EDWARDS GARDENS & TORONTO BOTANICAL GARDEN

MASTER PLAN AND MANAGEMENT PLAN - DRAFT

Attachment 1 - Draft Edwards Gardens and Toronto Botanical Garden Master Plan and Management Plan

PE26.2
Attachment 1

TORONTO BOTANICAL GARDEN

TORONTO

2018. 03. 16

FORREC

ACKNOWLEDGEMENTS

This study would not be possible without the guidance of the Project Team and the contributions of countless stakeholders who participated in the consultation process. The Edwards Gardens and Toronto Botanical Garden Master Plan and Maintenance Plan has been prepared by Scott Torrance Landscape Architect, a division of Forrec, in collaboration with W. Gary Smith Design, Lord Cultural Resources, Matrix Solutions Inc., Moriyama and Teshima Architects, Urban Forest Associates Inc., and A.W. Hooker Associated Ltd..

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City of Toronto - Heritage Preservation

Toronto Region Conservation Authority

Toronto Water

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1.0

CONTEXT

Edwards Gardens and Toronto Botanical Garden Master Plan and Management Plan builds upon a conceptual vision plan entitled Towards a New Garden: Integrated Conceptual Proposals, produced by Toronto Botanical Garden in 2015. The original vision proposed innovative strategies for expanding and improving the ravine system, parkland, Edwards Gardens and botanical garden complex, but was limited in public consultation and stakeholder input.

Toronto Botanical Garden is located within Edwards Gardens, a city park at the corner of Lawrence Avenue and Leslie Street in Toronto's North York neighbourhood. Edwards Gardens and Toronto Botanical Garden share a maintenance strategy for the entire site, of which Edwards Gardens currently comprises approximately 14 hectares, while Toronto Botanical Garden manages approximately 1.6 hectares, including buildings. The site is located on Wilket Creek, a tributary of the Don River West Branch.

The Master Plan and Management Plan provides a holistic long term plan that is ecologically and fiscally sustainable and elevates the Toronto Botanical Garden to the level of other globally acclaimed botanical gardens. By creating a seamless boundary between Edwards Gardens and Toronto Botanical Garden this Master Plan re-imagines the existing gardens as a major cultural attraction with innovative programs activities and events that will attract both Torontonians and tourists.

1.1 MISSION AND VISION

CITY OF TORONTO PARKS, FORESTRY & RECREATION

MISSION:

To improve the quality of life of Toronto's diverse communities by providing safe, beautiful parks, a healthy, expanding urban forest, and high quality, community focused recreational experiences.

VISION:

Toronto is a vibrant city offering safe, welcoming and well-maintained parks and trails, a sustainable and expanding urban forest, and quality recreation facilities and programs supporting diverse needs for active, healthy lifestyles and engaged communities.

TORONTO BOTANICAL GARDEN

MISSION:

Toronto Botanical Garden connects people to plants, inspiring us to live in harmony with nature.

VISION:

Toronto Botanical Garden will be renowned for its display of nature's beauty and as a dynamic hub for plant-centred learning, conservation and research.

1.2 THE STUDY AREA

The study area sits within a unique context for the city of Toronto as well as the Greater Toronto Area (GTA) region. Considered at three scales—the Region, the Watershed, and the Neighbourhood—the gardens serve a variety of users and functions.

REGION

The existing gardens provide a regional destination for Torontonians and attract users from outside the city boundaries through special programming and general displays. The proximity of the study area to major highways makes it accessible by car and a desirable option for visitors coming from the north and east.

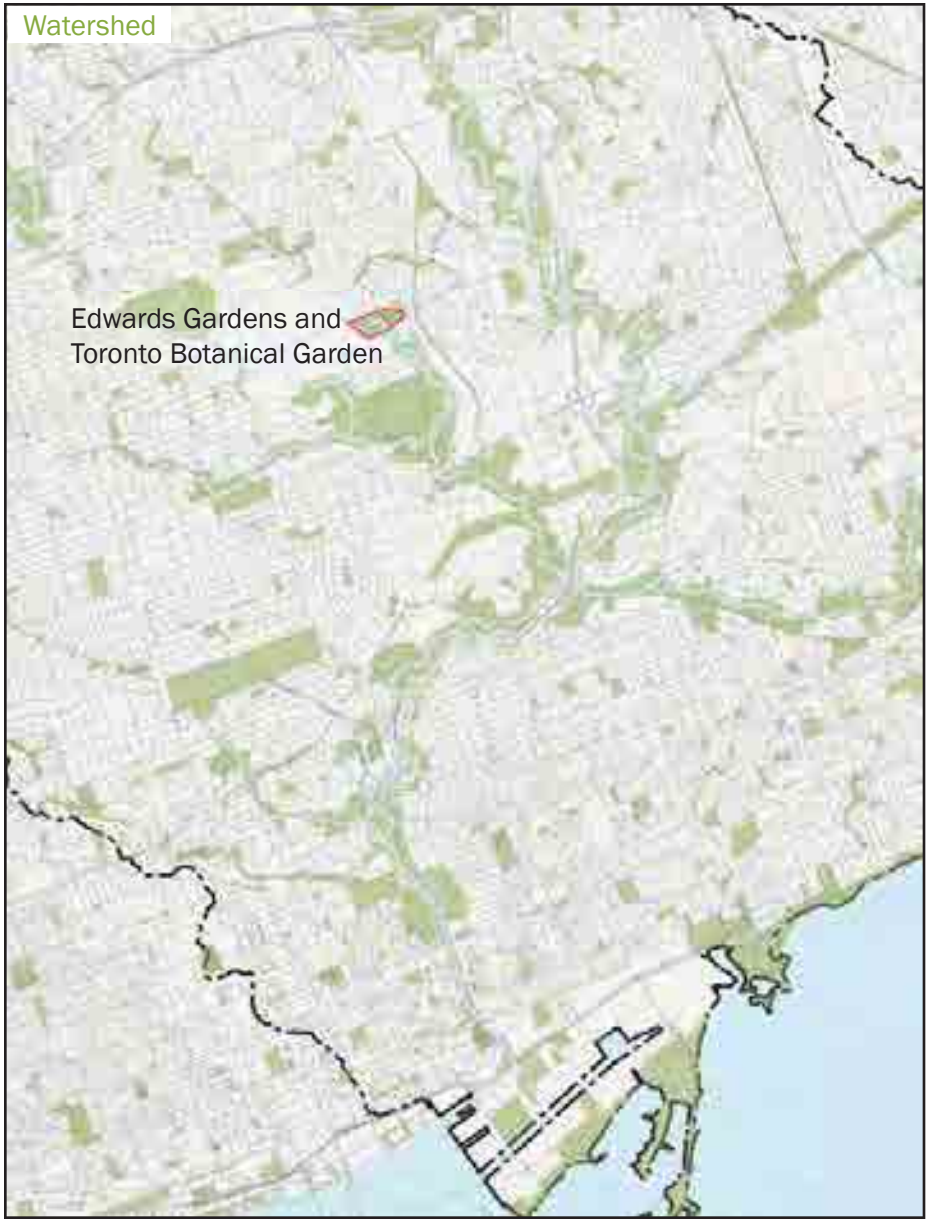
WATERSHED

Within the context of the Don Valley ravine system, the study area connects to several natural and cultural heritage destinations. A continuous, publicly accessible open space network of trails and parks links the gardens south to Lake Ontario. The ravine system provides ecological connections for flora and fauna providing opportunities for users to observe and immerse themselves in nature.

NEIGHBOURHOOD

Within the neighbourhood, the gardens bridge two iconic Toronto communities, the Bridle Path to the west and Don Mills to the east. The future Sunnybrook Park (Leslie Street) light rail transit (LRT) stop on the Eglinton Crosstown line will be within a 20 to 30 minute walk of the gardens.

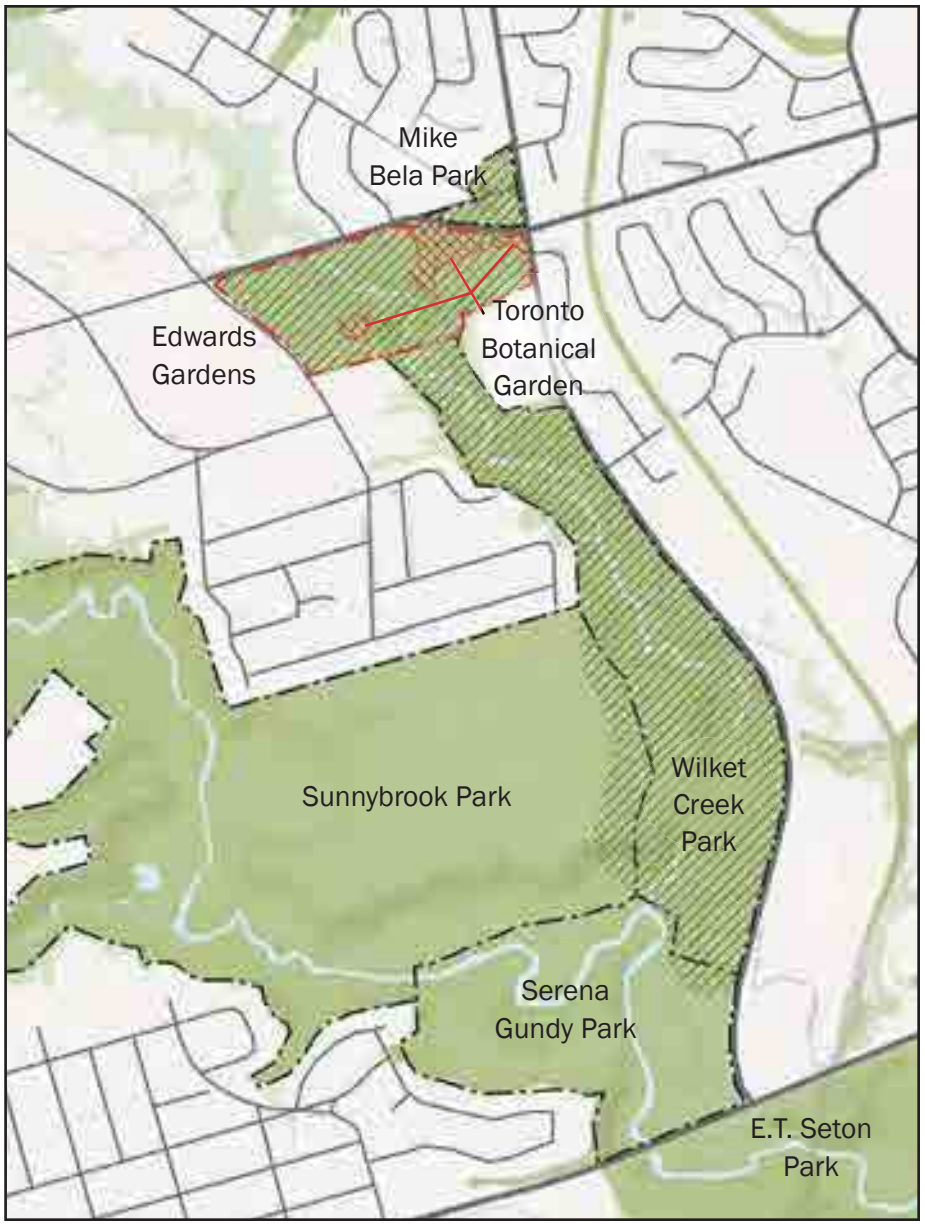
1.2 THE STUDY AREA



1.2 THE STUDY AREA

CONNECTION TO NATURE AND THE GARDENS AREA OF INFLUENCE

The gardens are directly adjacent to two City of Toronto park properties, and immediately connected to three destination parks. When traveling along the connecting pathways, there is little indication that visitors have passed between the various parks, instead they are experienced as one large continuous open space. The larger space creates an immersive experience for the user and a more pronounced connection to nature.



1.2 THE STUDY AREA

Pre-European Settlement

Post-European Settlement

Mississaugas of the New Credit First Nation

1829 Alexander Milne purchases property from Crown Lands Office (Lot 5, 3rd Concession, east of Yonge) and constructs mill on Wilket (Milne) Creek.

1944 Rupert Edwards purchases 26-acre (10.5ha) portion of original Milne property on Wilket Creek, renaming it Springbrook Farm.

1960 Metro Parks purchases several parcels of land including the property to the east of the greenhouses (part of the H.A.W. Paxton estate and lands owned by the Toronto Suburban Separate School Board).

1963 The Civic Garden Centre becomes a registered not-for-profit corporation.

1964 The Civic Garden Centre building opens, designed by Raymond Moriyama.

2003 The Civic Garden Centre is relaunched as the Toronto Botanical Garden.

2005 The George and Kathy Dembroski Centre for Horticulture opens.

2006 4 acres (1.6ha) of contemproary themed gardens open at Toronto Botanical Garden.

Wendat

Iroquois

1832 Milne constructs new mill east on Don River, relocating wool and saw mill business from Wilket Creek site. The Wilket Creek property remained in the Milne family until 1920.

1955 Rupert Edwards sells Springbrook Farm to the City of Toronto to be used as public park in perpetuity.

1958 The Civic Garden Centre forms as an offshoot of the Toronto Garden Club

1959 Metro Toronto acquires Milne Cemetary from Gordon Milne for $1 and an agreement to maintain the site in perpetuity

1976 The expansion and renovation of the Civic Garden Centre opens.

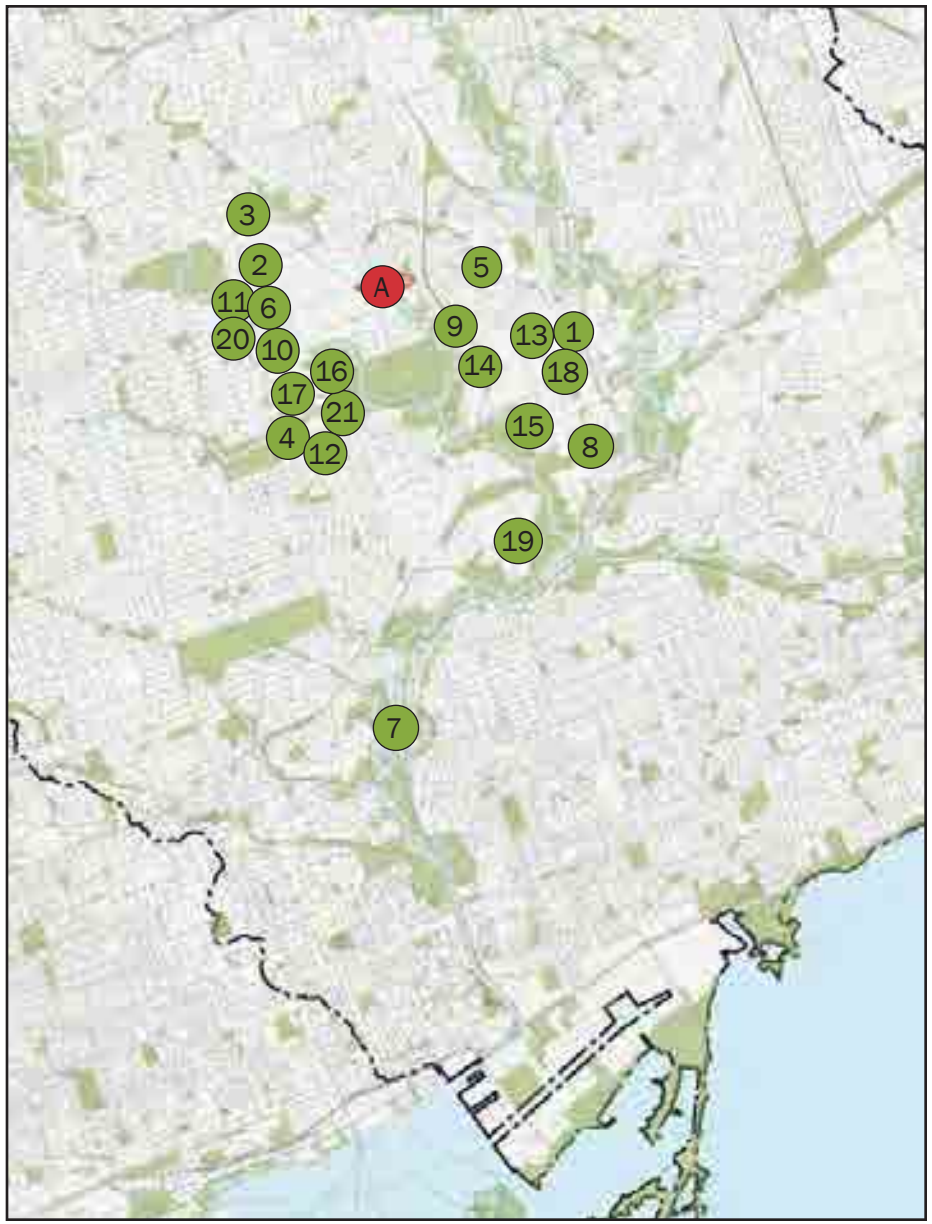
1977 The barns and greenhouse areas are renovated to include the outdoor cafe patio.

1.2 THE STUDY AREA

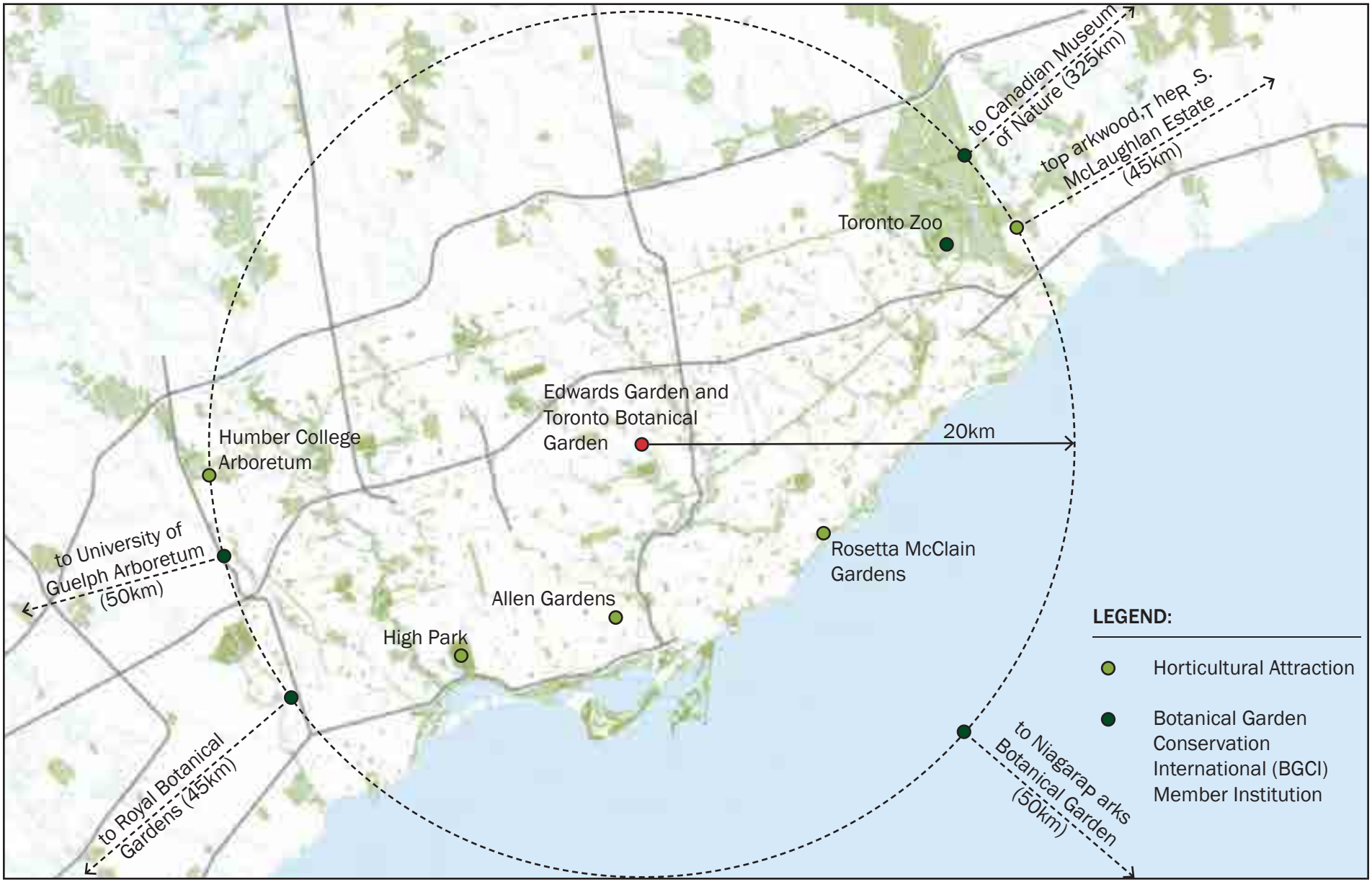
A EDWARDS GARDENS AND TORONTO BOTANICAL GARDEN

RAVINE AND CULTURAL NEIGHBOURS

1 Aga Khan Museum and Park
2 Bob Rumball Centre for the Deaf
3 Canadian Film Centre
4 CNIB (Canadian National Institute for the Blind)
5 CF Shops at Don Mills
6 Crescent School
7 Evergreen Brickworks
8 Flemingdon Park neighbourhood
9 Four Seasons Hotels and Resorts
10 Glendon College
11 Granite Club
12 Holland Bloorview Kids Rehabilitation Hospital
13 Japanese Canadian Cultural Centre
14 Korean Canadian Cultural Association of the GTA
15 Ontario Science Centre
16 Sunnybrook Estates & The Coach House
17 Sunnybrook Hospital
18 The Ismaili Centre
19 Thorncliffe Park neighbourhood
20 Toronto French School
21 Toronto Rehabilitation Institute



1.2 THE STUDY AREA



1.3 COMPLETED STUDIES

TORONTO RAVINE STRATEGY (IN PROGRESS, 2017)

The Toronto Ravine Strategy looks to develop a strategic framework for addressing policy, investment and stewardship in Toronto's ravine systems. The study is being completed by the City of Toronto's Parks, Forestry & Recreation, City Planning and Toronto Water divisions, in collaboration with other City divisions and the Toronto Region Conservation Authority (TRCA). The strategy outlines five guiding principles (Protect, Invest, Connect, Partner, and Celebrate) that will assist in balancing between protection of the ravines and promotion of suitable use within the sensitive areas.

WILKET CREEK RESTORATION MASTER PLAN (2011)

Prepared by Parish Aquatic Services for the City of Toronto and the Toronto Region Conservation Authority (TRCA), the Restoration Master Plan responded to flood damage resulting from two large storm events (August 19, 2005 and June 23, 2008) and providing a comprehensive plan to mitigate flood damage within the Wilket Creek ravine. Construction works for this project are complete to Phase 3 which is immediately south of the study area.

For the purposes of this report, the restoration master plan provides a foundation for considering additional flood mitigation measures within the study area.

CITY OF TORONTO MULTI-USE TRAIL DESIGN GUIDELINES (2014)

Developed by Victor Ford and Associates Inc. for the City of Toronto's Transportation Services and Parks, Forestry & Recreation divisions, the guidelines provide guidance for multi-use trail design within the City of Toronto. The guidelines are tailored to hard-surface, off-road routes that connect into the City of Toronto's larger bike and active recreation routes.

These guidelines inform the proposed design and layout of multi-use trails within the larger circulation strategy of the Master Plan and Mangement Plan.

CITY OF TORONTO PARKS PLAN (2013)

Developed by City of Toronto Parks, Forestry & Recreation division, the Parks Plan provides strategic vision for connecting parks and users, improving environmental sustainability, elevating the quality of parks and building a legacy park system for Toronto.

For the purposes of this study, the Parks Plan will inform vision and assist in evaluating design options and goals for the future of Edwards Gardens and Toronto Botanical Garden.

TOWARDS A NEW GARDEN: INTEGRATED CONCEPTUAL PROPOSALS (2015)

Prepared by W. Gary Smith Design for the Toronto Botanical Garden (TBG), the document provides a vision for future development opportunities of the TBG.

1.3 COMPLETED STUDIES

The report provides context and background for this study; however, given the limited public consultation and stakeholder input, the analysis and findings of the report will be reviewed against consultation input from this study to determine suitable direction.

TORONTO BOTANICAL GARDEN BUSINESS PLAN (DRAFT 2018)

The Toronto Botanical Garden business plan provides background for strategic planning context in developing mission, vision and programming.

CITY OF TORONTO EDWARDS GARDENS / TORONTO BOTANICAL GARDEN MANAGEMENT AGREEMENT (2016 PENDING FINAL APPROVAL)

This document outlines the terms and conditions under which the Toronto Botanical Garden can use the identified structures and lands within Edwards Gardens. The agreement indicates the responsibilities of both the City and the Toronto Botanical Garden in the management of the identified lands and structures.

The agreement identifies the existing maintenance structure and the requirements for augmenting or changing various shared features within the study area.

TORONTO BOTANICAL GARDEN FUNDRAISING FESIBILITY STUDY (2017)

TBG retained a highly regarded team of fundraising professionals in 2017 to conduct a campaign feasibility study. Their report demonstrated that the expansion plans for TBG and Edwards Gardens were well received by a number of individuals within Toronto's philanthropic community. TBG's ability to raise sufficient funds for the project were confirmed.

EDWARDS GARDENS CULTURAL LANDSCAPE ASSESSMENT

ASI was commissioned by the City of Toronto to prepare a Heritage Impact Assessment and Cultural Landscape Assessment for proposed alternation to Edwards Garden and Toronto Botanical Garden.

SLOPE STABILITY INVESTIGATION FOR EDWARDS GARDENS PARKING LOT

The study was prepared by Orbit Engineering Limited. The purpose of this investigation was to assess the subsurface conditions at the site and provide gentechincal engineering advice and recommendations for the Long-Term Stable Top of Slope(LTSTOS).

STATE OF GOOD REPAIR AUDIT REPORTS - BRIDGES (VARIOUS)

Created and updated by all three branches of the City of Toronto's Parks, Forestry & Recreation division, the State of Good Repair Audit Reports form a critical resource for maintaining structures throughout the city.

For the purposes of this study, reports for six bridges were reviewed to determine potential opportunities for integrating maintenance and bridge replacement into the Master Plan and Management Plan.

CITY OF TORONTO ENVIRONMENTALLY SIGNIFICANT AREAS

ESAs (Environmentally Significant Areas) are spaces within Toronto's natural heritage system that require special protection to preserve their environmentally significant qualities. It is protected under City of Toronto Official Plan.

1.3.1 REGULATION CONTEXT

CITY OF TORONTO ACCESSIBILITY DESIGN GUIDELINES (DRAFT 2016)

Developed and considered independently of the Accessibility for Ontarian with Disabilities Act, the City of Toronto Accessibility Design Guidelines provide solutions to optimize accessibility to City-managed or owned facilities.

Within this report, the guidelines inform best practices for designing accessible routes and spaces to provide optimal use of new and renovated facilities by users of all abilities.

ONTARIO REGULATION 166-06: TORONTO AND REGION CONSERVATION AUTHORITY: REGULATION OF DEVELOPMENT, INTERFERENCE WITH WETLANDS AND ALTERATIONS TO SHORELINES AND WATERCOURSES

As part of the master plan and management plan circulation improvements and slope restoration will require modifications to the slopes. A permit will be required with detailed coordination with TRCA planners, and staff expertise in the areas of geotechnical and environmental engineering, hydrological modeling and engineering and terrestrial and aquatic ecology. https://www.ontario.ca/laws/regulation/060166

TORONTO MUNICIPAL CODE — CHAPTER 658, RAVINE AND NATURAL FEATURE

As part of the master plan and management plan, planting bed locations, change in location of amenities, circulation improvements and slope restoration will require modifications to the site within the regulated RNFP area. A permit will be required with detailed coordination with City of Toronto Ravine and Natural Feature Protection planners. Typically a Ravine Stewardship Plan will be required as part of the permit process which would document the restoration proposed for the areas associated with the changes. https://www.toronto.ca/legdocs/municode/1184_658.pdf

SITE PLAN CONTROL APPLICATION

For any proposed new or relocated structures Site Plan Control will likely be applicable. Coordination with City Planning early in the detailed design process for a Preliminary Project Review will help confirm what is applicable to Site Plan Control of the master plan. https://www.toronto.ca/city-government/planning-development/application-forms-fees/building-toronto-together-a-development-guide/site-plan-control-applications/

ONTARIO BUILDING CODE

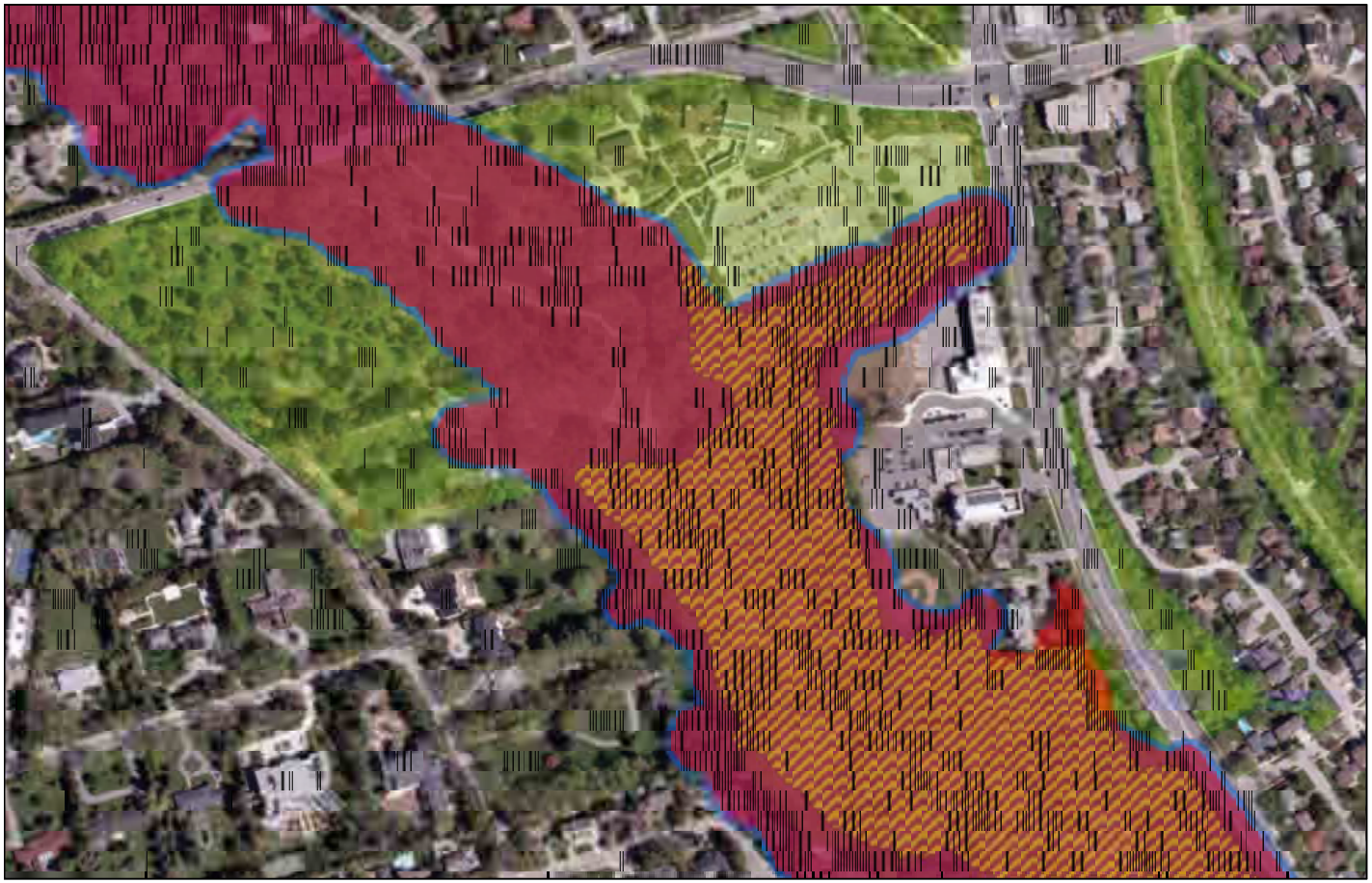
A Building Permit is a formal permission to begin the construction, demolition, addition or renovation on the property.For any proposed new or relocated structures such as the tree house, washroom and parking structure etc. Ontario Building Permit will likely be applicable. https://www.toronto.ca/services-payments/building-construction/apply-for-a-building-permit/.

TORONTO MUNICIPAL CODE CHAPTER 813, TREES

As part of the master plan and management plan, tree protection, removal and planting outside of the regulated RNFP area. A permit may be required with detailed coordination with City of Toronto Urban Forestry.

1.3.2 SITE MAP AND REGULATION BOUNDARY

City of Toronto Environmentally Significant Area
Ravine and Natural Feature Protection - Chapter 658 Bylaw Area
TRCA - Provincial Regulation 166-06 Limits within Edwards Gardens and South



1.4 THE STUDY AND PROCESS

WHAT IS A PUBLIC GARDEN?

As defined by the American Public Gardens Association (APGA)—whose membership includes more than 600 institutions across Canada, the US and 24 countries—a public garden is an institution that maintains collections of plants for public education and enjoyment. These institutions include botanical gardens, arboreta, zoological gardens, sculpture gardens, cemeteries, university campuses, historic landscapes, urban greening organizations, natural areas, as well as public parks.

More specifically, APGA guidelines state: "A public garden is an institution that maintains collections of plants for the purposes of public education and enjoyment, in addition to research, conservation, and higher learning. It must be open to the public and the garden's resources and accommodations must be made available to all visitors. Public gardens are staffed by professionals trained in their given areas of expertise and maintain active plant records systems."

WHAT IS A BOTANICAL GARDEN?

Botanic Gardens Conservation International (BGCI), an international organization with more than 700 members worldwide, including 500 botanical gardens, offers this definition "Botanic gardens are institutions holding documented collections of living plants for the purposes of scientific research, conservation, display and education."

Furthermore, BGCI defines a botanical garden as any organization meeting the following list of criteria in part or whole:

- A reasonable degree of permanence
- An underlying scienti fic basis for the collections
- Proper documentation of the collections, including wild origin
- Monitoring of the plants in the collections
- Adequate labeling of the plants
- Open to the public
- Communication of information to other gardens, institutions and the public
- Exchange of seed or other materials with other botanic gardens, arboreta or research institutions
- Undertaking of scientific or technical research on plants in the collections
- Maintenance of research programs in plant taxonomy in associated herbaria.

As defined by both APGA and BGCI, while all public gardens are open to the public, most charge admission and/or membership fees, which cover a significant part of their operating expenses. Some, including many of those that are part of public park systems, are open without admission fees.

1.4 THE STUDY AND PROCESS

A COMMUNITY RESOURCE IN THE 21ST CENTURY

Public gardens and botanic gardens are beloved and enjoyed by the communities in which they are located. As noted above, they are resources for education, conservation and research, but they also provide important cultural and recreational opportunities which contribute to cultural vibrancy, healthy lifestyles, and community wellbeing. In many urban areas, public gardens and botanic gardens are an oasis and refuge from the hustle and bustle of the city. Good for both mental and physical health, they are places where people can come together to spend time, share and socialize, places for purposeful movement and low impact activity, places where people can switch off, reconnect with nature, breathe deeply and relax.

WHO IS THE MASTER PLAN FOR?

The Edwards Gardens and Toronto Botanical Garden Master Plan and Management Plan has been prepared for the City of Toronto and its nonprofi t partner, the Toronto Botanical Garden, with the purpose of developing a globally acclaimed botanical garden in Toronto. The primary challenge has been to think holistically about long-term planning for existing City parkland along the Wilket Creek -- including the Edwards Gardens/Toronto Botanical Garden complex and associated ravine system -- to elevate the Toronto Botanical Garden to the level of other such botanical gardens in Canada and elsewhere throughout the world.

THE SCOPE OF THE MASTER PLAN

The following scope was undertaken throughout the planning process:

- Review of all relevant background materials, existing conditions, programming, and overall functionality of Edwards Gardens and Toronto Botanical Garden
- Facilitation and engagement with the City of Toronto staff, Toronto Botanical Garden staff, stakeholders and local residents
- Development of a Master Plan that promotes building a resilient ecosystem, upgrading park amenities, improving overall functionality and accessibility, and increasing public programming and opportunities
- Promotion of the evolution of Toronto Botanical Garden in its aspiration to become a significant and highly acclaimed botanical garden
- Development of a Management Plan that promotes the long-term ecological, operations and fiscal sustainability of the site, including Edwards Gardens, Toronto Botanical Garden and the ravine lands.

THE STUDY PROCESS

The Master Plan and Management Plan was completed between September 2016 and March 2018, as a five-phase process:

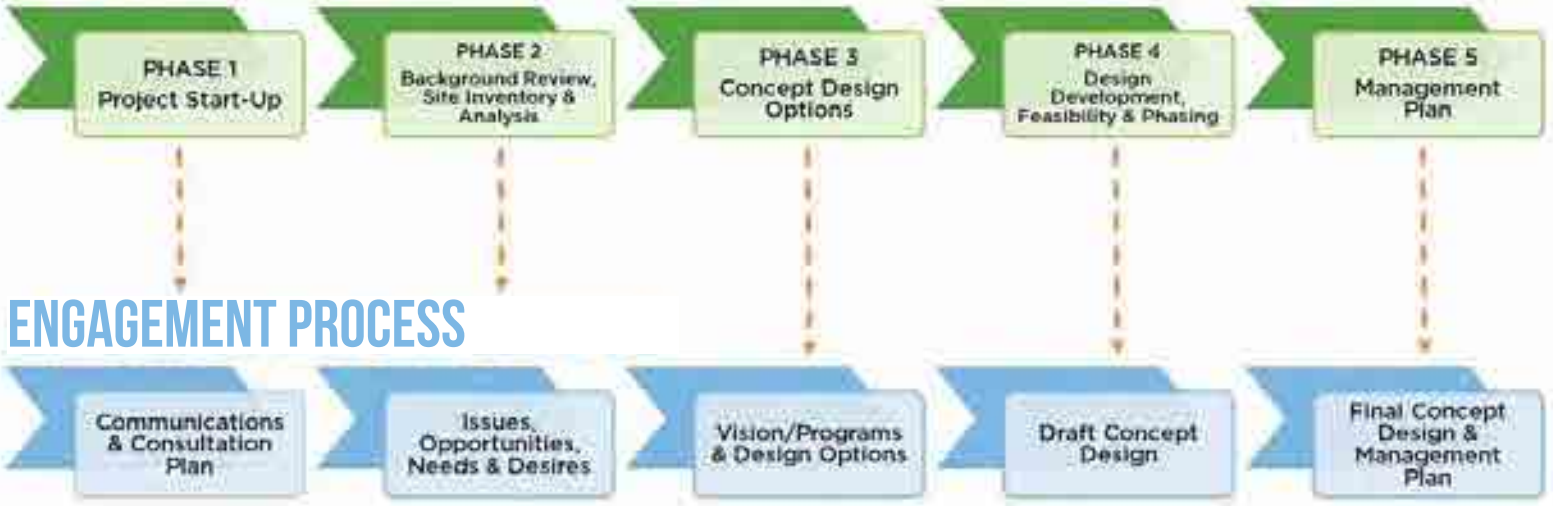
- Ph1 - Project Start up, Communications & Consultation Plan
- Ph 2 - Background Review, Site Inventory & Analysis
- Ph 3 - Master Plan - Concept Design Options
- Ph 4 - Master plan - Design Development, Feasibility & Phasing
- Ph 5 - Management Plan

The City of Toronto, in collaboration with Toronto Botanical Garden, oversaw the preparation of the Master Plan and Management Plan, and together will be responsible for its implementation. A consultant team, led by Scott Torrance Landscape Architect, a division

1.4 THE STUDY AND PROCESS

of Forrec, including W. Gary Smith Design, Lord Cultural Resources, Matrix Solutions Inc., Moriyama and Teshima Architects, Urban Forest Associates Inc., A.W. Hooker Associated Ltd. worked closely with City of Toronto Parks, Forestry and Recreation, and Toronto Botanical Garden staff to prepare this document.

STUDY PROCESS



YIMBY (YES IN MY BACK YARD) EVENT

PROJECT TEAM WORKSHOP

STAKEHOLDER ADVISORY GROUP

PUBLIC OPEN HOUSE

1.4 THE STUDY AND PROCESS

CONSULTATION PROCESS

Engagement is one of the key components in the City's decision-making process. For the Edwards Gardens and Toronto Botanical Garden Master Plan and Management Plan study, the goal of the consultation process was to:

- Build awareness of the project and the proposed changes
- Communicate the project stages and milestones
- Understand the needs of all stakeholders
- Solicit input regarding satisfaction with the existing conditions, the overall functionality of the site and programming
- Compile a list of preferred potential new capital assets and programs that address the needs of all stakeholders
- Articulate the rationale for design, feasibility, phasing and management decisions
- Confirm the strategies, concepts and Final Master Plan and Management Plan and ensure that it reflects realistic needs and aspirations
- Engender a sense of pride in the transformation of this significant public space

In developing the plan, the study team established a communications and consultation strategy that strove to be inclusive, transparent and responsive. A range of engagement and communication tactics were employed that allow us to:

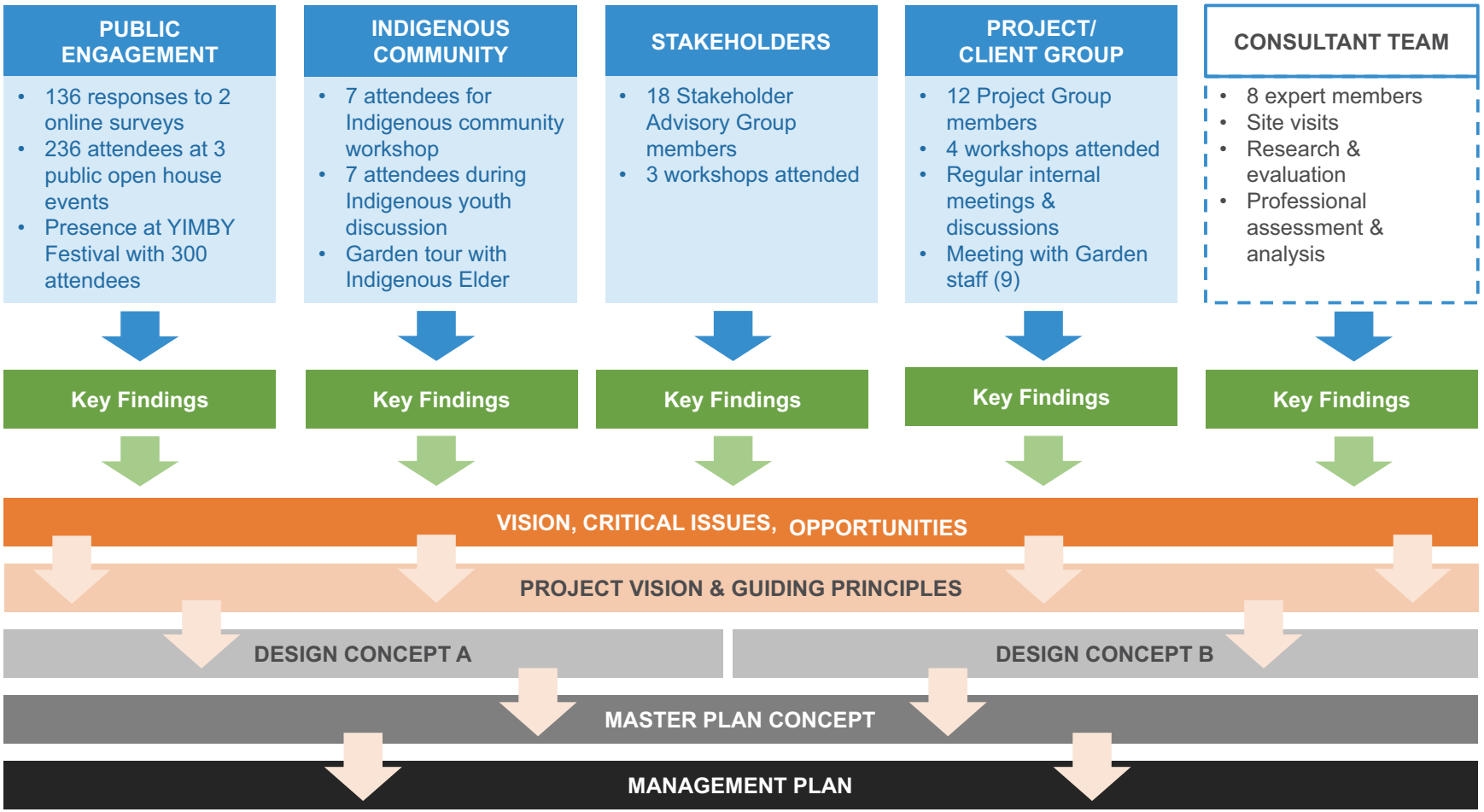
1.4 THE STUDY AND PROCESS

INFORM & COMMUNICATE	LISTEN & LEARN	CONSULTANT OPENLY & OFTEN	COLLABORATE & EMPOWER
Share accurate and timely background information to assist stakeholders and the public to understand issues, opportunities and solutions/ alternatives when considering the future development of Edwards Gardens.	Listen respectfully to each other's views, plans, concerns and expectations, and to learn from this conversation.	Ensure that a variety of consultation opportunities are provided along with various methods throughout the process in order to gather feedback and ideas from a wide range of people and interest groups at each key milestone in the development of the Master Plan.	Incorporate stakeholders in the decision-making process by providing them with the information necessary to make informed decisions and with opportunities to collaborate on analyzing issues, building alternatives and making recommendations.

1.4 THE STUDY AND PROCESS

ENGAGEMENT ACTIVITY SUMMARY

Engagement activities have included establishing a stakeholder advisory group and a project working group, attendance at the YIMBY (Yes in My Backyard) festival and a display at the Canada Blooms show, online surveys, public open houses, workshops with the Indigenous community, workshops with the stakeholder advisory group and project group, as well as continuous internal meetings and the contributions of our consultant team.



2.0

INVENTORY AND ANALYSIS

Chapter 2 nd Analysis of existing conditions in Edwards Gardens and Toronto Botanical Ga report provides direction for the Master Plan and Management Plan.

2.1 HABITAT (FLORA)

The site has a wide variety of vegetation types which transition from botanical gardens to natural forest ravines. The themed gardens contain a variety of horticultural plants that are framed by manicured lawns which extend along the north –east side of Wilket Creek. The wooded slopes along the rest of the ravine are comprised of a mix of forest types such as mixed hardwood Cedar forests, Sugar Maple and Hemlock mixed forests, and Black Walnut deciduous forests.

Although these forests contain a variety of native Ontario plants, many of these areas are in a state of degradation. Localized areas of heavy degradation have occurred in areas where foot traffic has compacted soils and eliminated forest ground cover and understory vegetation. The disturbed understory has allowed for the colonization of invasive species such as European Buckthorn and Garlic Mustard which negatively affect the local plant diversity of the area.

Despite the growing level of degradation, the slope forests, wetlands and watercourse at the south end of the property form part of a larger Environmentally Significant Area associated with the Wilket Creek ravine lands. Many areas have been identified as areas of sensitive species and communities. Species at risk flora that have been historically recorded in the vicinity of the gardens include Butternut (Endangered) and Red Mulberry (Endangered).

Flora at the Toronto Botanical Garden and Edwards Garden represents a mix of ornamental plant species within grassy landscaped areas integrated with relatively-undisturbed ravine corridors along Wilket Creek (a Don River tributary). Ravine corridors extend west from Leslie Street along the southern property boundary towards Wilket Creek, ending at a buffer area of mowed grass and paved walking paths with tree and shrub plantings on both sides. A ravine area on the west side of Wilket Creek separates the stream buffer from a maintained landscape with mowed grass and planted trees east of The Bridle Path. Among others, tree species within this landscaped area include Norway spruce (*Picea abies*), Colorado and blue spruce (*Picea pungens*), Norway maple (*Acer platanoides*), and ginkgo (*Ginkgo biloba*), with a grove of red pine (*Pinus resinosa*) in the northwest corner. Another planted area with mowed grass is located in the northwest corner of the property south of Lawrence Avenue, with weeping willow (*Salix ×sepulcralis*), European beech (*Fagus sylvatica*), and ginkgo observed most frequently and a variety of ornamental trees, shrubs, and herbs planted around buildings. A small area for ecological restoration is located in a narrow strip north of the parking lot on the east side of the property.

In general the ravine corridors are of high habitat value, with relatively low concentrations of invasive plant species and an abundance of mature native tree species compared to many Toronto ravines, and only moderate erosion.

Ornamental plantings are found throughout the property along the edges of natural forests. Native species of natural origin are mixed with ornamentals and planted natives in varying arrangements.

2.1 HABITAT (FLORA)

White and green ash were historically a canopy component, but all observed large specimens have been killed by the emerald ash borer. As sugar maple is the dominant tree species in ravine corridors, an ELC classification of Dry-Fresh Sugar Maple Deciduous Forest FOD5-1 is most appropriate. Mature oaks form the most important secondary canopy component on the east side of Wilket Creek, with many mature specimens existing. American beech is the most important secondary tree species west of Wilket Creek on the south side, while groves of eastern hemlock, red oak, black walnut, and eastern white cedar are more evident further north. Native shrubs are present in ravine areas on both sides of the creek, including witch hazel (*Hamamelis virginiana*), chokecherry (*Prunus virginiana*), blue beech (*Carpinus caroliniana*), alternate-leaved dogwood (*Cornus alternifolia*), and red osier dogwood (*Cornus stolonifera*). Most herbaceous species were dormant at the time of assessment (November 2016), but some native species such as zigzag goldenrod (*Solidago flex icaulis*) and ferns were still visible. A variety of moisture regimes are present given the topographical variation on site, but this has not yet been assessed in detail.

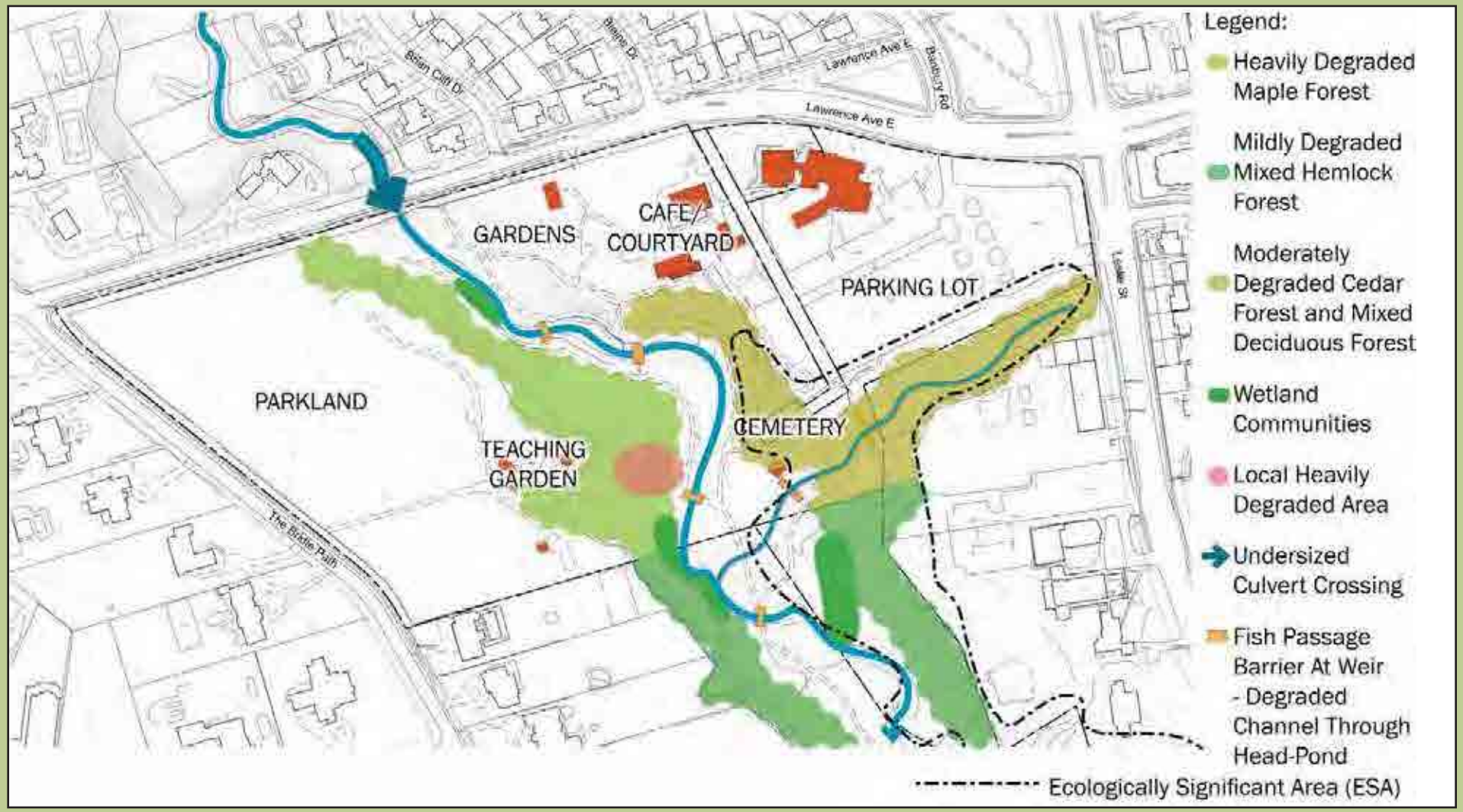
The buffer area along Wilket Creek is dominated by mowed grass integrated with mature weeping willows (*Salix ×sepulcralis*) and a variety of conifers, such as Norway spruce (*Picea abies*) and white spruce (*Picea glauca*), in addition to a variety of planted ornamental and memorial trees. Red osier dogwood (*Cornus stolonifera*) and woolly-headed willow (*Salix eriocephala*) are the most prominent shrub species along the stream bank, integrated with engineered erosion control measures.

The ravine south of the parking lot is part of the ESA #89 – Wilket Creek Forest, part of the Natural Heritage System of the City. Many areas of the slopes represent some of the highest quality forest communities that remain in Toronto, where spring wildflowers can still be seen and old conifers are still present between other species.

Some indications of degradation are present in the ravine corridors, such as the dumping of organic material from maintenance crews (especially south of the parking lot on the east side of the property), erosion on ravine slopes, and colonies of invasive plant species. Most invasive species do not dominate the canopy or understory except in selected areas.

The ravine south of the parking lot has experienced significant down-cutting due to geological steep slopes in nature and stormwater flows over time, resulting in very steep slopes and bare soils on the lower areas and occasional mature trees falling into the stream. This is particularly noticeable near Leslie Street. Erosion on the main channel of Wilket Creek has damaged vegetation in many places but is most noticeable immediately south of the Lawrence Avenue culvert. Erosion works and plantings that were installed on some of the smaller creeks flowing into Wilket Creek from the property appear to be doing a good job of preventing bank erosion, and the plantings are growing vigorously. Ornamental plantings of new weeping willows have been installed between some of the native willows in places, and some invasive tree saplings are also becoming established.

2.1 HABITAT (FLORA)



2.2 HABITAT (FAUNA)

The continuous vegetated habitat along Wilket Creek acts as a local hub of biodiversity and a corridor for the movement of wildlife, and contributes to the natural flow of genetic materials within the city.

The terrestrial environment provides habitat for a variety of common animals such as Gray Squirrel, Eastern Chipmunk, Woodchuck (Groundhog), Black-Capped Chickadee and Downy Woodpecker – species that live in the area year round. The valley lands have potential to provide habitat for breeding birds and migrating birds during various parts of the year.

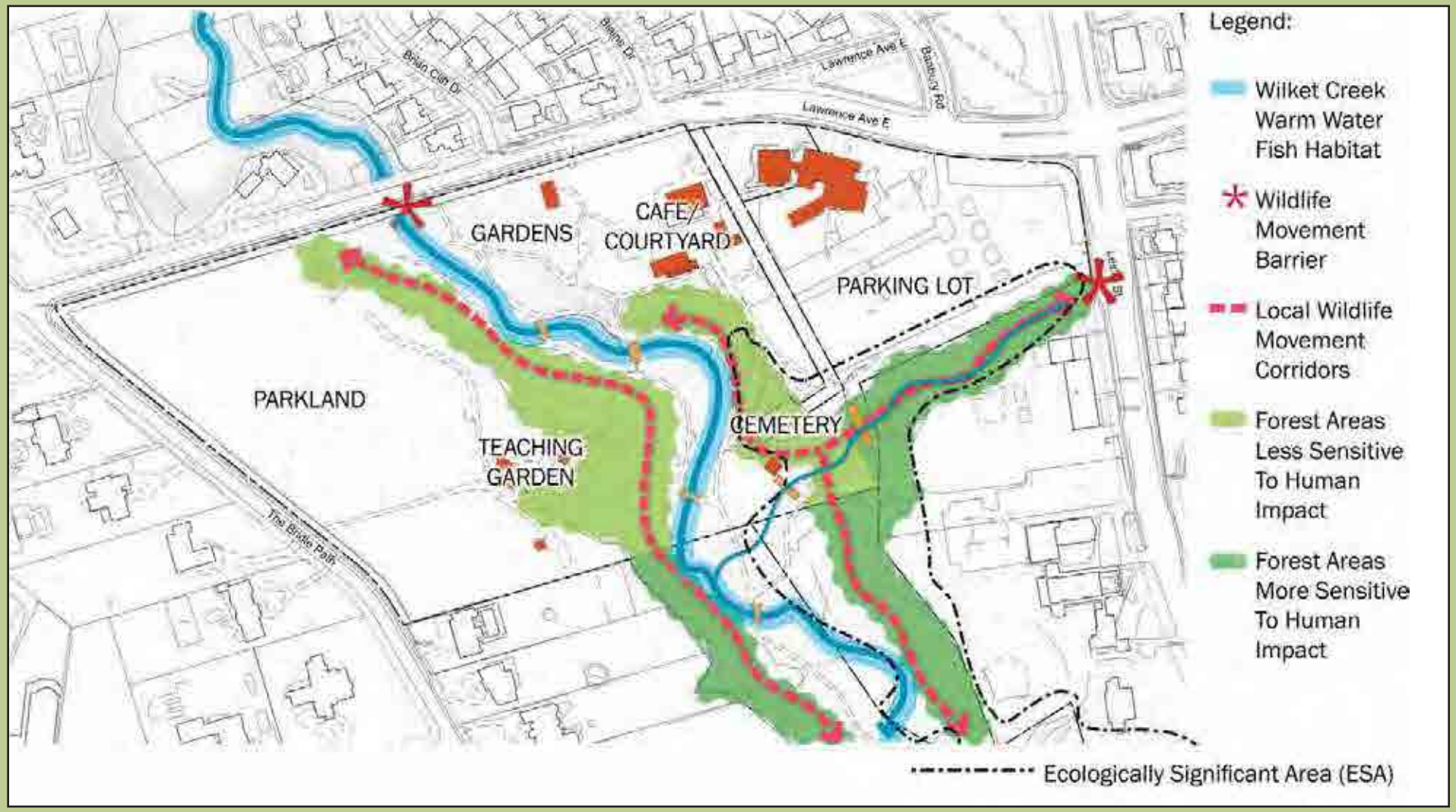
Wilket Creek is a warmwater fishery including tolerant fish species such as White Sucker, Creek Chub and Blacknose Dace. Aquatic and riparian systems in Wilket Creek valley also provide habitat to other wildlife such as Mink, Beaver, Muskrat, Belted Kingfisher, and Mallard ducks.

The Ministry of Natural Resources and Forestry (MNRF) has indicated that there are a number of species of concern recorded within the vicinity of Edwards Gardens which include:

- Barn Swallow (threatened),
- Chimney Swift (threatened),
- Eastern Wood-pewee (special concern)
- Wood Thrush (special concern).

There is also potential for endangered bat species (e.g., Little Brown Myotis, Northern Myotis, Tri-colored Bat) to be roosting in larger tree specimens occurring in the ravine.

2.2 HABITAT (FAUNA)



2.3 FLOODING AND HYDROLOGY

Wilket Creek, a Don River tributary, bisects the study area. The creek is prone to flash flooding and shows signs of severe erosion in several locations within the site. The upstream watershed of Wilket Creek is completely urbanized and without significant stormwater management infrastructure, resulting in significant fluctuations in flows at the Lawrence Avenue culvert and erosion and flood damage downstream.

Peak flows typically rise above the banks of Wilket Creek within the study area two to four times annually. These flows can be a result of both precipitation and snow melt events, but occur mostly in summer.

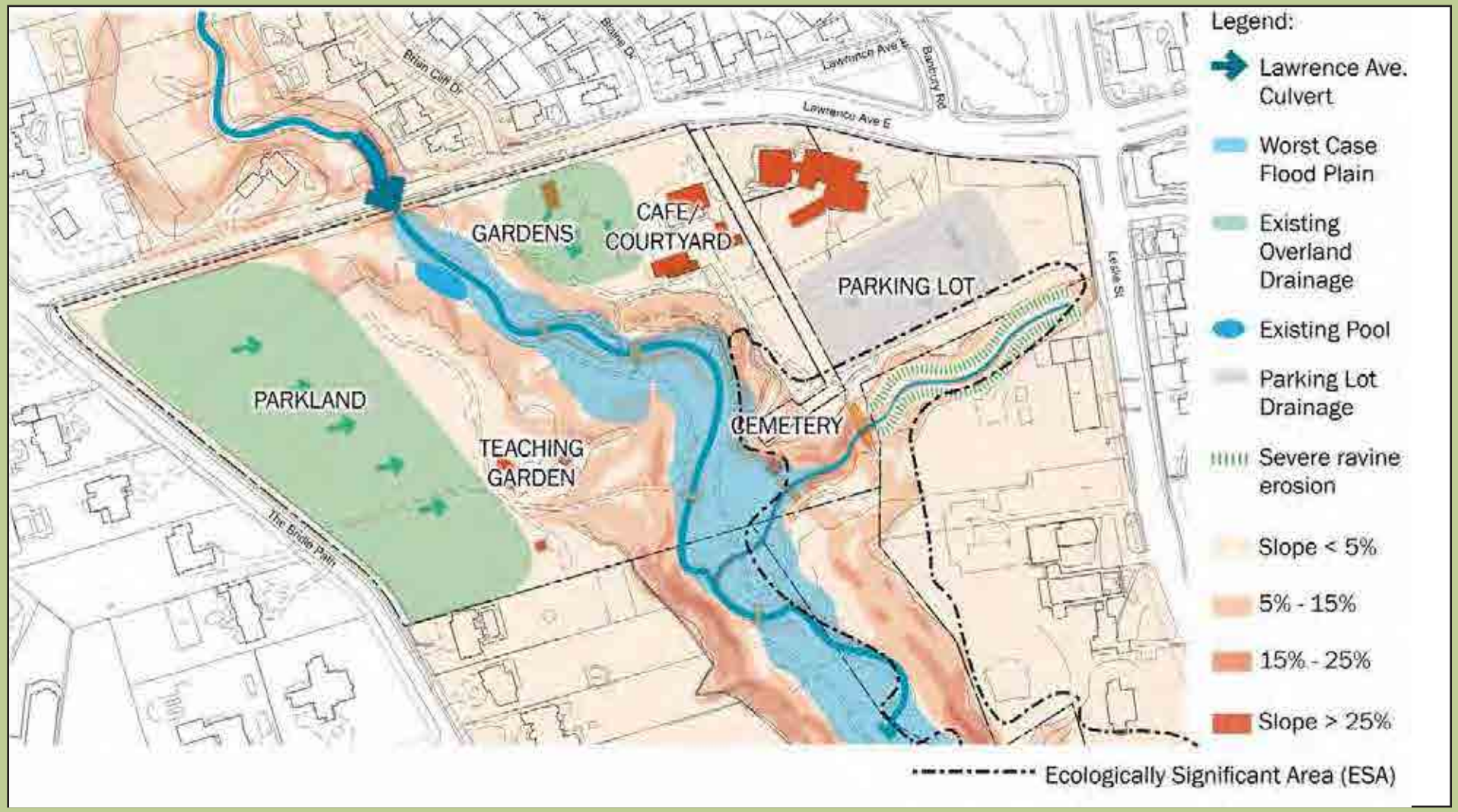
As a by-product of flooding, debris is frequently carried downstream and deposited on pathways within the floodplain or against bridges and other structures. The accumulation of debris can exacerbate flooding conditions, especially at culverts and bridges where the creek channel is narrow. Currently, flood debris is viewed as a nuisance, requiring consistent maintenance, however, it also serves as an educational feature explaining the effects of flooding on the gardens.

Recent rehabilitation works have been completed downstream within Wilket Creek Park. These projects were developed as part of the Wilket Creek Rehabilitation Master Plan and represent the established best practices for creek erosion control measures within Wilket Creek. Given past natural channel systems constructed in Edwards Gardens over the past two decades, adaptive environmental management including periodic rehabilitation of the existing channel may be necessary to assist with enhancing the channel and floodplain of Wilket Creek within Edwards Gardens to fulfill the Master Plan

Within the creek, existing features, such as a weir, provide positive riverine and aesthetic function, but may negatively impact fish habitat and need to be reviewed to ensure ecological and hydrological benefits are balanced within the study area.

Uncontrolled surface runoff from parking lots has negatively impacted ravine slopes within the site. Recent installations of low impact development (LID) features, such as the permeable parking lot and bioswale adjacent to the Toronto Botanical Garden Visitors Centre have been designed to reduce surface runoff flowing unchecked from vehicular areas into the sensitive ravine areas. These features also contribute to reducing flow velocities and volumes from hard-surfaced areas, reducing erosion within the ravine slopes.

2.3 FLOODING AND HYDROLOGY



2.4 STRUCTURES

The Edwards Gardens and Toronto Botanical Gardens properties house buildings, bridges and structures for retaining slopes. While the majority are in good condition, a number of these assets show signs of disrepair and will require maintenance. The following is an inventory and brief description of these structures.

BUILDINGS

The main visitor centre was built in stages over the last 50 years. The original building, the “Civic Garden Centre” was designed by Raymond Moriyama in 1964. Jerome Markson Architects designed a substantial addition in 1976. In 2005, the “The George and Kathy Dembroski Centre for Horticulture”, designed by Montgomery Sisam was completed, which added the front gift shop and entry pavilion, and included a major interior renovation of the original two buildings.

A small collection of buildings used for maintenance, gardening functions, a public café and user group functions is clustered around the “Café Courtyard” located just to the west of the main visitor centre. Several of these are historic structures dating back to pre-1942. Most of these buildings are in generally good condition structurally, but would need significant interior and exterior upgrades if the intension is to convert them to a more intensive public use. These buildings all appear to be on a shared single-phase electrical service, which would likely need to be upgraded. They all likely contain asbestos or other hazardous materials to some extent. A detailed hazardous materials investigation should be undertaken for these structures. The original barn structure shows signs of water damage at the North and East foundation walls. The roof structure

2.4 STRUCTURES

appears to have been reinforced and repaired in the past. The roofing was in significantly poor shape at the time of the visit, but was replaced in early 2017.

The adjacent garage building is being used for various maintenance and horticultural activities on the ground floor level. The second floor is underused. A 14kW stand-alone generator is used to provide back-up power to this building, as well as to the attached and nearby greenhouses. Despite their age (apparently dating back to the 1950's), these greenhouses are in quite good condition. Their structure is light aluminum framing with clear glass as opposed to a more modern and efficient polycarbonate glazing.

Further to the west, the Moriyama garden pavilion is still in fundamentally sound condition. The polycarbonate sky light panels and the joists supporting them show some signs of rot or animal damage and would require some maintenance and repair. Some areas of the soffit cladding are worn and would benefit from maintenance. At least 50% of the roof is covered in moss and needs to be replaced soon in order to prevent further decay to the roof structure below.

BRIDGES

The Honeymoon Bridge is a steel arched structure clad in wood. The girders and foundations appear to be sound, with nominal corrosion requiring paint touch-up. The bridge guard assembly is wood and susceptible to decay from moisture and rot. These items would be readily repaired and replaced.

Two steel bridges on site are engineered structures and are in a state of good repair. These bridges are unpainted and appear to be designed to allow for corrosion of exposed surfaces.

There are two wood bridges. One is currently closed for necessary repairs. The other is a short span structure that is in serviceable condition.

2.4 STRUCTURES

STRUCTURES FOR RETAINING SLOPES

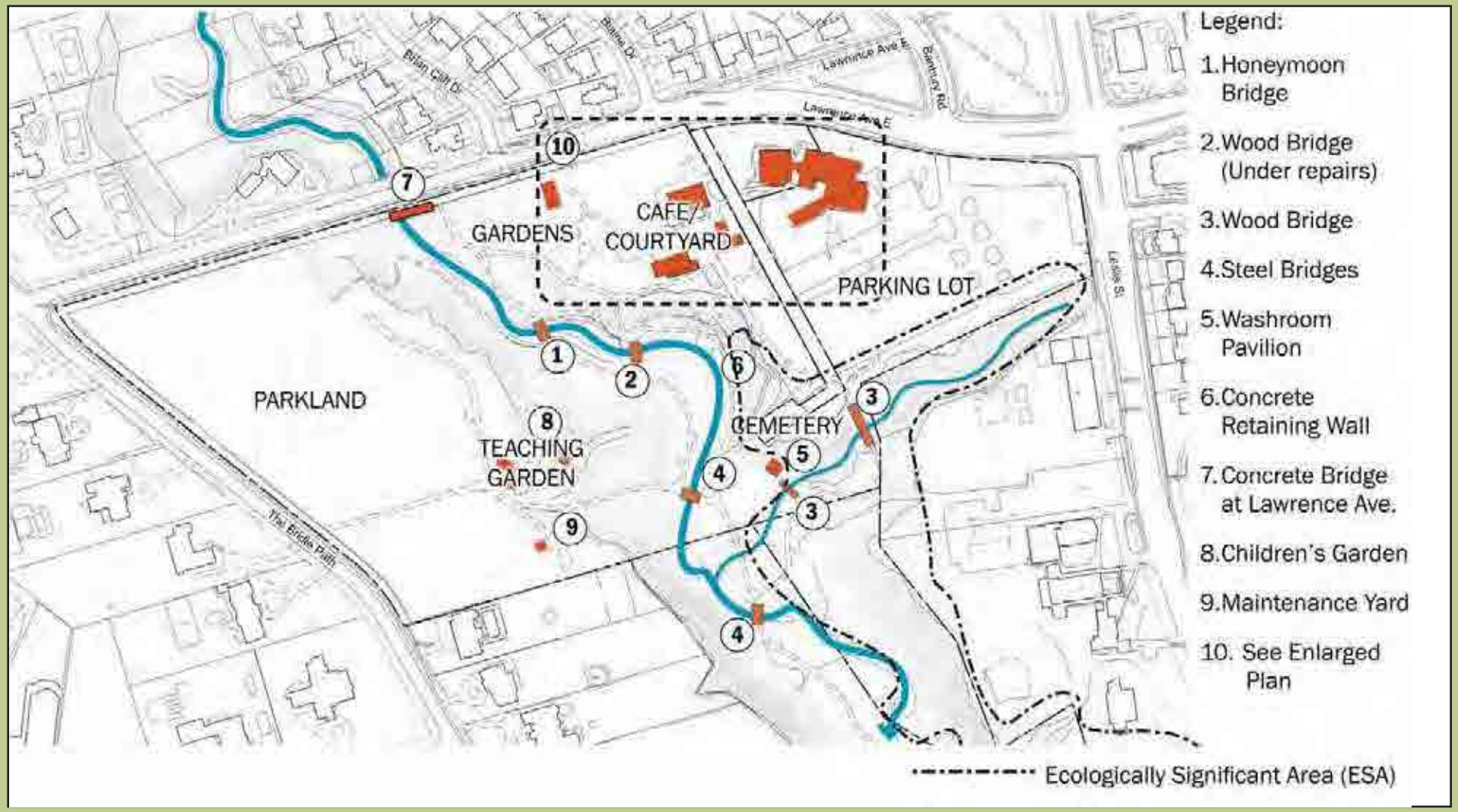
The Gardens' site slopes to Wilket Creek, requiring a number of retaining walls for erosion control and to establish walkways. The majority of the walls are gravity walls constructed from quarried stone blocks. There are also walls constructed from unit masonry. These structures allow for significant drainage, can accommodate reasonable movements, and many of them are performing well. Gravity walls adjacent to the ramped walkway at the east of the tableland have been affected by the adjacent forest and have experienced significant displacements over time. An evaluation, maintenance and construction strategy involving a geotechnical engineer and an arborist needs to be developed to assess these walls and their ongoing maintenance or replacement.

A reinforced concrete wall on the North side of Wilket Creek is showing significant cracking, leaking and spalling of concrete. This wall requires remedial work and a maintenance plan. The damage appears to be a result of lack of adequate drainage and possibly frost-susceptibility of the concrete itself.

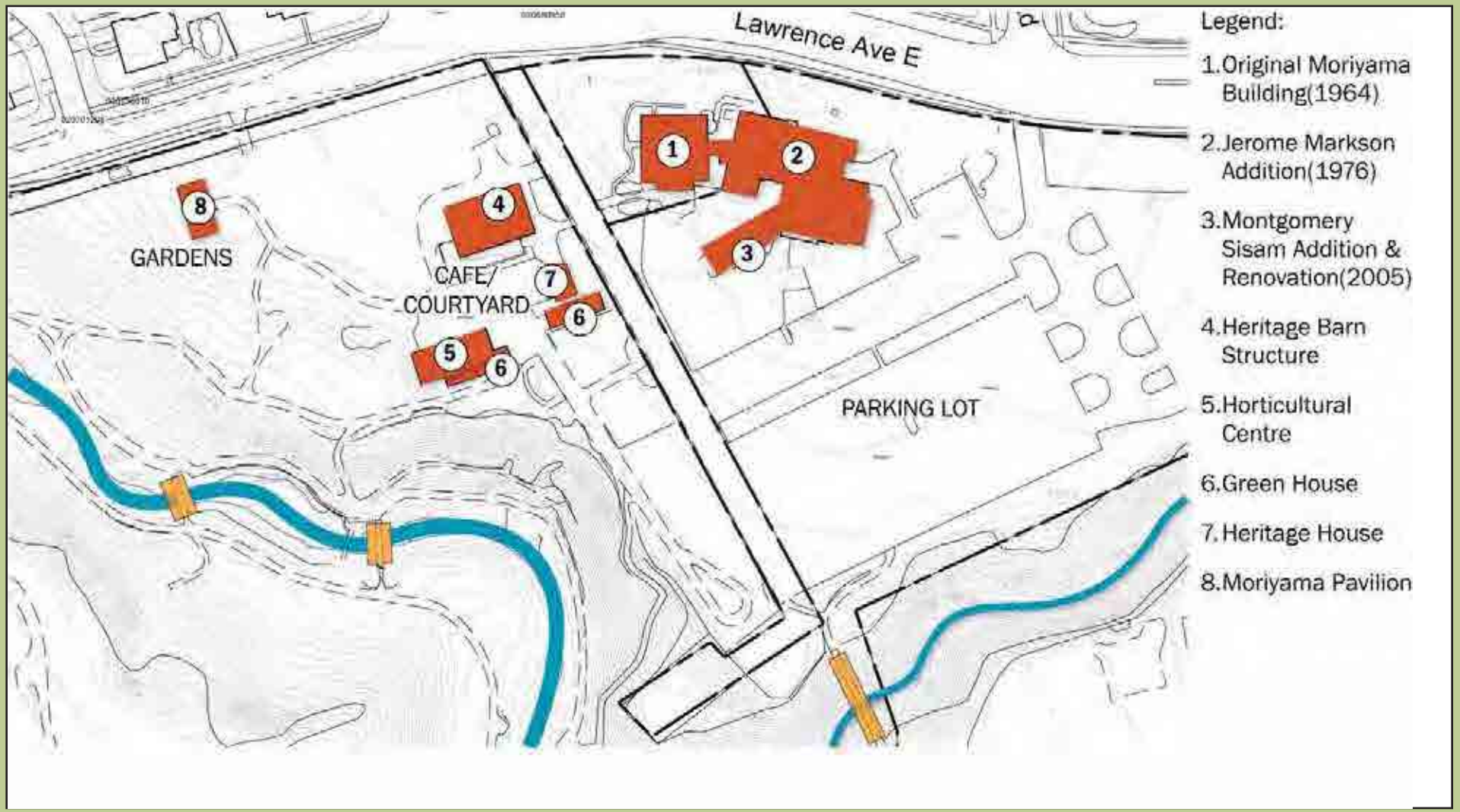
CULTURAL HERITAGE

Within the study area there are several structures that are listed heritage structures under the Ontario Heritage Act. The Moriyama Pavilion and the buildings of the Civic Garden Centre were listed Oct. 6, 1997. The Milne Family Cemetery is a cultural heritage asset within the study area, however it is not formally listed as a heritage property. Maintenance of the cemetery is required in perpetuity as a condition of the purchase agreement for the land.

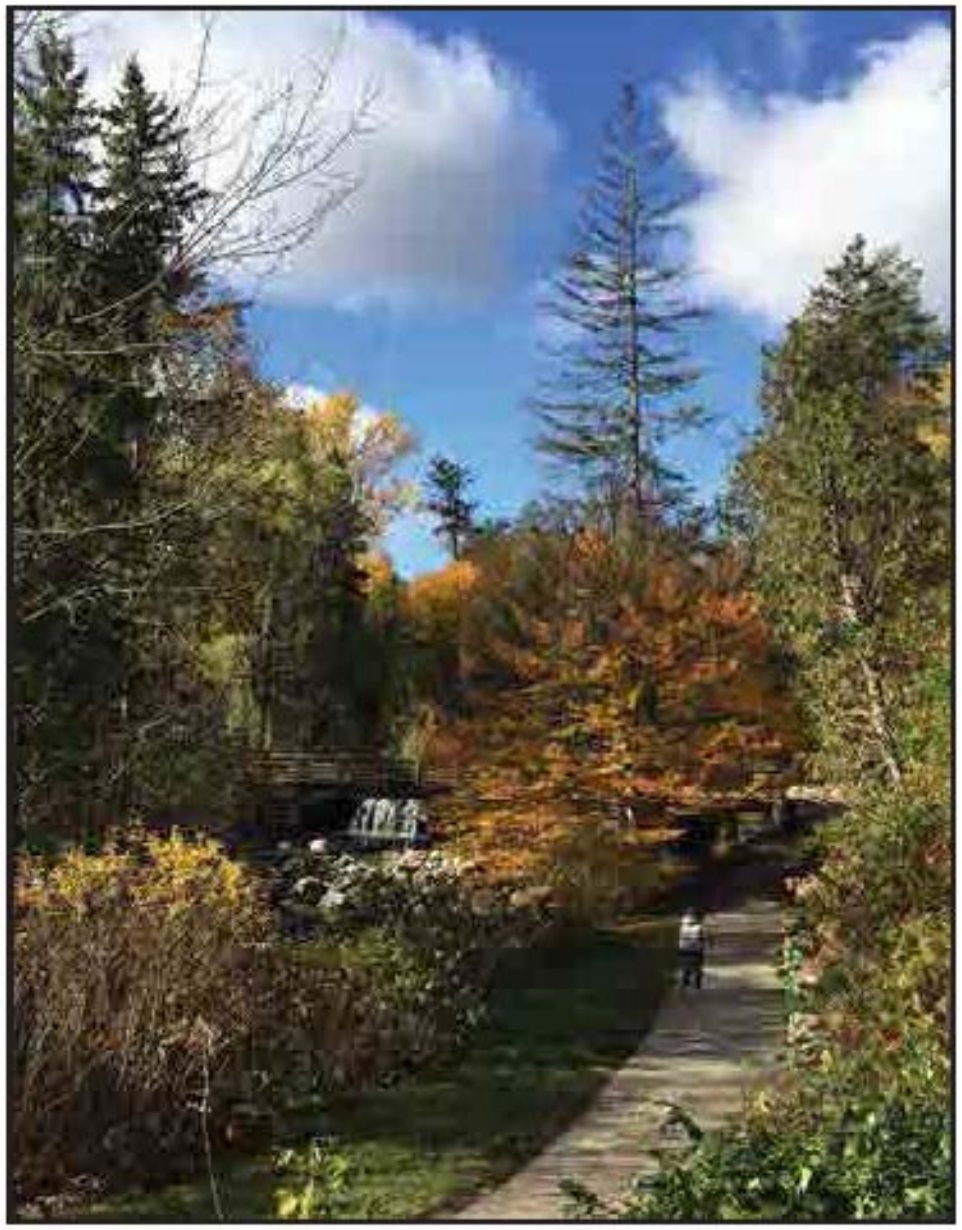
2.4 STRUCTURES



2.4 STRUCTURES



2.5 VIEWS AND VISTAS

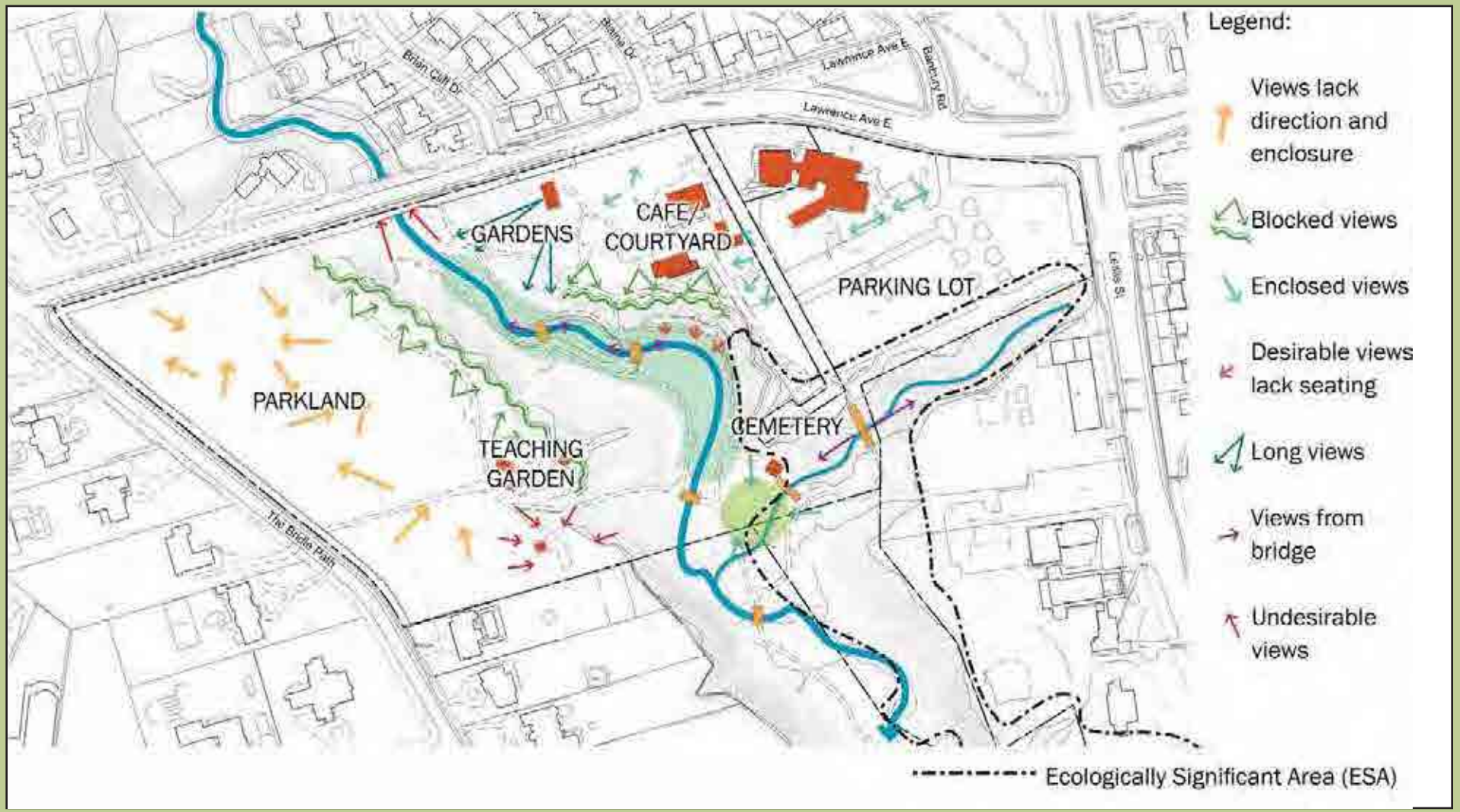


The majority of high quality views are within the ravine and on the eastern tablelands, although these could be improved by managing vegetation to open up vistas and control sight lines. In the western tablelands, potential views down into the ravine are blocked by shrubby growth along the wooded slopes. Views within the arboretum area are poorly defined or directed.

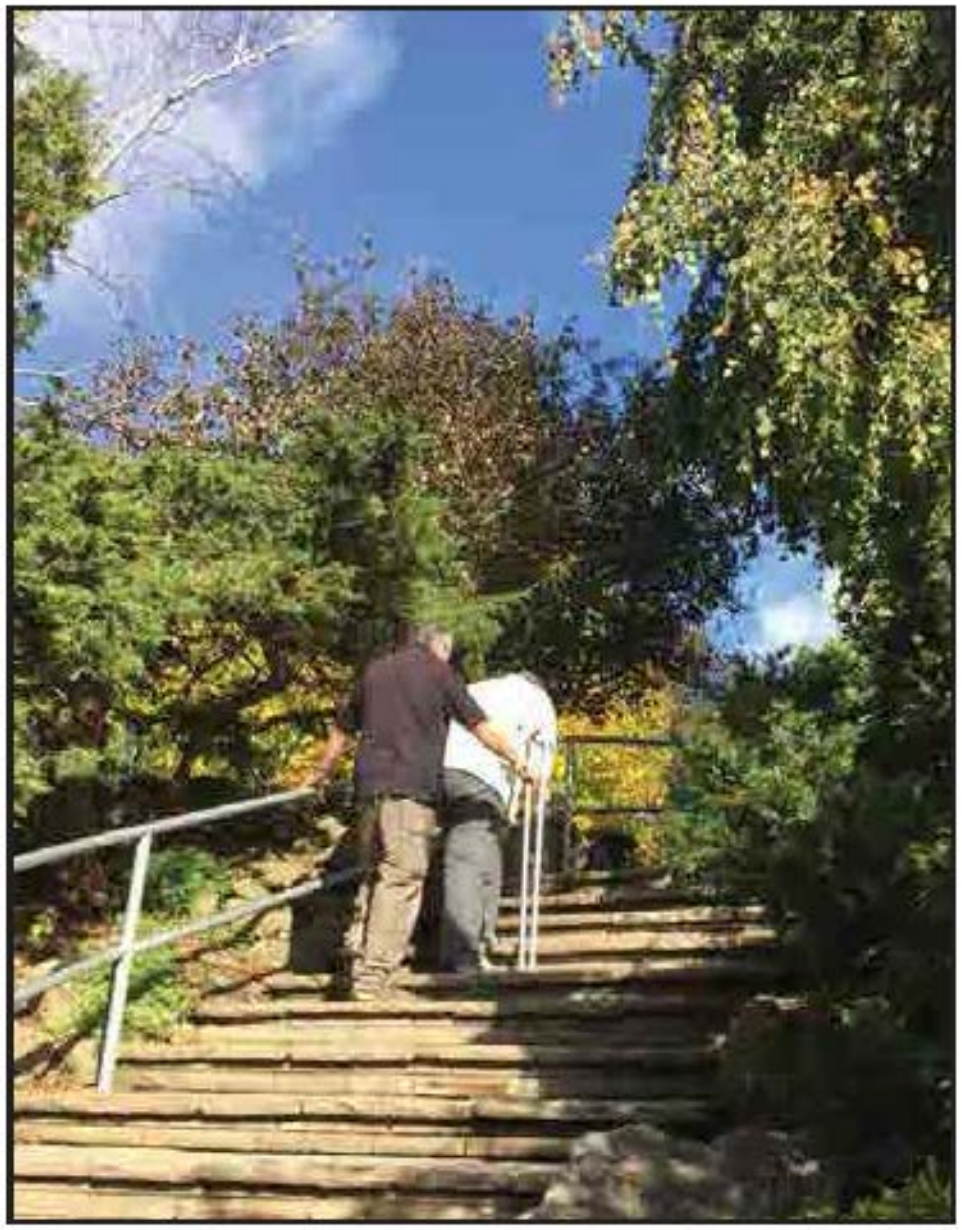
The eastern section of the site offers many attractive vistas across the ravine; however, vistas from the western side are obscured by dense vegetation that has grown up along woodland edges. On the floodplain, many potential vistas up and down Wilket Creek are obscured by dense vegetation along the banks.

Many of the benches throughout the site are not oriented to take best advantage of existing high quality views. There are several spaces throughout the site that have great potential to be major viewing areas, but currently lack a sense of enclosure or direction.

2.5 VIEWS AND VISTAS



2.6 ACCESSIBILITY



The study area is composed of flat tablelands on the east and west sides of the site, while steep and inaccessible slopes frame the edges of Wilket Creek in the centre. Program areas for Edwards Gardens and Toronto Botanical Garden are distributed on both sides of the valley with few accessible pathways between the two sides.

PEDESTRIAN

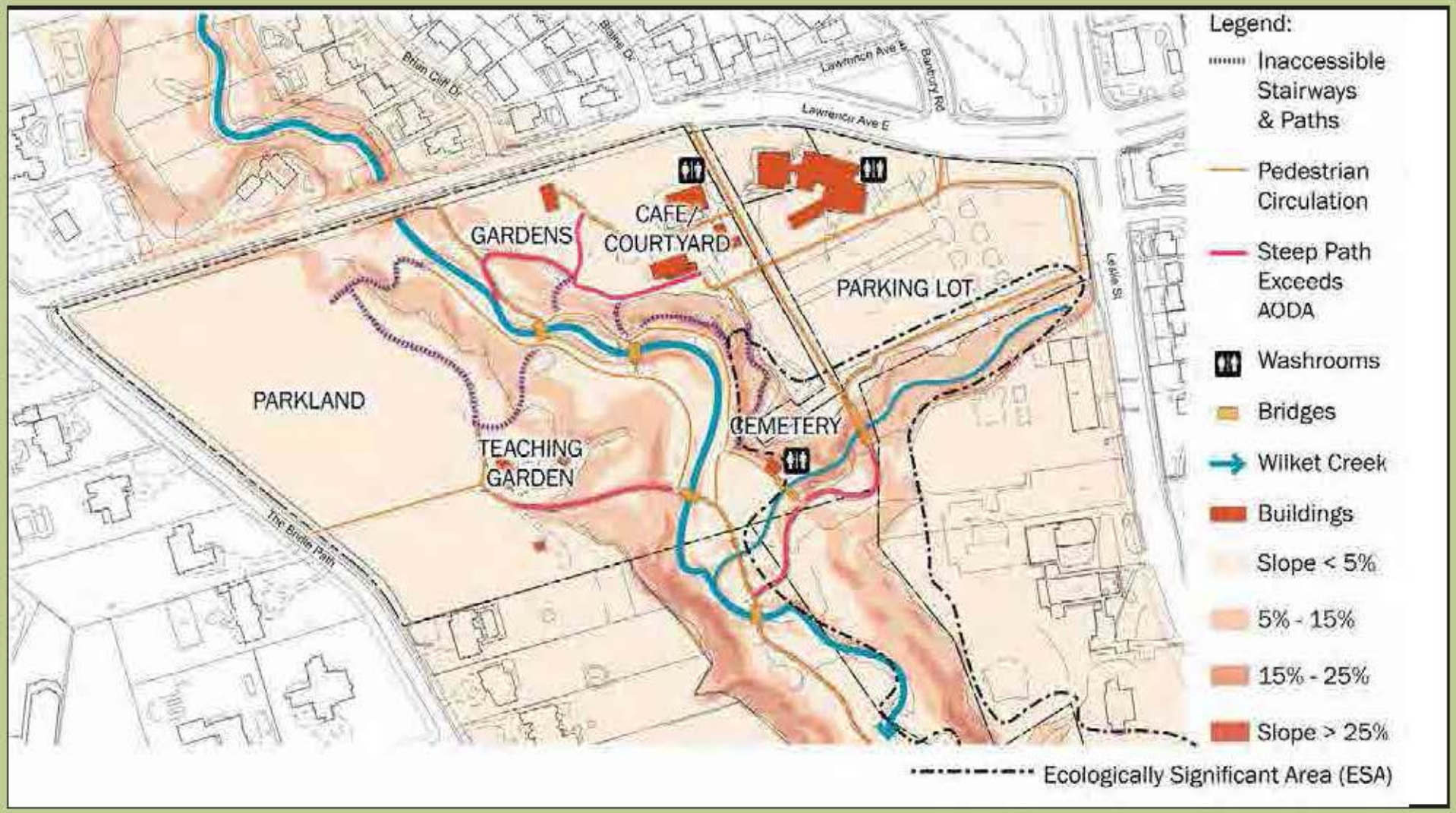
Some paths have stable surfaces, but the slopes exceed 5% and therefore require additional handrails, landings and curbs to conform to AODA and Toronto Accessibility Guidelines. Other pathways meet the slope requirements for AODA, but the materials create a discontinuous, uneven or unstable surface and are not suitable for mobility devices or the visually impaired.

Existing stairs are inconsistently maintained seasonally and treads lack visual contrast. Runs of stairs are sometimes long with few landings and rest areas. Handrails are typically installed on one side only, forcing users to travel in one direction at a time over the length of the stairs or rely on companions to assist in navigating the steps.

VEHICULAR

There is no publicly accessible drop-off or pickup area for the west tablelands which forces users to navigate the existing inaccessible paths in order to access the western site. For maintenance, most vehicles must travel outside the site along Lawrence Avenue East and the Bridle Path to access the Barn and West Tablelands maintenance yard.

2.6 ACCESSIBILITY

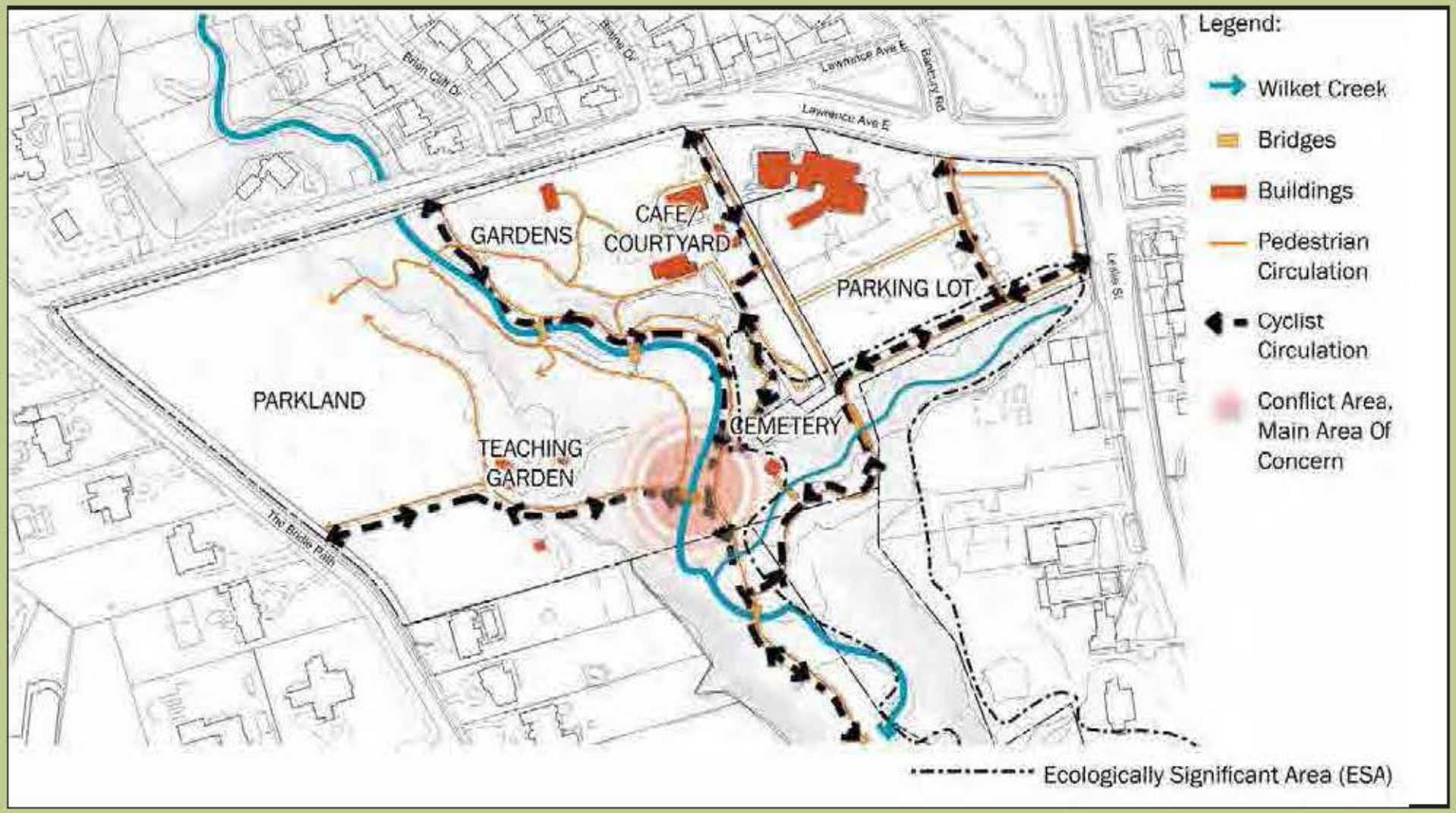


2.7 PEDESTRIAN AND CYCLING INTERFERENCE

Currently, there are no separate, designated paths for cyclists. Most cyclists enter the site at various locations at Lawrence Avenue, Leslie Street and the Bridle Path, and continue down the ravine by cutting through the parking lot and the gardens. Since most pathways are seen as multi-use, cyclists tend not to slow down when traveling through the site. One of the major areas of concern is the north steel bridge, where three popular cycling routes come together. The sharp turns that enter and exit the bridge present a potential safety hazard for pedestrians. There is no pavement marking, signage or speed bumps near the bridge to inform pedestrians and cyclists of this interference.

Generally, there is poor hierarchy and continuity in path width and surface material. Many paved surfaces are in disrepair, and some are difficult and unsafe to use. There is no clear gateway signage at the entrance to Toronto Botanical Garden, and a lack of directional signage make visiting the site confusing—especially for first time visitors. Lack of separation between pathways for pedestrians, cyclists and service vehicles can make moving throughout the site unsafe and unpleasant for visitors.

2.7 PEDESTRIAN AND CYCLING INTERFERENCE

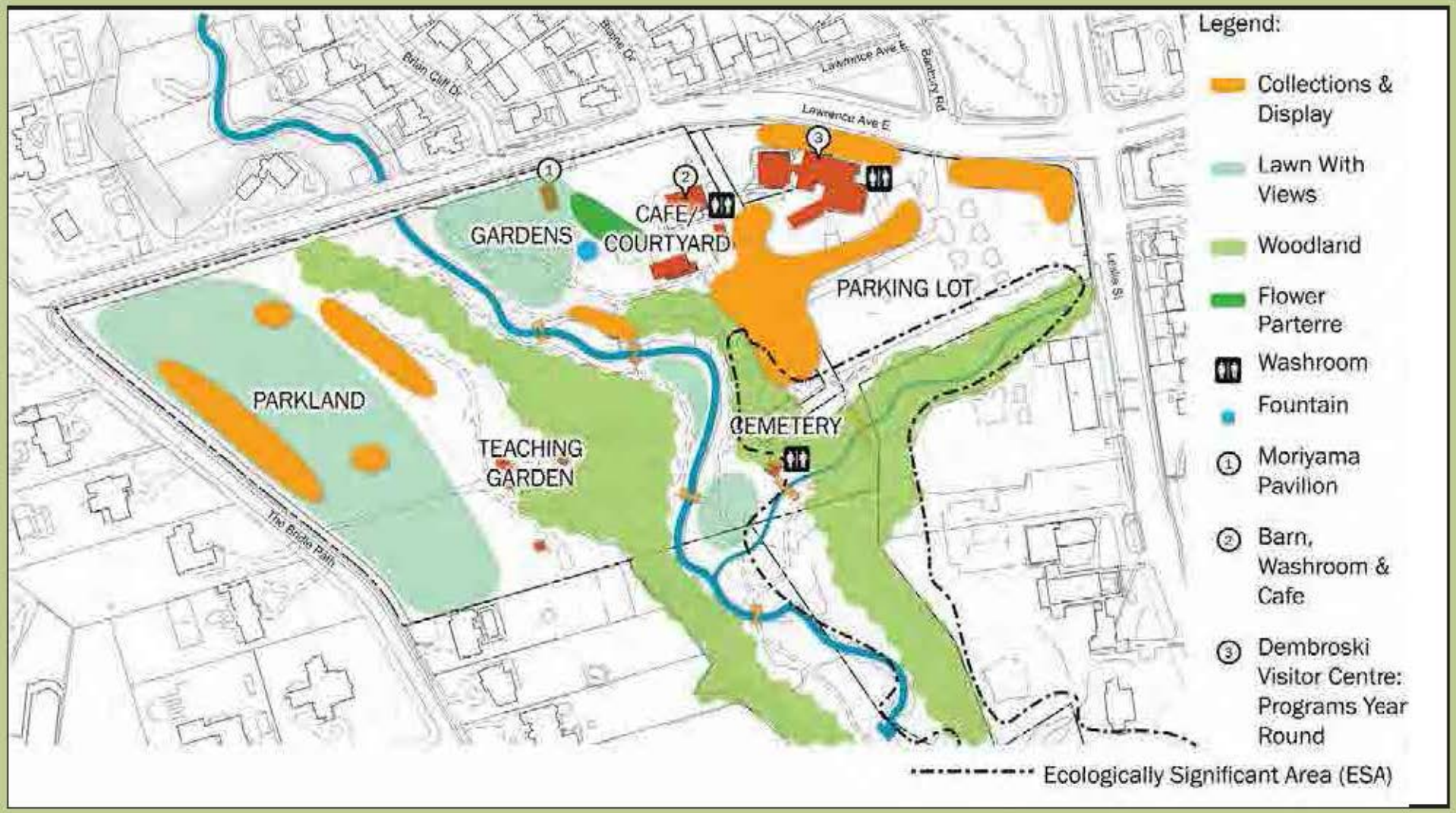


2.8 VISITOR EXPERIENCE (MAY - OCTOBER)

Outdoor activities in Edwards Gardens and Toronto Botanical Garden occur primarily during May through October, when the weather permits. On the western tablelands most activities are passive—such as sunning, visiting with friends, tossing a ball—while places around the Toronto Botanical Garden Visitor Centre offer more structured educational activities, as well as unstructured enjoyment of the Themed Gardens. In the Teaching Garden in the western tablelands, members of Toronto Botanical Garden's education staff offer a wealth of programmed activities for school groups and families.

In the eastern tablelands of Edwards Gardens, visitors enjoy strolling among the flowerbeds and along the slopes leading down to Wilket Creek. Activities in the floodplain include strolling and relaxing on the many benches, guided tours conducted by Toronto Botanical Garden volunteers, and educational activities related to the ecology of Wilket Creek. Wedding photography is frequently staged throughout Edwards Gardens and Toronto Botanical Garden.

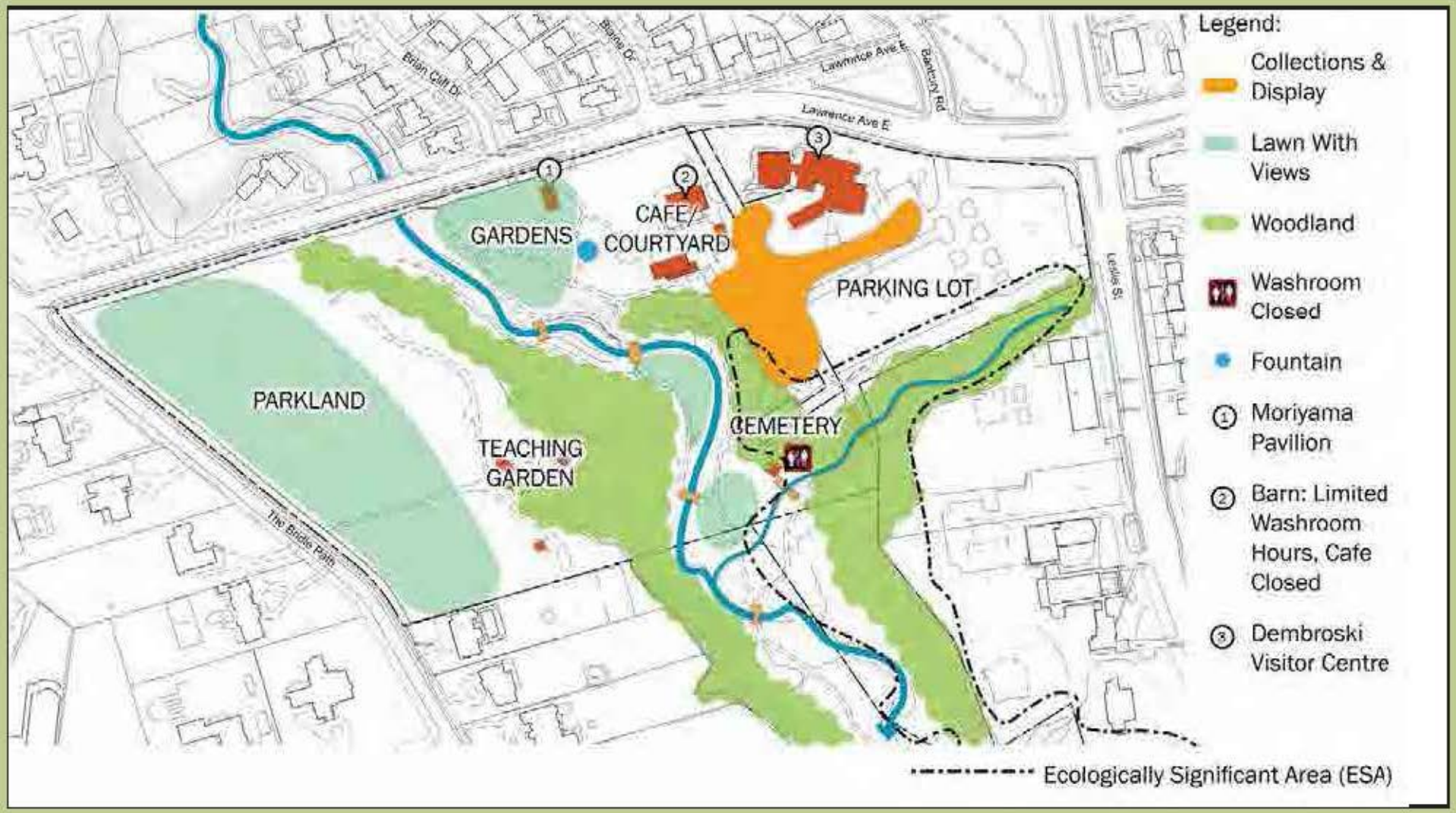
2.8 VISITOR EXPERIENCE (MAY - OCTOBER)



2.9 VISITOR EXPERIENCE (NOVEMBER TO APRIL)

Outdoor activities from November through April are reduced due to the weather, although walking, hiking, and biking remain popular. The schedule of indoor activities at the Toronto Botanical Garden Visitor Centre is robust throughout the year. School programs are conducted in the Teaching Garden in fall and spring.

2.9 VISITOR EXPERIENCE (NOVEMBER TO APRIL)



2.10 VISITOR EXPERIENCE

TORONTO BOTANICAL GARDEN CALENDAR OF EVENTS

MONTH	EVENT	TYPE/DEPARTMENT	LOCATION
JANUARY			
Thursday	TBG Lecture #1	Education	Floral Hall
Tuesday-Friday	School Visits	Education	Allan Gardens
Thursdays	Farmers' Market	Administration	Lobby
Weekday/Weekends	Adult Courses	Education	Various Locations in the building
FEBRUARY			
Saturday	Get the Jump on Spring: Horticultural Open House	Event	Entire Building
Saturday	Documentary Screening	Library	Library
Saturday	City Critters Family Program	TBGKids	JBCC/Teaching Garden
Saturday	Seedy Saturday	Library	Entire Building
Thursday	TBG Lecture #2	Education	Floral Hall
Thursdays	Farmers' Market	Administration	Lobby
Tuesday-Friday	School Visits	Education	Allan Gardens
Weekday/Weekends	Adult Courses	Education	Various Locations in the building
MARCH			
10 days	Canada Blooms	Event	Enercare Building -Booth
Monday-Friday	March Break Camps	TBGKids	JBCC/Teaching Garden
Saturday	Screening: Open Sesame: The Story of Seeds	Library	Library
Saturday	City Critters: Toronto Raptors	TBGKids	JBCC/Teaching Garden
Thursdays	Farmers' Market	Administration	Lobby
Weekday/Weekends	Adult Courses	Education	Various Locations in the building
APRIL			
Thursday	TBG Lecture #3	Education	Flora Hall
Thursdays	Farmers' Market	Administration	Lobby/Arrival Courtyard
Tuesday-Friday	School Visits	Education	JBCC/Teaching Garden
Saturday	Earth Day Celebrations	TBGKids	JBCC/Teaching Garden
Saturday	Documentary Screening	Library	Library
Weekday/Weekends	Adult Courses	Education	Various Locations in the building

2.10 VISITOR EXPERIENCE

TORONTO BOTANICAL GARDEN CALENDAR OF EVENTS

MONTH	EVENT	TYPE/DEPARTMENT	LOCATION
MAY			
Thursday- Sunday	Plant Sale	Horticulture	Floral Hall
Thursday	Contributing Member Plant Sale Preview	Development	Floral Hall/Lobby
Thursday	TBG Lecture #4 & AGM	Education	Floral Hall
Tuesday-Friday	School Visits	Education	JBCC/Teaching Garden
Thursdays	Farmers' Market	Administration	Arrival Courtyard
Tuesday	Woman to Woman: Lunch in the Garden	Development	Entire Building/Gardens
Wednesday	TTGG Media Tour	Communications	Off-site
Weekday/Weekends	Adult Courses	Education	Various Locations: building and gardens
Saturday & Sunday	Doors Open Toronto	City Event	Entire Building/Gardens
JUNE			
Thursday	Toronto Life Garden Party	Communications	Entire Building/Courtyards/EG Courtyard
Thursdays	Edwards Summer Music Series	Events	EG Courtyard/Rain Back up in the Floral
Thursdays	Farmers' Market	Administration	Hall
Tuesday-Friday	School Visits	Education	Arrival Courtyard
Friday-Sunday	Canada's Garden Days	National Event	JBCC/Teaching Garden
Saturday & Sunday	Through the Garden Gate	Development	Off-site
Weekday/Weekends	Adult Courses	Education	Various Locations in the building

2.10 VISITOR EXPERIENCE

TORONTO BOTANICAL GARDEN CALENDAR OF EVENTS

MONTH	EVENT	TYPE/DEPARTMENT	LOCATION
JULY			
Thursdays	Edwards Summer Music Series	Events	EG Courtyard/Rain Back up in the Floral Hall
Monday-Friday	Summer Camps	TBGKids	JBCC/Teaching Garden
Weekday	Community Citizenship Ceremony	Communication	Floral Hall/Garden Hall/Garden
Thursdays	Farmers' Market	Administration	Arrival Courtyard
Weekday/Weekends	Adult Courses	Education	Various Locations in the building
AUGUST			
Thursdays	Edwards Summer Music Series	Events	EG Courtyard/Rain Back up in the Floral Hall
Thursdays	Farmers' Market	Administration	Lobby/Arrival Courtyard
Monday-Friday	Summer Camps	TBGKids	JBCC/Teaching Garden
Weekday/Weekends	Adult Courses	Education	Various Locations in the building
SEPTEMBER			
Thursday	TBG Lecture #5	Education	Floral Hall
Thursdays	Farmers' Market	Administration	Arrival Courtyard
Thursday	Hearts and Flowers Launch Event	Development	Floral Hall/Garden Hall
Tuesday-Friday	School Visits	Communications	JBCC/Teaching Garden
Weekday/Weekends	Adult Courses	Education	Various Locations: building and gardens
Saturday	Harvest Day	TBGKids	JBCC/Teaching Garden/Arrival Courtyard
OCTOBER			
Thursday	Halloween Volunteer Appreciation Party	Volunteers	Floral Hall
Thursday	TBG Lecture #5	Education	Floral Hall
Thursdays	Farmers' Market	Administration	Arrival Courtyard/Lobby
Tuesday-Friday	School Visits	Education	JBCC/Teaching Garden
Friday	Symposium	Education	Entire Building
Saturday	Halloween Howl	TBGKids	JBCC/Teaching Garden
Weekday/Weekends	Adult Courses	Education	Various Locations in the building

2.10 VISITOR EXPERIENCE

TORONTO BOTANICAL GARDEN CALENDAR OF EVENTS

MONTH	EVENT	TYPE/DEPARTMENT	LOCATION
NOVEMBER			
Thursday	Aster Awards	Development	Floral Hall
Thursday	TBG Lecture #7	Education	Floral Hall
Tuesday-Friday	School Visits	Education	Allan Gardens
Thursdays	Farmers' Market	Administration	Lobby
Weekday/Weekends	Adult Courses	Education	Various Locations in the building
DECEMBER			
Thursday	Members Holiday Reception	Development	Floral Hall Lobby/Arrival Courtyard
Thursday	Holiday Market and Open House	Development	Entire Building
Tuesday-Friday	School Visits	Education	Allan Gardens
Sunday	Family Nature Walk	Education	Ravine & Gardens
Thursdays	Framer's Market	Administration	Lobby
Weekday/Weekends	Adult Courses	Education	Various Locations in the building

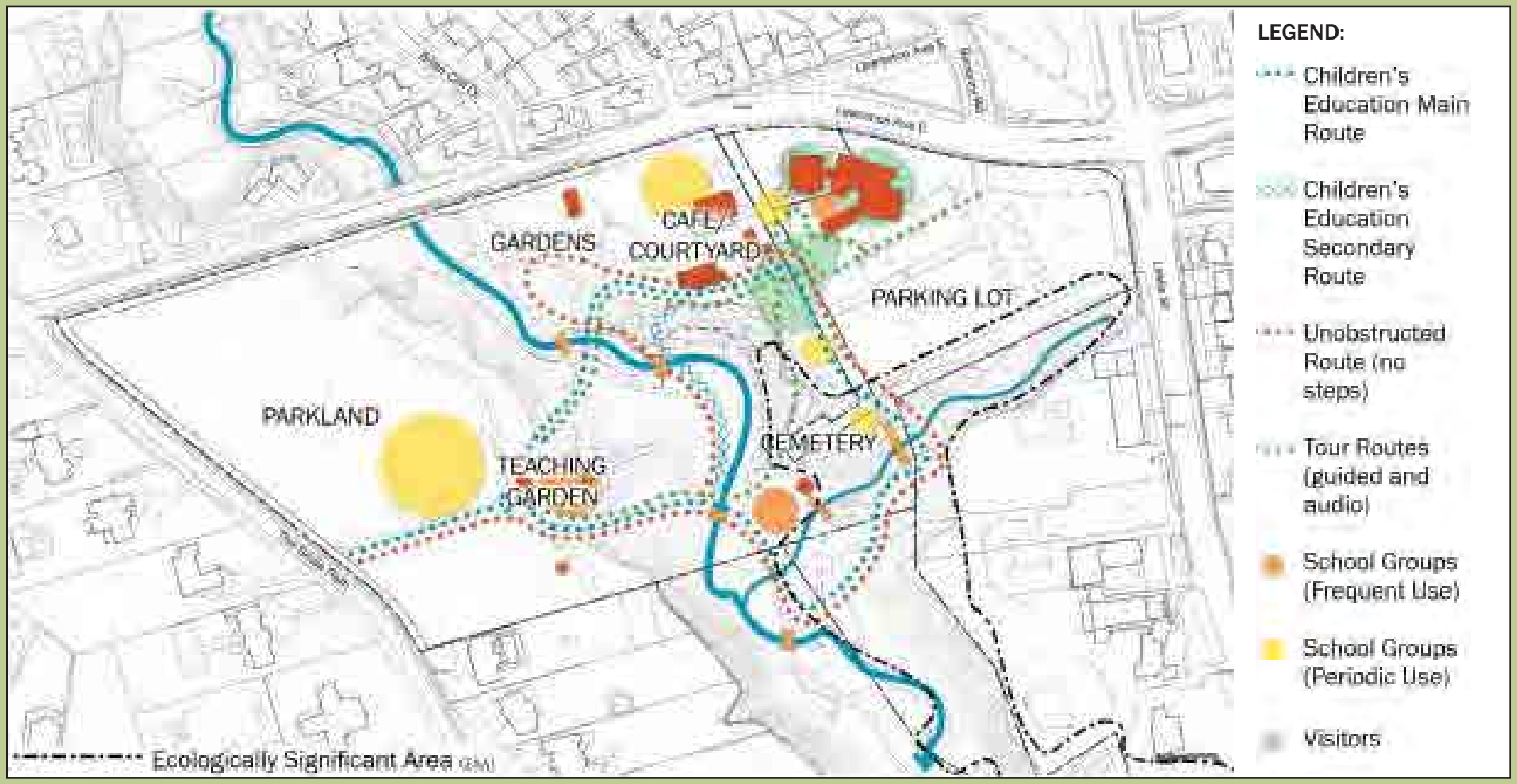
2.11 EDUCATIONAL PROGRAMMING

Toronto Botanical Garden's current educational programming serves school groups and families, as well as amateur and professional horticulturists, ecologists and garden designers. School programs are offered for Kindergarten to grade 8, serving approximately 5,000 Toronto school children each year in curricula related to gardening, ecology and science.

1,000 adults participate each year in adult education programs. The Toronto Botanical Garden Visitor Centre and Teaching Garden are the two primary locations for educational activities, with many programs also offered throughout the Edwards Gardens/Wilket Creek ravine. A wide range of subject matter includes ecology, gardening, photography, wellness, and beekeeping. Certification programs are offered in garden design, floral design, and horticultural therapy.

The existing facilities are currently being used to their capacity, and the existing Themed Gardens at the Visitor Centre have proved to provide insufficient space for hands-on learning outdoors. To meet increasing demand for educational programming, there is a need for increased indoor—as well as outdoor—classroom space, outdoor teaching areas, and outdoor restrooms. Current teaching staff is operating to its maximum capacity; therefore, consideration for additional staff will be required before educational offerings can be expanded

2.11 EDUCATIONAL PROGRAMMING



2.11 EDUCATIONAL PROGRAMMING

EDUCATION AT TORONTO BOTANICAL GARDEN

WESTON FAMILY LIBRARY AT TORONTO BOTANICAL GARDEN

Canada's largest privately held horticultural library was established in 1961 with a donated collection from the Garden Club of Toronto. The library consists of more than 10,000 books, an extensive periodical collection and a multimedia collection. Only members enjoy borrowing privileges but the public is free to browse and use the computer workstations. The library hosts author talks and documentary screenings.

ADULT EDUCATION

Approximately 100 courses are offered every year. Tried and true offerings like floral design are paired with new classes that engage more diverse audiences as well as offer new partnership opportunities. Eight to ten lectures and one symposium, focusing on horticulture and ecology, are delivered yearly.

Certificate programs are offered in urban beekeeping, horticultural therapy, floral design and garden design. The latter is delivered in partnership with George Brown College at its downtown campus.

CHILDREN'S EDUCATION

The majority of children's education programs offered by Toronto Botanical Garden occur within the study site. However, teachers also deliver programs at a few branches of the Toronto Public Library and at the city-run Allan Gardens. Some programs are paid for by participants, while others are funded so that participation is free.

Living Winter is a funded program that engages about 2,000 children from approximately 100 schools every winter. It takes place at Toronto Botanical Garden, and is mostly an outdoor experience.

Growing Under Glass is a City of Toronto-funded program that brings in more than 1,000 grade 3 students from schools in priority neighbourhoods.

Green Adventure is a funded one-day camp that engages children from various daycares that serve vulnerable communities. It takes place at Toronto Botanical Garden in early August.

Green Explorers is a one-week camp that engages a small group of grade 6 students from Flemingdon Park. It takes place at Toronto Botanical Garden in early July.

2.11 EDUCATIONAL PROGRAMMING





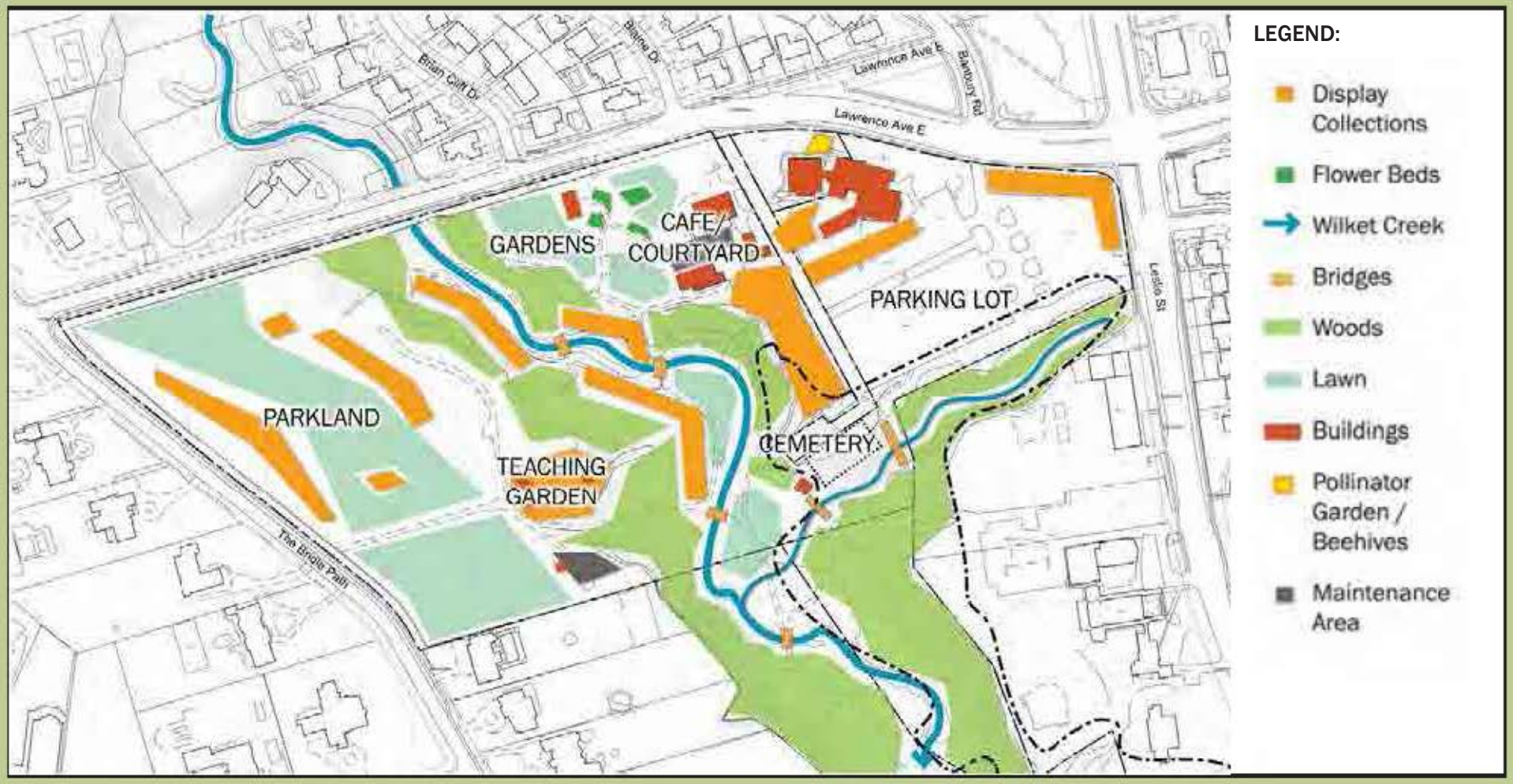

2.12 FRAGMENTATION

The site offers a variety of attractions and destinations to its visitors. While these present an interesting array of visitor experiences, they are scattered throughout the site in such a way as to prevent an overall sense of journey or connection. The site lacks an overall sense of design cohesiveness or integration. This fragmentation makes the site confusing to navigate, especially for first time visitors.

Plant collections and displays include shrub and rose beds on the western tablelands, a rhododendron garden along the west edge of the Wilket Creek floodplain, and a rock garden along the eastern bank of the ravine. There is a sharp stylistic contrast between the summer flowerbeds west of the barn, and the Themed Gardens near the Visitor Centre. A maintenance yard between these two areas adds to the overall sense of fragmentation.

Existing built elements and architectural components -- such as paved surfaces, benches, stairways, railings, trash cans, and signage -- lack unity of style and/or material. The site offers at least nine different types of benches, many of which are in poor condition. At least seven different paving materials are presented in a wide variety of patterns. Retaining walls, steps, and railings are also installed throughout the site in an uncoordinated variety of materials and styles. Railings, for example, vary in style from rustic wood to modern steel pipe, and are placed in various locations without apparent regard for immediate design context.

2.12 FRAGMENTATION



2.13 SITE INVENTORY AND ANALYSIS SUMMARY

FLORA	FAUNA	FLOODING & HYDROLOGY	VISTAS	ACCESSIBILITY
Ravine and the slope plant communities represent some of the highest quality forest communities that remain in Toronto. However, certain degree of degradation are present and continuing maintenance on the invasive species control is required. .	Terrestrial environment provides habitat for a variety of common animals and offers opportunity for habitat to breeding and migrating birds. Wilket Creek is a warm water fishery that provides habitat for a variety of fish species as well other wildlife.	With no stormwater management infrastructure upstream Wilket Creek, flush flooding is estimated to occur 2 to 4 times per year. Uncontrolled run off from paved surfaces has negative impact onto sensitive areas of the ravine and its slopes.	Eastern tablelands offer many attractive vistas across the site.	There are only a few accessible pathways between western and eastern tablelands. Maintenance vehicles interfere with pedestrian pathway. Western lands do not offer vehicular drop off. Main entrance to the gardens lacks a grand gateway feature.
CYCLISTS & PEDESTRIANS	**VISITOR EXPERIENCE**	**EDICATIONAL PROGRAMMING**	**FRAGMENTATION**	**STRUCTURES**
There is no clear delineation between pedestrians and cyclists for both pathways and bridges. Intersections at bridges create serious conflicts.	Between the months of May and October outdoor activities are divided between eastern and western tablelands. Some of them include: strolling through themed gardens, attending outdoor classes at teaching garden, etc. From November to April activities are reduced to walking, hiking and biking. Indoor activities are happening throughout the year.	Toronto Botanic Garden's education programming serves a range of users from school groups to professionals. Majority of the classes occur at TBG centre and the Teaching Garden. There is a demand for more programs, larger indoor and outdoor spaces and more teaching staff.	Many of the gardens and attractions are scattered throughout the site with no direct connections. The site lacks design cohesion and integration.	The existing buildings, some of which include historic structures, need exterior and interior upgrades. Bridges are generally in good condition, with ongoing maintenance required over time. Retaining walls are performing well.

2.14 CONSTRAINTS AND OPPORTUNITIES

SENSITIVE ECOSYSTEM

		Aspects of Botanical Gardens				Category			Time Frame			Budget	
Constraint	Opportunity	Beauty & Display	Conservation	Education	Research	Programming	Partenrship	Capital Investment	Quick Win (1-3 years)	Mid Term (3-5 years)	Long Term (5+ years)	$	Multi-Year/ Single Year
Flora and Fauna Several fauna species of concern; Diminished ecological diversity; Forests in a state of degradation; Compacted soils; Eliminated forest ground cover and understorey vegetation; Numerous invasive species; Many floral species of concern, requiring protection and care	Wooded slopes and floodplain provide enriched habitat Invasive species Manamgement	●	●	●	●		●	●		●	●		Multi
Flooding and Hydrology Intense flooding is estimated to occur 2 to 4 times per year; Large existing debris deposits; Existing weir is part of dam, which creates an on-line sedimentation facility. It creats a fish barrier, continued erosion of creek banks	Existing ravine offers a connection to the Don Valley ecosystem	●	●	●	●		●	●		●	●		Multi

FRAGMENTED AND UNDERWHELMING BOTANICAL GARDEN EXPERIENCE

Western table lands not seen as part of the experience; Many spaces with similar/complimentary programming physically separated from each other; Teaching Gardens situated in remote location; too small to accommodate larger programs		●	●	●	●	●	●	●		●			Multi

OPERATIONAL ISSUES

Constraint	Opportunity	Aspects of Botanical Gardens				Category			Time Frame			Budget	
		Beauty & Display	Conservation	Education	Research	Programming	Partenrship	Capital Investment	Quick Win	Mid Term	Long Term	$	Multi-Year/ Single Year
Many benches in poor condition and inaccessible from pathways; Lack of visual unity for components (paving, benches, railings, signage, etc.) within and beyond site;	Upgrade seating, paving, railing and signage to create safe and enjoyable visitor's experience	●	●					●		●			
Maintenance facility adjacent to barn intrudes on visitors in gathering spaces; Site inconsistently served by washroom facilities	Facilities upgraded as state of good repair and regular scheduled maintenace improvements can also improve safety, connection and visitor experience	●						●	●				
Existing structures may limit significant changes to the site	Existing structures can be repurposed and enhanced to provide more or diverse uses; Existing greenhouse may provide opportunities for a variety of uses	●	●	●				●		●			
Insufficient parking; confusing connection between parking lot and Visitor's Centre; parking lot surface showing signs of deterioration, safety hazards	Convert existing parking area into multi-level parking structure						●	●			●		

OBSTACLES TO ACCESSIBILITY

Constraint	Opportunity	Aspects of Botanical Gardens				Category			Time Frame			Budget	
		Beauty & Display	Conservation	Education	Research	Programming	Partenrship	Capital Investment	Quick Win (1-3 years)	Mid Term (3-5 years)	Long Term (5+ years)	$	Multi-Year/ Single Year
Conflicts between pedestrians, cyclists and maintenance vehicles; Many steep walkways create slippery and dangerous conditions year round; Erosion and flooding cause repeated damage to walkways and bridges; Insufficient accommodation for visitors of all ages, abilities and languages	The system needs to be upgraded to create a safe and functional circulation system	●	●					●	●	●			Multi
Poor directional signage and lack of wayfinding; Wayfinding system is insufficient;	Safe street crossing and signage around and outside the site	●	●	●				●	●				
Limited connections to other cultural instututions; Lack of access for winter activities	Proximity and partnerships can provide linkages with other gardens and natural and cultural heritage sites; Provide linkages to other gardens and natural areas; Opportunity for access with other nearby cultural institutions	●	●		●		●						

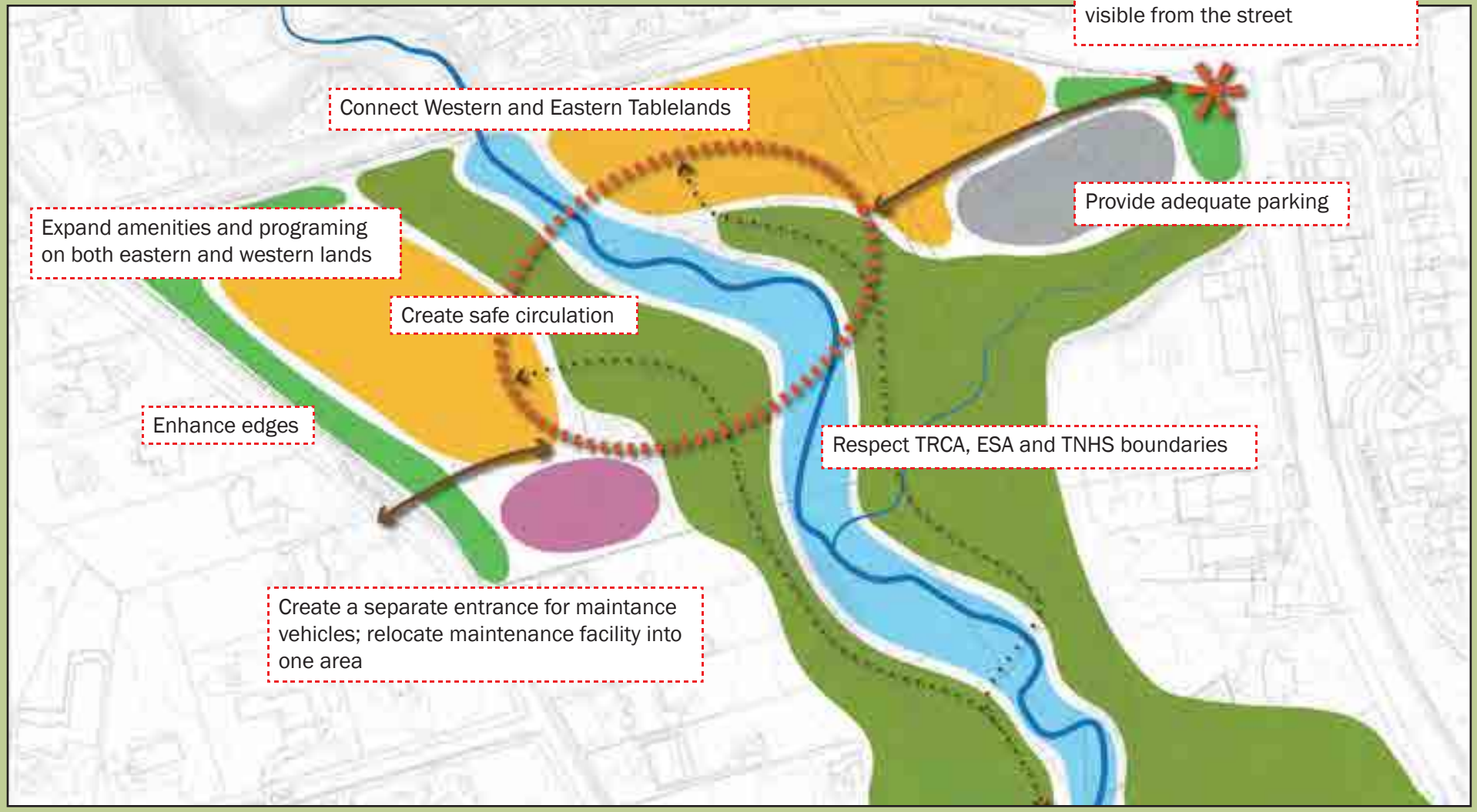
INFRASTRUCTURE AND AMENITIES CLOSE OR AT END OF LIFECYCLE

		Aspects of Botanical Gardens				Category			Time Frame			Budget	
Constraint	Opportunity	Beauty & Display	Conservation	Education	Research	Programming	Partenrship	Capital Investment	Quick Win	Mid Term	Long Term	$	Multi-Year/ Single Year
Café with limited seasonal schedule and hours of operation; too small to accommodate visitors in the peak season; too small to accommodate large parties	Expand food and baverage availability					●	●		●				
Moriyama Pavilion underused, in poor condition	Repair Moriyama Pavilion and create ceremonial space next to it			●		●	●	●		●			
No large outdoor gathering space for lectures, performances, etc.	Area between barn and greenhouses offers an opportunity to become a new gathering space and to celebrate site heritage			●		●			●				
Barn underused because of location adjacent to maintenance facility and lack of space for gatherings; Greenhouse too small for educational purposes and located too far from western table lands maintenance area.	One integrated sequence of places that supports a variety of programs and activities			●	●	●			●				
Existing benches are not located to take advantage of desirable views or gathering	Provide lookouts and vantage points with seating	●						●		●			
Minimal covered or shaded spaces in the western table lands and floodplain	Provide more shelter opportunities throughout the entire site	●		●				●	●		●		

PROGRAMMING AND EVENT/LEARNING SPACES NOT MAXIMIZED FOR YEAR ROUND ACTIVITY

Constraint	Opportunity	Aspects of Botanical Gardens				Category			Time Frame			Budget	
		Beauty & Display	Conservation	Education	Research	Programming	Partenrship	Capital Investment	Quick Win (1-3 years)	Mid Term (3-5 years)	Long Term (5+ years)	$	Multi-Year/ Single Year
Insufficient space dedicated to teaching, events, programmed activities and enhanced experince	Utilize both Edwards Gardens and Toronto Botanical Garden to host programs; western table lands offer opportunities to relocate horticultural collections;	●	●	●	●	●	●				●		
Existing teaching staff operating at full capacity, lacking variety of programs	Education about integration of both native and non-native plants; Provide more programs for urban agriculture; Provide affordable programming for young adults; Expanded programming for all seasons	●	●	●	●	●	●				●		
No interpretive signage or self-guided tours, take- away and out reach programs	Provide visitor accessible wi-fi systems; Integration with technology for layered interpretation and improved communication with people with disabilites and in a variety of languages; Expande take-away & outreach programs for visitors; Develop and showcase online (and virtual off-site) experience	●	●	●		●				●			

SUMMARY DIAGRAM: THE BIG MOVES



3.0

VISION FOR THE FUTURE

alysis and establishes the Project Vision, Key Components,
Guidin
ority Actions. This section also focuses on the development of
master pla
nd final master plan.

3.1 PROJECT VISION AND KEY COMPONENTS

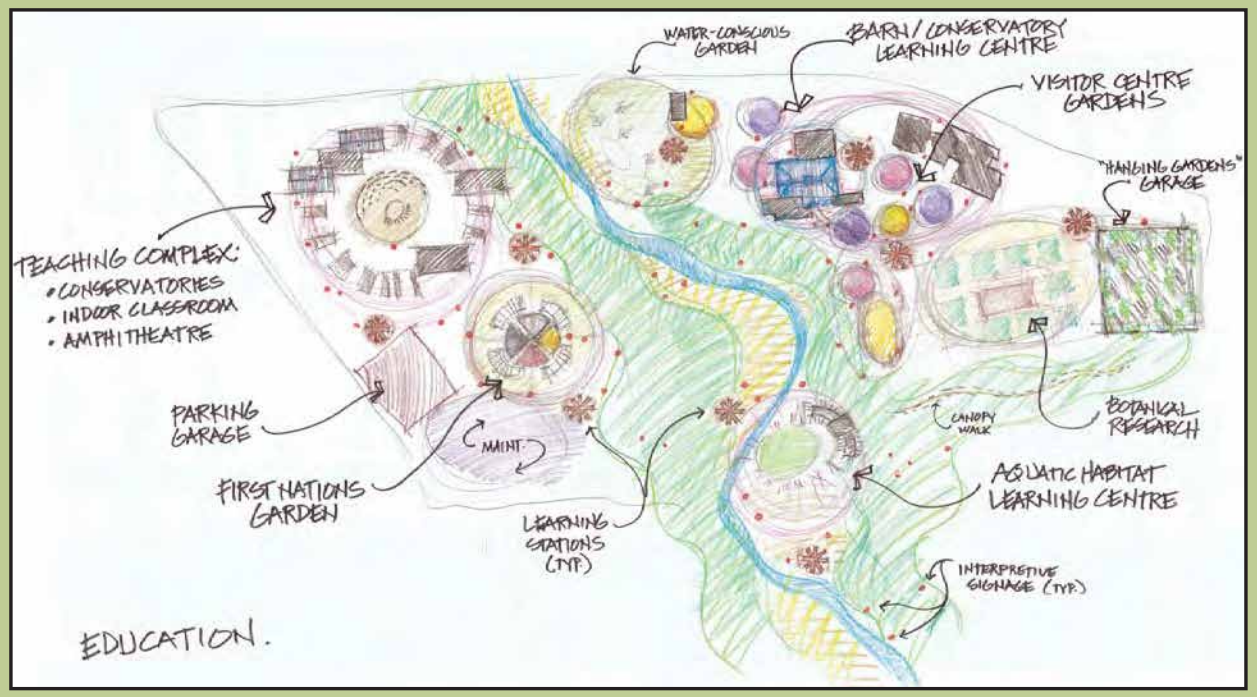
PROJECT VISION	KEY COMPONENTS
An Internationally Recognized Botanical Garden in the City of Toronto	• A Resilient Ecosystem • A Botanical Showcase • Programming, Events and Learning Opportunities • Accessible and Functional • Attractions and Amenities • Financial and Operational Sustainability

* Project Vision and key Components were developed in consultation with the Project Group and Stakeholder Advisory Group. Comments from the City of Toronto's project website were summarized and incorporated.

3.2.1 PROGRAM CONCEPTS

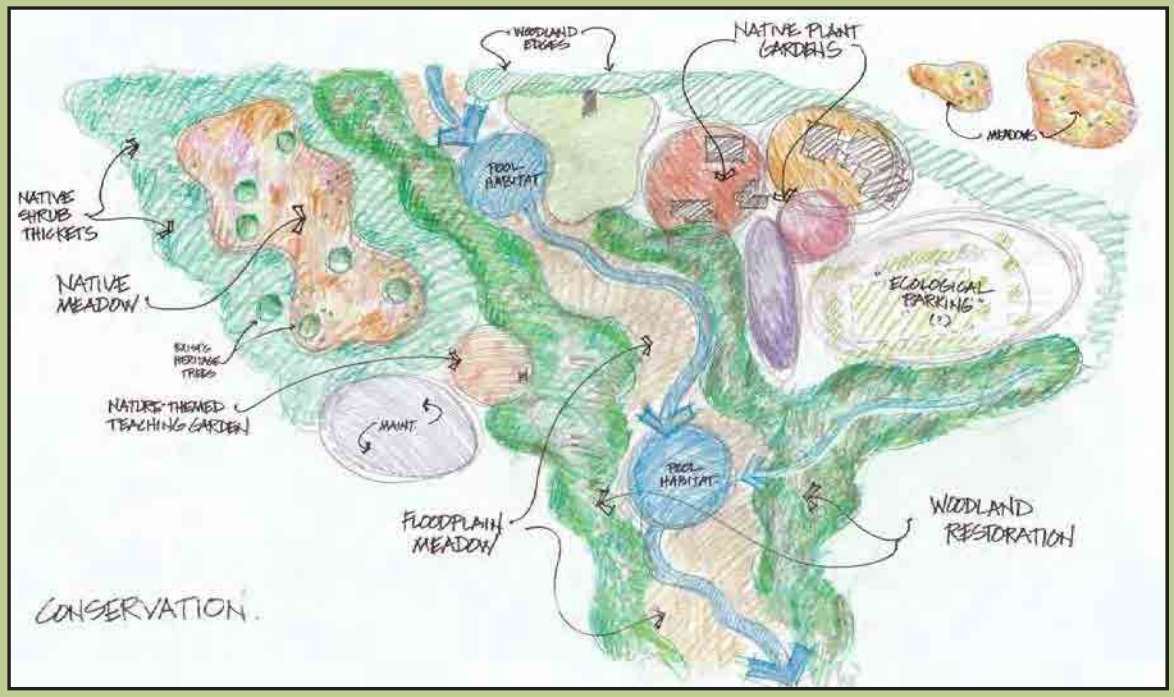
In a workshop exercise including the Project Group in the morning and the Stakeholder Advisory Group in the afternoon, the group was divided into three teams, and each was encouraged to envision a “fantasy” master plan from one of three different perspectives: Education, Conservation, and Beauty and Display.

The Education group recommended two major teaching complexes, along with many small learning stations and interpretive signs scattered throughout the site. On the east side of the Wilket Creek the teaching complex included the existing Visitor Centre, a new conservatory/greenhouse, and the existing historic barn re-purposed as a classroom building. A second major complex, on the west side of the creek, included small classroom structures, an amphitheatre, small greenhouses, and a Indigenous garden. In addition, a small aquatic habitat learning centre was recommended in the floodplain adjacent to the Wilket Creek.



3.2.2 PROGRAM CONCEPTS

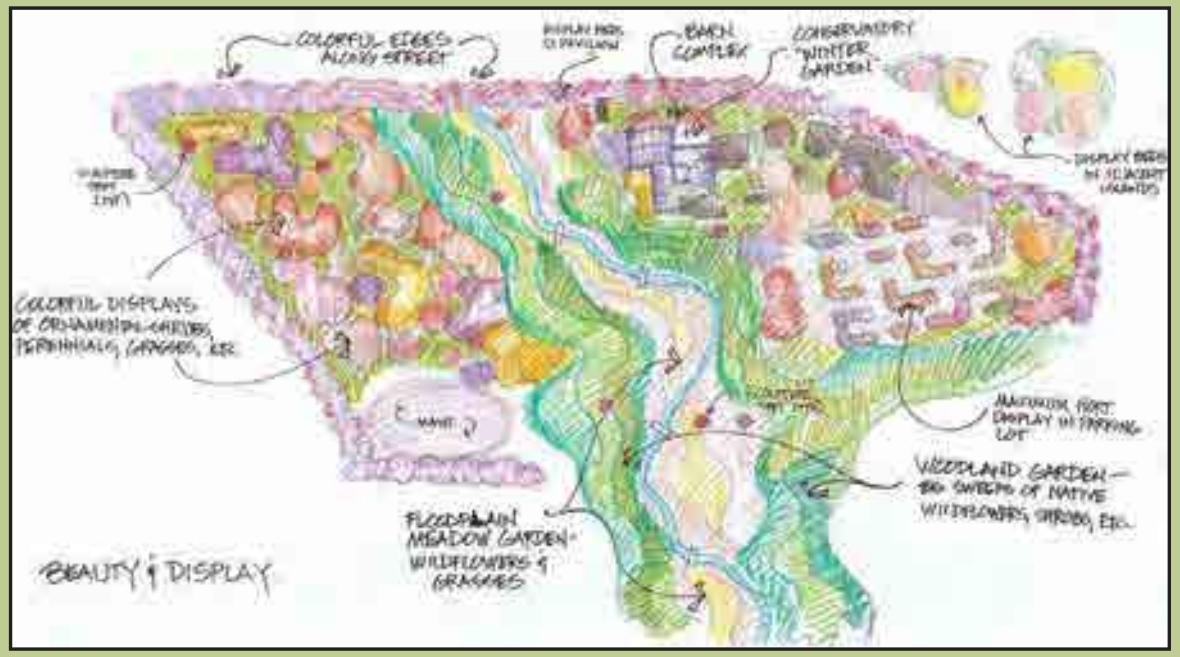
The Conservation group focused on habitat restoration and ecology. A series of native plant gardens was recommended for the area immediately surrounding the existing Visitor Centre and barn, while native habitats would be established or restored in most areas throughout the rest of the site. The upland terrace west of the Wilket Creek was envisioned as a large native meadow enclosed by thickets of native shrubs and trees. Woodland habitats on the slopes along both sides of the creek would be restored, and a major aquatic habitat restoration was imagined for the Wilket Creek and floodplain.



3.2.3 PROGRAM CONCEPTS

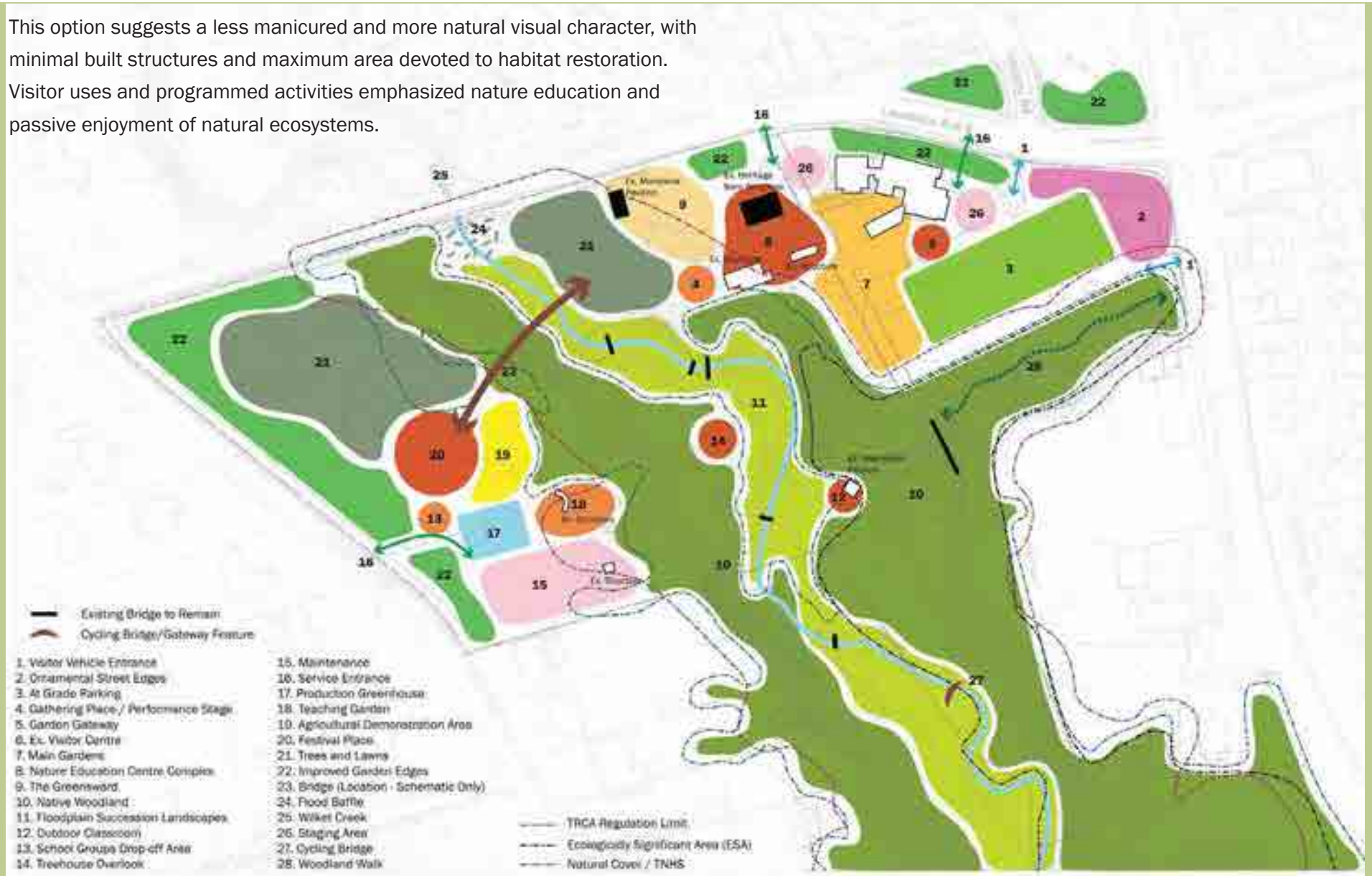
The group that focused on Beauty and Display filled the site with colorful gardens featuring the full range of plants that can be grown in Toronto, including non-native as well as native plants. A major new conservatory and winter garden was recommended adjacent to the existing barn, and a variety of horticultural displays were envisioned throughout the upland terrace east of the creek. The upland area west of the creek would contain colorful displays of ornamental shrubs, perennials and grasses. The wooded slopes and Wilket Creek floodplain would feature native plants arranged in bold sweeps and masses. The boundaries of the site along existing streets would be planted with colorful horticultural displays.

From these, two program concepts were prepared for public discussion. Option A, Native Habitat Focus, emphasized ecological restoration and natural habitats, while Option B, Ornamental Focus, included ecologically sustainable principles but emphasized the more ornamental aspects of garden design.



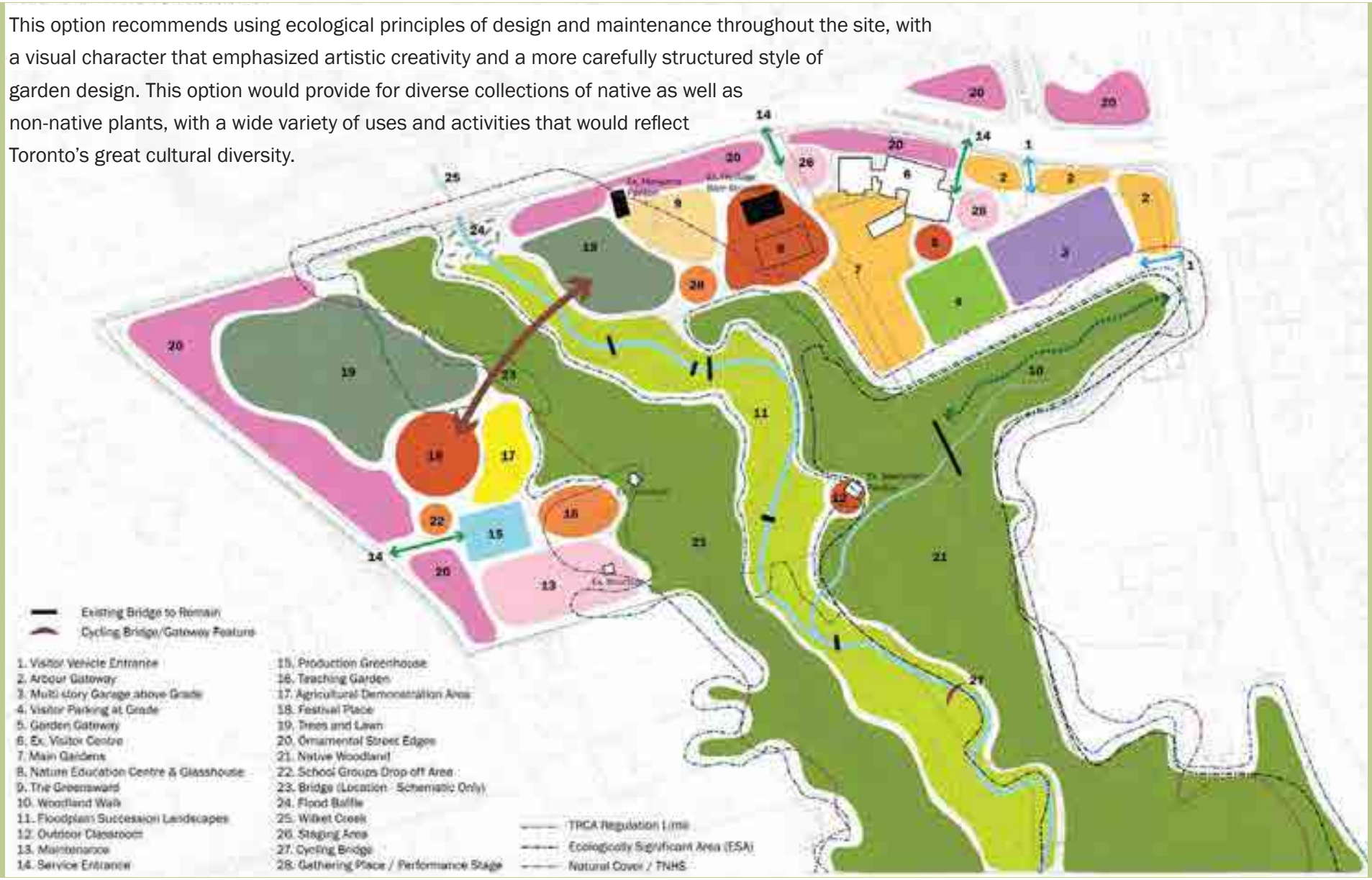
OPTION A: NATIVE HABITAT FOCUS

This option suggests a less manicured and more natural visual character, with minimal built structures and maximum area devoted to habitat restoration. Visitor uses and programmed activities emphasized nature education and passive enjoyment of natural ecosystems.



OPTION B: ORNAMENTAL FOCUS

This option recommends using ecological principles of design and maintenance throughout the site, with a visual character that emphasized artistic creativity and a more carefully structured style of garden design. This option would provide for diverse collections of native as well as non-native plants, with a wide variety of uses and activities that would reflect Toronto's great cultural diversity.



an built upon the preferred concept and the feedback from the

publi

ry Group meeting and Indigenous Group meeting.

4.1 GUIDING PRINCIPLES & PRIORITY ACTIONS

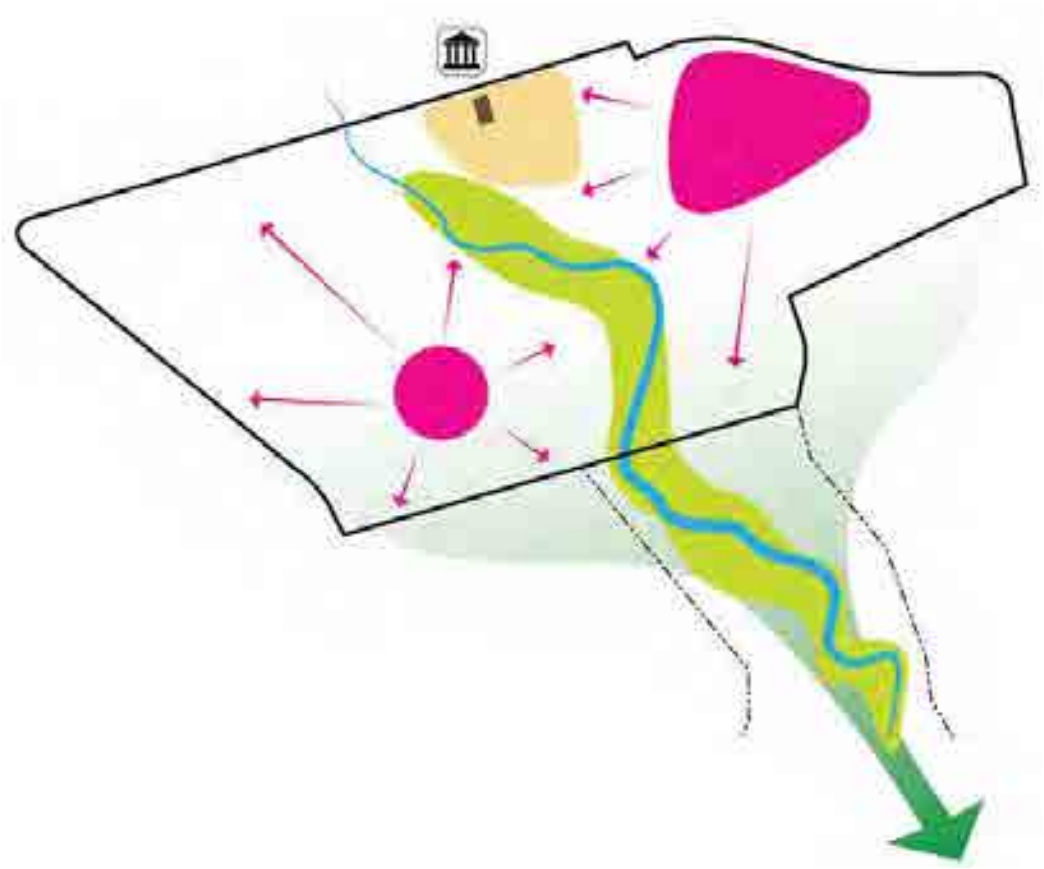
GUIDING PRINCIPLES

1. Celebrate a Unique Sense of Place
2. Contribute to a Resilient Ecosystem to Enhance Ecological Services
3. Improve Accessibility
4. Establish a Culture of Stewardship to Reconnect with the Land, Exchange Earth Knowledge and Demonstrate Green Infrastructure
5. Improve Operation Functionality
6. Improve Amenities
7. Improve Facilities to Expand Programming, Education, Activities and Ceremonies
8. Enhance Visitor Experience

Following the consultation activities with the Project Group, Stakeholder Advisory Group and the Indigenous community, the guiding principles were used as the basis to develop and finalize the master plan design.

4.1.1 CELEBRATE A UNIQUE SENSE OF PLACE

While the site is currently divided into Edwards Gardens and Toronto Botanic Garden, it is intended to become one destination, where visitors can experience nature and horticulture together. Edwards Gardens is a loved destination that brings visitors from all over the City. Maintaining the original intention of a place where people can escape the City, the combined botanic garden will elevate the experience and act as a gateway to the Don Valley system.



KEY INITIATIVES:

- Take advantage of the unique natural setting of the ravine and emphasize its importance
- Incorpoarte plants and programs reflect both the cultural and ecological diversity of Toronto's residents
- Protect and celebrate natural and cultural heritage of the Gardens
- Revive indigenous languages through traditional place names and plant names

PRIORITY ACTIONS:

- Revitalize the Edwards Gardens historic core
- Restore Moriyama Pavilion

4.1.2 CONTRIBUTE TO A RESILIENT ECOSYSTEM TO ENHANCE ECOLOGICAL SERVICES

The existing ravine offers a connection to the Don Valley ecosystem and creates opportunities for unique experiences in the urban environment. Restoring the ravine will not only protect numerous species and improve their ecological health, but connect visitors with nature and educate about natural process. The ravine system is a signature feature that gives the City of Toronto a unique character.

KEY INITIATIVES:

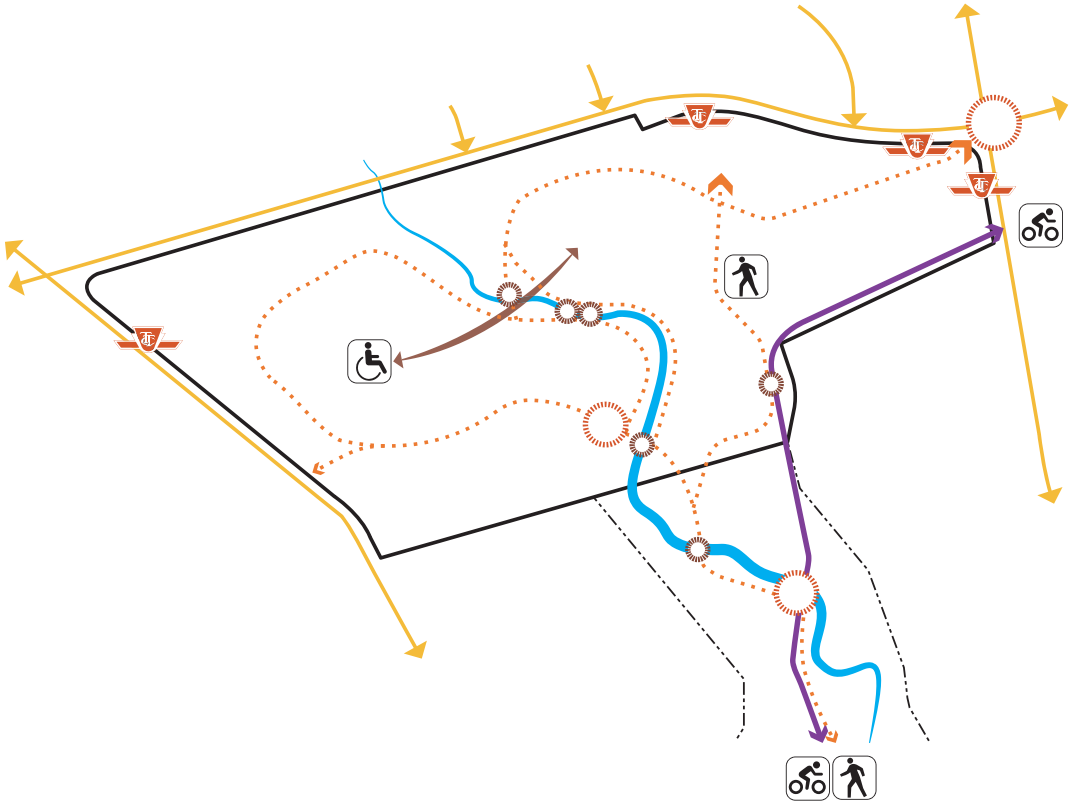
- Refurbish native woodlands, natural habitat for native plants and wildlife
- Address erosion and flooding issues to increase resiliency
- Foster respect and environmental stewardship
- Demonstrate horticultural and ecological best practices
- Heal the land by protecting the water as an essential life-giver

PRIORITY ACTIONS:

- Reduce compaction and increase organic matter and fertility
- Design a flood baffle to absorb/dissipate energy from floodwaters
- Identify and preserve significant quality specimen trees on western lands

4.1.3 IMPROVE ACCESSIBILITY

Safe and functional circulation is a key component in a successful botanic garden. Trails, pathways and roads connect visitors to the gardens, building and amenities, as well as, enhancing the overall experience. Accessible pathways and spaces that accommodate people of all ages and abilities, create an extra layer of a visitor - centered approach.



KEY INITIATIVES:

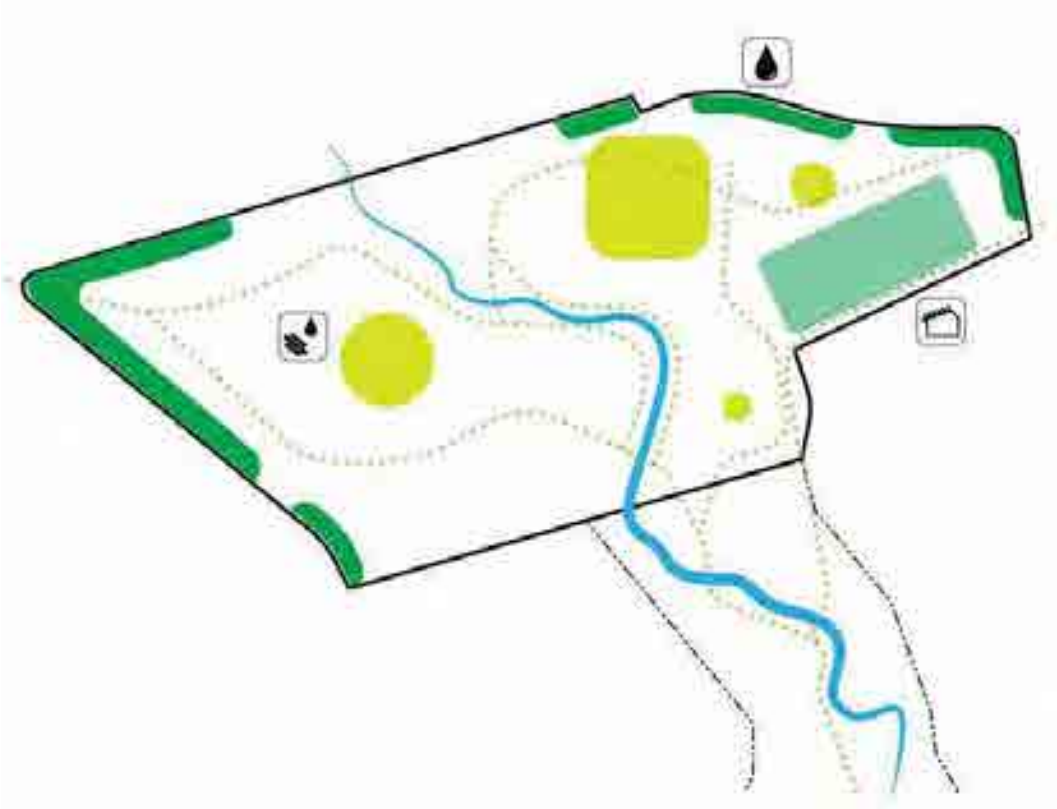
- Provide an accessible connection between the western and eastern table lands
- Provide a clear delineation between pedestrians and cyclists for a safe and pleasant experience for both
- Design all routes to meet AODA requirements.

PRIORITY ACTIONS:

- Create a clear connection between TTC stops and the main garden entrance
- Where possible propose paths with slopes no more than 5%.
- Provide cycling calming measures at pedestrian and cycling intersections

4.1.4 ESTABLISH A CULTURE OF STEWARDSHIP TO RECONNECT WITH THE LAND, EXCHANGE EARTH KNOWLEDGE AND DEMONSTRATE GREEN INFRASTRUCTURE

Integrating green infrastructure into the design can help create a connected system that enhances the overall sustainable performance of the site. Creative storm water management solutions can help to minimize run-off and educate visitors about natural processes. Sustainable practices, such as composting, energy efficiency, reduction in irrigation and water usage, minimizing lawn and mowing, can be incorparted to reduce waste and promote awareness.



KEY INITIATIVES:

- Create an indigenous framework that prioritizes balance with respect for nature
- Plan for long -term or for 7 generations
- Provide opportunities for Elders to share their wisdom and teachings regarding the use of plants, sustainable management practices, harvesting, etc.

PRIORITY ACTIONS:

- Design sustainable parking lots
- Incorporate low impact development initiatives for outdoor spaces and buildings
- Consider photo-voltaic panels and geothermal to reduce heating and cooling costs
- Reduce heat island effect by incorporating shade structures, trees and high albedo paving materials
- Incorporate green roofs where possible

4.1.5 IMPROVE OPERATION FUNCTIONALITY

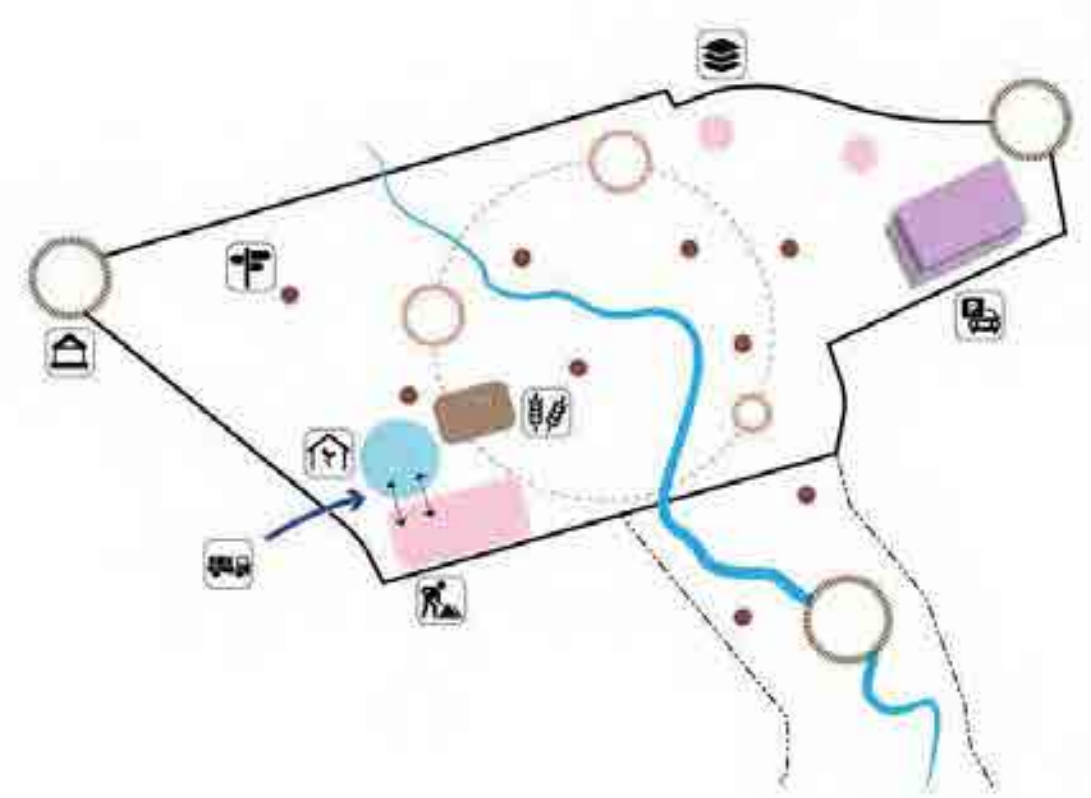
Safe and efficient site operations require site circulation systems that minimize conflicts between maintenance activities and visitor experiences. A new maintenance center should include garages, outdoor storage, personal space for maintenance staff, and a production greenhouse. Visitor circulation routes should be safe, accessible, and easy to navigate.

KEY INITIATIVES:

- Provide parking facilities to accommodate everyday activities as well as large events
- Relocate maintenance areas and greenhouse facility away from the main circulation areas.
- Create a way finding: system identifying gateways, connections and key destinations
- Ensure proximity of support amenities to related activity areas

PRIORITY ACTIONS:

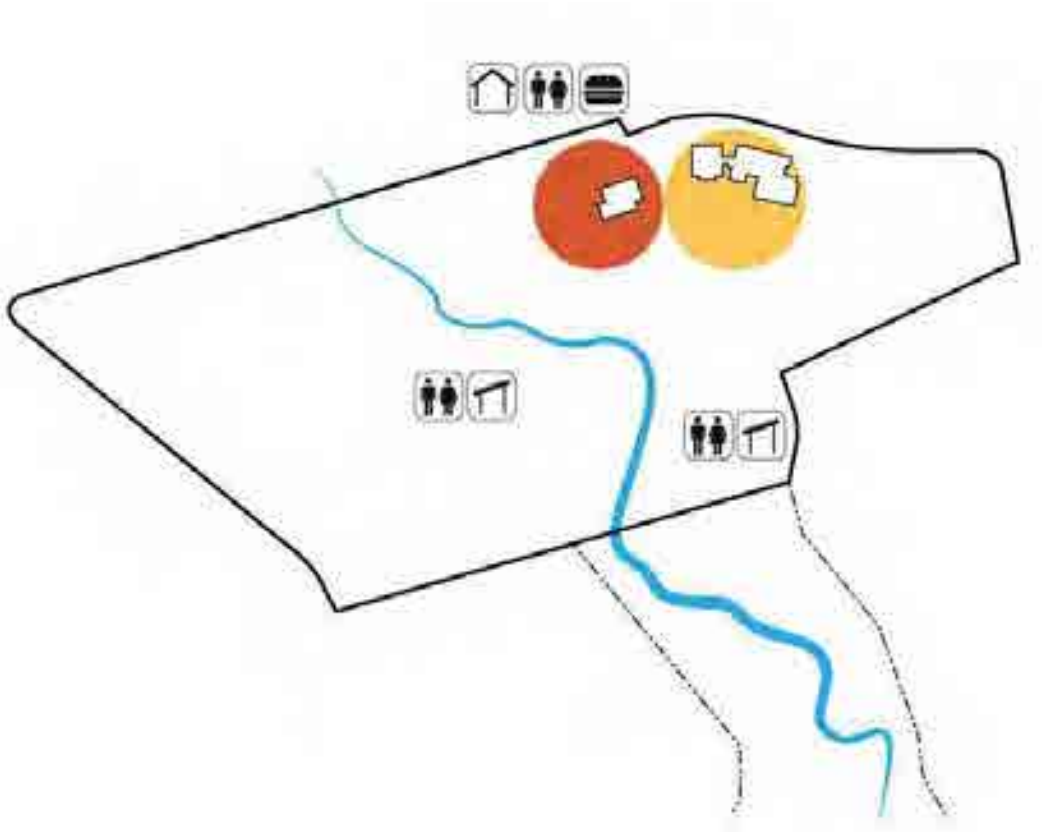
- Create separate entrance for maintenance vehicles
- Locate the greenhouse to be near the maintenance area and the agricultural area.
- Provide staging areas for the set up of special events.



4.1.6 IMPROVE AMENITIES

By enhancing existing facilities and expanding amenities, the combined gardens will attract more tourists, first time visitors, neighbours and loyal members. From a central gateway to easily accessible parking, washrooms, food and beverage facilities, a visitor to the botanic gardens should feel comfortable and welcome.

Well organized amenity spaces, together with a logical circulation system, can encourage visitors to discover new aspects of the gardens every time they visit.



KEY INITIATIVES:

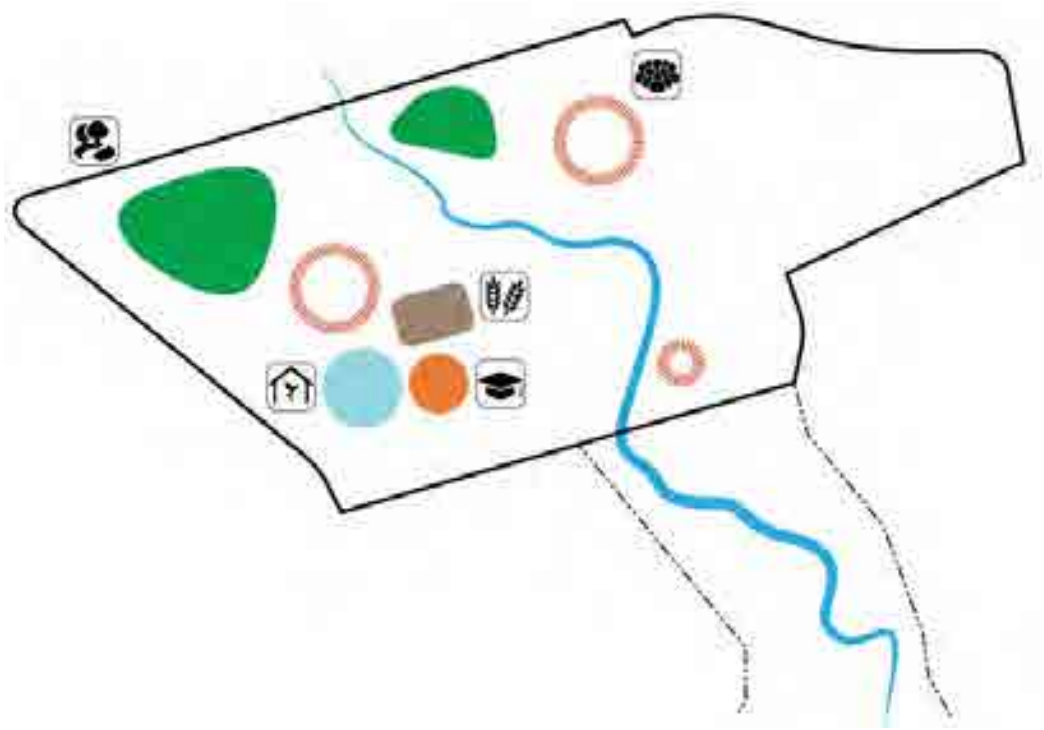
- Improve the provision and quality of food services
- Provide shade structures throughout the site, especially around the Teaching Garden.
- Enhance and add to existing washroom facilities for year - round use

PRIORITY ACTIONS:

- Re-purpose the existing Barn for multiple functions including cafe, indoor events and washrooms
- Propose new washrooms to accommodate larger number of participants for the Teaching Garden and Agricultural Demonstration Area. The new washrooms can serve the whole of the western tablelands
- Retain and improve existing washroom facility on the southeast side of the project area

4.1.7 IMPROVE FACILITIES TO EXPAND PROGRAMMING, EDUCATION, ACTIVITIES AND CEREMONIES

There are many reasons for visiting botanic gardens. They may include learning, relaxation, interaction, continuing education and celebration. Accommodating such a variety of users requires significant indoor and outdoor space, curated gardens, carefully selected courses, seasonal programmed activities, knowledgeable and approachable staff and volunteers.



KEY INITIATIVES:

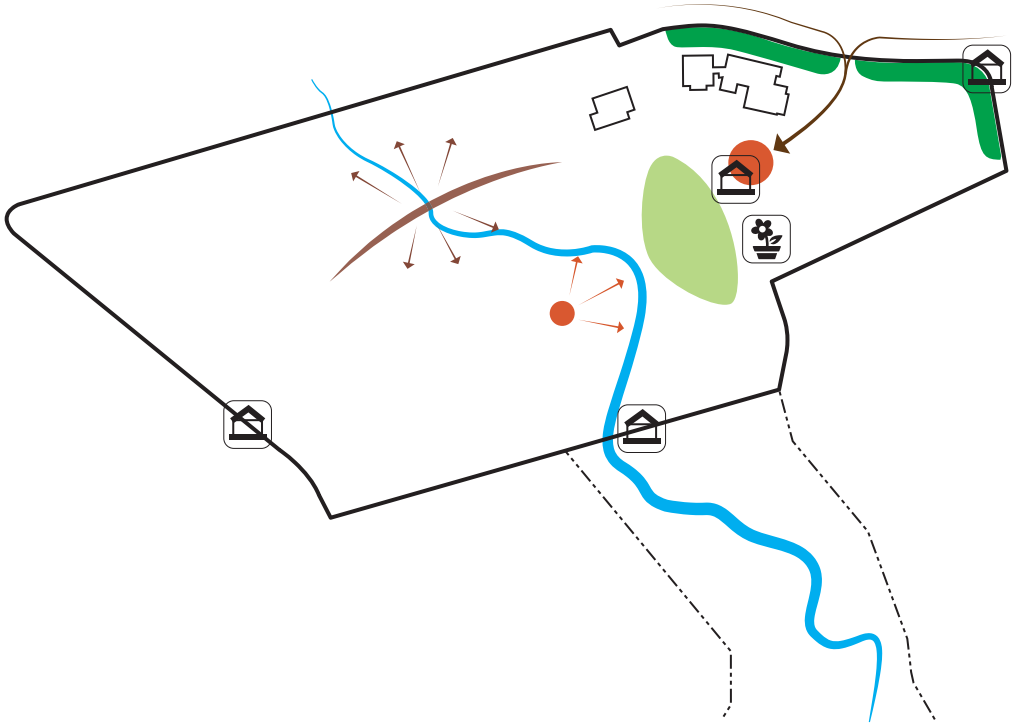
- Provide a range of spaces for large public gatherings to more intimate gatherings
- Provide more indoor attractions and amenities for formal and informal education, research befitting a botanical garden

PRIORITY ACTIONS:

- Expand Teaching Garden with focus remaining on educational programs for school groups, families and other visitors.
- Provide agricultural demonstration area to encourage urban farming
- Provide a Production Greenhouse to propagate unique species for use throughout the gardens and plants not easily found in the nursery trade
- Provide private and secluded places for ceremony, council and consultation
- Provide paid internships for youth and Indigenous youth
- Build knowledge of medicinal plants, create opportunities for seed sharing and space for self directed programs

4.1.8 ENHANCE VISITOR EXPERIENCE

Successfully coordinating multiple layers of destinations and attractions -- while accommodating basic human needs -- will ensure a rich and memorable visitor experience. Gardens, natural areas, and indoor as well as outdoor gathering spaces should accommodate multiple uses and activities, with efficient services and amenities such as washrooms, seating, and ease of access.



KEY INITIATIVES:

- Provide opportunities to explore views of the gardens by including a bridge and an overlook
- Redesign and expand existing gardens, provide spaces for intimate gatherings
- Ensure appropriate visitor welcome and orientation at major gateways
- Propose a consistent language for paving, benches, trash/recycling receptacles, lights and signage throughout the site.

PRIORITY ACTIONS:

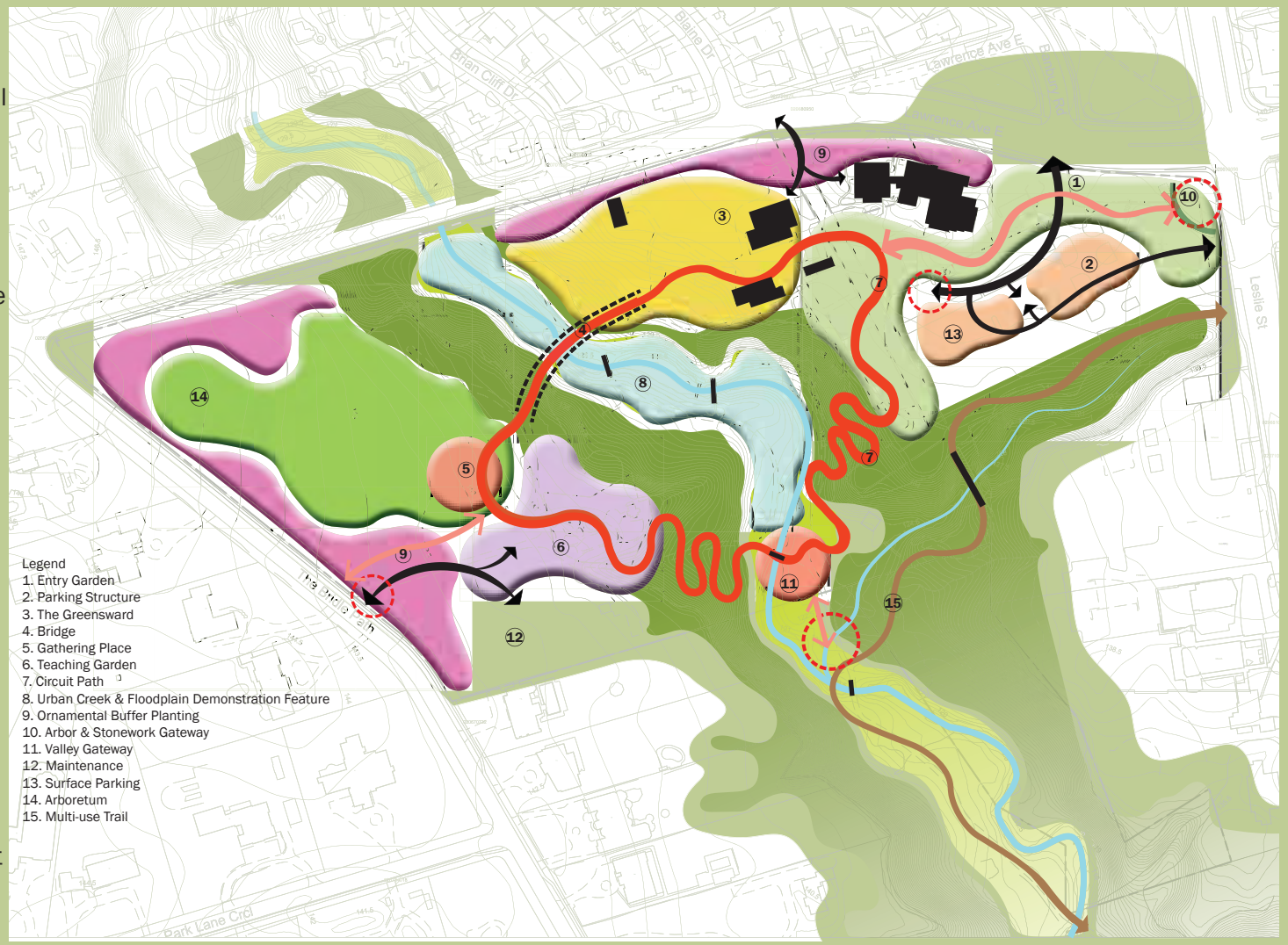
- Propose a gateway with an entrance plaza, arbor and visitor welcome and orientation
- Evaluate existing visitor Centre facilities for possible renovation and expansion, including a restaurant

4.2.1 MASTER PLAN CONCEPT DIAGRAM

The master plan builds upon the hybrid approach which mixes both native habitat focus and ornamental plantings focus. The gardens along the street frontage and entrance focus on the ornamental planting to attract visitors. The gardens within focus on native planting to advocate education, conservation, research and display.

A proposed circuit path that connects the western and Easter tablelands ensures inclusivity and accessibility for all, Pedestrians, vehicular, maintenance and bike routs are clearly delineated and separated.

The visitor experience and associated visitor amenities will be expanded and improved to achieve the high level of quality that local visitor and tourist have come to expect from botanical garden



4.2.2 FINAL CONCEPT DESIGN

The Master Plan Concept Diagram was refined into a Final Concept Design plan with the programmatic elements of the Gardens further refined and developed.

4.2.3 GARDEN DESIGN

EXISTING

PROPOSED

Edwards Gardens and Toronto Botanical Garden are envisioned as one continuous botanical garden of world class status, to be recognized as a unique example of how ecological restoration and management can be brought together with fine garden design and education.

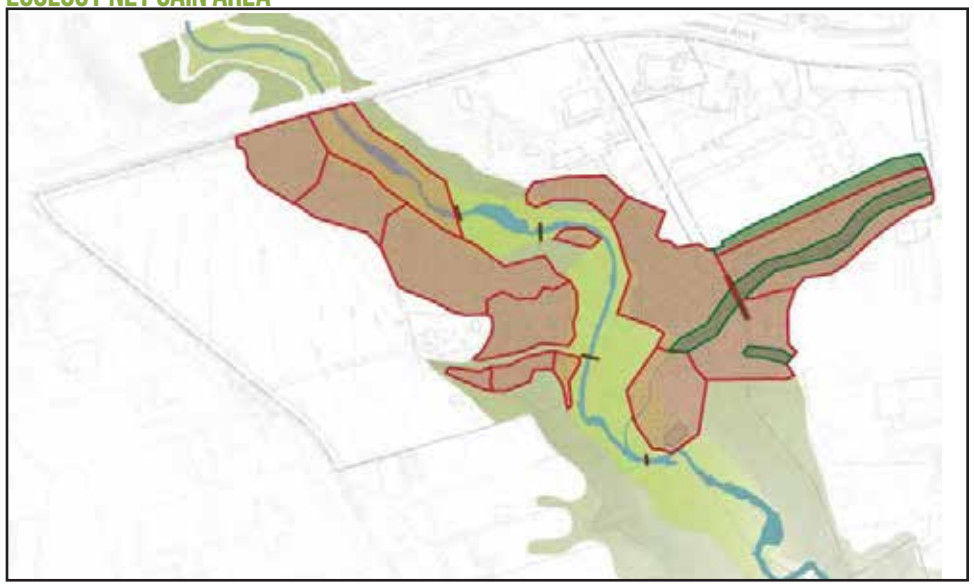
The new Toronto Edwards Botanical Garden will be comprised of three major areas: the Gardens east of the Wilket Creek, the Western Tablelands, and the Ravine. The new overall Botanical Garden will preserve the existing sense of design in Edwards Gardens, while connecting it seamlessly with the existing gardens and facilities in the present Toronto Botanical Gardens. The overall place will reflect new curatorial focus and policies, reorganized and planted to develop a fully accessioned collection, entering species into the existing database. Plants will demonstrate adaptation to local factors such as climate, soil conditions, and requirements for shade and sun. The Gardens will also demonstrate the overall value of plants and why they are collected for beauty and display. Visitors will move through the site on a continuous loop path that is accessible to all.

4.2.4 SITE RESTORATION

The south end of Toronto Botanical Gardens (EG/TBG) are part of the Wilket Creek Forest Environmentally Significant Area (ESA), a City-owned ravine (RNFP)- and Toronto and Region Conservation Authority (TRCA)-regulated area south of Lawrence Avenue and west of Leslie Street. Wilket Creek flows through the central part of the property, with forested areas on valley wall the east side of the creek dominated by FOD5 Dry-Fresh Sugar Maple Deciduous Forest, and smaller groves of both FOM2-2 Dry-Fresh Sugar Maple – White Pine Mixed Forest and FOD6-5 Fresh-Moist Sugar Maple – Hardwood Forest. Valley wall on the west side of the creek, FOD4 Dry-Fresh Deciduous Forest dominates the forested areas, with FOM6-1 Fresh-Moist Hemlock – Sugar Maple Mixed Forest south of the main paved pathway. On both sides of the creek, forested areas are surrounded by CUP2-h Horticultural Mixed Plantations. The forest restoration will focus on the ecological net gain areas identified.

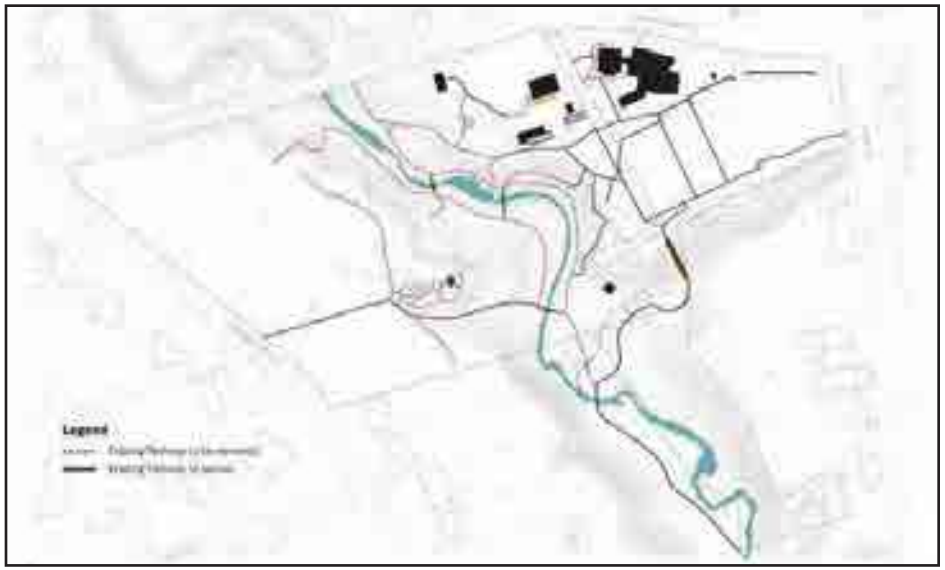
CREEK + FLOODPLAIN + VALLEY

ECOLOGY NET GAIN AREA

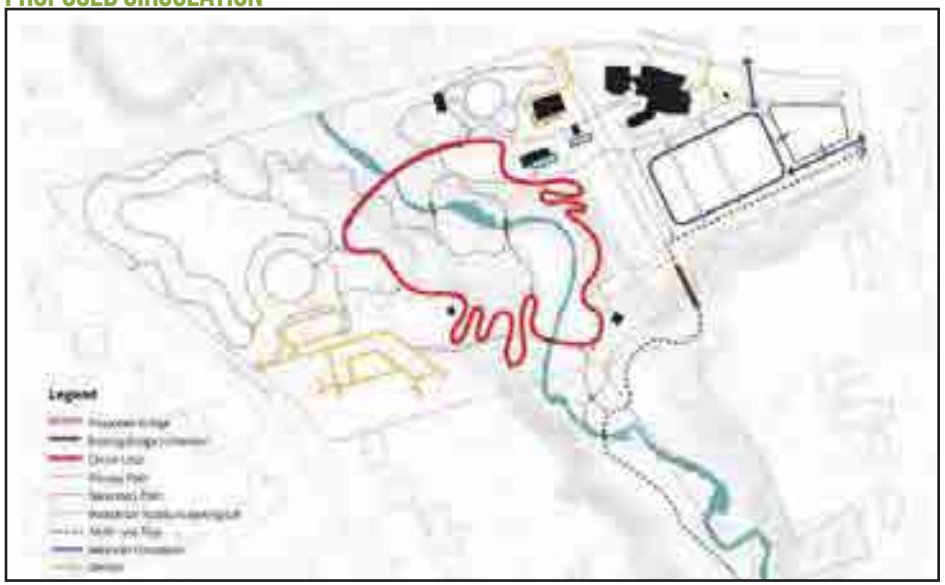


4.2.5 SITE CIRCULATION

EXISTING PATHS TO BE REMOVED AND RETAINED



PROPOSED CIRCULATION



The existing pathways do not have distinct lanes for pedestrians and cyclists. Most pathways are seen as multi-use, and pedestrian and cyclist travel often overlaps, presenting potential safety hazards. Altough cycling is not allowed within EG/TBG, it currently occurs on the valley floor. Design requirements for pedestrian paths within a botanic garden differ from multi-use recreational trails requirements. The site currently has poor continuity in path width, quality of pavement, signage and lack of clear demarcation which make moving through the site feel unsafe and unpleasant for visitors with cyclists using the same paths.

The master plan simplifies and clarifies the pedestrian circulation system throughout the Gardens. A clear hierarchy of pedestrian pathways are proposed: Primary, Secondary and the Circuit Path. The Primary Paths are unit pavers (which match the existing path material) and a minimum of 2100mm wide. Secondary Paths are compacted crushed granular and are a minimum of 1670-2100mm wide. The Circuit Path is constructed of permeable red clay brick pavers and is 3000-3500mm wide.

4.2.6 SITE FACILITIES- PARKING

The surface parking lot will be improved and expanded to include a drop-off area and a tour bus parking zone, located at the northwest corner. The existing LID drainage system on the west parking lot,will be retained.

The proposed parking structure will accommodate 277 vehicles. The roof will accommodate photovoltaic cells for sustainable power generation. The total surface parking will increase by 138 spaces for a total of 454 spots. Access to the parking structure will from within the EG/TBG site, at two locations (west and south sides). Subject to detailed architectural design, it is intended that the north side would incorporate planting to create a vegetated façade, while the east façade would incorporate a super graphic that would announce EG/TBG to Leslie Street.

<u>Existing Parking</u>
East Parking Lot - 85
West Parking Lot – 231

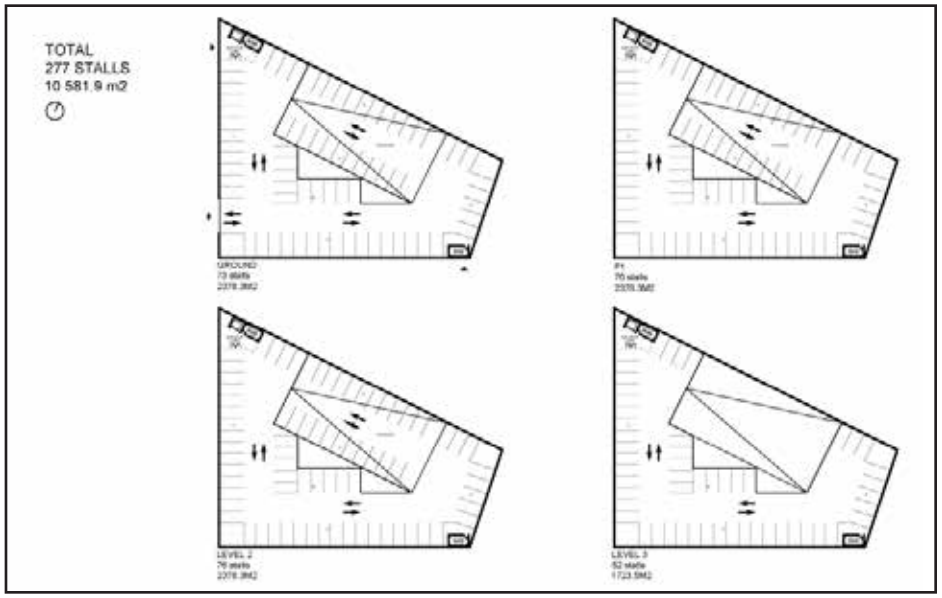
Total No. of Existing Parking – 316

<u>Proposed Parking</u>
East Parking Lot (Parking Structure) – 277
West Parking Lot (Surface Parking) – 177

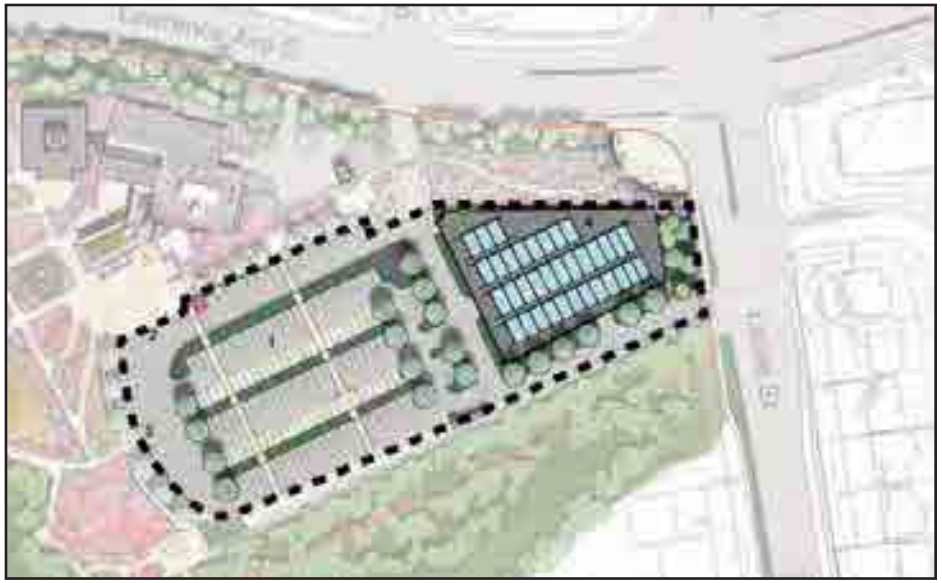
Total No. of Proposed Parking – 454

Total Increase in Parking - 138

NEW PARKING STRUCTURE



NEW PARKING ARRANGEMENT

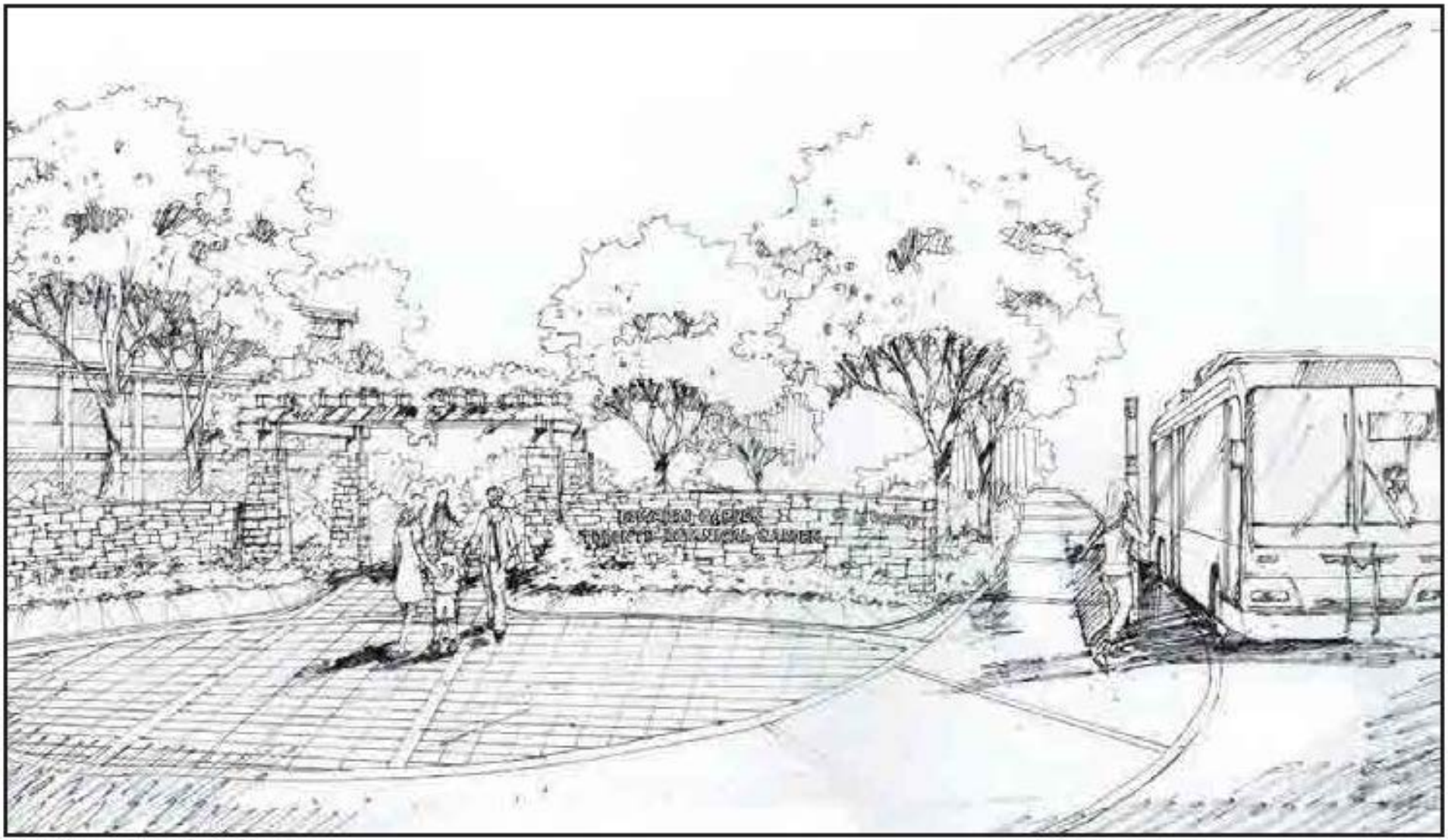


4.2.7 MASTER PLAN

4.2.8 MAINTENANCE CIRCULATION

The Bridal Path access road will be the primary entry for maintenance vehicles. This primary entry will be controlled by automatic gate with key-in entry to prohibit any bicycle entry from this entrance. In the southwest corner, a new surface parking lot for staff and a maintenance yard will support the relocated maintenance building and a new greenhouse. The circuit path will be designed to accommodate the small maintenance vehicles such as side by sides. The existing maintenance access lane from Lawrence Avenue East to dredge the creek will remain. The path along the creek on the west side is used by Toronto Water for access to, inspection and maintenance of the sanitary trunk sewer located parallel to the creek. It will be reconfigured to connect to the Secondary Maintenance Circulation path.

4.3 MASTER PLAN KEY COMPONENTS - EAST GARDEN GATEWAY



The East Garden Gateway provides a welcoming entrance to visitors arriving on foot from the adjacent neighbourhoods, arriving via the public transit and those passing by in vehicles at the intersection of Lawrence Avenue East and Leslie Street.

4.3 MASTER PLAN KEY COMPONENTS - EAST MAIN GARDENS AND WELLCOME PLAZA

1. Welcome Plaza

Pedestrians and visitors arriving by public transit, will enter from the corner of Lawrence Ave East and Leslie Street.

2. “Sophisticated Natives” Walk

In the style of world-renown horticulturist Piet Oudolf, visitors will walk through a progression of native plants and others displayed in a sophisticated abstract design fashion, moving in a gradation from stylized woodland to meadow. This will introduce the visitor to the overall theme of the new central gardens – a strong emphasis on native plants for aesthetic effect, but also non-natives displayed in natural aesthetic.

3. Central Gardens Entrance

Visitors will pause and receive their introduction and orientation to the overall botanical garden experience, including maps and interpretive signage.

4. Central Gardens

This is the garden core of the EG/TBG, bringing together the existing gardens of the Toronto Botanical Garden with the best garden areas of the Edwards Gardens, to create an entirely new visitor experience. These will include: Perennials Garden, Herb Garden, Water Garden, Xeric Garden, Scented Garden, Existing Gardens, The Barn Courtyard.

5. One special destination will be the Enabling

Garden, which will be adjacent to the repurposed conservatory. This is designed for therapeutic programs including active gardening for those with mobility and other difficulties, as well as for the interest and inspiration of all visitors.

6. Native Plant Garden

This area will show how native plants and principles can be used at the home garden scale, teaching visitors how to establish native plant habitat gardens in their own homes – with an ultimate goal of transforming entire neighborhoods in and around Toronto.

7. Small Permitted Events Space

Adjacent to the refurbished Moryama Pavilion, a small space will be available for permitted special activities such as weddings and other family events. Surrounded by a White Garden, a central lawn will provide a gathering space.

4.3 MASTER PLAN KEY COMPONENTS - THE GREENSWARD

The Greensward, which is the historic core of the Edwards Gardens, will be reconditioned and improved with new lawn and trees. It will form the “front yard” of the historic Moryama pavilion. Also, it will provide a takeoff point for the new bridge over the ravine. The Greensward will include the following:

- Sloping lawn for sunning and relaxing
- Open vistas down to the Wilket Creek
- A setting for the refurbished Moryama Pavilion
- A landing point for the new ravine bridge

4.3 MASTER PLAN KEY COMPONENTS - PEDESTRIAN BRIDGE

A pedestrian bridge spanning 115 m and traversing Wilket Creek is proposed to link every aspect of the Gardens together. The bridge is conceived as a cable stayed suspension bridge with a curved walking platform supported on a single cable system that is suspended between two inclined steel towers. The towers are supported on concrete foundations and guyed into bedrock or some other competent substrate.

The platform is to be clad with a durable wood walking surface, such as an Ipe or Acoyya product. The substructure is fabricated from a series of trussed structural steel rib elements that are supported by high tension rod hangers from the primary cable system and laterally stiffened by a curved cable system in the plane of the bridge deck.

4.3 MASTER PLAN KEY COMPONENTS - CIRCUIT PATH

The red brick Circuit Path is the main organizing feature within the Gardens that connects all features and stitches the entire site together. It will directly connect the east and west table lands over a new bridge, provide accessible sloped walks down into the valley and cross Wilket Creek using the existing bridge.

The circuit path runs outside the flood line and is positioned at a higher elevation than the Gardens other trails providing additional room for restoration and allowing the creek to fluctuate naturally within this zone.

4.3 MASTER PLAN KEY COMPONENTS - THE CELEBRATION PLACE

The Celebration Place will answer a public need for a gathering space for special activities and exhibitions. As a major destination on the western tablelands, it will enliven the entire section west of Wilket Creek. It will feature:

- Enclosure by a ceremonial circle of shade and flowering trees
- A shade pavilion and stage area
- A central gathering lawn
- A primary destination for the ravine bridge

4.3 MASTER PLAN KEY COMPONENTS - WEST MAIN GARDENS

Improvements to the western tablelands will include refurbishing the existing Arboretum and establishing new woodland gardens around its perimeter. The existing plants in the Arboretum will be evaluated for their potential contribution to an accessioned collection of woody plants. Groves of shade trees will frame sequece of open and sunny lawns. Surrounding the Arboretum on three sides will be a sequence of woodland gardens. These will include plants relocated to a more ideal setting from other locations in Edwards Gardens, such as the existing rhododendrons currently growing in the Wilket Creek floodplain. The West Main Gardens will include:

- An accessioned collection of canopy and flowering trees
- Open lawns for informal gathering
- A fully accessible looping path
- Rhododendron Garden
- Native Woodland Edge Garden
- Planted edge along Lawrence Avenue East and The Bridle Path

4.3 MASTER PLAN KEY COMPONENTS - TEACHING GARDEN

The Teaching Garden will be the central destination for children's programmed and educational activities, as well as for families to enjoy in unstructured activities on their own. A variety of features and garden areas will be designed for educational programming in the Teaching Garden, including:

- "Where My Food Comes From"
- "Vegetables of the World"
- Vegetable Garden for teaching
- Vegetable Garden for display
- Medicinal Garden
- Plant Testing Beds
- Edible Garden
- Pergola/Classroom
- Washrooms

4.3 MASTER PLAN KEY COMPONENTS - TREE HOUSE

In addition to providing a dramatic architectural element, the Treehouse will offer beautiful vista through the woods and down into the ravine. It will also be setting for educational activities adjacent to the Teaching Garden. It will include:

- A “room” in the canopy of the woods
- Views into the floodplain
- Full accessibility

4.3 MASTER PLAN KEY COMPONENTS - MAINTENANCE YARD

A new Maintenance Yard will be constructed on the west side of the EG/TBG site. The facility will be screened by a dense, mixed planting screen. An earthwork berm will provide further screening and noise attenuation. Public access will not be allowed. The yard will contain the following:

- Two card-controlled, gated access points: . on for trucks and one for staff parking
- Green house, for plant propagation
- Garage, with storage room and parking for three vehicles
- Staff building with storage, lunch room and washrooms
- Staff parking (vehicles and bicycles)
- Central open storage area for nursery stock, deliveries, etc.
- Storage bins (4) for soils, granular and mulches

4.4.1 PHASING - PHASE 1

4.4.2 PHASING - PHASE 2

4.4.3 PHASING - PHASE 3

4.5 IMPLEMENTATION PLAN

The following tables provide a high-level overview of the tasks that need to be completed in order for the Master Plan to become a reality. This schedule indicates a 10-year time period but it should be noted that this time frame can contract or expand depending on many variables such as funding availability, environmental and political factors, construction delays and others. While the length of the implementation period can vary, the order of tasks will still reflect the sequence in which these tasks should be done.

4.5 IMPLEMENTATION PLAN - PHASE 1

	Activity	Responsible Entity	Timing	Potential Collaborators	Budget Estimate
	PHASE 1 (1-3 YEARS)				
1.0	**Operations & Staffing**				
	Renegotiate Management Agreement	City & TBG	Immediate		
	Develop and approve new business plan	TBG	Immediate	City	
	Gain City approval to begin fundraising	City & TBG	Immediate		
	Develop fundraising strategy for Phase 1, 2 & 3	TBG	Immediate	City	
	Develop new procedures for permits, rentals and bookings	TBG	Year 1	City	
	Develop new events and programs	TBG	Ongoing	As required	
	Hire new staff as necessary	TBG	Ongoing		
	Retrain staff on new visitor offer, programs and procedures	TBG	Ongoing	City	
	Develop a joint transit strategy	TBG	Year 1	City, TTC, Shops at Don Mills, Aga Khan, Ontario Science Centre	
2.0	**Branding, Marketing & Promotion**				
	Approve new name	TBG	Immediate		
	Develop new branding strategy	TBG	Immediate		
	Prepare marketing and communications strategy	TBG	Year 1-2		
	Identify partnership opportunities	TBG	Year 1-2		
	Production of new marketing materials and update websites & social media	TBG and City	Year 1		
	Strategic promotion of events and programs	TBG	Ongoing	City, Toronto Tourism, Shops at Don Mills, Aga Khan, Ontario Science Centre	
	Prepare individual soft and grand opening plans	TBG	Year 1-2	City	
3.0	**Maintenance Facility and Bus Loop**				
	Secure capital budget allocations	City	Immediate		
	Develop tender documents and select architectural team	City	Year 1-2		
	Produce detailed architectural designs	City	Year 1-2	TBG	
	Develop tender documents and select building contractors	City	Year 1-2		
	Planning permissions and approvals	City	Year 1-2		
	Demolition, site preparation and construction	City	Year 1-2		
	Fit out (if necessary)	City	Year 1-2		
	Transfer of City maintenance staff and equipment to new facility	City	Year 1-2		

4.5 IMPLEMENTATION PLAN - PHASE 1

4.0	**Renovation of Barn, Pavilion, Orangery, Visitor's Centre**				
	Develop tender documents and select architectural team with necessary heritage conservation experience	TBG	Year 1-2	City	
	Develop tender documents and select interpretive and exhibit design team for the entire Edwards Botanical Gardens experience, Wayfinding and Nature Exchange	TBG	Year 1-2		
	Produce detailed architectural designs for all which include reaccommodation of new Nature Exchange exhibit, retail, food service, rental spaces and education spaces between the Barn and Visitor Centre	TBG	Year 1-2	City	
	Develop tender documents and select building contractors	TBG	Year 2	City	
	Planning permissions and approvals	TBG	Year 2		
	Conservation and building alterations to Barn, Pavilion and Orangery	TBG	Year 2-3		
	Produce interpretive plan for Edwards Gardens and Nature Exchange, with Wayfinding Strategy	TBG	Year 1-2	City	
	Nature Exchange content development and exhibit design	TBG	Year 1-2		
	Nature Exchange exhibit fabrication and installation	TBG	Year 2-3		
	Facility Opening	TBG	Year 3		
	Conservation and building alterations to Visitor Centre	TBG	Year 2-3		
	Facility Re-Opening	TBG	Year 3		
5.0	**White Garden, Wall**				
	Develop detailed designs	TBG	Year 2-3		
	Develop tender documents and select contractors if necessary	TBG	Year 2-3		
	Planning permissions and approvals	TBG	Year 2-3		
	Demolition, site preparation and construction	TBG	Year 2-3		
	Open	TBG	Year 2-3		
6.0	**Multi-Use Trail, Fence, Washroom**				
	Secure capital budget allocations	City	Immediate		
	Develop detailed designs	City	Year 2-3	TBG, TRCA	
	Develop tender documents and select building contractors if necessary	City	Year 2-3		
	Planning permissions and approvals	City	Year 2-3		
	Demolition, site preparation and construction	City	Year 2-3	TBG, TRCA	
	Open	City	Year 2-3		
7.0	**Circuit Path, Bridge & Switchback Path**				
	Develop tender documents and select architectural team	TBG	Year 2-3		
	Produce detailed architectural designs	TBG	Year 2-3	City, TRCA, Toronto Water	
8.0	**Greensward, Native Woodland Restoration & Riparian Planting**				
	Develop research strategy and investigation team	TBG	Year 1	TRCA, Toronto Water, Universities and colleges	

4.5 IMPLEMENTATION PLAN - PHASE 2

	Activity	Responsible Entity	Timing	Potential Collaborators	Budget Estimate
	PHASE 2 (3-5 YEARS)				
1.0	**Operations & Staffing**				
	Update business plan	TBG	Year 3	City	
	Develop new procedures for permits, rentals and bookings	TBG	Ongoing	City	
	Develop new events and programs	TBG	Ongoing	As required	
	Hire new staff as necessary	TBG	Ongoing		
	Retrain staff on new visitor offer, programs and procedures	TBG	Ongoing	City	
	Update joint transit strategy	TBG	Year 4-5	City, TTC, Shops at Don Mills, Aga Khan, Ontario Science Centre	
2.0	**Branding, Marketing & Promotion**				
	Update marketing and communications strategy	TBG	Year 3		
	Identify new partnership opportuniites	TBG	Ongoing		
	Production of new marketing materials and update websites & social media	TBG and City	Ongoing		
	Strategic promotion of events and programs	TBG	Ongoing	City, Toronto Tourism, Shops at Don Mills, Aga Khan, Ontario Science Centre	
	Prepare individual soft and grand opening plans	TBG	Year 4-5	City	
3.0	**Circuit Path, Bridge & Switchback Path**				
	Develop tender documents and select architectural team	TBG	Year 2-3		
	Produce detailed architectural designs	TBG	Year 2-3	City, TRCA, Toronto Water	
	Develop tender documents and select building contractors	TBG	Year 3		
	Planning permissions and approvals	TBG	Year 3		
	Demolition, site preparation and construction	TBG	Year 3-4		
	Openning	TBG	Year 4		
4.0	**Treehouse Overlook**				
	Develop tender documents and select architectural team	TBG	Year 3		
	Produce detailed architectural designs	TBG	Year 3	City	
	Develop tender documents and select building contractors	TBG	Year 3		
	Planning permissions and approvals	TBG	Year 3		
	Demolition, site preparation and construction	TBG	Year 3-4		
	Facility Opening	TBG	Year 4		

4.5 IMPLEMENTATION PLAN - PHASE 2

5.0	**Teaching Garden Expansion**				
	Develop detailed landscape designs	TBG	Year 3-4	TDSB, TCSB	
	Develop tender documents and select contractors if necessary	TBG	Year 3-4		
	Planning permissions and approvals	TBG	Year 3-4		
	Demolition, site preparation and construction	TBG	Year 4-5		
	Opening	TBG	Year 5		
6.0	**Celebration Place**				
	Develop tender documents and select architectural and landscape team	TBG	Year 3		
	Develop detailed architectural and landscape designs	TBG	Year 3	City, Indigenous Community, Cultural Sector	
	Develop tender documents and select building contractors	TBG	Year 3-4		
	Planning permissions and approvals	TBG	Year 3-4		
	Demolition, site preparation and construction	TBG	Year 4-5		
	Opening	TBG	Year 5		
7.0	**Greensward, Native Woodland Restoration & Riparian Planting**				
	Develop research strategy and investigation team	TBG	Year 1	TRCA, Toronto Water, Universities and colleges	
	Develop tender documents and select landscape team	TBG and City	Year 3		
	Develop detailed landscape designs	TBG and City	Year 3-4	TRCA, Toronto Water	
	Develop tender documents and select contractors if necessary	TBG and City	Year 3-4		
	Planning permissions and approvals	TBG and City	Year 3-4		
	Demolition, site preparation and construction	TBG and City	Year 4-5	TRCA, Toronto Water	
	Openning	TBG and City	Year 5		

4.5 IMPLEMENTATION PLAN - PHASE 3

	Activity	Responsible Entity	Timing	Potential Collaborators	Budget Estimate
	PHASE 3 (5-10 YEARS)				
1.0	**Operations & Staffing**				
	Update business plan	TBG	Year 5	City	
	Develop fundraising strategy for Phase 3	TBG	Ongoing	City	
	Develop new procedures for permits, rentals and bookings	TBG	Ongoing	City	
	Develop new events and programs	TBG	Ongoing	As required	
	Relocate City staff, and transition operation of Maintenance Yard to TBG	City	Year 5-6	TBG	
	Hire new staff as necessary	TBG	Ongoing		
	Retrain staff on new visitor offer, programs and procedures	TBG	Ongoing	City	
2.0	**Branding, Marketing & Promotion**				
	Update marketing and communications strategy	TBG	Year 5		
	Identify new partnership opportuniites	TBG	Ongoing		
	Production of new marketing materials and update websites & social media	TBG and City	Ongoing		
	Strategic promotion of events and programs	TBG	Ongoing	City, Toronto Tourism, Shops at Don Mills, Aga Khan, Ontario Science Centre	
	Prepare soft and grand opening plans	TBG	Ongoing	City	
3.0	**East Main Garden & Themed Garden Expansion**				
	Update Interpretive Plan	TBG	Year 5		
	Develop detailed landscape designs	TBG	Year 5	Universities and Colleges	
	Develop tender documents and select contractors if necessary	TBG	Year 5-6	City	
	Planning permissions and approvals	TBG	Year 5-6		
	Demolition, site preparation and construction/landscaping	TBG	Year 5-6		
	Openning	TBG	Year 6		
4.0	**Modification of Parking Lot**				
	Develop tender documents and select architectural team	TBG	Year 5		
	Develop detailed designs	TBG	Year 5-6	City	
	Develop interim parking plan and transit strategy while parking lot undergoes reconstruction	TBG	Year 5-7	City	
	Develop tender documents and select building contractors	TBG	Year 5-6	City	
	Planning permissions and approvals	TBG	Year 5-6		
	Demolition, site preparation and construction	TBG	Year 5-6		
	Opening	TBG	Year 6		

4.5 IMPLEMENTATION PLAN - PHASE 3

5.0	**Arboretum and Woodland Gardens**				
	Develop detailed landscape designs	TBG	Year 7	Humber Arboretum, Universities and Colleges	
	Develop tender documents and select contractors if necessary	TBG	Year 7-8	City	
	Planning permissions and approvals	TBG	Year 7-8		
	Demolition, site preparation and construction/landscaping	TBG	Year 7-8		
	Openning	TBG	Year 8		
6.0	**Parking Structure, Entry Plaza & Garden Gateway**				
	Develop tender documents and select architectural team	TBG	Year 7		
	Produce detailed architectural and landscape designs	TBG	Year 7-8	City, Universities and Colleges	
	Develop tender documents and select building contractors	TBG	Year 7-8	City	
	Planning permissions and approvals	TBG	Year 7-8		
	Demolition, site preparation and construction/landscaping	TBG	Year 8-9		
	Openning	TBG	Year 9		

4.6 PARTNERSHIPS AND FUNDRAISING STRATEGIES

4.6.1 Partnership Oppotunities

Over many years the City and the Toronto Botanical Garden has engaged a wide range of stakeholders, partners, volunteers, and collaborators in the development, management and operation of the Gardens. Partnerships will become more important than ever, as EG/TBG moves forward with the implementation of the Master Plan and realizes a revitalized and expanded Gardens.

Partnering is essential for helping to connect with new audiences, tap into new skills, knowledge and expertise, assist with the delivery of programs, access new funding opportunities, and strengthen the volunteer base. However, partnerships are both challenging and resource intensive.

A partnership strategy should be developed to help guide EG/TBG to make prudent decisions for collaboration. The partnership strategy will first assess existing partnerships with both the City of Toronto and Toronto Botanical Gardens to ensure these are still viable and align with the needs of the amalgamated gardens. Further it is important to examine the costs and benefits of existing partnerships and ensure that any partnerships are equitable and reciprocal.

To assess new partnership the strategy would focus on the identification, development and management of external entities with whom EG/TBG will seek formal partnerships with in order to help fund, produce and deliver the Master Plan initiatives, as well as assist with ongoing operations and the programs, events and activities.

4.6 PARTNERSHIPS AND FUNDRAISING STRATEGIES

Potential Areas for Collaboration and Partnerships

Key areas for partnership development and collaboration include:

- Delivery of various Master Plan initiatives and elements including:
    1. Design development
    2. Fundraising
    3. Construction
    4. Landscaping and Gardening
- Research on topics such as:
    1. Horticulture and Plant Science
    2. Native and Invasive Species Management,
    3. Ravine Restoration and Riparian Planting,
    4. Resilience and Green Engineering
    5. Urban Ecology, Biodiversity and Habitat Conservation,
    6. Urban Water Conservation and Flood Management,
- Formal education programs and certifications at all levels:
    1. Primary,
    2. Secondary,
    3. College,
    4. University
- Program development and delivery such as:
    1. Horticultural Programs
    2. Interpretation and Guided Tours
    3. Indigenous Teachings, Festivals and Celebrations
    4. Multi-cultural Festivals and Celebrations
    5. Music and Performance
    6. Visual Art and Photography
    7. Heritage
    8. Food and Drink
    9. Health, Wellbeing and Horticultural Therapy
    10. Volunteer Training
    11. Low Impact Recreation and Leisure
- Regular maintenance, management and conservation of the Gardens
- Promotion of the Gardens and the wider area as a botanic and cultural destination and ensuring visitor access and good transport connections
- Ensuring horticultural excellence, best practice in botanic garden management and promoting institutional reputation

4.6 PARTNERSHIPS AND FUNDRAISING STRATEGIES

Type of Partners

Partnerships will include pre-determined formal partners with whom EG/TBG will work with at varying scale and frequency. Level and type of contribution from EG/TBG will need to be negotiated on a case by case basis.

These relationships can be categorized as:

- Site Partners – This will include those stakeholder institutions, groups and companies that own or abut portions of Edwards Botanical Gardens and with whom a higher level of collaboration and coordination for the operation, management and programming of the Gardens will need to happen. This will include:

    1. Parks, Forestry and Recreation, City of Toronto
    2. Economic Development and Culture, City of Toronto
    3. Toronto Regional Conservation Authority
    4. Toronto Water
    5. Recognized User Groups – This will include groups such as the Garden Club of Toronto, the Toronto Region Rhododendron and Horticultural Society
    6. Other Site Partners – This will include Saint Bonaventure Elementary School and potentially other neighbourhood associations and property owners.

- Program Partners – These partners include community groups, organizations and institutions with whom EG/TBG could partner with to develop content, deliver programs and fund activities. These partners should be culturally diverse and should deliver programs to a wide range of audiences, interest areas and capacity levels – from community based organizations to national institutions. The quality and appropriateness of programming delivered at the Gardens is directly linked to whom EG/TBG accepts as Program Partners.

- Indigenous Artists, Groups and Communities – The City of Toronto and EG/TBG is committed to including meaningful Indigenous programming content on-site throughout the year. This should be accomplished through direct partnerships with Indigenous artists, cultural groups and communities in planning, development and delivery.

- Research, Education and Professional Development Partners – These partners include the Toronto District School Board, the Toronto Catholic School Board, and educational professionals with whom EG/TBG can partner to develop and promote a curriculum-linked education programs. Further partnerships with colleges and universities, particularly those that are Toronto-based and that offer programs in horticulture, landscape

4.6 PARTNERSHIPS AND FUNDRAISING STRATEGIES

architecture, environmental conservation and sustainability, heritage resource management, and arts and culture management, etc. should be developed to promote use of the Gardens and its resources to drive new research, best practice and innovation models, as well as provide practical, training and professional development opportunities. Additional professional certification and development associations such as the Ontario Association of Landscape Architects and Landscape Ontario Horticultural Trades Association should also be engaged.

- Third Party Users - Third Party users include any outside organization, institution or individual that requests to deliver independent programming (not including private functions or weddings, etc.) at Edwards Botanical Gardens, but that is not directly supported in development, delivery or funding by EG/TBG. These programs are revenue generating or expense neutral, and are consistent with the curatorial vision and values for the Gardens. Like Program Partnerships, the approval of Third Party users for external use of the site also has an impact on the quality and appropriateness of programming delivered.
- Social Service Organizations – Gardens are not only cultural attractions and learning environments but also serve a larger social purpose. Gardens are engaging with new audiences, including faith groups, ethnic minority communities, physically and mentally challenged people, vulnerable and at risk young adults, people with substance dependence, and those living in disadvantaged communities. Partnerships with the myriad social service organizations in the city will be key to engage with these residents and help to create greater access to those that are marginalized.
- Destination and Promotional Partners – These partners include organizations, institutions and agencies that can help to promote the Gardens as an important botanic and horticultural destination within the City, provincially and nationally to locals and tourists. Partnerships with the Toronto Transit Commission, Toronto Tourism, the Shops at Don Mills, Aga Khan Museum, and the Ontario Science Centre should be prioritized.
- Ravine, Parks and Botanical Gardens Network – These partners help to further promote Edwards Botanical Gardens and ensure horticultural excellence, best practice in botanic garden management and promoting wider institutional reputation. Specific partners include Evergreen Brick Works, Friends of Allen Gardens, Parks for People, etc. as well as other public and botanic gardens in Toronto, Ontario, Canada and internationally and related associations such the Ontario Urban Forest Council, Canada Blooms, Canadian Gardens Council, American Public Gardens Association and the Botanic Gardens Conservation International.

4.6 PARTNERSHIPS AND FUNDRAISING STRATEGIES

4.6.2 Funding Strategies

The Master Plan is comprised of a number of development initiatives which will allow EG/TBG to improve Edwards Botanical Gardens in terms of its environmental sustainability, physical access, visitor amenities, botanical and horticultural experience, as well as to develop and offer new opportunities for education, research, interpretation, and programming. The diversity of the EG/TBG mandate and the Master Plan proposals has the potential to make a broad impact that will appeal to a wide range of interests – horticulture, parks and green spaces, environmental conservation, education and stewardship, cultural programs – and funders.

Based on the findings of the Fundraising Feasibility Study undertaken recently by TBG, a Fundraising Strategy should be developed that will leverage the Toronto Botanical Garden's extensive experience and strength in generating funds for both capital improvements and ongoing operational programs. The following provides an overview of potential funding opportunities for both:

Capital Improvements

Funds for capital improvements will need to be raised from a mixed financing model of donations, sponsorships, grants, loans, tax rebates, city planning mechanisms and incentives. This could include but not limited to the following and is dependent on the nature of the project, budgets, eligibility requirements, deadlines, and competition from other applicants:

- A major capital fundraising and/or crowd sourcing campaign seeking donors and sponsors at varying levels
- Support from the City of Toronto for infrastructure development of a City owned property and other City financial grants and programs from such as:
    1. Charity Property Tax Rebate
    2. Capital Loan Program (Economic Development and Culture)
    3. Culture Build Investment Program
    4. Better Buildings Partnership
- Support from the Government of Ontario and other provincial grants and programs such as:
    1. Ontario Cultural Attractions Fund
    2. Arts Build Ontario
    3. Infrastructure Ontario Fund
- Support from the Government of Canada and other federal grants and programs such as:

4.6 PARTNERSHIPS AND FUNDRAISING STRATEGIES

1. Imagine Canada
2. Canada Council for the Arts

- Other Public Sector and Private Foundation Grants who support horticulture, parks and green spaces, environmental conservation, education and stewardship, cultural facility improvements

Operations and Program

The revitalized and expanded visitor experience at Edwards Botanical Garden will also require ongoing operational funding to support increased staffing, materials and delivery costs not only for increased management and maintenance of new facilities and a larger geographic area, but also to support a new and expanded program of education, informal learning, events and activities.

Funds for ongoing operations and program costs could include:

Annual contribution from the City of Toronto towards the operation, management and maintenance of Edwards Botanical Gardens, as set out in the new Management Agreement

- The establishment of an endowment through a major fundraising and/or crowd sourcing campaign seeking donors at varying levels. This should be established at the same time as the capital campaign. The endowment can be further supported through other incentive programs such as the Canada Cultural Investment Program.
- Seeking donations and partnerships that would sponsor various staff positions and research opportunities, as well as support paid internships, scholarships and fellowships.
- Applying for relevant and available project and program grants at all levels of government and from private foundations.
- Partnering with various organizations and institutions to leverage funding opportunities from other sectors.

alysis and establishes Project Vision, Key Components, Guiding
Princip ions. This section also focuses on the development of master plan,
program co er plan.

5.1 MANAGEMENT AIMS AND OBJECTIVES

This Management Plan sets out parameters to help guide the operations and management of Edwards Gardens and Toronto Botanical Garden as a single operational entity. It is the intent that this Management Plan will form the basis of a new management agreement between the City of Toronto, Parks, Forestry and Recreation Division and the Toronto Botanical Garden.

The overall Management Plan goals are as follows:

- To promote the long-term ecological, operational and fiscal resilience and sustainability of Edwards Gardens and Toronto Botanical Garden.
- To manage the Gardens as a local and regional botanical resource while giving recognition to its critical functions (horticulture, recreation, education, conservation, ecology, and science), and to continue to recognize and develop its national and international role as a botanic garden.
- To maintain the highest possible quality of horticultural and botanical displays, showing both the range of plants that may be grown in Toronto, Ontario and the appropriate uses of these plants.
- To develop the Gardens as an educational resource and allow for the sustainable utilization of its resources for research purposes.
- To encourage public appreciation of and access to the Gardens as a recreational space (City parkland), in a manner compatible with its horticultural and botanical emphasis, its ecological importance and its cultural heritage significance.
- To preserve the landscape values of the Gardens in a manner consistent with the legacy of Rupert Edwards and its situation within Toronto's ravine system.
- To conserve designated cultural heritage features within the Gardens.
- To manage the Gardens in accordance with this management plan.

5.2.1 ADMINISTRATION

Ownership of Edwards Gardens, located at 777 Lawrence Avenue East, is held by the City of Toronto. As part of the purchasing agreement, the land is to be preserved in perpetuity as parkland, with free public access, and is to be known as Edwards Gardens in recognition of Rupert Edwards, previous owner and creator of the Gardens.

A 20-year agreement between the City of Toronto and the Toronto Botanical Garden has been in place since 2004. This agreement assigned approximately 1.6 hectares of land in the northeast corner of the property to Toronto Bontanical Garden. Through this agreement the City granted Toronto Bontanical Garden an exclusive licence for the use, occupation, management and operation of the Visitor Centre, New Gardens and Teaching Garden as a horticultural resource centre and botanical garden. As a charitable not-for-profit institution, Toronto Bontanical Garden has been solely responsible for the Garden's, operational planning, staffing and volunteer management, promotion, program development and implementation, income generation, and fundraising activities.

Management duties outlined in the existing agreement include:

- Responsibility for the supervision of the programmes, programme participants and users of the buildings New Gardens and Teaching Garden;
- Provision of adequate janitorial and basic day-to-day maintenance services;
- Provision of adequate grounds keeping of the New Gardens and Teaching Garden; and
- Compliance with health and safety regulations.

All other parts of the property are currently staffed and maintained by the City of Toronto, Parks Recreation and Forestry Division and permitted through other relevant City Departments.

With the implementation of the Master Plan, a variety of new facilities and Gardens will be created providing new opportunities for programming, engagement and income generating opportunities, but also requiring new consideration of operation, regulation and management.

Objective: To manage the revitalized Edwards Botanical Gardens according to the policy framework set out by this Master Plan and Management Plan, and to comply with all relevant statutes, bylaws and Council policies.

5.2.2 GOVERNANCE AND CONTROL

Governance refers to the models, mechanisms, processes and relationships by which Edwards Botanical Gardens are operated, controlled and directed. It confirms the key partners are who will have oversight and decision making at the Gardens – the City of Toronto and Toronto Botanical Garden – describes the nature of their relationship, lays out roles and responsibilities, and outlines general principles for establishing monitoring and implementation policies by the members of the governing body.

Recommendations

- Edwards Botanical Gardens should be operated under a single not-for-profit governance structure led by TBG with requirement for reporting/input from the City of Toronto (land owner and park system manager).
- The management agreement between the City and TBG, which forms the basis of this relationship, should be renegotiated to reflect this change. However, change should be gradual and mirror the implementation of the Master Plan. Any new management agreement should include provisions which help to transition from the current dual-governance model to the new a single non-profit governance model. Under this new agreement:
    1. The City of Toronto will continue to own Edwards Gardens.
    2. The geographical scope of TBG's responsibilities should be gradually expanded from its current 1.6 hectares to encompass the entirety of Edwards Gardens (14 hectares) and its Gardens, forests, lawns, and facilities, as and when the various phases of the Master Plan are implemented.
    3. At the same time, TBG's managerial duties should be expanded to include future maintenance, management and development of Gardens, forests, lawns, and facilities within these geographical areas.
    4. The current investment that the City of Toronto allocates annually towards the management, maintenance and operation of Edwards Gardens through the Parks, Forestry and Recreation Division should continue. Funding levels will be reviewed regularly.
    5. As TBG gradually takes on more of the responsibility for operations and management of the Gardens, these funds will be transferred from the City to TBG to be applied accordingly.
- A Board of Directors will continue to have oversight over TBG as per the requirements of their Letters Patent and bylaws. This board should continue to function as a governance board, providing strategic direction, policy development, operational oversight, and fiscal responsibility.
- To ensure that City interest are considered and that it is able to continue to fulfil its role as steward, the City should appoint a member of staff to the

5.2.2 GOVERNANCE AND CONTROL

Board of Directors.

- TBG should continue to develop its Board of Directors and membership so that it is composed of members reflective of the multi-cultural, socio-economic, gender and age diversity of the City.
- In addition to the management agreement, TBG should strive to uphold the principles of the Canadian Botanic Garden Charter and meet recognized public garden management practices in all facets of their operations.
- TBG should continue to develop their suite of institutional documents to help align organizational goals, guide future development and ensure a sustainable operating model. This should include a strategic plan, a business plan, an interpretive plan, a collections strategy, a partnership strategy, a research strategy, and an education and public program strategy. These documents should be reviewed and updated regularly on a 3-5 year basis.
- Consideration should be given to renaming the Gardens to uphold the Edwards name, but at the same time recognize efforts of the Toronto Botanical Garden, and incorporate the expansion of the horticultural and botanical efforts and programs across the whole of the Gardens. The suggested working title is Edwards Botanical Gardens. It will be important to agree on the name early as this will form the foundation of the future branding, fundraising and marketing efforts for the Master Plan and the Gardens in future.

5.2.3 STAFFING AND VOLUNTEERS

An expanded and enhanced visitor experience, and new services will require new staff and additional expertise. It is also likely that the roles and responsibilities of existing staff will change and duties for part-time staff may increase. Volunteers will continue to play a vital role in the operations of the Gardens, as will providing work experience and learning opportunities for students.

Recommendations

- TBG should continue to employ an integrated combination of full-time and part-time paid staff, and volunteer positions to ensure the smooth administration and operation of the Gardens, provide a high level of visitor services, program delivery and horticultural excellence, as well as to maintain the Gardens and its facilities.
- With expanded geographical scope, operations, programs and managerial duties, TBG should reconsider its current staffing needs and adjust its current human resources plan and organizational structure to be as efficient and effective as possible. Additional expertise and staffing capacity will likely be required in the following areas:
    1. Horticulture
    2. Curation and Collections Management
    3. Education, Interpretation and Programming
    4. Events, Permits and Rentals
    5. Garden Shop
    6. Administration
    7. Visitor Services
    8. Marketing
    9. Maintenance
- Professional standards for all positions, particularly horticultural positions, will need to be established. Skills, knowledge and ability should take

5.2.3 STAFFING AND VOLUNTEERS

precedence in staffing a botanical garden.

- The use of volunteers will continue to be crucial to operations of TBG and minimizing staff costs, which are the largest expenditure of a cultural organization. TBG should look to grow volunteer support. Careful attention should be paid to which functions are fulfilled by paid staff and which are fulfilled by volunteers. The involvement of volunteers should complement and supplement the work of paid staff, rather than take the place of it. Also, as volunteers have limited time, some positions, such as the management of the Garden Shop and Reception, may need to become paid positions. This will ensure a consistent standard of service for an expanded, year-round operation of the Gardens.
- TBG should continue to provide and expand opportunities offered to youth and students to learn from Garden staff and be directly involved in day-to-day management, operations and activities at the Gardens. This could take the form of work experience, paid and unpaid internships, and apprenticeships.

5.2.7 PARTNERSHIP AND COMMUNITY INVOLVEMENT

Going forward, opportunities for partnerships and community involvement will be important to help TBG tackle increased needs for specialized knowledge and expertise, an expanded mandate for research, science and conservation, plant collection development and management, as well as with horticulture and garden maintenance, education and cultural programming. At the same time, TBG has a great deal of expertise to share and, as its reputation grows, it will likely be approached to partner with others.

Recommendations

The City of Toronto Parks, Forestry and Recreation will be TBG's primary partner in managing, operating and maintaining Edwards Gardens, as outlined in the management agreement. Parks, Forestry and Recreation is also an important partner in promoting the Gardens along with other Toronto parks and green spaces, and within the ravine system.

TBG will continue to work closely with Toronto Region Conservation Authority, Urban Forestry and Toronto Water to protect the ravine, Wilket Creek and sensitive ecological areas within the Gardens.

TBG should also explore potential partnerships with other relevant City divisions such as Economic Development and Culture and other arms-length City agencies such as Toronto Transit Commission, Tourism Toronto, Waterfront Toronto and Heritage Toronto to further promotion, programming and visitor services.

- TBG should continue to work and develop close relationships with its current horticultural and environmental enthusiast groups and other community interest groups to assist with horticulture, garden maintenance, delivery of programs, events, etc.
- Edwards Botanic Gardens is located in close proximity to other key visitor attractions in the immediate area - Ontario Science, Aga Khan Museum, the Shops at Don Mills and Sunnybrook Park – as well as others accessible through the ravine system. TBG should develop closer partnerships with these leading destinations around promotion, joint programming and, most importantly, improving accessibility to the Gardens by public transit and through the ravine.
- With a view to strengthening the overall Toronto gardens network, TBG should work with other gardens and conservation organizations across the city such as the Toronto Zoo, Friends of Allen Gardens, Evergreen Brickworks, and The Bentway Conservancy. TBG should also continue to develop its network of botanic garden and horticultural partners provincially, nationally and internationally in order to build greater expertise and reputation.

5.2.7 PARTNERSHIP AND COMMUNITY INVOLVEMENT

- Partnering is both challenging and resource intensive. A partnership strategy is essential resource to help guide an organization in making robust decisions on investment in collaboration: the right issue area, the right type of partnerships, and the right type of partners to ensure the greatest value to the organization. TBG should consider developing a partnership strategy that will help to clearly define the areas of operation for which partnerships are desirable, how to choose partners, evaluating partnership requests, etc. As part of this strategy TBG should consider:

    1. With a view to increasing horticultural excellence and becoming a showcase for ecological restoration of degraded ravine and riparian andscapes, TBG should investigate and develop partnerships with relevant organizations and higher education institutions who have expertise in horticulture, conservation and environmental science, and who are furthering research in these areas.
    2. With a view to broadening its appeal as a botanic destination for locals and tourists, TBG should investigate and develop partnerships with relevant visitor attractions, organizations and higher education institutions who have expertise in hospitality, event planning, and heritage and cultural resource management.
    3. With a view to using the Gardens as a backdrop for offering a wider program of cultural events, exhibits, activities, and learning, TBG should investigate and develop partnerships with relevant organizations, cultural communities, higher education institutions and artists who have expertise in, collections related to and access to artists across a number of fields including visual art, music, performing arts, cultural programs, etc. In particular, TBG should investigate establishing relationships with Toronto's many recognized local, provincial and national organizations such as the Myseum of Toronto, Toronto Symphony Orchestra, Art Gallery of Ontario, Royal Ontario Museum, National Ballet of Canada, Canadian Opera Company, etc.
    4. With a view to Indigenization, or a desire to infuse Indigenous knowledge and perspectives into the restoration and management of the Gardens, TBG should investigate and develop partnerships with Elders and knowledgeable Indigenous community leaders and organizations who have expertise in Indigenous teachings, culture, and landscape management practices.
    5. Other areas for partnership consideration could also include relevant organizations and higher education institutions who have expertise in recreation, and health and well-being (such as the nearby Sunnybrook Hospital).

5.3.1 RESOURCE MANAGEMENT - PLANT COLLECTION

The plant collection is the heart of any botanical garden. At EG/TBG, the plant collection will contribute to the overall vision of creating a world-class botanical garden for Toronto, by supporting the “four pillars” of the institution: Conservation, Research, Education and Display.

General Guidelines

- Contribute to overall biological diversity in the Toronto region
- Develop a detailed collections policy specific to the institution
- Expand the existing collection of 3500 taxa, setting a goal of including 10,000 taxa
- Include only plants of known provenance for native plants, and known pedigree for nonnative plants
- Maintain the current focus on plants in the species Magnolia and Rhododendron
- Continue to use the BG-Base Documentation System for basic plant data, and expand this software to include Esri GIS Mapping software to record location of all plants in the collection
- Continue to allow public access to plant record databases, through membership in the North American Plant Collections Consortium (NAPCC)
- Seek accreditation by the American Alliance of Museums (AAM)
- Plant provenance, native plant material sourcing for ESA portion of site needs to be locally adapted, seed-source identified stock. Avoid non-native invasive species in all plant bedsadd “Urban Forestry” ubder general guidelines

Conservation

- Continue the existing focus on plants native to the Greater Toronto Bioregion, including rare and endangered plants
- Continue to maintain best practices for ecological sustainability, as articulated by the American Public Gardens Association (APGA)
- Preserve existing natural ecosystems
- Restore and rehabilitate degraded ecosystems to their native form and function

5.3.1 PLANT COLLECTION

- Protect and restore the ravine using methods as outlined in the City of Toronto Ravine Strategy, “to help support a ravine system that is a natural, interconnected sanctuary essential for the health and well-being of the city”, using principles of landscape ecology.
- Maintain a native seed bank repository of original native flora native to the ecoregion to preserve genetic diversity.

Research

- Build collections of research value
- Serve as a testing ground for ravine management and small scale pilot testing.
- Be a resource for universities to conduct research on conservation in urban settings
- Support “citizen science” programs, such at the National Audubon Society’s annual Christmas Bird Count

Education

- Support the ongoing educational programming of EG/TBG
- Serve as an educational resource for schools and universities
- Demonstrate to homeowners how to create gardens that are ecologically sustainable
- Creating resource materials for collection, propagation, and enhancement of native gardens

Display

- Develop special gardens and displays of the highest beauty and aesthetic value, for enjoyment and refreshing the human spirit
- Use only nonnative plants that will not be invasive or otherwise impact the health of natural systems.
- Include plant displays that provide beauty in all seasons of the year

5.3.2 HERITAGE FEATURES

In 1817, Alexander Milne, a Scottish miller, settled his family and built his business on the site that we now know as Edwards Gardens. Before that, the landscape went through thousands of years of natural change and may even have been used by Indigenous peoples moving through the ravine system. In 1956, Edwards Gardens became an important public garden which has served Toronto for decades. Today the property contains several cultural heritage features such as the Milne House and Cemetery, and the Moriyama Pavilion.

Objective: To protect, conserve and celebrate the important tangible and intangible heritage features of Edwards Botanical Gardens, ensuring sustainable, continued use, maintaining their heritage value and increasing awareness of their significance.

Recommendations

- Designation of Edwards Botanical Gardens as a cultural heritage landscape should be considered, and recommendations from the assessment completed by ASI Archaeological & Cultural Heritage Servised Heritage should be implemented.
- All designated and listed heritage features, and other significant heritage elements within the Gardens will be preserved. One of the best ways to preserve these heritage features is to ensure their continued relevance and use.
- Efforts should be made to celebrate and interpret important tangible and intangible heritage features of the Gardens.
- Maintenance and development of all designated and listed heritage features within the Gardens should adhere to City regulations and bylaws and the Standards and Guidelines for the Preservation of Historic Places in Canada and the Ontario Ministry of Tourism, Culture and Sport's Standards and Guidelines for Consultant Archaeologists.
- The City of Toronto's Heritage Preservation Services should be consulted on all proposed changes or alterations, and these will need to adhere to City regulations and bylaws.
- Use of all designated and listed heritage features is acceptable as long as they pose no physical threat to the heritage asset, and does not detrimentally affect its layout or the integrity of its heritage value.

5.3.4 ECOLOGICAL MANAGEMENT

Edwards Garden and the Toronto Botanical Gardens (EG/TBG) contains a variety of rich ecosystems that require careful management. Wilket Creek Forest represents an Environmentally Significant Area (ESA) surrounding the Wilket Creek tributary of the Don River, which runs through EG/TBG south to Lake Ontario . ESAs are defined as “spaces within Toronto’s natural heritage system that require special protection to preserve their environmentally significant qualities” , and the northeast corner of the Wilket Creek ESA is located within EG/TBG (refer to AR-01 for approximate ESA boundary location). Studies recently completed for the Toronto and Region Conservation Authority (TRCA) indicated that a variety of uncommon flora and fauna remain in the watershed, including plant species such as the endangered butternut (Juglans cinerea) and locally uncommon birds such as the scarlet tanager (Piranga olivacea) . While invasive plant species were prominent in some areas of EG/TBG, most plant communities are generally intact and could be prime candidates for long-term ecological preservation, stewardship, and education.

We propose the following guiding principles for ecological and edge management in EG/TBG:

1. Protect what is healthy and native to the area from all negative human impacts, such as trampling, erosion, trash accumulation, and plant collection.
2. Encourage natural regeneration of native species.
3. Remove all invasive plant species where possible and manage invasive plants to reduce ecological impact.
4. Plant with native species (especially disturbed and invaded areas) from local seed sources and allow time for natural processes to restore the area.

These guiding principles compliment existing strategic goals of Toronto’s Strategic Forest Management Plan to increase canopy cover (long-term), increase biodiversity, increase awareness, promote stewardship, and improve monitoring . Most of the property (including natural forest areas) is regulated by City of Toronto Municipal Code, Chapter 658, Ravines and Natural Feature Protection (RNFP - the Ravine Bylaw) administered by City of Toronto Parks, Forestry and Recreation; and Ontario Regulation 166/06 Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses, administered by the TRCA. The property is also a natural heritage site.

EG/TBG areas outside of RNFP and TRCA boundaries are regulated as City-owned parkland, while trees on City boulevards at the periphery of the property are subject to Chapter 813, Article II, Trees on City Streets (the Street Tree Bylaw), administered by Tree Protection and Plan Review - North York (TPPR North). Any removal of invasive species, silvicultural activity, or removal of hazardous trees must be completed in accordance with the provincial Forestry Act and with appropriate municipal permits from City of Toronto Urban Forestry (RNFP and TPPR North) and the TRCA (refer to

5.3.4 ECOLOGICAL MANAGEMENT

AR-01 for approximate location of RNFP and TRCA regulation lines). Adequate time for review and revision by RNFP, TRCA, and/or TPPR of all plans and associated tree impacts must be allowed prior to any proposed construction or stewardship work (2-3 months minimum). An Ecological Land Classification (ELC) assessment of the EG/TBG property east of Wilket Creek showed sugar maple (Acer saccharum) tree canopy dominance and clay loam soils, suggesting a FOD5-3 Dry-Fresh Sugar Maple – Oak Deciduous Forest on slopes surrounding a small stream flowing west from Leslie Street into Wilket Creek. In addition to red oak (Quercus rubra), secondary tree species in the area include ironwood (Ostrya virginiana), basswood (Tilia americana), and dead ash (Fraxinus sp.). In addition to native chokecherry (Prunus virginiana), the understory showed significant presence of common buckthorn (Rhamnus cathartica) and Tartarian honeysuckle (Lonicera tatarica), which should be removed and replaced with native species. A silvicultural and/or stewardship plan will need to be produced and approved by RNFP for the work to be done.

South and west of the wooden bridge located southwest of the EG/TBG parking lot, a higher density of black cherry (Prunus serotina) suggests a shift to a FOD5-7 Dry-Fresh Sugar Maple – Black Cherry Deciduous Forest. Soils were sandier in some areas near the bridge, but still generally underlain by clay loams. Secondary tree species include white birch (Betula papyrifera), American beech (Fagus grandifolia), and more dead ash, among others. Fewer invasive plant species were present in this area beyond a patch of lily-of-the-valley (Convallaria majalis) and small areas of woody and herbaceous species, but regular monitoring in this area and throughout the park should be established to detect any new non-native plant encroachments.

North of the paved pathway, steeper slopes, shallower soil profiles, and greater abundance of white pine suggest a transition to a FOM2-2 Dry-Fresh Sugar Maple – White Pine Mixed Forest. An existing asphalt pathway runs through the forest in this area, and the steep slopes show moderate erosion, possibly due to runoff from surrounding hardscapes uphill. Few invasive tree and shrub species were present in this area, though a colony of invasive English ivy was present on the western forest edge adjacent to the pathway, as well as lily-of-the-valley at higher elevations, both of which should be controlled or removed if possible.

Forested areas closer to Wilket Creek showed higher moisture levels in soil profiles (unsurprising given the lower elevation), and the area south of the open grass lawn can therefore be classified as FOD6-5 Fresh-Moist Sugar Maple – Hardwood Forest. Native herbaceous species indicating high moisture levels were present in the wettest areas, such as sensitive fern (Onoclea sensibilis) and jewelweed (Impatiens capensis), while native shrubs were abundant in much of the understory, including chokecherry, alternate-leafed dogwood (Cornus alternifolia), and nannyberry (Viburnum lentago). Norway maple (Acer platanoides) was the most significant invasive plant species in the canopy, while common buckthorn and winged euonymus (Euonymus alata) competed with native shrubs in the understory. All invasive woody plants should be cut and treated with herbicide wherever

5.3.4 ECOLOGICAL MANAGEMENT

encountered to prevent resprouting.

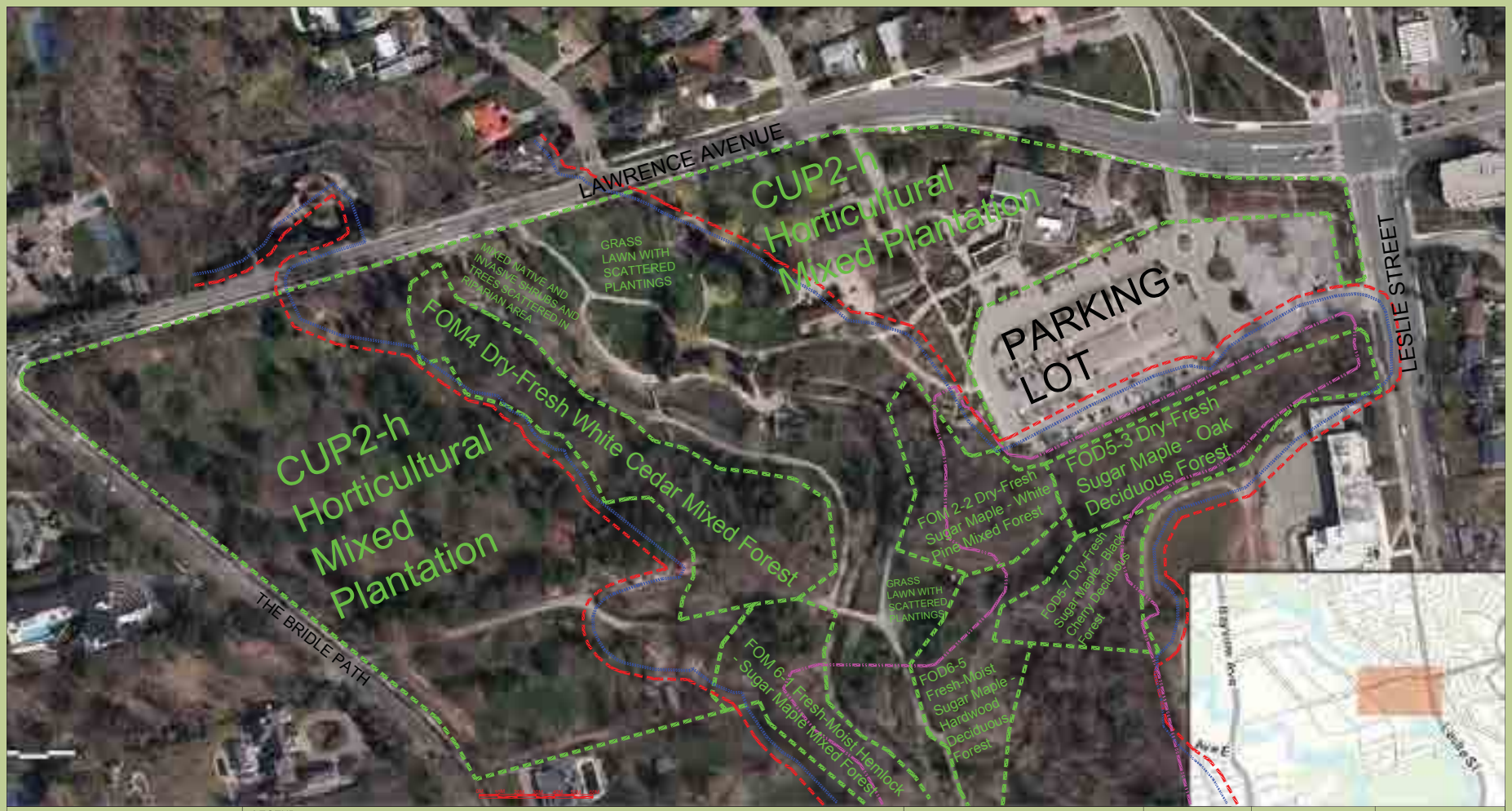
On the valley wall on the west side of the creek, FOM4 White Cedar Mixed Forest is the most appropriate ELC classification for the area north of the main concrete pathway, as deciduous trees are generally dominant but with significant secondary conifer presence. The most common deciduous species include black walnut (Juglans nigra), black cherry, white elm (Ulmus americana) and red oak, integrated with groves and individual coniferous trees such as white cedar (Thuja occidentalis) near the creek, with white pine (Pinus strobus) and red pine (Pinus resinosa) are located on the western periphery. Soil profiles were often shallow and were again generally clay loams with some sandy pockets.

Invasive plants are abundant in this area, and should be controlled. Trees include Norway maple and Manitoba maple (Acer negundo), while the most common invasive shrubs include winged euonymus, common buckthorn and Tartarian honeysuckle, with lower densities of others. Commonly-occurring invasive vines and herbs include English ivy, spotted dead-nettle (Lamium maculatum), and garlic mustard (Alliaria petiolata), with an especially dense colony of English ivy in the central area. Conifer plantations (primarily white and red pine) along the western edge of the forested area create a moderate buffer from the more highly-maintained areas to the west, but formal and informal pathways throughout the forest increase the risk of soil compaction and are potential vectors for further spread of invasive species. The forest should be monitored regularly for new invasive encroachment and other damage.

On the south side of the main concrete pathway, a dense grove of eastern hemlock (Tsuga canadensis) transitions to a hardwood forest further south. Sugar maple dominance in the hardwood areas and a very fresh drainage regime suggest an FOM6-1 Fresh-Moist Hemlock – Sugar Maple Mixed Forest as the best ELC classification. No invasive trees or shrubs are present on EG/TBG property in this area, but dense colonies of spotted dead-nettle, creeping euonymus (Euonymus fortunei), and lesser celandine (Ficaria verna) should be controlled. Along the creek bed, small colonies of multiflora rose (Rosa multiflora), colt's foot (Tussilago farfara), and common reed (Phragmites australis) are generally contained, but should also be controlled to prevent further spread.

The rest of the property represents a more highly-managed horticultural area (CUP2-h Horticultural Mixed Plantation). Grass lawns of various size and small groves of planted conifers are mixed with a variety of native, ornamental, and exotic planted trees, shrubs, and garden beds in this area. Small areas of riparian vegetation such as woolly-headed willow (Salix eriocephala), red osier dogwood (Cornus stolonifera), and silky dogwood (Cornus obliqua) are present along the stream (too small in area to merit their own classification), with large prominent weeping willows (Salix xsepulcralis) along the east side of Wilket Creek. Though prominent ornamental invasive species will generally be kept in place in the short-term, all new plantings must be either native species or non-invasive exotics in these areas.

5.3.4 ELC ZONE BOUNDARY CONCEPT



REVISIONS/ ISSUE DATES

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

LEGEND:

ELC ZONE BOUNDARY

APPROXIMATE RAVINE BY-LAW LINE

APPROX. TRCA LINE

APPROX. ESA BOUNDARY

Survey Information Provided by:
TORONTO MAPS, 2017

Urban Forest Associates Inc.
331 Linsmore Crescent, Toronto, ON M4J 4M1
416-423-3387 restore@ufora.ca

PROJECT:
TORONTO BOTANICAL GARDENS - EDWARDS GARDENS
755-777 LAWRENCE AVENUE EAST
TORONTO, ON

TRUE NORTH

DRAWN BY: AK

DATE: MAR. 14, 2018

DRAWING TITLE: ELC ZONES

DRAWING NO.: AR-01

SCALE: 1:900 (24X36)

5.3.5 ECOLOGICAL MANAGEMENT

For locations of ELC Zones on EG/TBG property and immediately-adjacent areas, refer to drawing AR-01 for more information.

Objective: To maintain and improve high-quality native ecosystems throughout EG/TBG, especially in natural forest areas and edge habitats.

Recommendations:

1. Remove invasive trees and shrubs from forested areas, cutting the main stem as low as possible and treating the cut stump immediately with herbicide. Refer to drawing AR-02 for potential invasive removal locations. Leave all wood larger than 10cm in diameter on site, while smaller wood and branches can be chipped and used as mulch for new plantings. When trees fall naturally, leave all wood and branches on site if possible. The most abundant invasive species on the property are listed in Appendix X (TBD). All proposed removal of invasive plants, proposed stewardship activities, and compensation plantings in ravine-regulated areas must first be approved by RNFP.
2. Treat foliage of colonies of invasive herb and vine species in forested areas with herbicide (refer to drawing AR-02 for location). The most abundant species are listed in Appendix Y (TBD):
3. A location-based invasive management plan should be prepared for individual zones as each zone may need to be treated independently depending on sensitivity of each area. It may take multiple years to completely control or eradicate invasive species, and at least five (5) years of maintenance after initial invasive plant removal will be required by RNFP. In some cases, the efficacy of treatment (mechanical or chemical) will need to be assessed on a case by case basis depending on the zone. This should be combined with a species- based approach in which priority species are targeted for removal wherever they occur on the site. This is especially important for species that are found in small numbers now but that could expand populations very quickly if left alone or treated as a low priority.
4. For more effective long-term follow-up, train gardening staff to recognize and control invasive species wherever they find them. Herbicide licensing is recommended for one or more staff members.
5. When prominent specimens of non-native tree species die (e.g. weeping willow), replace with native tree species (preferred) or non-invasive exotics. Ensure that all new plantings throughout the property are non-invasive.
6. Develop a long-term planting plan for open grassy areas and invasive species removal locations. Select native species compatible with the surrounding ecosystem and local soil/light conditions.
7. Plant forest edges with aggressive native shrubs, and extend forest edges where possible by at least 5m, especially within grass lawns. Refer to Appendix Z (Table 2) for a list of potential plantings, with aggressive forest edge colonizers noted.
8. Plant riparian areas directly adjacent to Wilket Creek with floodplain and moisture-tolerant native shrubs and herbs/ferns. Refer to Appendix Z (Tables 2 and 3) or a list of potential plantings, with potential riverine and streambank species noted.
9. Establish policies/signage for park staff and the public to ensure that no dumping of grass clippings, yard waste, or any garbage/waste material

5.3.5 ECOLOGICAL MANAGEMENT

occurs in forested areas.

10. Remove garbage periodically from all forested areas, possibly with the help of the public (e.g. community volunteers).
11. In consultation with the TRCA, stabilize any eroded areas and plant any newly-established soil with native plant species (refer to AR-02 for examples).
12. Encourage recreational uses on existing trails and maintained areas. A defined and well-maintained pathway should be implemented to prevent people from venturing out and making ad hoc trails. No new formal trails or recreational facilities are necessary in forested areas. If new trails develop, close them immediately and use heavy vegetation, dense woody debris, fencing and other forms of barriers to keep people and pets on established trails.
13. Establish a monitoring schedule for all forested areas to assess the success of invasive species control and planting projects, and to determine if invasive species are spreading to new areas. Monitor existing colonies of less common native herbs [e.g. white trillium (Trillium grandiflorum) and yellow trout lily (Erythronium americanum)] for encroachment by invasive species and trampling to ensure that colonies remain viable.
14. Establish a stewardship team to manage the natural areas of the property. For guidance on woody native species to use for plantings, consult the 2016 City of Toronto publication Trees, Shrubs and Vines of Toronto . This publication has the most up to date list of woody species and their natural status available.
15. Provide opportunities allowing native fauna to colonize the area to add to the biodiversity of the sites. These include plantings of native floral species to allow native butterflies and bees to pollinate, as well as increase bird habitat through provision of bird boxes and maintaining snags.
16. Basal area thinning of native trees according to a management prescription may be considered if canopy density is too high to allow a diverse native understorey to grow, though it is expected that removal of hazard and invasive trees will provide sufficient canopy openings. This can be assessed in collaboration with TRCA and RNFP when invasive and hazard tree removal is substantially complete.
17. Refer to TRCA resources as needed for the development and implementation of future plans, including forest edge management guidelines and native tree and shrub monitoring guide plan for the development and implementation of future plans.

5.3.5 PROPOSED INVASIVE CONTROL AND EDGE MANAGEMENT

5.3.6 WATER RESOURCE - FLOOD PLAINS

The management of the riverine valley flood plain of the Wilket Creek through the EG/TBG site will be directed by a set of inter-related considerations that include flooding, long term erosion and stability (i.e. creek geomorphology and potential movement of river banks), terrestrial ecology, aquatic biology, paths and walkways connectivity, plant collections and displays, heritage features (e.g. bridges, weirs), new valley features (e.g. the bridge), and accommodation of internal site drainage paths. Accordingly, the objectives for managing Wilket Creek and its flood plain will be considered within many portions of overall Master Plan implementation.

The flooding potential of Wilket Creek is well recognized, with these characteristics outlined in existing flood plain mapping and reporting available from the Toronto and Region Conservation Authority (TRCA). The existing Regulatory flood line, based on a Hurricane Hazel-type rainfall event within the watershed, has been translated onto the Master Plan and will continue to be a prime consideration through its implementation. All aspects of the Master Plan sited adjacent to the existing flood plain and valley slopes will require TRCA approval prior to implementation. Similarly, ongoing management of the flood plain by the City will require TRCA concurrence in approach.

Note: Stormwater runoff generated internally by the EG/TBG site will be addressed separately in the Stormwater Management section of this report. An additional section of this report titled Disaster Management and Resilience will also address Wilket Creek flooding. Ecological aspects of flood plain management will be addressed in the section of the report titled Ecological Management.

Characteristics of lesser storms in Wilket Creek have also been considered within the Master Plan. In managing the flood plain, the Master Plan will address all flow conditions within the creek including low, regular, bankfull, frequent overbank flooding, infrequent flooding, and catastrophic flooding. Each of these flow conditions has a corresponding objective or set of objectives relating to flood plain and channel form. Various EG/TBG Master Plan uses within the flood plain (e.g. bridges and pathways) will be configured to ensure that a suitable exposure to flood risk is maintained.

The city's previously completed Wilket Creek Rehabilitation Master Plan did not identify the reach of creek within EG/TBG site needing works, due to previously completed stream restoration projects, but outlines how creek restoration upstream and downstream of the site will progress. The existing Wilket Creek channel was subject to catastrophic flooding in 2005, which resulted in significant erosion protection and stability works being put in place by the city through the EG/TBG site. As a result of that previous work, the watercourse itself would otherwise not require significant additional stability treatment over the next decade. However, implementing EG/TBG Master Plan items will provide opportunity for completing some works that will improve creek functionality and habitat.

5.3.6 WATER RESOURCE - FLOOD PLAINS

The natural processes of erosion will continue within Wilket Creek through the site, hastened by its uncontrolled upstream urbanized watershed. The long term management of the creek channel and its designed resilience to erosion will fall to the city and TRCA, in association with EG/TBG input that will be sought at an appropriate future time. Erosion control measures will be considered once they are required to ensure the ongoing health of the stream and the safety/stability of uses within the valley. It may be that creek works related to enhancement of fisheries will be considered in the future, with these works seen to be aligning with ecological objectives of the EG/TBG Master Plan. The three existing bridge crossings, including the existing weir that provides a pond feature within the creek, will be kept within the final Master Plan, although will be modified if required.

In Phase 1 of the Master Plan, flood plain management will be limited to upkeep of existing trails and bridges until such time as replaced by Phase 2 trails and bridge works. Nuisance flooding and associated debris buildup on trails will continue during Phase 1, requiring continued attention. At Phase 2, the treatment of new trails, elimination of old trails, and potential bridge modifications will consider measures to ensure long term viability with respect to creek erosion. Phase 2 will also include significant restoration of terrestrial habitat within flood plain areas, with suitable consideration for other EG/TBG uses and ongoing activities. Ongoing maintenance for debris cleanup in response to most flooding events should be lessened significantly by implementation of Master Plan items.

The significant valley-crossing pedestrian bridge outlined in the Master Plan will not impact the Wilket Creek flood plain in the long term. Constructability plans will be implemented to ensure impacts are minimized in the short term. New trails within the valley will generally be set above the 25-year return period flood, to be adjusted with consideration for climate change. Trail connections to existing bridges will likely require lower elevation connections and therefore more frequent flood exposure. Detailed implementation plans for the flood plain portions of the Master Plan will require calculations of effect to ensure flood levels upstream of the site are not negatively affected.

The east ravine area of the site is not considered flood plain where it is upstream of the Wilket Creek flood plain. The east ravine area will be relevant to the Master Plan due to its current significant and ongoing erosion and a continued requirement to convey its flow through the EG/TBG site to Wilket Creek. The source of flow to the east ravine is an existing large storm sewer outlet located at Leslie Street, augmented by surface and existing piped runoff from the EG/TBG site and adjacent lands to the south. The Master Plan will allow for the EG/TBG portion of this flow to be significantly controlled within Phase 3 of development, but the other contributions will continue unabated. Remediation of the east ravine drainage feature to control erosion will be required as a part of Phase 2 works, which also may require some temporary drainage works on site near parking areas prior to Phase 3.

5.3.6 WATER RESOURCE - FLOOD PLAINS

Objective: Implement a Flood Plain Management Strategy to ensure Master Plan items (especially trails and bridges) do not negatively affect flood levels and are only exposed to understood and well-managed flood risks.

Recommendations:

- Ensure that flood plain management objectives and considerations continue to be a part of detailed Master Plan implementation documents, including considerations for phasing.
- Confirm the appropriate level of service (storm return period) required to set elevations for new trails within flood plain areas.
- Ensure all Master Plan works do not detrimentally affect flood levels by completing adequate hydraulic modelling.
- Work with TRCA and other city departments to ensure any longer term objectives of required Wilket Creek erosion works are also integrated into Master Plan implementation works.
- Develop the flood plain management strategy for the Wilket Creek valley and the east ravine area with consideration for integrating relevant aspects of the stormwater management implementation plan for the Master Plan, including consideration for phasing.
- Ensure all flood plain management works and strategies incorporate recommended ecological objectives from the Master Plan.

5.3.6 WATER RESOURCE - STORMWATER MANAGEMENT

The management of stormwater from the EG/TBG site will be accommodated by measures following a Low Impact Development approach. Green Infrastructure, such as green roofs, enhanced swales, and bioretention facilities, will be implemented to treat and control internal runoff from the site. Master Plan implementation will thereby improve stormwater quality beyond existing conditions. Proposed site development will also result in improved site hydrology, again providing a restorative function for the larger watershed receiving storm runoff from EG/TBG.

Note: Riverine flows within Wilket Creek and external flows entering the site from the east ravine area will be addressed separately in the Flood Plain Management section below.

Internal site runoff will be managed to avoid potential erosion of valley areas. Generally, runoff should be managed at-source, with areas of concentrated flows to be avoided. Where concentration of runoff is required, flows should be conveyed and directed to the receiving valley by erosion resilient approaches which require less long term maintenance.

Detailed implementation plans for the overall Master Plan will require an accompanying stormwater management implementation plan for the site. The stormwater management implementation plan should be structured to allow implementation in phases concurrent with other site development phasing considerations. Internal site stormwater designs and phasing will also integrate with works associated with the Wilket Creek flood plain and east ravine area.

Stormwater infrastructure, including green infrastructure, will be managed and maintained according to its location within the site. The stormwater management plan for the site will also make provision for snow management and winter maintenance, including items such as salt management. Implementation of stormwater management approaches such as permeable pavements should be explored given their potential for both summer and winter management benefits.

5.3.6 WATER RESOURCE - STORMWATER MANAGEMENT

Objective: To ensure the development of the site results in net improvements to site hydrology, water quality of stormwater runoff, and drainage connections to valley areas.

Recommendations:

- Develop a 'Stormwater Management Implementation Plan' concurrent with detailed Master Plan implementation documents, including considerations for phasing.
- Utilize a Low Impact Development approach for stormwater infrastructure, including implementing recognized Green Infrastructure wherever feasible.
- Integrate Green Infrastructure into all site development elements where feasible (e.g. rooftops and parking areas).
- Ensure winter maintenance and snow management considerations are referenced in the stormwater management report given the close connectivity of issues such as water quality.
- Develop a stormwater management implementation plan to also consider and integrate with works and phasing outlined in the Flood Plain Management Plan for the Wilket Creek valley and the east ravine area.

5.3.8 RESILIENCE AND CLIMATE CHANGE

Building adequate resilience into works was an identified goal by both project team and the public contributors during the EG/TBG Master Plan project. Resilience as a general term is and always has been a hallmark result of good planning, i.e., ensuring that our desired approaches will have longevity. Future unknowns, whether they come as slowly evolving inputs or sudden shocks to the system, will arrive and test system readiness. More recent reference to resilience also connects us to Climate Change in particular, and this section of the report will also focus on its potential effects. Resilience to physical changes outside of the EG/TBG site, especially related to water, is also discussed. Other important areas of resilience in the Master Plan for EG/TBG, such as financial, will be considered within their relevant programs, designs and ongoing management schemes. Ecological resilience, itself so closely related to water and climate, is addressed in the section of this report titled Ecological and Edge Management.

Climate change poses extra challenges for site, with increased variations in temperature and precipitation predicted beyond our identified norms. That the climate is changing is not in dispute, although its end points and pace of change is not known and only estimated. Within highly managed areas of the EG/TBG site, opportunities will be much greater to respond to climate change challenges, thereby better ensuring that various plant collections and arboretum areas will be resilient and wisely planned. Adaptation to a changing climate is also already a well-known discussion point for managers of botanical gardens, and considerations for climate change will continue to guide decisions at EG/TBG.

The requirements for long term water supply have not in the past been an issue for the EG/TBG site, and no immediate risk is likely given the reliable supply of nearby Lake Ontario. In the longer term, consideration may be given to the potential for rainwater harvesting as a hedge against rising energy costs and increased water charges. The captured water is also well suited for plant irrigation purposes without requiring treatment. Rooftop capture to cisterns should continue to be considered for future building phases, although its economics may require that other priorities are pursued first.

Resilience will be required in all management and future design considerations of items related to the Wilket Creek flood plain and watercourse. Principles of resilience in watercourse design and erosion control are becoming more well-known, and given that the stewardship of the creek will be shared with the city and Toronto and Region Conservation Authority (TRCA), these principles will be followed. Consideration of climate change in determining flood risk is also an objective of the TRCA. The design of pathways, new treatments for bridge crossings, and the new pedestrian bridge itself, should be completed with an eye to future climate changes and resilience to the creek's changing flow regime. These would include more frequent flood events, as well as more frequent drought events.

Current conditions within the upstream watershed are largely to blame for the large flow variations experienced in the Wilket Creek. Both flood flows and lack of base flows result from the largely unmitigated watershed urbanization/paving and creek channelization that was practiced until only the most recent two decades. These conditions will continue to test even the most resilient designs through the EG/TBG site and elsewhere, even without the

5.3.8 RESILIENCE AND CLIMATE CHANGE

added stresses of climate change. Although not imminent nor currently planned in any large scale, the condition of the upper Wilket Creek watershed may be changed ever so slowly over time. The very same approaches for Low Impact Development-type stormwater approaches which are recommended within the EG/TBG Master Plan (see section titled Resource Management – Stormwater Management) have garnered wider interest for general implementation by the water management sector. Demonstration sites are being considered and implemented in other portions of the City of Toronto as there is a general recognition of resilience inherent in these types of designs. The EG/TBG site will contain these resilient stormwater management elements, and consideration should be given to highlight their implementation for others as an example.

As a general rule, and especially with respect to the Wilket Creek and larger Don River watersheds, the EG/TBG management group should continue to look outward from their physical site to ensure they are well integrated into their surroundings. Integration, interconnection and sharing of ideas provide strength in design and will result in better resilience.

Objective: Implementing resilience into the design and ongoing management of Master Plan items, especially for flood plain valley features and water management.

Recommendations:

a) Ensure that all items within the Master Plan consider resiliency of design for climate change effects through to implementation and within long term management strategies.

b) Ensure that resiliency of design also extends to other potential physical and policy-related disruptions in water management strategies, including stormwater management and designs within the Wilket Creek channel, flood plain, and also for the east ravine area.

c) Consider potential climate change effects when determining appropriate level of service (i.e. storm return period) for elevations for new trails within flood plain areas.

d) Consider use of rainwater harvesting as an alternative source of irrigation water.

e) Continue to be aware of larger watershed issues, lending support where possible to expanding greater resilience outside of the EG/TBG site.

f) Showcase resilient designs completed on the EG/TBG site such as Low Impact Development-type and Green Infrastructure thereby increasing watershed resiliency through the exchange of ideas.

g) Create additional ecological resilience by insuring strong linkages to the management of water and stormwater at the EG/TBG site, including through creek designs and associated trails and bridges.

5.4.1 MAINTENANCE, REPAIR AND ALTERATION

Buildings And Structures

Edwards Botanical Gardens has a variety of buildings and structures, contemporary and historic, that perform both an aesthetic and functional purpose. This includes visitor facilities such as the George and Kathy Dembroski Centre for Horticulture, historic structures such as the Milne horse barn and Moriyama Pavilion, functional buildings like the greenhouses and maintenance yards, to other features such as new fencing, stairs and gates.

It is important that buildings and structures do not detract from the Garden's overall character and beauty, or its role as a recreation reserve.

Objective: To ensure that the buildings and structures of Edwards Botanical Gardens achieve their functional purpose without detracting from the overall character and landscape values of the Gardens and contribute to a greener future.

Recommendations

- As a botanic garden with conservation at the heart of its mandate, TBG should ensure that new buildings and structures employ innovative "green" design throughout in order to not only limit any negative environmental impact, but to provide a demonstrated example of excellence.
- As an important cultural attraction and tourist destination, TBG should ensure that new buildings and structures are designed in such a way as to contribute to, but not overwhelm, the visual impact of the Gardens and the surrounding neighbourhood.
- TBG should ensure that the public is consulted on all new significant buildings and structures proposed for the Gardens.
- All designated and listed heritage buildings and their associated features will be preserved. Heritage features will be maintained in a timely manner and to a historically relevant condition, as resources permit. Where possible, TBG should ensure that existing buildings and structures are upgraded and maintained to be sympathetic to the heritage character of theses structures and the cultural heritage landscape of the Gardens.
- Fences shall be erected where possible to provide physical barriers to entry during the hours of darkness, and these shall be constructed and maintained to a standard that does not detract from the heritage character of the Garden.
- All buildings and structures on site will meet appropriate planning regulations and bylaws around physical accessibility, and health and safety, and will be subject to regular planning approvals of the City.

5.4.2 EVENT AND PERMITTED SPACES

Increased programming, visitor attendance, rentals and permitted events will have an impact on the wear and tear of the gardens, spaces and facilities at Edwards Botanical Gardens. It will be important that these spaces are well maintained and kept in good order so that they can continue to be used to generate income to support operations and maintenance of the Gardens as a whole, but also for the continued enjoyment of these spaces by the public. Most importantly, good maintenance will ensure wider site sustainability and minimize the impact on ecology.

Objective: To ensure that designated spaces at Edwards Botanical Gardens can continue to be used for events, functions and permitted activities without detracting from the overall character and landscape values of the Gardens and enjoyment by the public.

Recommendations

- Appropriate use of indoor and outdoor event and function spaces at Edwards Botanical Gardens should be regulated and administered through a formal permitting process to prevent damage and unauthorized alterations to the Gardens. TBG will only issue permits for acceptable uses.
- Any spaces – indoor and outdoor – used for events, functions and other permitted activities should be maintained by TBG to a standard that will ensure that permitted spaces look as good or better after the event or function, as it did before the event or function occurred.
- Guidelines, specific to TBG group activities and events held in natural areas should be developed as part of the management agreement with the City. This would included guidelines for permitted activities, attendance/capacity, number of events per zone, number of events per year, etc.
- Permit users will be expected to comply with the City's existing guidelines on Group Activities in and/or around Natural Environment Areas.

5.4.3 PLANT CARE, TREES, SHRUBS & LAWN

Plant care will be undertaken by both paid and volunteer staff (as it currently is). Focusing on the key mandates of Display, Conservation, Education and Research for a botanic garden, maintenance practices will include:

- Control of invasive plant species
- Support and protect of pollinators
- Watering
- Soil health
- Nutrients
- Control of pests and diseases
- Pruning
- Vandalism repair
- Repairing damage due to environmental events (wind, snow, ice, seasonal flooding, etc.)
- Seasonal maintenance
- New planting
- Turf management

EG/TBG will undertake a wholistic approach to the overall site. Management will focus on low, medium and high intensity horticulture. For instance, planters and annuals may require daily care during the summer; forbs, grasses, hedges and topiary may need monthly care; woody shrubs may require twice annual pruning; and, trees may only need maintenance on an as needed basis.

5.4.4 MAINTENANCE YARD

The Maintenance Yard will be utilized by staff only (public access will not be allowed). Access will be controlled by card access through gates, both for individual and vehicular use. Card access (rather than key) would also be preferred for the various Maintenance Yard buildings: green house, garage and staff building.

The facility will be screened by a dense, mixed planting screen on top of an earthwork berm. This planting should be maintained to the same high standards as the rest of EG/TBG.

5.4.5 PARKING

The reconstructed west surface parking area will have 177 spaces, with its storm water management features retained. These features (permeable paving and) require regular review for operational functionality and aesthetics. Furthermore, these features should incorporate educational, interpretive and research components.

The permeable paving joints should be cleaned with a sweeper or vacuum truck annually as recommend by the paver manufacturer. Paving joints should be topped up annually with the appropriate joint material. Paving surfaces should be checked regularly and repaired such as cracking and differential settlement that could be a tripping hazard. Appropriate traction and de-icing materials should be utilized to minimize harm to flora, fauna, soils and watershed. Snow ploughing should be undertaken with the knowledge of the various paving surfaces installed. For instance, nylon discs under the plough may be necessary to raise the blade slightly to avoid catching the pavers.

The planted infiltration galleries should be maintained to a high level. These are among the first horticultural displays visitors who arrive by automobile will see. Beds should be cleaned of garbage, mulches topped up, plants pruned, and any dead or diseased plants removed and replaced promptly.

The three-level parking structure, accommodating 277 vehicles and a roof which will accommodate photovoltaic cells for sustainable power generation should incorporate the highest levels of design excellence and sustainability. As the structure is proposed to incorporate planting on at least one of its facades, the design of this feature must take into consideration the maintenance abilities of EG/TBG staff. For instance, will plants require staff to use a boom truck to access them for maintenance or will maintenance be available from within the structure? As the structure itself should receive regular power washing of its vertical and horticultural surfaces, the potential for rain-water harvesting and storage should be incorporated into the building.

5.5 REVENUE GENERATION

Typically, a Canadian botanic garden is operated as a not-for-profit or charity and is able to generate income from three sources – earned income, contributed income and government support. With a revitalized and expanded visitor offering at EG/TBG, there will be greater opportunity for EG/TBG to generate earned income from its activities to help support the wider operations, management and maintenance of the Gardens. This is important for reducing the organization's reliance on fundraising activities and helping to provide a more balanced and sustainable business model – the ideal being 1/3 generated from each category. Earned income represents revenues generated by an organization from its activities such as offering programs, goods and services, and use of its facilities. Typically for a botanic garden this includes revenues generated from admissions, memberships, events and programs, rentals and functions, gift shop sales, café sales, and other services offered. Earned income is also generated through interest made on investments such as an endowment. The endowment is a gift to be held untouched, in perpetuity, however the interest generated from the investment can be used to support operations.

TBG's status as a charitable organization also provides it the opportunity to access other funding sources through fundraising and grants that a City department would not be eligible for. Contributed income is defined as cash or in-kind resources that were given (not loaned) to the organization in the form of a gift or grant. Usually, this includes donations, grants from public sector organizations and private foundations, and corporate sponsorship. Government support, represents regular direct funding from local, provincial and federal government departments for ongoing operations, rather than one-off capital grants.

Objective: To ensure that all potential opportunities for revenue generation are optimized to produce the level of funding required to maintain sustainable operations, ensure good fiscal responsibility and guarantee regular invest in the management, maintenance and future development of the revitalized Edwards Botanical Gardens.

5.5.1 EARNED INCOME

Recommendations

- EG/TBG should be granted full and exclusive use and control of the Gardens and its facilities for earned income generating activities by EG/TBG and by other outside third-party users.
- Regular, day-time access to EG/TBG must remain free of charge to the public throughout the year. The management agreement with the City will outline to what extent.
- EG/TBG should continue to develop its membership program, offering such benefits as priority access to programs, facilities and spaces across the Gardens (of which it has control) and discount pricing, etc., so long as they do not inhibit public access and reasonable enjoyment of the Gardens.
- EG/TBG should continue to deliver a mix of free and charged activities for its members and the public, and expand its program of events, education, and activities as necessary. These activities should be directly related to the mission, vision and mandate of the organization, and relevant strategies and plans. Charges for participation in these activities should be developed according to the business plan and should not be so cost prohibitive as to create barriers for people from lower socio-economic brackets.
- EG/TBG should be able to provide, or contract an external-third party to provide, related income generating amenities and services such as food services, event catering, retail, etc. across the Gardens and facilities, where these amenities and services directly relate to providing a high-quality visitor experience, support the business plan and have no detrimental effect on the Gardens or public enjoyment of them.
- EG/TBG should be granted control of administering, issuing and charging for any permits related to the use of the Gardens, its spaces and facilities by outside third-parties for activities such as photography, weddings, functions, events, etc.
- EG/TBG should be granted control of the surface parking lot and the proposed parking structure and be given permission to charge for parking accordingly. Charges for parking should be developed according to the business plan and should not be so cost prohibitive as to create barriers for people from lower socio-economic brackets.
- EG/TBG should establish an endowment fund to help generate a level of investment income that will help to off-set operational expenses. Further advice should be sought as to ideal the size of the endowment principle needed to generate the appropriate level of investment income and to the feasibility of raising such a sum.

5.5.2 CONTRIBUTED INCOME

Recommendations

- EG/TBG should granted permission to and be responsible for generating contributed income through fundraising to support regular operations, special projects, events and initiatives, research, and capital campaigns, etc. Contributed income can be developed through:
    1. Applying for grants from public bodies and private foundations
    2. Soliciting individual and group charitable donations and gifts
    3. Offering a high-level patron's membership scheme
- EG/TBG should be granted permission to generate contributed income by offering naming rights throughout the Gardens for the themed gardens, events, programs, facilities, and amenities where appropriate, except for:
    1. The Gardens as a whole, which shall remain as Edwards Gardens, as per the purchasing agreement or the accepted name change
    2. The Moriyama Pavilion
    3. The Milne family cemetery
- All naming of assets will require the consent of the City, via established Council approval process and policies. Further consent should be sought from existing donors when choosing to rename assets which already bear a funders name.
- EG/TBG should be granted permission to generate contributed income by offering opportunities for corporate sponsorship for the Gardens' events, programs, facilities, and amenities where appropriate, so as long as association with the sponsor does not impact negatively the reputation or credibility of either the EG/TBG or the City. Corporate sponsorship opportunities should be developed and considered based on principles of best practice and ethics, and in accordance with the EG/TBG's fundraising strategy.

5.5.3 GOVERNMENT SUPPORT

Recommendations

- The current investment that the City of Toronto allocates towards the operation and maintenance of Edwards Gardens through the Parks, Forestry and Recreation Division should continue. As EG/TBG gradually takes on more of the responsibility for operation and management of the Gardens, these funds will be transferred from the City to EG/TBG for distribution. Funding levels will be reviewed regularly.
- The City will lend its full support to EG/TBG in order to leverage relevant government support from Provincial and Federal sources.

5.6 USE/PURPOSE

As City parkland, EG/TBG is open freely to the public and the public is encouraged to use the Gardens for their well-being and enjoyment. Amongst the many parks and green spaces in the city, EG/TBG is unique. As a botanic garden, its purpose goes beyond the provision of a recreational amenity and defines its use. The mandated areas of a botanic garden are education, horticulture, conservation and science.

Through the continued efforts of the EG/TBG and the implementation of the Master Plan, EG/TBG has the opportunity to better meet this mandate. The Gardens have been transformed into a place for greater horticultural display, the quality and integrity of which determines the public appeal and utility. It is also natural, living resource and a place for those seeking greater knowledge of horticultural science, botany, ravine ecology, and riparian landscapes.

The degree to which the Gardens are fulfilling these purposes defines the extent to which it deserves the title “Botanic Garden”.

Objective: To ensure that usage of EG/TBG is appropriate to preserve the character of the Gardens and compatible with the purpose of a botanic garden.

5.6.1 PUBLIC USE

Recommendations

- The public will continue to have regular, day-time access to EG/TBG, free of charge throughout the year.
- Appropriate public use of the Gardens should be in keeping with Parks, Forestry and Recreation rules and regulations. Where some passive recreational activities are appropriate, sporting activities should not be permitted. Overall, EG/TBG and the City should enforce appropriate public uses at Edwards Botanical Gardens that:
    1. Pose no physical threat to the plant collections.
    2. Do not hinder the staff in the execution of their normal duties.
    3. Do not detrimentally affect the layout or integrity of the Gardens.
    4. Do not detract from the enjoyment of the Gardens’ program participants.
- The functions and purposes of EG/TBG should continue to be promoted by the City and TBG to increase public understanding and awareness. Public

awareness of those activities which are and are not compatible with the horticultural and botanical emphasis of the Gardens – e.g. picking or digging up flowers – should be increased by both.

5.6.2 COMMERCIAL ACTIVITIES

Recommendations

- Only EG/TBG, or as external-third party contracted by EG/TBG should be permitted to engage in commercial activities in the Gardens. These activities should directly relate to providing a high-quality visitor experience, support the business plan and have no detrimental effect on the Gardens or public enjoyment of them.

5.6.3 PERMITTED USES AND SPACES

Recommendations

- TBG should be granted control of administering, issuing and charging for any permits related to the use of the Gardens, its spaces and facilities by outside third-parties. Appropriate uses should be left to the discretion of TBG, but could include:
    1. Wedding Ceremonies
    2. Functions and Events
    3. Photography and Filming
    4. Concerts and Performances
    5. Markets and Fairs
    6. Exhibitions
- Only those who have paid for, been issued a permit by TBG and display that permit should be authorized to engage in use or activity in the Gardens.
- Musical performances with amplified sound should only be permitted in the Barn Courtyard area. These performances should be assessed to ensure that they do not cause damage to the area, detrimentally impact the passive enjoyment of the Garden by other users, or disturb the neighbouring residents.
    1. Areas that pose a danger to the users
- All musical performances and night time events must comply with all City bylaws.
- TBG should be granted permission to determine which areas of the Gardens and its spaces and facilities it will require permits for use of or rental, except for:
    1. The Milne cemetery
    2. Ecologically sensitive areas
- TBG and its permit holders should be granted permission to restrict access to these areas to ticket holders only, so long as the public maintains access and enjoyment of the majority of the Gardens, restricted access to these areas is only for short duration, and the blocking, inhibiting or restricted access of paths is minimized. The City should consider setting restrictions based on the level of free public access it requires.
- Any spaces – indoor and outdoor – used for events, functions and other permitted activities should be maintained by TBG to look as good as, or better than it was before the use occurred.

5.7.1 INTERPRETATION

The expansion and enhancement of the Gardens will not only provide a compelling new visitor experience but will also provide new opportunities to grow public and educational programs, improve interpretation, and hold special events.

Objective: To maintain a consistently high standard of interpretive and educational material, public programs and a strong investment in education and horticultural training.

Recommendations

- TBG should develop an Interpretive Plan to bring all new elements of the revitalized Edwards Botanical Garden together in a cohesive narrative.
- The Interpretive Plan should be used by TBG to form the basis for planning, developing and making decision about the design of new themed gardens, permanent and temporary interpretive panels, displays and exhibitions, as well as year-round public programs, education and events.
- To reflect the growing diversity of the city and recognize its Indigenous legacy, TBG should ensure a multi-cultural approach to programs, education, displays and interpretation, with a focusing on finding creative ways to incorporate language, particularly Indigenous language into the Gardens.
- All signage, wayfinding, interpretation and environmental graphics used across the Gardens (indoor and out) should have a coherent design approach consistent with the new brand identity created for the Gardens.
- TBG should continually develop and maintain interpretive materials shall at a standard that is accurate, up-to-date, engaging, and accessible.
- TBG should continue to explore ways of leveraging and incorporating digital opportunities across the Gardens as a means of expression for interpretation, but in ways that enhance but do not detract from the enjoyment of the natural environment. Digital tools for providing greater access to information and the collections, engaging more people with content and research, and reaching a younger and broader audience should be explored.

5.7.2 EDUCATION AND PUBLIC PROGRAMS

Recommendations

- TBG should leverage a multifaceted, year-round program of courses, lectures, events, and activities to expand audiences beyond garden enthusiasts, particularly youth and newcomers. Potential activities could include:

    1. Art exhibits, particularly sculpture and glass art;
    2. Environmental or Earth Art shows;
    3. Cultural events of interest to particular ethnic or multicultural communities and to the wider community;
    4. Evening light shows, either holiday-themed or specific to the creations of a particular artist;
    5. Enhanced docent-led tours, including cart tours for those with accessibility issues;
    6. Enhanced self-guided tours and interpretation, available in multiple languages, through means of a smartphone “Garden App” and garden-wide
    7. wi-fi infrastructure;
    8. Plants of tremendous public interest (“wow plants”) such as Amorphophallus titanum and Nymphaea amazonica, introduced to dispel the phenomenon known as “plant blindness”;
    9. An expanded concert series, including small ensemble chamber concerts;
    10. Expanded outdoor wedding/event opportunities;
    11. Other performance art such as dance, opera & more;
    12. Expanded course and lecture offerings;
    13. Expanded school programs to bring more Toronto and region students to the new garden;
    14. Organized symposia on environmental, horticultural and botanical themes

- TBG should use the Gardens as an opportunity to exchange Earth knowledge by incorporating formal and informal learning opportunities throughout the Gardens using a variety of perspectives and interpretive and communication methods. Potential interpretive themes include:

    1. Plants, horticulture and life science

5.7.2 EDUCATION AND PUBLIC PROGRAMS

2. Landscape restoration, design and management
3. Urban gardening
4. Green building and resiliency engineering
5. Wildlife and habitats
6. Cultural heritage, including Indigenous teachings

- Use of the Gardens as an educational facility for schools, tertiary institutions and the general public should be encouraged.
- TBG should continue to develop its partnerships with the Toronto District School Board, and the Toronto Catholic District School Board to continue to deliver a high-quality school program that is strongly linked to the provincial curriculum. Partnerships with the Toronto Zoo, Evergreen Brickworks and Friends of Allen Gardens would help to strengthen programs and avoid duplication.
- TBG should continue to develop its partnerships with relevant high education institutions, colleges and universities in Toronto, Ontario and across Canada to develop horticultural internships, apprenticeships, training programs, and certifications.
- TBG should also act as a horticultural and botanic resource and develop research partnerships with relevant high education institutions, colleges and universities which leverage TBG assets for research.
- TBG should consider working with health care providers and their neighbours at Sunnybrook Hospital in further developing horticultural therapy practice and courses.

5.73 MONITORING AND EVALUATION

Recommendations

- TBG should develop wider monitoring and evaluation mechanisms in order to better track visitors to the outdoor Gardens, engagement through digital platforms, program enrollment, and attendance at events. These metrics will be important for demonstrating impact with the City, donors and grant funders.

5.8 ACCESS - HOURS OF OPERATION

The hours of operation for EG/TBG are as follows:

Gardens

The gardens are open daily, from dawn until dusk.

Buildings <Harry: what does this include? Ie. Barn, pavilion, admin, visitor centre>

Weekdays, 9 a.m. to 5 p.m. | Weekends, 10 to 5 p.m.

Garden Cafe Family-style Bistro

Daily, 9 a.m. to 5 p.m. | Open Seasonally, May through October

Garden Shop

Daily, 10 to 4 p.m.

Reception Desk

Weekdays, 9 a.m. to 4 p.m. | Weekends, 10 a.m. to 4 p.m.

Weston Family Library

Weekdays, 10 a.m. to 4 p.m.

Weekends, noon to 4 p.m.

EG/TBG is closed on all statutory holidays including New Year's Day, Family Day, Good Friday, Victoria Day, Canada Day, Civic Holiday, Labour Day, Thanksgiving Day, Christmas Day, and Boxing Day. However, most of the exterior gardens are open and accessible during statutory holidays.

5.8.2 VEHICLE ACCESS AND PARKING

Vehicle access will be limited to Lawrence Avenue East and Leslie Street, to maintain EG/TBG as a safe pedestrian environment. Vehicle access within EG/TBG is limited to maintenance and service vehicles which will have a separate, gated entry off The Bridle Path. The three existing access driveways from Lawrence Avenue East and one driveway from Leslie Street will remain. Primary vehicular access to EG/TBG will be from Leslie Street and Lawrence Avenue East. Back-of-house entry and deliveries will be from the two driveways west of Banbury Road.

The surface parking lot will be improved and expanded to include a drop-off area and a tour bus parking zone, located at the northwest corner of the surface parking lot, next to the main entry. The Bridal Path access road will be the primary entry for maintenance vehicles and school buses. A new bus loop will be built adjacent to the teaching garden to accommodate school tours. In the southwest corner, a new surface parking lot for staff and a maintenance yard will support the relocated maintenance building and a new greenhouse. The existing maintenance access lane from Lawrence Avenue East to dredge the creek will remain and be reconfigured to connect to the Secondary Maintenance Circulation path.

A new parking structure will be built adjacent to the main entry surface parking lot to accommodate future parking demand, especially during peak visitation times and special events. The parking structure will share access driveways from Lawrence Avenue and Leslie Street with the surface parking lot. Currently parking is free of cost, but EG/TBG reserves the right to charge for parking in the future. A shuttle bus between nearby cultural institutions and EG/TBG could offer access for visitors and reduce demand for private vehicle access and parking.

5.8.2 VEHICLE ACCESS AND PARKING

Objective: To provide a pedestrian-oriented EG/TBG, with limited vehicular access (See Guiding Principle 5: Improve Operation Functionality)

Guidelines:

- Restrict private vehicle access to the two main entrance driveways into the parking lots.
- Provide information on the EG/TBG website with directions to the Gardens for all modes of transit and encourage visitors to arrive by public or active transportation.
- Improve visual links and pedestrian access to encourage the use of public transportation to reduce reliance on private vehicles and parking congestion.
- Prohibit the use of motor vehicles within EG/TBG, other than maintenance vehicles, emergency vehicles, and other authorized vehicles. Park maintenance vehicles will not exceed 10km/hr.
- Motorized wheelchairs and mobility assistance vehicles may be used within EG/TBG.
- Coordinate with tour bus operators to ensure that arrival and departure times can be accommodated.
- Manage deliveries of goods and services to be scheduled during non-peak hours.
- Maintain safe, visible, well-lit, year-round service to the Primary Maintenance Circulation route path.

5.8.3 PEDESTRIAN ACCESS, BICYCLE ACCESS AND CIRCULATION

EG/TBG is a key entrance and exit from the Wilket Creek multi-use trail which connects into the larger ravine trail system. As pedestrian and bicycle conflicts were a hazard as both nodes met and mixed within EG/TBG, a new multi-use path will provide a direct connection between Leslie Street and the Wilket Creek trail.

The new path will utilize an existing bridge over Wilket Creek, the existing long span bridge over the east ravine and run along the south side of the parking area. Cyclists approaching from roads will use the Leslie Street side to access the new multi-use pathway. Cyclist access from The Bridal Path will no longer be allowed.

As bicycles are not allowed within EG/TBG, safe and adequate locking facilities will be provided. Bicycle parking facilities will be provided at the east Garden Gateway, the central Entry Plaza, <the weand the south Valley Gateway. An additional bicycle parking area will be provided at the south-west corner of the surface parking area. Where possible, covered facilities will be provided.

Objective: To provide a clear delineation between pedestrians and cyclists for a safe and pleasant experience for both and a functional connection for cyclists between the adjacent road network and the valley trails. See Guiding Principle 3: Improve Accessibility

Recommendations:

- Develop a new asphalt multi-use trail between Leslie Street and the Wilket Creek trail through EG/TBG.
- Provide bicycle parking facilities, covered where possible, at each of the main entrances into EG/TBG.
- Provide wayfinding signage that matches the valley system trails to allow clear navigation on bicycle through the site
- Engage a transportation planner to calculate existing and future numbers of cyclists to accurately calculate number bicycle parking required

5.8.4 SIGNAGE AND WAYFINDING

The current signage and wayfinding at EG/TBG will be coordinated, updated and expanded to accommodate the merging of Edwards Gardens and Toronto Botanical Garden. A new branding, wayfinding and signage strategy will be developed to provide a enhanced victor experience. Interpretation of the site, collection and research will be supported by the new brand, signage and wayfinding. Physical signage will be supported by digital, virtual and augmented reality applications for smart phones. However, sin and digital applications should not interfere with the primary user experience of the unique site, including plant collections, native forest, tableland, valley and river of EG/TBG.

Objective: To provide a signage and wayfinding network that will celebrate the Gardens' unique character and provide an enhanced visitor experience. See Guiding Principle 8: Enhance Visitor Experience.

Guidelines:

- Develop and provide a new signage and wayfinding that refers to the Toronto Botanical Garden and Edwards Gardens with one combined name (to be determined).
- Establish a consistent language for all site furniture including: benches, trash/recycling receptacles, lighting and signage throughout the site.
- Create a wayfinding system which identifies appropriate visitor welcome and orientation at gateways, viewpoints, connections and key destinations. Map boards should be provided with navigation signage at major intersections/decision points.
- Coordinate EG/TBG signage between City of Toronto Parks & Trails Wayfinding Strategy and to provide clear and easily understood navigation.
- Provide multi-lingual interpretive signage. Place and plant names in English, French, Latin and Anishinaabemowin will be integrated into the Garden-wide signage network.
- Coordinate with new combined EG/TBG brand to ensure a consistent and recognizable graphic language.
- Introduce new technology (smartphone self-guided tour "Garden App," touch-screen kiosks, interactive displays, virtual reality, augmented reality, free site-wide Wi-fi, etc.) to allow multiple ways of interpretation to enhance visitor experience
- Support programmers of special events (art exhibits, , cultural events, concerts, performance art, education, lectures, school programs, symposia, etc.) with appropriate maps and graphic materials to incorporate into their own marketing material.
- Provide clear hierarchy and distinction between Circuit Path, Primary Paths, Secondary Paths and the Multi-use Trail, in the signage and wayfinding network.

5.9 MARKETING AND PROMOTION

With the expansion and enhancement of EG/TBG through the Master Plan, new opportunities for additional and a wider diversity of programs, events and offerings will be possible. This, coupled with a change in name and a revised mandate for the TBG, will require revisions to current branding, marketing approaches and promotional materials to appropriately showcase the Master Plan improvements, new products and offerings, communicate a new identity, and ensure consistent and cohesive messaging.

Objective: Increase awareness of Edwards Botanical Garden as an important public asset and keep it top-of-mind with Torontonians and visitors to the city as a botanic and cultural destination to ensure continuous and appropriate use by all.

5.9.1 BRANDING AND ACKNOWLEDGMENT

Recommendations

- EG/TBG should be responsible for rebranding of the Gardens using the agreed name – suggested working title is Edwards Botanical Gardens.
- EG/TBG will acknowledge City of Toronto, Parks, Forestry and Recreation as primary partner in all marketing, media, press, and promotion. The City of Toronto will acknowledge EG/TBG similarly.
- The legacy of the Edwards family will be appropriately recognized, interpreted and celebrated.
- All signage, wayfinding, interpretation and environmental graphics used across the Gardens (indoor and out) should have a coherent design approach which features any new logo and should be consistent with the new brand identity created for the Gardens. EG/TBG is ideally placed to lead on this.

5.9.2 MARKETING AND PROMOTION

Recommendations

- To ensure that the expanded and enhanced Gardens becomes and continues to be top-of-mind as a community resource, destination and tourist attraction, EG/TBG should update their Marketing Strategy.
- EG/TBG and the City should actively promote the Gardens as a premier cultural attraction and botanic destination for residents and visitors to Toronto alike. Greater consideration should also be given to the promotion of Toronto's network of public gardens as a whole.
- Partnerships will be essential in promotion of the new Gardens. EG/TBG should pursue partnership opportunities with agencies, organizations and institutions as discussed above for joint promotion of the Gardens.

5.9.3 WEBSITE AND SOCIAL MEDIA

Recommendations

- The City of Toronto and EG/TBG should continue to be responsible for their own websites and social media, ensuring proper acknowledgement as above and hyperlinks between pages.
- EG/TBG should ensure that they are able to provide a high level of visitor engagement and service by exploring and implementing an omnichannel approach which provides a seamless and consistent visitor experience across physical and digital channels.
- Communication through online platforms should be kept up to date with technological advances and changing visitor preferences and needs.