

# A PARK IMPROVEMENTS PLAN FOR CARLETON PARK



FINAL REPORT | MARCH 2017

**Fredericton**

**trace**  
NATURAL ENVIRONMENTS | BUILT ENVIRONMENTS



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The background of the entire page is a light brown sketch. It depicts a park or urban area with various elements: winding paths, clusters of trees represented by simple circles and vertical lines, and some rectangular shapes that could be buildings or garden beds. The sketch is done in a loose, hand-drawn style with thin lines.

# **CHAPTER 1**

## **THE CARLETON PARK IMPROVEMENTS PLAN**



## 1.1 CREATING THE CARLETON PARK MASTER PLAN

Carleton Park is one of Fredericton's most prized outdoor recreation spaces. Located on the north shore of the Saint John River, and immediately adjacent to the Bill Thorpe Walking Bridge, the 11.96 acre parcel of land functions as a destination for walking, city skyline viewing, fishing, open space play and other passive activities related to ever-present lawn and shoreline environments.

The City of Fredericton commissioned this study to ensure future park revitalization and improvement projects conform to a vision that expresses the views of youth, City Council, the Growth and Community Services Committee, municipal operational staff, as well as residents interested in the park. This document, *The Carleton Park Improvements Plan*, articulates this vision through words and imagery. The following describes the council mandate for this plan, as well as an overview of the improvements plan development process followed in creating this document.

### PROJECT MANDATE:

- A. Conduct an analysis of the existing site and context to understand park function, condition and conflicts as well as special features that should be conserved to ensure an enduring park presence for Fredericton's future generations.
- B. Work closely with City of Fredericton and Province of New Brunswick staff to understand operational and environmental challenges of a park bordering the Saint John River.
- C. Work with residents to develop an ideas map that describes desired long-term improvements for the park.
- D. Develop a vision statement and master plan that brings all ideas together into a single improvements plan.
- E. Create a long-term implementation plan, complete with present-day valued budget estimates for council acceptance.

### PROJECT DEVELOPMENT PROCESS:



## 1.2 CARLETON PARK CONTEXT

Carleton Park borders the Saint John River on former industrial lands recaptured for recreational and commercial uses. Four significant elements of daily Fredericton life play a significant role in the daily life of the park. The annotated map (adjacent) articulates several important contextual notes.

**SIGNIFICANT CONTEXT ONE - THE SAINT JOHN RIVER.** The park is all about being on the river. From the site, visitors can view and access the shoreline, view downtown Fredericton's skyline across the river and enter the water from a boat slip (for fishing and leisure craft purposes).

As much as the river is an asset, it is also the park's greatest threat. Climate change has resulted in a revised Provincially mandated high-water line (on the 10.2 meter contour); therefore, any permanent park structures, not designed to flood, will not be permitted within the park. In addition to this, the city will need to restrict shoreline activity at this location to pedestrian and naturalized activity. Any structural intervention must be elevated above normal (bi-annual) flood elevations to allow free-flow of the river.

In addition to this, given west-to-east water flow, the park's shoreline is a 'scour edge' of the river. The Province of New Brunswick is exploring naturalized shoreline restoration/stabilization along all previously impacted shoreline areas to reduce economic and natural impacts caused by daily flow and flood events.

### **SIGNIFICANT CONTEXT TWO - THE FREDERICTON TRAIL SYSTEM.**

Carleton Park is a significant component of Fredericton's regional trail and greenspace network. The park plays both entry and transitional roles within this network. This role must, at a minimum, be conserved.

Carleton Park sits immediately west of the Bill Thorpe walking bridge, which accesses the park from a trail extending into Carleton from a

monument celebrating the Boss Gibson legacy. Thus, the park can play a significant role as a regional trail network gateway with branding and physical development (parking, lighting, etc.).

### **SIGNIFICANT CONTEXT THREE - FREDERICTON'S**

**TRANSPORTATION NETWORK.** The park borders the Union Street municipal arterial corridor and lies perpendicular to Canada Street. Thus, connectivity to all Fredericton and regional addresses are easily available from this street.

This connectivity is presently celebrated through park and walk/ride users (accessing downtown from this location). Although this is not a publicly perceived highest and best use for a park, the regional connectivity should be retained within the park, or within close proximity.

### **SIGNIFICANT CONTEXT FOUR - FREDERICTON'S PLANNING AND**

**RECREATION NETWORK.** Carleton Park is municipally classified as a regional park within planning text and recreational programming. This suggests that the park is to be maintained for the use of all residents. Adjacent parks offer both community and neighbourhood amenity; therefore, Carleton requires amenity that creates a complete recreation address within the resident-chosen park theme.

**LESSONS IN CONTEXT** - Carleton Park is a passive recreation facility that bears both cultural and natural responsibility. Naturally, the park is a critical shoreline link between the limited riparian zones lying on either side of the park. The Province of New Brunswick is interested in partnering with the City of Fredericton on shoreline naturalization projects that stabilize the riparian zone relative to climate change.

Culturally, the park is a thoroughfare, destination and gateway. These are interesting roles that suggest multiple user groups will share common ground for uncommon reasons. The improvements plan must consider these roles and celebrate these unique visitation purposes.

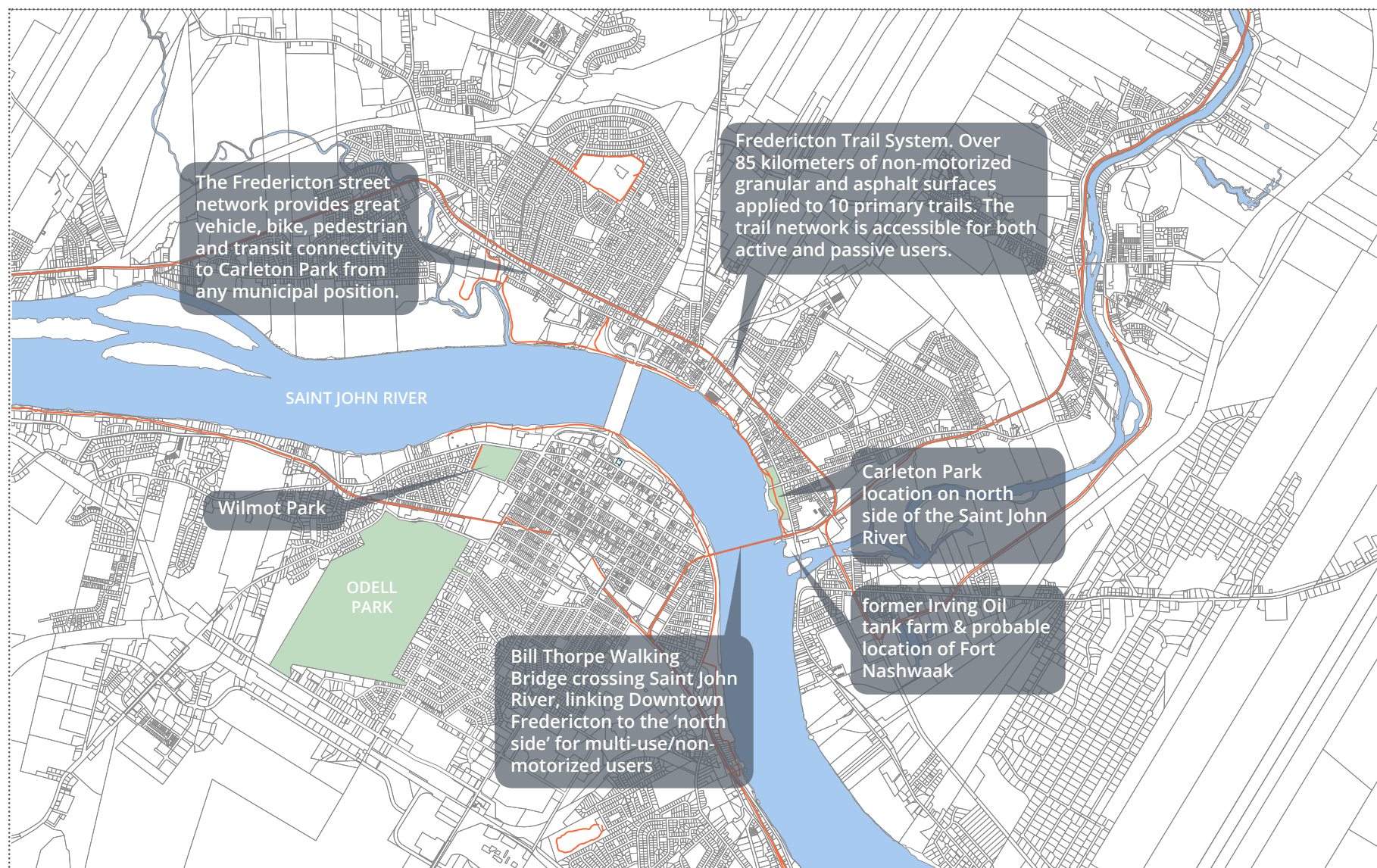
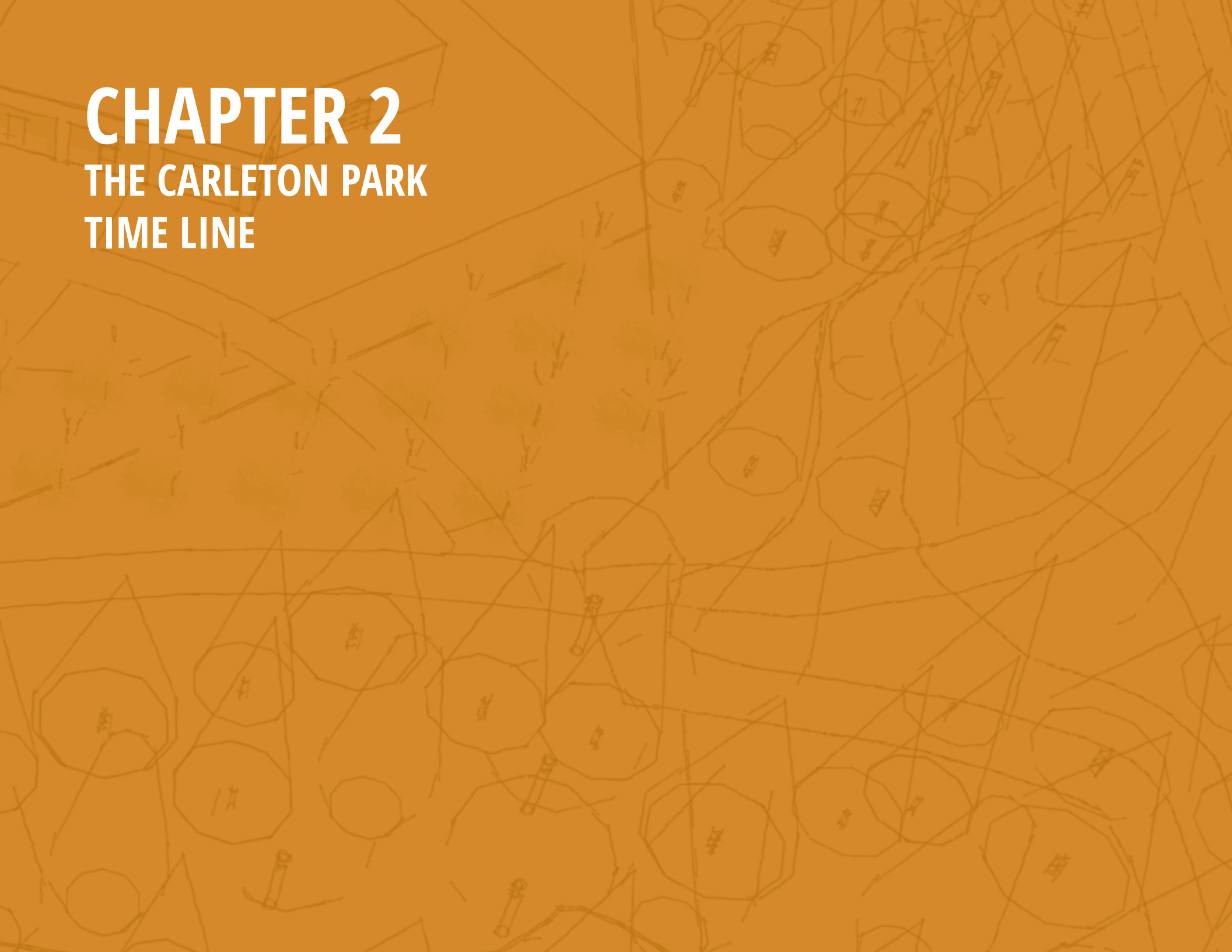


FIGURE 1.2 | CARLETON PARK CONTEXT



# CHAPTER 2

## THE CARLETON PARK TIME LINE



## 2.1 HISTORICAL VALUE

Carleton Park is shaped by a powerful industrial past. As illustrated on the time line, next page, the industrial use of the park commenced in 1870 with railway activity related to bridge construction and continues today with the Picaroons Traditional Ales brewery works (east edge of Carleton Park).

Assumed history, as articulated by local historians, suggests that Maliseet First Nations communities originate known human activity at park lands, by summering at the intersection of the Saint John and Nashwaak Rivers. From here, fishing on the river and hunting within close proximity of the river was possible.

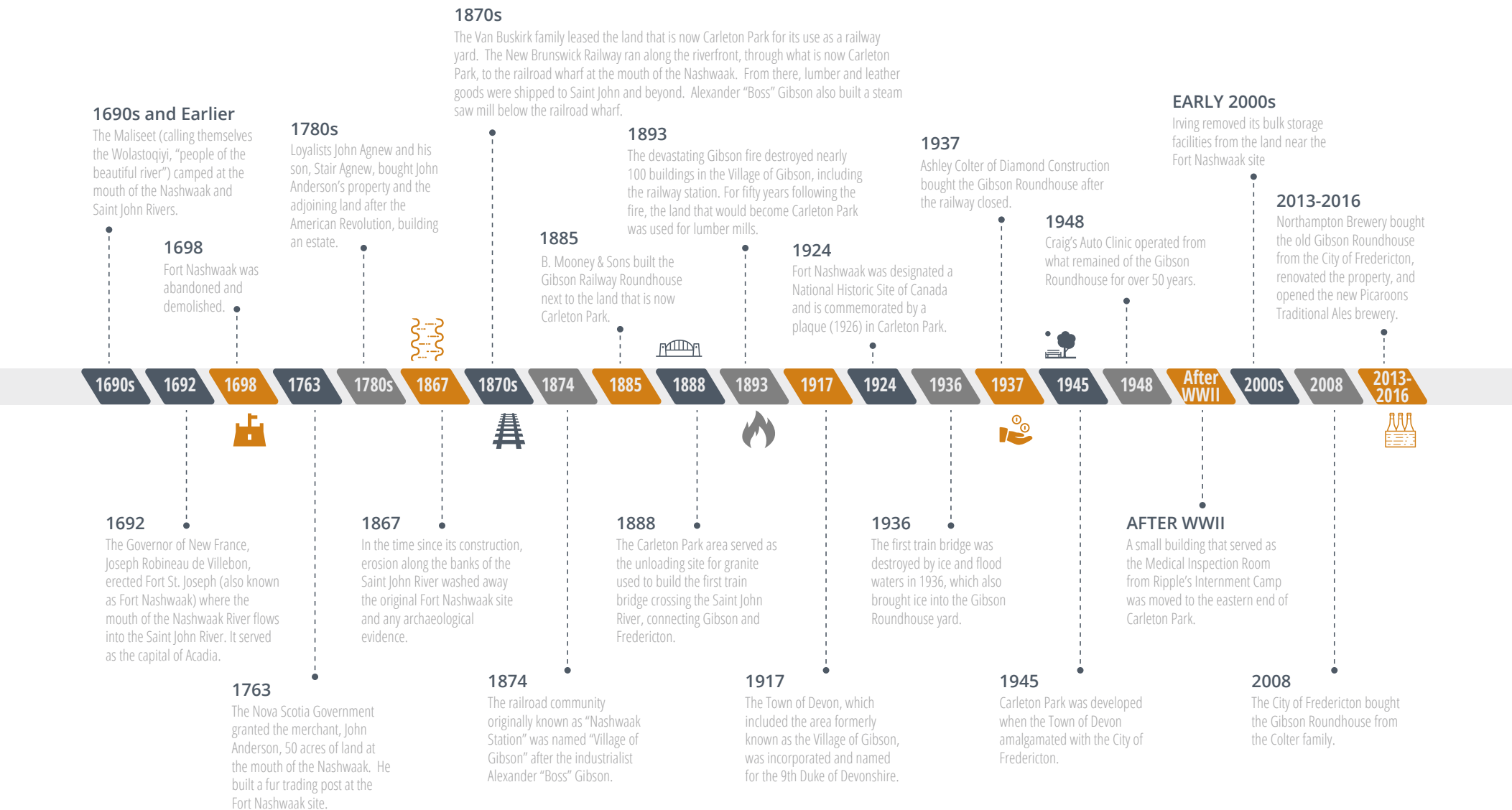
The earliest recorded European occupancy of these riverfront lands is noted as Fort Nashwaak. This late 17th Century French fortification functioned as a staging ground for raids against New England encampments. The assumed location for this fort is at the intersection, on the former Irving Oil tank farm site.

A monument site located where the Carleton Park riverfront trail meets the adjacent walking bridge trail celebrates the legacy of Alexander “Boss” Gibson as “New Brunswick’s Lumber King”. His work in Carleton Park established the strong rail legacy apparent in park form today. Also, the adjacent housing is shaped by the ‘company town’ nature of the industrial facilities on park lands. When considered in unison, the shipping, rail, lumbering and subsequent oil storage and brewing activity on and around today’s site suggest an evolving history that terminated with the creation of Carleton Park.

## 2.2 HISTORICAL TIME LINE

The time line illustrated on the next page provides a brief overview of site history. It is important to note that continued historical interpretation within Carleton Park will be important to sustain the legacy of the Maliseet First Nations, French, Boss Gibson, the Irving Family as well as contemporary builders such as Ducks Unlimited and Picaroons Traditional Ales.









## 2.3 CARLETON PARK TODAY

Carleton Park has evolved from residential and industrial context. Today's park consists of 11.3 acres of land sandwiched between the Ducks Unlimited Conservation Centre (west), Picaroons Traditional Ales Brewery (east), Union Street and adjacent housing (north), and the Saint John River (south).

Adjacent area views into the park are important for local context and wayfinding. The river provides constant reassurance that being here involves a powerful relationship to one of the province's most beautiful natural assets. In all cases, these views should extend to the river and the city skyline backdrop to sustain this relationship.

This natural and cultural beauty is 'bookended' on the park's west edge by the Ducks Unlimited Conservation Centre; a facility

dedicated to the creation, sustainability and education of important aquatic habitat infrastructure. Any stormwater retention/treatment in the park should occur adjacent to, and in partnership with Ducks Unlimited.

Picaroons renovated the former roundhouse property and articulates a desire to improve their site relative to park development. This will include outdoor meeting and social space, washrooms (when the facility is open), and access to interior meeting rooms. Together, Picaroons and Ducks Unlimited provide meaningful bookend contexts that remind us of site history and the importance to sustain the river for future generations.

The existing boat slip provides water access to recreational river users. Although the slip is well-used, the supporting parking area interrupts the river's natural edge and, therefore, impacts the



riparian habitat zone. In addition to this, boaters would like to have formalized parking and water access at another location that does not impact on this edge or the passive and natural park environments.

## 2.4 FOREST COVER

The trees found within Carleton Park were evaluated and scored based on condition, age and species value. The Tree Evaluation Plan, below, provides a visual overview of the status of each tree. Trees shown in green are in good health and considered valuable. Trees shown in yellow are showing signs of reduced health, and trees shown in red are in decline or near the end of their life-cycle.

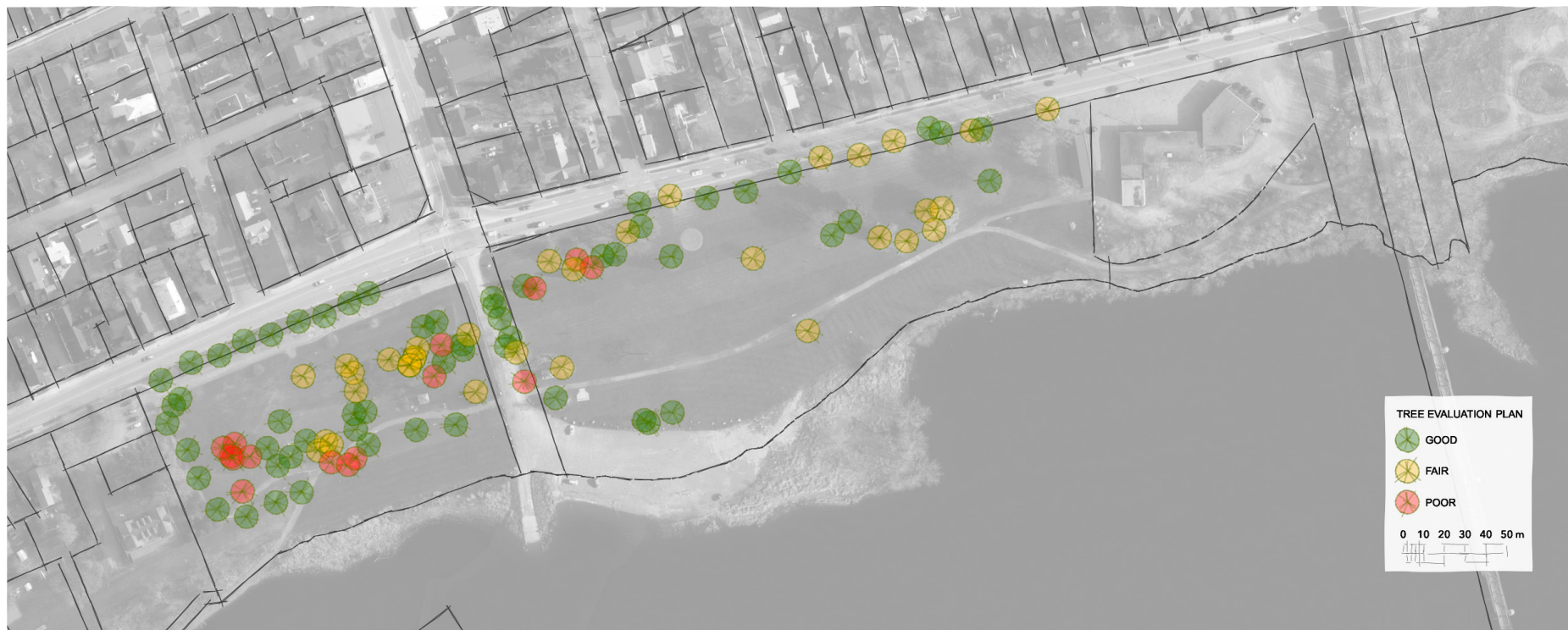
This information is important when considering forest succession plans for the park. The process of conducting this study included

the creation of a detailed database of forest cover information. When considered with the forest cover evaluation (Figure 2.4), future park administrators will see where plans need to stabilize forest cover using short, medium and long-term strategies. For this document, the chart below informs our implementation plans and phased budget estimates.

It is important to note that approximately 15 trees will require replacement within the next ten years. This, when considered with new trees required at street's edge, along trails as well as shoreline stabilization planting, indicate that a significant tree planting program is required to sustain the park's forest cover. This report's implementation plan, chapter five, describes a process that satisfies this requirement with placing trees to create open space, or along pathways that will be moved or replaced).



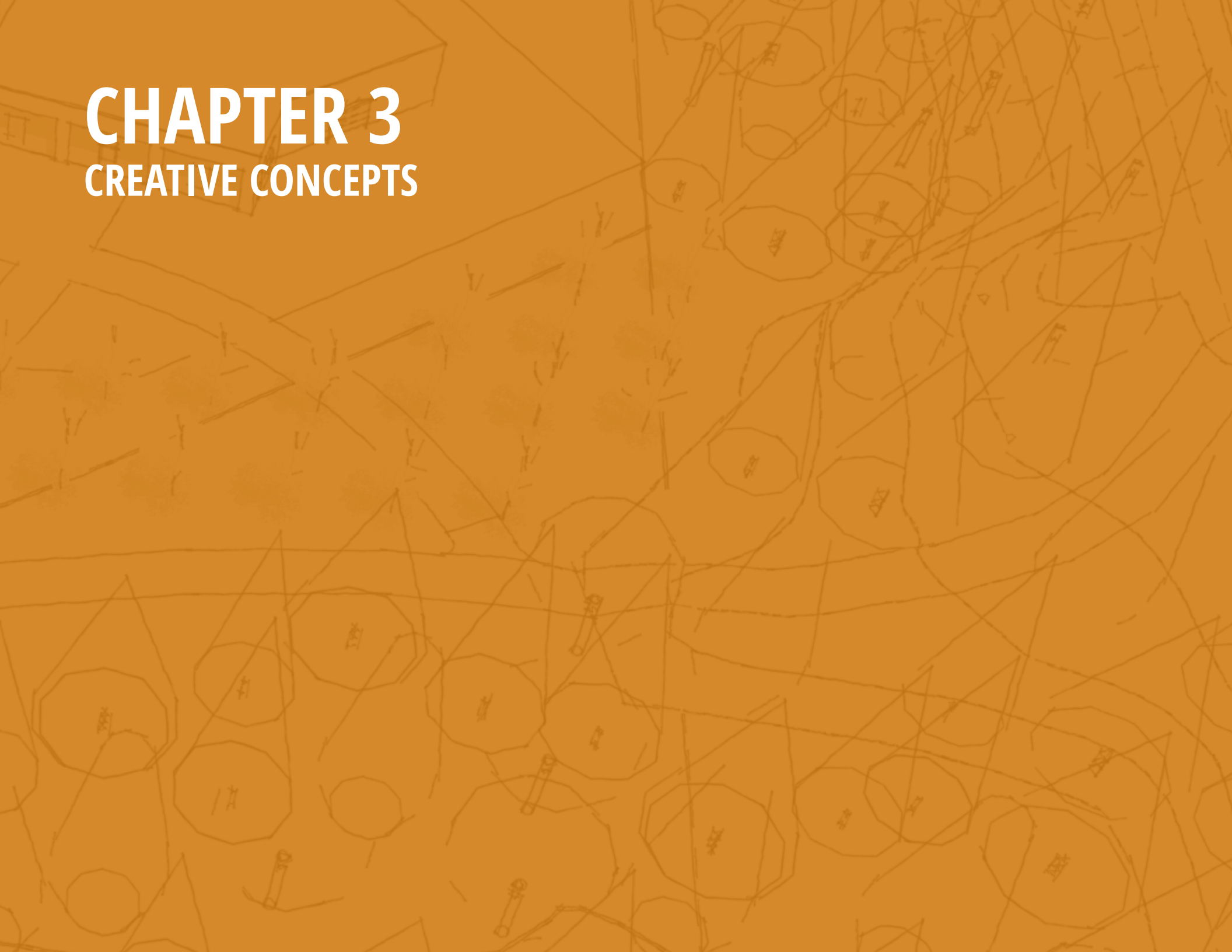




**FIGURE 2.4 | CARLETON PARK FOREST COVER**

# CHAPTER 3

## CREATIVE CONCEPTS



### 3.1 CONSULTATION PROCESS

The Carleton Park Improvements Plan utilizes a comprehensive community consultation process that capitalizes upon input from participating stakeholders relative to use, operations and business. This chapter provides a brief overview of the consultation process as well as a synthesis of the 'big ideas' (next page). These 'creative concepts' come together to suggest vision, improvement

projects and long-term stabilization of the park for natural and cultural purposes.

The consultation process commenced with a qualitative survey that identified preliminary improvement ideas. This was followed by sessions with City of Fredericton staff, elementary and middle school students, people that live around the park, as well as an open house style workshop open to all interested city residents.



## CREATIVE CONCEPTS

THE SYNTHESIZED IDEAS INFORM THE CREATIVE IDEAS MAP (NEXT PAGE) AND FORM THE BASIS OF A LONG-TERM PARK VISION.



## 3.2 THE BIG IDEA MAP

The creative concepts developed by residents and staff clearly articulate that Carleton Park retain its passive landscape with a strengthened relationship between the adjacent neighbourhood and river through an extended Gibson Street pedestrian plaza. This is the only park location where youth play structures create a family focal point. The remainder of the park is an 'enjoy as you wish' layout.

Another important aspect of the Big Ideas Map is the notion of relocating the boat slip and adjacent parking to another location where the full requirements of a boating facility are met (truck and trailer parking and circulation, river flow protection, docking).

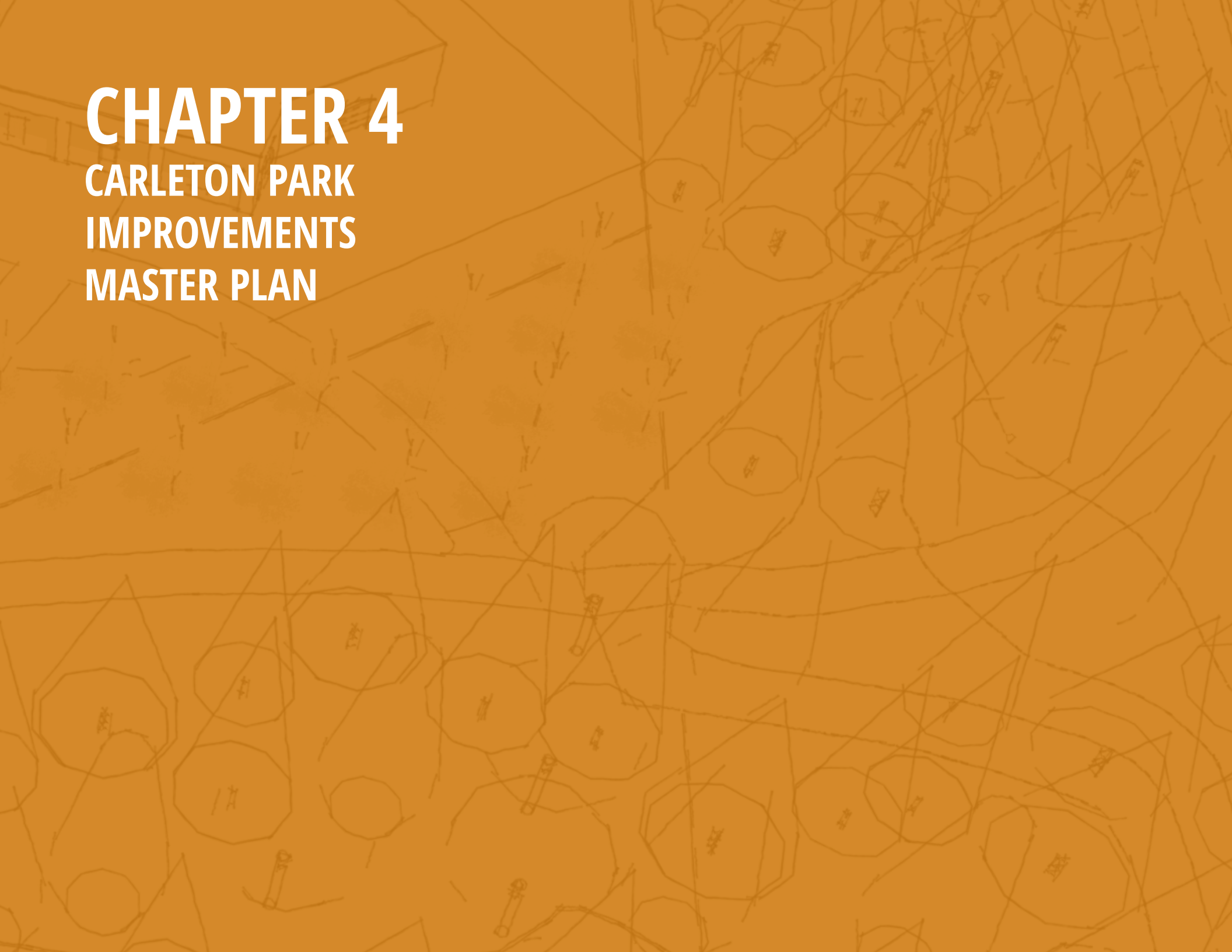






- A.** Existing 'tree space' to be conserved and celebrated with planting, bench and shade structure project that creates cognitive space (for river viewing or personal activity).
- B.** Existing lane way to expanded parking area (for park users).
- C.** Stormwater retention space for collection and treatment of parking area storm event flows (created in association with Ducks Unlimited).
- D.** River and city skyline views to be conserved and strengthened with planting and trails.
- E.** Family plaza complete with minor play area, historical interpretation, rest and social area, and dedication wall celebrating the memory of individuals and/or groups.
- F.** Existing open space to remain with future planting along edges to strengthen the notion of space, and to provide shade for viewing and trail surfaces.
- G.** New open space transitions from primary trail to the river that provides performance space staging.
- H.** Picaroons Traditional Ales accessible plaza complete with seating and social space, bicycle service area and cycling drive-through, historic interpretation and washrooms.
- I.** Existing natural shoreline to be 'trimmed and neaten' to improve appearance and provide view of the river and downtown skyline.
- J.** Riverfront to Union Street trail forms maintenance edge to intersection, open space and future parking intersection to Picaroons and walking bridge.
- K.** Primary park trail as existing.
- L.** Granular or limestone trail providing access to shoreline and beach space.
- M.** Shoreline naturalization to stabilize river's edge.
- N.** Seasonal docking facilities.
- O.** Create Carleton Park gateway adjacent to Boss Gibson Monument complete with lighting, signage and view into the Picaroons Traditional Ales site.
- P.** Place signage on the river's south-side and way finding signage along walking bridge to move the park's front door into Downtown Fredericton.
- Q.** Explore former Irving Oil Tank site, or an alternative location, to create a riverfront recreational facility. The lands can host parking, carpool parking, visitor circulation and a modest boat facility while the existing cove can host a boat slip and removable docking.

**FIGURE 3.2 | CARLETON PARK BIG IDEA MAP**

The background of the slide is a light orange color with a faint, hand-drawn sketch of a park layout. The sketch includes various paths, trees, and buildings. The text is overlaid on the top left of this sketch.

# CHAPTER 4

## CARLETON PARK IMPROVEMENTS MASTER PLAN

## 4.1 A LONG-TERM VISION AND DEVELOPMENT THEMES FOR CARLETON PARK

The Carleton Park Improvements Master Plan, presented in this chapter, is based upon great resident ideas blended with the natural sustainability of the site. Factors influencing its sustainability include climate change, forest cover, quality turf and planting areas, stabilized shoreline and resident ability to enjoy the park, and river and city skyline. The habitat created within the park blends human activity with shoreline stability, for today and many tomorrows. Thus, the vision statement and development themes for Carleton Park are:

### VISION

*Carleton Park is a passive and sustainable shoreline setting where families play in open and structured play space, the community gathers for natural or cultural activity, and the Saint John River and/or the Fredericton skyline are enjoyed from linear walking trails and pastoral space from anywhere within the park.*

- A. NATURE.** The naturally stabilized shoreline provides regional precedent to protect and sustain the Saint John River riparian zone in the face of increased coastal turbidity and flood periodization resulting from climate change.
- B. CONNECTIVITY.** The linear nature of the park, as expressed through trail connectivity and shoreline context, is institutionalized through pathway enhancement, diversification and accessibility.

- C. OUTREACH.** Through signage, wayfinding and graphic theming of regional park infrastructure, Carleton Park expands its invitation to Downtown Fredericton; therefore, creating a doorway on the city's south-side.
- D. ACTIVITY.** The passive nature of the park is celebrated through institutionalizing open and walking spaces that provide opportunity for residents to determine how they wish to interact with and use Carleton Park.
- E. COMMUNITY.** The park's neighbours, and city residents alike, are drawn into the park through improved walkways and views that link adjacencies to the river. Primary walks include play space while secondary walks/views sustain the presence of the river to the adjacency.

## 4.2 CARLETON PARK IMPROVEMENTS MASTER PLAN

The annotated Carleton Park Master Plan plan brings together the creative concepts with the vision and development themes to provide the City of Fredericton with a context for long-term improvements to the park. Figure 4.1 locates and describes the proposed improvements while priority projects are located on Figure 4.2 (see next two pages).





**FIGURE 4.1 | CARLETON PARK IMPROVEMENTS MASTER PLAN | PROJECTS**

- 1.** Central Park Plaza. Focal point located along the primary pathway (from Union Street to the river) complete with seating and shade, youth play space, historic and natural interpretation, and dedication wall.
- 2.** Carleton Park Aquatic Centre. Boat wharfing facility complete with river and city skyline viewing, shade and seating and washrooms.
- 3.** Improved Parking. Existing parking area is expanded to host 55 cars and turning loop (with maintenance access to the park's trail network).
- 4.** Stormwater Retention Pond. Parking area to drain into a biologically designed treatment pond. Project to be undertaken with Ducks Unlimited.
- 5.** Cognitive Arboretum. Planted pastural grounds with seating, shade, shoreline viewing areas and varied tree species.
- 6.** The Grand Lawn. Large open space to be edged with trees on the north side, and left open on the south. Drainage improvements make lawn available for programmed and informal use. Trails on all edges.
- 7.** Riverfront Lawn. Open space sandwiched between trails for informal play event staging. Trails bisect the open space for water access.
- 8.** River's Edge Naturalization Program. Work with the Province of New Brunswick to develop and implement a shoreline stabilization and 'low-plant' naturalization program (that should extend along all Fredericton shorelines areas).
- 9.** Picaroons Traditional Ales Public Plaza. Space to become public focal point where rest, conversations, washroom access, interpretation and a cycle maintenance station are available.
- 10.** Boss Gibson Gateway. Access to park, from space adjacent to Boss Gibson monument with lighting, interpretation and way finding directs trails users.
- 11.** Recreational Boating Centre. New facility created to provide water access for boaters, parking for park users or boaters, for interpretation and docking. The location of this facility requires further research/discussion to confirm location.
- 12.** Wayfinding Program. A comprehensive directional program from downtown, in all directions.





**A PRIORITY IMPROVEMENTS**

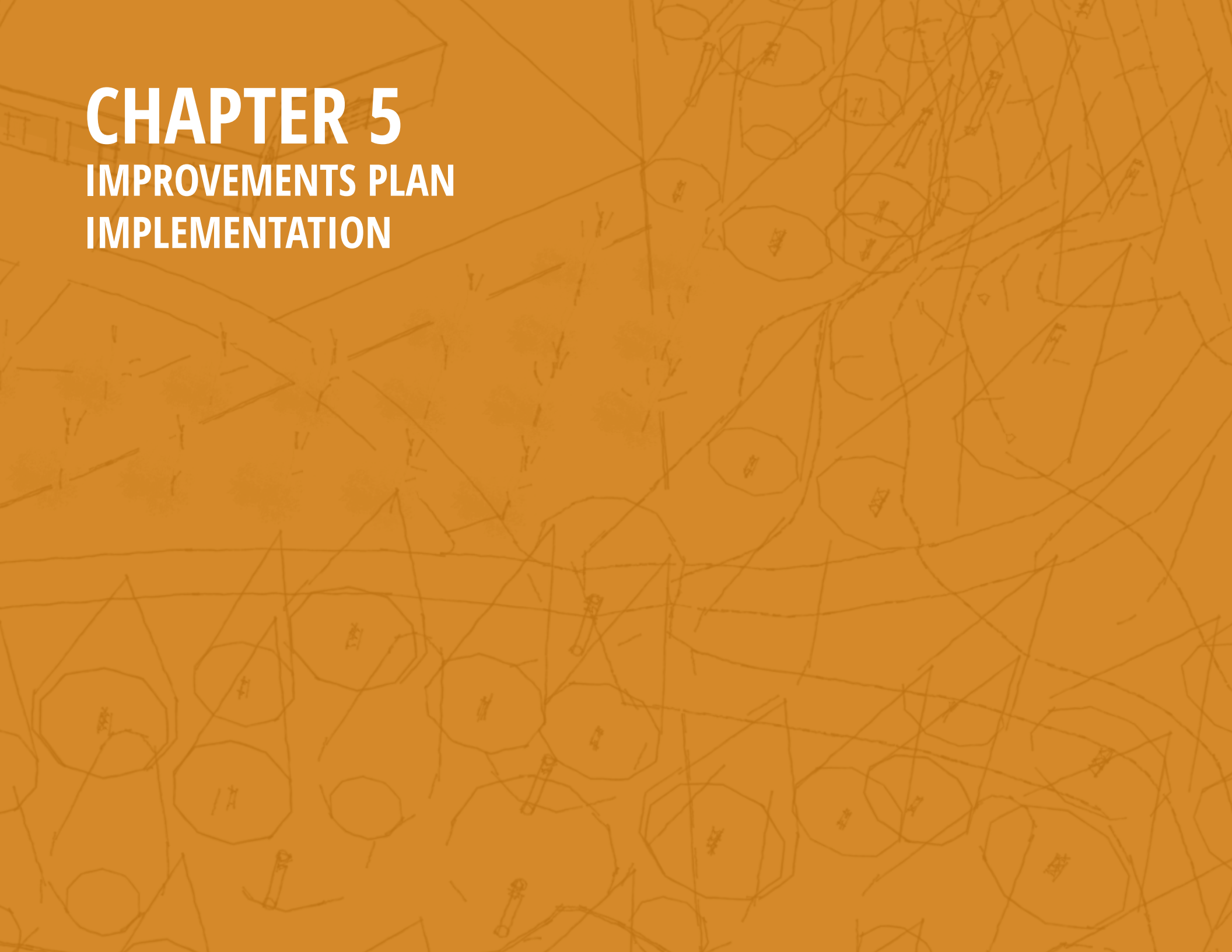
- 3** Improved Parking
- 4** Stormwater Retention
- 9** Picaroons Public Plaza
- 10** Boss Gibson Gateway

**B PRIORITY IMPROVEMENTS**

- 1** Central Park Plaza
- 5** The Cognitive Arboretum
- 6** The Grand Lawn
- 8** River's Edge Naturalization Program

**C PRIORITY IMPROVEMENTS**

- 2** Carleton Park Aquatic Centre
- 7** Riverfront Lawn
- 11** Recreation Boating Centre

The background of the slide is a solid orange color with a faint, hand-drawn map of a city. The map features a network of thin, light-orange lines representing streets and boundaries. Scattered throughout the map are various geometric shapes, including circles, octagons, and irregular polygons, some of which contain small, illegible text or symbols. The overall style is that of a technical drawing or a preliminary urban plan.

# CHAPTER 5

## IMPROVEMENTS PLAN IMPLEMENTATION

## 5.0 IMPROVEMENTS PLAN IMPLEMENTATION

The City of Fredericton commissioned this study to identify a vision, concept and projects that can be undertaken to improve the park over the next several years. This improvements master plan provides these to the city.

It is important to note that the tasks described in this chapter are presented in linear format; however, linear implementation is unlikely. Implementation will be highly iterative relative to available staffing, funding, council priority, etc. Moving tasks forward, and reverse, is not a failure to meet resident desires if the plan's vision and development themes are adhered to. In fact, real success is the result of adapting to the 'reality of the day' within the context of the vision and themes.

The strategy for moving this improvements plan forward involves embarking on a four-phase implementation plan that commences with administrative tasks prior to moving into working projects. Although this document was developed under the direction of those consulted throughout the plan development, further consultation and partnership forming is required. These relationships are forged in the first phase. Thus, the administrative context required to implement this improvements plan is developed immediately for procedural ease.



### 5.1 PHASE ONE - PLAN ADMINISTRATION

**TASK ONE - FORGING PARTNERSHIPS.** Several programmatic and funding relationships are required to implement this plan. Thus, the relative City of Fredericton staff should meet with potential partners to present this plan, and solicit plan implementation participation. At a minimum this should include the New Brunswick Department of Environment and Local Government (for participation in climate change tasks), local MLAs and MPs (funding), the University of New Brunswick (various academic partnerships), as well as Opportunities New Brunswick and ACOA (funding).

**TASK TWO - DETAILED COMMUNICATIONS STRATEGY.** This master plan proposes long-term upgrades that require further resident participation to ensure projects are in keeping with the plan and cultural evolution. To accomplish this, the City of Fredericton should develop a detailed communications strategy that informs all interested residents and development partners about the master plan around a singular brand and long-term intent.

**TASK THREE - FOREST COVER OVERLAY.** Trees in Carleton Park are to be planted for three reasons. First, select locational tree planting creates a functional structure that defines street, trail, view planes and lawn edge. This communicates form, image and structure for both park user and viewer.

Second, trees are planted, or presently exist, to stabilize water's edge. For this purpose, trees are to be highly permeable to maximize exposure to views while supporting soil stability (in association with shrub and grass plantings).



Finally, trees create shade cover for both park users and aquatic life (stormwater ponding). Although shade planting is often an ancillary benefit of structural planting, areas such as the Cognitive Arboretum and seating areas will require space/activity specific planting.

This task involves an on-site review of the Chapter 2 Forest Cover plan and associated database to develop a detailed forest cover overlay. Creating this overlay will include understanding which trees are likely to require replacement within the next 10 years as well as where new trees are required relative to the three reasons to plant trees in the park. Staff can then expand this document's Figure 2.4 plan to include new trees required to complete the park's forest overlay.

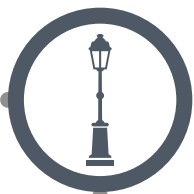
**TASK FOUR - FREDERICTON'S SAINT JOHN RIVER RIPARIAN ZONE.** Creating this plan included conversations with representatives of New Brunswick's Department of Environment and Local Government relative to climate change and the stabilization of the Saint John River's riparian zone through planning and planting strategies. Therefore, the City of Fredericton staff should continue these conversations with the intent of developing a strategy for all river riparian zones within Fredericton. This will ensure that Carleton Park is being enhanced relative to a regional strategy to address coastal climate change.

**TASK FIVE - A RECREATIONAL FACILITY BOATING PLAN.** One focal point project proposed in this document is the relocation of boating infrastructure (boat slip and parking) to a location that works better for recreational boaters. Although, relative to public input, a relocation is considered in this document, the City of Fredericton should commission a study that considers and evaluates locations where this facility can be located (in association with the various recreational boat user groups). When complete, this study should articulate the results of the locational evaluation, illustrate and cost a development concept, and propose the partnerships required to make the facility a reality. Following this work, the city can identify a preferred facility location and move forward with plans to relocate the boating community presently using the park. This will require design and construction time, and requires completion prior to undertaking many of the projects described in this document.

## 5.2 PHASE TWO - GATEWAYS AND EDGES

This phase moves implementation into physical improvement projects that will visibly inform residents that 'things are happening' relative to the priorities articulated during consultations. The following tasks are proposed in this phase.

**TASK SIX - GENERAL LAYOUT AND GRADING PLAN.** The City of Fredericton should commission a landscape architect to develop a site layout and grading plan relative to the improvements master plan and various phase one results. This task will establish future trail and open space elevations relative to storm event storage and views, the location and



elevation of plantings and ponds, as well as benchmark elevations for the physical improvements described in this implementation chapter.

**TASK SEVEN - DETAILED LIGHTING STRATEGY.** The City of Fredericton should commission a landscape architect to develop a detailed lighting strategy for the park that considers gateway/entry positions, enclosed and open spaces, as well as night sky protections. Open spaces will require no lighting where no focal points exist while focal and entry points will require lighting relative to safety, signage, visibility and two-way view planes. It is important to note that lighting should appear contemporary and light only footing relative to objects and area flooding in non focal positions. Focal positions require minimal flood lighting relative to CPTED guidelines.

**TASK EIGHT - ENTRANCE AND PARKING AREA.** The master plan proposes to replace the existing shoreline parking with expanded parking along the lane placed parallel to Union Street. The City of Fredericton should commission a civil engineer and landscape architect to lay out and design the updated parking complete with radial return loop and positive drainage to the proposed stormwater retention pond. This will allow future shoreline works to proceed without impacting parking requirement.

**TASK NINE - STORMWATER RETENTION POND IMPROVEMENTS.** Storm flows collected from the parking area from the previous task are to be directed to a retention and treatment pond adjacent to the loop and Ducks Unlimited.

The City of Fredericton should commission a team consisting of a landscape architect and civil engineer to work with staff and Ducks Unlimited to develop plans and contract documents for the parking, retention and park entry signage.

**TASK TEN - BOSS GIBSON GATEWAY AND PICAROONS PUBLIC PLAZA.** The City should commission a detailed gateway plan for the trail entry adjacent to the walking bridge and the Boss Gibson monument (relative to the proposed improvements at Picaroons Traditional Ales). This should include wayfinding signage and lighting that begins in Downtown Fredericton, across the bridge, at the trail entry into the park and the Picaroons plaza, as well as a trails visitor centre (planned for placement in the Brewery). The plan and associated construction/contract documents, developed in association with Picaroons, should ensure a seamless relationship between the City and Brewery at this gateway.

### 5.3 PHASE THREE - FOCAL POINT PROJECTS

With the platform set for major improvement projects, implementation can now proceed with improvements that bring the park interior in line with the resident developed vision. The following projects are proposed in this phase.

**TASK ELEVEN - CENTRAL PARK PLAZA.** The City should commission a detailed central plaza plan that incorporates rest and social areas, memorials and monuments, thematic and interpretive storyline elements, regional and city trail mapping/information, as well as a play area and associated plantings. This space becomes the focal point of park development and is required prior to moving on with adjacent and future projects.

**TASK TWELVE - RIVER'S EDGE NATURALIZATION PROGRAM.** The plan for shoreline restoration and stabilization, developed by the Province and the City in phase one implementation, can now be implemented. The city should direct horticultural staff to implement this plan for the various riparian habitats within the park.

Also, the shoreline area bordering the riverfront lawn requires the creation of functional beach front that is available for resident use (wading and boating). The city should commission a landscape architect to work with the horticultural staff to develop material specifications and construction procedures to establish an appropriate beach front at this location.

**TASK THIRTEEN - THE GRAND LAWN.** The existing grand lawn requires drainage improvements and re-grading to establish a multi-functional turf surface that is capable of capturing storm event flows from adjacent residential areas (to lessen flood event impacts). This will require re-establishing the elevation of trail surfaces located adjacent to the river to a level above the 2-year flood line (7.57m).

To accomplish this, the city should commission a landscape architect to work with municipal engineering staff and the Province of New Brunswick to establish final carrying capacities and elevations for all surfaces at and around the Great Lawn. Actions in this task include developing the shoreline restoration program (similar to the Living Shorelines program) for the entirety of Fredericton's river edge. Within the park, this program must work under both beach and planted riparian zones.

It is also important to note that any tree planting within the Great Lawn should be discontinued. Only edge planting as indicated in task four is permissible in this area.







**TASK FOURTEEN - THE COGNITIVE ARBORETUM.** Whereas the Great Lawn is a public open space for informal play as determined by the user, the Cognitive Arboretum is public space built into trees where individuals or small groups can find space to view, reflect, draw, discuss, etc. The site is to remain largely as it site today; however, further seating, shade, planting and viewing areas are to built in over the life of the park. Therefore, the City of Fredericton should commission a landscape architect to work with the CPAC to develop a long-term planting and social space plan that meets this need.

## 5.4 PHASE FOUR - AQUATIC ADDRESSES

The final implementation phase brings the water-side into the park. The final implementation tasks are as follows.



**TASK FIFTEEN - RIVERFRONT LAWN.** This second lawn project involves creating a turf space between a granular trail and the existing asphalt trail. The lawn's elevation is set to carry storm flows between the 2 and 5 year events and functions as an informal open play space adjacent to the water, and as an event staging ground for celebrations requiring both lawn surfaces (approximately 5,000 attendees).

The city should commission a landscape architect to work with staff to develop the granular trail and lawn relative to this document's requirements prior to the next task.



**TASK SIXTEEN - CARLETON PARK AQUATIC CENTRE & RECREATIONAL BOAT CENTRE.** Although the recreational boat centre project was planned for phase one implementation, we revisit the project here due to its importance with proceeding with the Aquatic Centre. This project is a 'branch outlet' of the new boating centre, and provides destination facilities for boaters visiting the park, the adjacent brewery, or for programmed events/activities staged from Carleton Park.

The project involves the design and construction of permanent anchor infrastructure, removable walking wharf, and floating docks. The permanent infrastructure includes washroom facilities above the 5-year flood line with walking wharf attachment (anchored by helical anchors). Floating wharves and ramp systems are attached to the wharf attachment.

To implement this phase, the City of Fredericton should commission a design team to develop plans in association with the Province of New Brunswick. Work on this facility can occur in association with the recreational boat centre.

# APPENDIX A

## PROJECT DATA SHEETS



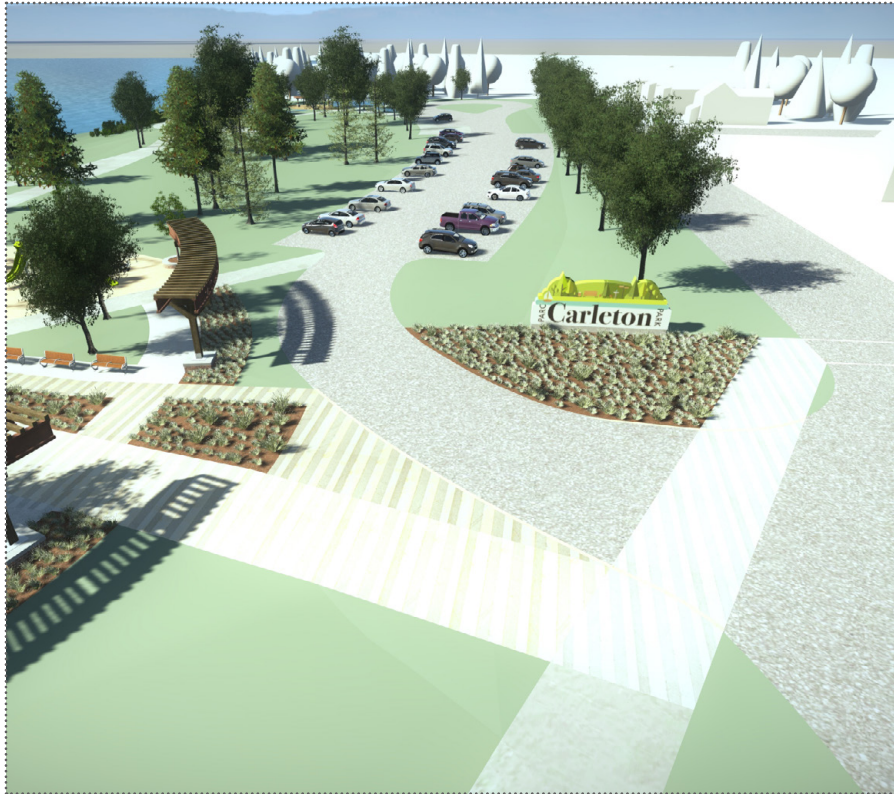


# AQUATIC CENTRE

## TASK FIVE | PROJECT DATA

The Aquatic Centre includes the upgrade of the existing shoreline slip and staging area with wharf and docking facilities, shade and seating areas, as well as shoreline restoration within the context of Province of New Brunswick Climate Change strategies.

Task	amount	unit	cost	extension
<b>BUDGET ESTIMATES - AQUATIC CENTRE</b>				
General Layout & Grading Plan				
Site survey - elevation setting and layout	1	per	\$6,500	\$6,500
Excavation and disposal	1	lumpsum	\$14,500	\$14,500
Service and power allowance	1	lumpsum	\$14,000	\$14,000
				\$35,000
Shade & Washroom Structures				
Wharf shade structures	2,000	sq.ft.	\$115	\$230,000
Wharf washrooms	450	per	\$185	\$83,250
Lighting	1	lumpsum	\$14,500	\$14,500
Access trail development	50	lin.m.	\$95	\$4,750
				\$332,500
Plaza, Wharf & Dock Development				
Wayfinding signage	1	lumpsum	\$15,000	\$15,000
Plaza paving units & concrete surface	809	sq.m.	\$150	\$121,350
Elevated pedestrian wharf	1,011	sq.m.	\$780	\$788,580
Floating dock & stair	202	sq.m.	\$325	\$65,650
				\$990,580
General Development				
Trees	6	per	\$850	\$5,100
General Planting	1	lumpsum	\$6,500	\$6,500
Seating	15	benches	\$4,200	\$63,000
Natural turf area development (topsoil & hydroseed) reinstatement	650	sq.m.	\$8.50	\$5,525
				\$80,125
projects subtotal				\$1,438,205
contingencies (11%)				\$158,203
design & contract management (11%)				\$175,605
total (plus applicable taxes)				\$1,772,012



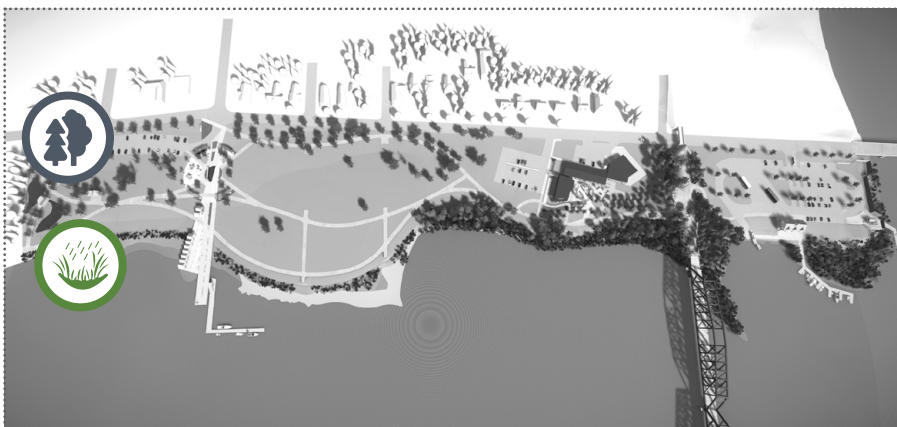
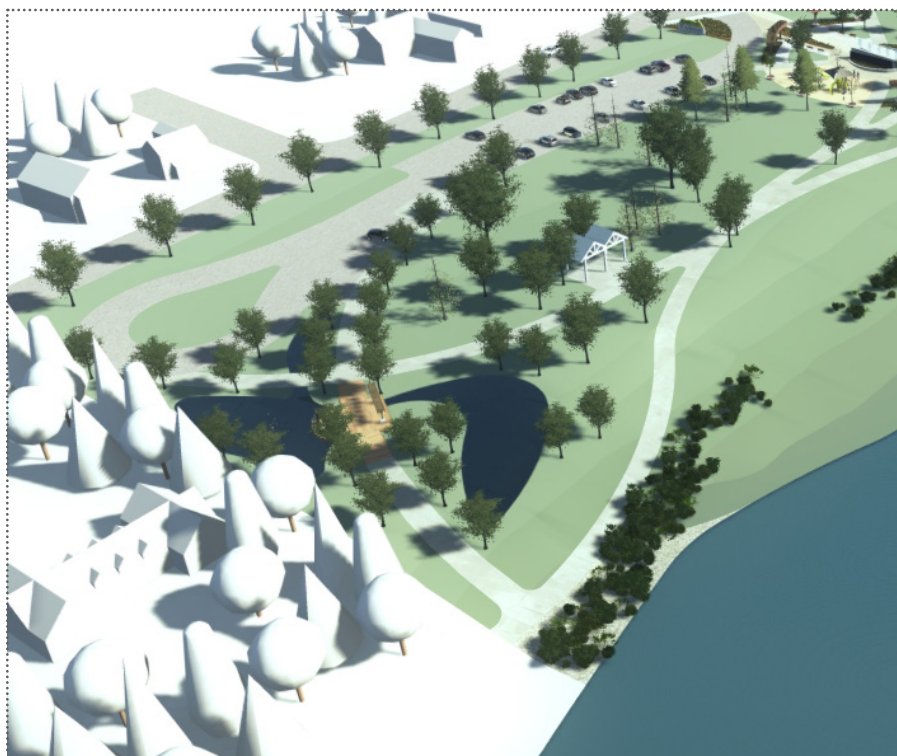
## TASK EIGHT | PROJECT DATA

The Upgraded Parking Area adjacent to Union Street is enhanced with additional parking spaces, turning loop with park service access, bollards, and sheet drainage to the a stormwater retention pond adjacent to Ducks Unlimited.

Task	amount	unit	cost	extension
<b>PROJECT THREE BUDGET ESTIMATES - PARKING AREA</b>				
General Layout & Grading Plan				
Site survey - elevation setting and layout	1	per	\$5,500	\$5,500
Excavation and disposal	1	lumpsum	\$18,500	\$18,500
Service and power allowance	1	lumpsum	\$4,500	\$4,500
				\$28,500
Parking Area Development				
Asphalt entry and parking surface (including curb at entry)	2,833	sq.m.	\$78	\$220,974
Parking delineation bollards (wood w/saw detail)	50	per	\$115	\$5,750
Gateway Sign	1	lumpsum	\$24,500	\$24,500
				\$251,224
General Development				
Trees	15	per	\$850	\$12,750
General Planting	1	lumpsum	\$18,000	\$18,000
Natural turf area development (topsoil & hydroseed) reinstatement	2,500	sq.m.	\$8.50	\$21,250
				\$52,000
projects subtotal				\$331,724
contingencies (11%)				\$36,490
design & contract management (11%)				\$40,504
total (plus applicable taxes)				\$408,717

# IMPROVED PARKING





## STORMWATER RETENTION & COGNITIVE ARBORETUM

### TASKS NINE AND FOURTEEN | PROJECT DATA

Carleton Park's western grounds is dominant with trees and private space that allows for cognitive experiences and shoreline/city views. This is further enhanced with additional seating, shade structures, trees and a passive stormwater retention pond (that captures and biologically treats parking area flows).

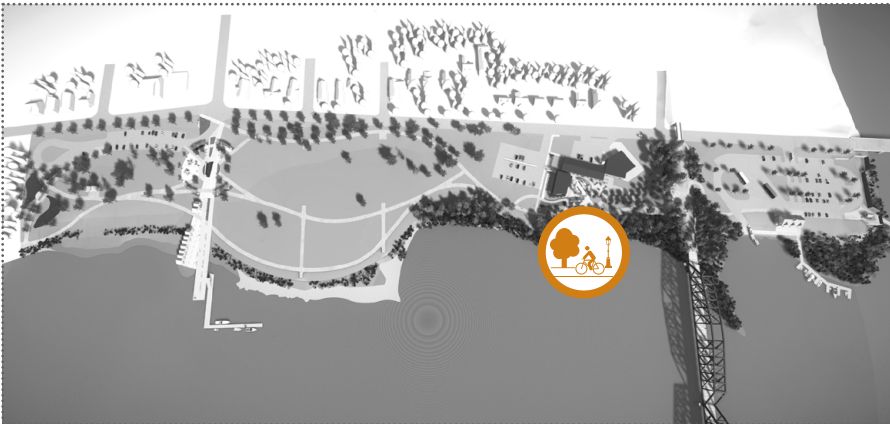
Task	amount	unit	cost	extension
<b>BUDGET ESTIMATES - STORMWATER POND &amp; COGNITIVE ARBORETUM</b>				
General Layout & Grading Plan				
Site survey - elevation setting and layout	1	per	\$8,500	\$8,500
Excavation and disposal	1	lumpsum	\$15,500	\$15,500
Service and power allowance	1	lumpsum	\$8,000	\$8,000
				\$32,000
Pond Development				
Pond shaping and base development	607	cu.m	\$64	\$38,848
Wetland and edge planting	650	sq.m.	\$21	\$13,650
Drainage/retention structures	1	lumpsum	\$7,200	\$7,200
Trail development	250	lin.m.	\$95	\$23,750
				\$83,448
Structures				
Interpretive signage	1	lumpsum	\$19,500	\$19,500
Shade structure at viewing deck	1	lumpsum	\$18,500	\$18,500
Multi-family shade structure	1	lumpsum	\$31,500	\$31,500
Viewing deck (on helical anchor system)	400	sq.ft.	\$135	\$54,000
				\$123,500
General Development				
Trees	15	per	\$850	\$12,750
General planting	1	lumpsum	\$2,500	\$2,500
Seating	8	benches	\$4,200	\$33,600
Natural turf area development (topsoil & hydroseed) reinstatement	2,023	sq.m.	\$8.50	\$17,196
				\$66,046
projects subtotal				\$304,994
contingencies (11%)				\$33,549
design & contract management (11%)				\$37,240
total (plus applicable taxes)				\$375,782





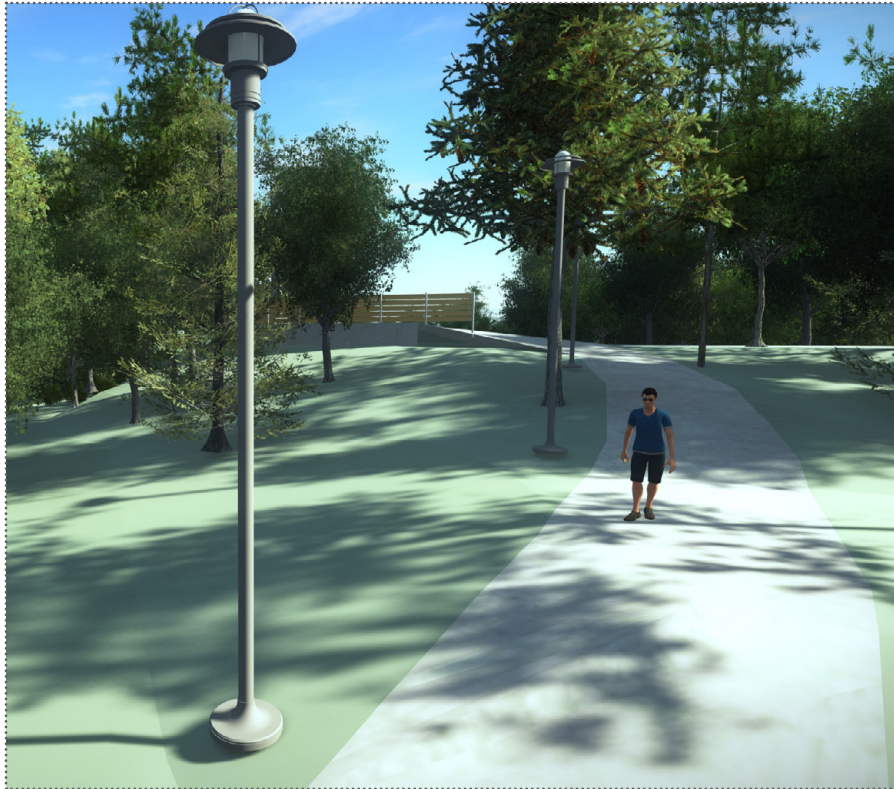
## TASK TEN A | PROJECT DATA

The Picaroons Site is enhanced with outdoor plaza space design to improve the trail and brewery visitor experience. Although this is a private project, the City of Fredericton should work with the brewery to ensure seamless function and appearance for the Carleton Park user.



# PICAROONS PUBLIC PLAZA



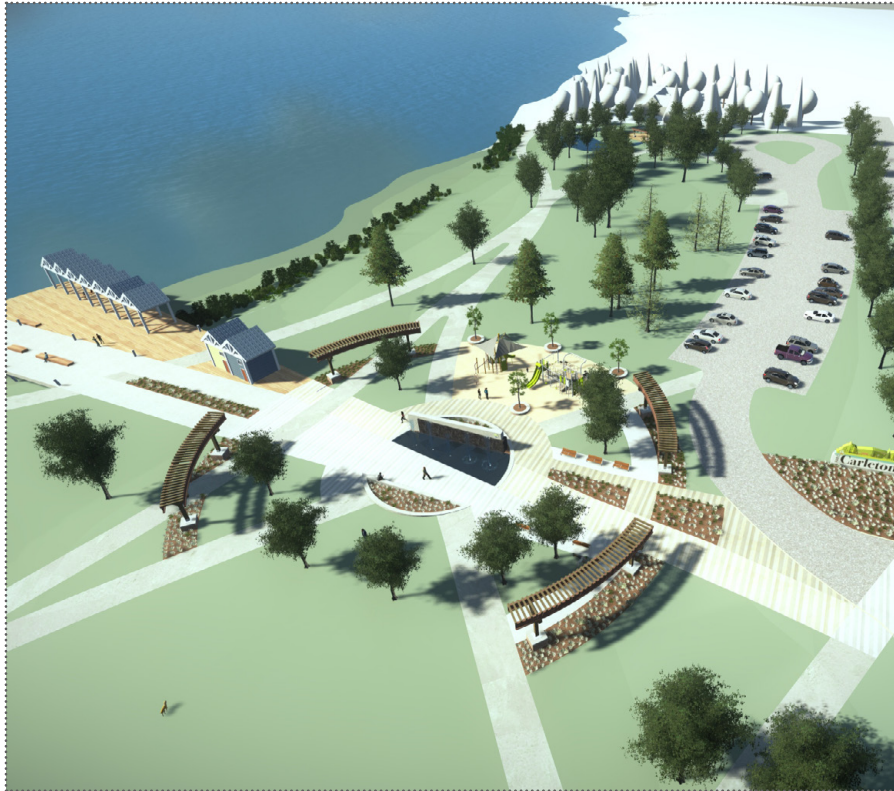


## BOSS GIBSON GATEWAY

### TASK TEN B | PROJECT DATA

The Boss Gibson Gateway requires lighting into Carleton Park to aid with user comfort and visibility when entering through the forested trail. This lighting will be accompanied by signage from the entry to the park's open space.

Task	amount	unit	cost	extension
<b>BUDGET ESTIMATES - BOSS GIBSON GATEWAY</b>				
General Layout & Grading Plan				
Site survey - elevation setting and layout	1	per	\$2,500	\$2,500
Excavation and disposal	1	lumpsum	\$3,500	\$3,500
Power allowance	1	lumpsum	\$21,500	\$21,500
				\$27,500
Lighting				
Light Bases and Conduit	13	per	\$1,250	\$16,250
Light fixtures	13	per	\$5,500	\$71,500
				\$87,750
General Development				
Interpretive signage along route	1	lumpsum	\$18,000	\$18,000
Tree trimming adjacent to brewery building	1	lumpsum	\$4,500	\$4,500
Stabilization planting	1	lumpsum	\$4,000	\$4,000
Seating	4	benches	\$3,500	\$14,000
Natural turf area development (topsoil & hydroseed) reinstatement	150	sq.m.	\$8.50	\$1,275
				\$41,775
projects subtotal				\$157,025
contingencies (11%)				\$17,273
design & contract management (11%)				\$19,173
total (plus applicable taxes)				\$193,471



# CENTRAL PARK PLAZA

## TASK ELEVEN | PROJECT DATA

The Central Park Plaza project includes the creation of a pedestrian-dominant public space complete with dedication wall and water feature, historic interpretation, play space, interpretation with shade structure, seating and planting.

Task	amount	unit	cost	extension
<b>BUDGET ESTIMATES - CENTRAL PARK PLAZA</b>				
General Layout & Grading Plan				
Site survey - elevation setting and layout	1	per	\$4,500	\$4,500
Excavation and disposal	1	lumpsum	\$12,000	\$12,000
Service and power allowance	1	lumpsum	\$12,500	\$12,500
				\$29,000
Play Park Development				
Branded trellis structures (with bases)	4	per	\$24,500	\$98,000
Swings	1	per	\$12,500	\$12,500
Accessible surface	324	sq.m	\$185	\$59,940
Play equipment	1	lumpsum	\$350,000	\$350,000
Interspaced play events	1	lumpsum	\$35,000	\$35,000
Lighting	1	lumpsum	\$25,000	\$25,000
Access trail development	50	lin.m.	\$95	\$4,750
				\$474,690
Gateway Plaza Development				
Signage & Interpretation	1	lumpsum	\$25,000	\$25,000
Plaza paving units & concrete surface	567	sq.m.	\$150	\$85,050
Water feature & dedication wall	1	lumpsum	\$165,000	\$165,000
				\$275,050
General Development				
Trees	10	per	\$850	\$8,500
General Planting	1	lumpsum	\$12,000	\$12,000
Seating	10	benches	\$3,500	\$35,000
Natural turf area development (topsoil & hydroseed) reinstatement	445	sq.m.	\$8.50	\$3,783
				\$3,783
projects subtotal				\$782,523
contingencies (11%)				\$86,077
design & contract management (11%)				\$95,546
total (plus applicable taxes)				\$964,146



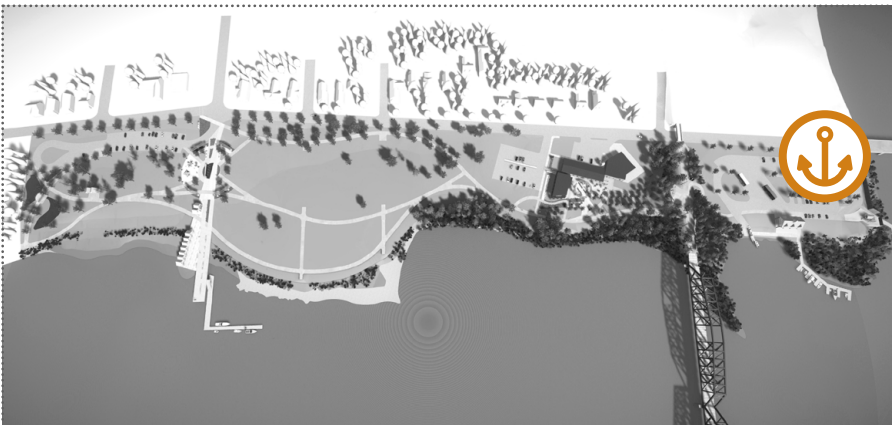


## THE GRAND LAWN, RIVERFRONT LAWN AND RIVER'S EDGE NATURALIZATION PROGRAM

### TASKS TWELVE, THIRTEEN AND FIFTEEN | PROJECT DATA

Carleton Park will see additional stress from frequent storm events as climate change continues to impact coastal areas. The City of Fredericton can work with the Province of New Brunswick to develop plans to raise the elevation of highly used trails (above the 2-year storm event contour), modify the great lawns to ensure proper retention and drainage, and to create and implement a shoreline restoration program (within the context of the Living Shoreline approach).

Task	amount	unit	cost	extension
<b>BUDGET ESTIMATES - GENERAL LANDSCAPE DEVELOPMENT</b>				
General Layout & Grading Plan				
Site survey - elevation setting and layout	1	per	\$12,500	\$12,500
Excavation and disposal	1	lumpsum	\$6,500	\$6,500
				\$19,000
Riparian Zone Work				
Trees	30	per	\$850	\$25,500
General Planting	1	lumpsum	\$15,000	\$15,000
Applied stabilization mix (topsoil, planting & hydroseed blend)	16,187	sq.m.	\$8.50	\$137,590
				\$137,590
Great Lawn Development				
Infill and shaping	16,500	cu.m.	\$7	\$107,250
Drainage allowance	1	lumpsum	\$35,000	\$35,000
Natural turf area development (topsoil & hydroseed)	24,281	sq.m.	\$8.50	\$206,389
				\$348,639
Structural Landscape				
3m asphalt trails	900	lin.m.	\$92	\$82,800
3m granular trails	850	lin.m.	\$68	\$57,800
Granular viewing plaza spaces	400	sq.m.	\$25	\$10,000
				\$150,600
Softscape Development				
Trees	30	per	\$850	\$25,500
General Planting	1	lumpsum	\$18,500	\$18,500
Natural turf area development (topsoil & hydroseed) reinstatement	450	sq.m.	\$8.50	\$3,825
				\$47,825
projects subtotal				\$703,653
contingencies (11%)				\$77,402
design & contract management (11%)				\$85,916
total (plus applicable taxes)				\$866,971



## RECREATIONAL BOATING CENTRE

### TASK SIXTEEN | PROJECT DATA

The City of Fredericton will work with the regional sport boating community to identify and develop a new facility capable of supporting both day use and tournament events. This facility will include parking and circulation designed to support boat use, new water access, docking infrastructure, a boating centre and, if located adjacent to Carleton Park, trail access to the Boss Gibson Gateway.

Task	amount	unit	cost	extension
<b>BUDGET ESTIMATES - RECREATION BOATING FACILITY</b>				
<b>General Layout &amp; Grading Plan</b>				
Site survey - elevation setting and layout	1	per	\$12,000	\$12,000
Excavation and disposal	1	lumpsum	\$21,500	\$21,500
				\$33,500
<b>Riparian Zone Work</b>				
Trees	20	per	\$850	\$17,000
General Planting	1	lumpsum	\$35,000	\$35,000
Applied stabilization mix (topsoil & hydroseed blend)	2,000	sq.m.	\$8.50	\$17,000
				\$17,000
<b>Parking and Circulation</b>				
Asphalt driving entry/loop/parking (c/w base development)	6,070	sq.m.	\$78	\$473,460
Drop-off Plaza Surfaces	607	sq.m.	\$30	\$18,210
Drainage allowance	1	lumpsum	\$8,500	\$8,500
Lighting allowance	1	lumpsum	\$35,000	\$35,000
Parking delineation	1	lumpsum	\$12,500	\$12,500
				\$547,670
<b>Boat Centre</b>				
Block, glass and steel boat centre building	250	sq.m.	\$1,375	\$343,750
Viewing deck	150	sq.m.	\$950	\$142,500
Utility allowance	1	lumpsum	\$24,500	\$24,500
Base granular stabilization	1	lumpsum	\$8,000	\$8,000
Lighting allowance	1	lumpsum	\$9,500	\$9,500
				\$528,250
<b>Structural Landscape</b>				
3m asphalt trails	120	lin.m.	\$92	\$11,040
Reinforced concrete deck boat slip	404	sq.m.	\$150	\$60,600
Decking & wharf system	242	sq.m.	\$325	\$78,650
Drainage allowance	1	lumpsum	\$21,500	\$21,500
				\$171,790
<b>Softscape Development</b>				
Trees	30	per	\$850	\$25,500
General Planting	1	lumpsum	\$8,500	\$8,500
Natural turf area development (topsoil & hydroseed) reinstatement	2,000	sq.m.	\$8.50	\$17,000
				\$51,000
projects subtotal				\$1,349,210
contingencies (11%)				\$148,413
design & contract management (11%)				\$164,739
total (plus applicable taxes)				\$1,662,362



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NATURAL ENVIRONMENTS | BUILT ENVIRONMENTS