi-use pathways for running, walking, cycling. and roller-skating, as well as birdwatching, water activities (like swimming), sports (like basketball or volleyball), and yoga. Visitors could view movies viewing at the Cinesphere until October 2022, when the facility closed for repairs and improvements. The Marina offers 240 boat slips, gas and diesel fuel, and amenities. It also offers security 24 hours a day, 7 days a week. The Marina closed in April 2023 to accommodate site servicing and redevelopment activities.

Ontario Place is surrounded by Lake Ontario on the west, south, and east. Lake Ontario is a scheduled navigable water by the *Canadian Navigable Waters Act*, protecting the waters the public has the right to travel on (that is, navigable waters). The waters surrounding Ontario Place are used primarily for recreation, including kayaking, canoeing, boating, rowing, and swimming.

Surrounding land use includes the Exhibition Place grounds to the north, which acts as a barrier between Ontario Place and the neighbourhoods to the north. Exhibition Place is a Toronto landmark serving as an entertainment, sports, tradeshow, and business destination. Parts of the Exhibition Place grounds are designated as Open Space, while others are designated as Regeneration Areas (City of Toronto 2022). A number of events also occur in the surrounding area and along Lake Shore Boulevard. These events include parades, carnivals (such as the Toronto Caribbean Carnival [formerly known as Caribana]), and festivals (such as the Honda Indy Toronto motorsports festival). Lake Shore Boulevard is also typically used annually for the Tata Consultancy Services Toronto Waterfront Marathon.

The area surrounding Exhibition Place to the north and east includes the neighbourhoods of Liberty Village, Fort York, and Parkdale, and has a mix of land use designations. These include Core Employment Areas, Neighbourhoods, Apartment Neighbourhoods, Mixed Use Areas, and Parks (City of Toronto 2022). The Liberty Village neighbourhood contains many older warehouses and in buildings, dating from the early 20th century. Currently, many media- and technology-related companies use these buildings. Significant growth and residential construction have occurred in the neighbourhood over the past decade. Fort York is an emerging neighbourhood located immediately east of Exhibition Place, composed of former industrial lands. In the past decade, it has undergone significant redevelopment, primarily for residential uses, along a new grid-oriented street system. Between 2011 and 2016, the Fort York – Liberty Village area experienced an approximate population growth of 88% (Statistics Canada 2016). This growth has since slowed, with only a 17% increase in population between 2016 and 2021 (Statistics Canada 2021). Northwest of Ontario Place is Parkdale; this is an older, established

neighbourhood, composed primarily of midrise apartment buildings, duplexes, and single-family homes. In addition to a node of mixed-use development, the neighbourhood has experienced some residential growth in recent years.

A rezoning application is currently underway for the development and public realm expansion on the West Island, Mainland, and East Island. Future rezoning applications are anticipated for other areas within Ontario Place (for example, science pavilion, Live Nation Amphitheatre). Future transit use is also expected on the Mainland; it will serve as a connection point for linking site users to the existing Go Station, the planned Ontario Line, and the surrounding area.

3.3.2 Economics

Ontario Place has historically operated as a commercial amusement park and was closed by the Government of Ontario in 2012 due to years of diminished attendance and revenue (Heritage Toronto 2020). The Marina remains active onsite, operating seasonally offering boat slip rentals on a daily, weekly, monthly, or seasonal basis, with refueling services and basic amenities.

Strategic economic investment in Toronto's waterfront has resulted in a variety of publicly available uses surrounding Ontario Place. Revitalization efforts specific to Ontario Place will create more unique public spaces to support tourism and social-cultural benefits. Estimates indicate a redeveloped Ontario Place could generate millions of dollars of direct and indirect economic benefits and tax revenues by drawing crowds and attracting site users to the area providing an economic boost to the province and City of Toronto (Minister's Advisory Panel 2012).

Employment opportunities will exist during design and construction of the public realm, and less so during operation (for example, maintenance, event management). Indirect economic opportunities may exist by attracting visitors to the site (for example, increased transit use, amenities).

3.4 Cultural Environment

Cultural heritage resources can include archaeological, built, and cultural landscapes.

3.4.1 Archaeology

Over time, there has been significant alteration of the Lake Ontario waterfront due to environmental and human activities. Specifically, the western waterfront (where Ontario Place is located) has experienced unique development patterns, largely because it is near the entrance of the Toronto Harbour. The western waterfront area has not experienced the levels of industrial development compared to other waterfront areas associated with the city of Toronto. Instead, the western waterfront housed several military forts and public institutions, such as Fort Rouillé, Garrison Common Military Establishments and Garrison Common Development (Timmins Martelle Heritage Consultants Inc. 2012).

A Stage 1 Archaeological Assessment was completed for Ontario Place (Timmins Martelle Heritage Consultants Inc. 2012; Appendix D). This assessment indicated most of the site was

artificially created and, therefore, has no potential for the discovery of intact archaeological resources onsite.

Based on the Stage 1 assessment, some historical maps indicate the New Garrison wharf may have extended into Lake Ontario in an area beneath Ontario Place's eastern parking lot. The New Garrison wharf was constructed in 1841 and currently extends into Lake Ontario. It is not known whether infilling in this area or subsequent construction may have impacted the original wharf footprint; therefore, it is possible that remnants of the wharf remain intact, buried deeply beneath the surface.

A Stage 2 Archaeological Assessment was completed based on the recommendations outlined in the Stage 1 Assessment (Timmins Martelle Heritage Consultants Inc. 2014). Additional research indicates the wharf area was dredged in the 1920s and then infilled before Lake Shore Boulevard was constructed, making it unlikely that any remnant wharf features exist today. No wharf features were identified during excavation activities at the site, and no further work was recommended.

A Stage 1 Marine Archaeological Assessment has been completed for the water lots associated with Ontario Place (LHC Heritage Planning and Archaeology Inc 2022; Appendix D). The assessment concluded all of the waterways within Ontario Place and along the Mainland shoreline have been disturbed, while the lakebed located further out still retains archaeological potential. If the areas with potential will be subject to disturbance, the report recommends that the area be subject to further marine archaeological study using a magnetometer a sub-bottom profiler.

3.4.2 Indigenous Culture

Ontario Place is an artificially created structure, created between 1969 and 1971. It was intended as an entertainment, recreational, and educational area; therefore, the land that makes up Ontario Place does not include historical traditional land or resource use.

The waterways surrounding Ontario Place have been used by Indigenous peoples for thousands of years, including the Carrying Place Trail (approximately 5 km west), which is a centuries-old portage route used to travel between Georgian Bay or Lake Simcoe and Lake Ontario. The Carrying Place Trail facilitated the Humber River Valley and Toronto area vital areas for meetings, trades, and information exchanges.

3.4.3 Cultural Heritage

The Statement of Cultural Heritage Value was approved by the Deputy Minister of Tourism, Culture and Sport (Ministry of Tourism, Culture and Sport 2013), as noted in the following statement: "the cultural heritage landscape at Ontario Place remains a modernist expression of integrated architecture, engineering and landscape that honours and incorporates the natural setting of Lake Ontario." The Statement of Cultural Heritage Value identifies heritage attributes

that contribute to the cultural heritage value or interest of Ontario Place. The heritage attributes include built features, landscapes, and views as follows:

- The Pavilion (which includes the pods complex, main entrance, and Cinesphere)
- Village clusters surrounding public plazas
- Water features, including the Marina, Pavilion Bay, and the inner channel
- Marina buildings and the lighthouse
- Physical and experiential relationships between land and water as represented by different shoreline treatments
- Pathways, trails, and bridges and the views from these
- Water circulation routes, including canals and lagoons
- The multiple microclimates associated with the water ways and landforms
- Views of the lake and to the Pavilion

As of March 2023, the identified heritage attributes were still present on Ontario Place but varied in physical condition. For example, the village clusters and many of the pathways throughout Ontario Place had been impacted by recent flooding.

According to the Provincial Standards and Guidelines for Provincial Heritage Properties, a Strategic Conservation Plan has been developed (Stevens Burgess Architects Ltd. 2022) and was approved by the Deputy Minister of the Ministry of Citizenship and Multiculturism in November 2022. The purpose of the Strategic Conservation Plan is to provide guidance and strategies on the ongoing management of the cultural heritage value and heritage attributes of the site. The Strategic Conservation Plan identifies built heritage features requiring conservation strategies (Table 3-2).

Table 3-2. Built Heritage Features

Structure	Heritage Resource
Building	Bridge to Cinesphere
	Bridge under Pods
	Pod 1
	Pod 2
	Pod 3
	Pod 4
	Pod 5
	Cinesphere
	Bridge: East to West Islands
	Marina West Washrooms
	Marina West Village Building

Structure	Heritage Resource
Building	East Marina Village Building
	Lighthouse
	Breakwater Ships
	Marina North Washroom
	Marina Northeast Building
Waterbody	North Marina
	South Marina
	Cedar Cove, Pavilion Bay
	Brigantine Cove

Consistent with guidance in the Strategic Conservation Plan for Ontario Place and with the Provincial Standards and Guidelines for Provincial Heritage Properties, a Heritage Impact Assessment has also been prepared (ERA Architects Inc. 2022). That assessment evaluated the potential impact of redevelopment activities on cultural heritage attributes, and provided mitigation measures to reduce impacts to the cultural heritage value of Ontario Place.

From a municipal perspective, Ontario Place is listed on the City of Toronto's Municipal Heritage Register and remains a rare and intact expression of integrated architecture and engineering within a natural setting.

Ontario Place is not designated under Part IV of the *Ontario Heritage Act*, part of a conservation district under Part V of the *Ontario Heritage Act*, or subject to a municipal heritage easement of subject to an Ontario Heritage Trust easement.

3.4.4 Arts and Culture

Ontario Place has a long history as a venue to promote and celebrate arts and culture. There are permanent art installations, such as the Government of Ontario Art Collection and the Coh Ohn Pavilion (Japanese Temple Bell), as well as temporary and seasonal installations (such as light shows). Ontario Place has also featured many cultural events, such as concerts, festivals, movies, and theatrical events. These events take place across the site, including at the current beach at Brigantine Cove (Echo Beach), at the existing Live Nation Amphitheatre, within the centre of the East Island, and at the open-air pavilion in Trillium Park. In the past, Ontario Place has hosted large-scale shows, such as Cirque du Soleil. The site has also hosted a range of local artists, Indigenous artists, and art exhibits. In the winter months, Ontario Place has recently began featuring Lumière: The Art of Light (formerly Winter Light Exhibition).

Four permanent art installations currently exist onsite at Ontario Place:

1. Sault by Kosso Eloul (1974) is a stainless-steel structure and is a piece in the Government of Ontario Art Collection. Sault is currently located on the Mainland, near the Central Entrance.
2. Dialogue by Akio Murasawa (1984), also part of the Government of Ontario Art Collection, is a sculpture that commemorates the province's bicentenary. Dialogue is located on West Island, near the pods and Cinesphere.
3. The Passage by Kosso Eloul (1984) is a mixed-media sculpture that also includes a time capsule. It is located on the Mainland to the west, and is also part of the Government of Ontario Art Collection.
4. The Goh Ohn Pavilion (Japanese Temple Bell) by Raymond Moriyama (1977) commemorates the 100th year anniversary of the arrival of the first Japanese immigrant to Canada. It is located on West Island, near the pods and Cinesphere.

3.5 Built and Visual Environment

There are 94 buildings located at Ontario Place, most of which date back to the 1970s. The Project footprint includes some aging buildings, including washroom facilities, administration and maintenance buildings, and entrance huts. It provides vehicular, pedestrian, and cycling pathways.

Existing infrastructure (for example, the Cinesphere and pod complex) is currently being updated to protect infrastructure that will remain onsite throughout and after redevelopment activities. Maintenance and repair work will be ongoing to stabilize and prevent further deterioration while redevelopment activities progress.

3.5.1 Transportation and Transit Network

Major road infrastructure surrounding the Project includes the Gardiner Expressway and Lake Shore Boulevard West. There are three main points of entry to Ontario Place for vehicles located along Lake Shore Boulevard West at Ontario Drive, Remembrance Drive, and Ontario Place Boulevard.

There are approximately 1,301 public parking spaces located on the Ontario Place grounds, including:

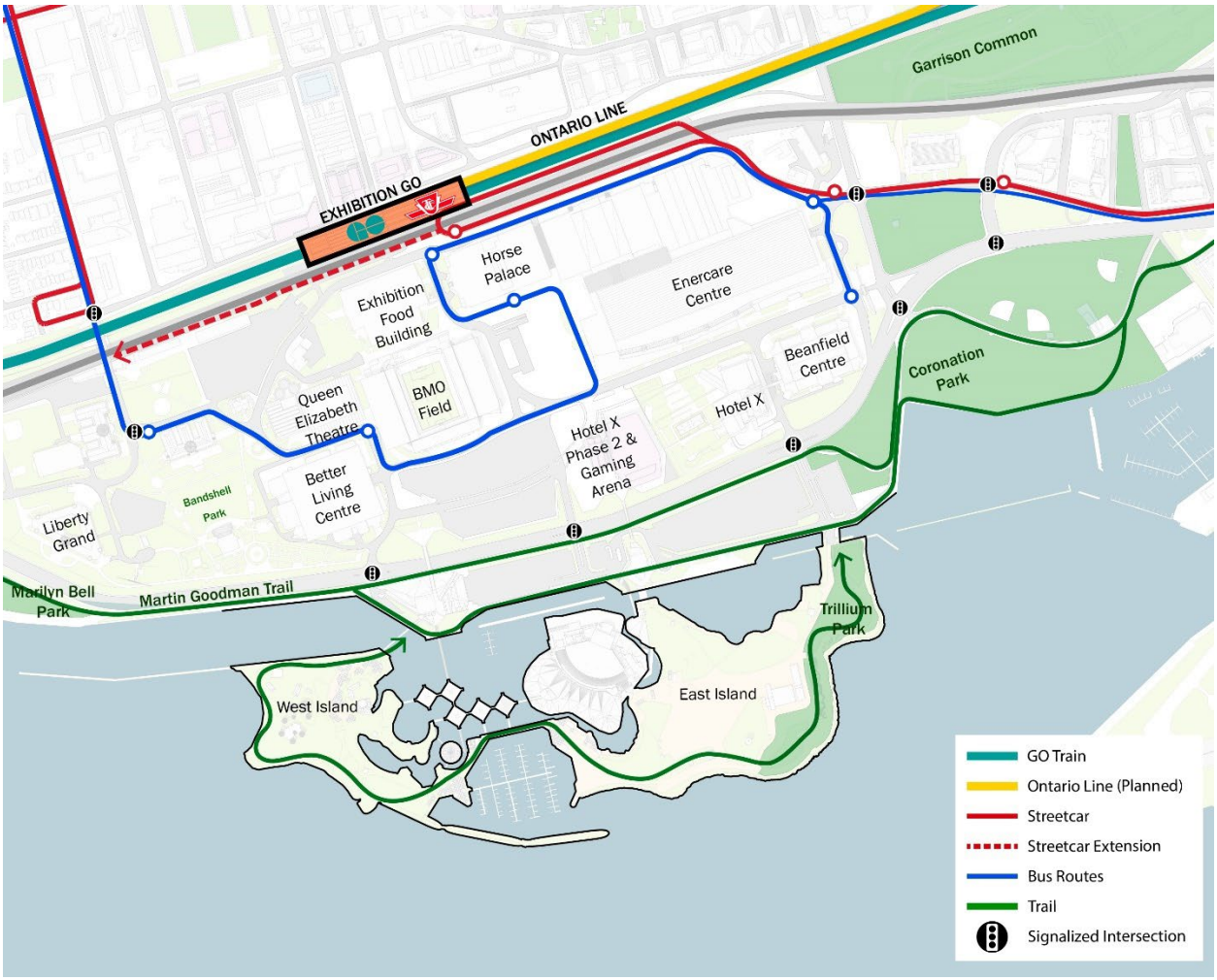
- Parking Lot 1: 360 spaces
- Parking Lot 1A: 60 spaces (used for Live Nation employee and service vehicles)
- Parking Lot 2: 685 spaces
- Parking Lot 2A: 100 spaces
- Parking Lot 2B: 96 spaces

Additional parking resources in the LSA include 5,777 spaces at Exhibition Place and approximately 400 spaces at the Hotel X Garage. Exhibition Place is currently undergoing a

Master Plan exercise that is focused on active transportation; part of this process includes reviewing the parking supply.

Limited local transit services connect to Ontario Place itself, and higher-order transit services are north of Ontario Place within Exhibition Place (Figure 3-2). Ontario Place is currently serviced by existing Toronto Transit Commission and GO Transit services. Planned future transit surrounding Ontario Place includes the Waterfront Transit Network Expansion, Ontario Line, Lake Shore West GO improvements, and new Smart Track stations.

Figure 3-2. Transit Connections



Source: Urban Strategies Inc.

There is cycling and pedestrian infrastructure around and within Ontario Place, including the Martin Goodman Trail. There are two bridges connecting Ontario Place to Exhibition Place; however, a "last-mile" connection between these two locations is lacking. The "last-mile" access from Ontario Place to the existing and planned transit facilities at Exhibition GO (including a planned Ontario Line station and the existing streetcar service) is currently through the Exhibition Place grounds. This connection is primarily accessible by pedestrians, with no transit option between the two locations.

LEA Consulting Ltd. (LEA) (2022) completed a Transportation Impact Study to assess the full redevelopment activities across all of Ontario Place from a transportation perspective (including both tenant-led and government-led activities). This study also took place to determine the traffic impacts on the adjacent road network and to identify required mitigation measures. Based on this study, LEA (2023) prepared a summary of the transportation conclusions related to the public realm. This summary is provided in Appendix E. Based on the expected impacts on transportation and traffic associated with the public realm redevelopment, the summary provides the following conclusions:

- Site access intersection improvements are recommended along Lake Shore Boulevard West.
- Pedestrian networks are generally sufficient for the public realm redevelopment.
- Proposed parking solutions (such as surface parking lot and a belowground parking structure) can accommodate the parking demand projected to be generated by public realm activities.
- Short-term bicycle parking should be provided throughout the public spaces to accommodate the demand for passive and public realm uses.

The redevelopment of areas outside the public realm will also increase traffic in and around the site, including vehicles, rideshares, transit, pedestrians, and bicycle traffic. The following additional conclusion are based on the impacts on transportation and traffic from the overall redevelopment that are also relevant to the public realm:

- Parking demand will increase as a result of the overall redevelopment, and appropriate structures are proposed (for example, belowground parking structure).
- Long-term bicycle parking should be provided in secure, weather-protected locations and short-term bicycle parking should be covered and provided near entrances, along bike paths, and at major features.
- Multi-modal travel can be enhanced by including more pedestrian connections, enhancing open space and active transportation infrastructure, providing shuttle buses for visitors and employees, and implementing transit ticket integration and clear wayfinding.

The recommendations from the Transportation Impact Study (LEA 2022) are being reviewed and implemented into the public realm design, where appropriate.

3.5.2 Existing Services

The servicing capacity on and around Ontario Place includes water, sewer, drainage, gas, and electricity. Site services were installed over 50 years ago and are at the end of their useful service life, no longer meeting current standards. The water, sewer, gas, and electrical systems need to be replaced.

There are no potable groundwater wells onsite, and there are currently no stormwater services in place. There are no septic systems onsite; the private network of sewage pumps and forcemains discharge to a municipal gravity sewer on Lake Shore Boulevard West.

There are two aboveground storage tanks with petroleum product onsite: one immediately southwest of the Marina East Washroom, and one at the northeastern corner of Echo Beach.

3.5.3 Future Services

The *Ontario Place Site Servicing Category B C&D Report* (IO 2022), PW Class EA (IO 2022) was completed June 30, 2022. Based on this work, all services, including water, wastewater, electrical, gas and telecommunications, are being updated by disconnecting old infrastructure, where applicable, and replacing it with modernized systems throughout Ontario Place. This includes the installation of new service connections to the City of Toronto servicing infrastructure. It is anticipated that construction of these site servicing upgrades will commence in mid-2023 and they will take approximately 3 years to complete. These new site services are detailed in the *Ontario Place Site Servicing Category B C&D Report* (IO 2022), and include the following.

- Water servicing: Add watermains throughout the site; a second water service connection in the northeastern area of Ontario Place; and new service connections to the municipal water distribution system; replace aging underground water infrastructure.
- Wastewater servicing: Refurbish, replace, or add sewage pumping stations; add a new centralized sewer pumping station on the East Island to collect and pump sewage to the municipal sewer network on the Mainland; provide new service connections to the municipal sewage collection system; and replace aging underground sewage piping infrastructure.
- Stormwater management servicing: Implement low-impact development techniques (for example, vegetated wetlands, increased infiltration zones and permeable pavers, tree planters) and water quality treatment devices (for example, oil-grit separators).
- Electrical servicing/telecommunications: Extend a direct connection to the Toronto Hydro Electric System and coordinate with Toronto Hydro; add a new electrical loop that independently connect to Toronto Hydro's feeder network; and install an upgraded sitewide telecommunications network with consideration for a public safety and security communications network.
- Gas servicing: Increase the number of gas mains to future demands, and extend the East Island gas infrastructure to the high-pressure Enbridge main line on Lake Shore Boulevard.

Other servicing will include the addition of security system terminals throughout Ontario Place, and the addition of a supervisory control and data acquisition system for real time data collection of services.

4. Alternatives and Evaluation

The PW Class EA requires the assessment of both the "alternatives to" the undertaking and the "alternative methods" of carrying out the undertaking.

Section 2.1.3 discusses "alternatives to the undertaking," or "alternatives to," which refers to the different solutions that may be considered to address an identified problem or opportunity. For example, alternatives to a site development can range from "do nothing" (maintaining the current situation), to the building of new facilities.

The decision to redevelop Ontario Place was made outside of the EA process and was assessed by the Government of Ontario as part of its decision-making process. Because this assessment was outside of the EA process, the evaluation of "alternatives to" is not included in this ESR.

Based on this decision, this section will only focus on "alternative methods" and describes the alternative methods of carrying out the undertaking (that is., government-led redevelopment activities), the evaluation methodology, and outcomes of the evaluation. The "alternative methods" refers to different ways of doing the same activity. For the Ontario Place redevelopment, this could include consideration of one or more of the following: alternative sites for a proposed undertaking (for example, parking), alternative designs (that is, design concepts), and alternative technologies.

4.1 Alternative Methods of Carrying Out the Undertaking

For most of the Ontario Place public realm redevelopment, the "alternative methods" that were under consideration relate to design. The Project footprint covers a large area, so to help identify and navigate design concepts (alternatives), the public realm area was divided into five different zones. Two design concepts were created for each zone to show how the Government of Ontario's vision, and feedback from the public, Indigenous communities, and stakeholders, could be realized onsite. The design concept also aimed to resolve key issues impacting the site (these are listed for each zone in Sections 4.1.1 to 4.1.4 and 4.1.7 of this ESR). The design concepts were initially presented to the public, Indigenous communities, and stakeholders for comment in October 2022 at Engagement Event 2, as well as other meetings held with Indigenous communities and technical agencies. The development of the two design concepts also took into consideration feedback received as part of the virtual public visioning exercise (Engagement Event 1, held in April 2022) along with early consultation with Indigenous communities, the City of Toronto and other stakeholders (as detailed in Section 6) on the redevelopment of the public realm lands.

The design for each zone was aimed to meet different objectives of Government's vision and to reflect feedback to accommodate a variety of uses throughout the public realm. For example, some designs focussed on providing opportunities for active recreation and programming while others focused on providing greenspace, natural features, and opportunity for passive activities. Table 4-1 and Sections 4.1.1 to 4.1.5 summarize the design concepts for each zone.

Table 4-1. Summary of the Design Concepts for Each Zone

Zone	Design Concepts
Zone 1: Water's Edge	Concept A: Stone Lookouts Concept B: Planted Piers
Zone 2: The Marina	Concept A: Park Marina Concept B: Ontario Port
Zone 3: Brigantine Cove	Concept A: Event & Activities Concept B: Wetland & Nature
Zone 4: The Mainland	Concept A: Urban and Active Concept B: Green Gateway
Zone 5: The Forum	Concept A: Fountain and Flexible Space Concept B: Sports and Recreation Hub

Both design concepts for each zone also proposed design solutions to address necessary considerations, such as accessibility, climate change and environmental challenges, and economic sustainability.

Within the Mainland zone, alternatives were also developed and evaluated for parking and for a new main building for the Ontario Science Centre (OSC). Alternatives for these two elements were also developed to meet different elements of Government of Ontario's vision and feedback received, including to provide improved public spaces and to protect for heritage views of the pods and Cinesphere from Lake Shore Boulevard. Both OSC and parking alternatives were evaluated separately from the Mainland zone and design concepts.

4.1.1 Water's Edge

In developing the design concepts for the Water's Edge, the following existing issues were considered:

- Aging infrastructure
- Flooding
- Inaccessible shoreline

4.1.1.1 Concept A: Stone Lookouts

Concept A: Stone Lookouts was created with a focus on providing shoreline protection while allowing site visitors to get close to the water (Figure 4-1). The concept includes a continuous public walkway between the shoreline and the southern lawn, a stone edge, and stone lookouts. This design provides the following advantages:

- A thickened and elevated shoreline edge for flood protection
- Shoreline protection to physically expand the public realm
- An accessible water's edge during all seasons
- Access to the shoreline

This design concept does not provide as much greenspace and vegetation as Concept B, however it will allow site users to get closer to the water to enjoy the experience of being near Lake Ontario. It is not intended as an area for swimming or launching vessels due to safety concerns.

Figure 4-1. Water's Edge, Concept A: Stone Lookouts

4.1.1.2 Concept B: Planted Piers

Concept B: Planted Piers also provides shoreline protection but aims to incorporate more vegetation (Figure 4-2) than Concept A. This design offers less access to the water for users than Concept A. Similar to Concept A, it provides a continuous public walkway and lookouts. The design also provides the following advantages:

- A planted, greener edge condition
- A raised shoreline for flood protection
- Increased vegetation for stormwater management
- Lookout and boardwalk overlooks for views out over the water

Figure 4-2. Water's Edge, Concept B: Planted Piers

4.1.2 Marina

When creating the design concepts for the Marina, the following existing issues were considered:

- Flooding
- Stagnant water and poor circulation.
- Vacant buildings in poor condition
- Deteriorated public realm
- Lack of amenities and commercial activity
- Lack of shaded areas and places for public seating

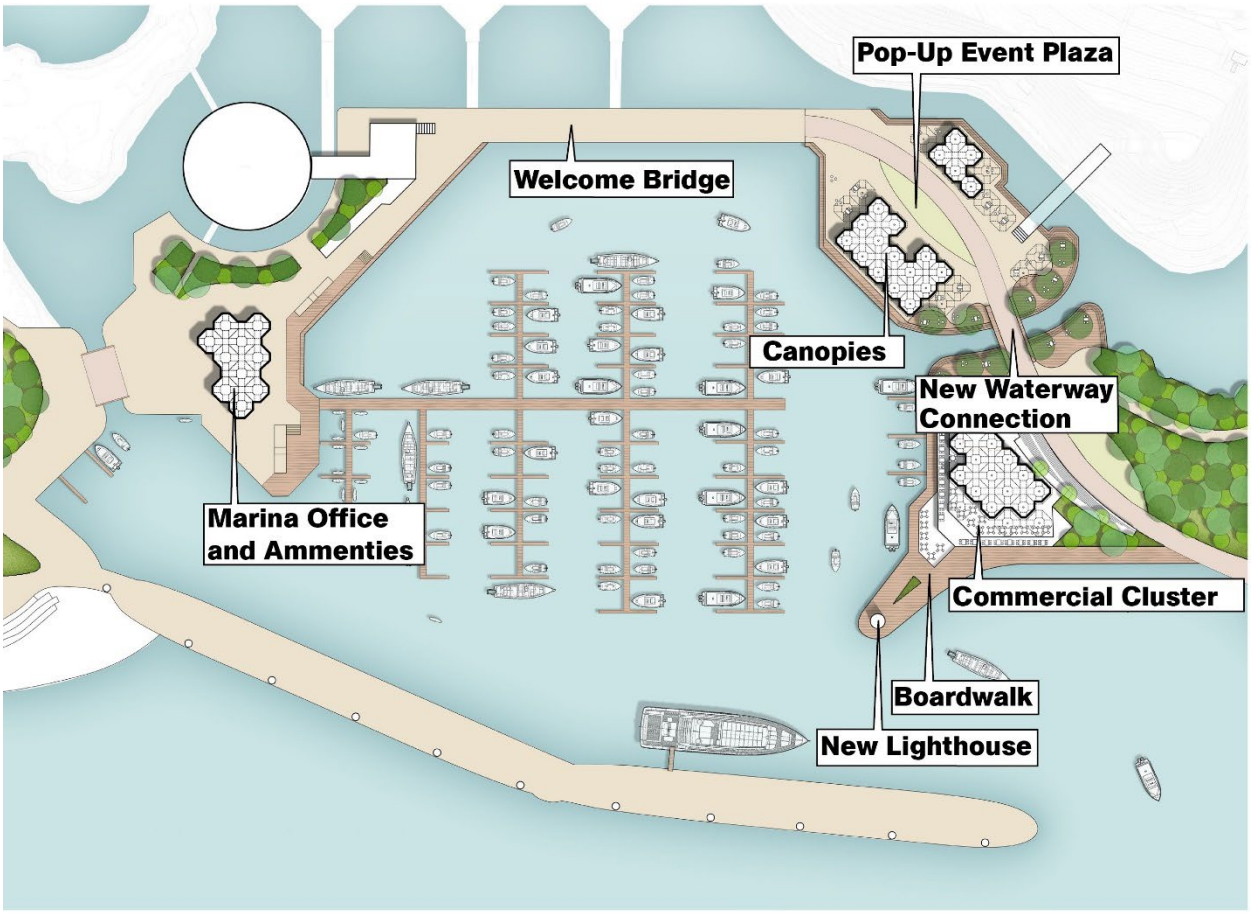
4.1.2.1 Concept A: Park Marina

For this zone, both concepts included raised elevations to address flooding. Concept A: Park Marina focuses on maximizing public space (Figure 4-3). This concept provides the following advantages:

- Opportunities for picnicking with shaded seating
- Heritage conservation with the existing (largely unused) marina buildings being recreated as open-air canopies
- Increased public greenspace

This design concept does not provide as much commercial opportunity as Concept B. This design also initially proposed a new waterway connection; however, that was later determined not to be technically or financially feasible. As a result, that design feature was removed and not considered in the evaluation of the concept. Without the new waterway, the design provides more opportunity for additional trees to be planted or for added commercial space.

Figure 4-3. Marina Concept A: Park Marina



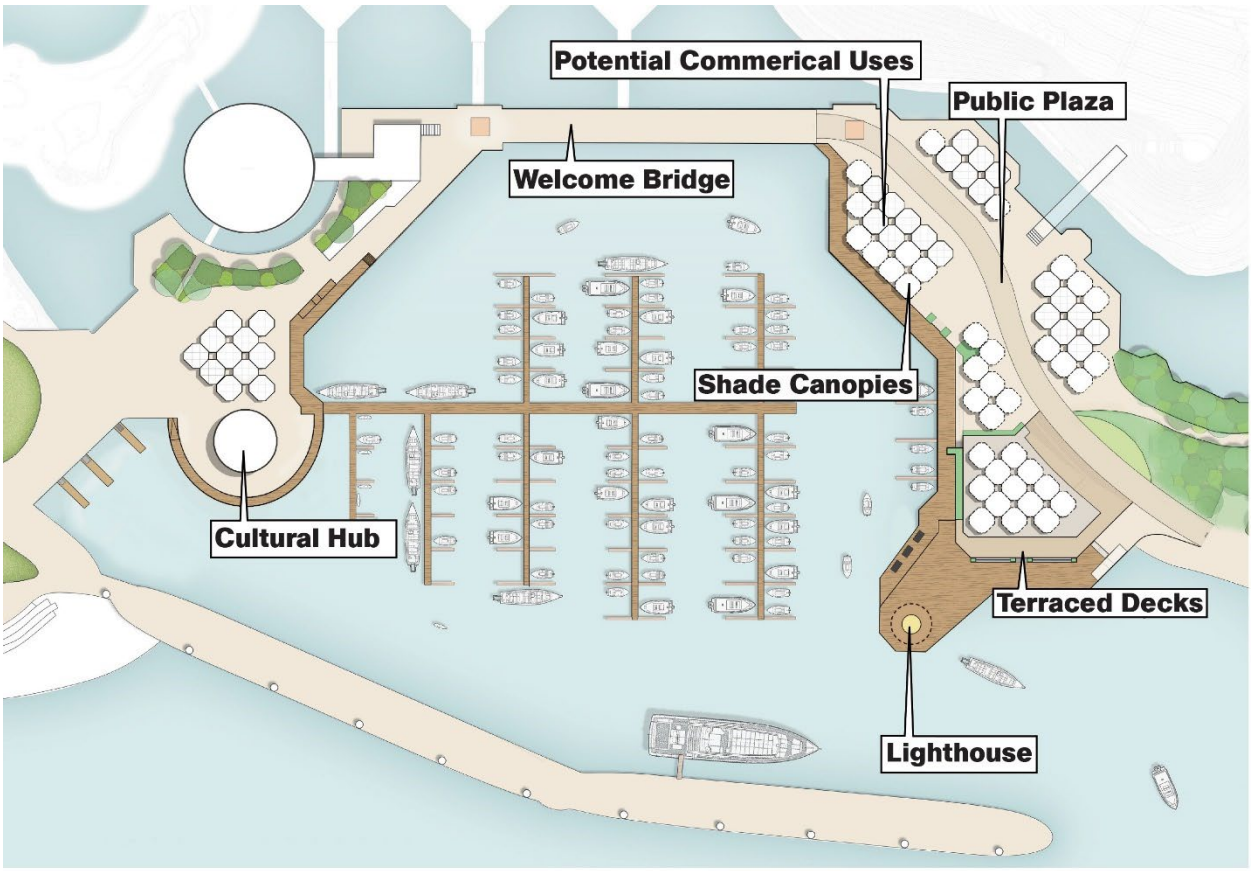
4.1.2.2 Concept B: Ontario Port

Concept B: Ontario Port aims to support commercial activity that is complementary to the rest of the public realm (Figure 4-4). This concept provides the following advantages:

- A cultural hub for various placemaking and cultural programming opportunities
- Diversified and expanded boat slips
- Potential commercial uses
- A wood boardwalk along both sides of the marina, allowing users to interact with the water

Concept B for this zone provides less greenspace and public park space than Concept A.

Figure 4-4. Marina Concept B: Ontario Port



4.1.3 Brigantine Cove

The following issues were considered during the development of the design concepts for Brigantine Cove:

- Poor water circulation
- Edged by parking and paving
- Flooding
- Very limited access to water

4.1.3.1 Concept A: Event & Activities

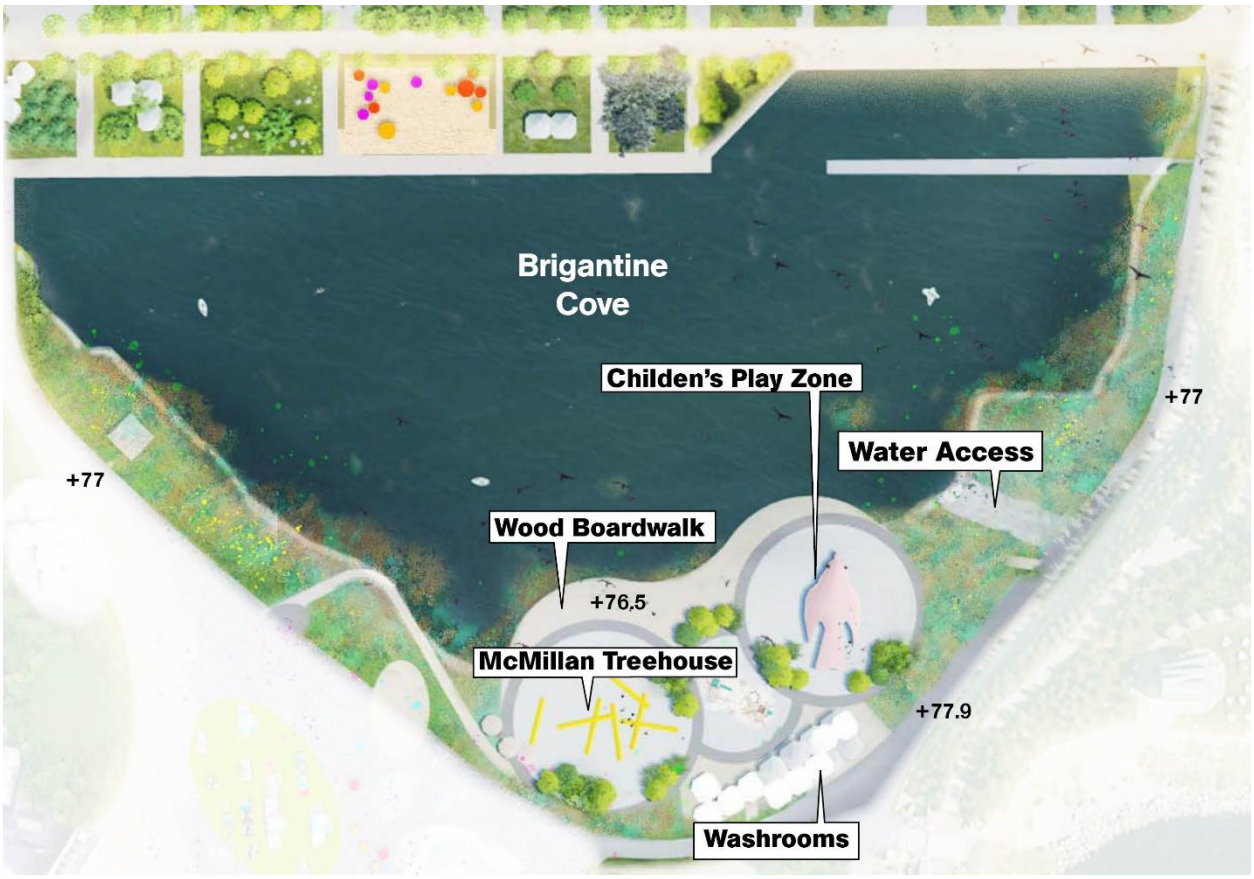
Concept A: Event & Activities focuses on providing recreational opportunities (Figure 4-5). This concept provides the following advantages:

- Cultural heritage conservation with a reinstated edge boundary original to the Hough design
- A treehouse and play zone to provide play opportunities for a range of children's age groups
- Landscaping and trees for weather protection

- A land-based boardwalk edge to allow users to get close to the water
- Water access for water-based activities, such as canoeing or kayaking.

Compared to Concept B, this design provides less interaction with the water and less greenspace.

Figure 4-5. Brigantine Cove Concept A: Event & Activities



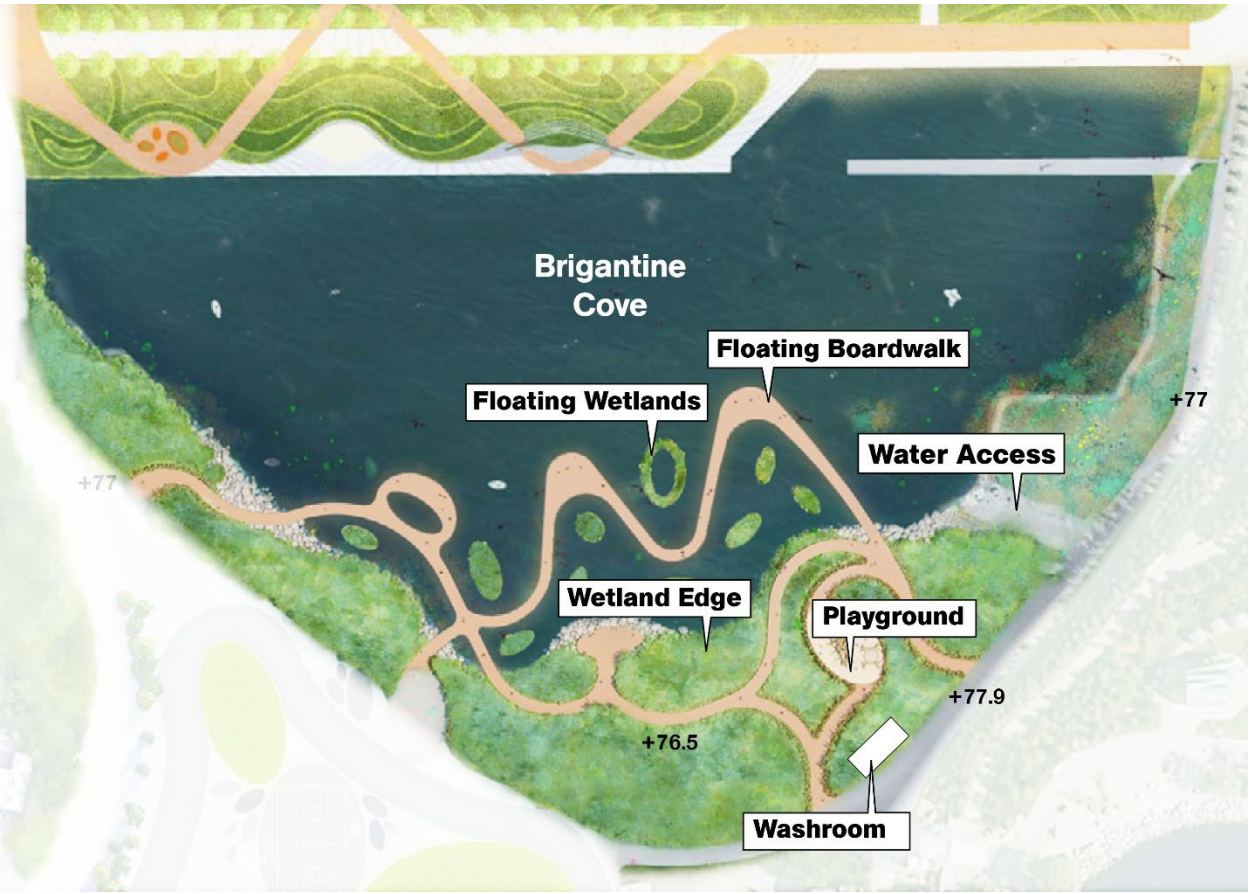
4.1.3.2 Concept B: Wetland & Nature

Concept B: Wetland & Nature focuses on providing a more natural experience and passive recreational opportunities (Figure 4-6). The concept provides the following advantages:

- A floating boardwalk system
- Wetland creation
- A smaller children's play area
- New opportunities for enhanced ecosystems and ecology
- Water access for water-based activities, such as canoeing or kayaking.

Concept B includes more vegetation and greenspace than Concept A but does not provide as much structured recreational space. Both concepts aim to improve water quality and circulation within Brigantine Cove; however, Concept B has more opportunity to improve water quality with the proposed wetlands.

Figure 4-6. Brigantine Cove Concept B: Wetlands & Nature



4.1.4 Mainland

In developing the design concepts for the Mainland, the following existing issues were considered:

- Expansive parking and asphalt area
- Aging infrastructure
- Under-utilized water's edge
- Poor waters' edge experience
- Limited greenery

4.1.4.1 Concept A: Urban & Active

Concept A: Urban & Active provides active and diverse experiences (Figure 4-7). The advantage of this Concept is that it can accommodate a range of both passive and active uses. It also features a mixture of hard and soft landscapes, including plazas and an urban beach. This concept does not provide as much greenspace as Concept B.

Figure 4-7. Mainland Concept A: Urban & Active

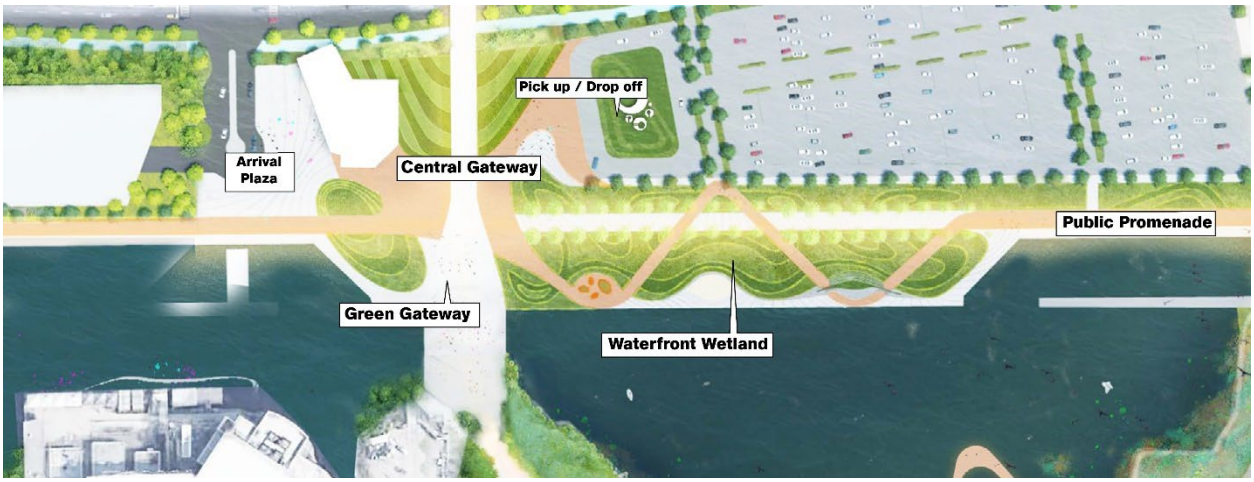
4.1.4.2 Concept B: Green Gateway

Concept B: Green Gateway focuses on passive recreational uses and has less emphasis on providing designated activity areas (Figure 4-8). Concept B also provides the following advantages:

- Increased greenspace with extensive planting and minimal hardscape
- Sheltered, enclosed public spaces
- An extended 'park feel' onto the Mainland

Both concepts have increased vegetation compared to existing conditions, but Concept B features more overall greenspace than Concept A. Both concepts also include a waterfront promenade, as well as an arrival plaza and dedicated pickup and drop off areas for improved access to the site. Concept B provides less flexibility in the range of possible uses.

Figure 4-8. Mainland Concept B: Green Gateway



4.1.5 Parking

While parking is part of the Mainland zone, parking alternatives were identified separately from the Mainland design concepts. The key reason for this approach is the decision about the provision of parking is not part of the evaluation of Mainland design concepts. Parking is included in both design concepts and is required regardless of the design concept selected, based on an assessment of parking demand completed outside of the EA process. This assessment also determined that the minimum number of spaces required to accommodate parking demand from redeveloped activities is approximately 2,600 to 2,800. This includes consideration for shared parking between the various uses of Ontario Place (such as Therme, the public realm, Live Nation) and transportation demand management (policies and programs to influence how people choose to travel with the aim to reduce single-occupant vehicle trips by encouraging more sustainable forms of transportation [such as transit or cycling]). It was also determined from Government of Ontario's vision for the redevelopment that the selected parking solution should meet the following Project objectives:

- Not limit or impact new public spaces at Ontario Place
- Protect heritage views of pods and Cinesphere from Lake Shore Boulevard West
- Meet municipal policies for waterfront development and urban design
- Allow for increased provision of parking to meet demand

To help meet these objectives, parking alternatives that were considered included location alternatives and structure type alternatives. The parking location alternatives included:

- Onsite parking facility
- Offsite parking facility

Given the location of Ontario Place, the only opportunity for offsite parking was to expand the existing parking at Exhibition Place. Historically, parking supplies between Ontario Place and Exhibition Place would be shared, offloading each other's parking demands. However, Exhibition Place is in the process of preparing a sitewide Master Plan that would result in the removal of parking spaces in favour of a focus on pedestrians and cyclists. As such, it was determined that a permanent parking supply would not be available for Ontario Place visitors. This information was considered to determine the preference for the parking location (refer to Section 4.3.5). Due to access constraints, the only opportunity considered for onsite parking was within the Mainland zone, where surface parking currently exists. An advantage of offsite parking is that it would leave more area for new public open space at Ontario Place where parking currently exists; however, a disadvantage is the lack of direct access to the site. Similarly, onsite parking means direct access to the site, but could limit new public open space.

For parking structure types, the following alternatives were identified:

- An aboveground structure
- A belowground structure
- Surface parking lots only
- A combination of a surface parking lot and a belowground structure
- The advantage of having a belowground or aboveground structure is they can both accommodate the modest projected increase in parking demand for Ontario Place. The disadvantage of aboveground parking is that it may block views from Lake Shore Boulevard West to the pods and Cinesphere and to Lake Ontario. Surface parking lots alone do not provide an increase in parking but would have the lowest construction cost, because this option would be the same as the existing condition. A combination of a surface parking lot and a belowground structure would also accommodate the projected parking demand, would not block views, and would leave more area for new public space than surface or aboveground parking.

4.1.6 Ontario Science Centre

Within the Mainland zone, the design concepts proposed a pavilion for science-based education and programming. In April 2023, Treasury Board approved the relocation of the OSC to Ontario Place and confirmed the new science-based programming use to be for the OSC. This decision was made outside the EA process as permitted by the PW Class EA (MOI 2012). The OSC relocation will bring family-friendly science-based educational programming to Ontario Place, including to the five historic pods and Cinesphere. Functional requirements for the new OSC were established by Lord Cultural Resources, in consultation with the OSC, with the goal of achieving both the OSC's modernization and sustainability objectives. The OSC will require approximately 200,000 square feet, in addition to the pods and Cinesphere, to deliver its mandate and programming. Based on that requirement, it the OSC would require a new main building to accommodate its programming, rather than a pavilion.

While the detailed design for the new OSC main building will be developed through a subsequent design process, several conceptual alternatives were been evaluated as part of the Category C Class EA to help determine potential impacts and develop mitigation measures to guide future design development, including:

- Location
- Height and Massing

Based on the space required to accommodate the functional program, existing lease agreements for sections of the site, and proposed public realm improvements, feasible location alternatives for the OSC at Ontario Place included:

- Mainland (P1)
- Mainland (P2)

P1 and P2 on the Mainland (Figure 4-9). The boundaries shown are not legal boundaries and are therefore approximate.

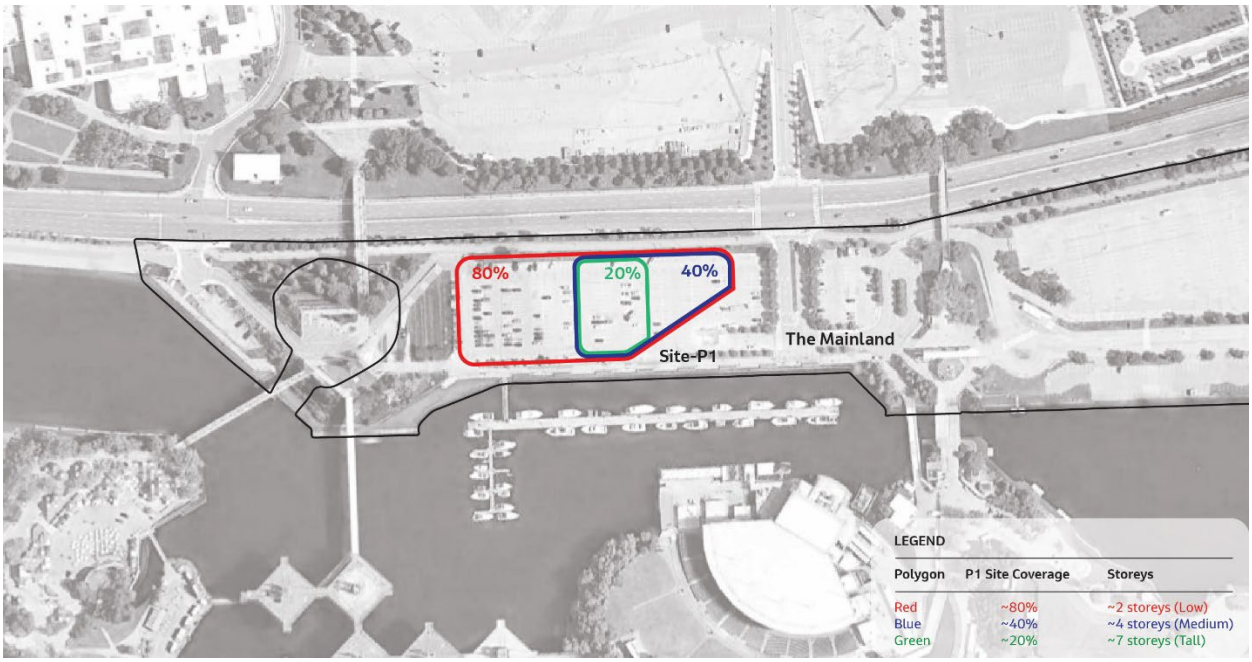
Figure 4-9. P1 and P2 on the Mainland; OSC Location Alternatives

The functional program establishes that the OSC main building requires an approximate gross floor area of 200,000 square feet (in addition to the pods and Cinesphere). This gross floor area could theoretically be accommodated in a variety of built forms, from a low rise building with a larger footprint to a tall slender building, or something in between. A key consideration in the evaluation of height and massing alternatives is the need to maximize the efficiency of the building based on access, adjacency, and circulation between spaces. Based on the space available at the preferred location (P1) (refer to Step One of the evaluation in Section 4.3.6), the following height and massing alternatives were identified:

- Low (maximum two storeys; up to 80% P1 site coverage)
- Medium (three to six storeys; up to 55% P1 site coverage)
- Tall (seven plus storeys; up to 25% P1 site coverage)

The percentage of site coverage is approximate and was determined based on the approximate surface area within the boundary of P1 as shown on Figure 4-9. Figure 4-10 shows an example footprint for a low, medium, and tall alternative at P1.

Figure 4-10. Height and Massing Alternative Examples at P1



4.1.7 Forum

In developing the design concepts for the Forum, the following existing issues were considered:

- Poor-quality landscape (asphalt)
- High degree of runoff, flooding, and storm water management issues
- Requirement for adequate space for large-scale events and celebration

4.1.7.1 Concept A: Fountain & Flexible Space

Concept A: Fountain & Flexible Space aims to provide an area that can accommodate a range of activities for a variety of programming and site users (Figure 4-11). The concept includes the following features:

- A mix of soft and hard landscape
- A high level of accessibility
- Moveable furniture to create outdoor rooms and spaces
- A central fountain that becomes an all-season destination

The advantages of Concept A are that it provides more opportunity for a range of uses and includes more permeable surfaces than Concept B. A possible disadvantage of this concept is that the soft landscaped areas may cause some restraints for future programming opportunities.

Figure 4-11. Forum Concept A: Fountain & Flexible Space

4.1.7.2 Concept B: Sports & Recreation Hub

Concept B: Sports & Recreation Hub focuses on providing defined areas for specific sports activities (Figure 4-12). To support some of the sports activities, structures would also be required for amenities like change rooms and washrooms. This concept also provides an opportunity for an ice track in winter months.

The advantages of this concept include:

- Designated sports space
- Promotes active recreation
- Can accommodate winter programming
- Hardscaping can better accommodate or withstand potential large-scale events

This concept also offers less greenspace than Concept A and is primarily hard landscaped, which is a disadvantage for stormwater management.

Figure 4-12. Forum Concept B: Sports & Recreation Hub

4.1.8 Construction Alternatives

Given that the site will be redeveloped, construction activities will need to be addressed more specifically during detailed design. The intent is to keep the adjacent Trillium Park open to the public during construction; however, the remainder of the public realm lands will be redeveloped and therefore may be entirely or partially closed during construction. Funding, technical considerations, and government decision-making will all need to be considered in determining the timing of the construction and phasing of any activities. Construction alternatives for this Project were not relevant, but options for minimizing impacts from construction on the surrounding uses and users (for example, Marina, Lake Shore Boulevard West, Trillium Park) will be considered during the development of detailed design. Issues such as construction methods, staging, and timing will be reviewed at that time. Some mitigation measures related to construction activities have been identified in Section 5 of this ESR but will also be refined during detailed design.

4.2 Evaluation of the Design Concepts

Each design concept was evaluated using the objectives listed for the following categories (environments) to identify and manage potential effects of the design concepts:

- Natural environment
  - Protect and enhance terrestrial and aquatic natural features and linkages
  - Protect terrestrial and aquatic species including birds, mammals, fish and insects
  - Maintain and improve air quality
- Social environment
  - Social acceptability (that is, outcome of a collective judgement or opinion of a project or plan)
  - Facilitate educational opportunities
  - Provide a comfortable environment for site users
- Cultural environment
  - Built Heritage: Conserve and promote the cultural heritage value and attributes of the property, including built heritage resources and cultural heritage landscapes per the Ontario Place Strategic Conservation Plan
  - Built Heritage: Conserve and promote the cultural heritage value and attributes of the property, including built heritage resources and cultural heritage landscapes
  - Indigenous Cultural: Reflect Indigenous perspectives
  - Indigenous Cultural: Respect and reflect treaty history and current cultural landscapes
- Technical environment
  - Potential for the concept to be easily implemented
  - Facilitate multi-modal access
  - Floodplain management
  - Sediment management
  - Remediate existing contamination
  - Upgrade or replace infrastructure and buildings
  - Maintain flexibility for future programming
- Economic environment
  - Construction costs
  - Operation and Maintenance
  - Economic benefits

- Sustainability
  - Reduce contribution to climate change
  - Include sustainable infrastructure and buildings
  - Sustainable Communities

Each objective also consists of supporting criteria. Appendix F provides the full evaluation criteria table. Using a qualitative, rationale-based assessment, the indicators for each criterion were used to measure how well design elements met the Project objectives and vision, which was reflected in the evaluation objectives. For example, within the Natural Environment category, for the "Protect and enhance terrestrial and aquatic natural features and linkages" objective, one criterion was "Riparian or aquatic systems and habitat." The impact a design concept or design element had on this criterion was indicated by a change in the quality of habitat availability compared to existing conditions and measured by the potential to increase or decrease water quality parameters (such as total suspended solids or contaminants) or sensory disturbance (such as vibrations) that may enhance or reduce the quality of available habitat (such as sand from volleyball courts, salt from parking lots. and access). Because this cannot be measured quantitatively before the design is implemented, logic or reason was used to "measure" the change. This evaluation also considered how feedback from the public, Indigenous communities, and technical agencies was implemented through the "social acceptability" objective (Section 6.3 summarizes the feedback received). The design elements that were determined to be most aligned with objectives, vision, and feedback, were identified as preferred.

Through the evaluation process for each zone, design elements were examined, and preferred and less -preferred design elements were identified within Design Concepts A and B for that zone. A recommended public realm design for each zone was identified as the design concept with the most preferred design elements based on the six categories. However, if a design element was determined not to be technically nor economically feasible, it was identified as less preferred, regardless of its preference within the other categories. In most cases, there was not a clear preference for Concept A or B and instead the preferred design elements from both concepts were considered or integrated into one recommended public realm design.

Separate from the zones, the parking alternatives were also evaluated. A two-step process was followed to determine the recommended parking alternative to address the parking needs identified for the redevelopment. Step One was a screening-level evaluation of the parking facilities located onsite at Ontario Place versus those located offsite, to determine a parking location preference. Step Two consisted of a comparative evaluation of parking structures to determine which is preferred to meet the future parking demand requirements. In both Step One and Step Two, alternatives were developed and evaluated using the criteria in Table 4-2.

Table 4-2. Evaluation Criteria for Parking

Category	Criteria
Natural Environment	Impacts to existing terrestrial species and aquatic environment.
	Ability to revegetate existing parking lots.
Social Environment	Traffic impacts on Lake Shore Boulevard West.
	Impacts to parking lot users (such as, fees, proximity).
	Ability to access Lake Shore Boulevard West and Ontario Place.
Cultural Environment	Compatibility with existing cultural heritage attributes.
Technical Environment	Ability to integrate redevelopment opportunities.
	Constructability.
	Flexibility in parking lot sizing.
Economic Environment	Capital cost.
	Operational and maintenance costs.
	Construction-related costs.

Also separate from the zones, alternatives were evaluated for the OSC main building. This evaluated used a series of high-level objectives including the ability to accommodate OSC functional program requirements and the need to incorporate the adaptive reuse of the existing pods and Cinesphere. In addition, alternatives were evaluated using the criteria in Table 4-3. The evaluation followed a two-step process. Step One evaluating the Mainland (P1) and Mainland (P2) location alternatives. Step Two took the results of Step One and evaluated the height and massing alternatives based on the space available at the preferred location.

Table 4-3. Evaluation Criteria for the OSC

Category	Criteria
Natural Environment	Impacts to existing terrestrial species and wildlife habitat.
Social Environment	Access to Lake Shore Boulevard West, transit and parking.
	Impacts on public space.
	Ability to serve as a gateway or landmark to Ontario Place.
Cultural Environment	Compatibility with existing cultural heritage attributes.
Technical Environment	Ability to accommodate functional program requirements (size, circulation between spaces, adjacency, etc.).
	Constructability.
	Ability to integrate with the pods and Cinesphere and existing bridge.
Economic Environment	Capital cost.
	Operational and maintenance costs.

Each zone design concept, parking alternative, and OSC alternative was evaluated separately, and then the recommended designs were brought together to form an overall recommended public realm design. Section 4.3 summarizes the evaluation of designs for each zone and alternatives for parking and the OSC. The recommended public realm design was then refined and identified as preferred following Engagement Event 3.

4.3 Summary of the Evaluation and Selected Design

Tables 4-1 through 4-8 summarize the evaluation of Design Concepts A and B for each zone, parking, the OSC main building, and the overall public realm design. For each zone, the tables describe key differentiating design elements between Concepts A and B that contributed to a concept being identified as preferred or less preferred within each category. The tables also provide an overall design concept preference for each zone based on comparing the preferences within all of the categories. Appendix F provides the full, detailed evaluation tables.

To make it visually easier to follow the ranking of each design concept, colours were assigned to the preferences: green was assigned for preferred and yellow was assigned for less preferred. For the evaluation of the parking structures and the OSC main building, there were four and three alternatives evaluated, respectively, that required the use of an additional colour (where applicable), red, which refers to least preferred.

In the evaluation tables (both the summary and full, detailed tables) the design concepts were first compared horizontally (within a category such as natural environment) between the design concepts and then vertically (between categories such as natural, social environments) to derive the recommended design. A summary (or preference) row is provided where the design concepts are compared with each other within the categories (natural, social, cultural, technical, economic environments and sustainability). The summary rows are then compared to determine the overall preference (recommended design concept) based on all categories and objectives. The design concept that demonstrated the most preferred rows relative to their potential environmental effects would likely be the recommended design. However, this depended on the extent of potential effects and whether they could be mitigated, as well as the design elements that could be integrated into a design concept. The overall preference reflects the recommended design concept for each zone.

Design renderings were prepared to show what the recommended design for each zone may look like onsite. These designs were then presented to Indigenous communities and stakeholders in meetings in March and April of 2023, as well as to the public and other interested parties during Engagement Event 3. Feedback received on the recommended public realm design from the public, Indigenous communities, and stakeholders was used to refine the design and confirm a preferred public realm design. The preferred design for each zone is described and shown following the evaluation tables for each zone in Sections 4.3.1 to 4.3.6. Section 5 describes the preferred design for the overall public realm.

4.3.1 Water's Edge Evaluation

Table 4-4 summarizes the evaluation of the design concepts and results for the Water's Edge zone. Appendix F provides the full detailed evaluation table.

Table 4-4. Water's Edge Evaluation Summary

Category	Preferred Feature of Concept A (Stone Lookouts)	Preferred Features of Concept B (Planted Piers)
Natural Environment	**Preferred** ▪ Improves protection of the shoreline[a] which is a key requirement for redeveloping this zone.	▪ **Less Preferred** Provides some protection to shoreline with less hardscaping, but less than Concept A.
	Less Preferred ▪ Requires design modification to integrate vegetation providing opportunity for habitat and improvement to air quality.	**Preferred** ▪ Opportunity to enhance natural environment with increased vegetation. Vegetation provides greater contribution to overall habitat quality and quantity, and better chance of improving air quality. Slightly lower wildlife mortality risk during construction.
	Preferred ▪ Continuous public walkway located further from the shoreline, which maintains water quality by reducing the potential for salt from winter maintenance to flow toward Lake Ontario. Design can also be modified to add vegetation.	**Less Preferred** ▪ Opportunity for increasing water quality parameters through the use of vegetation in the soft shoreline component. Continuous public walkway is closer to Lake Ontario, increasing the potential for salt from winter maintenance to reach the water.
Natural Environment Preference	**Preferred** Greater shoreline protection. Modifications to design will include increasing vegetation.	**Less Preferred**

Category	Preferred Feature of Concept A (Stone Lookouts)	Preferred Features of Concept B (Planted Piers)
Social Environment	**Preferred** ▪ Allows for more seating; however, the seating along the stone lookouts is only partially accessible to all site users. Allows site users to step or climb down closer to the water to enjoy close proximity to the lake.	**Less Preferred** ▪ Keeps site users at a higher level away from the edge of Lake Ontario.
	Less Preferred ▪ Design can also be modified to add vegetation (preferred from public feedback), but this concept will result in less vegetation than Concept B.	**Preferred** ▪ Public feedback indicates a strong preference for Concept B including vegetation throughout the shoreline design.
Social Environment Preference	**Preferred** Allows site users close proximity to the lake and can be easily modified to include the preferred design feature of vegetation from Concept B.	**Less Preferred**
Cultural Environment	**Preferred** ▪ Does not retain heritage attributes in situ but has greater potential to integrate the Hough principles while maximizing the opportunity for the public to be near the water.	**Less Preferred** ▪ Does not retain heritage attributes in situ and limits proximity to the lake and does not integrate Hough principles.
	Preferred ▪ Greater flood protection (*Conservation Strategies for Climate Change from the Strategic Conservation Plan*) with the entire shoreline a hard shoreline. Existing art on site could be relocated to this zone.	**Less Preferred** ▪ Shoreline is mix of hard and soft shoreline, which reduces flood protection opportunity.

Category	Preferred Feature of Concept A (Stone Lookouts)	Preferred Features of Concept B (Planted Piers)
Cultural Environment	**Less Preferred** ▪ Hard shoreline reduces ability to protect or enhance habitat as requested by Indigenous feedback. Modification to design provides some opportunity for vegetation and to plant culturally significant plant species.	**Preferred** ▪ Slightly greater opportunity to integrate feedback from Indigenous communities because there is a combination of hard and soft shoreline to protect or enhance habitat and provides more area to plant culturally significant plant species.
Cultural Environment Preference	**Preferred** ▪ Modifications to design will include some vegetation while offering flood protection.	**Less Preferred**
Technical Environment	**Preferred** ▪ Provides a thickened and elevated shoreline that will meet or exceed the 100-year storm event criteria.	**Preferred** ▪ Greater amount of vegetative cover, with less impervious surface in total. ▪ Provides a thickened and elevated shoreline that will meet or exceed the 100-year storm event criteria.
	Preferred ▪ Similar for obtaining permits, meeting applicable planning objectives and standards, and increasing the elevation at the shoreline. ▪ Creates a positive change to the existing pedestrian and cycling networks.	**Preferred** ▪ Similar for obtaining permits, meeting applicable planning objectives and standards, and increasing the elevation at the shoreline. ▪ Creates a positive change to the existing pedestrian and cycling networks.
	Less Preferred ▪ Shoreline access areas should be closed during the winter months to reduce potential safety concerns due to ice buildup.	**Preferred** ▪ No shoreline access area so area remains open during winter months.
Technical Environment Preference	**Less Preferred**	**Preferred** ▪ No closure of access areas during winter and has less impervious surface.

Category	Preferred Feature of Concept A (Stone Lookouts)	Preferred Features of Concept B (Planted Piers)
Economic Environment	**Preferred** ▪ Requires less maintenance compared to Concept B but similar construction costs. ▪ Provides some economic opportunity during construction (like jobs).	**Less Preferred** ▪ Requires more maintenance to retain vegetation than Concept A but similar construction costs. ▪ Provides some economic opportunity during construction (like jobs).
Economic Environment Preference	**Preferred** Requires less maintenance.	**Less Preferred**
Sustainability	**Less Preferred** ▪ Design can be modified to increase vegetation cover but not to the extent of coverage of Concept B.	**Preferred** ▪ Greater chance of reducing the heat island effect and withstanding a changing climate because there is an increase in vegetative cover.
	Preferred ▪ Contributes to sustainability through no continuous emissions (such as air, greenhouse gases) and increases multi-use pathways and park area compared to existing conditions.	**Preferred** ▪ Contributes to sustainability through no continuous emissions (such as air, greenhouse gases) and increases multi-use pathways and park area compared to existing conditions.
Sustainability Preference	**Less Preferred**	**Preferred** Greater vegetative cover to reduce heat island effect. Multi-use pathways and park area provided
OVERALL PREFERENCE	**Preferred** Modification to design provides additional vegetative features (such as planted edges, lake edge planting) and the ability for visitors to get closer to the lake. This concept provides greater opportunity for long-term shoreline protection, and additional seating along the shoreline without having to step or climb down the stone lookouts increasing its accessibility.	**Less Preferred**

Notes

[a] Shoreline: where the water meets the land

As Table 4-4 indicated, the preferred design for the Water's Edge is Concept A, with modifications to include additional vegetation. The preferred design addresses flooding and wave up-rush occurrences by pulling the water's edge further into the island to create a gradual series of stone terraces down to the water. The stone terraces create stone piers of varying sizes. Figure 4-13 is a preliminary rendering of the preferred design for this zone.

Figure 4-13. Water's Edge Preferred Design

4.3.2 Marina Evaluation

Table 4-5 summarizes the Marina evaluation and results. Appendix F provides the full detailed evaluation table.

Table 4-5. Marina Evaluation Summary

Category	Preferred Features of Concept A (Park Marina)	Preferred Features of Concept B (Ontario Port)
Natural Environment	**Preferred** ▪ Provides more opportunity for vegetation and greenspace.	**Less Preferred** ▪ Includes some additional vegetation across the zone.
	Less Preferred ▪ Includes the continued use of gas and diesel fueled vessels.	**Less Preferred** ▪ Includes the continued use of gas and diesel fueled vessels.
	Preferred ▪ Will alter the shoreline to address grading and flooding issues associated with this zone.	**Preferred** ▪ Will alter the shoreline to address grading and flooding issues associated with this zone.

Category	Preferred Features of Concept A (Park Marina)	Preferred Features of Concept B (Ontario Port)
Natural Environment Preference	**Preferred** Generally, both concepts are considered equal; however, Concept A provides more opportunity to increase vegetation and greenspace.	**Less Preferred**
Social Environment	**Preferred** ▪ Public feedback indicates a general preference for Concept A.	**Preferred** ▪ Ideas favouring features from Concept B (such as increasing greenspace) will be integrated into the overall design for this zone.
	Preferred ▪ Has greater potential to reduce noise with areas surrounded by vegetation.	**Preferred** ▪ Provides greater opportunities for including educational activities for visitors.
	Preferred ▪ Public indicated having additional greenspace is important.	**Preferred** ▪ Provides more opportunity to access the water with the addition of a floating boardwalk.
Social Environment Preference	**Preferred** Allows for more shaded areas (such as canopies) and greenspace that may also help reduce noise in this zone. Ideas from both concepts can be merged to create educational activities for visitors or the idea of a wood boardwalk or cantilever deck.	**Less Preferred**
Cultural Environment	**Less Preferred** ▪ Does not retain heritage attributes in situ. Will enhance public access to the shoreline to support reintroducing the Marina as a "destination environment" but to a lesser extent than Concept B.	**Preferred** ▪ Does not retain heritage attributes in situ. Provides greater opportunity to reintroduce the Marina as a "destination environment" for visitors (that is, compatibility with the original vision for Ontario Place).

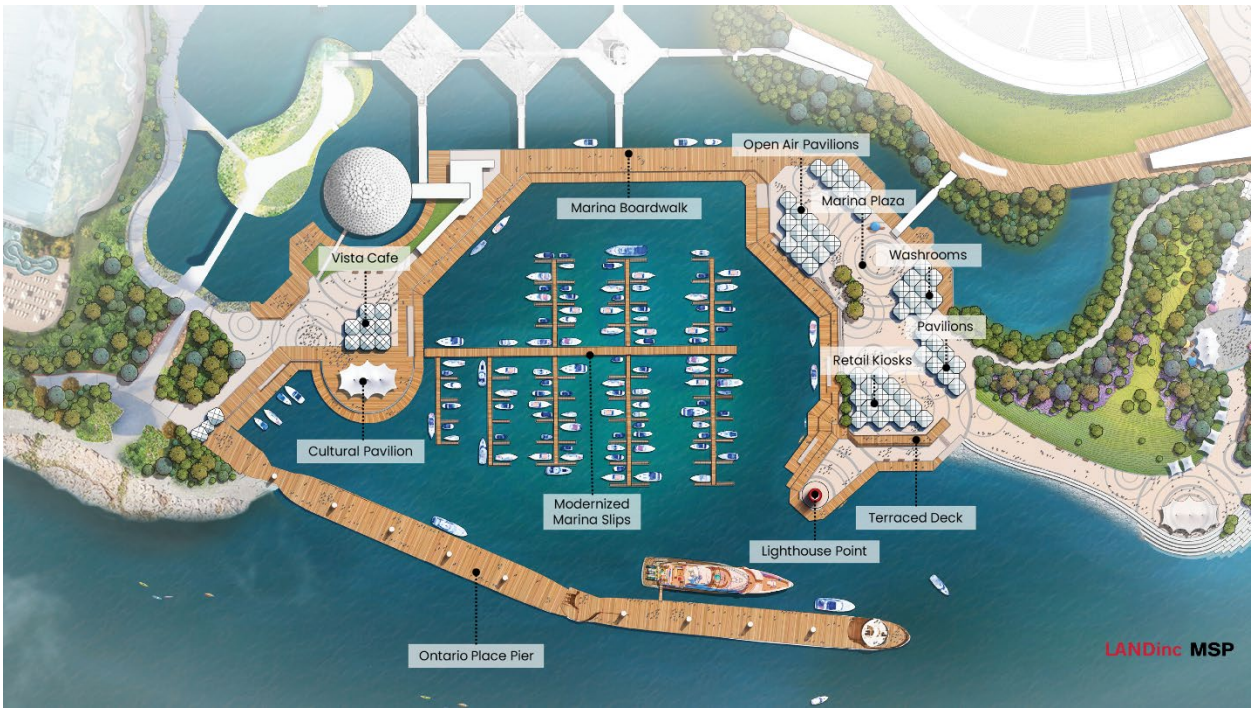
Category	Preferred Features of Concept A (Park Marina)	Preferred Features of Concept B (Ontario Port)
Cultural Environment	**Less Preferred** ▪ Provides some opportunity to integrate input from Indigenous communities (for example, Welcome Bridge, art).	**Preferred** ▪ Provides greater opportunity to integrate feedback and design concepts from Indigenous communities into the overall design concept (for example, Cultural Pavilion, Welcome Bridge, art).
	Preferred ▪ Meets the same amount of conservation strategies as Concept B.	**Preferred** ▪ Meets the same amount of conservation strategies as Concept A.
Cultural Environment Preference	**Less Preferred**	**Preferred** Provides greater opportunity to integrate feedback from Indigenous communities and to integrate principles from the original vision for Ontario Place.
Technical Environment	**Less Preferred** ▪ Existing networks will be enhanced, where possible.	**Preferred** ▪ Provides a greater opportunity for to enhance the pedestrian network by allowing visitors to get closer to the water.
	Preferred ▪ Includes flood protection measures that meet or exceed the 100-year storm event criteria.	**Preferred** ▪ Includes flood protection measures that meet or exceed the 100-year storm event criteria.
	Preferred ▪ Includes the pop-up event plaza that will provide a flexible space for future uses, in addition to the Marina space.	**Less Preferred** ▪ Will continue to offer the existing features at the Marina; does not provide much flexibility for possible future intended uses.
Technical Environment Preference	**Preferred** Ideas from both concepts can be merged to include pop-up event space for flexible future uses.	**Preferred** Ideas from both concepts can be merged to include the wood boardwalk or cantilever deck that allows visitors to get closer to the water.

Category	Preferred Features of Concept A (Park Marina)	Preferred Features of Concept B (Ontario Port)
Economic Environment	**Preferred** Both concepts have similar construction and maintenance costs.	**Preferred** Both concepts have similar construction and maintenance costs.
	Both concepts provide similar economic opportunities (e.g., jobs).	Both concepts provide similar economic opportunities (e.g., jobs).
Economic Environment Preference	**Preferred** Both concepts have similar costs and provide similar economic opportunities.	**Preferred** Both concepts have similar costs and provide similar economic opportunities.
Sustainability	**Preferred** Provides more opportunity to increase the overall area of vegetation.	**Less Preferred** Will enhance vegetation across this zone but to a lesser extent than Concept A.
	Preferred Will be designed to withstand severe weather and temperatures to protect against a changing climate.	**Preferred** Will be designed to withstand severe weather and temperatures to protect against a changing climate.
Sustainability Preference	**Preferred** Provides more opportunity to increase vegetation.	**Less Preferred**

Category	Preferred Features of Concept A (Park Marina)	Preferred Features of Concept B (Ontario Port)
OVERALL PREFERENCE	**Preferred** Provides more opportunity for increasing vegetation and greenspace. Public feedback has indicated a preference for the features associated with Concept A. Ideas from both concepts can be integrated to provide the best overall experience for visitors, including maximizing greenspace, creating educational opportunities, providing areas for food and beverage area, and the Cultural Pavilion. The wood boardwalk feature in Concept B can be added to bring visitors closer to the water. Additionally, a shaded seating area feature has been introduced along the break wall that will allow visitors to sit comfortably while enjoying an unobstructed view of Lake Ontario.	**Less Preferred**

Table 4-5 indicates the preferred design for this zone is Concept A, with some preferred elements from Concept B, including the wood boardwalks, the space for commercial opportunities (such as food and beverage), and the Cultural Pavilion. The preferred design also includes open air park pavilions, flexible plaza spaces, an expansion of the lighthouse pier, and a pier to the south. In the design, a boardwalk connects the east and west marina, including a series of boardwalks that come closer to the water's edge. Figure 4-14 shows a preliminary rendering of the preferred design identified for the Marina.

Figure 4-14. Marina Preferred Design



4.3.3 Brigantine Cove Evaluation

Table 4-6 summarizes the evaluation of Concepts A and B for Brigantine Cove, and Appendix F provides the full detailed evaluation table.

Table 4-6. Brigantine Cove Evaluation Summary

Category	Preferred Features of Concept A (Event & Activities)	Preferred Features of Concept B (Wetlands & Nature)
Natural Environment	**Less Preferred** ▪ Some shoreline work is required. ▪ No wetlands to provide habitat or improve water quality.	**Preferred** ▪ Increased area of wetlands and vegetation providing riparian and terrestrial habitat and improving water quality.
	Less Preferred ▪ Less vegetation and greenspace provided.	**Preferred** ▪ Overall increase in vegetation and wetland habitat, which will also have a positive influence on air quality.

Category	Preferred Features of Concept A (Event & Activities)	Preferred Features of Concept B (Wetlands & Nature)
Natural Environment	**Preferred** ▪ Creates a positive change in the shoreline and provides effective and sustainable stormwater management to protect against flood risks.	**Preferred** ▪ Creates a positive change in the shoreline and provides effective and sustainable stormwater management to protect against flood risks.
Natural Environment Preference	**Less Preferred**	**Preferred** Wetland and vegetation provide riparian, wetland and terrestrial habitat and provides stormwater management and protects against flood risks.
Social Environment	**Less Preferred** ▪ Greater opportunity for site users to participate in recreational activities on-land.	**Preferred** ▪ Less on-land recreational activities but public indicated an overall preference for Concept B. Recreational opportunities will be added to the preferred design.
	Preferred ▪ Greater water access along the shoreline of the cove (such as kayak or canoe).	**Less Preferred** ▪ The conceptual design provides slightly limited water access (such as kayak or canoe); however, additional opportunities will be considered for the preferred design.
	Less Preferred ▪ Wood boardwalk along portion of shoreline with no wetlands included.	**Preferred** ▪ Includes floating boardwalks (or equivalent) allowing visitors to walk over the cove area and through wetlands.
	Less Preferred ▪ Less vegetation and more open space in portion of cove which increases potential for noise in the area.	**Preferred** ▪ Provides a better opportunity to decrease noise in this area through the use of vegetation and tree clusters.
Social Environment Preference	**Less Preferred**	**Preferred** Allows site users to walk through wetlands and more vegetation and includes a children's play area.

Category	Preferred Features of Concept A (Event & Activities)	Preferred Features of Concept B (Wetlands & Nature)
Cultural Environment	**Preferred** ▪ Does not retain heritage attributes in situ, however proposed mitigation measures in the design meet a number of conservation strategies as outlined in the *Strategic Conservation Plan*. Existing artwork on site could be relocated to this zone.	**Preferred** ▪ Does not retain heritage attributes in situ, however proposed mitigation measures in the design meet a number of conservation strategies as outlined in the *Strategic Conservation Plan*. Existing artwork on site could be relocated to this zone.
	Preferred ▪ Reinstates the original Hough edge.	**Preferred** ▪ Greater opportunity to provide restoration of Hough lookouts.
	Less Preferred ▪ Less vegetation and more open space limits integration of Indigenous communities' feedback, design principles and programming.	**Preferred** ▪ Greater integration of feedback from Indigenous communities and integration of Indigenous design principles and programming.
Cultural Environment Preference	**Less Preferred**	**Preferred** Greater vegetation, greenspace and integration with Indigenous communities' design principles and programming.
Technical Environment	**Less Preferred** ▪ Maintains existing access to the site and includes some access to the site by water.	**Preferred** ▪ Maintains existing access to the site with better access to the site by water.
	▪ Increases available pedestrian network along portion of shoreline.	**Preferred** ▪ Greater increase in available pedestrian network with the addition of the floating boardwalk.
	Preferred ▪ Open space provides less pervious surface area but greater flexibility for more than one type of use.	**Preferred** ▪ Provides more pervious surface area but use of site can be viewed as more limited.

Category	Preferred Features of Concept A (Event & Activities)	Preferred Features of Concept B (Wetlands & Nature)
Technical Environment Preference	**Less Preferred**	**Preferred** Provides better access to water, more pervious surface and increased pedestrian network floating on the water.
Economic Environment	**Preferred** ▪ Requires some routine and seasonal maintenance. ▪ Provides some economic opportunity during construction (like jobs).	**Less Preferred** ▪ Requires greater routine and seasonal maintenance. ▪ Provides some economic opportunity during construction (like jobs).
Economic Environment Preference	**Preferred** Lower routine and maintenance costs.	**Less Preferred**
Sustainability	**Less Preferred** ▪ Provides some resilience to changing climate trends with vegetation and boardwalk.	**Preferred** ▪ Provides more resilience through vegetation, greenspace and permeable paving and less unnatural hard surfaces.
	Less Preferred ▪ No wetlands provided.	**Preferred** ▪ Positive effect on existing climate change trends through implementation of an urban environment wetland system.
	Preferred ▪ Contributes to sustainability through no continuous emissions (such as air, greenhouse gases) and withstands severe weather events.	**Preferred** ▪ Contributes to sustainability through no continuous emissions (such as air, greenhouse gases) and withstands severe weather events.
Sustainability *Preference*	**Less Preferred**	**Preferred** More vegetation, greenspace and permeable paving along with an urban environment wetland system.

Category	Preferred Features of Concept A (Event & Activities)	Preferred Features of Concept B (Wetlands & Nature)
OVERALL PREFERENCE	**Less Preferred**	**Preferred** Provides opportunity for visitors to interact with the environment via boardwalks and wetlands, more vegetation, greenspace and a Children's Play Zone while providing effective and sustainable stormwater management protecting against flood risks. Future design iterations will seek to include additional children's play areas and recreational opportunities (such as increased access to the water or beach).

On the northeastern edge of Brigantine Cove is the east entrance, which links the Mainland to Trillium Park and provides an additional opportunity for consideration for modifications to enhance the preferred design concept. The existing causeway could remain as is; however, the construction of a bridge could benefit Brigantine Cove. A simple evaluation took place to compare the causeway versus a bridge. The bridge is preferred overall because it offers the following benefits:

- Improvements to water circulation and quality within the Cove (natural environment)
- An opportunity for kayaking and canoeing through the area (social environment)
- Potential Indigenous Placekeeping ideas to be incorporated into the bridge design, such as railings, supports, and pavers (heritage)

These opportunities can offset the higher costs for construction and maintenance, as well as and construction-related requirements. Based on this preference, the East Bridge was incorporated into the preferred design.

As Table 4-6 shows, the preferred design for this zone is Concept B, with modifications to include additional children's play features, recreational opportunities, and increased access to the water (such as by providing a beach). Floating wetlands in the preferred design create a green edge and provide refuge and spawning habitat for aquatic species. The design provides space for children's play inspired by Indigenous storytelling and the East Bridge allows for canoe and kayak passage while improving water quality and circulation within the cove. The design is also modified to add water fountains to further improve water circulation. Supporting amenities, such as washroom and changing rooms, are also included in the design for this zone. Figure 4-15 shows a preliminary rendering of the preferred design for this zone.

Figure 4-15. Brigantine Cove Preferred Design

4.3.4 Mainland Evaluation

Table 4-7 summarizes the evaluation for the Mainland, and Appendix F provides the full detailed evaluation table.

Table 4-7. Mainland Evaluation Summary

Category	Preferred Features of Concept A (Urban and Active)	Preferred Features of Concept B (Green Gateway)
Natural Environment	**Less Preferred** ▪ Will reduce areas of impervious surfaces overall; however, the urban, active concept still includes additional areas of hardscaping.	**Preferred** ▪ Provides more opportunity to increase the overall area of pervious surface.
	Preferred ▪ Will increase the overall area of vegetation compared to existing conditions.	**Preferred** ▪ Will create more terrestrial habitat and provide more connectivity among habitat throughout the park since more vegetation or greenspace can be introduced.

Category	Preferred Features of Concept A (Urban and Active)	Preferred Features of Concept B (Green Gateway)
Natural Environment Preference	**Less Preferred**	**Preferred** Provides more greenspace which will reduce impervious surfaces and increase potential habitat throughout the park.
Social Environment	**Preferred** ▪ Public feedback favours features from Concept A (like an urban beach or other recreational opportunities) as well as a hybrid idea including features from both (such as more wetland or vegetative features included).	**Preferred** ▪ Public feedback has a slight preference for Concept B, specifically the increase in vegetation and greenspace.
	Preferred ▪ Includes more recreational opportunities (passive and active).	**Preferred** ▪ Includes areas for passive recreational uses (like hammocks) throughout the zone.
	Preferred ▪ Provides more opportunity for useful shade (areas where visitors can get out of the sun) or sheltered areas by adding tables and umbrellas.	**Preferred** ▪ Includes more overall greenspace.
Social Environment Preference	**Preferred** Key messages from public feedback are included in both concepts (reduced aboveground parking, dedicated dropoff and pickup zones).	**Preferred** Key messages from public feedback are included in both concepts (reduced aboveground parking, dedicated dropoff and pickup zones).
Cultural Environment	**Preferred** ▪ Both concepts do not require the removal of existing heritage attributes and meet conservation strategies equally. Artwork could be relocated east of the Central Entrance.	**Preferred** ▪ Both concepts do not require the removal of existing heritage attributes and meet conservation strategies equally. Artwork could be relocated east of the Central Entrance.

Category	Preferred Features of Concept A (Urban and Active)	Preferred Features of Concept B (Green Gateway)
Cultural Environment	**Preferred** ▪ Includes more tree canopy areas around public amenity space, supporting Hough's vision of having tree canopy on site. Includes a "Cloud Gateway" that is an interpretation of the original park features.	**Preferred** ▪ Includes integration of more trees and vegetation that support Hough's vision of having tree canopy on site.
	Less Preferred ▪ Will increase trees and vegetation compared to existing conditions.	**Preferred** ▪ Provides the most area for increasing greenspace which is preferred by Indigenous communities.
Cultural Environment Preference	**Less Preferred**	**Preferred** Provides more opportunity to incorporate feedback from Indigenous communities.
Technical Environment	**Preferred** Overall, easier to implement.	**Less Preferred** Incudes some features that require more work for implementation (like the wetland areas).
	Preferred ▪ Will reduce the overall areas of impervious surfaces compared to existing conditions.	**Preferred** ▪ Provides greater opportunity to include pervious surfaces.
	Preferred ▪ Multi-modal connections to, from and within the site will be improved with designated drop-off and pick-up locations and the Arrival Plaza.	**Preferred** ▪ Multi-modal connections to, from and within the site will be improved with designated drop-off and pick-up locations and the Arrival Plaza.
Technical Environment Preference	**Preferred** Overall, this concept is easier to implement while reducing existing areas of impervious surfaces and increasing multi-modal connections.	**Less Preferred**

Category	Preferred Features of Concept A (Urban and Active)	Preferred Features of Concept B (Green Gateway)
Economic Environment	**Preferred** ▪ Will have lower construction and maintenance costs.	**Less Preferred** ▪ Will have higher construction and maintenance costs.
	Preferred ▪ Provides economic opportunities during construction and operation.	**Preferred** ▪ Provides economic opportunities during construction and operation.
Economic Environment Preference	**Preferred** This concept has lower construction and maintenance costs.	**Less Preferred**
Sustainability	**Less Preferred** ▪ Will increase the overall area of vegetation compared to existing conditions.	**Preferred** ▪ More opportunity to increase the amount of overall vegetation throughout the Mainland.
	Preferred ▪ Is designed to withstand severe weather and is anticipated to exist is a changing climate. The trees and vegetation will be native to the area and chosen based on resiliency.	**Less Preferred** ▪ Will require some routine maintenance to withstand the impacts of climate change. For example, additional resources will be required during times of low precipitation or extreme temperatures.
Sustainability Preference	**Preferred** Will withstand severe weather without additional maintenance. Stormwater rain gardens can be included in this concept which include vegetated areas that provide a similar character as the wetlands but are considered more feasible (that is, do not require routine maintenance to withstand the impacts of climate change).	**Preferred** The increased vegetation is generally better for the environment, but the wetland features will require support to withstand severe weather.

Category	Preferred Features of Concept A (Urban and Active)	Preferred Features of Concept B (Green Gateway)
OVERALL PREFERENCE	**Preferred** Provides opportunity for increasing the area of vegetation and greenspace compared to existing conditions, ultimately also increasing the overall area of pervious surface throughout the park. Lower construction and maintenance costs and easier to implement. Features from Concept B will be integrated into Concept A such as increasing greenspace and vegetation (such as the Green Gateway feature, stormwater rain gardens). Both concepts will see the P1 parking lot relocated underground, and the remaining aboveground parking lot resurfaced with green pave technology. Both concepts include building the Ontario Science Centre and the Ontario Plaza.	**Less Preferred**

As Table 4-7 shows, the preferred design for the Mainland is Concept A with multiple plaza and flex spaces, and modifications to increase greenspace and vegetation. The design also includes modifications to add food and beverage opportunities in response to public and stakeholder feedback. The preferred design includes a north shore promenade that connects the eastern and western edges of Ontario Place using a multi-mode pedestrian path and includes a pickup and dropoff hub and a transit hub. The design also widens the existing Martin Goodman Trail along Lake Shore Boulevard West. Figure 4-16 shows a preliminary rendering of the preferred design for this zone.

The Mainland includes the existing pedestrian crossings between Ontario Place and Exhibition Place. Work is continuing with Metrolinx to rework the existing pedestrian crossings to link the Mainland with the transit opportunities at Exhibition Place. This will be part of another EA process but the current preferred design of the Mainland will be considered to rework the crossings. These will be reworked to adequately address the needs of both Ontario Place and as the Exhibition Place Master Plan.

Figure 4-16. Mainland Preferred Design

4.3.5 Parking Evaluation

Table 4-8 shows the full, high-level evaluation for parking, which is the evaluation of location alternatives.

Table 4-8. Parking Evaluation Step One: Screening Onsite Versus Offsite Parking Alternatives

Category	Onsite Parking Facility	Offsite Parking Facility
Natural Environment	**Less Preferred** ▪ Construction related impacts minimized by siting facility on existing asphalt surface parking area at Ontario Place.	**Preferred** ▪ Uses existing facilities with minimal to no construction related impacts.
Natural Environment Preference	**Less Preferred**	**Preferred**
Social Environment	**Preferred** ▪ Closeness and easy access to facilities and activities at Ontario Place.	**Less Preferred** ▪ Requires users to travel to site from parking (limited option of only Exhibition Place for parking).
	Preferred ▪ Provides users with parking options on-site.	**Less** Preferred ▪ Can be designed to provide more direct pedestrian access to Ontario Place.

Category	Onsite Parking Facility	Offsite Parking Facility
Social Environment	**Preferred** ▪ Impacts traffic on Lake Shore Boulevard since that is the only road providing access to the parking area.	**Less** Preferred ▪ Impacts traffic on Lake Shore Boulevard from different entrances to Exhibition Place.
Social Environment Preference	**Preferred** Provides easier access to facilities and activities, parking options and a lesser impact to Lake Shore Boulevard traffic.	**Less Preferred**
Cultural Environment	**Less Preferred** ▪ Depending on type of parking structure potential to restrict or partially restrict heritage views at Ontario Place.	**Preferred** ▪ No impact on heritage views.
Cultural Environment Preference	**Less Preferred**	**Preferred**
Technical Environment	**Less Preferred** ▪ Challenging to work with waterfront location.	**Preferred** ▪ No site constraints or impacts on future development options at Ontario Place.
	Less Preferred ▪ Potential to impact future development at Ontario Place.	**Preferred** ▪ Protects Mainland for development options and can meet changing future parking trends.
	Less Preferred ▪ Phasing needed to permit use of surface parking during construction of parking facility.	**Preferred** ▪ Can continue to use existing surface parking in the short term at Ontario Place.
Technical Environment Preference	**Less Preferred**	**Preferred**

Category	Onsite Parking Facility	Offsite Parking Facility
Economic Environment	**Less Preferred** ▪ High construction costs to address constrained space, water table and soil quality and mitigation of impacts on Islands and Lake Shore Boulevard.	**Preferred** ▪ Low construction cost.
	Preferred ▪ Site owned by the Province with user parking revenues paid to the Province.	**Less Preferred** ▪ Requires coordination with City of Toronto (including Exhibition Place Master Plan) and loss of user parking revenues to City of Toronto).
Economic Environment Preference	**Preferred**	**Less Preferred**
OVERALL PREFERENCE	**Preferred** Provides easy access to Ontario Place and parking options on-site and will bring user parking revenues to the Province.	**Less Preferred**

As Table 4-8 shows, onsite parking is preferred for the redevelopment. The result of Step One was carried forward to assess the parking structure alternatives, now identified as onsite. Table 4-9 summarizes Step Two of the parking evaluation, which is the evaluation of onsite parking structure alternatives.

Table 4-9. Parking Evaluation Step Two: Comparison of Onsite Parking Structures

Category	Aboveground Structure	Belowground Structure	Surface Parking Lots	Combination of Surface Parking and Belowground
Natural Environment	**Preferred** ▪ Construction-related impacts to existing asphalt parking area.	**Preferred** ▪ Construction-related impacts to existing asphalt parking area.	**Preferred** ▪ Impacts from construction of parking improvements limited to existing asphalt parking areas.	**Preferred** ▪ Construction related impacts to existing asphalt parking areas.
	Least Preferred ▪ No opportunity for revegetation. ▪ Opportunity to redirect run-off away from Lake Ontario.	**Preferred** ▪ Provides opportunity for revegetation of Mainland by removing existing asphalt parking lots on east and west sides of Mainland and redirect runoff away from Lake Ontario.	**Less Preferred** ▪ Limited opportunity to naturalize existing parking lots. ▪ Impacts lagoons and water quality through run-off to Lake Ontario.	**Preferred** ▪ Provides opportunity for revegetation of large surface area on west side of site and potential to naturalize surface parking lot on east side and redirect runoff way from Lake Ontario.
Preference	**Least Preferred**	**Preferred** ▪ Provides opportunity to revegetate existing asphalt parking lots and redirect runoff.	**Less Preferred**	**Preferred** ▪ Provides opportunity to revegetate asphalt parking areas and redirect runoff.

Category	Aboveground Structure	Belowground Structure	Surface Parking Lots	Combination of Surface Parking and Belowground
Social Environment	**Less Preferred** ▪ Potential traffic impacts on Lake Shore Boulevard West with increased number of parking spaces on west side of Mainland zone.	**Less Preferred** ▪ Potential traffic impacts on Lake Shore Boulevard West with increased number of parking spaces on west side of Mainland zone.	**Least Preferred** ▪ Traffic impacts due to access/egress issues to existing parking lots.	**Preferred** ▪ Potential traffic impacts on Lake Shore Boulevard West with increased number of parking spaces divided between east and west entrances.
	Preferred ▪ Moderate user parking fees	**Less Preferred** ▪ High user parking fees.	**Least Preferred** ▪ Highest user parking fees due to limited spaces available.	**Less Preferred** ▪ High user parking fees (split between below ground and surface parking).
Preference	**Preferred** Traffic impacts but lower parking fees for users.	**Less Preferred**	**Least preferred**	**Less Preferred**
Cultural Environment	**Least Preferred** ▪ Blocks views to heritage structures (pods and Cinesphere) and to Lake Ontario.	**Preferred** ▪ No impact to views to heritage structures or Lake Ontario	**Preferred** ▪ No impact to views to heritage structures or Lake Ontario	**Preferred** ▪ No impact to views to heritage structures or Lake Ontario
Preference	**Least Preferred**	**Preferred** No impact to views.	**Preferred** No impacts to views.	**Preferred** No impacts to views.

Category	Aboveground Structure	Belowground Structure	Surface Parking Lots	Combination of Surface Parking and Belowground
Technical Considerations	**Least Preferred** ▪ Limits potential redevelopment of west side of the Mainland.	**Preferred** ▪ Optimal use of the site for potential redevelopment of the Mainland.	**Least Preferred** ▪ Limits potential redevelopment of east side of the Mainland.	**Less Preferred** ▪ Optimal use of the west side but limits east side for potential redevelopment of the Mainland.
	Least Preferred ▪ Technical challenges working with soil quality and water table.	**Less Preferred** ▪ Technical challenges working with soil quality and water table.	**Least Preferred** ▪ Requires improvements to existing surface lots to address operational issues.	**Preferred** ▪ Technical challenges working with soil quality and water table only for belowground structure.
	Less Preferred ▪ Provides flexibility in size of parking structure.	**Less Preferred** ▪ Provides flexibility in size of parking structure.	**Least Preferred** ▪ Limited parking with only two small Mainland lots. ▪ Existing surface parking is constrained in size due to location between Lake Shore Boulevard West and Lake Ontario waterfront.	**Preferred** ▪ Provides greater flexibility in parking options and size of parking structure.
Preference	**Least Preferred**	**Less Preferred**	**Least Preferred**	**Preferred** Optimal use of west side of the Mainland and provides increased parking options and size.

Category	Aboveground Structure	Belowground Structure	Surface Parking Lots	Combination of Surface Parking and Belowground
Economic Environment	**Least Preferred** ▪ High capital costs ▪ Highest operating and maintenance costs.	**Less Preferred** ▪ Highest capital costs ▪ Lower operating and maintenance costs.	**Preferred** ▪ Low capital costs. ▪ Low operating and maintenance costs.	**Less Preferred** ▪ Highest capital costs. ▪ Lower operating and maintenance costs.
	Preferred ▪ Provincial ownership of structure with greater number of parking spaces generating revenues to the Province.	**Preferred** ▪ Provincial ownership of structure with greater number of parking spaces generating revenues to the Province.	**Less Preferred** ▪ Provincial ownership of structure with fewer number of parking spaces generating revenues to the Province.	**Preferred** ▪ Provincial ownership of structure with greater number of parking spaces generating revenues to the Province.
Preference	**Least Preferred**	**Less Preferred**	**Preferred** Lower capital, operating and maintenance costs.	**Less Preferred**
OVERALL PREFERENCE	**Least Preferred**	**Less Preferred**	**Least Preferred**	**Preferred** Provides the greatest amount of onsite parking and flexibility in parking options for site users. Maintains heritage views and views of Lake Ontario, opportunity for future development of west side of Mainland (including revegetation) and lower operating and maintenance costs.

Together, the results of Tables 4-8 and 4-9 show the preferred parking alternative is to have a combination of surface parking (using the existing P2 parking lot on the eastern side of the Mainland) and belowground parking (located west of the central gateway entrance) onsite (Figure 4-17). The existing surface parking lot is upgraded to include the use of green pavers, vegetation, and a natural bioswale to collect stormwater and prevent it from draining into Lake Ontario.

Figure 4-17. Preferred Parking Alternative

4.3.6 Ontario Science Centre Evaluation

A two-step process was followed to determine the preferred OSC main building alternative. Table 4-10 shows the full table for Step One, which included evaluating the Mainland (P1) and Mainland (P2) location alternatives.

Table 4-10. OSC Evaluation Step One: Location Alternatives

Category	Mainland (P1)	Mainland (P2)
Natural Environment	**Preferred** ▪ Minimal impact on existing terrestrial species and wildlife habitat as the parcel is occupied by existing asphalt surface parking lot.	**Preferred** ▪ Minimal impact on existing terrestrial species and wildlife habitat as the parcel is occupied by existing asphalt surface parking lots.
	Less Preferred ▪ Impacts birds (including migratory birds).	**Less Preferred** ▪ Impacts birds (including migratory birds).
Natural Environment Preference	**Preferred**	**Preferred**

Category	Mainland (P1)	Mainland (P2)
Cultural Environment	**Preferred** ▪ Impacts views to the pods and Cinesphere and Lake Ontario from Lake Shore Boulevard West.	**Preferred** ▪ Impacts views to Brigantine Cove and Lake Ontario from Lake Shore Boulevard West.
Cultural Environment Preference	**Preferred**	**Preferred**
Social Environment	**Preferred** ▪ Easily accessible to and from the onsite transit hub and Lake Shore Boulevard West.	**Less Preferred** ▪ Further from the transit hub and underground parking than the P1 alternative.
	Preferred ▪ Easily accessible from onsite underground parking.	**Less Preferred** ▪ Accessible to Lake Shore Boulevard West
	Preferred ▪ Central and highly visible location creates potential to incorporate OSC as a gateway to Ontario Place.	**Less Preferred** ▪ Highly visible location presents some gateway opportunities, but less central than P1.
Social Environment Preference	**Preferred**	**Less Preferred**
Technical Environment	**Preferred** ▪ Can accommodate spatial requirements for OSC programming in a variety of configurations.	**Preferred** ▪ Can accommodate spatial requirements for OSC programming in a variety of configurations.
	Preferred ▪ Least constrained site from a constructability perspective.	**Preferred** ▪ Least constrained site from a constructability perspective.
	Preferred ▪ Minimizes site area affected by construction related impacts by integrating construction of OSC and underground parking.	**Less Preferred** ▪ Greater site area affected by construction related impacts with different construction areas for OSC and underground parking.

Category	Mainland (P1)	Mainland (P2)
	Preferred ▪ Can be directly integrated with the pods and Cinesphere via the existing bridge.	**Less Preferred** ▪ No ability to be directly integrated with the pods and Cinesphere via the existing bridge.
Technical Environment	**Preferred** ▪ Can be integrated with the underground parking structure which includes providing bus and drop off areas underneath the building.	**Less Preferred** ▪ No integration with the underground parking structure and bus and drop off areas could not be linked with the building.
Technical Environment Preference	**Preferred**	**Less Preferred**
Economic Environment	▪ May have lower capital cost if construction can be integrated with construction of the underground parking structure. ▪ No difference between alternatives in operation and maintenance costs.	▪ No difference between alternatives in operation and maintenance costs.
Economic Environment Preference	**Preferred**	**Less Preferred**
OVERALL PREFERENCE	**Preferred** Locating the OSC building on the Mainland at P1 provides the best access to public transit and parking and allows for the direct integration of the OSC with the pods and Cinesphere (where additional OSC programming is planned). This location is highly visible and creates an opportunity to incorporate the OSC as a gateway to Ontario Place. Visual impacts on the cultural heritage landscape and impacts to birds can be mitigated through appropriate height/massing and design of the building.	**Less Preferred**

As Table 4-10 shows, the preferred location for the OSC main building is at P1 on the Mainland. Table 4-11 shows Step Two, which evaluated built form alternatives including building height and massing based on the space available at the preferred location identified in Step One.

Table 4-11. OSC Evaluation Step Two: Height and Massing Alternatives

Category	Low (up to 2 storeys; P1 site coverage up to 80%)	Medium (3 to 6 storeys; P1 site coverage up to 55%)	Tall (7 plus storeys; P1 site coverage up to 25%)
Natural Environment	**Preferred** The site is currently occupied by a surface parking lot with limited environmental value. All three alternatives provide the opportunity to improve the existing condition through plantings, green roofs, habitat improvements etc.		
Preference	**Preferred** Provides opportunity to improve the existing condition.	**Preferred** Provides opportunity to improve the existing condition.	**Preferred** Provides opportunity to improve the existing condition.
Cultural Environment	**Least Preferred** ▪ This alternative has the largest footprint, which in turn presents the greatest potential obstruction to views of Ontario Place and Lake Ontario beyond.	**Preferred** ▪ While taller than the low alternative, this alternative has a smaller footprint which could reduce the impact on views to the pods and Cinesphere.	**Preferred** ▪ While this is the tallest alternative, it also has the smallest footprint, which could reduce the impact on views to the pods and Cinesphere.
Preference	**Least Preferred**	**Preferred** Reduces impact on views to the pods and Cinesphere.	**Preferred** Reduces impact on views to the pods and Cinesphere.

Category	Low (up to 2 storeys; P1 site coverage up to 80%)	Medium (3 to 6 storeys; P1 site coverage up to 55%)	Tall (7 plus storeys; P1 site coverage up to 25%)
Social Environment	**Least Preferred** ▪ The large footprint removes the available area for public plaza and the transit hub	**Preferred** ▪ This alternative balances the space allocated for the building footprint, adjacent public plaza and the transit hub.	**Preferred** ▪ While a tall building would have a smaller footprint than the medium alternative, both provide an opportunity to create a generous public plaza and space for the transit hub.
Preference	**Least Preferred**	**Preferred** Provides opportunity for a public plaza and transit hub.	**Preferred** Provides opportunity for a public plaza and transit hub.
Technical Environment	**Less Preferred** ▪ A maximum 2 storey building can likely accommodate the large, obstruction free spaces required for proposed exhibit/demonstration halls, but this configuration introduces potential challenges relating to adjacency and circulation between spaces.	**Preferred** ▪ This configuration provides the floor space necessary for large, obstruction free exhibit and demonstration spaces while also maximizing efficiency through adjacency and circulation between spaces meaning this configuration would best enable OSC to deliver their operational mandate.	**Least Preferred** ▪ A taller building with narrower floorplates may not provide the necessary exhibit space and will create additional challenges relating to adjacency and circulation between spaces.
Preference	**Less Preferred**	**Preferred** Provides necessary space, adjacency, and circulation.	**Least Preferred**

Category	Low (up to 2 storeys; P1 site coverage up to 80%)	Medium (3 to 6 storeys; P1 site coverage up to 55%)	Tall (7 plus storeys; P1 site coverage up to 25%)
Economic Environment	**Preferred** ▪ No known difference in capital or operation and maintenance costs between alternatives.	**Preferred** ▪ No known difference in capital or operation and maintenance costs between alternatives.	**Preferred** ▪ No known difference in capital or operation and maintenance costs between alternatives.
Preference	**Preferred** No difference between alternatives.	**Preferred** No difference between alternatives.	**Preferred** No difference between alternatives.
OVERALL PREFERENCE	**Least Preferred**	**Preferred** The medium alternative is preferred as it can accommodate all OSC program requirements in an efficient configuration, while maintaining sufficient space on site for a public plaza, transit hub and other gateway/entrance features.	**Less Preferred**

As Tables 4-10 and 4-11 show, the preferred alternative for the OSC main building is to have a medium (3 to 6 storeys; up to 55% P1 site coverage) building within P1 (existing parking lot to the west of the central gateway) on the Mainland. The main building includes connections to the underground parking lot for easy access and a connection to the existing pods and Cinesphere, which are repurposed to form part of the OSC. Based on the preferred alternative, a conceptual building footprint for a four-storey building is shown on Figure 418.

Figure 4-18. Example of the Ontario Science Centre Main Building Preferred Alternative

4.3.7 Forum Evaluation

Table 4-12 summarizes the evaluation that was completed for the forum design concepts and Appendix F provides the full detailed evaluation table.

Table 4-12. Forum Evaluation Summary

Category	Preferred Features of Concept A (Fountain & Flexible Space)	Preferred Features of Concept B (Sports & Recreation)
Natural Environment	**Less Preferred** ▪ Can accommodate routine stormwater management infrastructure to help manage ongoing issues at this zone.	**Preferred** ▪ Includes a bioswale east of the main promenade and west of the recreation area that will help capture, treat and infiltrate stormwater runoff before leaving the site.
	Preferred ▪ Allows for a mix of hard and soft landscaping to reduce the amount of impervious surface.	**Less Preferred** ▪ Will be primarily hardscaping with less opportunity to include pervious surfaces.
	Preferred ▪ Includes planting or protecting trees around the zone that will create habitat and provide connectivity for terrestrial species throughout the park.	**Preferred** ▪ Includes planting or protecting trees around the zone that will create habitat and provide connectivity for terrestrial species throughout the park.

Category	Preferred Features of Concept A (Fountain & Flexible Space)	Preferred Features of Concept B (Sports & Recreation)
Natural Environment Preference	**Preferred** Allows for a mix of hard and soft landscaping to reduce the amount of impervious surface.	**Preferred** Includes a bioswale that will help capture, treat and infiltrate stormwater runoff before leaving the site.
Social Environment	**Preferred** ▪ Provides more opportunity to provide shade for visitors. Tables with umbrellas and chairs can be used and moved according to the time of day as well as trees that will exist throughout the zone.	**Less Preferred** ▪ Trees around and throughout the zone will provide some shade.
	Preferred ▪ Provides more opportunity for flexibility and multi-use spaces throughout the year.	**Preferred** ▪ Offers more recreational-based opportunities and will include the appropriate amenities (like change rooms).
Social Environment	**Preferred** ▪ A berm area at the southern edge of the zone will be built which offers wind protection and supports the creation of a microclimate.	**Preferred** ▪ A berm area at the southern edge of the zone will be built which offers wind protection and supports the creation of a microclimate.
	Preferred ▪ Public indicated having additional greenspace is important.	**Preferred** ▪ Public indicated a general preference for Concept B (Sports & Recreation Hub) or a hybrid of both concepts (for example, certain features from both be combined).
Social Environment Preference	**Preferred** Allows for more shaded areas around and throughout the zone. Ideas from both concepts can be merged to create preferred recreational uses in this Zone.	**Less Preferred** Ideas from both concepts can be merged to create preferred recreational uses in this Zone.

Category	Preferred Features of Concept A (Fountain & Flexible Space)	Preferred Features of Concept B (Sports & Recreation)
Cultural Environment	**Preferred** ▪ Does not require the removal of existing heritage attributes, meets conservation strategies and provides a large, flexible area that will accommodate activities such as Indigenous festivals. Has the potential to include educational and ecological artwork.	**Preferred** ▪ Does not require the removal of existing heritage attributes, meets conservation strategies and provides a large, flexible area that will accommodate activities such as Indigenous festivals. Has the potential to include educational and ecological artwork.
	Preferred ▪ Provides an opportunity for increasing native vegetation and biodiversity around the zone.	**Preferred** ▪ Provides an opportunity for increasing native vegetation and biodiversity around the zone.
Cultural Environment Preference	**Preferred** Both concepts provide the same cultural environment benefits.	**Preferred** Both concepts provide the same cultural environment benefits.
Technical Environment	**Preferred** ▪ Easier in terms of construction and implementation since there are fewer features requiring specialized components (e.g., radiant piping).	**Less Preferred** ▪ Requires installation of running track or ice trail and ice rink which requires water and cooling installation (i.e., radiant piping).
	Preferred ▪ Includes a mix of soft and hard landscaping to reduce the amount of impervious surface and existing hardscaping.	**Less Preferred** ▪ Primarily hardscaping (similar to existing conditions) to accommodate a variety of recreational uses.
Technical Environment Preference	**Preferred** Easier construction and implementation and reduces impervious surfaces.	**Less Preferred**

Category	Preferred Features of Concept A (Fountain & Flexible Space)	Preferred Features of Concept B (Sports & Recreation)
Economic Environment	**Preferred** ▪ Anticipated to have lower maintenance costs since there are no features that require ongoing cooling for use.	**Less Preferred** ▪ Higher maintenance costs since the ice rink will require routine maintenance throughout the winter season and the ice track requires ongoing cooling.
	Less Preferred ▪ Some activities in this zone will need to be managed by a staff member (e.g., festivals, concerts).	**Less Preferred** ▪ Some activities in this zone will need to be managed by a staff member (e.g., festivals, concerts).
Economic Environment Preference	**Preferred** Lower maintenance requirements will reduce costs following implementation.	**Less Preferred**
Sustainability	**Preferred** ▪ Does not require the use of air conditioning or fossil fuel once implemented.	**Less Preferred** ▪ Change rooms on site will require heating and cooling during the appropriate season. Winter activities will likely require a Zamboni for winter maintenance; however, consideration for an electric unit was integrated into the concept.
	Preferred ▪ Provides more opportunity for pervious landscaping.	**Less Preferred** ▪ Primarily hardscaping to accommodate a variety of recreational uses.
Sustainability Preference	**Preferred** Overall, less contribution to climate change.	**Less Preferred**

Category	Preferred Features of Concept A (Fountain & Flexible Space)	Preferred Features of Concept B (Sports & Recreation)
OVERALL PREFERENCE	**Preferred** Provides more flexibility and multi-use spaces (which can include more recreational-based use) while reducing the amount of impervious surface and addressing stormwater management needs. Includes the installation of a Play Fountain, flexible space and Stone Bluff. Concept A can include design modifications and incorporation of bioswales to better address stormwater management.	**Less Preferred**

As Table 4-12 indicates, the preferred design for the Forum is Concept A, with modifications to incorporate bioswales to better address stormwater management. The design can accommodate a wide range of cultural, commercial, and recreational events. The design features a 1-acre fountain, a stone bluff berm with appropriate vegetation along the southern edge to provide protection from south shore winds and series of forest trails connecting the Forum to the south shore and Trillium Park. In response to stakeholder and public feedback, the design was also modified to include a market alley space to accommodate temporary food and beverage. Figure 4-19 is a preliminary rendering of the preferred design.

Figure 4-19. Forum Preferred Design

4.3.8 Overall Public Realm Design

The preferred design for each zone was brought together to form the overall preferred public realm design. This design is presented in Section 5 (refer to Figure 5-2).

The preferred design will be further refined during the detailed design phase. One key consideration during detailed design will be the opportunity to continue to work with Indigenous communities to identify and implement the use of acceptable heritage designs, materials and methodologies to help minimize potential impacts from the public realm redevelopment. This consultation could include development of a strategy to address issues such as location, costing, phasing, etc., to bring these ideas into the ultimate design. This could include incorporating features such as:

- Indigenous Placekeeping nodes
- Native planting that has Indigenous significance
- Interpretive signage
- Celebration of Indigenous motifs or languages

4.4 Review of Identified Concerns

Issues and concerns raised by the public, Indigenous communities, and stakeholders were considered in the selection of the preferred undertaking. Section 6.3 provides details on raised issues and concerns and how they were addressed or incorporated, which are summarized here.

Issues and concerns raised during the visioning phase of the Project (during Engagement Event 1 in spring 2022) were considered in the development of design concepts for the public realm. Some of these concerns include:

- Maintain unrestricted, free, and accessible entry to the park, including the shoreline, year-round.
- Preserve greenspace and native trees that are already onsite and increase overall vegetation cover.
- Protect wildlife including species at risk, migratory birds and aquatic species.
- Incorporate sustainability and solutions for climate change (such as flood mitigation).
- Maintain site history and heritage conservation.
- Provide accessibility accommodations.

The design team incorporated elements into the design concepts that addressed these concerns, as applicable or where feasible.

Issues and concerns raised during the phase of consultation on the draft evaluation criteria and the design concepts (during Engagement Event 2 in fall 2022) were considered in the evaluation and identification of a preferred design. Examples of these issues and concerns include:

- Consider habitat restoration and shoreline works across the site.
- Address areas of stagnate water and poor water quality.
- Maximize natural areas.
- Include native trees and plant species.
- Increase access to the water.
- Provide a variety of affordable food and beverage options.
- Incorporate Indigenous cultures.
- Include local art and entertainment.
- Provide water drinking fountains and washrooms.
- Maximize public access.

This feedback was used to ensure the evaluation criteria captured these concerns. The concerns were also used to evaluate the concepts per the Social Environment criteria that addressed social acceptability (that is, the outcome of a collective judgement or opinion of a project or plan) and was measured by feedback received during consultation and engagement.

Additional concerns were raised specific to the design concepts for Brigantine Cove that resulted in modifications when identifying the preferred design for that zone. TRCA raised technical feasibility concerns regarding the floating wetlands. These concerns include floating wetlands requiring high maintenance cost and maintenance effort, and providing little to no aquatic habitat being in deep water. In addition, habitat features should not be located near in-water activities and many aquatic species prefer bottom attached wetland planting. As a result, the wetlands have been brought in closer to the shoreline to provide more effective aquatic habitat in shallow waters. The design team is further investigating the feasibility of floating wetlands into detailed design. Another concern raised by Indigenous communities about the Brigantine Cove design concepts was that a publicly accessible boardwalk out over the water that may disturb or be detrimental to the surrounding wildlife and habitat. To address this concern, the design team brought the boardwalk closer to the shoreline.

The public and stakeholder provided feedback requesting a variety of affordable food and beverage options. This resulted in modifications to the design for the Mainland, the Forum, and the Marina to incorporate more opportunity for food and beverage when identifying the recommended and then preferred design.

No major issues or concerns relevant to the conceptual design were raised during consultation on the recommended public realm design (during Engagement Event 3 in April 2023). Most concerns raised will be carried forward for consideration during detailed design. Some key concerns and issues raised include:

- Disapproval that the floating boardwalk was removed from Brigantine Cove
- Safety and accessibility concerns
- Light pollution concerns
- Concerns about traffic congestion
- Concerns about amount of parking provided

As mentioned, the floating boardwalk was brought into the shoreline in response to the advice provided by the TRCA and Indigenous communities. Safety and accessibility are addressed to a limited degree in the preferred design; however, these considerations will be further developed during detailed design (by providing measures such as lighting, pathway design, railings). When lighting is selected during detailed design, light pollution will also be considered. Parking and justification for the sizing of parking lots is further detailed in Section 5.4.5.1.1. Traffic congestion is being considered and the Traffic Impact Study summary is provided in Appendix E. Additional work to analyze and address traffic will be undertaken as part of the development application, outside of the EA process.

5. Preferred Undertaking

This section describes the preferred undertaking in detail. It also discusses the potential impacts and associated mitigation and monitoring measures, including details about implementation.

5.1 Description of the Preferred Undertaking

The *EA Act* defines an "undertaking" as an enterprise, an activity or a proposal, plan, or program initiated by a proponent. An undertaking is generally identified during the initial scoping stages of a project and may evolve throughout the planning process as an understanding of a proposed project develops. Section 1.3 of this ESR described the initial undertaking. Based on an evaluation of alternative methods to complete the undertaking (Section 4 of this ESR) and feedback gathered during consultation and engagement throughout the planning process (Section 6 of the ESR), the MOI has approved the proposed design and methods for achieving the undertaking including plans, site requirements, system components, and staging as the preferred undertaking for the Project. To implement this Project, the MOI has approved the following activities as part of the preferred undertaking:

- Property Management and Development
  - Provision of design services: for the overall public realm lands
  - Construction of the overall design of the public realm, including items such as: new trails, small beach areas, boardwalks, gateway monuments, and play areas, as outlined in the preferred design
  - Construction activities on the land related to the public realm design (construction laydown or staging areas)
  - Construction of new facilities, including washrooms, a new OSC building and a permanent Cultural Pavilion structure that provides an indoor space for, but not limited to, workshops and events that could be put on by Indigenous communities
  - Construction of permanent restaurant(s) and supporting infrastructure, likely to be located within the Marina or Mainland zones
  - Construction of a permanent structure to accommodate parking of a large number of bicycles, likely to be located on the Mainland zone
  - Design of the public realm to accommodate updating of the pedestrian bridges used to link Exhibition Place with Ontario Place
  - Construction of new sculptural structures at the Central Gateway and East Gateway
  - Reconstruction of the eastern surface parking lot (P2) and construction of a new underground parking structure to the west (under the existing P1) on the Mainland
  - Relocation of artwork and a monument

- Removal or demolition of all physical heritage attributes within the public realm area, including demolition of the following structures (done in phases over time):
  - P1 and P2 entrance kiosks and Haida P2A Kiosk
  - East Marina Village building
  - Marina West Village building
  - Marina West washroom
  - Marina North washrooms
  - Marina Northeast building
  - Marina East washroom
  - Marina East tuck shop
  - Marina East lighthouse
  - East Island south building
  - East Island south washroom
  - Echo Beach Bar
  - Entrance Plaza Hut
  - Entrance Retail
  - Centre Entrance Offices
  - Entrance Gate Structure
  - Eastern Causeway
  - Centre Entrance Guest Services
  - River Walk Washroom
  - Live Nation structures
  - Maintenance building
  - Administration building
  - Water slide tower
- Demolition of landscape features, such as lighting poles, benches and furnishing, fencing, paving and hardscaping, signs and wayfinding elements, and temporary buildings and structures
- In-water works for shoreline rehabilitation and enhancement along the southern shoreline of the east island and the Mainland
- Floating wetland creation within Brigantine Cove
- Excavation of the eastern causeway and construction of a new bridge

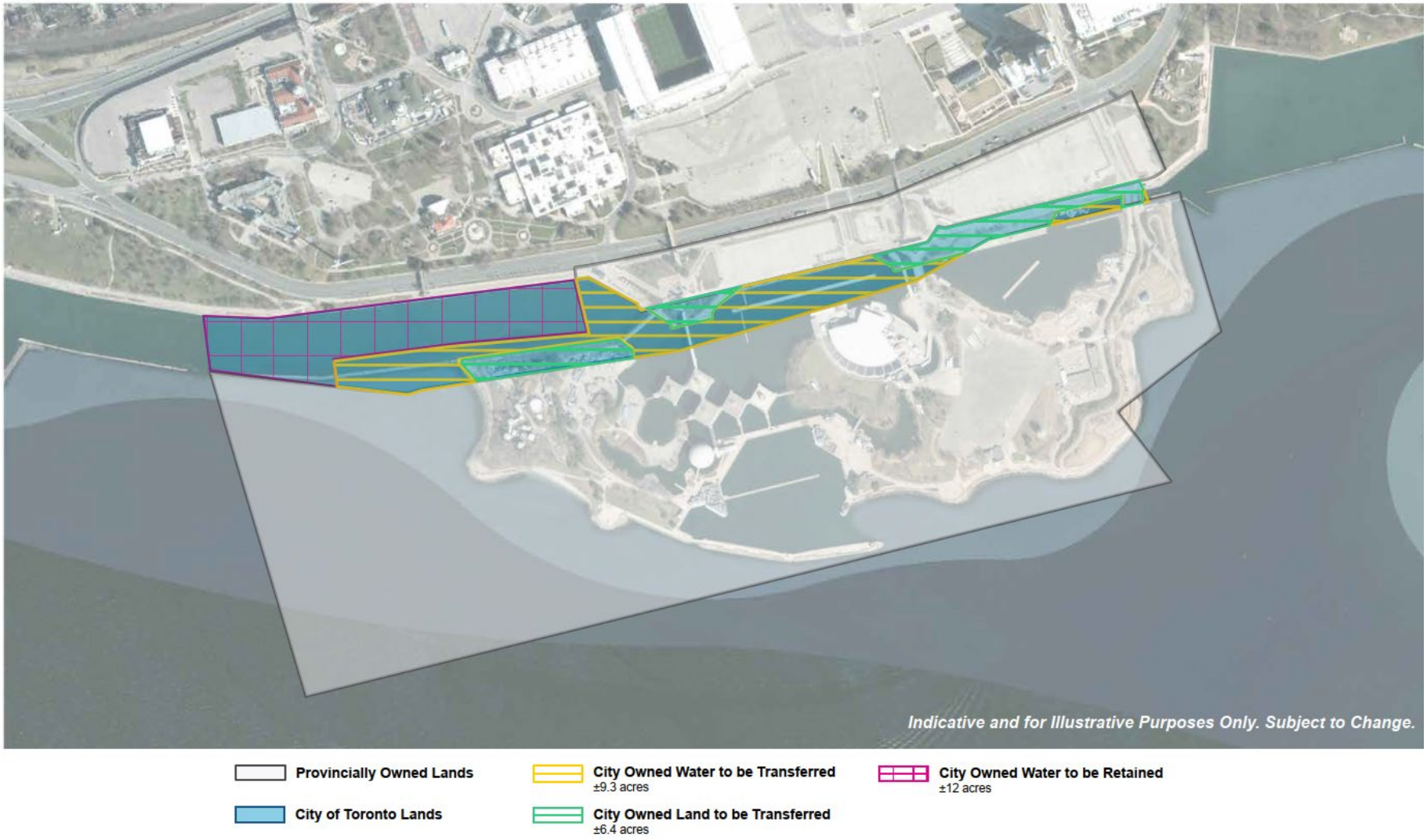
  - Creation of a break in the hill on the south end of the Forum to increase views of Lake Ontario
  - Maintenance and landscaping of grounds: once the public realm design has been implemented

Additional activities that are part of the preferred undertaking, but are exempt from the *Environmental Assessment Act,* includes:

- Alterations to and restoration of buildings
- Maintenance and repairs to buildings
- Decommissioning of aging infrastructure
- Adaptive reuse of the pods and Cinesphere for science-based programming
- People-moving vehicles to assist in transporting people throughout the public realm
- Realty Transactions and Approvals
  - Land and water transfers with the City of Toronto (Figure 5-1)
  - Expropriation, if required (Figure 5-1)
  - Planning approvals (land development)

If an agreement to transfer the City of Toronto-owned water or lands (identified as "to be transferred" on Figure 5-1) to the Government of Ontario is not reached, expropriation will be required.

Figure 5-1. Area Impacted by Realty Transactions



The purpose of the undertaking is to redevelop Ontario Place into an accessible and inclusive experience for all Ontarians, and for Ontario Place to reflect the diversity of the province and celebrate the legacy of its waterfront location. To provide for the long-term, safe use of Ontario Place, the recommended public realm design addresses current issues throughout the public realm:

- Aging infrastructure and deteriorating public realm
- Flooding
- Shoreline erosion
- Stagnant water and poor circulation
- Inaccessible shoreline
- Lack of shaded areas and public seating
- Expansive asphalt areas
- Limited accessible greenspace for recreation
- Stormwater runoff into Lake Ontario and lack of stormwater management strategy for sustainable water management

To address these issues, design concepts were evaluated to identify recommendations for redevelopment across the public realm (Section 4 of this ESR). Following the evaluation of these design concepts, a recommended public realm design was identified. The recommended design was presented to the public, Indigenous communities, and stakeholders for comment. Based on the comments received, the public realm design underwent minor revisions, and the preferred design has been confirmed (Figure 5-2). Appendix G provides preliminary illustrative plans and grading plans for this preferred design. This design meets the Project's overall intent and vision by creating a world-class, year-round destination while respecting the needs of visitors (accessibility; inclusivity) and the natural environment (creating habitat; increasing greenspace). The preferred public realm design includes the following benefits:

- Enhanced public and event spaces (the Forum and Mainland)
- Increased waterfront access (the Water's Edge; Brigantine Cove; Mainland, Marina)
- Recreational opportunities (Brigantine Cove; the Forum)
- Improved climate resilience measures (reinforced shoreline, reduction of impervious surfaces throughout, increase biodiversity through planting native species)
- Improved infrastructure and connections for active transportation to and throughout the site
- A new Ontario Science Centre building with opportunity for outdoor exhibits within the landscape (Mainland) and includes the adaptive reuse of the pods and Cinesphere
- Food and beverage opportunities (the Forum, Marina, Mainland)
- Indigenous Placekeeping spaces, such as a children's play area and ceremonial spaces
- Native planting with Indigenous significance

Note, potential locations for interpretive signs (in the form of educational plaques) have been identified within the Project footprint. However, the specific information to be included requires further consultation with Indigenous communities, which will be completed before detailed design begins. In addition, opportunities for locating Placekeeping nodes have been identified and are currently in review for detailed design (these are items with the potential to be gathering spaces and destination areas, and can also be viewed as educational and interactive spaces for visitors).

The overall preferred public realm design also seeks to create a centrepiece for Ontario's heritage, tourism, recreation, and culture. Apart from the retained and restored pods and Cinesphere, the design does not retain any existing heritage attributes in situ. However, mitigation measures are included to reduce the impacts and conserve the site's cultural heritage. This includes representing features from the original Michael Hough and Eb Zeidler design in the preferred public realm design, including:

- Stone waterfront lookouts
- Landforms to shield the wind ('microclimates')
- A range of shoreline typologies
- A hierarchy of public pathways
- The balance of large open spaces with intimate wooded spaces
- The Zeidler pavilions (these are being reimagined within the Marina)
- The Zeidler-designed pods and Cinesphere (these are being protected and restored as part of the Early Works Repairs project)
- The Eric McMillian Children's Play Village (being reimaged)

Appendix G provides images of the original Zeidler and Hough-designed Ontario Place that were used as inspiration in developing the public realm design.

Figure 5-2. Preferred Design of the Public Realm Lands at Ontario Place

Ontario Place Masterplan
April, 2023

0m 25m 50m 100m 250m

North

Infrastructure Ontario
LANDinc MSP STUDIO

5.2 Existing Conditions Assessment

Section 3 of this ESR provides a detailed description of the existing conditions.

5.3 Project Activities

The impact assessment considered the activities that were anticipated to implement the recommended public realm design, including the detailed design, construction, and operations of the public realm (Table 5-1). The Category B EA for Ontario Place (IO 2022) assessed waste management, sewage, and servicing requirements related to operations of the recommended public realm design.

Table 5-1. Project Activities

Phase	Activity
Detailed Design	Detailed design will include refining plans, specifications and estimates required to implement redevelopment activities across the public realm. General activities may include: ▪ Further site investigations and analysis (final geotechnical studies, habitat impact assessment) ▪ Landscape design ▪ Permitting and Approvals ▪ Consultation with review agencies and Indigenous communities to determine final siting of infrastructure and features ▪ Design coordination with other site tenants (Therme, OSC, Live Nation) ▪ Work with Indigenous communities to determine locations for Indigenous Placekeeping nodes and elements ▪ Identification of final refined mitigation and monitoring measures once infrastructure siting is finalized ▪ Realty transactions (land transfers, expropriation)

Phase	Activity
Construction	▪ Specific construction activities will be confirmed following detailed design, and are anticipated to include the following: ▪ Demolition or removal of identified heritage attributes, including buildings and cultural heritage landscape, with the exception of the pods and Cinesphere complex, which will be retained ▪ Demolition and removal of select existing structures, including built heritage attributes of the property ▪ Excavation ▪ Tree removal ▪ Grading ▪ De-watering ▪ Soil stockpiling ▪ Construction of new infrastructure (buildings, washrooms, gateway entrances, boardwalks) ▪ Construction of the OSC main building and adaptive reuse of the pods and Cinesphere ▪ Underground link between the OSC main building and the bridge to the pods ▪ Upgrades of the bridges to the OSC and between the pods and Cinesphere ▪ Staging and laydown construction areas ▪ Vegetation planting - Trees - Wetland vegetation - Bushes, grass ▪ Shoreline stabilization and enhancement - Raising existing grades - Removing temporary topsoil or riparian vegetation ▪ Flood protection ▪ Cleanup

Phase	Activity
Operations	Following construction, the public realm will be open for use. Activities during operations are anticipated to include: ▪ OSC ▪ Park use: - Recreational activities, such as cycling, walking/running, skateboarding, roller skating, canoeing kayaking, swimming, birdwatching, picnicking - Public programming such as festivals, seasonal markets, Indigenous gatherings, etc. (Forum) - Motorized boat use and fuel services (Marina) - Parking services (underground and surface parking on the Mainland) - Transit connections, pickup and dropoff hubs - Food and beverage services - Washroom use ▪ Maintenance: - Vegetation management - Routine cleanup and waste collection - Fountain maintenance and seasonal installation - Snow removal and ice management - Monitoring of water quality in Brigantine Cove and the Marina - Maintenance and landscaping for the public realm

5.4 Potential Environmental Impacts, Mitigation Measures and Net Environmental Effects

A qualitative assessment was completed to identify potential environmental, cultural, socio-economic, technical, and climate change impacts within the spatial boundaries defined for the Project (Section 3 of this ESR). That assessment also evaluated the Project activities required to carry out the preferred undertaking (Table 5-1), and the associated impacts (Table 5-2 to Table 5-17). Potential impacts were identified through results of the following activities:

- Project-specific desktop studies and field investigations
- Applicable regulatory requirements
- Consultation with Indigenous communities, key stakeholders, review agencies, and the public
- Professional experience of the assessment team

Where a potential impact is likely, mitigation measures have been identified. Mitigation is the elimination, reduction, or control of a project's (preferred undertaking's) impact, and may include replacement, restoration, compensation, or additional measures. Mitigation measures include those that are general and site- or species-specific. These are proposed based on current industry standards; experience gained from past similar projects; engagement with appropriate

review agencies, Indigenous communities, and the public; and input from the Project team (refer to Table 2-2). Tables 5-2 to 5-15 present potential direct and indirect positive effects and negative impacts associated with Project activities, as well as associated mitigation measures.

Net effects are the residual impacts of an undertaking, which are likely to remain following the implementation of mitigation measures. Tables 5-2 to 5-15 provide the net effects associated with design, construction, and operational activities; these are considered routine and generally well-understood. Overall, the redevelopment of the Project footprint is considered a positive development that will ultimately enhance the natural, social and cultural environment following physical construction activities.

The following sections outline the potential impacts of the preferred undertaking, proposed mitigation measures and the net effects (residual impacts).

5.4.1 Natural Environment

5.4.1.1 Physical Environment

The potential impacts, mitigation measures, and net effect of the Project on the physical environment are summarized in Table 5-2 and further described in Section 5.4.1.1.1 of this report.

Table 5-2. Potential Impacts, Mitigation Measures, and Net Effects of the Project on the Physical Environment

Environment or Element	Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Physical Environment	Design (landscape design) and construction (grading, landscaping) activities will change the physical environment.	Project footprint	▪ Implement recommendations from the *Ontario Place Existing Shoreline Conditions Report* (Shoreplan 2022). ▪ Implement recommendations and mitigation measures from the *Arborist Report* (MH 2023b). ▪ Ensure grades across the Project footprint meet or exceed the 100-year flood requirements.	▪ Redevelopment activities will have a positive effect on the physical environment within the Project footprint through improved grading and landscaping.

Environment or Element	Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Environmentally Significant Areas	Construction and operational activities may impact the highly vulnerable aquifer.	Local study area to Regional study area	**Construction** ▪ Establish soil stockpiles outside of the buffer area for the Ontario *Endangered Species Act*, where practical. ▪ Prohibit entry and equipment storage in environmentally sensitive areas (highly vulnerable aquifer). **Operation** ▪ Limit the use of commercial fertilizer applied to land that may result in a release to groundwater or surface water. ▪ Limit pesticide applied to land that may result in a release to groundwater or surface water. ▪ Limit the applicable of road salt on roads or parking lots within the Project footprint. ▪ Store snow at or above grade.	▪ The potential net effects for spills (accidents) are in Section 5.4.7.

5.4.1.1.1 Positive Impacts on the Physical Environment

Redevelopment activities are anticipated to have a net benefit on the physical environment within the Project footprint through improved grading and landscaping. Topography will be updated on land and the shoreline will be raised (such as within Water's Edge) to reduce flooding. Recommendations from the *Ontario Place Existing Shoreline Conditions Report* (Shoreplan 2022) will enhance shoreline protection and rehabilitate structures to above the required 74-m elevation. Therefore, structures will continue to function appropriately and minimize flooding throughout the Project footprint. Recommendations and mitigation measures from the *Arborist Report* (MH 2023b) will improve the overall physical landscape across the Project footprint by increasing vegetation and greenspace for visitors.

Updated geotechnical studies should be completed during detailed design. A geotechnical and stability review prepared by a geotechnical engineer should be provided to confirm that the grading and earthworks proposed are appropriate. Future assessment should also determine whether ground improvement is required to minimize future settlement.

5.4.1.2 Soil

The potential impacts, mitigation measures, and net effects of the Project on soil are listed in Table 5-3 and further described in Section 5.4.1.2.1 of this report.

5.4.1.2.1 Soil Loss Due to Erosion

Soil disturbed during construction (like the removal of vegetation or pavement) will likely result in some minor surface erosion until a stable cover (such as vegetation, pervious or impervious surfaces) can be re-established. Soil erosion is reversible, and soil will remain productive where vegetation is planted.

5.4.1.3 Vegetation

Table 5-4 summarizes the potential impacts, mitigation measures, and net effects of the Project on the site's vegetation. Sections 5.4.1.3.1 and 5.4.1.3.2 of this report provide further details.

Table 5-3. Potential Impacts, Mitigation Measures, and Net Effects of the Project on Soil

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Construction activities (excavation) may uncover historical contamination.	Project footprint	▪ Ensure locations of known contamination (Jacobs 2022) are provided to contractors prior to the initiation of construction activities. ▪ Manage contaminated soil by constructing a physical barrier (either fill or hard cap) in areas where impacted soil is being managed in place. It is recommended that fill and hard caps be inspected and maintained to ensure integrity of the barriers. ▪ Implement measures from the Soil and Groundwater Management Plan to reduce the risk of contact with potentially contaminated subsurface soils. ▪ Implement dust control measures and the prevention of soil tracking by vehicles and personnel from the Project footprint, including wetting soil with water, truck tarping, enforcing reduced speeds for vehicles, providing tire washing stations, and restricting work under high-wind conditions. ▪ Manage excavated materials and implement runoff control to minimize contact.	No net effect identified.

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
		▪ Excavated soils requiring offsite disposal will be disposed of per the provisions of O. Reg. 347 and amendments. ▪ Imported soil will conform with soil quality standards stipulated in O. Reg. 406/19. ▪ Remediate contaminated property as necessary - Carry out remediation of soil and/or groundwater contamination in accordance with O. Reg. 153/04 and updates and under the supervisor of a Qualified Person. ▪ Ensure good property and materials management practices to minimize negative impacts to the environment.	

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Soil erosion during construction may occur following vegetation or pavement clearing.	Project footprint	▪ Limit heavy equipment use and storage to the Project footprint and to hard surfaces (asphalt, concrete) where possible. ▪ Install silt fencing and other erosion control mechanisms before beginning construction work and maintain it in place until groundcover is re-established or runoff prevention has been installed. ▪ Vegetation should be maintained for as long as possible prior to disturbance. Excavations and removals shall be performed in such a manner and with such equipment as to leave undisturbed and undamaged any portion of an area not designated for removal/excavation or salvage. ▪ Effective mitigation techniques for erosion and sediment control shall be in place prior to the removal of vegetative cover or exposure of soils. Erosion and sediment controls shall be frequently monitored, maintained, adapted, and repaired as required to remain effective at all times. ▪ Vegetate or cover exposed soil as soon as conditions permit.	▪ Soil loss as a result of construction activities but this will be temporary as soil will be replenished during landscaping of the public realm lands ▪ Removal of some asphalt areas and replacement with “green alternatives” (like green pavers) will help offset anticipated soil loss for construction of the underground features (parking structure, link from the main OSC building to the bridge to the pods and Cinesphere)

Table 5-4. Potential Impacts, Mitigation Measures, and Net Effects of the Project on the Vegetation

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Detailed design (siting of infrastructure) and construction activities (vegetation clearing) will change vegetation on the Project footprint.	Project footprint	▪ Use grading design to permit maximum retention of existing resources and minimize impacts. ▪ Use landscape planting plan to mitigate impacts resulting from tree removal. ▪ Limit heavy equipment use and storage to the Project footprint and to hard surfaces (asphalt, concrete) where possible. ▪ Install silt fencing and other erosion control mechanisms before beginning construction work and maintain it in place until groundcover is re-established or runoff prevention has been installed. ▪ Enforce retention/protection measures, exercise careful work habits, and implement landscape plan. ▪ Flag trees identified for protection in the Arborist Report (MH 2023b). ▪ All vegetation removals will be completed in accordance with OPSS MUNI 201: Construction Specification for Clearing, Close Cut Clearing, Grubbing, and Removal of Surface and Piled Boulders. ▪ All trees not being removed should be protected in accordance with Tree Protection Plans, included in the contract documents, and should be completed in a manner consistent with industry best practice and applicable regulations such as City of Toronto Tree Protection Policy and Specifications for Construction near Trees.	▪ Construction activities will result in the loss or alteration of vegetation. ▪ Ultimately, redevelopment activities will improve the overall quality and quantity of vegetation within the Project footprint including increased native vegetation

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
		▪ Trees not designated for removal shall not be damaged and shall be protected from flooding and sediment deposits from construction operations. However, in the event of injury, damaged trees not being removed shall be pruned or treated. ▪ Equipment and vehicles shall not be operated or re-fueled within the dripline of trees not designated for removal. ▪ Vegetation removals beyond the Project footprint will not be completed to accommodate construction sheds, site offices, toilets, stockpiling areas, storage areas, parking etc. These structures and/or areas will be maintained within the Project footprint, and in identified areas shown on the contract drawings. ▪ The Contractor must ensure that machinery arrives on site in a clean condition, and is maintained free of excess or leaking fuel, lubricants, coolant, or any other contaminants for the duration of construction.	

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Construction or operational activities may introduce or spread invasive species.	Project footprint	▪ The Contractor shall implement best management practices to prevent the introduction/spread of invasive plants including proper soil management and equipment clearing protocols, Debris including earth clods or invasive and noxious vegetation material attached to the outside surfaces of equipment is prohibited from entering the Project footprint. Equipment coming on site shall be inspected as close to the site entrance as possible for debris, and if present, debris shall be completely removed and collected for disposal, prior to the equipment proceeding to the Project footprint. ▪ Where invasive species have been identified within the limits of disturbance associated with the work, these areas will be clearly marked on the contract drawings. ▪ The Contractor shall clean all vehicles and equipment exposed to invasive plants prior to leaving the site. The Contractor shall follow all Best Management Practices set forth in the Clean Equipment Protocol for Industry (Halloran et. al, 2013). ▪ Soil from areas impacted by invasive vegetation shall not be stockpiled for reuse. ▪ No invasive species shall be present in fill or topsoil brought on to the site to complete the work. ▪ A disposal plan will be required to dispose of invasive species and soils containing invasive species.	▪ Introduction or spread of invasive species.

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
		▪ Disturbed areas requiring cover shall be revegetated as per the landscape architecture plans. ▪ Avoid impacts to migratory and breeding birds by implementing the following measures. - Individuals, nests, eggs, or young of protected birds shall not be disturbed or destroyed at any time, unless the nest has been abandoned (meaning it must not have been used in the previous breeding seasons during the designated wait period for that species). If the abandoned nest must be damaged, disturbed, destroyed, or removed, Environment and Climate Change Canada must be notified via the online Abandoned Nest Registry. - All vegetation and tree removal and/or clearing operations must be completed after August 31 and before April 1 of any year, outside of the breeding bird active nesting season. - In the event a tree removal must occur between April 1 and August 31, the Contractor must retain a Qualified Avian Specialist to conduct a survey to confirm that no nests are present, prior to clearing. Nest search surveys are only suitable on isolated trees or in sparsely vegetated areas; they are not to be relied on as an alternative to abiding by the timing window for breeding birds.	

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
		▪ All demolitions of buildings/structures with nests or potential nesting areas, redevelopment of exterior areas of buildings/structures with nests or potential nesting areas, or removal of features on buildings/structures with nests or potential nesting must be completed after August 31 and before April 1 of any year, outside of the breeding bird active nesting season. In the event these activities cannot be completed before April 1 or after August 31, the Contractor must install exclusion measures around the building/structure that is the object of the activities as per Best Management Practices for Excluding Barn Swallows and Chimney Swifts from Buildings and Structures (MNRF, 2017), to prevent birds from accessing the building/structure to nest on.	

5.4.1.3.1 Alteration of Vegetation

Design and construction activities will disturb or remove existing vegetation onsite. The loss or alteration of existing vegetation is considered negligible, because redevelopment activities will ultimately improve vegetation across the Project footprint by increasing the amount and type (that is, native vegetation.) Vegetation loss as a result of construction will be limited to areas required to facilitate redevelopment activities. Disturbed areas will be reclaimed where infrastructure is not built, which is expected to have an overall net benefit to the environment.

Vegetation management throughout operations will ensure the long-term ecological function and quality of vegetation across the Project footprint. Vegetation management is anticipated to include maintaining trees and vegetation to trail and pathway accessibility, removing or managing invasive or harmful plants, and watering or fertilizing.

5.4.1.3.2 Introduction or Spread of Invasive Species

Invasive species are known to occur onsite, which should help facilitate management measures during construction. However, during physical construction activities (such as vegetation clearing, excavation), equipment and movement may spread invasive species, contributing to potential negative impacts. Ash tree species will be discouraged from the final planting list to prevent or help control Emerald ash borer. Invasive species training will also be given to anyone working onsite during construction.

During operations, invasive species will be managed appropriately if identified onsite.

5.4.1.4 Wetlands

Table 5-5 lists the potential impacts, mitigation measures, and net effects of the Project on wetlands.

Table 5-5. Potential Impacts, Mitigation Measures, and Net Effects of the Project on Wetlands

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Design and construction activities will increase wetlands on the Project footprint (Brigantine Cove).	Project footprint	▪ Design new wetlands features in consultation with qualified wetland professionals, the TRCA, and Indigenous communities. ▪ Ensure wetlands are designed and implemented according to appropriate local conditions. ▪ Design wetlands to ensure habitat and hydrological function can be maintained throughout operations. ▪ Maintain wetlands and take steps to reduce contamination of wetlands during operations.	▪ Redevelopment activities will result in a net increase of wetlands within the Project footprint.

Wetland creation will occur in Brigantine Cove, and is a net benefit resulting from redevelopment of the Project footprint. Wetland creation will contribute to improved biodiversity, wildlife habitat, water quality and recreational opportunities throughout operations.

5.4.1.5 Wildlife and Wildlife Habitat

The potential impacts, mitigation measures, and net effects of the Project on wildlife and wildlife habitat are listed in Table 5-6 and further described in Sections 5.4.1.5.1 to 5.4.1.3.

Table 5-6. Potential Impacts, Mitigation Measures, and Net Effects of the Project on Wildlife and Wildlife Habitat, including SAR

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Design (infrastructure siting) and construction (physical activities) will create a change in wildlife and wildlife habitat.	Local study area	**Design** ▪ New light fixtures should be installed with the ability to reduce light levels to decrease illumination during non-operation times. ▪ New light fixtures must use warmer colours (yellow) to reduce potential for increases in attraction by wildlife to light sources. ▪ New light poles should consist of forward throwing, directional fixtures to reduce light spillage outside the intended footprint, to reduce increased illumination over the aquatic environment and shorelines (as well as to ensure compliance with light pollution standards). **Construction** ▪ Enforce retention/protection measures, exercise careful work habits, and implement landscape plan. ▪ Limit heavy equipment use and storage to the project area and to hard surfaces (asphalt, concrete) where possible. ▪ Use appropriate signage to increase driver awareness. ▪ Before filling any holes or trenches, they shall be inspected for wildlife, and any trapped wildlife shall be removed and released nearby. Before operating heavy equipment, a scan around the equipment should be completed to ensure that turtles and other wildlife are not basking or hiding in the vicinity. ▪ A worker awareness program shall be provided to all on-site personnel for all wildlife likely to be encountered on site, which includes species identification, habitat characteristics, and species-specific guidance with respect to appropriate actions to be taken if these species are encountered.	Design activities and construction activities will contribute to: ▪ Change in wildlife and wildlife habitat including sensory disturbance during construction ▪ Change in wildlife movement during construction ▪ Change in mortality risk during construction

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
		▪ The Contractor should be advised that any brush piles or soil stockpiles should be tarped or covered to ensure they do not provide nesting, denning, or hiding opportunities for wildlife, unless the intent of such brush piles or soil stockpiles is to provide intentional temporary cover for wildlife during construction. ▪ Reduce disturbance to wildlife by implementing the following measures. - All equipment shall be maintained in an operating condition that prevents unnecessary noise, including but not limited to non-defective muffler systems, properly secured components, unnecessary idling/running, and the lubrication of moving parts. ▪ Control dust so it does not disturb wildlife. ▪ Avoid impacts to migratory and breeding birds by implementing the following measures. - Individuals, nests, eggs, or young of protected birds shall not be disturbed or destroyed at any time, unless the nest has been abandoned (meaning it must not have been used in the previous breeding seasons during the designated wait period for that species). If the abandoned nest must be damaged, disturbed, destroyed, or removed, Environment and Climate Change Canada must be notified via the online Abandoned Nest Registry. ▪ All vegetation and tree removal and/or clearing operations must be completed after August 31 and before April 1 of any year, outside of the breeding bird active nesting season.	

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
		- In the event a tree removal must occur between April 1 and August 31, the Contractor must retain a Qualified Avian Specialist to conduct a survey to confirm that no nests are present, prior to clearing. Nest search surveys are only suitable on isolated trees or in sparsely vegetated areas; they are not to be relied on as an alternative to abiding by the timing window for breeding birds. ▪ All demolitions of buildings/structures with nests or potential nesting areas, redevelopment of exterior areas of buildings/structures with nests or potential nesting areas, or removal of features on buildings/structures with nests or potential nesting must be completed after August 31 and before April 1 of any year, outside of the breeding bird active nesting season. In the event these activities cannot be completed before April 1 or after August 31, the Contractor must install exclusion measures around the building/structure that is the object of the activities as per Best Management Practices for Excluding Barn Swallows and Chimney Swifts from Buildings and Structures (MNRF 2017), to prevent birds from accessing the building/structure to nest on. ▪ If a bird showing behaviour indicative of nesting (carrying nesting material, alarm calling, acting agitated) and/or nests or young birds are encountered in the work limits at any time, consultation with an Avian Specialist shall be completed, and works will not continue in the location of the observation until after August 31 (or until the area is determined by the Avian Specialist to no longer be in use by breeding birds). Species specific buffers (or setback distances) in which no work can occur may be established by the Avian Specialist surrounding nests or other observations, using guidance provided by Environment and Climate Change Canada.	

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
		▪ Avoid impacts to non-SAR bats and mammals by implementing the following measures. ▪ The project disturbance limits will be clearly marked prior to commencement of work, and all activity will be restricted to within the marked limits. ▪ Removals of trees that are potential bat maternity roost trees must not occur during the active bat season, from April 1 to September 31 of any year. All potential roost trees shall be clearly marked on the contract drawings. ▪ Night work should not occur in proximity to potential bat maternity roost trees. If night work must occur, lighting must be directed away from bat habitat areas and toward the work zone, to the greatest degree possible. ▪ A daily pre-construction search of all machinery and the work area shall be implemented to identify presence of wildlife, as animals may be found hiding or basking around equipment, rocks, debris piles etc., especially if they are displaced during construction. ▪ Any wildlife encountered in the work area will not be knowingly harmed and shall be allowed to move away from the work area on their own. In the event that any wildlife encountered does not move away from the area or is injured, the Contract Administrator shall be notified immediately, and a Qualified Biologist should be contacted for recommendations to prevent harassment and/or harm to applicable wildlife.	

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
		▪ Avoid impacts to turtles by implementing the following measures. - Wherever work in water (infilling, work around building or bridge footings or piers) will occur, heavy duty silt fencing and turbidity curtains shall be installed within and adjacent to all turtle habitat areas, to prevent or minimize the risk of harm to turtles by physically preventing turtles from entering the work areas at any time prior to or during construction. - Where work in water must occur during the peak activity period for turtles (April 1 to October 31), heavy duty silt fence and turbidity curtains shall be installed around the work limits, prior to the peak activity period (before April 1), and shall be frequently monitored and maintained for the duration of construction. - If a nesting turtle is observed at any time (i.e., digging or sitting on a nest), notify the appropriate regulatory authority immediately, implement a 5-m buffer zone around the nest site, and the area shall be protected from harm during the nesting season, unless otherwise managed (i.e., relocation or offsite incubation) with regulatory authority approval. - If a turtle is sighted during construction, work will immediately stop near the turtle, and it should be allowed to move out of the work area on its own.	

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Threats to habitat of threatened species and related habitat.	Local study area	▪ Select a design concept and Project footprint to minimize encroachment to protect known habitat locations. ▪ Apply appropriate setbacks from known habitats. ▪ Avoid impacts on Threatened species. ▪ Where species protected under the Provincial Endangered Species Act or their habitat are not associated with a project area, specify the appropriate measures for barn swallow. ▪ Where species protected under the Provincial Endangered Species Act or their habitat are associated with a project area, implement development restrictions to protect threatened species in the vicinity. Make sure that future development decisions reflect the existence of this habitat. If required, obtain permits from the MECP under the *Endangered Species Act* before starting a development. Ensure that there are no impacts to species or their protected habitat. ▪ Follow measures provided in the Barn Swallow Management Plan once developed. ▪ The Contractor shall immediately notify the Contract Administrator and suspend operations within the area identified by the Contract Administrator if species at risk are suspected or encountered. Work shall remain suspended within that area until otherwise directed by the Contract Administrator in writing, that the work can proceed; the Contract Administrator must contact a Qualified Biologist for species specific recommendations. ▪ A daily pre-construction search of the machinery and the work area shall be implemented to identify the presence of SAR.	Design activities and construction activities will contribute to: ▪ Change in wildlife and wildlife habitat including sensory disturbance during construction ▪ Change in wildlife movement during construction ▪ Change in mortality risk during construction

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
		▪ If endangered or threatened species are observed in or within the work limits, work shall stop immediately, a photograph shall be taken of the species (if possible) and the SAR shall be allowed to move out of the work area on its own. The Contract Administrator and the MECP shall be notified immediately. ▪ Avoid any activity that could harm the bird(s) or their nests, eggs, or young if they are using a structure (complete work outside of the bird nesting season, before April 1 or after August 31). ▪ Take steps to prevent the bird(s) from building nests on or entering a structure during their active season (i.e., install exclusion around areas used for bird nesting before April 1 and maintain it until August 31) ▪ If work within stockpiles or slopes is required during the breeding bird season, a slope reduction plan should be used to deter nesting by Bank Swallows, and can be achieved by sloping off stockpiles, contouring slope faces, or piling materials on the face.	

5.4.1.5.1 Change in Wildlife and Wildlife Habitat

During construction, most of the existing vegetation onsite will be removed, which will alter available habitat for birds and insects until vegetation is re-established. Existing buildings and structures scheduled for demolition, renovation, or redevelopment will also contribute to a change in wildlife habitat during construction. Work along the shoreline is expected to affect food and foraging opportunities. Migratory and breeding bird species will be disrupted until vegetation is re-established and infrastructure is built; however, these species are likely to find alternate habitat in the surrounding areas (such as Trillium Park, Coronation Park, Tommy Thompson Park). Vegetation and tree removal operations will be completed outside of the breeding bird active nesting season to reduce the overall impacts during construction. Habitat for herpetofauna will be increased with the creation of wetlands in Brigantine Cove. Bat populations occurring onsite will likely decline until the operations phase but interim measures, such as bat boxes, are being proposed. However, overall, the redevelopment of the Project footprint will likely provide a net benefit to wildlife habitat by improving the existing conditions through increased and improved habitat. This could include increasing vegetation cover and diversity used by wildlife, through planting native trees and shrubs of varying heights to create diverse vegetative cover.

Significant Wildlife Habitat on the Project footprint includes bat maternity colonies, turtle wintering areas and Landbird Migratory Stopover areas. Current design includes the removal of potential maternity roost trees and feeding opportunities; however, the proposed planting plans will maintain habitat and suitable bat maternity roost trees. Bat houses should be installed before construction to reduce overall impacts on bat habitat. Proposed post-development site conditions are expected to provide a net benefit to Landbird Migratory Stopover areas given the improved green spaces that will be established. Turtle Wintering Areas may be improved with the wetlands established in Brigantine Cove.

Sensory disturbance caused by noise and activity during construction activities may reduce habitat effectiveness for species that remain on site during physical activities. Equipment and machinery will be maintained to reduce noise, and idling on site will be discouraged. Lighting on site will be installed to reduce light levels and decrease sensory disturbance. Design will consider the City of Toronto's Bird Friendly Development Guidelines and compliance with the City of Toronto Light Pollution bylaws.

5.4.1.5.2 Change in Wildlife Movement During Construction

Change in wildlife movement will occur during construction activities. Most wildlife species will alter their movement to avoid construction areas; however, this change is temporary, and the implementation of mitigation measures (Table 5-6) will reduce potential impacts to the extent possible.

5.4.1.5.3 Change in Mortality Risk During Construction

The level of mortality risk occurring during construction is reduced by scheduling activities outside of the breeding bird active nesting season, following all applicable timing restrictions for work, and conducting pre-construction area searches to prevent mortality of wildlife. Collisions with construction vehicles and equipment may also occur onsite. Although multi-passenger vehicles and vehicle speed will be limited on the Project footprint, it is anticipated that an increase in the potential for wildlife collisions during construction does exist. Measures to reduce trapping wildlife in open excavation areas will also be considered. Wildlife mortality risk is generally limited to the construction phase considering there are no large glass buildings planned for the public realm redevelopment and routine maintenance does not require large construction vehicles.

5.4.1.6 Aquatic Life and Aquatic Habitat

The potential impacts, mitigation measures, and net effects of the Project on aquatic life and aquatic habitat are summarized in Table 5-7 and further described in Section 5.4.1.6.1 to Section 5.4.1.6.3 of this report.

Table 5-7. Potential Impacts, Mitigation Measures, and Net Effects of the Project on Aquatic Life and Aquatic Habitat

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Change in aquatic species and related habitat.	Local study area	**Design** ▪ Maximize grassed areas during design. ▪ Modify the redevelopment design to protect or avoid habitat for sensitive species. ▪ Develop alternate structure types (e.g., boardwalks, floating decks). and designs to avoid loss of fish habitat. **Construction** ▪ Ensure structure design and placement permits fish passage or does not further impair fish passage. ▪ American eel were identified near the south shore of Ontario Place. Appropriate development measures and mitigation should be used to protect the American eel. Where species protected under the Provincial Endangered Species Act or their habitat are associated with a project area, put development restrictions and mitigation measures in place and obtain any necessary permits to protect threatened species in the vicinity and ensure that future development decisions reflect the existence of this habitat. ▪ Complete a detailed fisheries assessment during the detailed design phase. ▪ Consult with Fisheries and Oceans Canada and submit an application for Authorization under the Fisheries Act, if required. ▪ Schedule work to avoid wet, windy and rainy periods that may increase erosion and sedimentation.	Design activities and construction activities will contribute to: ▪ Change in aquatic species and related habitat including sensory disturbance during construction ▪ Change in aquatic species movement during construction ▪ Change in aquatic species mortality risk during construction ▪ Improved habitat following redevelopment activities

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
		▪ Any barges required for the use of transporting construction materials or supplies (rock protection) should be operated in a manner to avoid excessive disturbance of the substrates, to limit the amount of suspended sediments. ▪ Minimize duration of in-water work to the extent possible. ▪ Ensure in-water work areas are isolated. ▪ Retain a qualified environmental professional to remove fish from work area and relocate to appropriate location. Obtain applicable permits for moving fish from in-water work areas. Erosion and sediment control measures shall be maintained until all disturbed ground has been permanently stabilized, suspended sediment has resettled to the bed of the waterbody or settling basin and runoff water is clear. ▪ All works shall be conducted in an isolated area using coffer dams, turbidity curtains or similar techniques when increased turbidity is anticipated. ▪ Install effective erosion and sediment control measures before starting work to prevent sediment from entering the water body. ▪ Only materials free of fines will be used in and adjacent to Lake Ontario which includes construction of coffer dams. ▪ Manage water flowing onto the work site, as well as water being pumped/diverted from the work site such that sediment is filtered out prior to the water entering a waterbody. ▪ Any pumps shall be monitored at all times and back-up pumps shall be readily available on-site in the event of pump failure.	

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
		▪ Contain and stabilize waste material (e.g., dredging spoils, construction waste and materials, commercial logging waste, uprooted or cut aquatic plants, accumulated debris) above the high-water mark to prevent sedimentation of nearby waterbodies to prevent re-entry. Regular inspection, maintenance and repair of erosion and sediment control measures and structures during the course of construction. ▪ Removal of non-biodegradable erosion and sediment control materials once site is stabilized. ▪ Prune or top the vegetation instead of grubbing/uprooting. ▪ Minimize the removal of natural woody debris, rocks, sand or other materials from the banks, the shoreline or the bed of Lake Ontario below the ordinary high-water mark. If material is removed from the waterbody, set it aside and return it to the original location once construction activities are completed. ▪ As soon as possible in the project process stabilize shoreline or banks disturbed by any activity associated with the project to prevent erosion and/or sedimentation through re-vegetation with native species (seed) suitable for the site. ▪ Restore bed and banks of Lake Ontario to their original contour and gradient; however, if the original gradient cannot be restored due to instability, a stable gradient that does not obstruct fish passage must be restored. ▪ If replacement rock reinforcement/armouring is required to stabilize eroding or exposed areas, ensure that this would allow for opportunities to create areas with variable slopes and depths and a range of stone sizes and slopes that may be utilized as part of a design to enhance habitat productivity and function.	

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
		▪ Whenever possible, operate machinery on land above the high-water mark in a manner that minimizes disturbance to the banks and bed of the waterbody. ▪ Wash, refuel and service machinery and store fuel and other materials for the machinery a minimum of 30 m from any surface water features to prevent any deleterious substances from entering the water. ▪ Ensure materials such as paint, primers, rust solvents, degreasers, grout, poured concrete or other chemicals do not enter Lake Ontario. ▪ Ensure that building material used in a watercourse has been handled and treated in a manner to prevent the release or leaching of substances into the water that may be deleterious to fish.	

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Construction activities may result in a change to water quality.	Local study area	▪ Remove or contain contaminated material. ▪ Restrict equipment from entering water. ▪ Set back stockpiles from water bodies. ▪ Use enclosures on structural rehabilitation work. ▪ Limit refueling to designated areas. Where possible, keep refueling areas at least 30 m from a water body and located on hard surfaces (e.g., asphalt, concrete). ▪ Prohibit use of hydraulic cleaning methods in sensitive areas. ▪ Prohibit stockpiling of materials in sensitive areas (e.g., within floodplain of watercourse or other designated areas). ▪ Direct run-off away from sensitive areas. ▪ Develop detailed specifications to address common project-specific environmental effects including, but not limited to water/sediment management, waste management, spills protection. ▪ Limit heavy equipment use and storage to the project area and to hard surfaces (asphalt, concrete) where possible. ▪ Install silt fencing and other erosion control mechanisms before beginning construction work and maintain it in place until groundcover is re-established or runoff prevention has been installed. ▪ Avoid soil movement activities when heavy rains are forecast. ▪ Establish soil stockpiles a minimum of 30 m from a water body. ▪ Establish covers and other erosion control mechanisms to prevent soil loss. ▪ Conduct monitoring of problems or potential problems as necessary	▪ No residual impacts identified. ▪ Refer to potential residual impacts for spills (Accidents).

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
		▪ Excess groundwater collected during construction activities can be disposed of in accordance with O. Reg. 347. The collected groundwater can also be disposed of to the local sewer system, provided appropriate approval is in place and meets the sewer use bylaw discharge limits. ▪ Carry out Stormwater Management Plan (Study) to minimize water quality impacts to groundwater recharge areas, and incorporate recommended stormwater management practices into the design package.	▪
Design and construction activities may result in a change in surface water quantity.	Local study area	▪ Acquire or protect property for stormwater management ponds (flooding and erosion). ▪ Minimize amount of impervious area. ▪ Contour and restore areas across the Project footprint to ensure appropriate grades and drainage patterns.	▪ No residual impacts identified
Design activities may result in a change to groundwater quantity.	Local study area	▪ Carry out geotechnical studies to describe groundwater conditions ▪ Obtain permits if required. ▪ Control stormwater through Stormwater Best Management Practices (e.g., grassed swales, extended detention ponds). ▪ Design culverts / stormwater facilities to account for groundwater upwelling areas.	▪ No residual impacts identified.

5.4.1.6.1 Change in Aquatic Life and Aquatic Habitat

Construction activities have the potential to impact aquatic life and associated habitat; such activities include vegetation clearing, grading, excavation, riparian planting, and uses of vehicles and equipment. There is no re-alignment or infill of Lake Ontario proposed on the Project footprint. Shoreline stabilization, restoration, or enhancement activities will occur along the Water's Edge, Brigantine Cove, and the Mainland. Ultimately, redevelopment activities will result in a net benefit to aquatic habitat and species. For example, permanent fish habitat creation, improved connection to Lake Ontario, and improved water quality in Brigantine Cove are anticipated. Future studies will confirm whether warmwater fish habitat will remain in Brigantine Cove following the opening of the eastern causeway.

5.4.1.6.2 Change in Aquatic Species Movement During Construction

Construction activities will temporarily change aquatic species movement when working in or near water, including in-water works and other proposed construction activities within 30 m of the high-water mark of Lake Ontario.

5.4.1.6.3 Change in Aquatic Species Mortality Risk During Construction

Aquatic species' mortality risk may increase due to turbidity and potential for spills in the immediate work area. Despite planning and best intentions, small-scale spills into the water are possible during construction and, to a lesser degree, during maintenance (such as, seasonal fountain removal and reinstallation at Brigantine Cove).

5.4.1.7 Floodplains and Shoreline

The potential impacts, mitigation measures, and net effects of the Project on aquatic life and aquatic habitat are summarized in Table 5-8 and further described in Section 5.4.1.7.

Table 5-8. Potential Impacts, Mitigation Measures, and Net Effects of the Project on the Shoreline and Floodplains

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Change in floodplain.	Local study area	▪ Carry out sufficient topographical and geotechnical studies required by TRCA to confirm what hazards are present on or near the Project area and apply the regulated guidelines. ▪ Ensure that permitted development meets the protection work standards and incorporates flood proofing to the flood protection standards specified by TRCA. ▪ Design redevelopment plans to address flooding issues currently experienced at the site (raise elevation). ▪ Satisfy TRCA permit requirements (legal obtainment of a permit is not required), if applicable.	▪ Redevelopment activities will improve floodplain conditions across the Project footprint.
Alteration of shoreline.	Project footprint	▪ Implement recommendations from the Existing Shoreline Conditions Report, including: - Rehabilitating shoreline areas to ensure they are stable and will continue to function - Rehabilitate structures near and above 74.0-m elevation required to protect the backshore at design conditions - Continue monitoring movement of the breakwater	▪ Redevelopment activities will improve floodplain conditions across the Project footprint.

5.4.1.7.1 Floodplain Conditions and Alteration of Shoreline

Redevelopment activities are expected to improve the existing flood and shoreline conditions within the Project footprint. Recommendations from the *Ontario Place Existing Shoreline Conditions Report* (Shoreplan 2022) will enhance shoreline protection and rehabilitate structures to above the required 74-m elevation. Therefore, structures will continue to function appropriately and minimize flooding throughout the Project footprint.

Stormwater management systems throughout the public realm are currently being designed and are anticipated to include bioswales.

Further assessment is required to determine whether ground improvement is required to account for any settlement that may occur while maintaining the required elevation for flood and coastal protection. Geotechnical and stability studies prepared by a geotechnical engineer will confirm that the proposed coastal protection or remedial works are appropriate for the proposed coastal protection measures.

5.4.1.8 Atmospheric Environment

The potential impacts, mitigation measures, and net effects of the Project on the atmospheric environment are listed in Table 5-9 and further described in Sections 5.4.1.8.1 and 5.4.1.8.2.

Table 5-9. Potential Impacts, Mitigation Measures, and Net Effects of the Project on the Atmospheric Environment

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Increase in air emissions during construction.	Local study area to regional study area	▪ Include special provisions in contract to ensure no unnecessary idling of vehicles. ▪ Provide dust control / suppression. ▪ Locate contractors' yards away from sensitive areas. ▪ Use incentive / disincentive clauses in contract to reduce the duration of construction. ▪ Control equipment exhaust, dust and odour during construction.	▪ Temporary increase in air emissions
Increase in noise during construction.	Local study area	▪ Restrict night-time operations. ▪ Require equipment to be in good repair. ▪ Conform with local bylaws as to hours of construction.	▪ Temporary increase in noise.
Increase in noise during operations.	Not applicable– redevelopment of the public realm is not anticipated to increase noise levels beyond existing conditions.	Not applicable	Not applicable

5.4.1.8.1 Increase in Air Emissions

Construction vehicles and equipment will be the main source of air and greenhouse gas emissions as a result of fuel combustion. Additional sources of air contaminants will include dust and potentially the burning of vegetation. Air contaminants that are expected to be emitted from construction-related activities include nitrogen oxides, carbon monoxide, volatile organic compounds, and very small volumes of sulphur oxide from the combustion of diesel fuel. If burning is required during construction, minor amounts of carbon monoxide and particulate matter) will be emitted. These emissions are limited to construction, and a negligible amount during operations. Overall, air quality at the Project footprint will likely be improved once vegetation is established throughout the Project footprint.

5.4.1.8.2 Increase in Noise

Noise from construction activities will occur for the duration of the construction schedule. However, an increase in nuisance noise will be limited to the LSA, where there are no sensitive receptors. Scheduling work in accordance with best management practices for noise control will reduce nuisance noise. In addition, construction equipment and vehicles will be equipped with noise abatement equipment (such as mufflers).

Noise during operations is not expected to contribute beyond existing conditions considering the sources of noise within the LSA (for example, Live Nation Amphitheatre; Billy Bishop Airport).

5.4.2 Climate Change

The potential impacts, mitigation measures, and net effects of the Project on the atmospheric environment are listed in Table 5-10 and further described in Sections 5.4.2.1 and 5.4.2.2 of this report.

Table 5-10. Potential Impacts, Mitigation Measures, and Net Effects of the Project on Climate Change

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Change in Project schedule.	Project footprint	▪ Monitor weather conditions. If a major storm or weather event is predicted or occurs, inspect the Project site prior to continuing work to identify and implement corrective actions. ▪ If burning is required onsite, obtain applicable permits and adhere to conditions included in the permit. ▪ Ensure an appropriately trained emergency contact is on site during construction activities. ▪ Monitor weather conditions. If a major storm or weather event is predicted, ensure Project equipment is moved to a location that will reduce the potential for damage, including rollover.	▪ Severe weather may result in delays to the Project schedule.
Change in Modes of Transportation	Local study area	▪ Significantly increase transit and active transportation improvements. ▪ Implement incentive-based and education-based transportation demand management measures.	▪ Shift to more sustainable modes of travel to Ontario Place with significant transit and active transportation improvements to minimize impacts from parking garage and increased number of visitors to public realm.

5.4.2.1 Change in Modes of Transportation

An increase in parking area has the potential to increase single-occupancy vehicle trips to the site. However, a shift to more sustainable modes of travel is anticipated once Ontario Place is redeveloped to include significant transit and active transportation improvements. The shift in travel modes and anticipated reduction in the use of single-occupant vehicle travel to the site is expected to reduce greenhouse gas emissions and is in line with provincial climate change targets. Incentive-based and educational-based transportation demand management measures are also being proposed to reduce the dependency on personal vehicles and encourage sustainable modes of travel to the site. A significant shift to more sustainable travel modes is also supported by the decision to intensify at Ontario Place, because development within a suburban or exurban location outside downtown Toronto would have resulted in different travel behaviours. Section 5.4.5.1.1 provides further details.

5.4.2.2 Delay in Project Schedule

Potential impacts associated with the delays in the Project schedule will vary, depending on the severity, proximity, and duration of the source of delay (extreme weather). Extreme weather events (heavy or persistent precipitation, extreme temperatures) have the potential to delay construction activities by reducing visibility for equipment operators, reducing or changing access to the Project footprint, or resulting in a loss of electrical power. Delays in the Project schedule are temporary but variable in duration. For example, heavy precipitation may delay construction for a day or two, whereas a flood event or heat wave may delay the Project schedule longer. Construction activities and associated traffic would be suspended until the site was considered safe. Construction vehicles and equipment may be damaged, contributing to delays in the Project schedule.

5.4.3 Socio-economic Environment

The potential impacts, mitigation measures, and net effects of the Project on the socio-economic environment are listed in Table 5-11 and further described in Sections 5.4.3.1 to Section 5.4.3.2 of this report.

Table 5-11. Potential Impacts, Mitigation Measures, and Net Effects of the Project on the Socio-economic Environment

Environment or Element	Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Recreation	Change in recreation opportunities including access to the water and number of pathways.	Project footprint	**Construction** ▪ Provide signage for trail and cycling routes notifying users of applicable closures during construction. ▪ Provide alternate access, if possible. ▪ Provide community relations program (e.g., provide information on timing of construction, project schedule, contact person to deal with day-to-day issues). ▪ Provide contractor incentives to maintain or shorten construction schedule. ▪ Schedule construction to avoid disruption of peak outdoor activities of residents.	▪ Change in recreation opportunities including access to the water and number of pathways

Environment or Element	Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Recreation	Change to navigation and navigation safety.	Local study area	**Design** ▪ Prior to construction, determine if project activities are categorized as major or minor works. ▪ Apply for approval through the Navigation Protection Program prior to the initiation of construction activities. **Construction** ▪ Notify appropriate authorities and licensees prior to the commencement of work in or around water. ▪ Post warning signs during times of in-water work. ▪ Facilitate navigation through the construction site, to the extent possible, or assist in allowing waterway users to pass. ▪ Ensure waterway users are notified of construction schedules. ▪ Follow all safety precautions and regulations.	▪ Temporary impacts to navigation and navigation safety during construction.
Education	Change in educational opportunities.	Project footprint	▪ Include educational opportunities in final design. ▪ Continue consultation and engagement with Indigenous communities to identify design ideas that increases cultural aspects within the Project footprint.	▪ Increase in educational aspects during operations.

Environment or Element	Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Site Experience	Change in site experience including comfort (e.g., shade), and accessibility.	Project footprint	**Design** ▪ Ensure all public realm areas meet applicable accessibility standards. ▪ Include shade and protection from wind and rain throughout the Project footprint. **Construction** ▪ Provide community relations program (e.g., provide information on timing of construction, project schedule, contact person to deal with day-to-day issues).	▪ Redevelopment activities will create a positive change in the site experience for public realm users.

Environment or Element	Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Site Experience	Disruption or increased safety concern for park users during construction activities and operations.	Project footprint	**Construction** ▪ Continue consultation with Indigenous communities and stakeholders throughout construction. ▪ Notify site users (e.g., local recreation or interest groups) of upcoming construction schedule. ▪ Post signs on approach trails and roadways notifying the public of construction to ensure users are aware of construction activities taking place. ▪ Install safety fencing to prohibit entry to construction site. ▪ Allow space for safe crossing of trails that need to be closed. ▪ Follow the Traffic Management Plan. ▪ Establish construction traffic speed limits on site. ▪ Provide contractor incentives to maintain or shorten construction schedule. ▪ Schedule construction to avoid disruption of peak outdoor activities of residents, to the extent possible.	▪ Site users will experience a disruption in site use.

Environment or Element	Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
			▪ Develop detailed specifications to address common project-specific environmental effects including, but not limited to, dust suppression, noise/vibration management, water/sediment management, waste management, spills protection and health and safety. **Operations** ▪ Install lighting in all publicly accessible areas. ▪ Consider the installation of security measures throughout the Project footprint (e.g., security call button, intercom).	
Economics	Change in economic opportunities.	Regional study area	**Construction** ▪ Inform appropriate municipalities, Indigenous communities, and economic development agencies of the Project and associated contacting and subcontracting opportunities.	▪ Redevelopment activities will increase contract procurement and employment opportunities during construction. ▪ Redevelopment of the Project footprint will provide opportunities for businesses to operate on site (food and beverage).

5.4.3.1 Land Use

5.4.3.1.1 Change in Recreational Opportunities

A lesser quality of outdoor recreational experience is an avoidable consequence during construction in an existing park. However, construction is temporary, and the result will be an overall improvement that will ultimately improve the recreational experience in the long term. During construction, measures will be taken to reduce interference with areas that are not actively being worked on. Construction activities will be advertised, and signs will direct potential visitors to an alternative location until it is safe to use the park (that is, no construction equipment or open excavation areas are present). Nuisance air and noise emissions from construction may impact visitors in other areas (Trillium Park).

5.4.3.1.2 Change in Navigation and Navigation Safety

Construction along the shorelines or within Brigantine Cove will disrupt waterway users. Construction is more likely to interrupt a larger number of waterway users during spring and summer, when it is reasonable to assume more people will be using the water (for example, swimming, boating, kayaking canoeing); those interruptions are less likely in the fall or winter. During construction, measures will be taken to protect the safety of waterway users by notifying potential users, placing signs, and installing warning systems (for example, warning lights, buoys). A change in navigation and navigation safety is temporary, and is limited to the construction phase. Limiting the amount of time workers and equipment are surrounding the shoreline or working in the water will reduce the duration of this impact.

5.4.3.1.3 Change in Education

Redevelopment activities associated with the public realm will include opportunities to increase educational opportunities onsite, such as science-based programming available to site users, spaces for Indigenous artists to share creations and teach others, and opportunities for events that tell the story of the lands' historical significance. Within the public realm, revegetation includes native plants. Plant markers may list the common, scientific, and Indigenous name of specific plants, as well as the reason particular plants were chosen for integration into the landscape.

5.4.3.1.4 Site Experience

During construction, site users will experience a disruption in site use because areas will be unavailable, and there may be construction noise or dust in areas where the park is still accessible (Trillium Park). Live Nation will continue to operate the Budweiser Stage throughout construction. The Project team will continue to consult with those on the Master Contact List (Appendix A-1) and will communicate directly with local recreational groups to notify them of upcoming construction and park closures. During operations, it is anticipated that the site experience will ultimately increase as the Project footprint develops into a more exciting and user-friendly area. Project design has considered safety during operations, through lighting and additional safety measures (security call butting, intercom).

The greatest increase in site experience is anticipated to be accessibility. The site is being designed according to accessibility standards so all users have a safe and positive experience. The Project team heard from interested parties, and included the following features in designs:

- Seating
- Shaded and protective areas throughout the Project footprint, using canopies
- Covered seating areas
- Wind protection

Redevelopment activities will ultimately provide a net benefit to the overall site experience throughout the public realm.

5.4.3.2 Economics

5.4.3.2.1 Change in Economic Opportunities

Redevelopment activities will provide contract and procurement opportunities throughout detailed design and construction, influencing the economic opportunities within the LSA. Although economic opportunities during construction are temporary, additional opportunities will be available throughout operations (for example, food and beverage companies, local markets). The operations phase is not anticipated to create or remove any permanent jobs, because regular park maintenance is currently taking place.

5.4.4 Cultural Environment

The potential impacts, mitigation measures, and net effects of the Project on the cultural environment are listed in Table 5-12 and further described in Sections 5.4.4.1 of this report.

Table 5-12. Potential Impacts, Mitigation Measures, and Net Effects of the Project on the Cultural Environment

Environment or Element	Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Archaeology	Disturbance of previously unidentified archaeological resources.	Not applicable – the potential to discover archaeological resources is low based on studies conducted at the Project footprint.	Not applicable	Not applicable

Environment or Element	Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Built and Cultural Heritage	Disruption of cultural heritage resources including: ▪ Removal and alteration of waterbodies and landscape features (including mature trees) ▪ Demolition and removal of contributing built features (including the Village Clusters, Bridge 6, Marina East Light House) ▪ Alteration of views to the Pavilion ▪ Potential reduction of the prominence of the pods and Cinesphere	Local study area	**General** ▪ Follow advice regarding potential heritage impacts, alternative options, appropriate mitigation measures, and implementing the use of acceptable heritage designs, materials and methodologies to minimize impacts. ▪ Review and follow guidance outlined in the approved Strategic Conservation Plan. ▪ Engage applicable and appropriate stakeholders, communities, and/or individuals that have an interest in the cultural heritage value of the property. ▪ Complete HIA for all proposed activities that may impact the heritage attributes of cultural heritage value of the property (HIA currently underway by ERA and a future HIA will be prepared for the OSC once the design is further developed)	▪ The proposed mitigation measures, subject to review and acceptance, will have a positive impact on the intangible cultural heritage value of Ontario Place while achieving the goals of the public realm redevelopment.

Environment or Element	Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
			Once the HIA is complete for Ontario Place ▪ Implement mitigation measures as outlined in the forthcoming final "Ontario Place: Heritage Impact Assessment" by ERA and any future HIA for the OSC ▪ Implement conditions outlined in the Minister's Consent for the removal or demolition of any buildings or structures on site.	

Environment or Element	Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Built and Cultural Heritage	Design will change the existing character of the area (architecture).	Project footprint	**Design** ▪ Review and follow guidance outlined in the approved Strategic Conservation Plan ▪ Follow advice regarding potential heritage impacts, alternative options, appropriate mitigation measures, and implementing the use of acceptable heritage designs, materials and methodologies to minimize impacts. **Once the HIA is complete** ▪ Implement mitigation measures as outlined in the forthcoming final "Ontario Place: Heritage Impact Assessment" by ERA and any future HIA for the OSC. ▪ Implement conditions outlined in the Minister's Consent for the removal or demolition of any buildings or structures on site.	▪ Redevelopment activities will require the removal or demolition of all existing structures. ▪ The new proposed buildings will improve the existing character across the Project footprint.

Environment or Element	Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Indigenous Culture	Design and construction activities will create a change to Indigenous culture.	Local study area	▪ Continue to engage with Indigenous communities in assessment planning and refinement of mitigation measures. ▪ Continue to engage Indigenous communities with an interest in the Project to integrate Indigenous design principles and placemaking into the final design. ▪ Work with Indigenous communities to identify features of important (e.g., native vegetation, wildlife, water quality).	▪ Redevelopment activities are anticipated to improve Indigenous culture within the LSA.

Notes:

ERA = ecological risk assessment

HIA = heritage impact assessment

5.4.4.1 Built and Cultural Heritage

5.4.4.1.1 Change in Cultural Heritage Resources

A change in vegetation and water resources is described in Sections 5.2.1.3 and 5.3.1.6 of this ESR.

The removal of built features that contribute to the cultural heritage value of the Project footprint, as well as the removal of natural and landscape features are direct negative impacts of redevelopment activities. Indirect negative impacts include the obstruction of approach views to the pods and Cinesphere. Redevelopment activities will implement mitigation measures in response to the alteration of the cultural heritage attributes of Ontario Place. These mitigation measures align with the original vision for Ontario Place as a Province-wide destination and showcase for innovation. The proposed mitigation measures will have a positive impact on the intangible cultural heritage value of Ontario Place while achieving the goals of the public realm redevelopment. Positive impacts are anticipated to include:

- Activation of the site with new users
- Ongoing collaboration with Indigenous communities to identify opportunities to make and hold spaces for Indigenous peoples at Ontario Place
- Shoreline remediation in line with contemporary best practices in landscape design, which have made considerable advancements since the original construction of the Project footprint
- Improved pedestrian access and recreational opportunities
- Introduction of new large-scale gathering areas (Forum)
- Remediation through replacement of paved areas with naturalized landscape which will also reduce the heat island effect
- Restoration of deteriorated landscape features

5.4.4.1.2 Improve Existing Character

Redevelopment activities will remove the existing architectural character across the Project footprint and replace it with a new design that incorporates the original Michael Hough and Eb Zeidler principles. These principles, which were included in the original construction of the site, have deteriorated over decades of use or have been removed or replaced. The preferred design across the Project footprint will recreate the existing character, ultimately creating a net benefit for site users. Improvements include:

- Soft shoreline along Brigantine Cove
- Remediated shoreline with stones and riprap to improve performance, protect against storm surge, and reinforce original design
- Restored and expanded lookout to protect from rising water levels and mitigate flood risks
- Retained and restored sculpted landscape features to enhance and support the localized microclimates envisioned by Hough

- Vegetation to create more immersive landscaped areas and support Hough's original design intent
- Gathering and programming spaces along the southern edge of the public realm and an additional gathering and programing space
- Lawn or vegetated areas to replace asphalt

5.4.4.1.3 Improve Indigenous Culture

Redevelopment activities are anticipated to provide the opportunity to continue to work with Indigenous communities to develop visibility and the highlight the prominence of Indigenous Placekeeping and perspectives within the LSA. Generally speaking, priorities identified by the communities included:

- Improved park space, especially given the increase in greenspace and potential to include native vegetation and associated terrestrial wildlife habitat
- Improved water quality and associated aquatic habitat,
- Integrated Indigenous design principles throughout the site

While the final siting of Indigenous placemaking will continue throughout detailed design, a number of designs are anticipated to be features onsite, including:

- Indigenous Placekeeping spaces
- Native planting that has Indigenous significance
- Interpretive signage
- Celebrations of Indigenous motifs or languages
- Indigenous programming

5.4.5 Built and Visual Environment

The potential impacts, mitigation measures, and net effects of the Project on the built and visual environment are listed in Table 5-13 and further described in Sections 5.4.5.1 of this report.

Table 5-13. Potential Impacts, Mitigation Measures, and Net Effects of the Project on the Built and Visual Environment

Environment or Element	Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Transportation Network	Design and construction will change the transportation networks within the LSA.	Local study area	**Design** ▪ Consult transit authorities to minimize conflicts. ▪ Consult response agencies during design to minimize disruption and coordinate activities. **Construction** ▪ Maintain liaison and coordinate construction with transit authorities on public transit routes. ▪ Eliminate or reduce impediments to present traffic flow on existing transportation routes. ▪ Maintain liaison and coordinate construction with responding agencies.	▪ Traffic will increase in and around the LSA during construction. Redevelopment activities are designed to attract park users, resulting in an increase in traffic during operations.

Environment or Element	Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Transportation Network	Increase in traffic from Ontario Science Centre and underground parking providing more spaces available onsite	Local study area	▪ Travel demand management and increased transit opportunities to offset the number of single-occupancy vehicles arriving to the site. ▪ Opportunities for increased modes of travel (cycling and pedestrian) with improved connections to Exhibition Place, Martin Goodman Trail and transit with onsite mobility or transit hub. ▪ Provide bicycle parking and long-term bicycle parking spaces. ▪ Provide electric vehicle parking spaces	▪ Traffic will increase in and around the LSA during operation of the site. Onsite parking facilities will handle approximately 10% of visitors during peak periods with majority of remaining visitors arriving by sustainable modes of travel. Fewer parking spaces compared to increase in number of visitors means more us of sustainable modes of transport.

5.4.5.1 Transportation Network

5.4.5.1.1 Increase in Traffic

The alteration of traffic patterns, movements, and volumes during construction along roadways will be an unavoidable negative residual effect. Construction-related traffic associated with the transportation of workers and equipment to and from construction sites will be temporary.

Redevelopment activities are intended to increase park use; as a result, traffic is also anticipated to increase during operations. This increased traffic to the site will be accommodated through improved multi-modal connections. The overall transportation solution in the preferred design includes significant improvements to transit and active transportation infrastructure, as well. Specifically, improvements to the Martin Goodman Trail along Lake Shore Boulevard West are proposed to accommodate the anticipated pedestrian and cyclist traffic generated by the Ontario Place redevelopment. The proposal includes separating and widening pedestrian and

cyclist space, developing protected intersections for cyclists, reducing curb radii to slow turning vehicles, and improving protected signal timings to enhance active transportation along the Martin Goodman Trail. Additionally, considering the proposed first-mile last-mile connection between Exhibition Station and Ontario Place, a mobility hub (also referred to as a transit hub) is proposed at the southeast corner of Lake Shore Boulevard West and Remembrance Drive (west of the central gateway) to facilitate the planned transportation connection.

The last-mile connection between Exhibition Place and Ontario Place will be a multi-modal solution that recognizes the importance of the pedestrian connections across to Exhibition Place, as well as the need for a direct transit connection. Work is continuing with Metrolinx to establish the details for this solution.

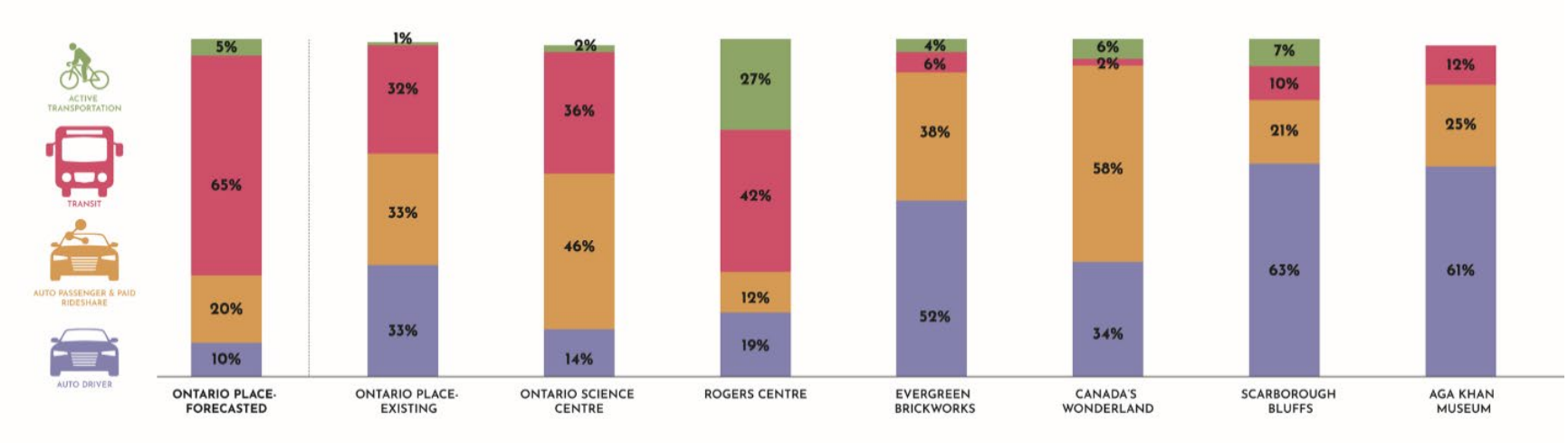
Parking is also required to accommodate all modes of travel to the site, and the proposed increase in parking spaces may increase personal automobile traffic to the site. Within the Ontario Place lands, 1,301 parking spaces are currently provided to serve the existing uses. While the parking supply is proposed to double from existing conditions, the proposed parking structure is designed to accommodate up to 10% of visitors arriving to the site by personal automobile during the peak periods. Most remaining visitors are expected to arrive using sustainable modes of travel, including transit, cycling, and walking. As such, the increase in parking supply is considered modest compared to the expected visitors to the site year-round for the proposed uses.

A number of incentive-based and educational-based transportation demand management measures are also being proposed to reduce dependency on single-occupancy vehicle trips and to encourage sustainable modes of travel to the site. Specific measures include discouraging free visitor parking, prioritizing green vehicles, providing transit ticket integration for visitors, providing pre-loaded Presto cards for employees, and providing ample bicycle parking. Short-term covered bicycle parking spaces and an underground bike facility with long-term bicycle parking spaces are proposed onsite to support multi-modal travel. Most bicycle parking spaces are proposed on the Mainland near the central gateway to encourage walking throughout Ontario Place. There will also be additional bicycle parking provided throughout Ontario Place at key areas (like near washrooms). Additionally, planned future transit surrounding Ontario Place includes the Waterfront Transit Network Expansion, Ontario Line, Lake Shore West GO improvements, and new Smart Track stations. These improved transit and active transportation infrastructure and networks are anticipated to alleviate negative impacts of traffic to and from the site.

An increase in traffic also has the potential to increase greenhouse gas emissions associated with site operations after redevelopment. However, a significant shift to more sustainable modes from existing conditions is anticipated for the Ontario Place redevelopment given significant transit and active transportation improvements are planned for the area. As illustrated in Figure 5-3, approximately 35% of visitors currently drive to the site while the anticipated mode split during peak periods includes approximately 10% auto drivers with a majority of users (65%) expected to arrive by transit. The shift in travel modes and anticipated reduction in the use of single-occupant vehicle travel to the site is expected to reduce greenhouse gas and is in line with provincial climate change targets.

A significant shift to more sustainable travel modes is also supported by the decision to locate intensification at Ontario Place because development within a suburban or exurban location outside downtown Toronto would have resulted in different travel behaviours. Specifically, if the redevelopment associated with Ontario Place was located in a more suburban context, the anticipated mode splits would have been substantially more auto-centric because it would not benefit from good access to various higher-order transit options. As such, the redevelopment of Ontario Place supports travel choices that are in line with climate change targets. Furthermore, as Figure 5-3 shows, the expected travel behaviours for site visitors support climate change targets, because the anticipated mode split is more sustainable than to other destinations in Toronto and the Greater Toronto Area (GTA). Specifically, the anticipated auto driver mode split at the Ontario Place redevelopment (10%) is anticipated to be less than the existing auto drivers for downtown destinations (including the Rogers Centre [19%]), while the anticipated transit (65%) and active transportation mode splits (5%) are greater than the sustainable travel modes currently observed for most destinations throughout the GTA.

Figure 5-3. Mode Splits of Comparable Destinations in Toronto and the GTA



5.4.6 Waste Management

The potential impacts, mitigation measures, and net effects of the Project on waste management are listed in Table 5-14 and further described in Sections 5.4.6.1 of this report.

Table 5-14. Potential Impacts, Mitigation Measures, and Net Effects of the Project on Waste Management

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Construction and operations will change the amount of waste generated onsite.	Project footprint	**Construction** ▪ All construction-related waste is to be collected and disposed of in designated containers or approved facilities. ▪ Collect all waste materials on a regular basis and remove waste from the site during construction. ▪ Ensure all hazardous waste materials generated on site are properly identified, collected, stored and disposed of. ▪ Identify a local licensed landfill that will accept hazardous material. Obtain waste disposal records, where warranted. ▪ Avoid waste disposal sites and contaminated property. ▪ Monitor work near waste disposal site as necessary to ensure absence of contamination. **Operations** ▪ Ensure proper waste receptacles are on site (recycling, organics). ▪ Encourage food and beverage operations to offer sustainable packaging to reduce plastics and waste across the site.	▪ Increase in waste during construction and operations.

5.4.6.1 Increase in Waste

Construction activities are expected to generate an increase in waste that will be hauled to landfills, transfer stations, and potential hazardous waste centres. Garbage, contaminated soil, and aboveground infrastructure removed from the site will contribute to an increase in waste

generated as a result of the Project. All Project-related waste will be recycled and sorted accordingly, to help manage the increase in waste. An increase in construction waste is considered temporary and local licensed landfills will be identified before construction to support waste management efforts.

During operations, proper waste receptacles will be available onsite to local waste management efforts (recycling and organic bins), and reduce waste that ends up in the landfill. Food and beverage vendors will be encouraged to offer sustainable packaging to reduce plastic and Styrofoam generated at the site.

5.4.7 Accidents

The potential impacts, mitigation measures, and net effects of the Project on accidents are listed in Table 5-15 and further described in this section.

Table 5-15. Potential Impacts, Mitigation Measures, and Net Effects of the Project on Potential for Accidents

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Small spills during construction could contaminate or otherwise change water quality, aquatic habitat, soil or terrestrial habitat.	Project footprint	▪ Limit heavy equipment use and storage to the project area and to hard surfaces (e.g., asphalt, concrete) where possible. ▪ Prepare a Spill Response Plan that outlines the measures that will be implemented, such as spill kits, and drip pans under all non-mobile machinery; this must be kept onsite at all times. ▪ Contain and clean up spills quickly and effectively. ▪ Report spills quickly and accurately. ▪ Monitor work in vicinity of contaminated property as necessary to ensure absence of contamination. ▪ Remediate contamination in accordance with legislation and guidelines. ▪ Ensure good property and materials management practices to minimize negative impacts to the environment. ▪ Minimize duration of in-water work to the extent possible. ▪ Prevent debris from entering Lake Ontario. ▪ Contain and stabilize waste material (dredging spoils, construction waste and materials, uprooted or cut aquatic plants, accumulated debris) above the high-water mark of nearby waterbodies to prevent re-entry. ▪ Wash, refuel, and service machinery and store fuel and other materials for the machinery a minimum of 30 m from any surface water features to prevent any deleterious substances from entering the water. ▪ Ensure materials such as paint, primers, rust solvents, degreasers, grout, poured concrete or other chemicals do not enter the watercourse.	▪ Depending on the location and volume, a spill may contaminate: - Water and associated habitat - Soil - Vegetation and associated habitat

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
		▪ Ensure that building material used in a watercourse has been handled and treated in a manner to prevent the release or leaching of substances into the water that may be deleterious to fish. ▪ Contact applicable agencies if there is likelihood for impacts to fisheries or wildlife resources within Lake Ontario or any other watercourses as a result of the work. ▪ If soil contamination is identified while the project is being carried out: - Stop work immediately and notify proponent or its designate. - Engage an environmental consultant to investigate the soil and/or groundwater contamination and advise about the next steps before initiating work again. ▪ Carry out site- or item-specific monitoring or testing, or both, to identify contamination and determine viable options where necessary.	
Transportation accidents.	Local study area	▪ Encourage multi-passenger vehicle use for transport of construction crews to and from the Project footprint. ▪ Restrict access points to established areas and deter unauthorized access. ▪ Follow a Traffic Management Plan during construction to reduce the potential for accidents.	▪ Transportation accident.
Damage to utilities or underground infrastructure during construction.	Project footprint	▪ Consult utilities (electricity/water/sewer/gas/telephone/cable) to minimize disruption and coordinate activities. ▪ Maintain liaison with utilities.	▪ Disruption of services.

Potential Impacts	Spatial Boundary	Mitigation/Monitoring Measures	Net Effects
Exposure of workers to designated substances or hazardous materials during construction.	Project footprint	▪ Consult the survey of designated substances and hazardous materials when developing the specifications for demolition or construction, or both. Specifications must reference applicable regulations and guidelines, and address the abatement of designated substances and hazardous materials through handling, management and disposal of these substances and materials. ▪ Carry out controlled removal of asbestos- and lead-containing materials. ▪ Handle and dispose of asbestos and lead waste properly (as specified by regulation). ▪ Implement appropriate levels of personal protective equipment for normal dermal protection with an upgrade to a greater level of protection if deemed appropriate by the onsite health and safety officer or coordinator when working in or around areas of contamination. ▪ Note that a Health and Safety Plan that accounts for the presence of the contaminants of concern in soil and groundwater at Project footprint and related risks to subsurface workers must be prepared by a Competent Person, as defined by the Government of Ontario Occupational Health and Safety Act. The Health and Safety Plan must be prepared and implemented before excavation activities occur at the Project footprint.	▪ Exposure of workers to hazardous materials.

In the unlikely event that accidents occur during construction or operations, an adverse effect on the environment (including wildlife or aquatic species) or human health may be the result, so these are included in the impacts assessment.

5.4.7.1 Spills

Small spills during construction activities could contaminate or otherwise alter water quality, aquatic habitat, or terrestrial habitat. A spill near the water may alter or contaminate the aquatic habitat, causing potential adverse impacts on fish. A small spill on land will be localized, and the rate of migration will depend on how permeable the surface materials are, as well as the properties of the spilled contaminant. Therefore, the potential exists for groundwater contamination, spills are not treated or physically removed. Direct impacts on vegetation and riparian vegetation from small spills, cleanup, and reclamation measures may result in some habitat disturbance. There could also be direct impacts to human health result if volatile compounds are inhaled. However, considering the expected spill prevention and mitigation measures in case of a spill, the net effect is expected to be minimal.

5.4.7.2 Transportation Accidents

A transportation accident could occur during Project activities that require the use of vehicles and equipment. These could injure people or wildlife, could result in a fire, or could lead to contaminated land and water. These could also damage property and inconvenience the public. The net effect of a transportation accident varies, depending on the severity of the accident and on whether serious property damage, injury, loss of life, fire, or contamination occurs. Adherence to all applicable traffic and road regulations, and the implementation of measures for traffic control are expected to reduce the probably of a traffic accident associated with Project activities.

5.4.7.2.1 Damage to Utilities or Underground Infrastructure

Damage to water, natural gas buried cable, or other utility lines could occur during construction activities that require ground disturbance, and could lead to an interruption of services. Damage to utilities or underground infrastructure is considered a temporary effect that may be reversible within a day to a few days, depending on the service standard for repair. The likelihood of damage to utilities or underground infrastructure resulting in a major net effect is low, because One Call line locates will be completed before construction activities begin. In addition, the utilities and underground infrastructure from the *Category B Ontario Place Site Servicing C&D Report* (IO 2022) will be provided to contractors.

5.4.7.2.2 Exposure of Workers to Hazardous Material

Based on the results of the *Due Diligence Risk Assessment* (Jacobs 2022), it is possible for workers to be exposed to hazardous materials during construction activities within the Project footprint. However, all workers will be required to maintain the appropriate levels of personal protective equipment and follow an approved, site-specific health and safety plan.

5.5 Summary of Net Environmental Effects

Overall, the preferred public realm design was developed to a conceptual level that supported evaluation of the environmental impacts, identification of mitigation measures and determination of net environmental effects. Section 5.4 and the associated tables (Tables 5-2 to 5-15) described the potential impacts, proposed mitigation measures, and net effects anticipated from the Project activities.

Based on the preferred design for the public realm, environmental impacts anticipated from the Project are manageable with typical mitigation measures. Therefore, significant adverse impacts are not anticipated to remain from the Project. The potential impacts from construction, operation, and maintenance will be further assessed during detailed design, and will include refining the Project-specific mitigation measures. Minor construction related impacts are anticipated over a varying length of time as the redevelopment of the public realm will be undertaken through stages. The extent, duration and magnitude of the potential environmental impacts will be more fully determined during detailed design and the construction planning stage. Potential impacts and recommended mitigation measures and monitoring plans will be refined during detailed design and finalized before construction begins. These will include any ongoing consultation with Indigenous communities.

5.6 Monitoring Program

Monitoring provides an accurate measure of how effective mitigation measures for a Project are, and is expected to take place over several years. The monitoring program is intended to address both compliance and net effects monitoring. The reason for monitoring is to determine whether a particular potential effect has occurred, whether mitigation measures were appropriate and responsive, and whether unanticipated impacts have occurred. Proper monitoring will ensure compliance with commitments made throughout the EA process and establish how well the predictions from the assessment period reflect what actually happens during implementation.

5.6.1 Construction and Operations Monitoring Plans

Net effects monitoring will occur throughout construction, and equally importantly, after construction, to confirm compliance with mitigation measures and commitments specific to the undertaking. These monitoring activities will be appropriate for Project-related activities and associated impacts, and can take place over several years. Indigenous communities are typically involved in developing monitoring programs and participate in monitoring activities. Ongoing consultation with Indigenous communities will continue throughout detailed design to ensure these communities have an opportunity to identify their desired level of involvement in monitoring, which could include Indigenous archaeological, environmental, and construction monitoring. The monitoring program will continue to be developed throughout detailed design, and construction contractors or qualified professionals will develop specific monitoring plans, as follows:

- A Landscape Plan will be developed to include natural elements, as well as the human-made elements to be implemented throughout the public realm. This plan will include application strategies, as well as policies and plans to create a successful natural environment and enjoyable physical environment for site users.

- Based on the tree inventory and restoration plans included in the Arborist Report (MH 2023b), after detailed design, a Tree Protection Plan will be developed to protect trees in a manner consistent with the current standard practices within the city of Toronto.
- A Naturalization Plan has been developed (MH 2023a) with the intent of returning altered or degraded areas to a more natural condition through the use of trees, shrubs, and flowers that are native to the area. This plan includes natural feature and habitat enhancement recommendations to be implemented for wildlife, and fish habitat enhancement strategies for species known to occur onsite.
- A Soil and Erosion Plan will be developed to outline measures to reduce the potential for erosion, as well as those to mitigate issues that may occur during construction. This plan will include a form to record the location of erosion, to facilitate future site monitoring, as needed.
- A Soil and Groundwater Management Plan will be prepared to reduce the risk of contact with potentially contaminated subsurface soils.
- A Stormwater Management Plan (Study) will be developed to minimize water quality impacts to groundwater recharge areas and incorporate recommended stormwater management practices into the design package.
- A Spill Response Plan will be developed to guide the control and cleanup of materials that may be spilled during construction. The purpose of this plan is to prevent spills from occurring and to protect the land and water in the unlikely event that a spill does occur. Measures will include the initial response, spill containment procedures, and reporting, where required. The plan will provide details about spill prevention and responses for the operation of machinery and storage of deleterious substances (fuel, oil, and similar). Those details will ensure adequate mitigation measures are implemented to prevent releases of such substances into the adjacent waterbody or soils. Staff must report all spills to the MECP Spills Action Centre (1-800-268-6060).
- A Contamination Discovery Plan will be developed to identify areas of known contamination before construction activities, and to provide steps to identify unexpected historical contaminants. Mitigation options will be included, including handling, storage, cleanup, and disposal.
- A Vegetation Management Plan will be prepared to outline measures for removing or modifying vegetation onsite, as well as reducing the spread of invasive species. During operations, this plan will be used to manage invasive species, if present, and to manage and maintain vegetation planted during redevelopment activities in a healthy manner.
- A Traffic Management Plan will be prepared to provide guidelines for vehicular and equipment use coming to and from the Project footprint and travelling within the Project footprint. The purpose of this plan will be to reduce the impacts of vehicle and equipment use associated with construction activities.
- A Fire Contingency Plan will be prepared to prevent fires from occurring during construction. This plan will also provide fire suppression measures and communication protocols that will be followed in case of a fire onsite.

- A Strategic Conservation Plan has been developed for Ontario Place to provide high-level conservation strategies and forward-looking guidance for anticipated changes to the property. As the redevelopment will affect the cultural heritage attributes of cultural heritage value of Ontario Place, a Heritage Impact Assessment will be completed for all proposed impacting activities (the Heritage Impact Assessment is currently underway by ERA Architects Inc.). The purpose of this report is to provide mitigation measures to minimize the negative impact the redevelopment has on the site's cultural heritage value.

5.6.2 Compliance Monitoring Plans

Compliance monitoring takes place to evaluate how well an undertaking is meeting specifications and commitments outlined in an ESR or by a specific regulation. This often takes the form of observing (continually or intermittently) one or more indicators of the environment based on pre-determined parameters. Specifically, post-construction monitoring will take place. This will include an assessment of landscape reclamation, revegetation, drainage, erosion control, weeds, and other issues related to areas disturbed during construction. Typically, post-construction monitoring will consider pre-construction conditions; however, this project is designed to alter the existing landscape and natural environment to a point where most landscape elements are expected to change. For example, vegetation in one location may be removed or altered, while vegetation elsewhere on the Project footprint will be introduced or enhanced.

The monitoring parameters, analyses, and measures for success will be finalized during detailed design, when vegetation species and associated locations are known. Ongoing consultation will continue with Indigenous communities to determine their desired level of involvement in monitoring programs and activities.

5.6.2.1 Soils

Soil monitoring will not be required after construction unless there are reclamation or vegetation issues noted onsite. If soil monitoring is required, soil samples can be collected to identify potential issues such as topsoil depth, erosion, compaction, and soil stricture. A visual inspection may take place of the soil profile or sampling may take place for laboratory analysis of potential contaminants or salinity. The soil assessment will be compared to soil conditions in the surrounding area (Trillium Park) or pre-construction data to determine whether remedial measures are required.

The success of soil mitigation is based primarily on the establishment of soil productivity, which is measured by the observed vegetation characteristics, such as colour, density, and height.

5.6.2.2 Vegetation

Following construction, disturbed areas that are revegetated will be inspected to identify where this has been successful, and to identify additional actions that can be taken where revegetation has not been successful, if applicable. Particular attention will be given to areas where erosion is observed or where problems are identified during construction.

Vegetation monitoring includes the following tasks:

- A visual inspection of species and growth characteristics
- The identification of areas where bare soil is exposed
- The identification of invasive or non-native species

The success of vegetation mitigation measures will be based on the establishment and health of species planted, compared to similar vegetation communities in the area. Where vegetation shows signs of stress or poor growth (or both), surface soils will be assessed to confirm compaction, admixing, topsoil depth, erosion, and soil structure are appropriate. Riparian vegetation establishment will be determined by monitoring the plants onsite and comparing to a reference plant community growing under similar conditions.

5.6.2.3 Wetlands

Wetland establishment will be observed following the first full growing season and again in subsequent years, as needed. Wetland establishment will be determined by a visual inspection of the wetland vegetation that has been planted. The monitoring of wetland establishment will be focused on the Brigantine Cove zone. This will assess substrate composition, surface water presence or absence, water quality, and hydrophytic vegetation establishment. The results of this assessment will be used to measure the effectiveness and efficiency of design and vegetation planting measures.

5.6.2.4 Watercourses

A specialist with relevant experience should conduct water monitoring during construction. It is anticipated that watercourse monitoring will be conducted similarly to other projects in the area (such as monitoring for Waterfront Toronto projects). The parameters and analyses will be determined in consultation with the relevant technical groups.

5.6.2.5 Contamination

Fill and hard caps installed at the Project footprint should be inspected and maintained to confirm the continuing integrity of barriers (Jacobs 2022). Inspections should be completed semi-annually (spring and fall) or as part of ongoing property maintenance. Any deficiencies noted should be repaired promptly.

5.7 Future Commitments

5.7.1 Permitting and Approvals

The identification of permits and approvals is currently in the initial stages. As detailed design advances, permits and approvals will be identified and confirmed through consultation with regulatory authorities and agencies. Conditions outlined in all permits and approvals will be identified and followed during construction and operation, where applicable.

This project will be implemented in accordance with all applicable municipal, provincial, and federal laws. The Government of Ontario is generally not subject to the legal requirements of municipal by-laws or the permitting processes of conservation authorities, and is therefore legally unable to obtain authorizations for these requirements. However, IO will work closely with all authorities having jurisdiction to achieve conformance to their requirements, thereby securing "approvals." This will include engaging in typical consultation processes and submitting information, where appropriate, without formally entering the permitting process. This will also include conducting additional environmental investigations to obtain information that supports the various applications and facilitates negotiations with regulatory agencies. Table 5-16 outlines the anticipated federal and provincial permits and approvals for the Project.

Table 5-16. Required Environmental Approvals and Permits

Title	Permits and Approvals	Authority	Applicable Legislation	Requirement
Federal Approvals	Fisheries Act Approval for Harmful Alteration, Disruption or Destruction of fish habitat	Fisheries and Oceans Canada	*Fisheries Act*	Section 35(1) of the *Fisheries Act* prohibits "any work, undertaking or activity that results in the harmful alteration, disruption or destruction of fish habitat" unless a permit has been obtained under Section 35(2) or regulations permit the activity.
	Navigation Protection Program Permit	Transport Canada	*Canadian Navigable Water Act*	Requires an approval in order to construct, place, alter, rebuild or decommission a "work" in, on, over, under or through a navigable water.
	Land Use Clearance	Nav Canada	TP 1247 E Aviation – Land Use in the Vicinity of Aerodromes (Airport Zoning Regulations)	All proposals for land use near airports and air navigation infrastructure before construction begins to ensure that air navigation system safety and efficiency are not compromised by proposed land development.
	Species at Risk Act (SARA) Permit	Environment and Climate Change Canada	*Species at Risk Act*	The federal *Species at Risk Act* prohibits, among other things, the killing or harming of a species that is listed is extirpated, endangered or threatened and/or the damage or destruction of a residence of critical habitat of such a listed species, unless authorized by the Minister.

Title	Permits and Approvals	Authority	Applicable Legislation	Requirement
Federal Approvals	Permit to Engage in Activities Affecting Species (Migratory Birds)/Abandoned Nest Registry	Environment and Climate Change Canada	*Migratory Birds Convention Act* and *Migratory Birds Regulations*	If any eggs, nests or shelters of migratory birds were identified during the Redevelopment Project and were to be disturbed or destroyed, permits or registration under the *Migratory Birds Convention Act and Migratory Birds Regulations* would be required and/or removal of any trees/vegetation and associated nests would need to be done outside the nesting season for the birds (April to August, for many species).
	Harbour Master Authorizations	Ports Toronto	*Port Authorities Regulations* under the *Canada Marine Act*	Authorizations are required for construction activities in the Port and Harbour of Toronto, including dredging, excavation, and infilling.
Provincial Approvals	Permit to Take Water (PTTW)/Environmental Activity and Sector Registry (EASR)	MECP	*Ontario Water Resources Act*	If the Redevelopment Project requires dewatering that results in the taking of more than 50,000 litres of water per day (groundwater and/or surface water), a PTTW will need to be obtained by the developer or by the company undertaking the work.
	Work Permits	Ministry of Natural Resources and Forestry	*Public Lands Act*; Ontario Regulation (O. Reg.). 239/13: *Activities on Public Lands and Shore Lands*	Work permits for construction and activities on Crown lands.

Title	Permits and Approvals	Authority	Applicable Legislation	Requirement
Provincial Approvals	Environmental Compliance Approval and/or Registration (Air & Noise)	MECP	*Environmental Protection Act*, section 20.2 and/or Registration under Part II.2	Discharge of contaminants (including dust, noise) into air during construction and/or operation would require an Environmental Compliance Approval or registration under the *Environmental Protection Act* (depending on the scope and magnitude of the discharge).
	Environmental Compliance Approval (Sewage Works)	MECP	*Environmental Protection Act*, section 20.2	The establishment of any sewage works (including stormwater management facilities) will require an Environmental Compliance Approval and any required stormwater management facilities and measures will need to be implemented. The establishment of works that discharge water into Lake Ontario, if any, would require such an approval.

Title	Permits and Approvals	Authority	Applicable Legislation	Requirement
Provincial Approvals	Non-Hazardous Wastes and Hazardous Waste Registry	MECP	*Environmental Protection Act*, O. Reg. 347	All wastes (non-hazardous and hazardous) generated at the site shall be managed and disposed of in accordance with the Environmental Protection Act and O. Reg. 347. This applies to the transport of waste from the location of generation to a landfill site authorized to receive specific wastes. Excavated soils requiring offsite disposal will be disposed of as per the provisions in O. Reg. 347. For hazardous waste generated onsite and transported offsite the waste management activities must be reported and waste must be registered through the Resource Productivity & Recovery Authority Hazardous Waste Program Registry.
	Records of Site Condition	MECP	*Environmental Protection Act,* O. Reg. 153/04	Remediate soils and groundwater contamination on the property in accordance with O. Reg. 153/04.
	Soil Registry	MECP	*Environmental Protection Act*, O. Reg. 406/19	Soil must be registered prior to construction if excess soil is anticipated to be transported off-site. Importing of soil, if required to construct physical barriers such as caps or barriers, will need to conform to quality standards stipulated in O. Reg. 406/19.

Title	Permits and Approvals	Authority	Applicable Legislation	Requirement
Provincial Approvals	Overall Benefit Permit or Notice of Activity	MECP	*Endangered Species Act, 2007*	If there are impacts to any species listed under the *Endangered Species Act, 2007*, a permit and/or registration will be required. Such permit and/or registration will require the party undertaking the work to implement mitigation measures.
Conservation Authority Approvals	Application for Development, Interference with Wetlands and Alterations to Shorelines and Watercourses	TRCA	*Conservation Authorities Act*, *O. Reg.* 166/06	Although the Province is not subject to the permitting processes of conservation authorities and official obtainment of this permit is not required, if there is filling, grade changing, or construction of a building or other infrastructure within the TRCA's regulated area, the TRCA permit requirements should be met.

5.7.2 Review Net Effects

Once detailed design and mitigation measures have been finalized, the net effects should be reviewed to identify changes to the impacts detailed in this report, to then determine whether further or differing mitigation measures are required to minimize negative impacts from the Project.

5.7.3 Other

A Municipal Development Application was initially submitted to the City of Toronto in November 2022 and will be further updated based on the preferred design from this ESR. The Development Application included an Official Plan Amendment for the overall Ontario Place site and a Zoning By-law Amendment that applies to the entire Ontario Place site. The Development Application also included a rezoning component for the West Island tenant-led developments and a future rezoning application is expected for the Centre Island tenant-led development. Updates to the application will require additional supporting studies such as planning, natural environment (such as soils, landscaping), and transportation.

In addition to the Municipal Development Application, the next phase after the completion of the Class EA process is implementation. Implementation includes the development of detailed design and the construction of the preferred design presented in this ESR. As part of this process, additional supporting studies will also be completed. Due to the nature of some of the studies (specifically, natural heritage, species at risk), including seasonality and timing requirements, some of these supporting studies will be initiated before the completion of the EA process.

Any modifications required to the preferred design presented in this ESR (based on input received during the 60-day comment period) will also need to be considered during the next steps, such as the Municipal Development Application and detailed design.

As noted, work is continuing with Metrolinx to rework the existing pedestrian crossings to link Ontario Place Mainland with the transit opportunities at Exhibition Place. This is anticipated to be part of a different EA process; however, the preferred design of the public realm at Ontario Place will be considered for the reworking of these crossings. The crossings will be reworked to adequately address the needs of both Ontario Place and the Exhibition Place Master Plan.

5.7.4 Environmental Study Report Addendum

Per the PW Class EA, if changes to the preferred design are required and they are significant enough that the undertaking is unable to be carried out as defined in this ESR, an "Addendum to the ESR" must be completed. The Addendum must include justification for the changes, documentation of an assessment of the changes and associated impacts, and any new mitigation measures.

The procedure for submitting an Addendum for public review is as follows:

- The public must be notified that an Addendum is being submitted through the same manners and locations as the other Project notices.
- The addendum must be placed on the public record in the same location as the original ESR, and copies filed with the MECP Environmental Assessment and Approvals Branch.
- All applicable comments received must be subsequently incorporated into the addendum document.

6. Consultation

Consultation is the process that allows interested or affected individuals and organizations to receive information about the Project. The consultation process also provides those parties with opportunities to contribute to and influence Project-related decisions. Consultation programs provide a mechanism to identify and resolve different and competing views about a project.

The PW Class EA (MOI 2012) sets out how the *EA Act* requirements, are to be met for a specific class of undertakings including consultation requirements. For Category C undertakings, the consultation requirements include engagement with directly affected agencies and the public in the form of a Notice of Commencement, two consultation events (such as open houses), a Notice of Completion (including posting the Notice on the Environmental Registry), and review of the ESR. The Project seeks to build on these requirements by offering additional consultation or engagement events, and targeted meetings with Indigenous communities, review agencies, and local organizations.

6.1 Consultation Plan Overview

A Consultation Plan was prepared at the launch of the EA and identified the methods proposed to engage with Indigenous communities, stakeholders, and the public with the potential to be directly affected by, or have interest in, the Project. The Consultation Plan emphasizes early and frequent consultation with potentially interested or affected parties, and the need to address the increased, province-wide interest in the Project.

The Consultation Plan included a Master Contact List (Appendix A-1), and recommended specific engagement activities. These included public notices, live virtual public engagement events, a Project website with a virtual portal for comments, and the formation of a Technical Group. The Consultation Plan also detailed proposed methods for engaging with First Nations and Indigenous communities.

6.2 Implementation of the Consultation Plan

Throughout the Project, public and stakeholder consultation activities were led primarily by Jacobs in collaboration with the IO Project team (Section 2.3). Consultation with First Nations and Indigenous communities and organizations was led by LANDinc and MinoKamik Collective in partnership with the MOI.

6.2.1 Master Contact List

A preliminary Master Contact List (Appendix A) was prepared as part of the Consultation Plan. That list included the directly affected agencies involved in the Ontario Place Site Servicing Category B Class EA that was completed in July 2022 (IO 2022. The Master Contact List (Appendix A) continued to be updated throughout the Project as new or additional interested

parties became known through self-identification or by recommendation and included members from the following groups:

- The general public, including individual members of the public with an expressed interest in the project
- Non-government organizations and special interest groups, including public and private groups
- First Nations and Indigenous communities, including individuals or organizations
- Government review agencies

All members on the Master Contact List were sent notifications via email at EA commencement, before Engagement Events 1, 2, and 3, and at posting of the draft ESR.

6.2.2 Consultation and Engagement with Indigenous Communities

During the EA process, proponents should discuss the Project and associated activities with potentially interested Indigenous communities and organizations, including affected First Nations, regarding the prevention and mitigation of potential adverse effects a proposed project may have on their Aboriginal or treaty rights, established or asserted. The Project Team seeks to bring Indigenous input and perspectives to the public realm design and EA process by encouraging relationship building through ongoing dialogue and meaningful participation opportunities. Consultation and engagement efforts with Indigenous communities are documented in Appendix A-4.

The Project Team sought out how local Traditional Knowledge could be integrated into the public realm design and associated EA (evaluation criteria), and has worked with Indigenous communities to identify site-specific concerns. The information gathered to date has informed the overall design of the public realm and evaluation of design concepts. Engagement with Indigenous communities will continue through detailed design and construction.

In partnership with IO and the Government of Ontario, LANDinc and MinoKamik were responsible for engaging with Indigenous communities on the design of the public realm and EA process. Engagement activities included onsite and virtual engagement sessions, as well as email and telephone correspondence.

The Ministry of Infrastructure identified seven First Nations, which were routinely invited to participate in the EA and design process:

- Mississaugas of the Credit First Nation
- Alderville First Nation
- Curve Lake First Nation
- Hiawatha First Nation
- Kawartha Nishnawbe First Nation

- Mississaugas of the Scugog Island First Nation
- Six Nations of the Grand River (represented by the Six Nations Elected Council and the Haudenosaunee Confederacy Chiefs)

Additional Indigenous communities, organizations, and urban Indigenous groups that were invited to review conceptual and recommended designs include:

- Anishnawbe Health Toronto
- Indigenous Centre for Innovation and Entrepreneurship
- Métis Nation of Ontario
- Native Canadian Centre of Toronto
- Toronto and York Regional Metis Council
- Tungasuvvingat Inuit/Toronto Inuit Association

A combination of meetings and outreach were conducted to ensure opportunities were adequately provided for the design and EA team to integrate feedback and input into the designs and EA processes for the Project. A summary of meetings and events with Indigenous communities is provided in Appendix A-4.

6.2.3 Stakeholder Consultation

Stakeholders were identified based on the guidelines provided in Appendix 4, Item I, of the PW Class EA (MOI 2012), which includes provincial and federal agencies, municipalities, elected officials, and other interested stakeholders.

Stakeholders were consulted using email, virtual meetings, and phone calls when necessary. They were sent the Project notices, including the Notice of Study Commencement and Consultation Event (Engagement Event 1), Notice Engagement Events 2 and 3, and the posting of Notice of Completion of the ESR. This section describes additional consultation activities that took place with key stakeholders.

6.2.3.1 Technical Groups

A Technical Group was established to provide a streamlined technical consultation process; this group consisted of technical stakeholders and review agencies with an interest in the Project (Appendix A-1).

The Project team held two meetings with the Technical Groups (October 2022 and April 2023). The meetings were held before Engagement Event 2 and Engagement Event 3 to provide key agencies and organizations with an opportunity to review, comment on, and flag issues with the public engagement event presentation materials. The following agencies and organizations were invited to participate in the Technical Group meetings:

- MECP, including the Species at Risk Branch
- Ministry of Natural Resources and Forestry

- Ministry of Public and Business Service Delivery
- Ministry of Indigenous Affairs
- Ministry of Citizenship and Multiculturalism
- Fisheries and Oceans Canada
- Ontario Place Corporation
- City of Toronto
- Exhibition Place
- Waterfront Toronto
- Ports Toronto
- Toronto Transit Commission

Additional correspondence with Technical Groups is documented in Appendix A-4.

6.2.3.2 Toronto and Region Conservation Authority

Ontario Place is located within the TRCA's jurisdiction; therefore, the TRCA is considered a key technical review agency for the Project. For the review of this EA, the TRCA's commenting roles include:

- Delegated Provincial Interests
- Public Commenting Body
- Resources Management Agency
- Service Provider
- Source Protection Authority under the Clean Water Act

Relative to these roles, the TRCA's areas of interest and expertise for commenting include: TRCA Program and Policy Areas; Natural System Programs and Policies; Sustainability Programs and Policies; Provincial Program Areas; and Federal Program Areas.

The TRCA was consulted using virtual meetings and email (Appendix A-4). The TRCA reviewed and provided input on major EA deliverables, such as the evaluation criteria and process, the design concepts, technical studies, mitigation and monitoring measures and programs, the recommended design, and the final draft ESR. Seven virtual meetings were held with the TRCA and the Project team to facilitate review and feedback at key milestones. TRCA will continue to be engaged with the Project team up to and including Project implementation.

6.2.3.3 Additional Stakeholders

- In November 2022 and February 2023, the MOI held roundtables to share information and collect feedback on the project. In November 2022, the roundtables included organizations involved in culture, tourism, hospitality, urban design, academic, and government agency

sectors; as well as advocates for their respective members' interests, economic stability, and government-led collaboration. A high-level overview of the Government of Ontario's vision for Ontario Place was presented, as well as the current state of the site, tenant proposals, public engagement conducted to date, and a discussion on key features of "world-class" waterfronts and potential future opportunities at Ontario Place.

- The February 2023 roundtables focused on "built heritage and public space" and "tourism and site access," and included key stakeholders from local neighbourhood associations and the architectural, urbanist, environment, cultural, tourism sectors. Again, a high-level overview of the Government of Ontario's vision for Ontario Place was presented, as well as current state of the site, tenant proposals, and engagement conducted to date, with additional information tailored to the respective themes of "built heritage and public space" and "tourism and site access."
- Additional stakeholders consulted for the Project include:
  - Ontario Place for All
  - Architectural Conservancy of Ontario
  - SwimOP
  - Fort York Neighbourhood Association
  - Bathurst Quay Neighbourhood Association
  - Parkdale Residents Association

Meetings were held throughout March, April, and May of 2023 to facilitate information sharing and to collect feedback on the overall redevelopment of Ontario Place.

Presentations also took place for a joint Waterfront Toronto and City of Toronto design review panel in July 2022 and March 2023. The scope of the first presentation was "Issues Identification" for the public realm work. Issues Identification is a defined stage in the Waterfront Toronto design review process, which focuses on the project's context, as well as its overall program and sustainability goals. The March presentation was used for a second round of Issues Identification for the entire site redevelopment.

The Project team presented to Aquatic Habitat Toronto twice over the course of the project, in December 2022 and in April 2023. The first presentation consisted of an overview of the south shore, north shore, and Brigantine Cove design concepts (constraints and opportunities and design intent) and the second presentation focused on the proposed rock berm design.

Finally, since the start of this EA process, discussions have taken place with Exhibition Place and Metrolinx to discuss potential integration with the Project; these discussions are ongoing.

6.2.4 Public Consultation and Engagement

Public consultation and engagement for the Project was carried out with the goal of engaging residents of Toronto, as well as people from across the province, in the decision-making process for the Project. Consultation with the general public included providing information on the

Project's dedicated website, issuing notices (at study commencement, before the engagement events, and at the posting of the ESR), and holding three virtual engagement events.

6.2.4.1 Notices

Four notices were prepared for EA activities and are summarized in Table 6-1. A copy of each notice is included in Appendix A.

Table 6-1. Project Notices

Notice	Date Published	Newspaper
Notice of Commencement and Consultation Event (Engagement Event 1)	March 16, 2022	Toronto Star (English)
	March 19, 2022	L'Express (French)
Notice of Engagement Event 2	October 12, 2022, and October 20, 2022	Toronto Star (English)
	October 15, 2022, and October 22, 2022	L'Express (French)
	October 11, 2022 and October 20, 2022	North Bay Nugget (English and French)
	October 11, 2022 and October 20, 2022	Sault Star (English and French)
	October 11, 2022 and October 20, 2022	Sudbury Star (English and French)
	October 11, 2022 and October 20, 2022	Timmins Daily Press (English and French)
Notice of Engagement Event 3	April 13, 2023 and April 20, 2023	Toronto Star (English)
	April 15, 2023 and April 22, 2023	L'Express (French)
	April 13, 2023 and April 20, 2023	North Bay Nugget (English and French)
	April 13, 2023 and April 20, 2023	Sault Star (English and French)
	April 13, 2023 and April 20, 2023	Sudbury Star (English and French)
	April 13, 2023 and April 20, 2023	Timmins Daily Press (English and French)

Notice	Date Published	Newspaper
Notice of Completion	July 4, 2023	Toronto Star (English)
	July 4, 2023	L'Express (French)
	July 4, 2023	North Bay Nugget (English and French)
	July 4, 2023	Sault Star (English and French)
	July 4, 2023	Sudbury Star (English and French)
	July 4, 2023	Timmins Daily Press (English and French)

The Notice of Completion has also been posted on the Environmental Registry of Ontario.

6.2.4.2 Project Website

In February 2022, a dedicated Project website was developed and launched to provide the public, Indigenous communities, and stakeholders with general project information, Project updates, information on participation opportunities, and relevant project documents. The website also included a form for users to sign up for ongoing Project updates (such as upcoming engagement event notifications). The website, engageontarioplace.ca, provided specific information about the following topics:

- Category C Class EA process
- Public realm design process including conceptual and preliminary designs
- Site history and heritage
- Environmental site investigations, site servicing work and ongoing repairs

VPERs were launched on the Project website for each of the three EA -specific engagement events and were moved to the website's document library once the comment period closed. This meant the materials continued to be accessible throughout the Project; however, the opportunity to provide formal comments was no longer available. Presentation materials from the live virtual events and workshop summary reports are included in the document library.

Additional relevant information available in the document library included the draft Heritage Impact Assessment for public comment, the Ontario Place Strategic Conservation Plan, and the Category B Site Servicing C&D Report (IO 2022).

6.2.4.3 Engagement Event 1

In April 2022, the first EA-specific public engagement event was held to seek input, ideas, and preferences related to the public realm spaces at Ontario Place. The event consisted of two opportunities for public input, including a VPER and a live virtual public realm design visioning

workshop. The event was advertised through emails to the Project Master Contact List, on the Project website, via LinkedIn and Twitter, and in newspaper publications (Toronto Star, L'Express) (Appendix A-2).

The VPER was launched on April 12, 2022, at engageontarioplace.ca and consisted of eight virtual stations providing a general project introduction, an overview of the Class EA process, and an overview of current site conditions, opportunities, and constraints. The user had the option of visiting each station for detailed information and for the opportunity to provide feedback through comment forms. The comment period extended from April 12, 2022, until May 11, 2022.

The live virtual public realm design visioning workshop was held for two hours on April 12, 2022. This visioning session gave pre-registered participants an opportunity to learn about, and share ideas regarding, the public realm spaces at Ontario Place and the design process. Participants were divided into facilitated breakout groups and asked a series of questions designed to elicit feedback on what is most valued at Ontario Place and what ideas and concerns they have for the future public space. Participants provided feedback either verbally or through the chat function.

6.2.4.4 Engagement Event 2

Engagement Event 2 consisted of a live virtual engagement event and 'VPER 2.0'. The purpose of this event was to consult on the draft EA evaluation criteria and the public realm design concepts.

The VPER 2.0 launched on October 25, 2022, at engageontarioplace.ca/virtual/. An email was sent out to the Project Master Contact List and the same day, a post was published on IO's LinkedIn page and Twitter account to inform stakeholders, Indigenous communities, and the public that the VPER was live and feedback could be submitted. This platform provided an overview of the Ontario Place redevelopment vision and the Class EA and design process. It also shared key project information and gathered feedback on the draft EA evaluation criteria and the public realm design concepts. The VPER consisted of eight virtual stations, with comment forms linked to three of the stations. The comment period extended from October 25, 2022, until November 18, 2022; however, comments submitted up to November 21, 2022 were accepted.

On October 27, 2022, a live virtual engagement event was held for 2 hours over Zoom. An email was sent out to the project Master Contact List and on October 6, 2022, a post was published on IO's LinkedIn page and Twitter account to inform Indigenous communities, stakeholders, and the public of the upcoming event and provide a registration link. Posts were also published on MOI's LinkedIn page and Twitter feed to advertise the live event on October 6, 2022, and October 25, 2022. The goal of the session was to provide participants with an overview and updates on the government-led component of the Ontario Place redevelopment and to share ideas and facilitate feedback on the public realm design concepts. An overview of the redevelopment project and context on the government-led works and the integrated EA and design process was provided. This was followed by the design concepts workshop that consisted of three breakout sessions to facilitate feedback on the design concepts for each of the five zones.

6.2.4.5 Engagement Event 3

Engagement Event 3 consisted of a live virtual engagement event and a 'VPER 3.0'. The purpose of this event was to consult on the recommended design for the public realm in order to refine the design and confirm a preferred design.

The VPER 3.0 launched on April 27, 2023, at engageontarioplace.ca/virtual/. An email was sent out to the Project Master Contact List and the same day, a post was published on IO's LinkedIn page and Twitter account to inform stakeholders, Indigenous communities and the public that the VPER was live, and feedback could be submitted. This platform provided an overview of the Ontario Place redevelopment vision and of the Class EA and design process. It also explained the design concept evaluation process that was undertaken and provided a summary of the evaluations of the design concepts. The platform requested feedback on the recommended design for each zone and on the overall design with all the zones pulled together. The VPER consisted of five virtual stations, with comment forms linked to two of the stations. The comment period extended from April 27, 2023 to May 19, 2023.

On April 27, 2023, a live virtual engagement event was held for 2 hours over Zoom. An email was sent out to the project Master Contact List and a post was published on IO's LinkedIn page and Twitter account to inform Indigenous communities, stakeholders, and the public of the upcoming event and provide a registration link. Posts were also published on MOI's LinkedIn page and Twitter feed to advertise the live event. The goal of the session was to provide participants with an overview and updates on the government-led component of the Ontario Place redevelopment and to share the recommended design for the public realm and to facilitate feedback on the design. A short overview of the redevelopment project, government-led work, the integrated EA and design process, and the process undertaken to evaluate the design concepts was provided. This was followed by a presentation of the results of the evaluation of the design concepts for each zone, as well as conceptual renderings of the recommended design for each zone. The overall recommended design for the public realm was shown after going through all the zones. Participants were then separated into breakout groups, and a facilitator and notetaker collected participant feedback on the recommended design. Participants were advised that the designs presented during the event were "recommended" by the EA process and would be refined based on comments received during the event, as applicable, to confirm a preferred design for the public realm.

6.2.4.6 Additional Engagement

Before the EA commenced, the Government of Ontario carried out additional public engagement activities to introduce the overall Ontario Place redevelopment and provide an opportunity for general questions and answers. These activities included:

- An online survey held from August to October of 2021
- Two public information sessions held on October 13 and 17, 2021
- A technical information session held by IO on December 14, 2021

The online survey was used to collect feedback on how participants saw themselves using a modern and revitalized Ontario Place and what features were important to them. Feedback from the survey helped the Project Team understand what is important to the people of Ontario in redeveloping the site.

At the October live virtual public information sessions, participants asked questions and shared their thoughts on a range of themes, including access to open space, environmental and heritage impacts, affordability, and public engagement.

At the December live virtual technical information session, participants learned more about the site preparation, technical process, and public consultation opportunities for the Ontario Place redevelopment project. There was also an opportunity for participants to ask questions of the Project Team. Participants were able to provide input through built-in polling features, a chat feature, and a questions and answers period. During this session, information was also collected regarding the public's consultation preferences. Most respondents indicated they preferred digital consultation and participation, and they preferred information sharing to occur via a Project website.

An additional engagement event (outside of this Class EA process) is also planned for fall 2023 and is intended to provide updates on project progress.

6.3 Consultation Summary

Public, stakeholder, and Indigenous community feedback and comments were received throughout the EA consultation process. Appendix A-3 includes the applicable comments that were received.

6.3.1 Indigenous Community Feedback

Indigenous voices from a variety of First Nations and Indigenous organizations have been heard throughout the Ontario Place public realm design and environmental assessment process. These voices are diverse in cultures; lived experiences; Traditional Knowledge, education, and interests; all bringing unique perspectives to the project. Nevertheless, unanimous among all participants was the value held by Ontario Place in its prime location along the lakefront, and the connections to land and nature that it so readily offers. Following are some of the suggestions put forth during the engagement sessions for consideration in the public realm design:

- Use native trees and plant species as the basis for the planting palette.
- Work with, not against, nature, such as creating a wetland in a pre-existing flood land.
- Use plants or mollusks to filter out toxins in water (such as water lilies).
- Incorporate native planting with Indigenous significance.
- Replace impervious surfaces with pervious material wherever possible.
- Increase greenspace and creating more habitat for wildlife.

- Create spaces that could be used for one or a combination of Indigenous gatherings, ceremonies, or events.
- Provide accessible multi-modal pathways.
- Leave space for the natural world.
- Provide linguistic diversity; including Indigenous languages.
- Include Wampum Belt teachings and symbolism.
- Provide opportunities for storytelling (creation stories, connections to the land, Traditional Knowledge, and teachings).
- Provide interpretive signage on topics such as traditional practices, history, and culture.
- Celebrate Indigenous motifs or languages (or both) in design elements.

Recommendations were also shared on how some of these elements could be incorporated into the public realm design of Ontario Place. For example, a monumental native rock was suggested to be placed at the Gateway bridge as a contemporary Rosetta Stone, that could be inscribed with words of welcome in different Indigenous languages. It was also suggested that the Marina Bridge could become a "Welcome Bridge," representing the "bridging" of cultures, people, and nature. Education and the environment could also be incorporated throughout the site in the form of self-guided interpretive walking tours.

Indigenous communities provided the following days of significance to be considered for public realm Indigenous education and programming onsite:

- January: Haudenosaunee Midwinter Ceremony
- March 22: World Water Day
- May 5: Red Dress Day
- June: National Indigenous History Month
- June 21: National Indigenous Peoples Day (summer solstice)
- September 30: National Day for Truth and Reconciliation (Orange Shirt Day)
- November: Indigenous Education Month
- November (first week): Treaties Recognition Week
- November 7: International Inuit Day
- November 8: National Aboriginal Veterans Day
- November 16: Louis Riel Day (Ontario)
- December 21: Winter Solstice

A range of other ceremonies, events and opportunities were also suggested by Indigenous communities and organizations for programming of the public realm spaces at Ontario Place. These ideas for programming and design are being used by the design team to identify potential Placekeeping nodes (that is, physical elements or programming locations that have a potential

to be gathering spaces and destination areas) to include in the public realm design. The consideration of how to incorporate specific design and programming suggestions and the confirmation of Placekeeping opportunities are beyond conceptual design, and are therefore outside the scope of the EA. These ideas will continue to be explored after the EA process as part of the detail design phase of the public realm design.

High-level suggestions were used in the development of the design concepts for the public realm; these include increase greenspace and create more habitat for wildlife, replace impervious surfaces with pervious material, and create spaces that could be used for gatherings or events.

These design concepts were then shared with Indigenous communities and organizations. Feedback was collected concerning likes, dislikes, missing elements, and recommendations. Table 6-2 summarizes key feedback received from Indigenous communities on Design Concepts A and B for each zone.

Table 6-2. Key Feedback from Indigenous Communities on the Design Concepts

Topic (Zone)	Comment Summary	How it was Incorporated
Zone 1: Water's Edge	General preference for Concept B. Preference for more natural and green design with increased wildlife habitat.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 1: Water's Edge	Concept B provides more areas where flowers, sweetgrass and other plants can be grown including potential space to grow cedars (that can hold the earth and improve conditions to prevent flooding and erosion).	Considered in the refinement of the design and in identifying a preferred design. Will also be further considered during detailed design.
Zone 1: Water's Edge	The south shore steps in Concept A are not accessible for all ages and abilities.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 1: Water's Edge	The [south shore] steps provide a great place to sit and interact with or appreciate the water.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 1: Water's Edge	A combination of both options was proposed.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 1: Water's Edge	The stones in Concept A are too contrived, and do not look natural.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 1: Water's Edge	Ensure the design withstands erosion from the lake.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 1: Water's Edge	Concerns of public access to shoreline and prevention of littering, garbage buildup and responsible usage of that access.	Considered in identifying the recommended design and confirming a preferred design for the public realm. Is also a future consideration for detailed design (operations and maintenance).
Zone 2: The Marina	Preference for Concept A because of the greater amount of green space and gathering areas.	Considered in identifying the recommended design and confirming a preferred design for the public realm.

Topic (Zone)	Comment Summary	How it was Incorporated
Zone 2: The Marina	Commercial uses are not a priority.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 2: The Marina	Public picnic places, open air parks and shaded areas were of great interest to communities favouring a more family friendly design.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 3: Brigantine Cove	General preference for Concept B because of the greater amount of green space for wildlife.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 3: Brigantine Cove	The wetland islands promote caring for the land and its species.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 3: Brigantine Cove	The division and separation of spaces in Concept A were not favoured by some but appealed to others.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 3: Brigantine Cove	Suggestion to find an Indigenous artist to model the boardwalk after a woodland animal or floral design.	Will be further considered in detailed design.
Zone 3: Brigantine Cove	The layout of Concept B is more powerful symbolically.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 3: Brigantine Cove	The boardwalk may be a detriment for the surrounding wildlife. The boardwalk will also introduce other issues such as invasive species and litter.	Considered in identifying the recommended design and confirming a preferred design for the public realm. The boardwalk was moved to shoreline to limit disturbance to aquatic habitat. Naturalized shoreline will also be maintained.
Zone 4: The Mainland	General preference for Concept B because of its incorporation of wetlands and its greater amount of greenery.	Considered in identifying the recommended design and confirming a preferred design for the public realm.

Topic (Zone)	Comment Summary	How it was Incorporated
Zone 4: The Mainland	Preference for the ecological benefits of the wetlands in Concept B compared to the beach in Concept A.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 4: The Mainland	Concept B depicts a more natural, flowing design.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 4: The Mainland	The wetland in Concept B may not have the ability to withstand the heavy foot traffic anticipated at the central gateway.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 4: The Mainland	Suggest removing the boardwalk crossing the wetland to prevent wildlife disturbance and disruption to the delicate ecosystem.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 4: The Mainland	Exploration of permeable pavers for stormwater mitigation would be preferred.	Considered in identifying the recommended design and confirming a preferred design for the public realm. Will be further considered during detailed design.
Zone 4: The Mainland	Introduction of pollinator gardens to roofs or other areas can be explored.	Will be further considered during detailed design.
Zone 5: The Forum	Some preference for Concept A because of the flexibility of the space and some preference for a combination of the two concepts.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 5: The Forum	Favoured elements of Concept A were the water feature and versatility for all-seasons.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 5: The Forum	Favoured elements from Concept B included the different sport activity zones.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 5: The Forum	Suggestion to scatter small activity zones throughout the site instead of having them concentrated in this zone.	Considered in identifying the recommended design and confirming a preferred design for the public realm.

Topic (Zone)	Comment Summary	How it was Incorporated
Zone 5: The Forum	Make the activity zones and lawns equitable for all sports and genders.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 5: The Forum	Suggestion to add a few of the sport activity zones to Concept A.	Considered in identifying the recommended design and confirming a preferred design for the public realm.
Zone 5: The Forum	In favour of the more naturalized design.	Considered in identifying the recommended design and confirming a preferred design for the public realm.

Indigenous communities were also given the opportunity to review the draft EA evaluation criteria and provide feedback or suggestions to improve the evaluation of potential opportunities to consider Indigenous design ideas and principles.

Once the evaluation criteria were used to evaluate the design concepts and identify a recommended design for the public realm, Indigenous communities were given the opportunity to review and provide feedback on the recommended design. Table 6-3 summarizes the Feedback that was received, which was used to refine the design and identify a preferred design for the public realm.

Table 6-3. Indigenous Community Feedback on the Recommended Design

Topic (Zone)	Comment Summary	How it was Incorporated
Zone 1: Water's Edge	Safety signage along the walkways and boardwalks around the edge of the water is important.	Will be considered during detailed design.
Zone 1: Water's Edge	Incorporate cameras for safety.	Will be considered during detailed design.
Zone 1: Water's Edge	Concerns about the amount of space trees will have within the stone terrace and whether or not it will be enough for them to grow and thrive.	Will be considered during detailed design.
Zone 1: Water's Edge	Concerns about the impact on water quality and aquatic habitat.	Will be considered in developing mitigation measures and monitoring plans.
Zone 1: Water's Edge	Suggestion to explore ways to reuse some of the materials to create shellfish habitats further away from the shoreline in an effort to improve water quality in a specific area (designated swimming area).	Will be considered during detailed design.
Zone 2: The Marina	Incorporate cameras for safety.	Will be considered during detailed design.
Zone 2: The Marina	Clarity needed for the expectation of the Cultural Pavilion.	Will be considered during detailed design.
Zone 2: The Marina	Design pathways that are accessible and are suitable for the visually impaired. Bikes and scooters should have their own dedicated path.	Will be considered during detailed design.
Zone 2: The Marina	Represent different cultures, ethnicity, and food.	Will be considered during detailed design.
Zone 3: Brigantine Cove	Safety signage along the walkways and boardwalks around the edge of the water is important.	Will be considered during detailed design.
Zone 3: Brigantine Cove	Incorporate cameras for safety.	Will be considered during detailed design.
Zone 3: Brigantine Cove	Concerns about the impact that the boat launch may have on the wildlife habitat in the Brigantine Cove.	Will be considered in developing mitigation measures and monitoring plans.

Topic (Zone)	Comment Summary	How it was Incorporated
Zone 3: Brigantine Cove	Invasive species concerns.	Will be considered in developing mitigation measures and monitoring plans.
Zone 3: Brigantine Cove	Concerns about maintenance, operations, and governance.	Will be considered during detailed design.
Zone 3: Brigantine Cove	Concerns about the impact of the beach on wildlife and wildlife habitat.	Will be considered in developing mitigation measures and monitoring plans.
Zone 3: Brigantine Cove	Support for water access, however, the priority is the function of space and wildlife's involvement.	Considered in refining the design and confirming a preferred design.
Zone 3: Brigantine Cove	Approval of removing the boardwalk from the middle of Brigantine Cove.	Considered in refining the design and confirming a preferred design.
Zone 3: Brigantine Cove	Concern about the effect the fountains may have on wildlife and aquatic species.	Will be considered in developing mitigation measures and monitoring plans. Fountain type/design will be considered during detailed design.
Zone 3: Brigantine Cove	Approval of the new waterway opening to Brigantine Cove.	Considered in refining the design and confirming a preferred design.
Zone 3: Brigantine Cove	Concerns about the impact that the new waterway opening may have on aquatic habitat.	Will be considered in developing mitigation measures and monitoring plans.
Zone 3: Brigantine Cove	Explore historical native plantings	Will be considered during detailed design.
Zone 4: The Mainland	Incorporate cameras for safety.	Will be considered during detailed design.
Zone 4: The Mainland	Improve connections and entrances to Ontario Place.	Will be considered in developing mitigation measures and monitoring plans.

Topic (Zone)	Comment Summary	How it was Incorporated
Zone 4: The Mainland	Concerns about impervious pavement and run-off into the lakes.	Considered in refining the design and confirming a preferred design. The preferred design includes minimizing impervious surfaces and incorporating bioswales for stormwater management.
Zone 4: The Mainland	Concerns about light pollution around the parking areas.	Will be considered in developing mitigation measures and monitoring plans. Amount and style of lighting will be considered during detailed design.
Zone 4: The Mainland	Incorporate learning opportunities about the night sky and constellations and their connection to the legends.	Will be considered during detailed design.
Zone 5: The Forum	How will event spaces be accessed/managed?	Will be considered during detailed design.
Zone 5: The Forum	Incorporate cameras for safety.	Will be considered during detailed design.
Zone 5: The Forum	Suggestion to incorporate gardens in moveable planters.	Will be considered during detailed design.
Zone 5: The Forum	Divots or mounding could be explored in the design of the fountain.	Will be considered during detailed design.
Zone 5: The Forum	Suggestion to create an artificial pond where the head of the Serpent could be on the mounding to keep the water level consistent.	Will be considered during detailed design.

6.3.2 Technical Group Feedback

Members from the parties who participated in the Technical Group provided feedback on the draft evaluation criteria that was used to evaluate the conceptual designs, facilitating the identified recommended solution. The City of Toronto, Ontario Place Corporation and Toronto Transit Commission provided comments via email that were then considered in revising the evaluation criteria table where applicable. During the April 2023 meeting, feedback was also provided on the recommended design for the public realm, contributing to the confirmation of a preferred design and for further consideration during detailed design. Ontario Place Corporation, as well as Waterfront Toronto provided additional comments via email. Ontario Place Corporation provided comments regarding operations and maintenance of the site. Waterfront Toronto provided feedback on the design for each zone and asked for clarification on various elements of the design. The comments that were received and corresponding Project team responses are provided in Appendix A-4.

6.3.3 TRCA Feedback

The TRCA provided a response to the Notice of Commencement outlining their commenting roles as a recognized commenting agency under the *EA Act*. The response also detailed the TRCA's areas of interest, including:

- Natural systems programs and policies
  - Systems approach
  - Aquatic systems, species and habitat
  - Terrestrial systems, species, and habitat
- Groundwater systems' programs and policies
  - Aquifers and hydrological features and functions
- Surface water systems' programs and policies
  - Lake Ontario shoreline
  - Stormwater management, including green infrastructure
- Sustainability programs and policies
  - Climate change
  - Sustainable infrastructure & buildings
  - Sustainable communities

The TRCA's response also requested that impacts to, and opportunities for, the following be addressed through the EA and in the preferred public realm design:

- Flooding, erosion, or slope instability
- Existing landforms, features, and functions
- Aquatic and terrestrial habitat and functions, including connectivity
- TRCA property and heritage resources
- Environmental best management practices that support climate change mitigation and adaptation
- Community and public realm benefits

Throughout the EA process, the TRCA provided feedback on the draft evaluation criteria and on the preliminary results of the EA evaluation for each zone as it pertains to their areas of interest (Appendix A-4). The TRCA will review the draft ESR during the 60-day comment period. The TRCA also provided suggestions and input on the technical feasibility of shoreline works through the design. Table 6-5 summarizes the meetings held with the TRCA and key feedback that was shared. Appendix A-4 includes the additional comments received from the TRCA via email and the corresponding Project team responses.

Table 6-4. TRCA Meetings Summary

Meeting Number	Date	Meeting Topics	Key Feedback	How it Was Incorporated
1	June 14, 2022	Project and project team Introduction	▪ Shoreline restoration onsite is of high importance.	Considered in the development of design concepts and draft evaluation criteria.
2	August 17, 2022	Development of public realm design concepts and design ideas	▪ Connecting inner lagoons to the rest of the lake may: - Introduce an invasive species risk - Cause dilution - Result in a change in biology - Create a warm-water and cold-water habitat conflict. ▪ Internal water lagoons around the islands are warm to cool water fisheries, which are valuable along the Toronto waterfront. ▪ All shorelines around the site have an opportunity to be green.	Considered in the development of design concepts and draft evaluation criteria.
3	July 19, 2022	Updated public realm design concepts and draft evaluation criteria	▪ Stormwater management and Flooding Management should be separate rows in the evaluation criteria. ▪ Consider habitat restoration and shoreline works across the site. ▪ Explore ways of addressing areas of stagnate water and poor water quality.	Considered in the refinement of the evaluation criteria and design concepts.

Meeting Number	Date	Meeting Topics	Key Feedback	How it Was Incorporated
4	September 19, 2022	Coastal Hazard Assessment Report (ShorePlan)	▪ There is opportunity for habitat restoration and creation around the shorelines.	Considered in the refinement of the evaluation criteria and design concepts.
5	November 30, 2022	Public realm design development	▪ Floating wetlands may not be beneficial or feasible in Brigantine Cove and have maintenance costs.	Considered in the evaluation of the design concepts.
6	January 31, 2022	Preliminary evaluation results and preliminary preferred design(s)	▪ Floating wetlands do not generally provide aquatic habitat because aquatic species prefer planting that is attached to the waterbed or shoreline. Attached wetlands also have a lower maintenance cost. ▪ Extra monitoring steps are required to keep contamination out of the water when constructing the underground parking. ▪ Parking entrances should be above the 100-year flood hazard level.	Considered in the refinement of the evaluation and selection of a preferred design and in the development of mitigation measures.
7	March 29, 2023	Recommended Design	Ensure appropriate setbacks from coastal hazards.	To be further investigated and determined during detailed design.

6.3.4 Additional Stakeholder Feedback

- Key themes relevant to the public realm from the November 2022 roundtable discussions included:
- Access and parking: participants pointed to current barriers to vehicle access along Lakeshore Boulevard, which prevent out-of-town visitors from easily attending events and programming at Ontario Place, and reiterated the need for congestion relief, transportation options, and a parking solution.
- Opportunities for collaboration: participants were actively interested in future opportunities for arts, cultural and community-led programming opportunities at Ontario Place.

Access and parking feedback was considered as the design was developed and in the selection of a recommended and then preferred parking alternative. Programming opportunities will be further considered during detailed design.

- Key themes that emerged during the February 2023 roundtables included:
- Site and water access during construction
- Anticipated environmental impacts of the Ontario Place redevelopment
- Future plans for the Pod complex
- Future use of public realm space for paid programming

Because the meetings held with Ontario Place for All, Architectural Conservatory of Ontario, SwimOP, and the resident and neighbourhood associations included discussions on the entire Ontario Place redevelopment (not just the public realm) most feedback received pertains to the tenant developments and therefore does not apply to this EA. Additional concerns raised, such as construction timelines and impacts to site access, will be determined during detail design and before construction.

During the July 2022 Waterfront Toronto-City of Toronto design review panel, the following high-level feedback was provided:

It is recommended to provide generous, robust, and continuous public access through the site and along the water's edge.

- Provide the following to ensure a successful public realm:
  - Support programs such as cafes, kiosks, bathrooms
  - Biodiversity in the landscape design
  - Solar, wind, rain protection to support year-round use
  - Clear and robust servicing strategy for retail and event programs that does not interfere with public circulation

- Maximize soft landscaping and continue the success of Trillium Park.
- Consider opportunities to swim.

The design team incorporated this feedback into their approach as design concepts were developed and as the public realm design was refined. Feedback applicable to the public realm received from the March 2023 design review panel includes:

- Ensure the Forum can accommodate a range of active uses while providing the appropriate ecological framework and amenities for passive gathering and other uses.
- Provide more information on the restoration strategy of the Cinesphere, Pods, and Marina.
- Provide more information on the Marine strategy and a dock for water taxis.
- Ensure a robust connection from the future Ontario Line station to the site, maximize transit links and minimize parking.
- Pursue a sustainable long-term parking strategy.
- Consider strategies for improving the east-west connectivity between the two islands.
- Provide more information on the net loss and gain of ecological habitat throughout the development.
- Address concerns with the environmental and embodied carbon impact of the proposed underground parking garage.
- Identify strategies to reuse materials and artifacts in the new design.

Feedback also noted strong support for the overall public realm design for the East Island.

These comments will be further considered during detailed design.

Feedback received from Aquatic Habitat Toronto consisted of concerns about the floating wetland maintenance and destruction by geese. Aquatic Habitat Toronto participants were also overall accepting of the rock berm implementation (as part of site maintenance outside of this EA process) and suggested providing additional aquatic habitat to the north shore. These comments were considered as design progressed.

A summary of the meetings held with additional stakeholders is provided in Appendix A-4.

6.3.5 Engagement Event 1 Feedback

A total of 478 users visited the VPER's virtual stations and 83 comments were received through the platform. Attendees of the live event included 130 members of the general public. From the feedback received in both the live virtual event and the VPER, generally, participants were most interested in or raised concerns about the topics summarized in Table 6-5.

Table 6-5. Engagement Event 1 Comment Summary

Public Comment Summary	How it Was Incorporated
Maintain unrestricted, free, and accessible entry to the park, including the shoreline, year-round	Considered in the development of the public realm design concepts
Preserve greenspace and native trees that are already onsite and increasing native species for habitat during redevelopment	Considered in the development of the public realm design concepts and draft evaluation criteria
Protect wildlife including species at risk, migratory birds and aquatic species	Considered in the development of the public realm design concepts and draft evaluation criteria
Ensure there are pathway connections throughout Ontario Place (walkability)	Considered in the development of the public realm design concepts
Provide an 'escape' from the city	Considered in the development of the public realm design concepts
Incorporate sustainability and solutions for climate change (such as flood mitigation)	Considered in the development of the public realm design concepts and draft evaluation criteria
Limit parking lots and hardscaping	Considered in the development of the public realm design concepts
Focus on aesthetics – increase nature, and limit buildings and concrete	Considered in the development of the public realm design concepts
Include recreational activities	Considered in the development of the public realm design concepts
Maintain site history and heritage conservation	Considered in the development of the public realm design concepts
Incorporate diversity (honour Indigenous culture)	Considered in the development of the public realm design concepts
Incorporate inclusion and accessibility	Considered in the development of the public realm design concepts
Incorporate cultural attractions (public art and programming)	Considered in the development of the public realm design concepts and to be further considered during detailed design
Integrate with the Marine Strategy by Waterfront Toronto	Considered in the development of the public realm design concepts

During the live virtual workshop, key themes that emerged were visually represented through an illustration drawn by a visual interpreter. Figure 6-1 is the outcome of that exercise.

Figure 6-1. Engagement Event 1 Feedback Illustration

Feedback from this event was used in the development of design alternatives (concepts) for the public realm. Summary reports were prepared for both the VPER and the live virtual workshop, following the event to document event details and the comments received (Appendix A-3). The April 12, 2022, Visioning Workshop Summary Report (Government of Ontario 2022a) is available on the Project website and in Appendix A.

6.3.6 Engagement Event 2 Feedback

The VPER 2.0 had a total of 861 distinct users, and received 694 comments. More than 240 participants attended the live event. Table 6-6 provides an overview of the comments, interests, and concerns provided by the public on the public realm design concepts, the draft evaluation criteria, and the Project in general at the live virtual event and through the VPER 2.0.

Table 6-6. Engagement Event 2 Comment Summary

Topic (Zone)	Public Comment Summary	How it was Incorporated
Zone 1: Water's Edge	Maximize natural areas	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 1: Water's Edge	Increase access to the water for swimming, kayaking, paddleboarding, and similar - safely and in areas where motorized vessels cannot be used	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 1: Water's Edge	Incorporate features, such as shaded seating and picnic opportunities, nighttime lighting, and safety features (emergency phones)	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm. To be further considered during detailed design.
Zone 1: Water's Edge	Provide access to healthy food and water refill stations	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 1: Water's Edge	Provide reasonable parking rates and bike rentals	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 1: Water's Edge	Incorporate recreational opportunities for youth (skatepark)	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 1: Water's Edge	Include accessibility accommodations	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.

Topic (Zone)	Public Comment Summary	How it was Incorporated
Zone 1: Water's Edge	Design for year-round, all-season access	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 1: Water's Edge	General preference for Concept B (Planted Piers) with some preference for Concept A (Stone Lookouts), others prefer a hybrid of both	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 2: The Marina	Provide a variety of affordable food and beverage options	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 2: The Marina	General approval of providing commercial or vendor opportunities (but reliable and affordable options; proper waste management; local vendors)	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 2: The Marina	Expand natural areas to this zone – "green" the space	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 2: The Marina	Provide rentals and storage for canoes, kayaks, bikes	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 2: The Marina	Include better wayfinding	To be further considered during detailed design.
Zone 2: The Marina	Protect swimming areas from boats, fumes, and noise from motors	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 2: The Marina	Incorporate native trees and plants	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.

Topic (Zone)	Public Comment Summary	How it was Incorporated
Zone 2: The Marina	Provide seating areas with shade during the day and lighting at night	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 2: The Marina	Incorporate sustainable practices (renewable energy)	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 2: The Marina	Incorporate Indigenous culture	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 2: The Marina	Include local art and entertainment	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm. To be further considered during detailed design.
Zone 2: The Marina	Provide water drinking fountains and washrooms	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 2: The Marina	Maximize public access	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 2: The Marina	Provide access to the water for kayaking, canoeing, sailing	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 2: The Marina	General preference for Concept A (Park Marina)	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.

Topic (Zone)	Public Comment Summary	How it was Incorporated
Zone 3: Brigantine Cove	Include accessibility accommodations	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 3: Brigantine Cove	Create wildlife habitat, wetlands and green areas with native trees and vegetation	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 3: Brigantine Cove	Increase nature, green space, tree canopy	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 3: Brigantine Cove	Provide access to the water for swimming, paddleboarding, swan boats	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 3: Brigantine Cove	Water quality, circulation and management is important	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 3: Brigantine Cove	Good location for washrooms and play area	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 3: Brigantine Cove	Incorporate wayfinding throughout the entire area	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 3: Brigantine Cove	General approval of the floating boardwalk	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.

Topic (Zone)	Public Comment Summary	How it was Incorporated
Zone 3: Brigantine Cove	Provide year-round access	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 3: Brigantine Cove	Build innovative play areas or structures (use natural materials and encourage imaginative, explorative play) for different children age groups	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 3: Brigantine Cove	Include wildlife and observation learning opportunities	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 3: Brigantine Cove	General preference for Concept B (Wetlands and Nature) and to incorporate passive recreational and children's play opportunities	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 4: The Mainland	Reduce parking lots and roads and "green" the currently paved areas – underground parking is ideal	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 4: The Mainland	Increase or improve transit options and efficiency	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 4: The Mainland	Improve cycling connections and infrastructure (including bike racks, rentals, bike share)	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 4: The Mainland	Provide recreational opportunities (e.g., beach volleyball, ball courts, soccer, softball, roller skating, skateboarding, ice skating in winter months)	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.

Topic (Zone)	Public Comment Summary	How it was Incorporated
Zone 4: The Mainland	Widen walkways and improve walking connections from Exhibition Place	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 4: The Mainland	Include benches, shaded seating, and picnic opportunities	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 4: The Mainland	Prioritize accessibility	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 4: The Mainland	Entry points into the water for swimming, kayaks, paddleboards, non-motorized watercrafts, etc.	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 4: The Mainland	Include winter programming and features (e.g., warming stations)	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm. To be further considered during detailed design.
Zone 4: The Mainland	Incorporate sustainable design and renewable energy	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 4: The Mainland	Slight preference for Option B (Green Gateway) but also many favouring Option A (Urban & Active) and possibly a combination of both options	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 5: The Forum	Incorporate recreational opportunities for all ages (skateboarding, roller skating), abilities, and genders	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.

Topic (Zone)	Public Comment Summary	How it was Incorporated
Zone 5: The Forum	Amenities are needed near recreational area (washroom, changerooms, food and beverage, seating areas)	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 5: The Forum	General approval of the skating rink or track idea	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 5: The Forum	Reduce paving	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 5: The Forum	Increase green and natural areas surrounding the zone	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 5: The Forum	Provide a flexible space that a range of people can use, including community events, programming, art, entertainment, etc.	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 5: The Forum	Design for a combination of sports and leisure opportunities	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 5: The Forum	Consider year-round and seasonal activities	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Zone 5: The Forum	Include educational opportunities	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.

Topic (Zone)	Public Comment Summary	How it was Incorporated
Zone 5: The Forum	General preference for Concept B (Sports and Recreation Hub) but some comments include ideas for hybrid	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Draft Evaluation Criteria	Incorporate sustainable technologies and innovation	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Draft Evaluation Criteria	Protect and enhance accessible space	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
Draft Evaluation Criteria	Incorporate Indigenous perspectives	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
General	Provide support for open, public spaces rather than private, fee-based use	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
General	Increase naturalized area and reduce paving	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
General	Continue current usages of Ontario Place in the new vision	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
General	Include a combination of naturalized space and recreational opportunities	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.

Topic (Zone)	Public Comment Summary	How it was Incorporated
General	Reduce surface parking and increase transit efficiency	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.
General	Design for all ages and all abilities	Considered in the refinement of the EA evaluation criteria and in identifying a recommended and then preferred design for the public realm.

A large number of additional comments were provided addressing tenant-led developments. The *EA Act* governs public sector developments (government-led) and provides requirements for the EA process. Thus, private sector (tenant) developments are not subject to the EA. Because tenant-led developments are not within the scope of the EA and public realm design process, they were not considered by the EA and public realm design team; however, these comments were shared with the applicable proponent for their consideration.

Feedback from this event was used to refine the EA evaluation criteria and to develop the preferred preliminary design for the public realm. Appendix A-3 provides event summary reports that include the comments received from the VPER 2.0 and a summary of feedback from the live event. The October 27, 2022, Design Concepts Workshop Summary Report (Bespoke 2022) is also available on the Project website.

6.3.7 Engagement Event 3 Feedback

A total of 265 participants attended the third live virtual event. A total of 238 comments were provided through the VPER 3.0. Table 6-7 provides an overview of the likes, concerns, and suggestions given by participants on the recommended design for the public realm at the live virtual event and through the VPER 3.0.

Table 6-7. Engagement Event 3 Comment Summary

Topic (Zone)	Public Comment Summary	How it was Incorporated
Zone 1: Water's Edge	General approval of access to the shoreline and having stone steps/seating along the waterfront.	Used to confirm the preferred design for the public realm.
Zone 1: Water's Edge	Incorporate more green plantings.	Increased vegetation has been incorporated throughout the various zones in the preferred design. This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.
Zone 1: Water's Edge	Strong response to increase native plants and mature trees, especially near the shoreline.	This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.
Zone 1: Water's Edge	Reduce the use of concrete and consider other environmentally friendly materials.	Stone type and look will be worked on in detailed in design. Wave action and erosion of the shoreline needs to be mitigated in this area. Large stones provided this protection while increasing publicly useable space.
Zone 1: Water's Edge	Concern for the safety associated with the stone seating and steps. Concerns include slipping hazards due to water in the warmer months and ice in the winter months.	This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design. Safety features, such as railings, will be included during detailed design.

Topic (Zone)	Public Comment Summary	How it was Incorporated
Zone 1: Water's Edge	Concern for accessibility related to the stone seating and steps.	Section 5 provides more details on the preferred design however this is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The stone lookouts are being further investigated in regard to safety and accessibility. Accessible pathways will be provided in this zone however all stone levels cannot be made fully accessible to all.
Zone 1: Water's Edge	Improve water quality and include space for swimming.	Due to wave action, this area is not safe for swimming. There is limited space to accommodate a beach on the East Island that is suitable for swimming. For Ontario Place as a whole, a large publicly accessible beach is proposed for the West Island that can be used for swimming.
Zone 1: Water's Edge	Concern for garbage with people near the water's edge.	This is conceptual design (approximately 30%) and the specifics will be developed during detailed design.
Zone 2: Marina	General approval of space for new vendors – should focus on small and local businesses.	Used to confirm the preferred design for the public realm.
Zone 2: Marina	Provide public access to the Marina docks with the ability to canoe or kayak off the docks.	This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design. The Marina is publicly accessible for people walking, sitting, and allows boats to dock.
Zone 2: Marina	Overall positive response to the addition of retail and commercial space.	Used to confirm the preferred design for the public realm.

Topic (Zone)	Public Comment Summary	How it was Incorporated
Zone 2: Marina	Do not allow chain restaurants within the retail spaces.	This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.
Zone 2: Marina	Positive reception for nighttime features, particularly the integrated strip lighting Ensure light pollution is considered in the design, particularly with the iconic lighting design element.	This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.
Zone 2: Marina	Consider in-water planting to benefit water quality and minimize wave action.	This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.
Zone 3: Brigantine Cove	Positive reception of the connected water space that allows for in-water recreation. General agreement to prohibit the area from motorboats.	Used to confirm the preferred design for the public realm.
Zone 3: Brigantine Cove	Include native plants along the water's edge and create habitat for native species.	This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.
Zone 3: Brigantine Cove	Reconsider floating boardwalks	The TRCA and Indigenous communities were not in favour of the floating boardwalks as it takes up a lot of space in the water and may disrupt aquatic habitat. Floating boardwalks would also limit canoeing and kayaking in Brigantine Cove.

Topic (Zone)	Public Comment Summary	How it was Incorporated
Zone 3: Brigantine Cove	Concern that the beach area is too small and may become overcrowded.	There is limited space to accommodate a beach on the East Island. For Ontario Place as a whole, a large publicly accessible beach is proposed for the West Island that would be more suitable to accommodate the overcrowding suggested.
Zone 3: Brigantine Cove	Ensure engaging outdoor play for children.	Outdoor children's play is included in the preferred design. This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.
Zone 3: Brigantine Cove	Consider the opportunity for skating. Provide skate rentals in the winter, and in-water recreation rentals in the summer.	The hockey rink was removed due to logistics and operating and maintenance costs. Consideration could be given for a temporary skating area during a specific event.
Zone 3: Brigantine Cove	Concern for the placement of fountains within the cove. Ensure placement facilitates water traffic for recreational use and water taxis. Ensure spray from the fountains doesn't impede in-water recreational use.	This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.
Zone 4: The Mainland	Safety and seasonal concerns with floating boardwalk.	This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.
Zone 4: The Mainland	Feasibility concerns of shipping containers operating as commercial space in winter.	This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.

Topic (Zone)	Public Comment Summary	How it was Incorporated
Zone 4: The Mainland	Prioritize walking, cycling, affordable public transportation over parking. Make visiting the park via the former options more favourable than by car.	The preferred design includes a transit hub, and improved connections to GO line. This is detailed in Section 5 and will be further developed in detailed design. Cycling and pedestrian connections to and throughout the site are also improved.
Zone 4: The Mainland	Include consideration for future planning of events that currently use the existing parking lot as event space. Examples include fundraisers, marathons, triathlons, and other races.	The preferred design for the Mainland includes plaza space that could be used for events. The Forum also includes event space.
Zone 4: The Mainland	Include EV charging and bike parking within parking plans.	Bike parking has been included in the preferred design and will be further developed during detailed design.
Zone 4: The Mainland	Include more space for patios, food courts, and retail.	This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.
Zone 4: The Mainland	Include opportunities for art installations.	This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.
Zone 4: The Mainland	Concern about increased traffic along Lakeshore Boulevard and through neighboring areas such as Parkdale.	Traffic Impact Study summary is provided in Appendix F and additional work to analyze and address traffic will be undertaken as part of the development application which is outside of the EA.

Topic (Zone)	Public Comment Summary	How it was Incorporated
Zone 4: The Mainland	Concerns about onsite traffic and parking congestion	Parking is further detailed in Section 5.4.5.1.1. The Traffic Impact Study summary is provided in Appendix F and additional work to analyze and address traffic will be undertaken as part of the development application which is outside of the EA.
Parking	Too much space has been dedicated to parking.	Section 5.4.5.1.1 provides a discussion on parking and justification for the sizing of parking lot.
Parking	Design parking to the minimum required amount rather than the projections for peak use.	Section 5.4.5.1.1 provides a discussion on parking and justification for the sizing of parking lot.
Parking	Concerns of the environmental and climate change impact of parking.	See Section 5.4.2.1 and 5.4.5.1.1 for discussion on the impact of modes of transportation and parking.
OSC	Proposed OSC structure has a significantly reduced footprint from its current building, concerns on impact to staffing and the quality of exhibitions.	Will include the pods and Cinesphere, and the evaluation of alternatives took the OSC's programming requirements into account.
OSC	Concern of the new OSC building obstructing views.	Views were taken into consideration during the evaluation of alternatives for the OSC. See Section 4.3.6.
Zone 5: The Forum	Positive reception for the woodland trails.	Used to confirm the preferred design for the public realm.
Zone 5: The Forum	Positive reception for nighttime features. Ensure light pollution is considered in the design.	Used to confirm the preferred design for the public realm. This suggestion will be carried forward for consideration in detailed design.
Zone 5: The Forum	Reconsider having the option for an ice rink over top of the fountain area back in the design.	The hockey rink was removed due to logistics and operating and maintenance costs. Consideration could be given for a temporary skating area during a specific event.

Topic (Zone)	Public Comment Summary	How it was Incorporated
Zone 5: The Forum	Include shaded seating.	This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.
Zone 5: The Forum	Include LIDs such as permeable pavement and bioswales.	Permeable pavement and bioswales are included in the preferred design, however the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.
Zone 5: The Forum	Include bike parking.	Bike parking has been included in the preferred design and will be further developed during detailed design.
Overall Design	General approval of green and naturalized spaces and multi-use public spaces.	Used to confirm the preferred design for the public realm.
Overall Design	Ensure flood protection	Flooding is addressed in the preferred design, including raising shoreline elevations. Flood mitigation is also detailed in Section 5.4.1.7.
Overall Design	Include public washroom access year-round	Washrooms are included in the preferred design. This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.

Topic (Zone)	Public Comment Summary	How it was Incorporated
Overall Design	Free access to green space is the most liked design element. There is a desire for even more park space that is simple, open, and connected to nature.	Increased vegetation has been incorporated throughout the various zones in the preferred design and the entire preferred design is publicly accessible area. This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.
Overall Design	Children's play space is a well-liked design element.	Used in confirming a preferred design.
Overall Design	Desire for recreational elements such as tennis, skating, communal games, and kayak rentals.	This is conceptual design (approximately 30%) and the specifics will be developed during detailed design. The suggestion will be carried forward for consideration during detailed design.
Overall Design	Desire for more access to swimmable beaches.	Limited suitable locations for swimming exist on the East Island. As part of the overall Ontario Place redevelopment, a publicly accessible swimming beach will be provided on the West Island.

Comments were also received that addressed tenant-led developments and the relocation of OSC to Ontario Place. During the review and synthesis of the VPER comments, these comments were screened out from being considered in this EA because they are not within the scope of the EA and public realm design process. The *Environmental Assessment Act* governs public sector developments (government-led) and provides requirements for the EA process. Thus, private sector (tenant) developments are not subject to the EA and comments related to those activities were not included in this EA process. The EA team shared comments related to the tenant developments to the applicable proponents for their consideration. Comments provided regarding the decision to relocate the OSC to Ontario Place are also outside the scope and were not considered in this EA. As permitted by the PW Class EA, this decision (known as "alternatives to") to relocate the OSC to Ontario Place was made as part of a government decision outside the EA process.

Feedback from this event was used to refine the design as applicable and confirm a preferred design for the public realm. Appendix A-3 provides event summary reports that include the applicable comments received from the VPER 3.0 and a summary of feedback from the live event.

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