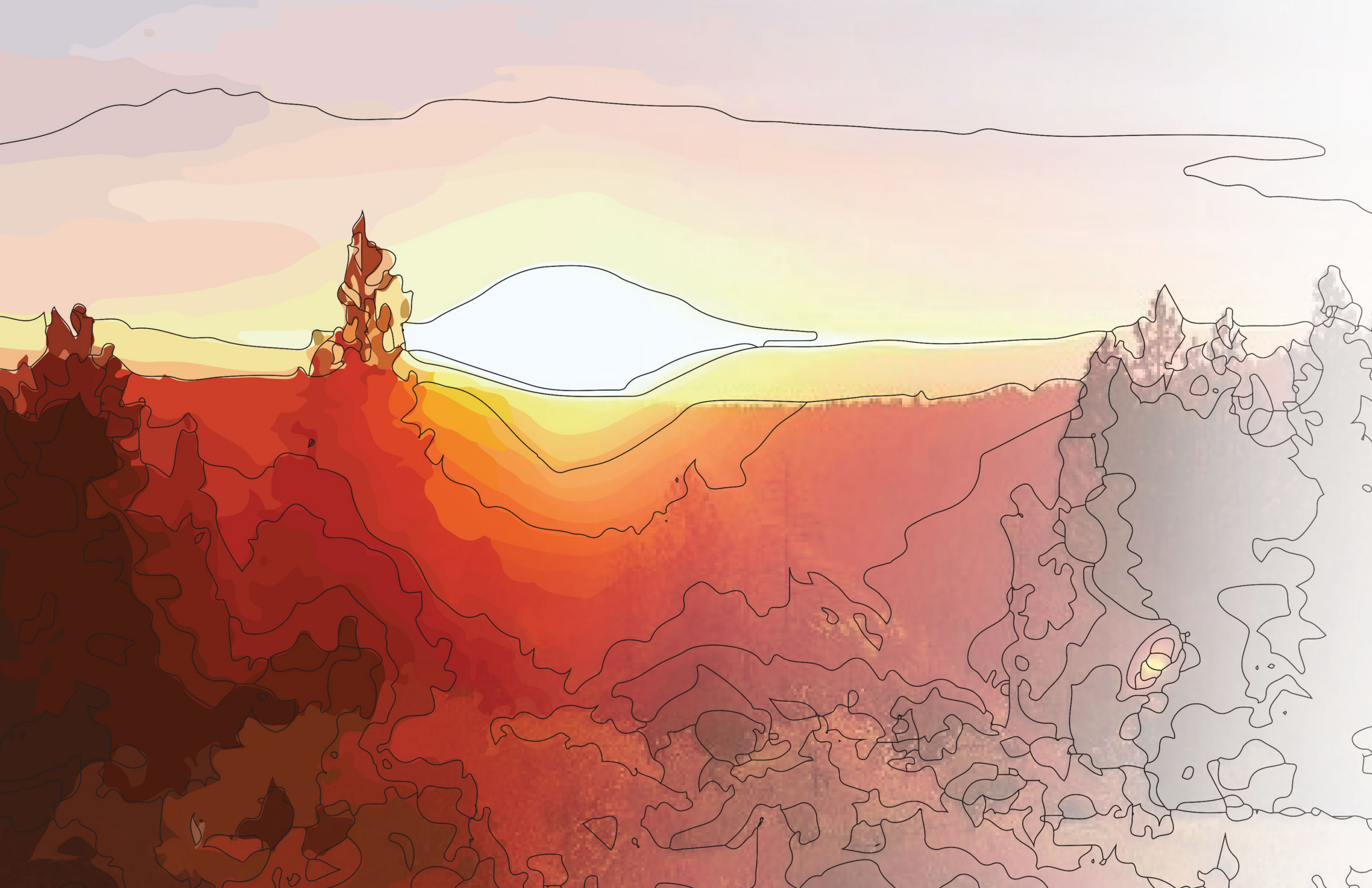


# BLACK BAY PARK





# CONTENTS

7  
SITE ANALYSIS

13  
OUTREACH

17  
DESIGN STRATEGY

23  
DESIGN ALTERNATIVES

33  
VISION PLAN

37  
PHASING STRATEGY

47  
DESIGN ELEMENTS

55  
SIGNAGE DESIGN

59  
CAR PARK +  
STREETSCAPES

65  
SITE CHARACTER +  
MATERIALITY

69  
COST +  
MAINTENANCE

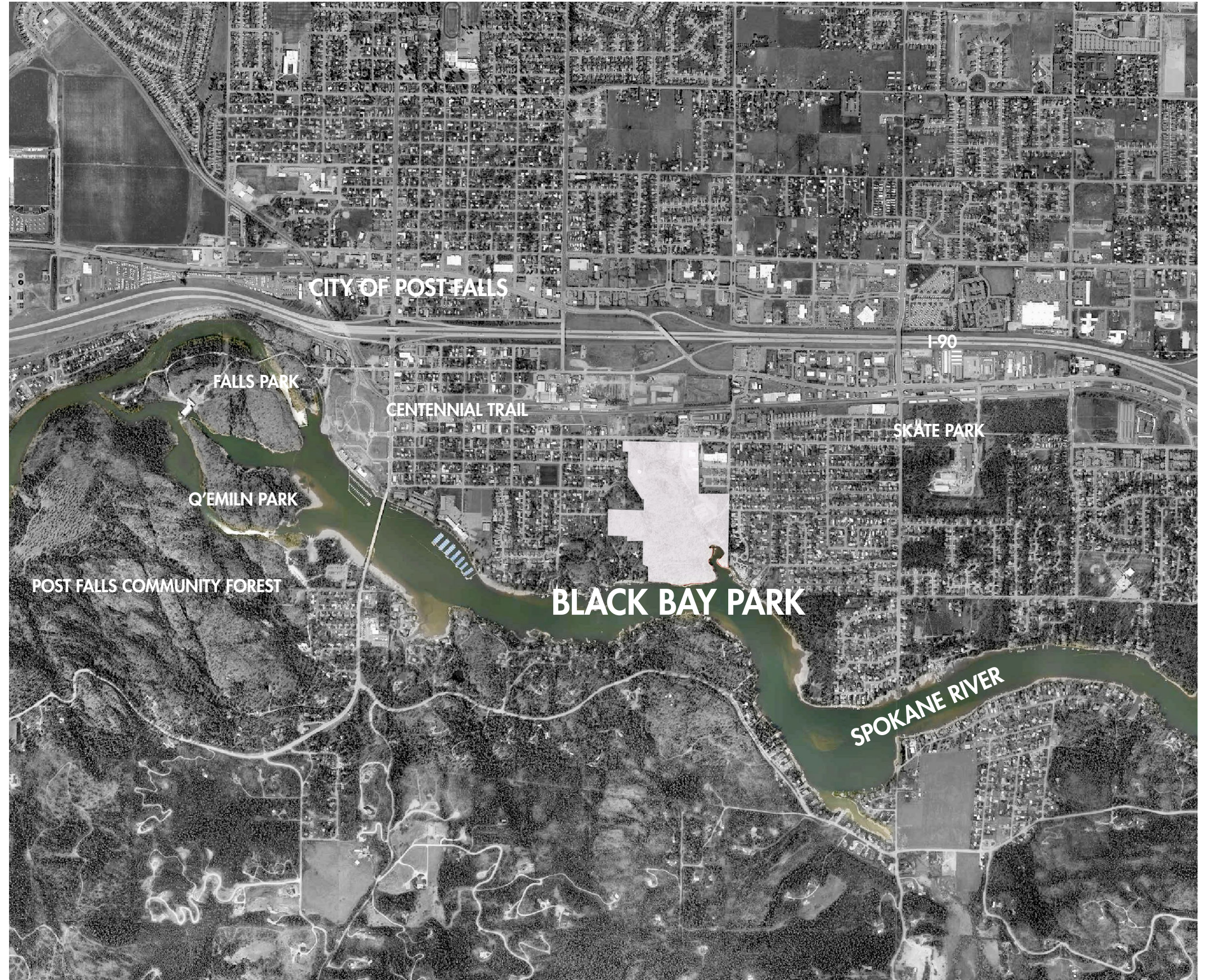


# BLACK BAY PARK

Along the banks of the Spokane River and in the heart of Post Falls; sits Black Bay Park. This incredible open space is a chance for the town of Post Falls to reclaim and reanimate the natural fabric and beauty of this riverfront site. Black Bay Park is a unique place that is underutilized and is a hidden amenity within the community. The opportunity of this site is to enhance and activate the park while protecting its natural features. This park has the potential to contribute essential programming and a nature-based experience to community members; adding another amazing public resource to the town of Post Falls. The potential of this site is to provide a place for the residents of Post Falls to come celebrate nature, enjoy the bay, engage with river, explore the rocky granite terrain, and capture distant views from the expansive natural landforms. It truly is a unique site that plays a key role in future of Post Falls.

Throughout North America cities have been exploring ways to reintroduce nature into the core of their cities, how they can reclaim their riverfront from years of misuse, and how they can reconnect with the rivers that were the primary reason their founding fathers settled there in the first place. The wonderful thing about Black Bay Park is that almost in its entirety the natural fabric and beauty of this riverfront area has been preserved and utilized as a community amenity. It truly is nature in the heart of your city, a place that contains a variety of distinct environments that provide something for everyone. As the oldest park in Post Falls, it has been and always will be a place to enjoy nature and all that the Spokane River and its view-shed has to offer just minutes from your downtown core. The key to this master planning effort is to energize the community around a unified vision for the Park, determine the amenities and programs that need to be added, and how they can be added while protecting and enhancing all of the wonderful spaces and environments that currently exist in the Park.

To establish the vision we have built upon what makes Black Bay and the larger Post Falls community distinct. The Vision plan was developed through conversations. The process followed a simple yet effective three step process; Understanding/Analysis, Visioning/Testing, and Vision Plan. This document outlines this process and displays the series of steps taken to produce a unified vision for Black Bay Park.









# DISCOVERY/ANALYSIS

We began our work with on-site investigations and a series of kick-off meetings with City staff and stakeholder group interviews to build our overall understanding. It was critical that we understood the project goals and considerations from a Post Falls perspective to enable our team to integrate local knowledge and the essence of this unique place into our iterative design process. Building upon the base information provided by the city we completed quantitative analysis, and developed more qualitative mapping that look at items not readily analyzed through quantitative methods. Based on this analysis a series of maps and diagrams were created to depict the pertinent opportunities and constraints discovered during the analysis process.

## SITE SYSTEMS

THREE SITE SYSTEMS - Black Bay Park is an incredibly unique place. The site is home to diverse landscapes and user experiences. We found much inspiration from the power of the site's beauty. The park aesthetic feel is special and lead us as designers to utilize the prominent natural features in our designs. The natural fabric of the site is profound and important to the experience of the park. Our design proposal focuses on protecting the natural features and strategically inserting features and programming into the existing site, to activate it and celebrate its unique qualities. The site history revealed a natural landscape that encompasses three main systems; natural rocky areas, vistas & valleys, and primary water flow through the site.

### NATURAL AREAS

The first most distinct natural system is the most naturalized and expansive area of Black bay Park. Comprising approximately two-thirds of the park area and is comprised of dense, hard granite and gneiss rock formations, with shallow soils and extensive moss and lichen groundcover.

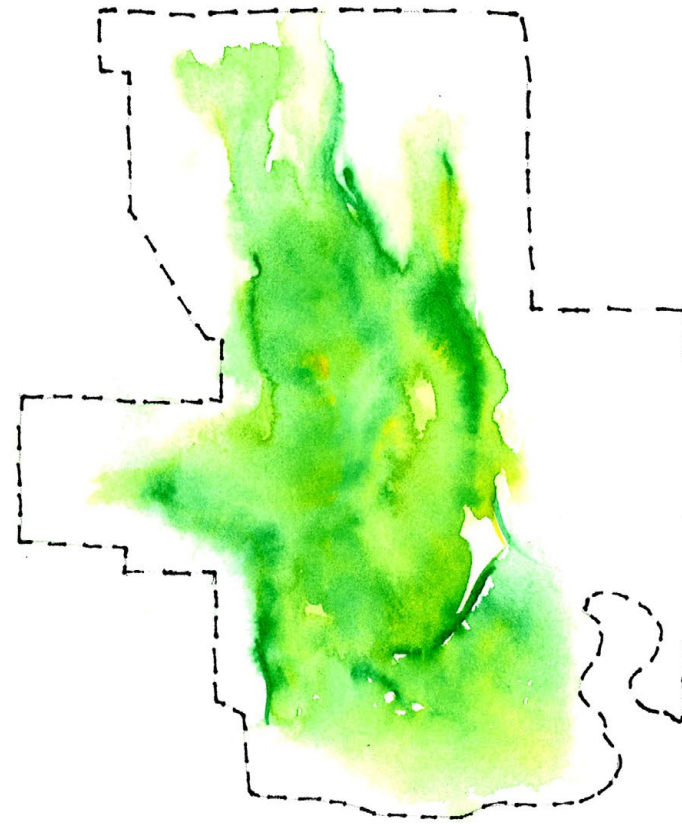
### VISTAS & VALLEYS

The second system located throughout the natural areas is an array of vistas and valleys with comprised of dramatic topographic changes. The variety in terrain creates special niches and micro-climates within the park.

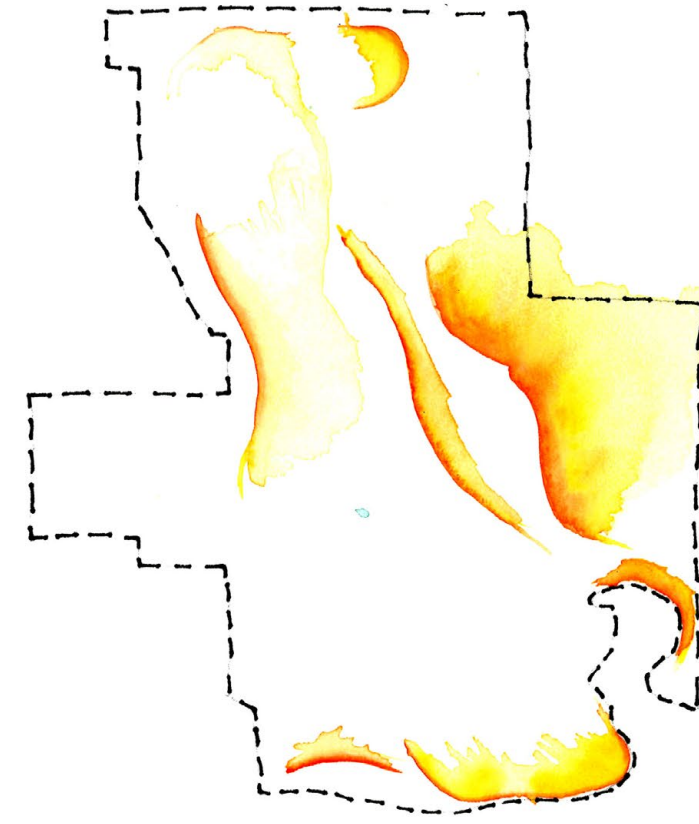
### WATER FLOW

The third system being water flow from the high points in north end to the lowest point at the southeast corner of the park; the bay.

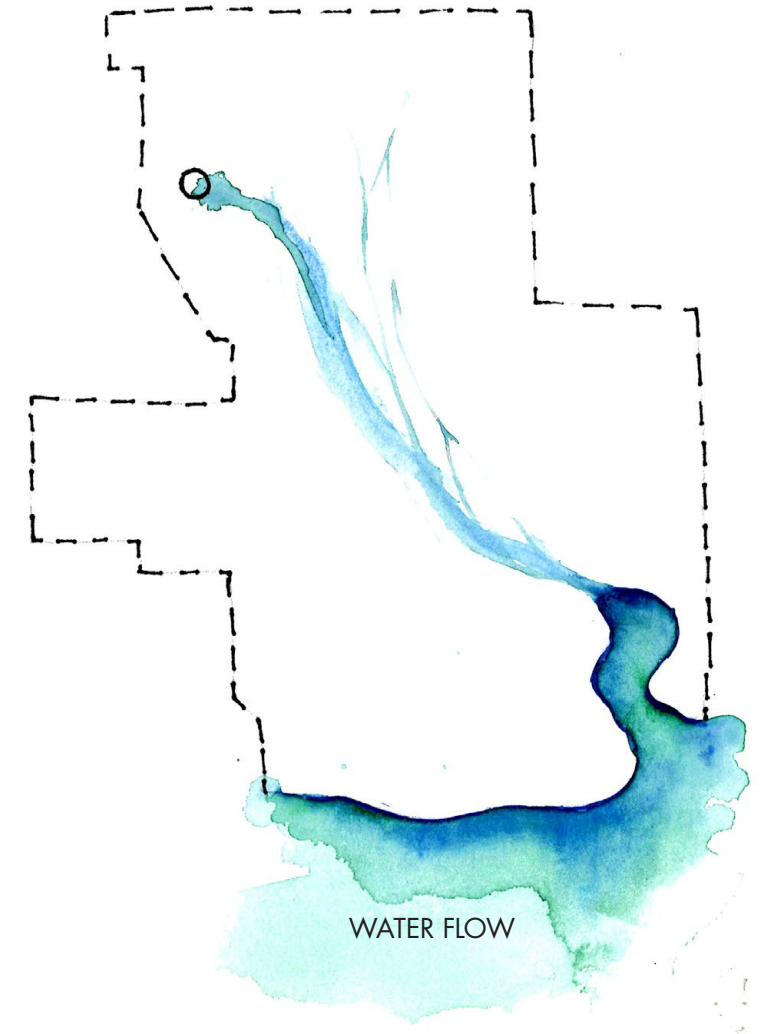
Each of these distinct systems and features are an important component in creating the unique and distinct landscape of Black Bay Park and strongly influenced the design process.



NATURAL AREA



VISTAS & VALLEYS



WATER FLOW



THREE HISTORIC EVENTS - The geological history of Black Bay Park are what make this site unique. The various rock and topographic formations are a direct result of significant geologic process. Understanding this story is critical to understanding the ethos of Black Bay Park.

**TECTONIC UPLIFT**

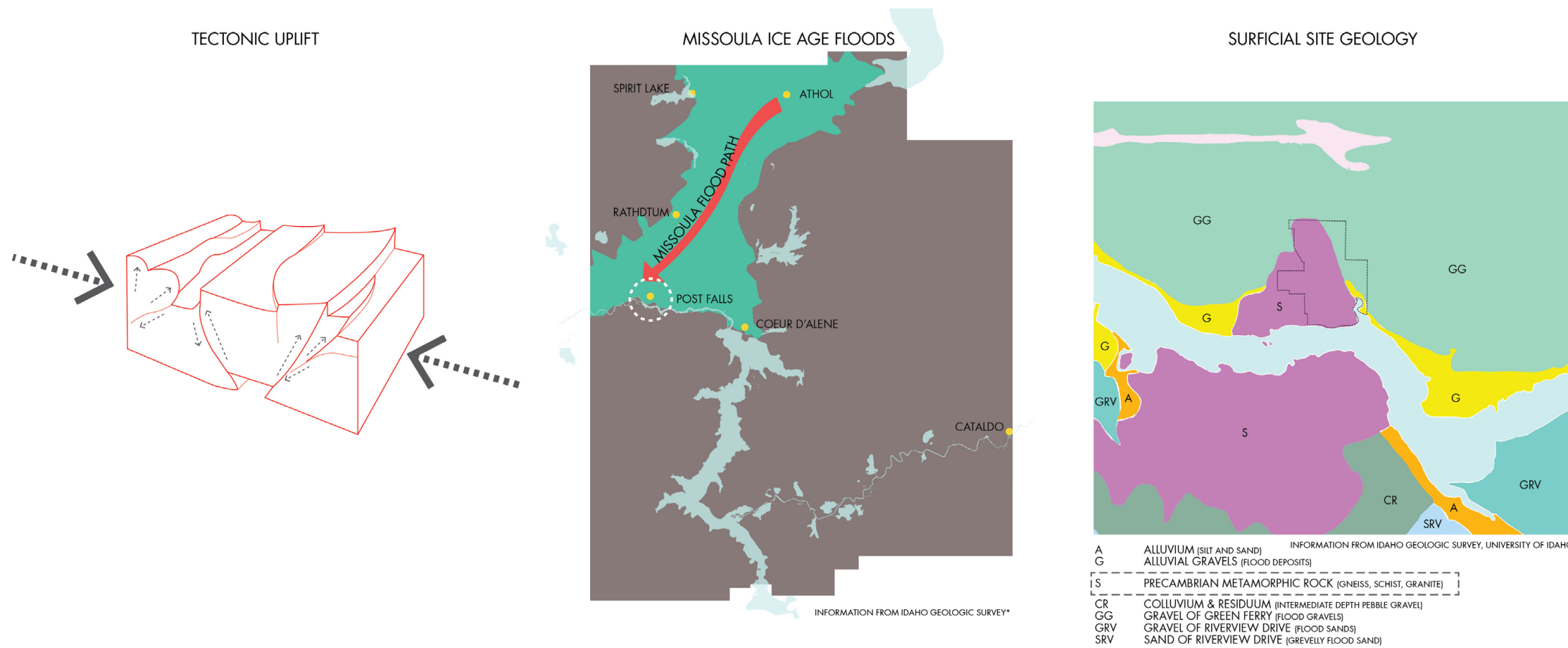
The area historically experienced much tectonic uplift. The extreme pressure and high thermal temperatures created by the uplift resulted in dense layers of metamorphic granite and gneiss rock formations, creating an impenetrable surface to expansive areas of the Park.

**ICE AGE FLOODS**

During the historic Missoula Ice Age a series of thousands of floods washed away the soft top soil layer, exposing the hard rock (granite & gneiss) below. The resulting landscape has shallow soil depths, and very little growing medium creating a growing environment more suited to a variety of moss and lichen species, with shallow rooted Pines being the primary tree species.

**SURFICIAL GEOLOGY**

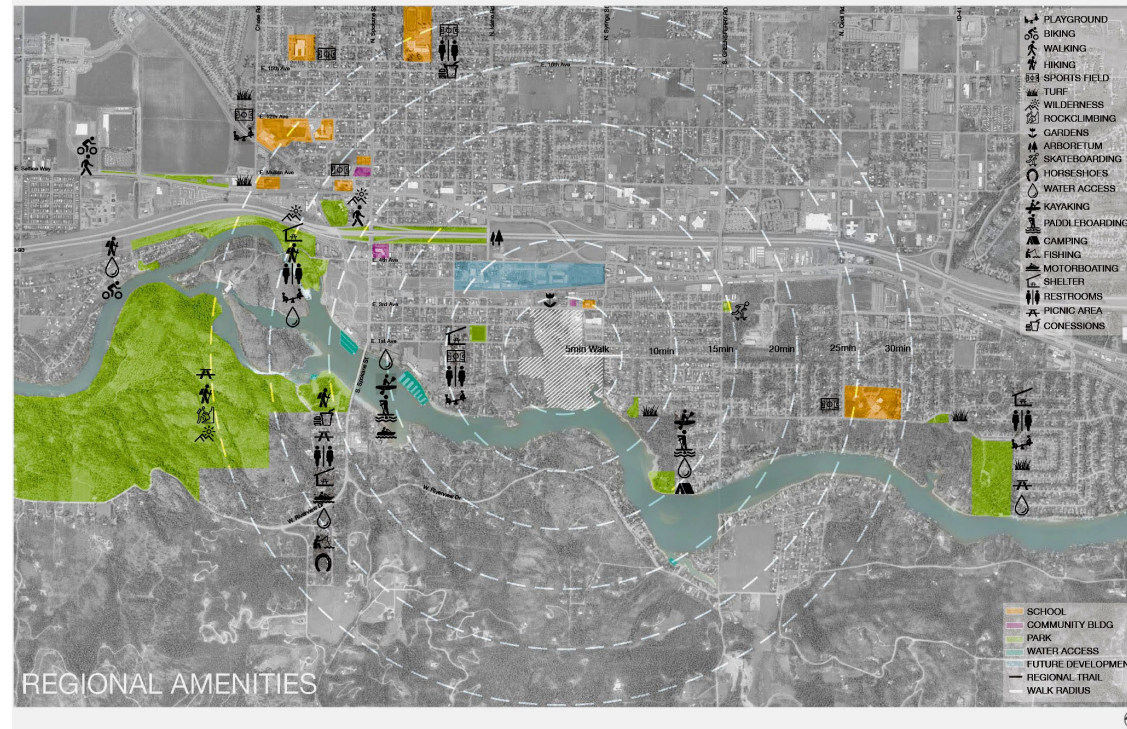
These series of historic geologic moments are what make Black Bay so unique. This natural composition of the park helped inform the design in each of the plan alternatives.



UPLIFT —→ METAMORPHIC ROCK (HARD/DENSE) —→ FLOOD EVENT —→ REVEAL OF ROCKY TOPOGRAPHY & SHALLOW SOILS

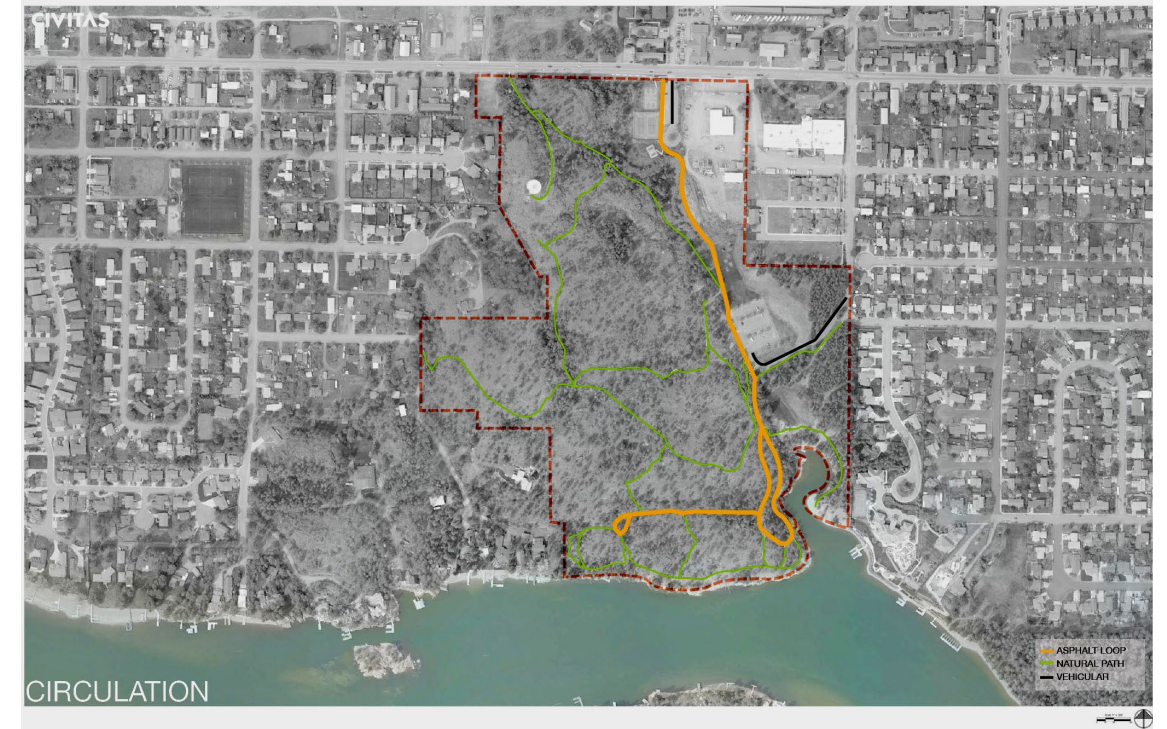
## LOOKING AT THE SITE

The series of diagrams depict different elements that affect the site. The diagrams range from a regional scale down to site specific. The information includes elements outside and inside the site that inform the formal design proposals. These studies were used as tools during the initial design process.



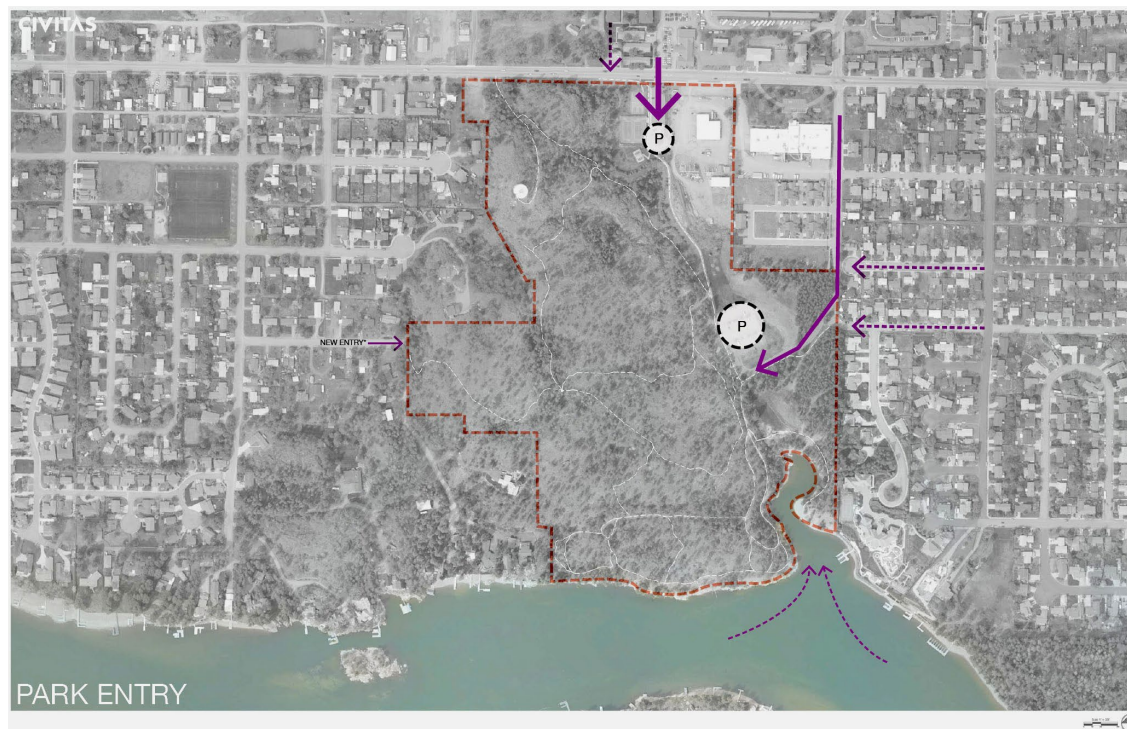
### REGIONAL STUDY:

This analysis explores the existing regional amenities and open spaces, and their proximity to Black Bay Park. It expanded our understanding of the city context, other parks and their associated programming, and their potential impacts on Black Bay Park.



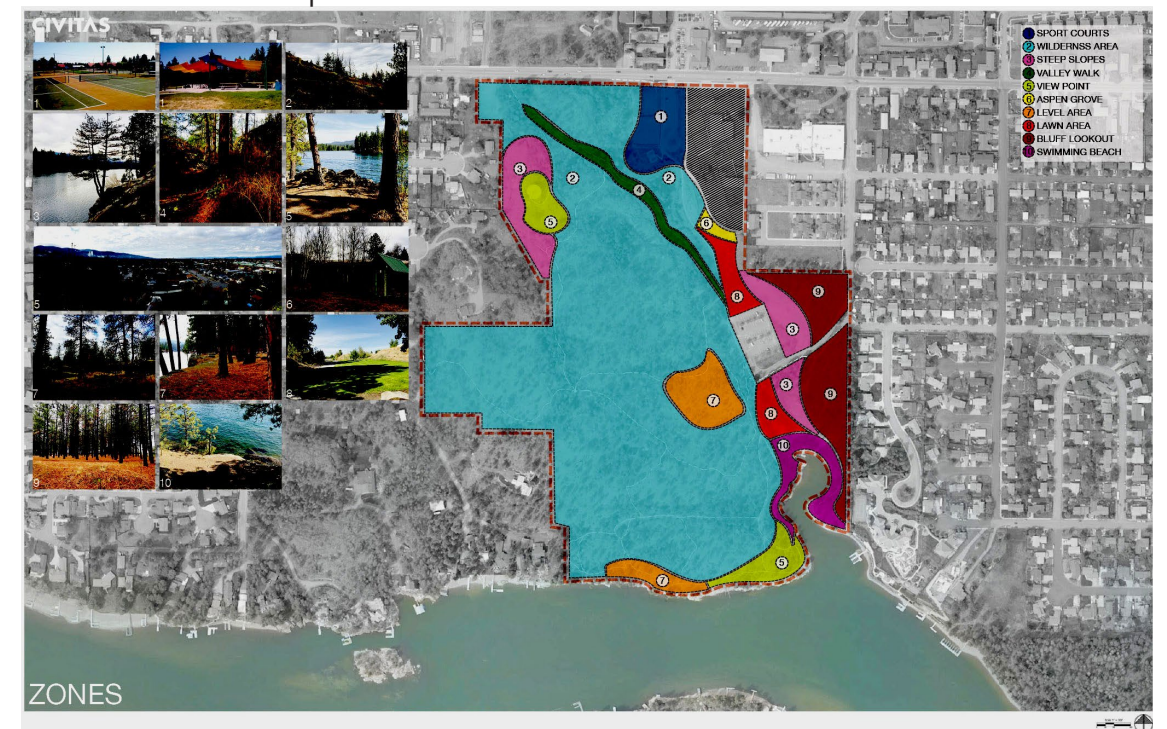
### CIRCULATION:

Understanding how visitors move through the site, the existing trail hierarchy was critical to understand how it is currently being used and explored. From this analysis it became apparent that the most active trails were the paved systems that create a spine to the park, but minimize access to and limit user experiences of the more naturalized areas throughout the western half of the park.



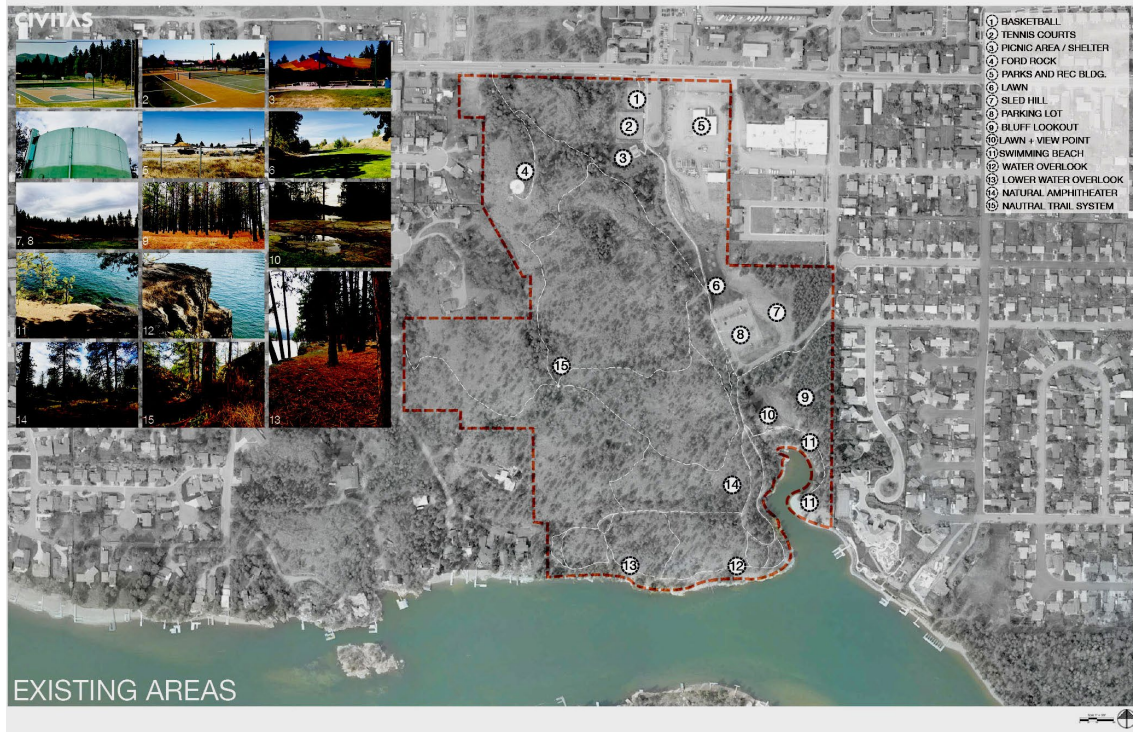
### PARK ENTRY:

This analysis explores how people access the site. Organized by modes of travel it became clear that an enhanced arrival sequence and additional access points providing access from the west would be critical to long-term success of the Park.



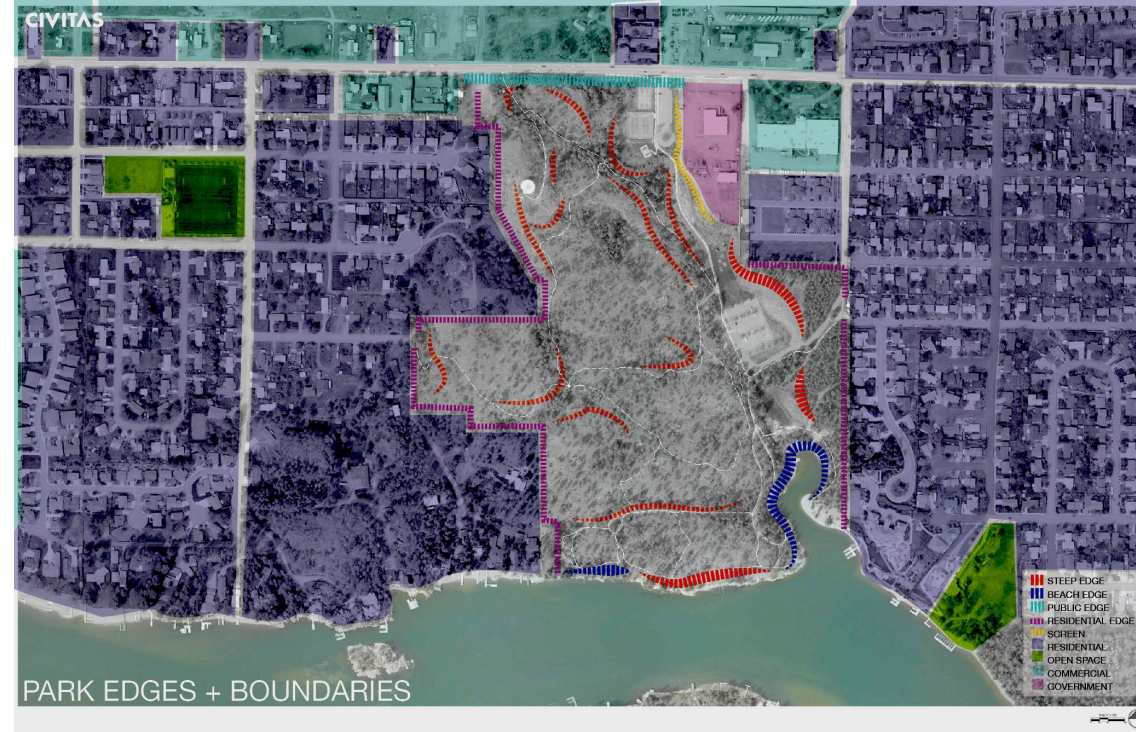
### PARK ZONES:

Park zones were defined based upon the varying environments and natural features. This analysis informed how proposed design features should be folded into and/or celebrate the existing micro-habitats of the park.



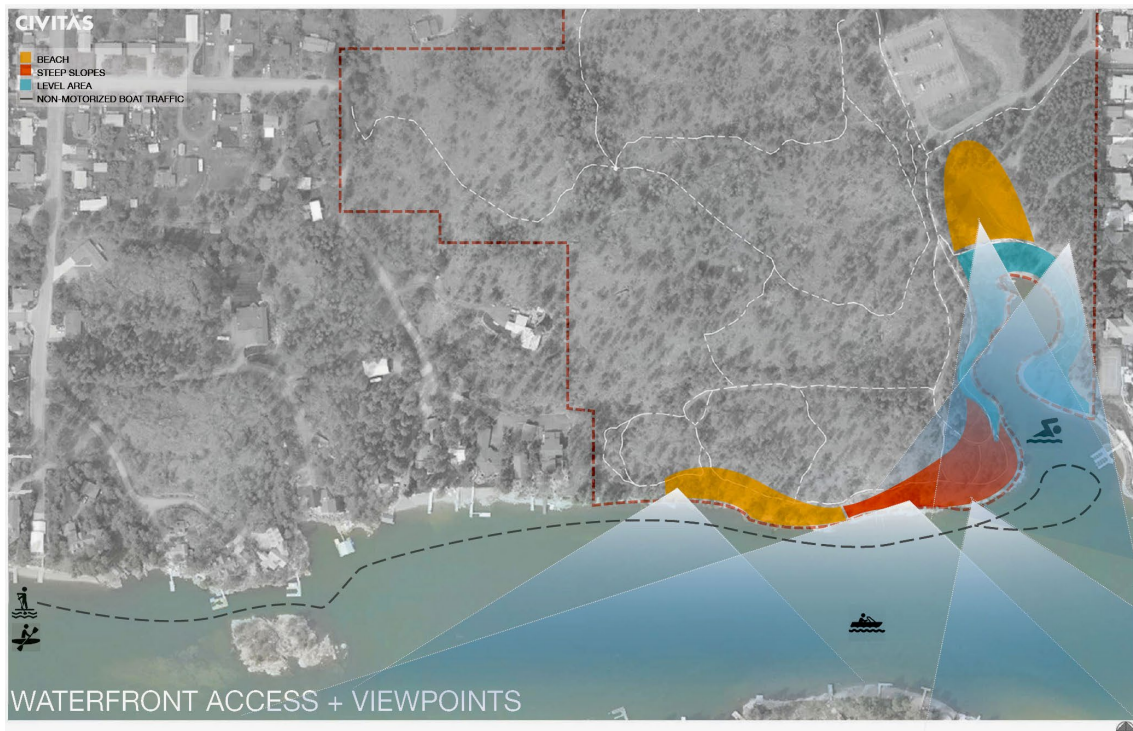
EXISTING AREAS:

This analysis was completed to help define the various environments and user experiences within the park. The primary zone is the park's more native areas comprised of the large gneiss formations with pine forest and moss/lichen ground plane, with a diversity of smaller zones labeled by the primary use/programming for that area.



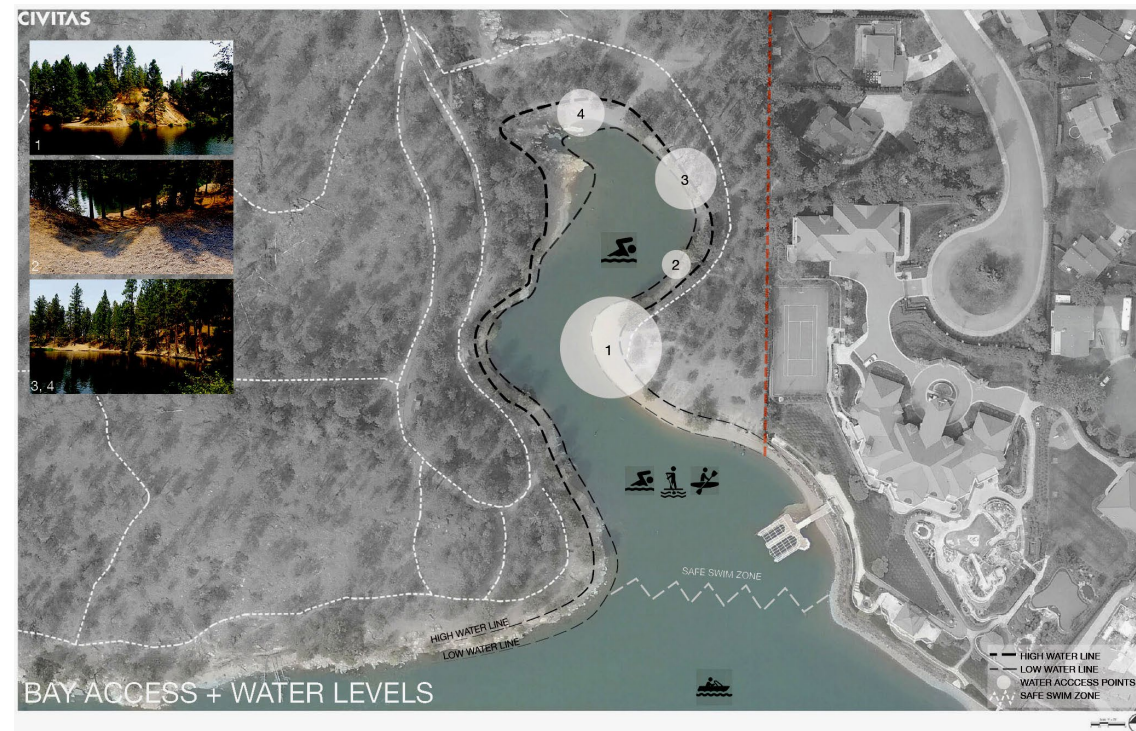
PARK EDGES:

The park edge analysis outlines the overall permeability of the existing park perimeter. Each edge was categorized based upon the degree of porosity or limitation to accessing the park. This information included boundaries such as, topography, water, ownership, and points of entry.



RIVERFRONT ACCESS + VIEWPOINTS:

The relationship to the water and visual and physical connectivity to the river are important experiences within Black Bay Park. Areas with higher physical access provide different opportunities than areas that are cut off from the river, but may provide dramatic views of this important amenity.



BAY ACCESS:

Bay access differed from the riverfront access in that it looked at the degrees of access along with the programming based upon shifting water levels in the bay.



# OUTREACH

By encouraging public and stakeholder participation throughout the design process, a sense of ownership is developed amongst participants that can lead to overall acceptance of design and support for public funding, and a streamlined approval and implementation process. The Vision Plan process created a series of outreach experiences that were unique and memorable. These events enticed the community, not only to come out and enjoy the experience, but gave them a variety of ways to participate in the process. This process enabled us to build upon past studies while learning first hand what is distinctive about Black Bay Park, and how these unique qualities could be transformed to create a unified vision for the Park. Through a series of community meetings, site visits, and talking with local parks and recreation staff; information was gathered to have a thorough understanding of important needs of the site and its visitors.

## WHAT WE HEARD

### COMMUNITY MEETINGS

During the first community meeting multiple techniques were used to gather feedback on what the community wanted to see in the park. The main activity of the open house was to rank preferred programming for the park. The second was a large map that provided community members with the opportunity to note special places, share interesting facts, or highlight stories they had heard or have about the Park. The last activity engaged the children by providing them the opportunity to tell us what their ideal day in Black Bay park looked like. They were encouraged to select post cards depicting the programs and activities that would make them come back to the park again and again.

### WHAT WE LEARNED

It was very evident that protecting and preserving the natural qualities and features of Black Bay are important to residents. While protecting the existing site features there is also a high concern for providing distinct entries points to the park. This would address the current issues of park visitors trespassing on local resident's property to get to the park. Other thoughts we heard were focused on the type of programming residents want, this varied from standard park amenities like restrooms and trash receptacles to more expansive and engaging elements such as overlook decks and play features.

A second theme that was prevalent in most of our discussions, was the communities desire to take advantage of the relationship to the Spokane River. Whether in the form of access down to the river, community docks enabling access from the river, or a variety of ways to enjoy distant views across the river, the community agreed that the current park only minimally capitalizes on this significant natural resource.



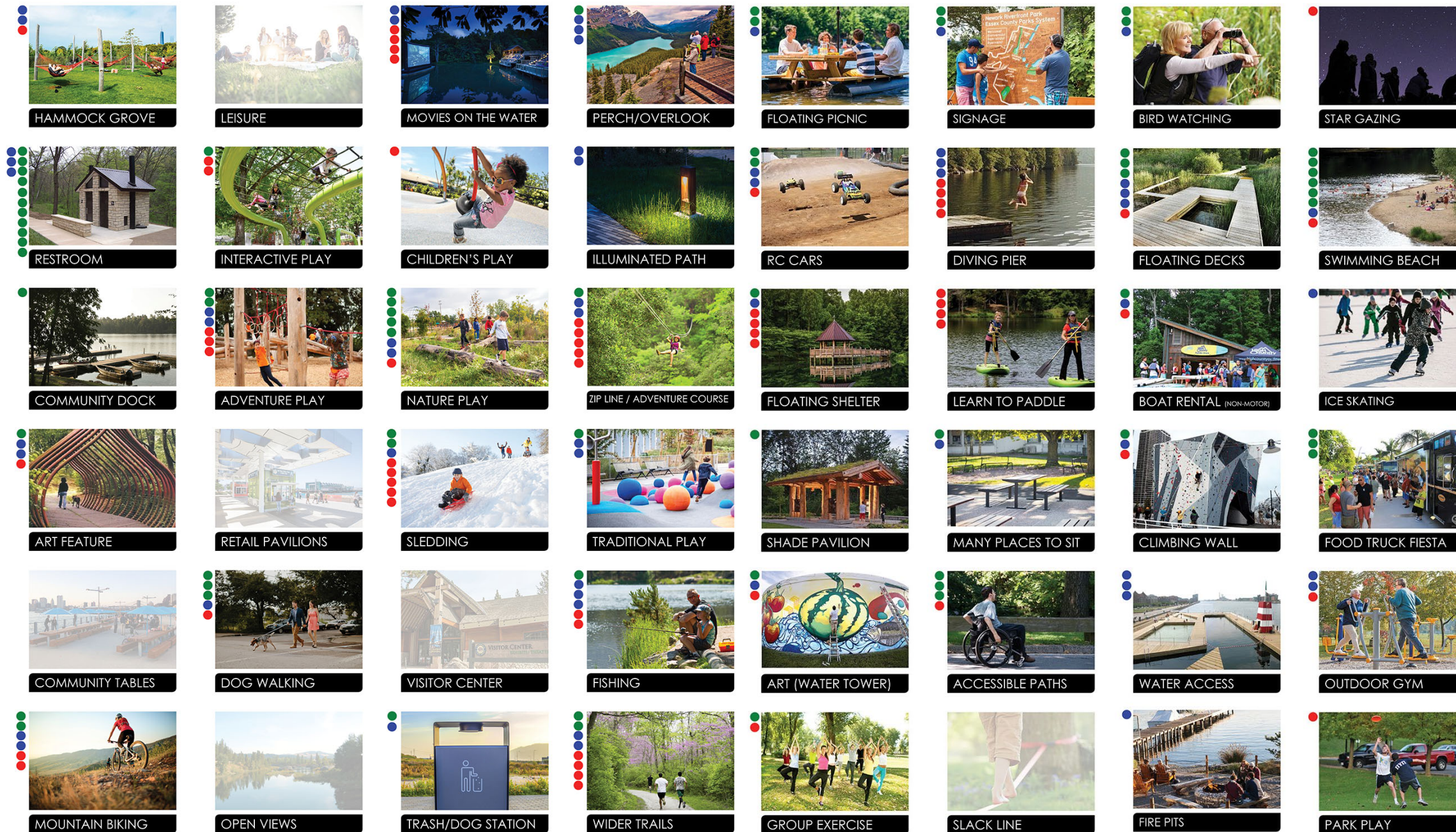
### COMMENTS / CONCERNS / SPECIAL PLACES:

1. Filled from cedar logging, some sinks holes.
2. Not a natural meadow.
3. Concern - water tower climbing and activities; falls from cliff, also trespassing through private property to E. 1st Ave.
4. Aspen grove.
5. Move shops elsewhere, looks bland.
6. NO PARKING.
7. No parking on E. Maple Ave or Wide River.
8. River vistas and sunset.
9. Please keep safe the cute (magical) corkscrew/chair like tree.
10. Bank stabilization work needs to be done.
11. Beer garden and amphitheater.
12. Old house that burned down.



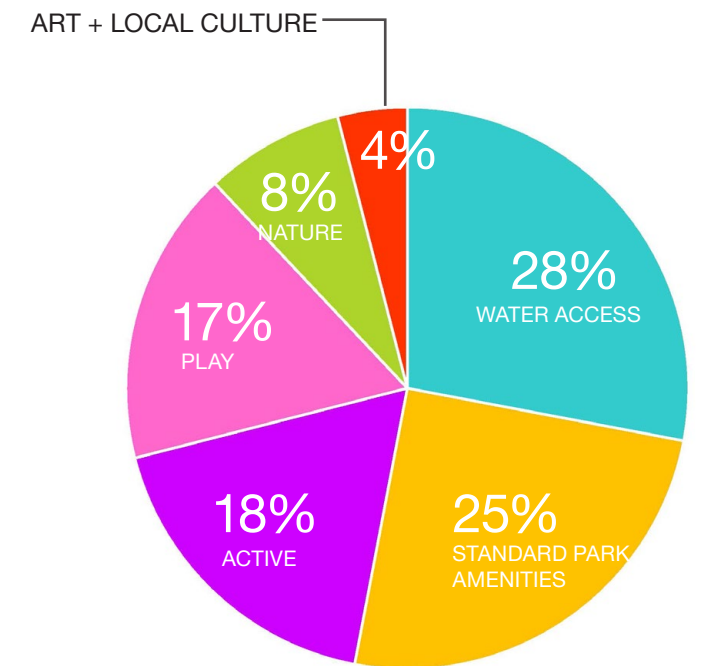
During the first meeting, community members were invited to rank their preferred activities and program that they would like to see within the park. Activities were ranked with green (1st choice), blue (2nd choice), and red (3rd choice). The results were categorized by activity types and tabulated through a logarithm to determine percentage of preference for each activity type as depicted on the pie chart below.

The results suggest that while some community members want to see increased focus on the relationship to the river, an equal number believe that the current park lacks the basic amenities (restrooms, ample seating, lighting etc) that are typical in most regional parks. While more perceptual than scientific, the exercise does make it clear that there is a desire for a more amenitized park space, while conversations with participants suggest that while nature elements were not ranked very highly, most felt that the park was predominantly a nature area, so additional nature-based amenities were not as desirable.



**INSTRUCTIONS:**  
PLACE DOTS NEXT TO THE ACTIVITIES YOU WOULD LIKE TO SEE AT BLACK BAY PARK.

- GREEN 1st PICK
- BLUE 2nd PICK
- RED 3rd PICK



# PROGRAM OPPORTUNITIES







# DESIGN STRATEGY

Building upon the understanding gained through the analysis and community outreach process, we began our design process by developing a series of design principles to provide common language from which all possible design solutions could be tested. The overall design approach was grounded by these principles and worked to define zones of activity and programming within the park to; capitalize on the unique qualities; preserve nature; and improve highly disturbed areas of the park. These steps in the design process created the framework from which all design ideas were generated. The strategy was to have a standard set of core ideas and ethics that every design alternative plan would satisfy. This strategy ensures that the needs and wants of the park and community are met, while creating a vision that is unique and distinct to Black Bay Park and the Post Falls Community.

## DESIGN PRINCIPLES

After studying the site and engaging the community, a series of design principles were developed to create a common language from which all design ideas could be tested against. These principles focus to establish the intentionality of the vision, while providing a framework to develop and build ideas from. The principles, once presented, debated, and collectively accepted by the stakeholder committee are tools that can be used during the design process to remain focused on delivering a vision that remains true to the intentions and desires of the community.



### **PRESERVE NATURE, WHILE ACCENTUATING IT'S SPECIAL QUALITIES**

- A celebration of the unique park features, while protecting and highlighting them



### **ACTIVATE WITHOUT OVER POWERING**

-Carefully insert new program that harmonizes with existing activity



### **PLACE THE PARK IN MOTION**

- Create movement through a series of interconnected loops that provide opportunities for social interactions  
- Provide a common ground for people of different walks of life to connect



### **CREATE A PARK FOR EVERYONE**

- A park for people of all ages, race, gender, class, and mobility to experience  
- Provide programing that appeals across all spectrum's



### **ENGAGE THE RIVER**

- Enable access to the water  
- Provide safe place to interact with the river  
- Illuminate the significance of the Spokane River

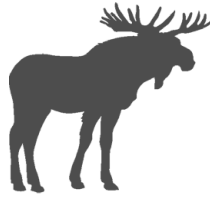
FLORA + FAUNA

BIRDS

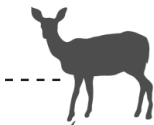
- LOON
- GREBE
- DUCKS
- CANADA GOOSE
- GROUSE
- HAWKS
- WESTERN HORNED OWL



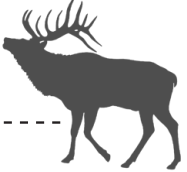
MOOSE



DEER



ELK  
(RARE)



COUGAR  
(RARE)



BEAVER



FISH

- BLUEGILL
- CRAPPIE
- CATFISH
- SMALLMOUTH
- BASS
- PERCH



LICHEN



TREES

- PONDEROSA PINE
- DOUGLAS FIR



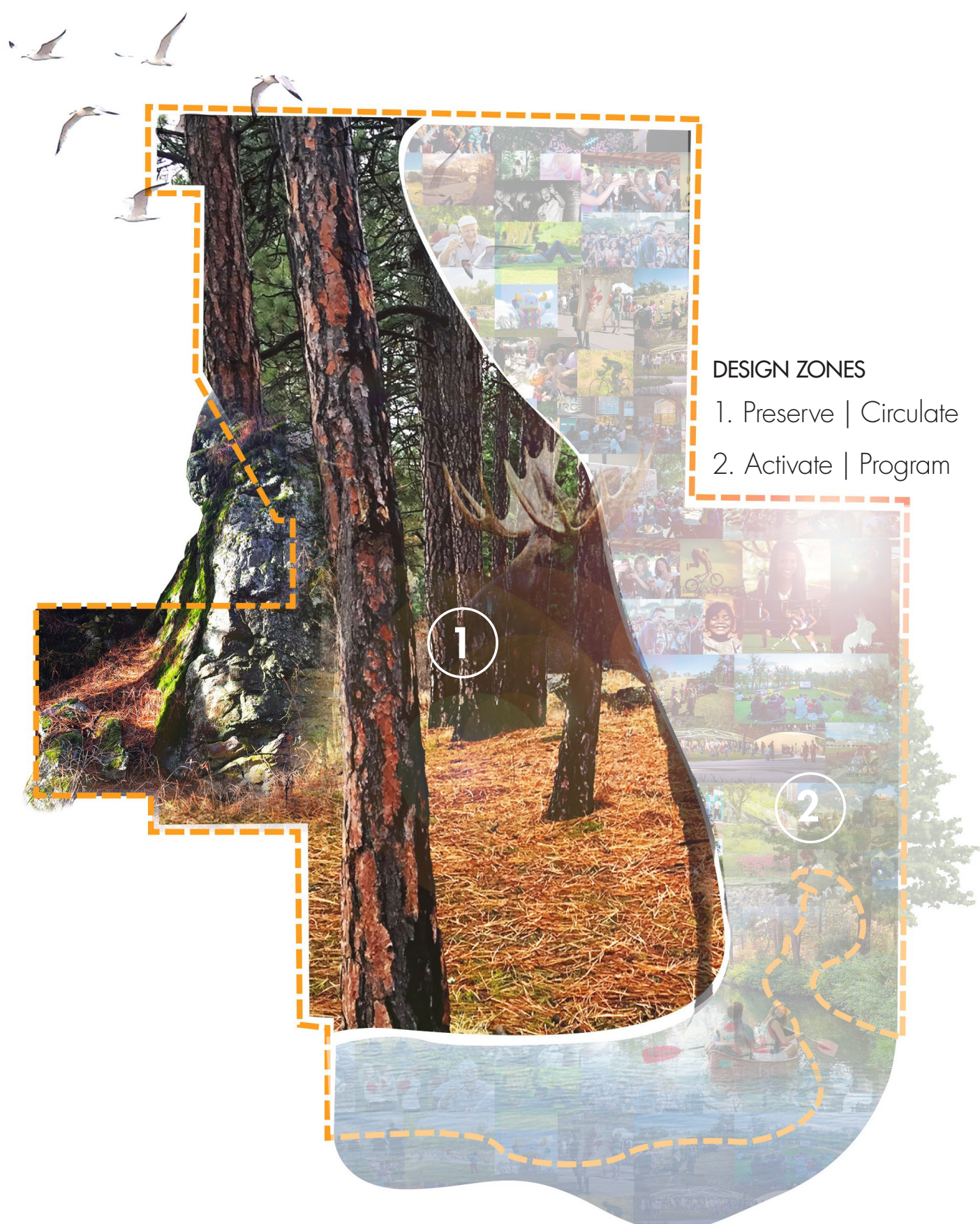
MOSS



ASPEN



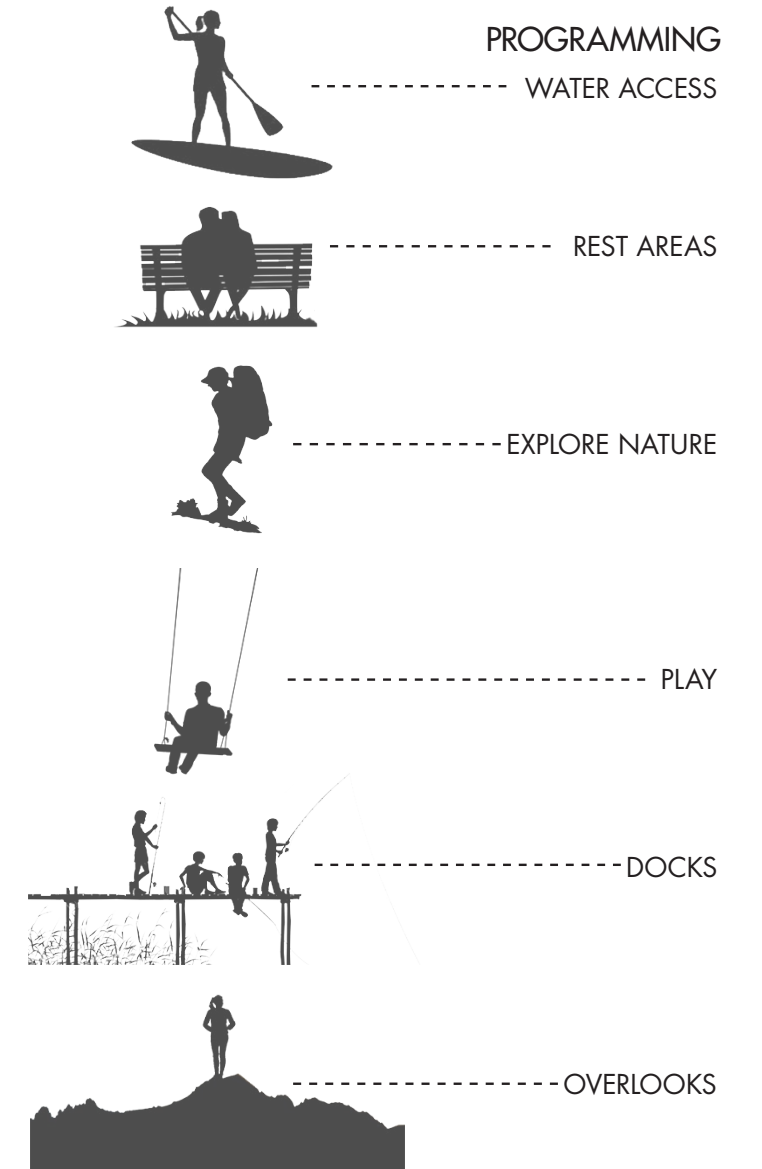
DOGWOOD



DESIGN ZONES

- 1. Preserve | Circulate
- 2. Activate | Program

Black Bay Park is a unique site with incredible history and prominent landscape features. In order to preserve and protect those natural features the site is broken down into design zones. The extents of each design zone was influenced by the geologic history, current park uses, and the community desires as expressed throughout the design process. The first zone is focused on nature and preserving the existing natural systems, while adding walks and amenities that accentuate its features. The second zone, with proximity access to parking and formal park entires is about activation and user programming. The two zones complement the existing park configuration, while building upon the site's evolution and the communities desire for a more activation, while preserving the natural qualities that make it special.

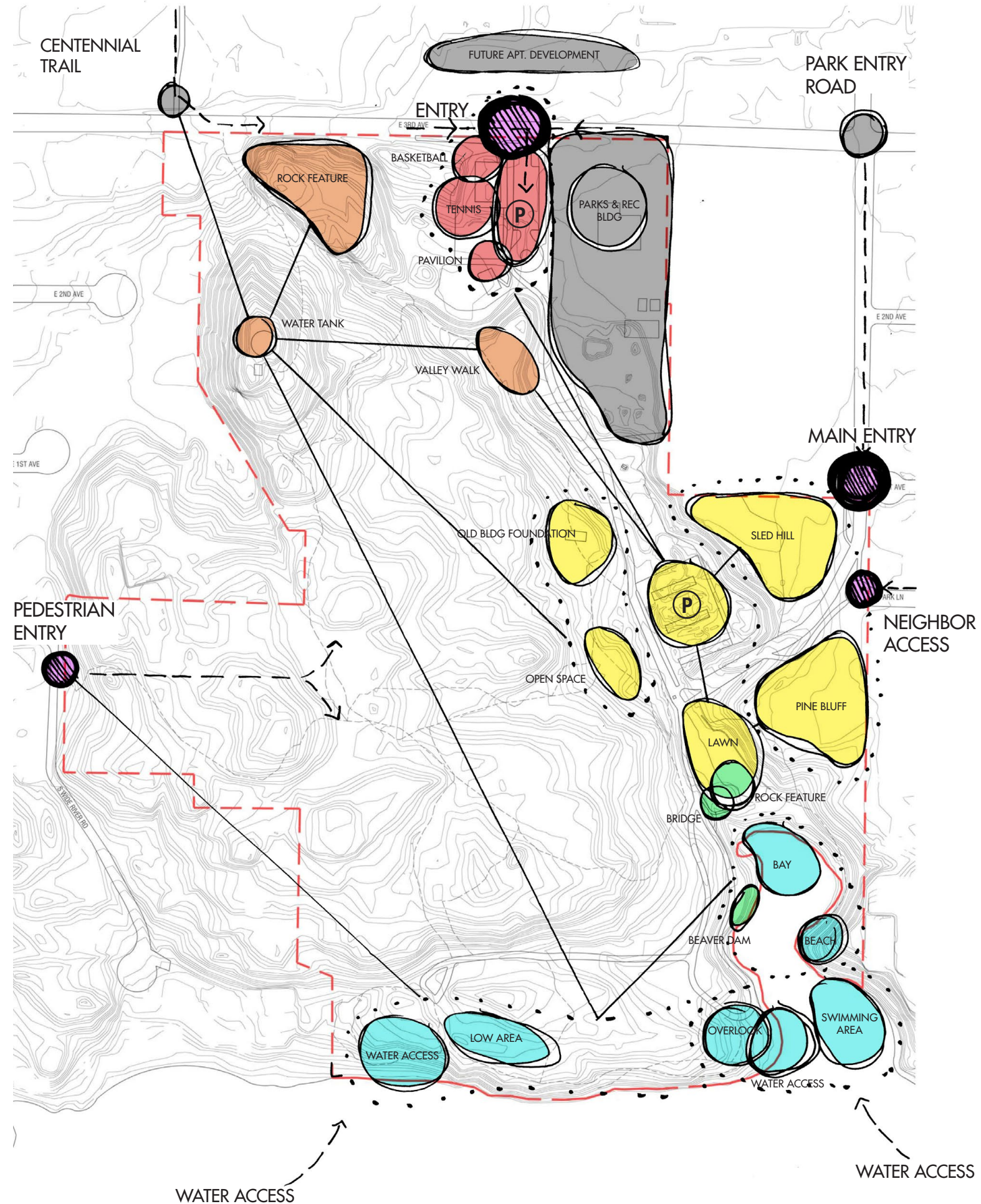


Imagery provided displays popular programming activities for the site along with unique or common flora and fauna to the area.

## ACTIVATION STRATEGY

A large part of the activation strategy for Black Bay Park was to first look at the major points of interest and unique places within the existing open space. The activation strategy focuses larger activating features along the eastern half of the park where higher levels of service and access can exist. By placing the higher intensity activities in the previously disturbed areas of the park, it enables preservation of the naturalized areas on the western half of the site that are more susceptible to human disturbance. Throughout the naturalized area of park, the activation strategy included inserting smaller more intimate spaces that accentuate its unique qualities while minimizing disturbance.

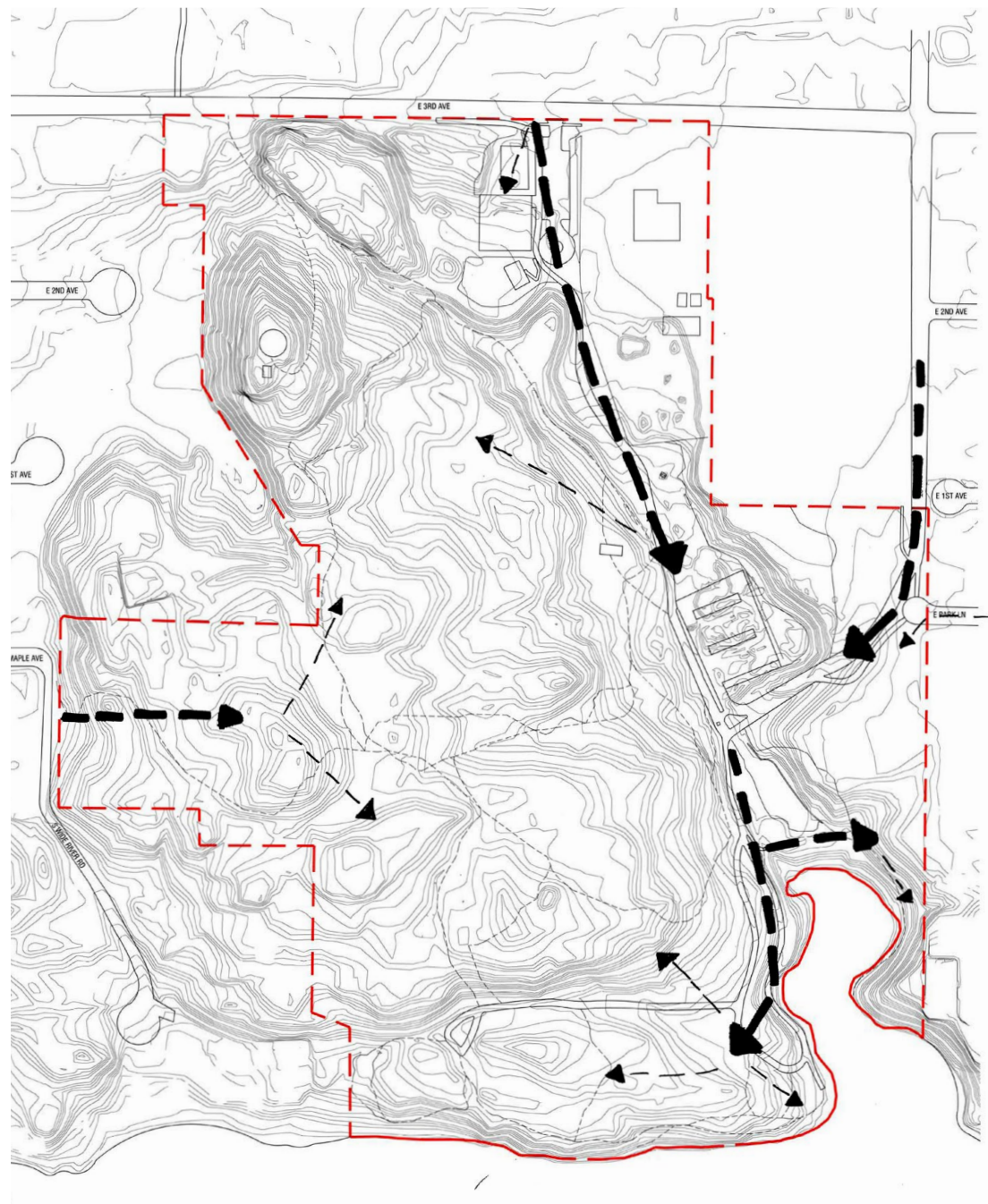
The figure to the right displays the variety of activation areas that have their own unique sense of place. The different areas showcase the points that need access and help inform the hierarchy of circulation needed to access them.



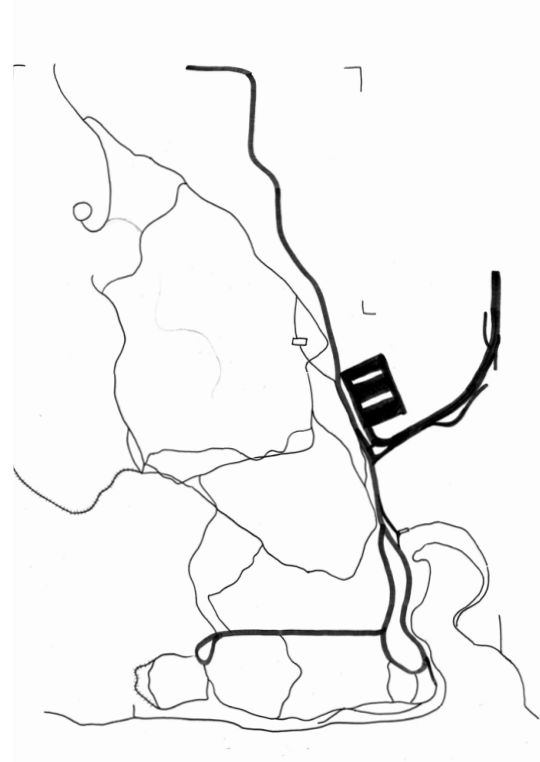
# MOVEMENT STRATEGY

When developing a movement system for Black Bay Park, attention was given to ensure its synergy with the activation strategy. The diagrams depict the existing circulation patterns in comparison to the desired patterns based on the proposed activation and placemaking locations. By integrating the existing with the desired, it became apparent that increased access throughout the park was desired, while a series of pathways create a variety of loops would provide the greatest benefit, while providing users of all mobility levels with equal opportunities to explore most areas of the park. When developing the movement strategy, site topography played an important role in the location and flow of the overall trail system. The proposed circulation focuses on working with the varying topography, letting the land dictate the patterns, while minimizing disturbance to existing natural areas.

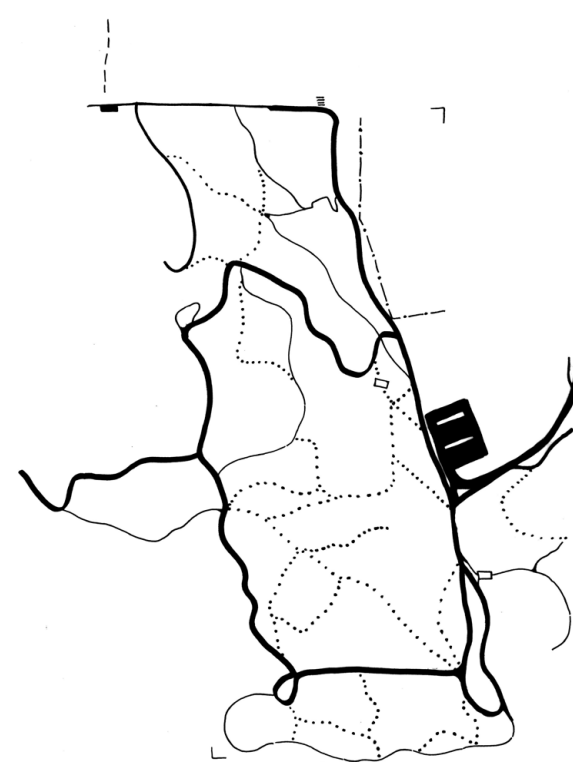
During the final visioning process the proposed trail alignments were refined with the use of a GIS tracking system and in-situ field assessments. This aided in developing a thorough understanding of where trails best fit into the existing natural framework, while ensuring visitors access to the proposed programmed areas.



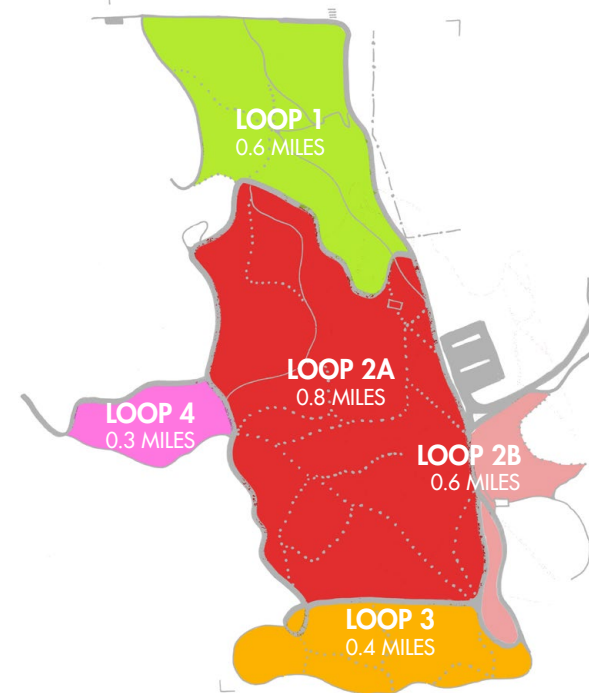
SITE MOVEMENT



EXISTING CIRCULATION



PROPOSED CIRCULATION



PROPOSED LOOP SYSTEM





# DESIGN ALTERNATIVES

Following the development of the framework strategies, a series of three design alternatives were created. These plans served to present different design solutions to achieve the vision outlined by the community during the outreach process. The design alternatives were developed to test how bold the community wanted to be in terms of overall impact and activation, and they varied from subtle design changes to larger, more bold and widely impactful alterations. Each design alternative builds from the previous iteration, to show gradation of design impacts.

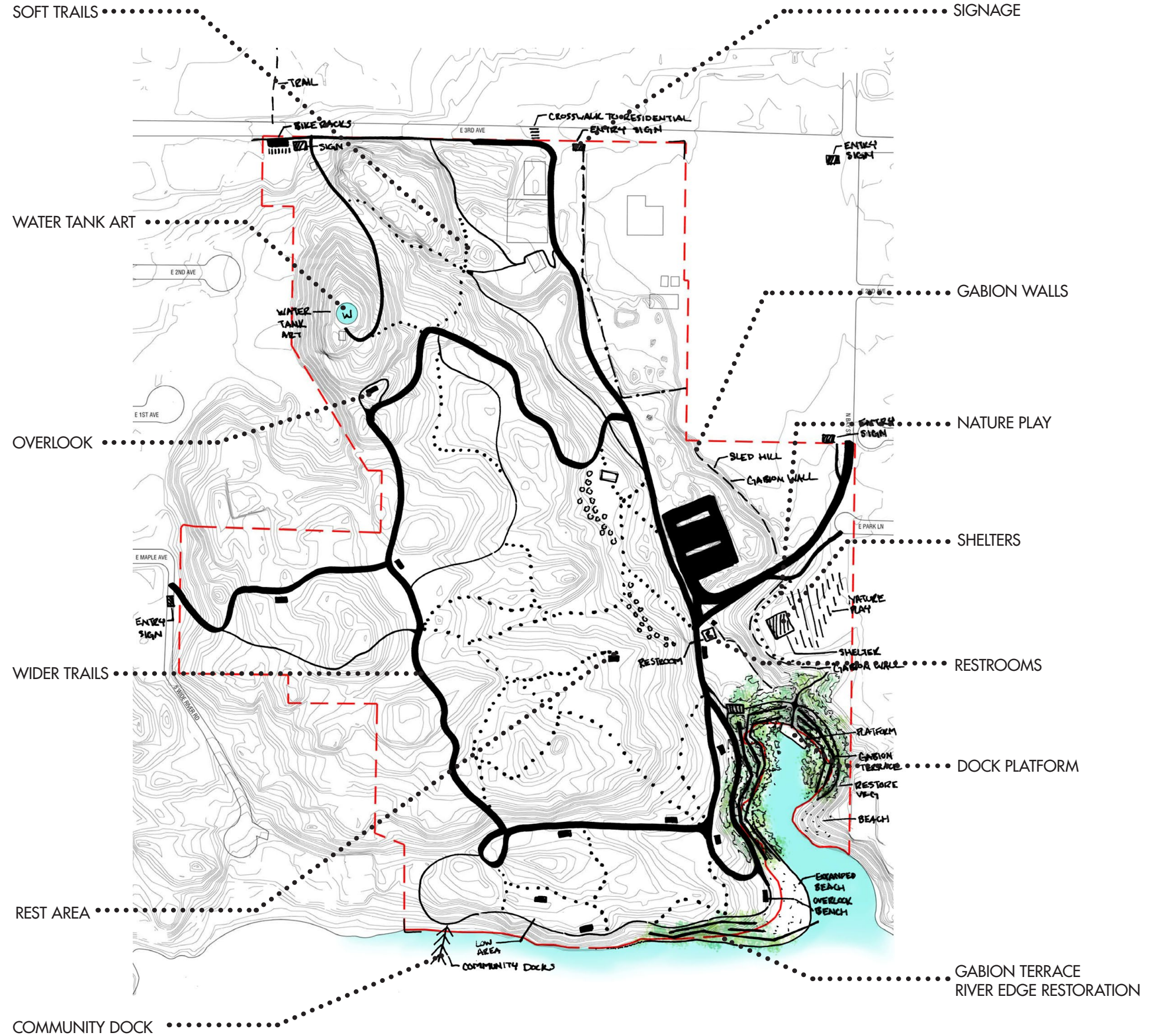
# DESIGN ALT 1: BAY RESTORATION

Alternative 1 focuses on restoring the bay and establishing a soft vegetative edge, along with a strong circulation system. This plan was about providing the first elements of improvement that would provide immediate updates for a better visitor experience. The proposed elements also worked to provide to foundations for the next series of design alternatives features. See the images below for the individual elements proposed for this plan.

This plan was about the first level of improvements and change that would benefit the site and the community. The design elements are conservative in comparison to the following alternatives. The elements proposed in this plan worked gauge of the community wanted a more of a subtle change to the park. The feedback from the community meetings revealed, residents liked the ideas from this plan but wanted more elements from the rest of the alternatives.

## DESIGN ELEMENTS:

- IMPROVED TRAIL SYSTEM
- ENTRY SIGNAGE
- WATER TANK ART
- OVERLOOKS
- REST AREAS
- PAVED LOOP PATH
- GABION RETAINING WALLS
- RIVER EDGE RESTORATION
- NATURE PLAY
- RESTROOM
- FISHING DOCK
- COMMUNITY DOCK



ALTERNATIVE 1  
BAY RESTORATION





SOFT TRAILS



SIGNAGE



REST AREA



REST AREA



SHELTERS



WATER TANK ART



GABION WALLS



COMMUNITY DOCK



WIDER TRAILS



DOCK PLATFORM



RESTROOMS



NATURE PLAY



GABION TERRACE



RIVER EDGE RESTORATION



OVERLOOK

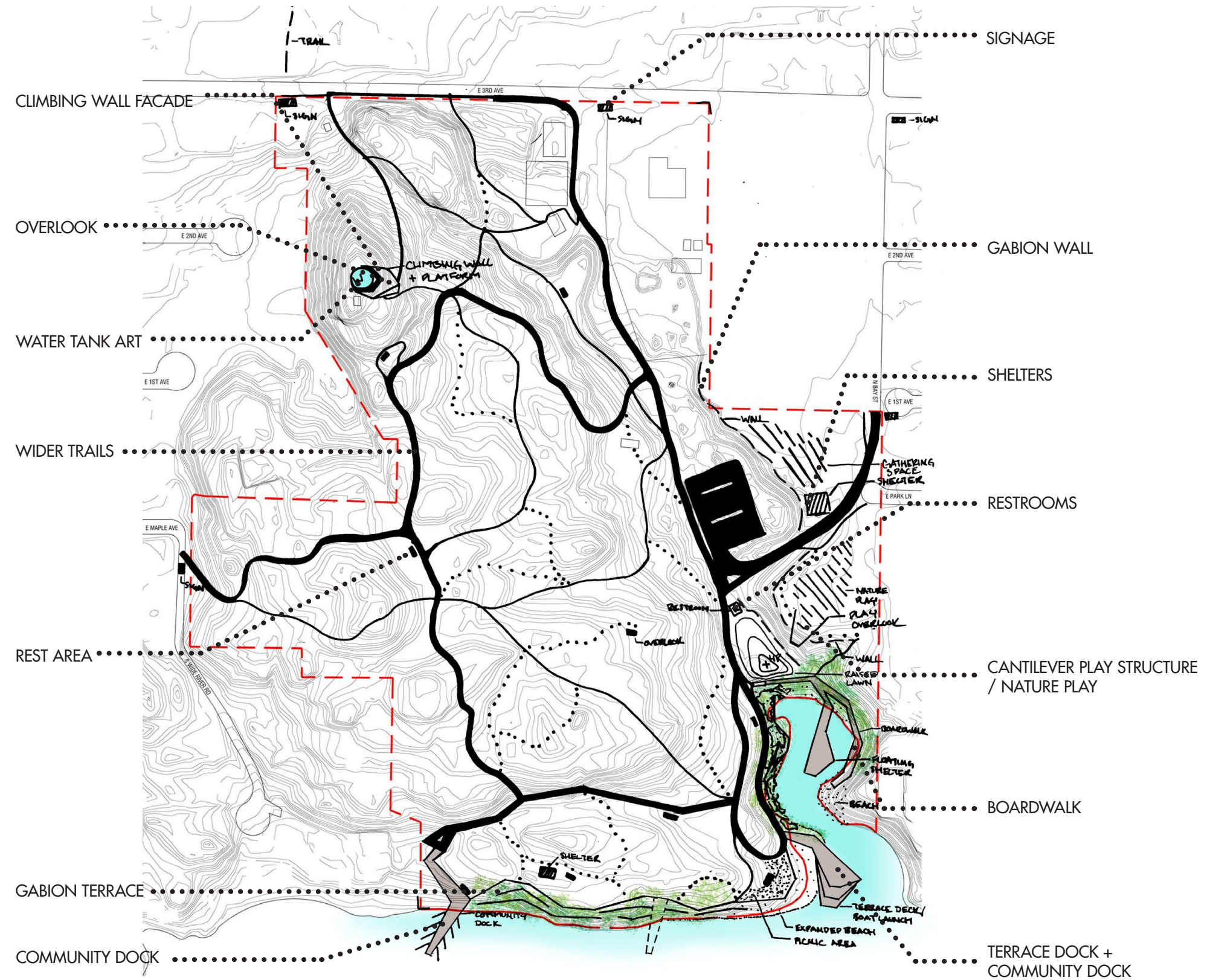
## DESIGN ALT 2 : PINE GROVE OVERLOOK

Alternative 2 increases water access with floating docks and an activation of the upper pine bluffs. This plan focuses on strengthening the proposed circulation from alternative 1 and placing more programming opportunities along the path system. The proposed elements of this plan provide a stronger connection to the river with a terrace dock and larger fishing dock in the bay. These water structures provide river edge protection from wave action and sheltered swim area. Just north of the bay is a proposed elevated lawn to provide views over the water. This lawn then plays off of the two activated pine bluffs. These areas include the addition of nature play, cantilevered structure and gabion retaining walls to prevent erosion to the hillsides.

This plan worked to present more impactful design change and showcase the beginnings of improving water access to the site. The community favored this plan the least. Most people felt it was doing enough compared to the third plan alternative. Though, elements that were favored from this plan included the play structure and elevated lawn area.

### DESIGN ELEMENTS:

- IMPROVED TRAIL SYSTEM
- ENTRY SIGNAGE
- WATER TANK ART
- OVERLOOKS
- REST AREAS
- PAVED LOOP PATH
- GABION RETAINING WALLS
- RIVER EDGE RESTORATION
- NATURE PLAY
- RESTROOM
- PLAY STRUCTURE**
- SHELTER**
- FLOATING TERRACE DOCKS**
- COMMUNITY DOCK**



ALTERNATIVE 2  
WATER ACCESS + NATURE PLAY



SIGNAGE



SHELTERS



CANTILEVER PLAY STRUCTURE



WATER TANK ART



TERRACE DOCK + COMMUNITY DOCK



GABION WALL



RESTROOMS



NATURE PLAY



BOARDWALK



CLIMBING WALL FACADE



WIDER TRAILS



GABION TERRACE



OVERLOOK



REST AREA



REST AREA





OVERLOOK



WIDER TRAILS



COMMUNITY DOCK



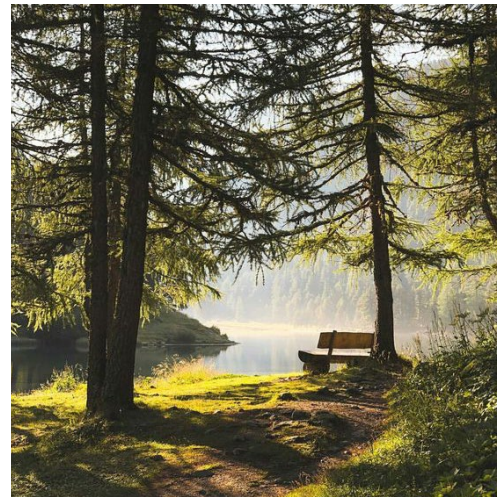
SIGNAGE



NATURE PLAY / PLAY OVERHANG



WATER TANK ART



REST AREAS



REST AREAS



NATIVE VEGETATION



RESTROOMS



SHELTERS



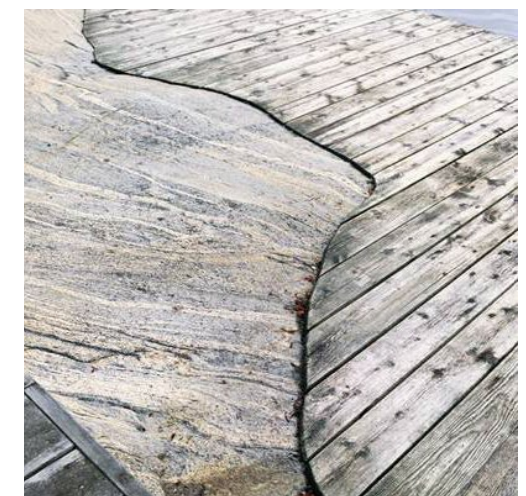
TERRACE DOCK



GABION WALL



GABION TERRACE



BOARDWALK

**STAKE HOLDER MEETING:**

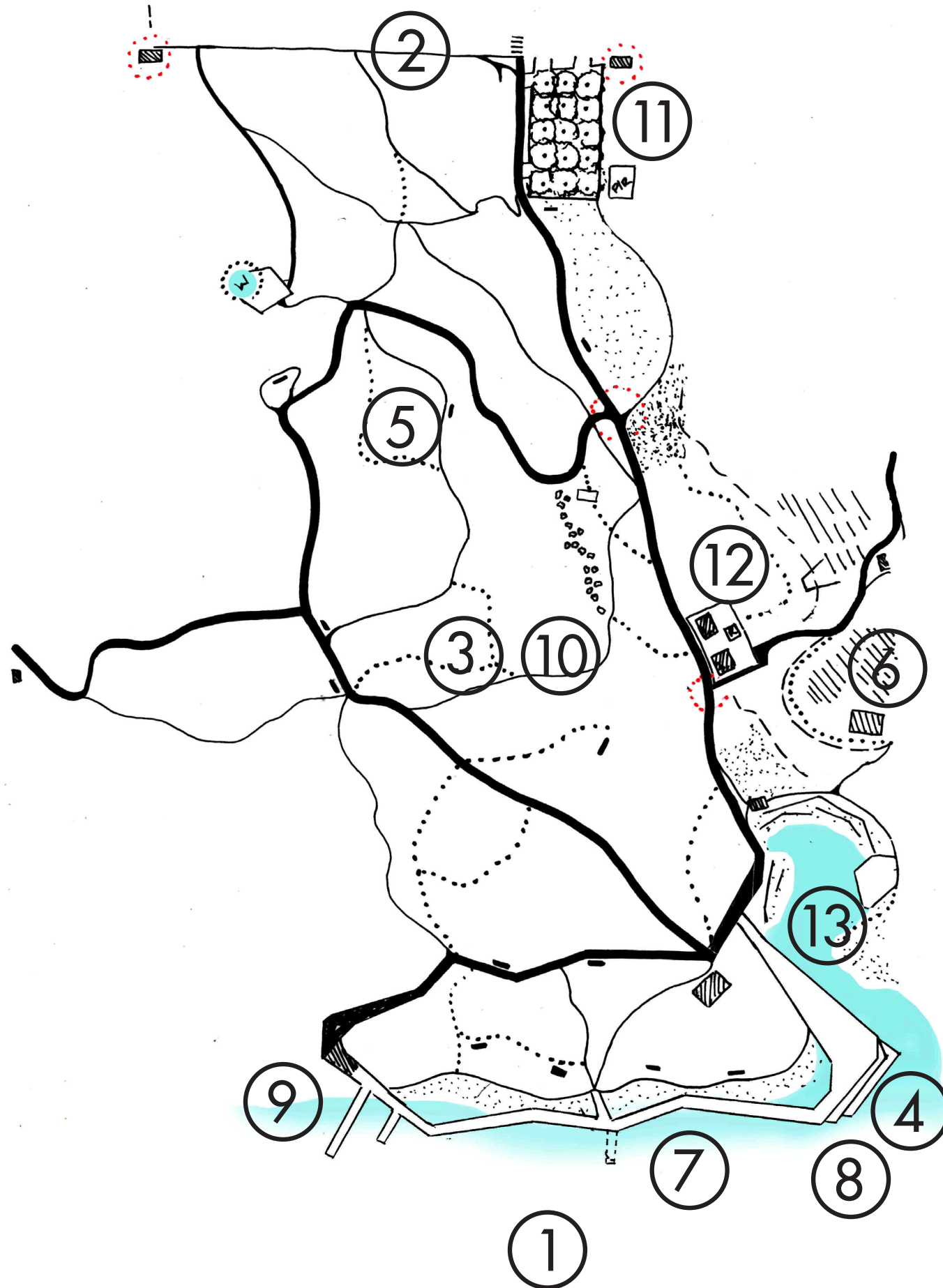
1. Phasing plan needed to reach alt 3
2. Discussion of bridge entry  
[Well received, expensive]
3. Needs to feel unique to the area, materiality and form
4. Deck system consider: seasonal water levels, rails  
[pier or floating system, could use test case for erosion control for city]

.....  
**COMMUNITY MEETING #2:**

5. Tree health
6. Pine bluff keep passive programming
7. Look into water level change, rock outcropping locations
8. Dock depth?
9. Would the dock be for profit and would it be policed?
10. Avoid use of foreign material and styles
11. Alt 3 was a crowd favorite: In favor of parking lot location and boardwalk

.....  
**PARKS AND REC COMMISSION:**

12. In favor of:
  - a. Touching the land lightly
  - b. Keep a park in motion
  - c. Moving the parking lot
13. Want to make sure alt 3 includes room for a swimming area









An aerial photograph of Black Bay Park. The image shows a river flowing through a dense forest of evergreen trees. In the background, there are several large, light-colored buildings, likely part of a school or community center. The foreground shows a paved area with some people walking. The overall scene is a mix of natural and developed areas.

# VISION PLAN

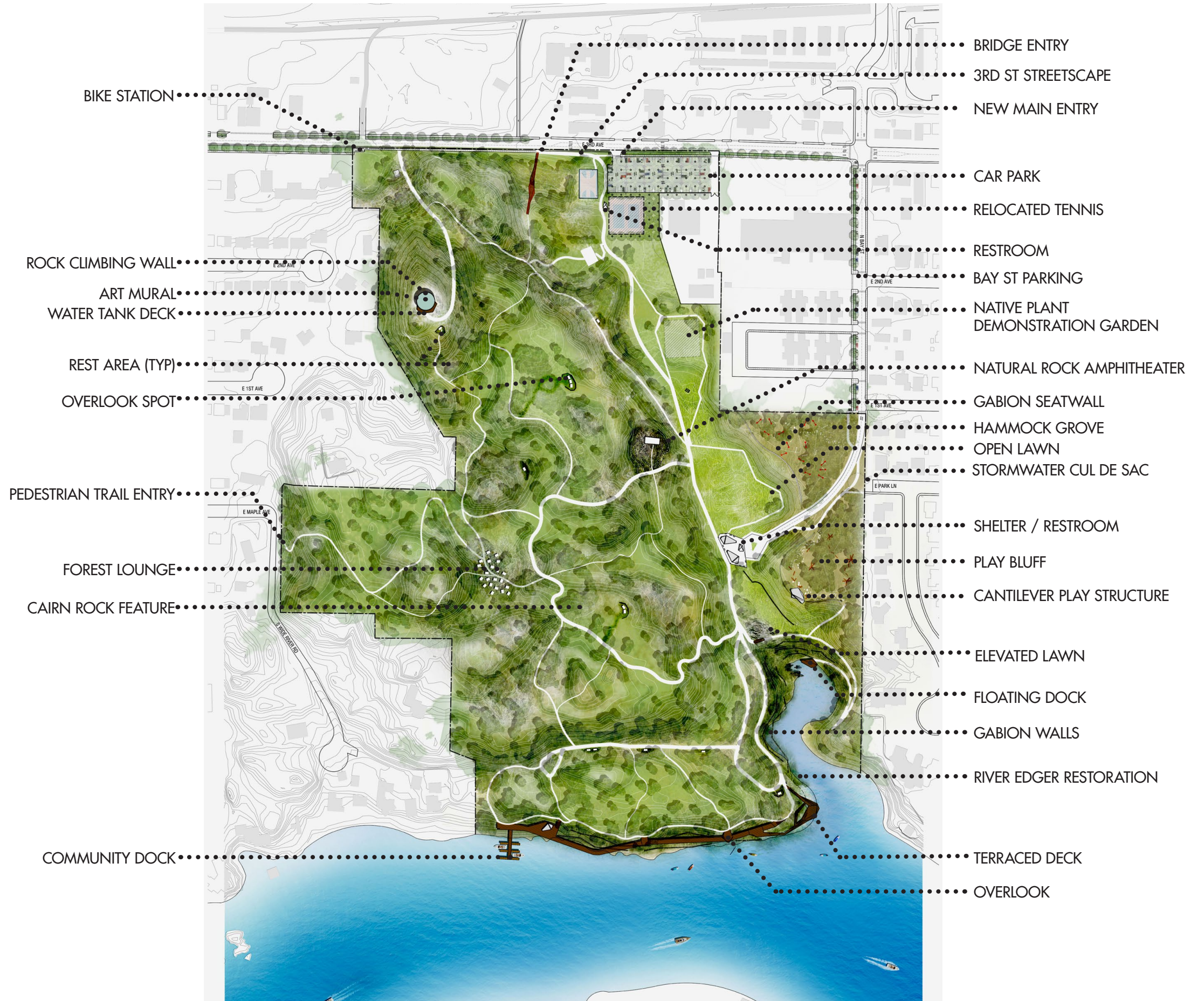
The community feedback received after presenting the design alternatives suggested an openness to a more bold approach, with increased activation, a focus on preserving the natural features prominent throughout the western half of the site, enhanced riverfront access, and a much more extensive circulation system to provide community members with ample opportunity to explore all of the unique places found throughout the Park. The proposed vision combines the key features of all three design alternatives into a single comprehensive vision for Post Falls.

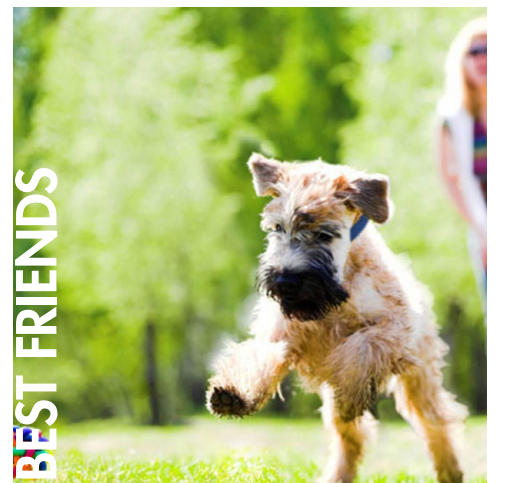
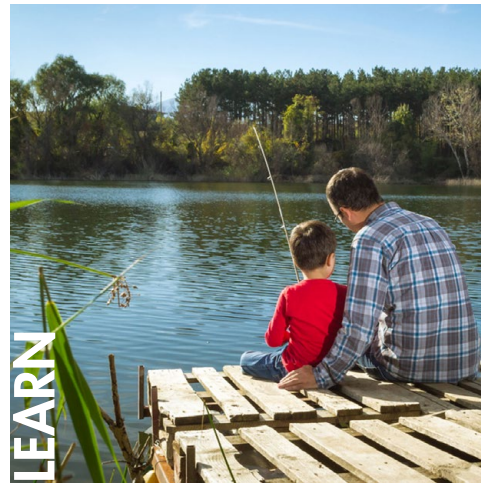
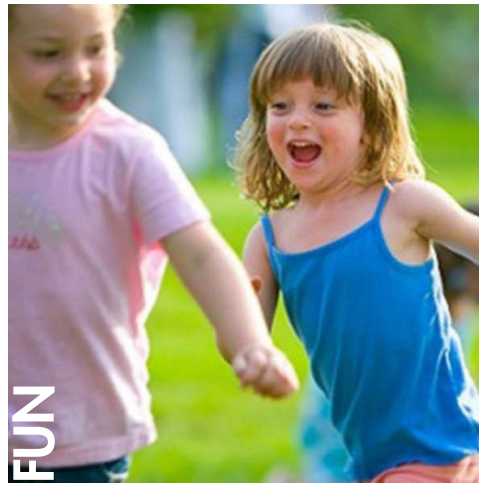
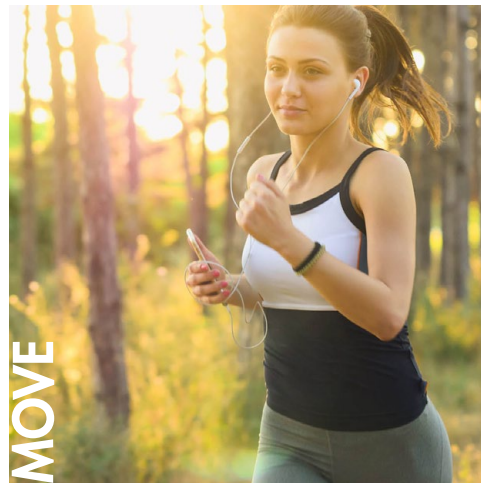
# VISION PLAN

The Vision Plan worked to strategically activate the east side of the park, while providing carefully integrated passive programming on the west side. A large part of this design strategy is to respect the existing natural features of the site, improving circulation and access, while enhancing the user experience, and celebrating the unique qualities of the park.

A primary strategy of the vision is to enhance the riverfront experience and overall access to and from the water. The Vision Plan introduces a network of boardwalks, new floating community docks, and extensive riverbank restoration to mitigate the ongoing issue of riverbank erosion. By enhancing the river-based experiences, the Vision Plan heightens the user experience, while introducing amenities distinct to Black Bay Park. These river-based design gestures help to protect and restore the riparian ecosystem while activating it in a safe manor.

A secondary strategy of the Vision Plan entails relocating essential, but poorly located amenities out of the core of the park, enabling more active uses to be placed in prominent locations. This strategy includes moving the tennis court and reconfiguring/expanding the existing parking lot to take advantage of the highly underutilized space north of the Parks Maintenance Building/Yard. This enables the area currently occupied by the tennis courts, that is susceptible to differential settling as a result of its former use as a dump-site, to be reclaimed and re-vegetated to bring the natural systems found throughout the park closer to the main park entrance along Third Street. While expanding the parking along Third Street enables the removal of the existing parking lot located in the core of park which can be converted to a series of highly programmable open lawns with a picnic shelter and restroom facility. Centralizing the activated park programming, while restricting personal vehicle circulation and parking to the perimeter of the park.





MOVE

FUN

LEARN

DISCOVER

GATHER

BEST FRIENDS

**DESIGN ELEMENTS:**

- IMPROVED TRAIL SYSTEM
- REST AREAS
- NATURE PLAY
- FLOATING TERRACE DOCKS
- NEW MAIN ENTRY AT 3RD ST

- ENTRY SIGNAGE
- PAVED LOOP PATH
- PLAY STRUCTURE
- COMMUNITY DOCK
- SHELTER

- WATER TANK ART
- GABION RETAINING WALLS
- RESTROOM
- RELOCATED CAR PARK
- SIMPLIFIED MAINTENANCE YARD

- OVERLOOKS
- RIVER EDGE RESTORATION
- CONNECTED BOARDWALK SYSTEM
- BAY ST CAR DROP OFF
- 3 OPEN LAWNS (TURF + NATIVE VEG)





# PHASING STRATEGY

An important piece to the final vision is a phasing strategy to aide in implementation, while introducing the most impactful pieces of the plan early on to enhance the user experience and garner support for implementing each subsequent phase. While the initial phase focuses on creating a comprehensive circulation network and implementing elements that could stand alone and ensure an amazing park for the community from day one, it is the intent of the phasing strategy to create excitement about Black Bay Park, bring new users to the park, and leave the community wishing for more. The fully implemented vision plan strives to create a place that protects and preserves the natural areas of Black Bay Park, while enhancing and building upon the programming opportunities desired by the community. Phase two focuses on implementing elements that further activate the park, while phase three purposes to complete the circulation network and more comprehensive the riverfront enhancements, and Phase four serves to provide the extra design elements that elevate the level of the park amenities. These design pieces help root Black Bay as a unique place in Post Falls, by providing spaces and amenities that do not currently exist in the region.

## PHASE 1 : CIRCULATION + OVERLOOKS

Phase 1 includes a focus on preliminary river based enhancements, a comprehensive circulation network, and more intimate passive rest areas that celebrate the unique qualities of the naturalized areas of the park. This first phase implements the most essential and desirable park enhancements for the community that will provide foundational pieces for Black Bay Park's future.

### 1 CIRCULATION SYSTEM

This phase introduces an improved circulation system of wide paved paths, expanded soft-surface trails, and a series of meandering exploration walks for more adventurous park users.

### 2 REST AREAS

Throughout the naturalized park space in the western half of the park a series of rest areas are introduced to provide intimate seating areas with dramatic views, and accentuate the unique qualities of the existing landscape.

### 3 BOARDWALK

An expansive boardwalk and terraced dock system is introduced near the mouth of the bay to enhance water access/views of the river, introduce erosion control, and provide a more protected swimming area.

### 4 OVERLOOK

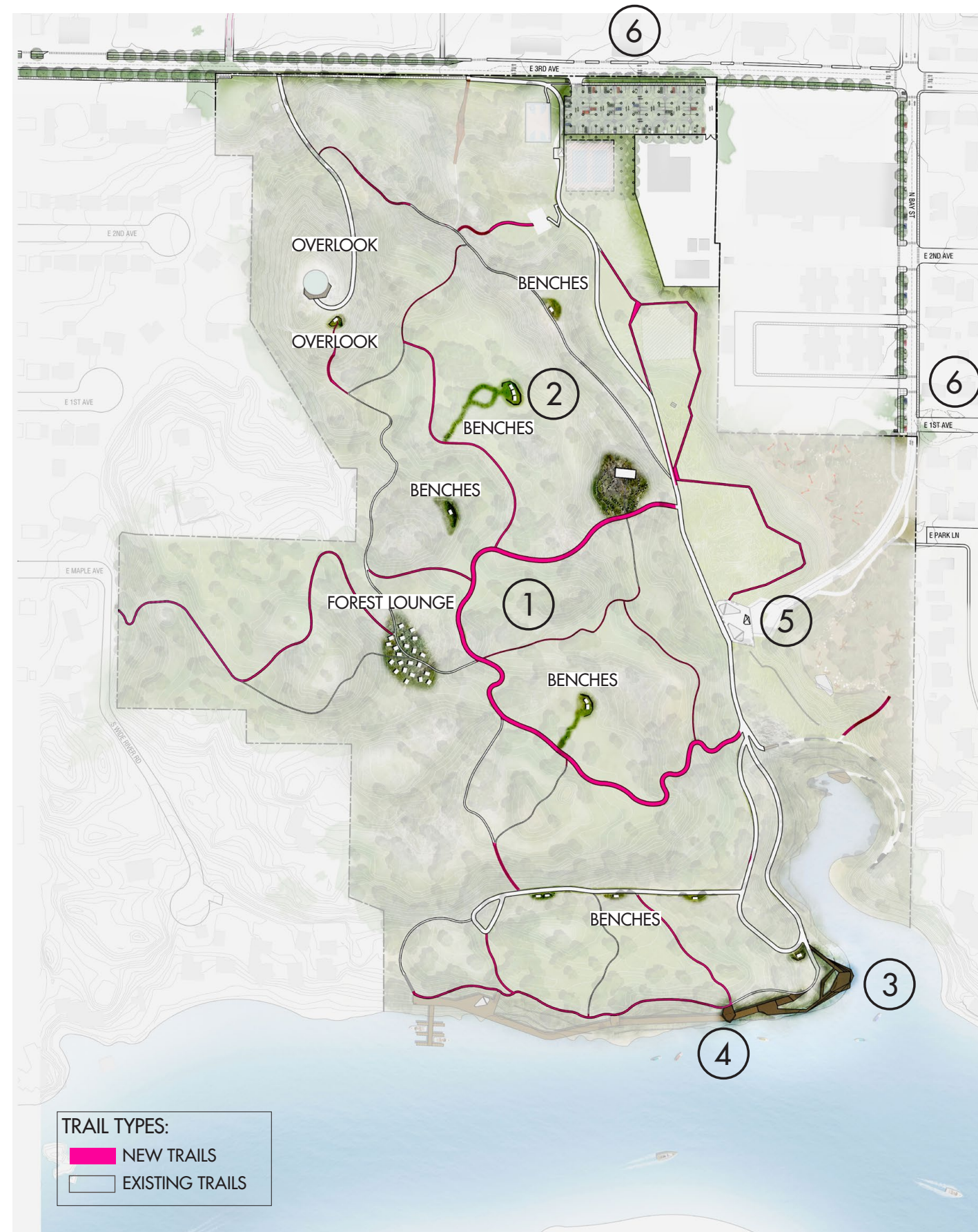
This phase introduces an elevated overlook that provides dramatic views up and down river.

### 5 RESTROOM

This phase includes the installation of a restroom to service the southern portion of the park.

### 6 CAR PARK + 3rd STREET STREETSCAPE

The plan introduces the relocation of the parking lot and providing a car park off of 3rd St. Included in the phase are streetscape improvements along 3rd and Bay Streets, that incorporate stormwater treatment, on-street parking and enhanced pedestrian connectivity to the park.



### DESIGN ELEMENTS:

1. CIRCULATION SYSTEM
2. REST AREAS
3. TERRACED DOCK
4. OVERLOOK
5. RESTROOM
6. CAR PARK + STREETSCAPE



TERRACE DOCK PERSPECTIVE



FOREST LOUNGE PERSPECTIVE

## PHASE 2 : BAY RESTORATION + RIVER EDGE PROTECTION

Phase 2 focuses on the restoring and activating the inlet, introducing water-based connectivity in the form a new community docks, and setting the foundation for future phases.

The proposed improvements activate areas of the park that are currently underutilized, introducing much-needed kid-oriented features, and formalized access/circulation to the inlet. The strategy is to provide programming opportunities that are designed to enhance the truly unique spaces in the Pine Bluff and around the inlet. This phase builds upon the human-powered watercraft that currently access the park from the river, by welcoming motor-powered watercraft via new community docks on the southwest edge of the park, away from the more active swimming and non-motorized watercraft areas around the inlet. Introducing a new user group to the park, while providing much needed river-accessible restrooms to ease pressure on other city-owned park facilities elsewhere on the river.

- 1 COMMUNITY DOCK**  
Phase 2 strategy includes a community dock and shelter along the west edge of the river. This feature acts to improve river connectivity and is the west edge of the future boardwalk connection.
- 2 INLET RESTORATION**  
The other proposed addition is the restoration and protection of the bay area. This will include gabion vegetative terraced walls to provide a soft river edge and erosion protection. The bay restoration will also have an installation of a small fishing dock and soft ADA path down to the water's edge.
- 3 ELEVATED LAWN**  
Above the enhanced inlet and ADA path will be an elevated lawn. This open space will be lifted to help alleviate flooding issues and provide an overlook into the bay.
- 4 SOUTHERN PINE BLUFF**  
The activation of the pine bluff will give the opportunity for views into the bay and other kid orientated active programming.



### DESIGN ELEMENTS:

- 1. COMMUNITY DOCK
- 2. BAY AREA RESTORATION
- 3. ELEVATED LAWN
- 4. PINE BLUFF
- 5. RESTROOM





BAY FLOATING DOCK PERSPECTIVE



CANTILEVER PLAY STRUCTURE PERSPECTIVE

## PHASE 3 : BOARDWALK CONNECTION + WATER TOWER ENHANCEMENTS

Proposed phase 3 improvements include completion of the boardwalk and focuses on connecting the areas of activation included in earlier phases and expanding the circulation system. This phase also includes proposed enhancements to the existing Water Tower. The water tower is a prominent feature within the park and is visible throughout town. The proposed enhancements include the opportunity for the water tower to act as a community art piece and beacon to the park. While creating a visual amenity is important it is also critical to provide a design elements that provides visitors a destination and reason to make the trek up to the water tank. The overlook element serves to provide a safe place for people to arrive at and enjoy a close-up view of the proposed art enhancements and the amazing view of across the park and out to the greater Post Falls community.

### DESIGN ELEMENTS:

1. BOARDWALK CONNECTION
2. WATER TANK ART MURAL + DECK

- 1 BOARDWALK CONNECTION**  
Area 1 will provide an additional loop system and improve circulation along the river edge.
- 2 WATER TOWER ART MURAL + DECK**  
Area 3 incorporated the improvement of the water tank with an art mural by a local artist and an overlook deck with views of Post Falls.





BOARDWALK PERSPECTIVE



NATURE WALK PERSPECTIVE

## PHASE 4 : ADDITIONAL DESIGN ELEMENTS

Phase 4 elements are focused on higher impact design features. These improvements are about strengthening the identity of the park and the previous phase features. The proposed design elements work to elevate the spaces that are currently underutilized. The lawn sequence and relocated tennis court help create a concentration of activated areas. By programming the lawn spaces it provides the opportunity to increase the re-vegetation of nature-based aesthetic along the west edge of the park entry.

### DESIGN ELEMENTS:

1. BRIDGE PARK ENTRANCE
2. RELOCATED TENNIS COURT
3. DOUBLE SHELTER AREA + OPEN SPACE
4. UPPER PINE BLUFF ACTIVATION

#### ① BRIDGE PARK ENTRANCE

This final phase strategy includes the introduction of a new pedestrian entry bridge connecting the entry point off of the Centennial Trail through the trees on the north side of park, and provide access for the future residents of the housing currently being developed on the former mill site to the north.

#### ② RELOCATED TENNIS COURT

The phase includes relocating the tennis courts to the east to help screen the Parks building and open the space near the basketball court enable the former site to be re-vegetated, introducing more “nature-based” feeling as you enter the park.

#### ③ DOUBLE SHELTER AREA + OPEN SPACE

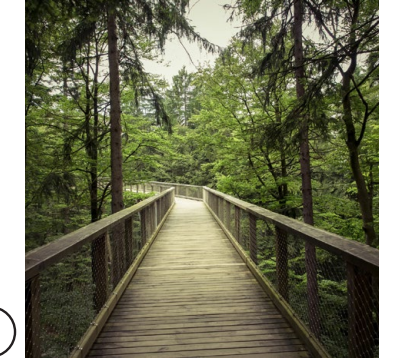
Further into the park the existing parking will be replaced with a double shelter to service both open lawns.

#### ④ UPPER PINE BLUFF ACTIVATION

To help further activate the east edge there will be programming on the northern Pine Bluff with passive programming such as hammock groves.

#### ⑤ RESTROOM

This phase includes the installation of a second restroom to service the northern portion of the park.



①



②



③



④



PINE BLUFF PERSPECTIVE



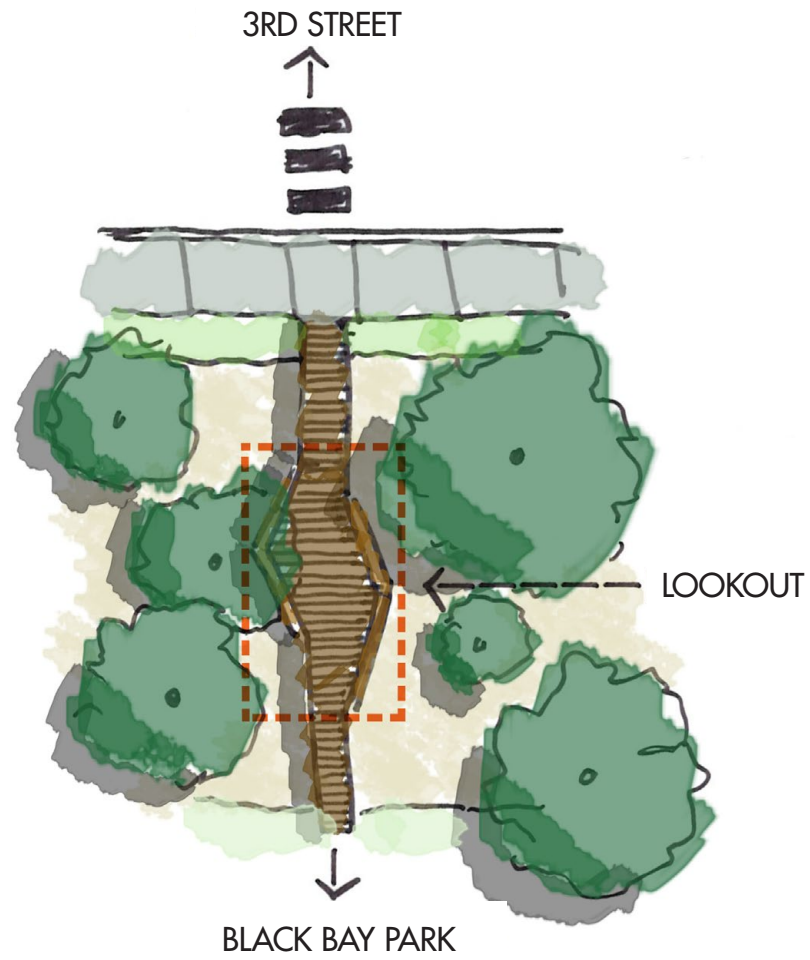


# DESIGN ELEMENTS

The vision plan incorporates several design elements that require further detail and information beyond the vision plan. These design elements are important features to the overall improvements of Black Bay Park and are the detailed pieces that will make the park a truly unique space.

# ENTRY BRIDGE

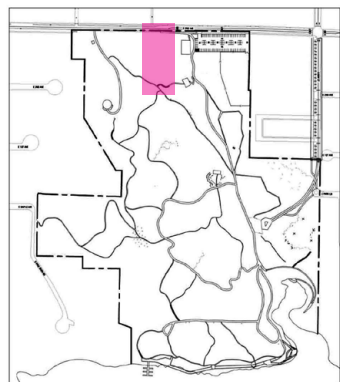
The design proposes a new park entry bridge, that introduces a tree walk for visitors as they enter the park. This feature provides an immediate escape from the street and immerses you into the natural park setting. This structure would strengthen pedestrian connections and enhance the arrival experience for the new development to the north and for users of the Centennial Trail.



BRIDGE ENTRY PERSPECTIVE



BRIDGE ENTRY SECTION



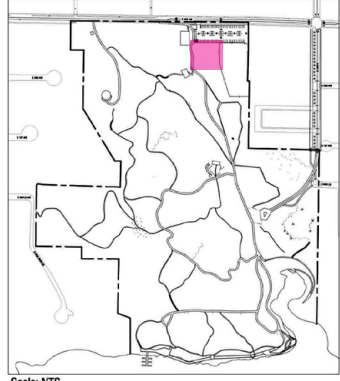
Scale: NTS  
KEY MAP



# TENNIS COURT RELOCATION

The Vision Plan purposes to relocate the tennis courts due to needed repairs and maintenance. By relocating the courts, it provides the opportunity to create a stronger arrival sequence into the park.

- 1 COURT LOCATION 1**  
The first option for a court location is near the reconfigured parking lot, providing easy access for players. This placement also, allows for screening of the Parks building by continuing the tree grid from the car park. The site of the existing tennis court can then be revegetate and create a more v feel right as you arrive into the park.
- 2 COURT LOCATION 2**  
This location provides programming near closer to the cente of the parks and breaks up the series of open lawns.



Scale: NTS  
KEY MAP

# TENNIS COURT RELOCATION

## CIRCULATION - TRAIL TYPES

The proposed circulation system for the park will be composed of several types of trails and varying loop systems. The layout of the improved path network will provide further access into the park for different groups of visitors and for park maintenance. The new system will also, incorporate more options for travel throughout the park through a series of loops that vary in size.

### TRAIL TYPES:

There will be three trails types throughout the park. All the trails will intersect areas of steep grade change and will include the implementation of stairs.

#### PAVED PATH

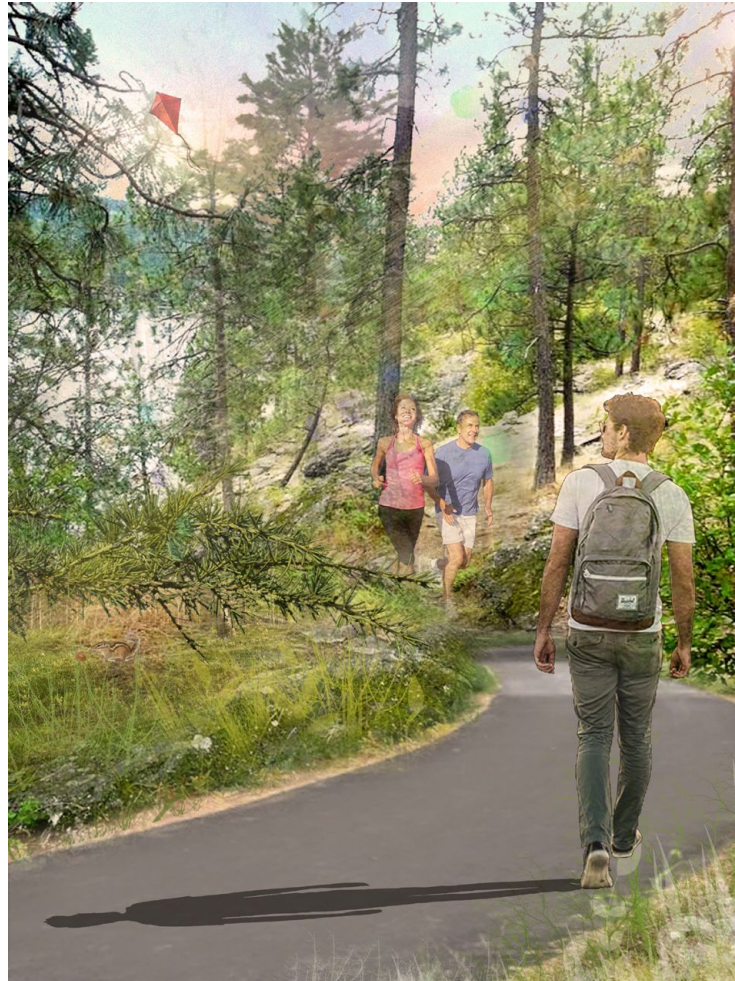
The first and most significant improvement will be a connected paved path loop through the park. This will provide ADA access throughout the park and maintenance access for tree removal.

#### WIDENED SOFT PATH

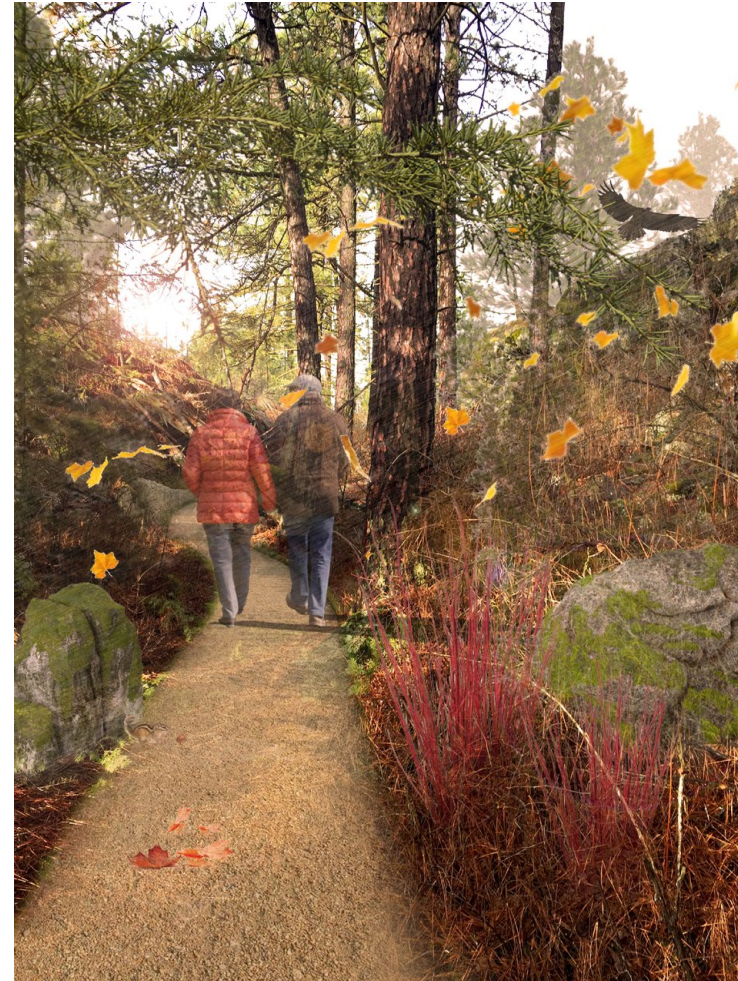
The second type of trail will be a widened soft path. This path type will provide space for visitors to talk side by side and provide a distinct way to travel through the park.

#### NARROW SOFT PATH

The third type of path is a narrow soft path that is more like a cattle trail. This path provides a more adventurous feel through the park.



PAVED PATH



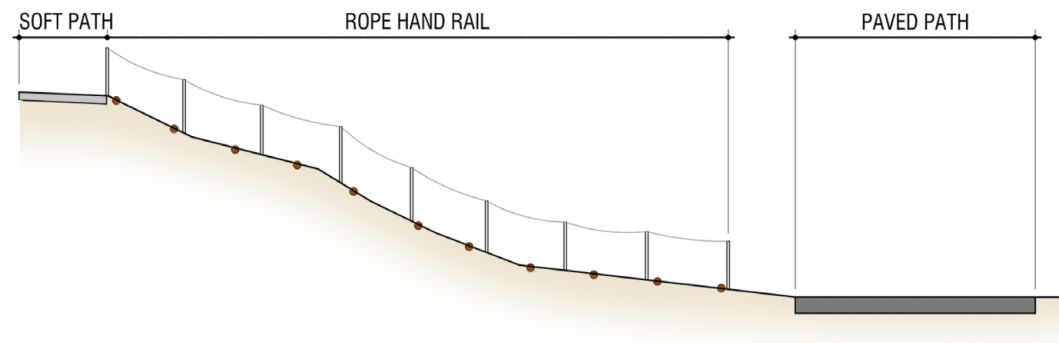
WIDENED & NARROW SOFT PATH



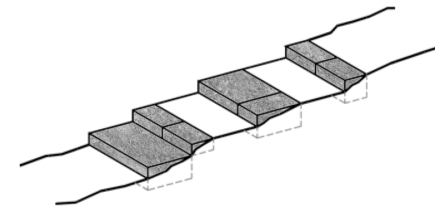
STAIRS

# TRAIL COMPONENTS:

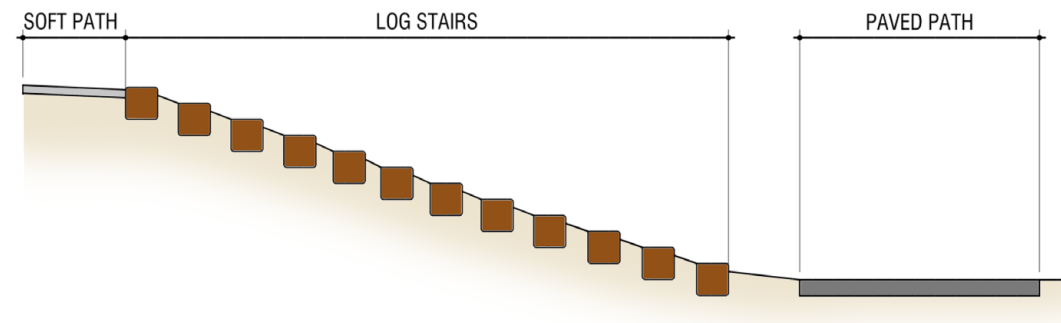
## STAIRS & EDGERS:



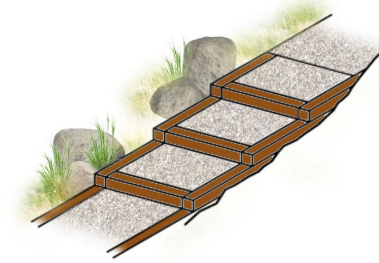
ROPE HAND RAILING



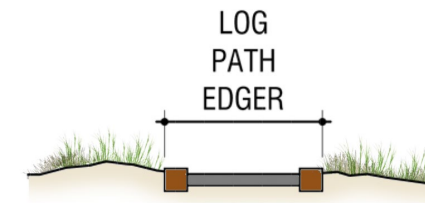
STONE STEPS



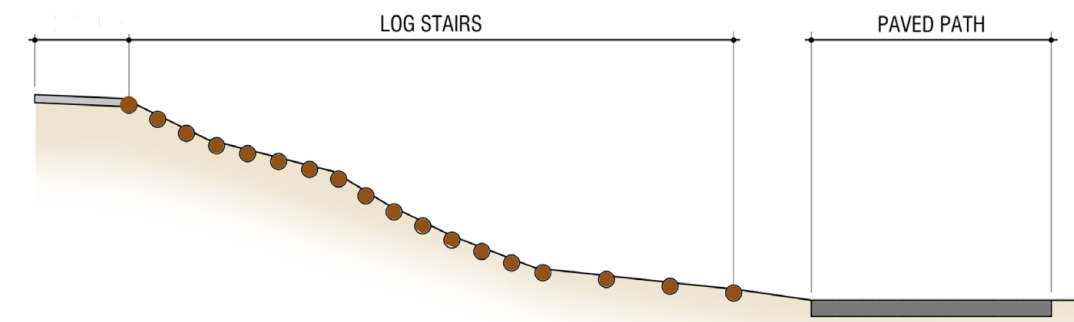
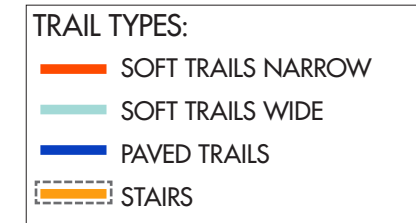
WOOD STEPS



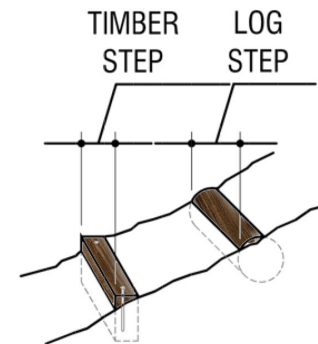
TIMBER STEPS



LOG EDGER



LOG STEPS

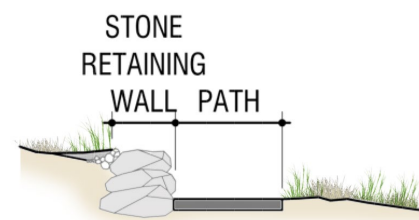


TIMBER & LOG STEPS

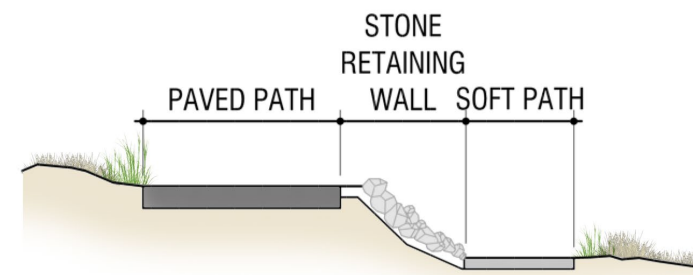
## WALLS:



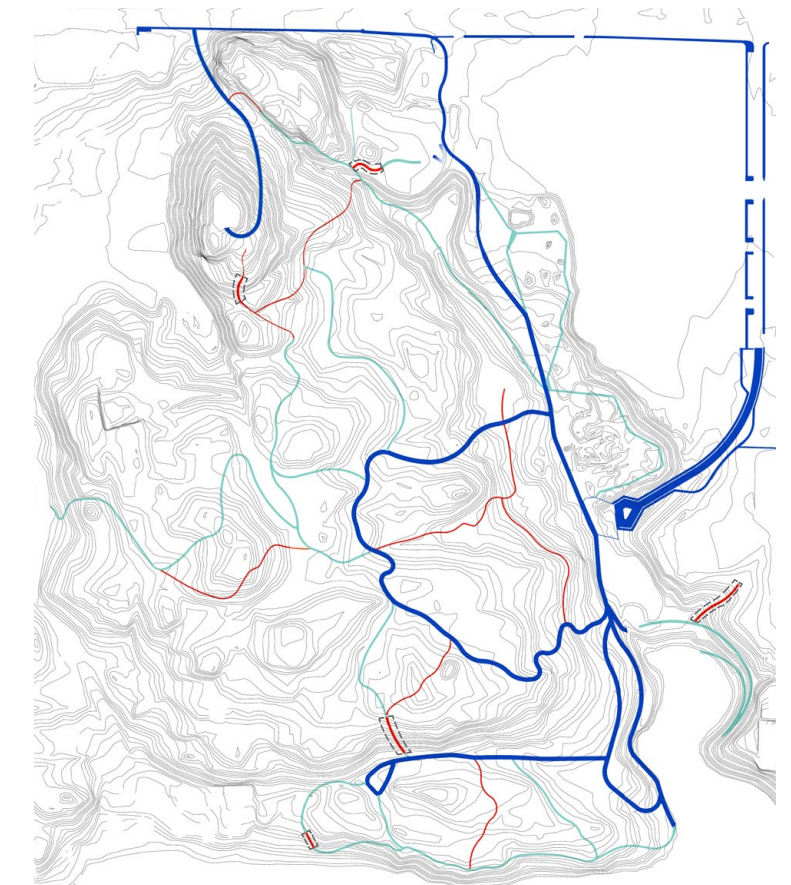
STONE RETAINING WALL



STONE RETAINING WALL CROSS-SECTION



STONE RETAINING WALLS BETWEEN PATHS



Throughout the park we are proposing several types of trail improvements including improvement strategies to implement the proposed circulation plan. These strategies include trail stabilization, consistent aesthetics, and easy to install systems that could be installed by existing Park staff, or through community volunteers.

The trail components shown here depict the various strategies for trail construction and stabilization that fit with the overall character of Black Bay Park. The elements shown here are about creating safe and accessible trails experiences for all park visitors.

# TRAIL LOOPS

The trail system in Black Bay Park provides several interconnected loops. Each loop focuses on different areas that vary in environmental feel, trail difficulty and provide access to different park features.

## Loop 1

The main paved circulation path through the park, takes visitors through dense natural areas. Connects with the west pedestrian entry, north main entry, and east drop off area.

## Loop 2

Peaceful and secluded the valley walk loop, connects to the future phase bridge entry.

## Loop 3

The upper natural area loop, is primarily gravel paths while providing abundant views.

## Loop 4

West edge pedestrian entry ending at the forest lounge rest area.

## Loop 5

East pedestrian entry connecting to the drop off area, Pine Bluff, bay walk, and elevated lawn.

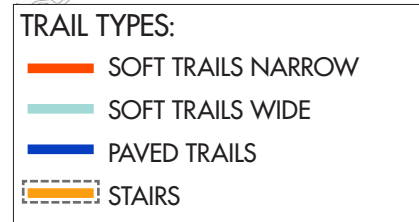
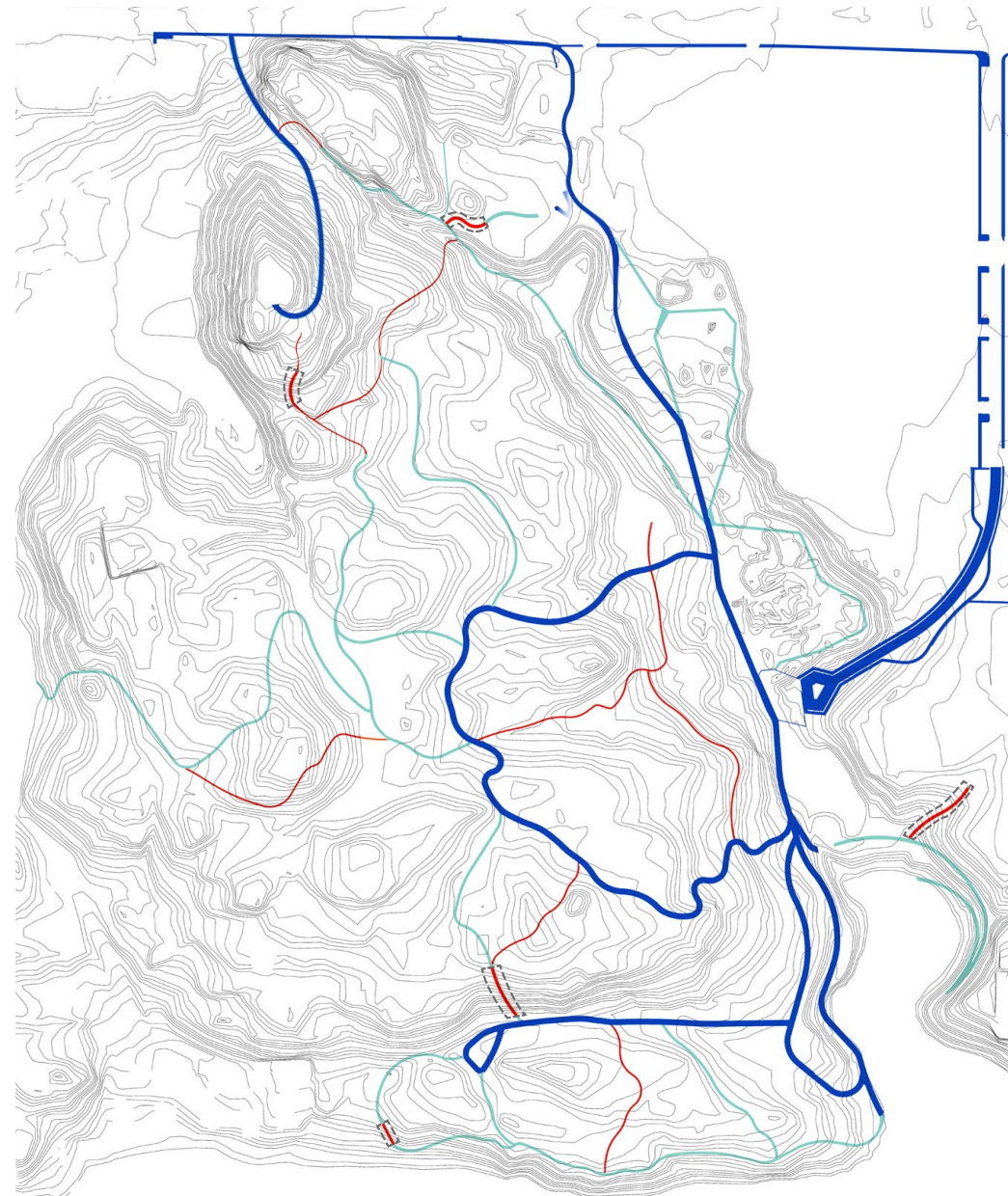
## Loop 6

West bay walk branching up a steep slope to mid-level views.

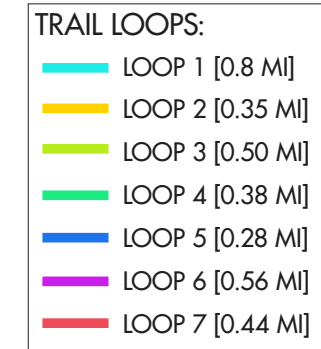
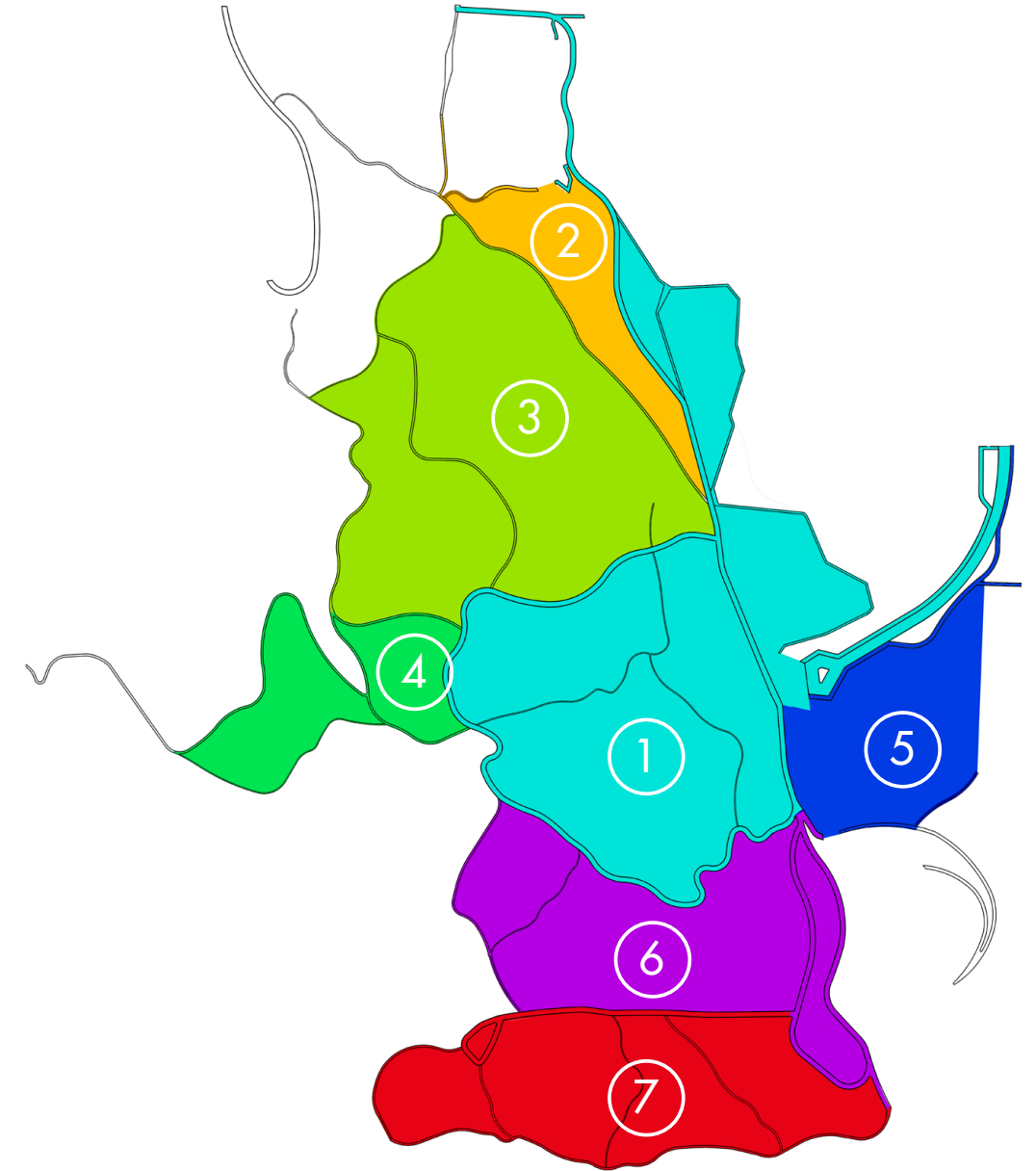
## Loop 7

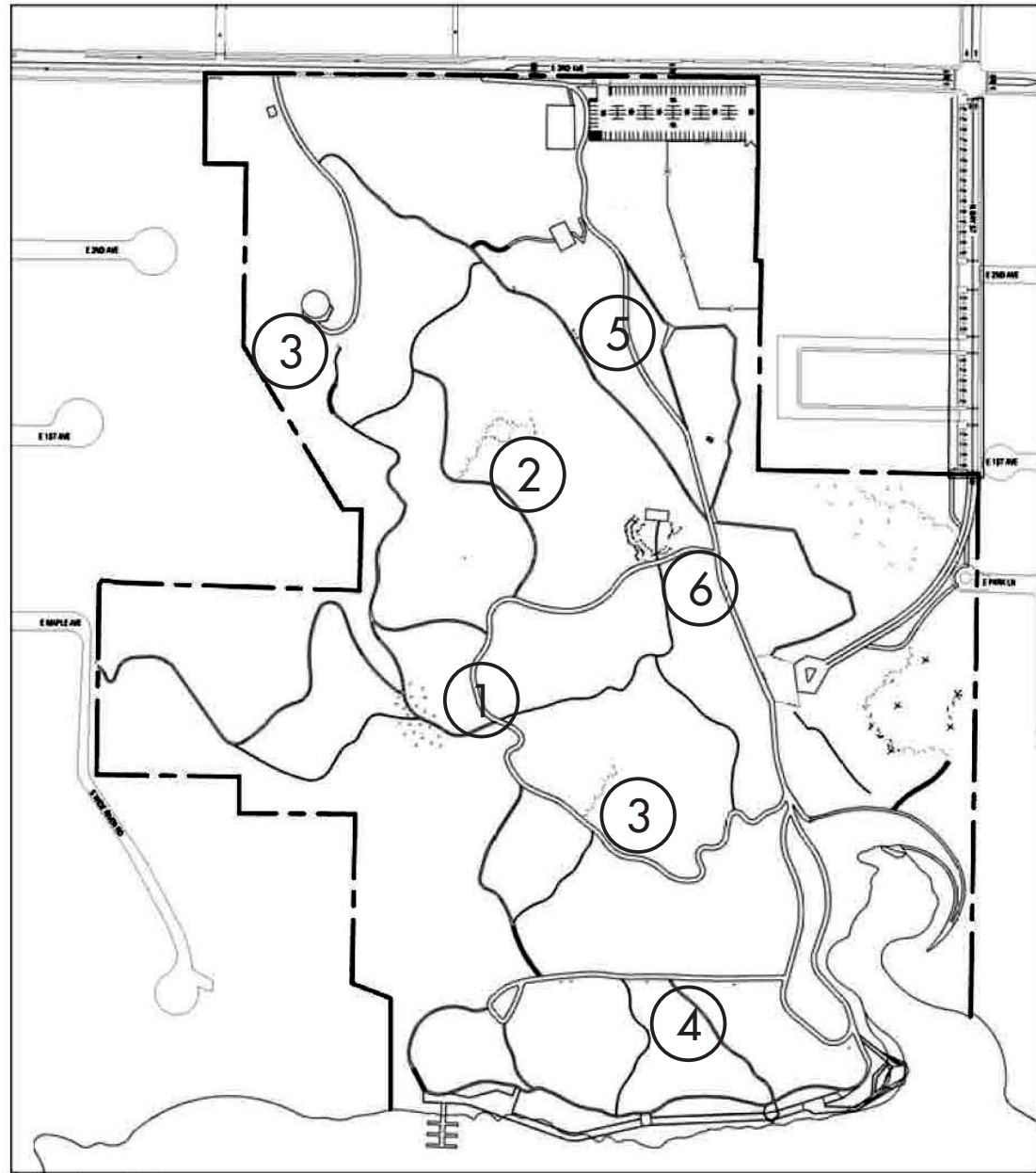
Lower River walk connecting to the boardwalk and terrace dock.

## TRAILS TYPES



## TRAIL LOOPS





Scale: NTS  
KEY MAP

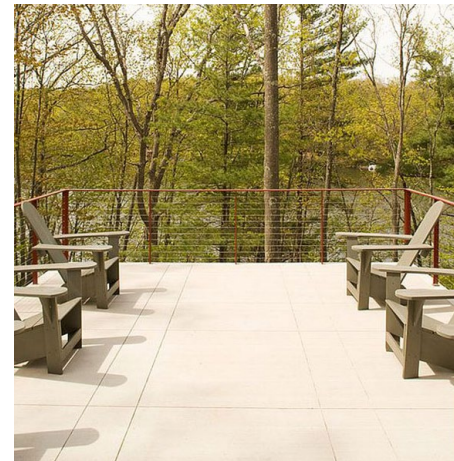
1 FOREST LOUNGE



2 OFF THE BEATEN PATH



3 OVERLOOK SPOTS



4 SEATING AREAS



5 REST NOOKS



6 STONE SEATING



There are several types of rest areas proposed for the phase 1 plan. The six items listed depict the general concept for each area in the plan. The varying rest areas provide unique nooks and niches along the trail system for visitors to stop and make their way off the trail network. These spaces vary in feel and purpose.

1 **FOREST LOUNGE**

Located in a dense pine grove. The lounge will be a post filled with furnishings for people to layout and watch the tree canopy above them.

2 **OFF THE BEATEN PATH**

This rest area is about traveling off the beaten path. These spots are stepping stone or logs that lead visitors away from the designated trails and into secluded, peaceful spots in the heart of the park. At the end of these paths will be either benches or natural seating elements for visitors to take in the scenery.

3 **OVERLOOK SPOTS**

These view points are strategically placed to give visitors dramatic views of the area, the river, the park, and the town. The overlooks include the aesthetic of warm wood decking with simple cable railing to not take away from the views.

4 **SEATING AREAS**

These place are about the strategic placement of benches throughout the park. These areas are focused on spots that are ideal for resting near an active path or placed in the view-shed.

5 **REST NOOKS**

The rest nooks include benches placed in more secluded areas with a screen-like feature that provides a "rest nook" experience. These can take the form of the amphitheater arrangement or it can be placed independently.

6 **STONE SEATING**

Stone seating rest areas have a placement of more natural seating made of stone.

3M  
5M  
EUREK ROCK

3M  
5M  
SOUTH BUEBLE

3M  
5M  
WEST

NORTH BUEBLE  
5M

# SIGNAGE

An important piece to Black Bay Park is informing visitors throughout the park with wayfinding, placemaking/interpretive signage. This signage strategy ranges from entry signs for vehicles, pedestrians, and boats. The other important place for signage is place markers and wayfinding throughout the park. Currently the site is lacking signage and there is an opportunity to provide visitors more information to navigate the site.

## PARK ENTRIES & SIGNAGE



There are two different types of entry signage placed throughout the park. The first are the vehicular entries off of 3rd St. the second are the pedestrian entries located around the perimeter of the park.



### ENTRY SIGN OPTIONS

The vehicular signage should include the gabion and/or wood material used for other structures throughout the park. The sign will be larger and visible for drivers.



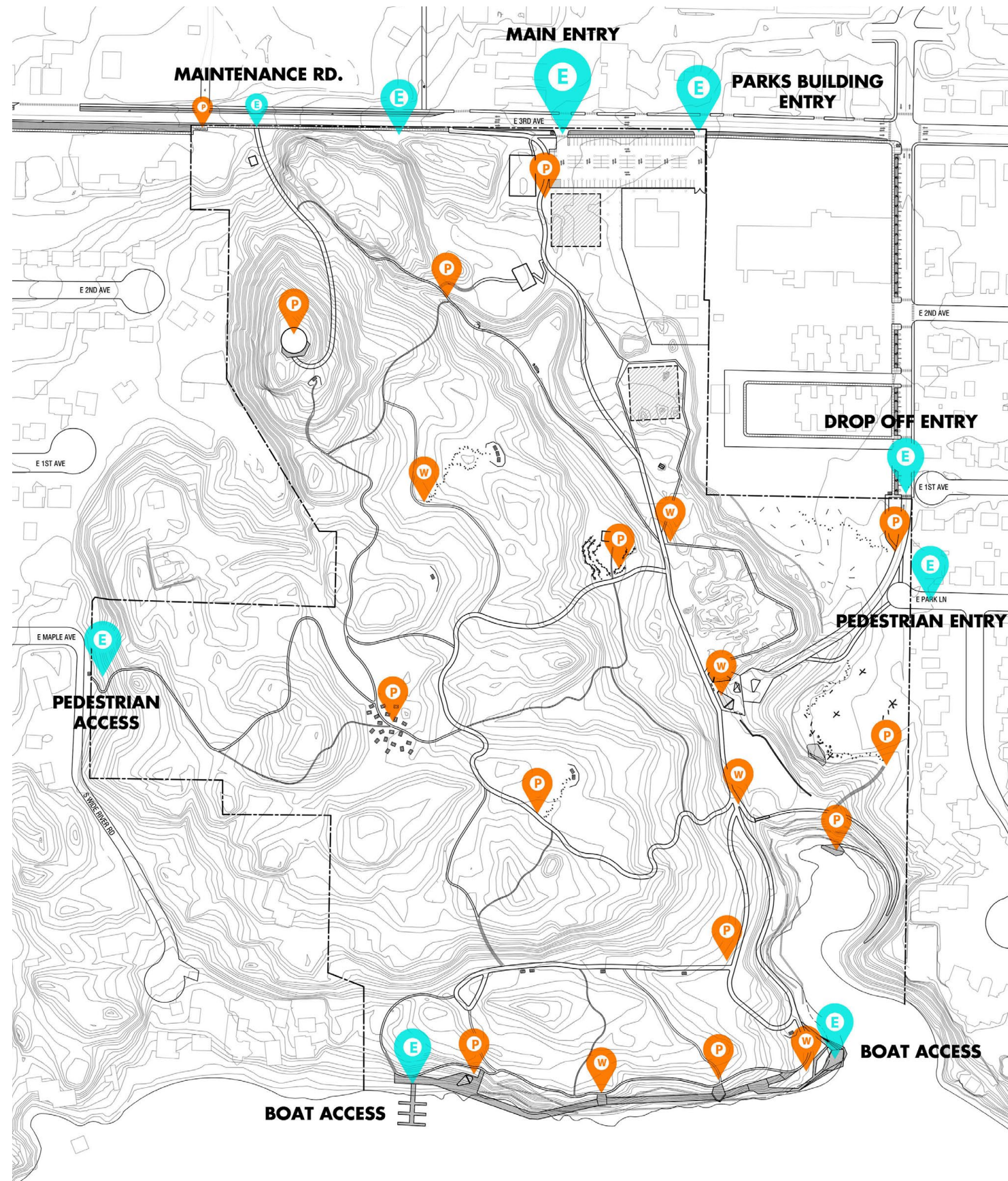
### PLACE MAKER SIGN OPTIONS

The pedestrian entry signage will be smaller and more similar to the internal trail signage. This acts as a discrete, but informative entry point to the park. These pedestrian signs will include park maps or trail directional information. The boat access signage will include interpretive information about water safety, boat docking, and other park rules



### WAYFINDING SIGN OPTIONS

The remaining type of signage for internal points will consist of varying design as seen to the right. These signs can include direction information, flora & Fauna education, overlook geographical info, or park rules/info.

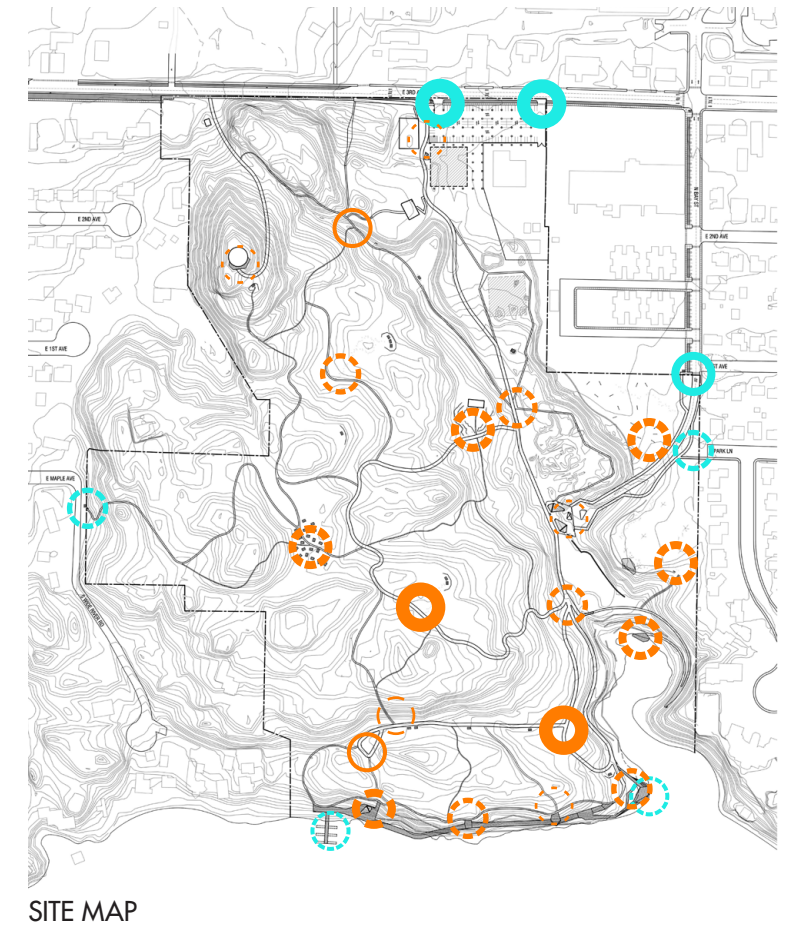
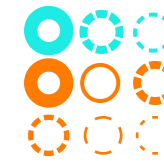




1 ENTRY SIGN OPTIONS



SIGN TYPES:  
 ENTRY SIGN  
 PLACE MARKER



2 PLACE MARKER / WAYFINDING SIGNAGE





# CAR PARK + STREETSAPES

The arrival sequence to Black Bay Park is missing the opportunity to inform visitors of what the site is as they approach the area. The street frontage hides the park instead of showcasing the space. The proposed car park and streetscapes plans elevate the existing space to provide and clear and easy access to the site, while storm water treatment facilities and an expansive tree canopy introduce a multi-benefit system of parking and streetscapes.

## CAR PARK

The car park layout re-purposes the northern side of the Parks building, providing 97 spaces for the park with two vehicle entries. The lot includes the placement of trees, proposing an extensive grid pattern that doubles the number of trees typical to most parking areas. The trees are placed at the end of the parking stalls, resulting in parking facility with a complete overhead tree canopy, making for a distinct Car Park experience for park users..

This planting strategy provides a softer, more “park” like experience when you first enter the park. With this new parking lot the entrance off 3rd St. can function as the main entry for visitors. There will also be street parking proposed on Bay St., to provide access closer to the sledding hill in winter.



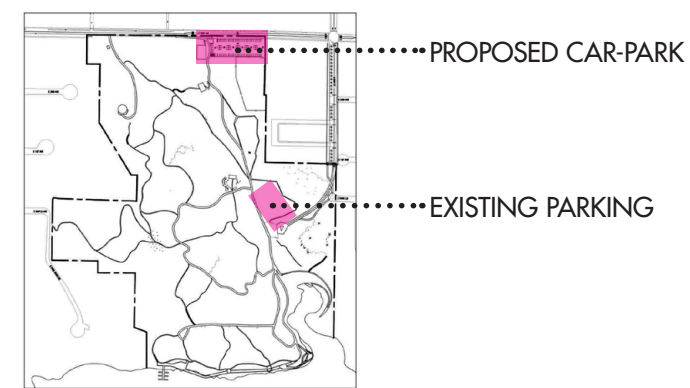
CAR PARK PERSPECTIVE



CAR PARK AERIAL VIEW



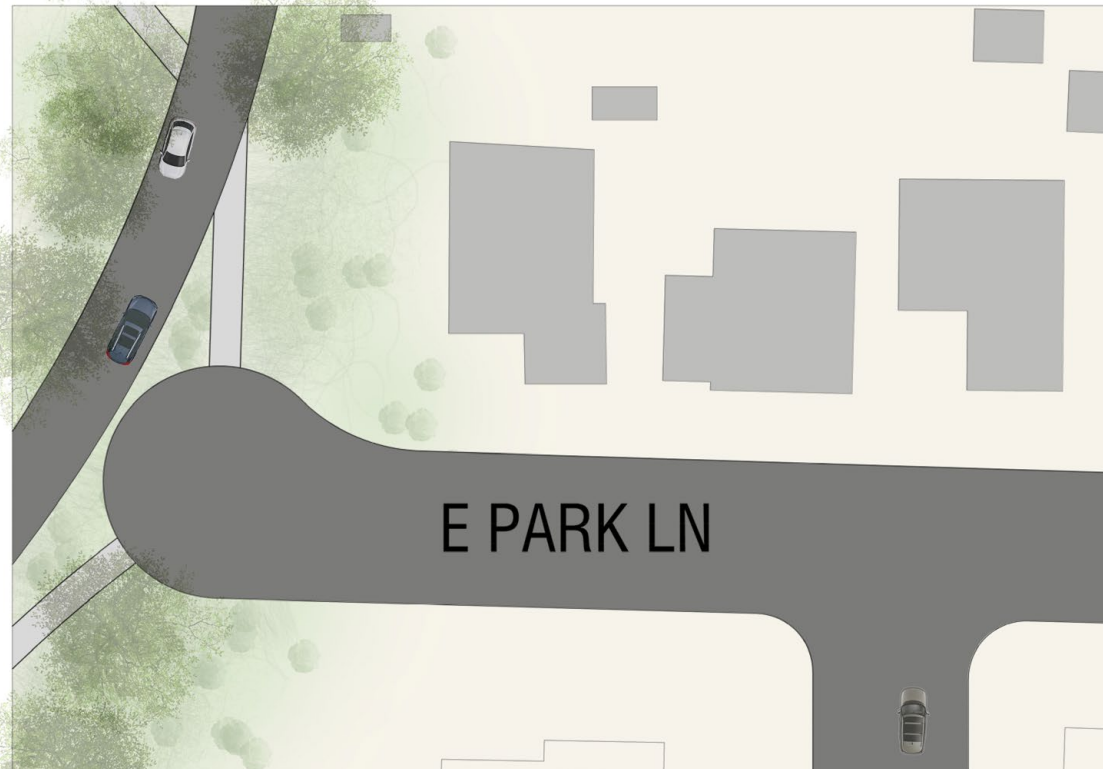
CAR PARK PLAN



KEY MAP

# STREETSCAPE - 1ST AVE & PARK LANE

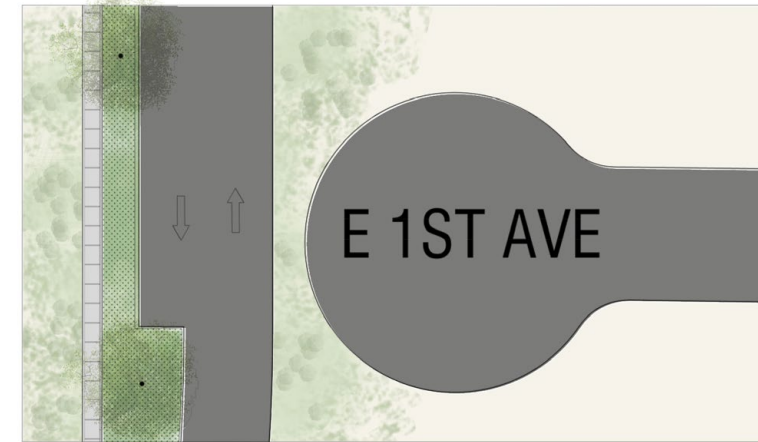
EXISTING PARK LANE STREETSCAPE PLAN



PROPOSED PARK LANE STREETSCAPE PLAN



EXISTING 1ST AVE STREETSCAPE PLAN

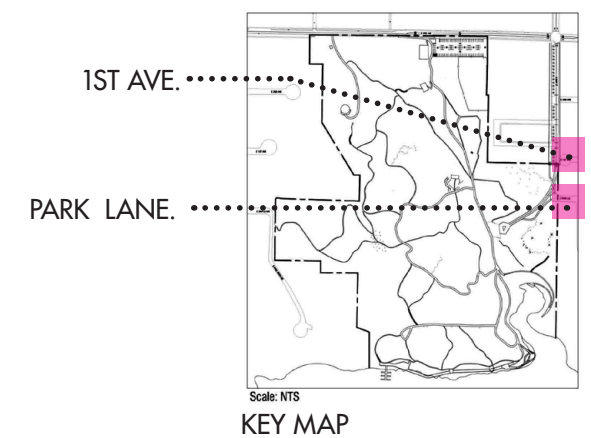


PROPOSED 1ST AVE STREETSCAPE PLAN



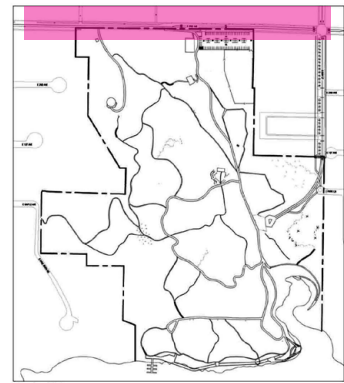
The proposed streetscape improvements include adjustments to 1st Avenue and Park Lane. For both cul de sacs the design proposes the removal of the turn around. For Park Lane the vision plan proposes the removal of the cul de sac from Park property, enabling this area to be reclaimed and revegetate to a more park-like quality. This alteration also, incorporates the connection of the park paths to Bay St. and onto Park Lane.

For 1st Ave the cul de sac removal is to enable 1st Avenue to be connected through to Bay St. This completes the traditional city grid and enhances traffic flow and enhances connectivity to the park.



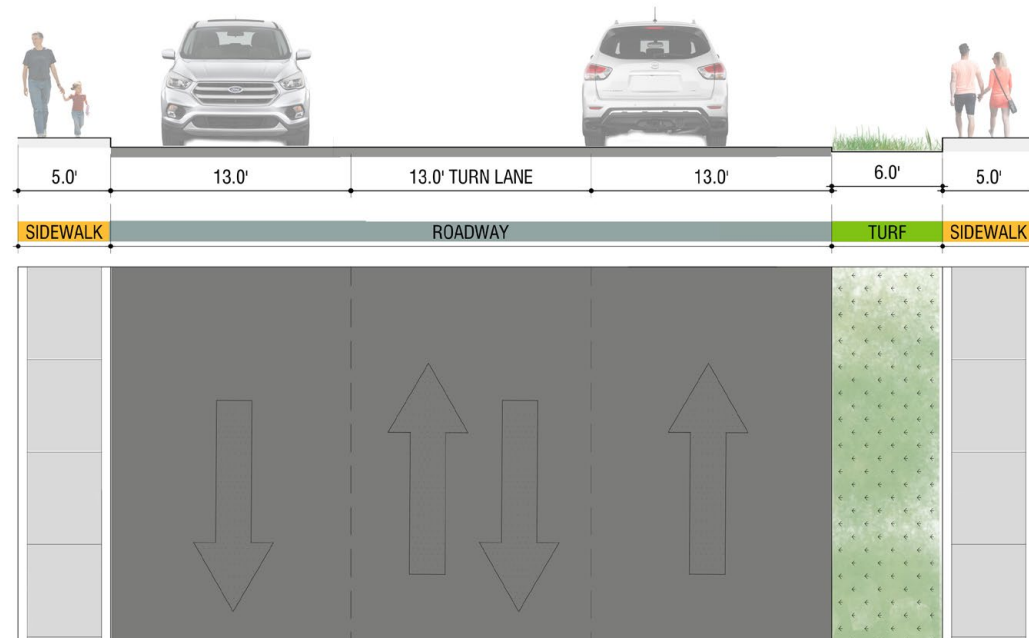
# STREETSCAPE - 3RD STREET

3rd Street streetscape includes a continuous sidewalk connection to the park along with stormwater planters to capture and treat all roadway surface runoff. The proposed streetscape includes a dedicated bike lane on the east-side of the street that connects directly to a park path. By including stormwater features with this streetscape design it provides the opportunity to collect storm runoff, cut down on flooding, enhance aesthetics with increased vegetation, improve pedestrian safety, increase habitat and biodiversity, and provide for an overall healthier community.

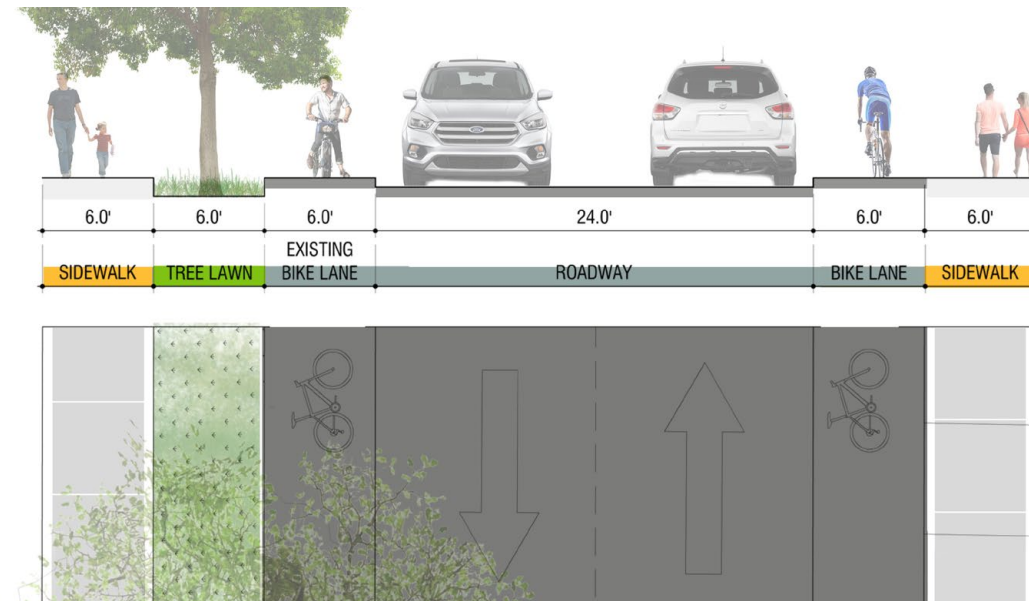


Scale: NTS  
KEY MAP

EXISTING 3RD STREET SECTION

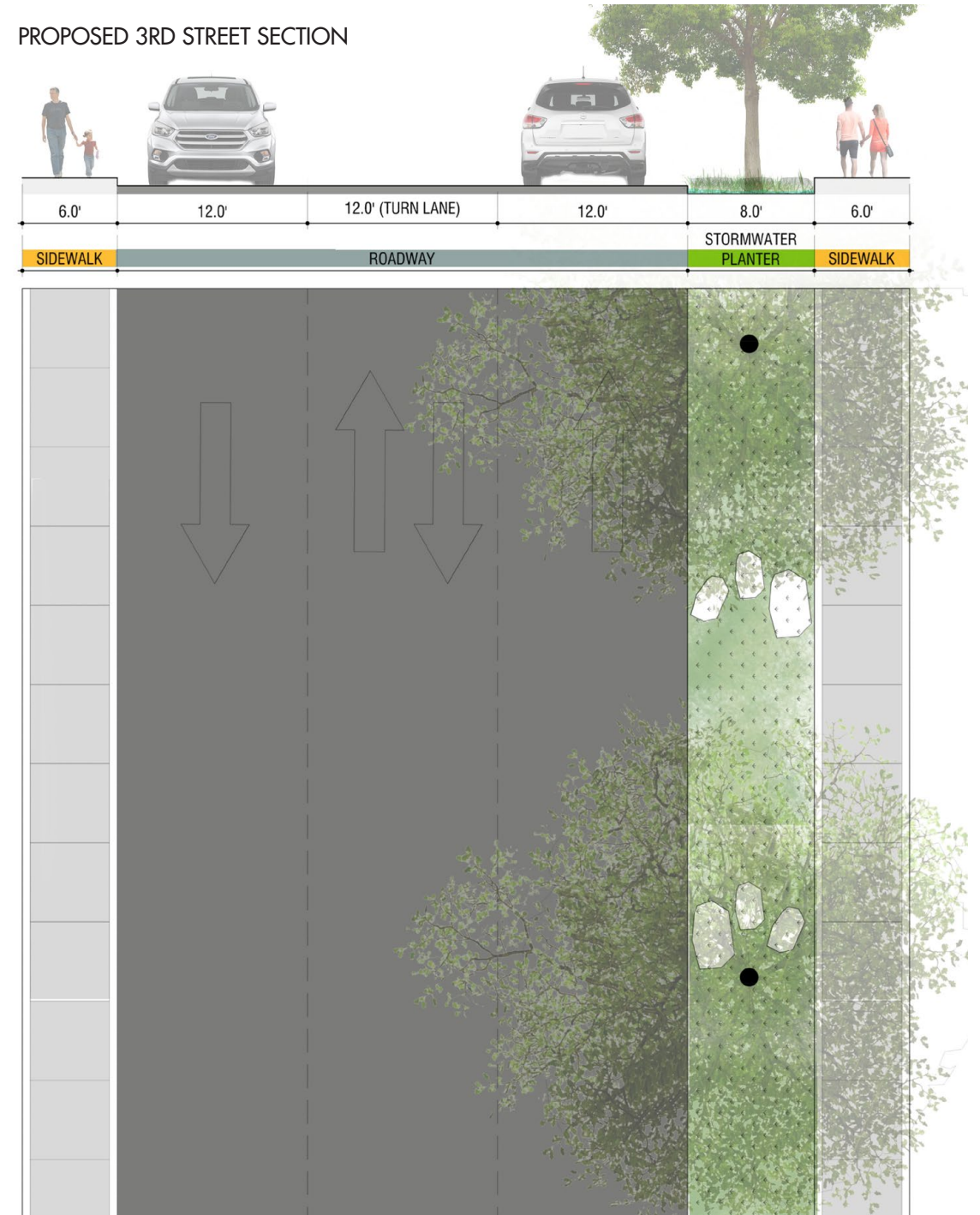


A. EXISTING 3RD STREET PLAN (looking East)



B. EXISTING 3RD STREET PLAN W/BIKE LANE (looking East)

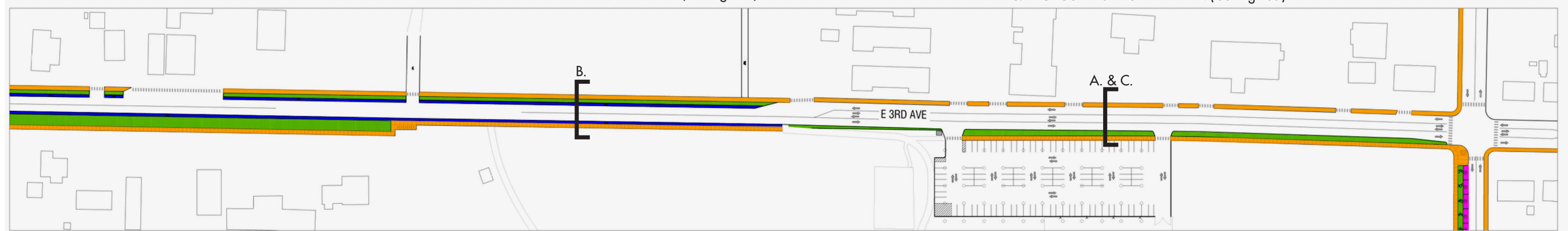
PROPOSED 3RD STREET SECTION



C. PROPOSED 3RD STREET PLAN (looking East)

**LEGEND**

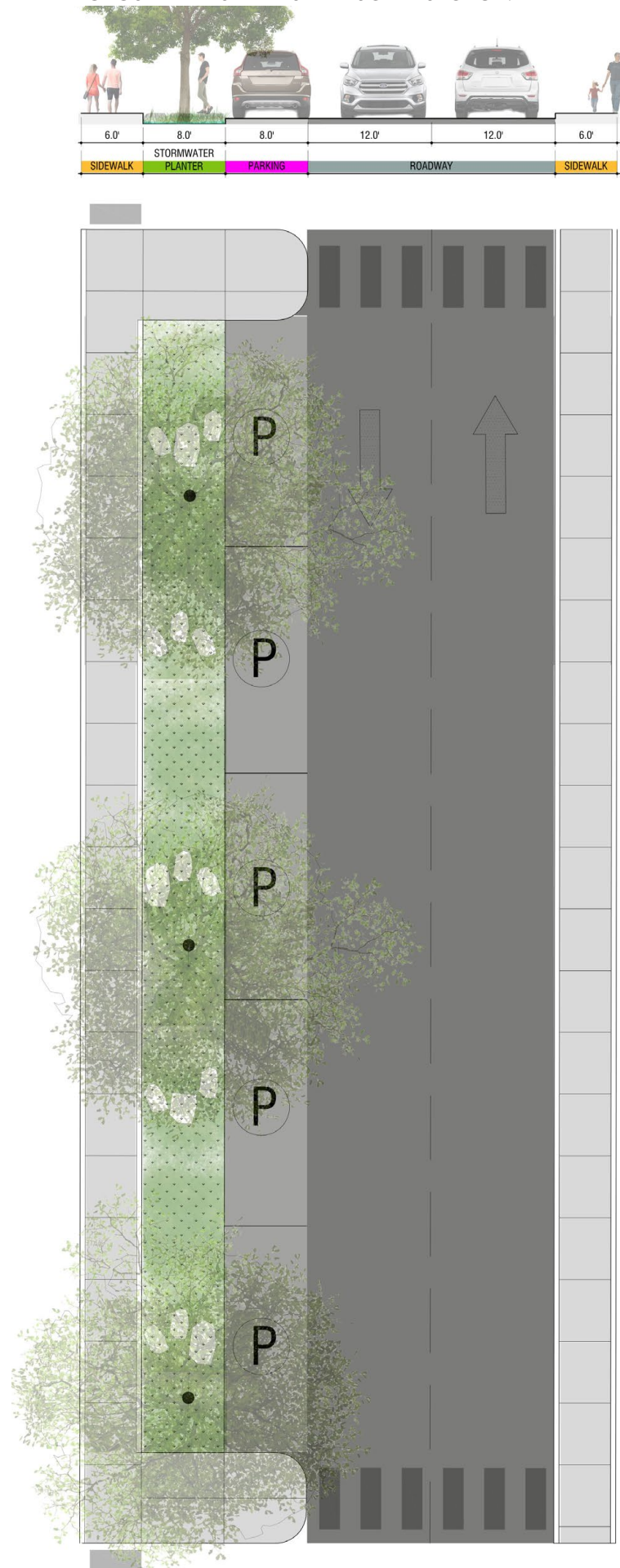
- SIDEWALK
- EXISTING BIKE LANE
- ST PARKING
- STORMWATER PLANTING AREA



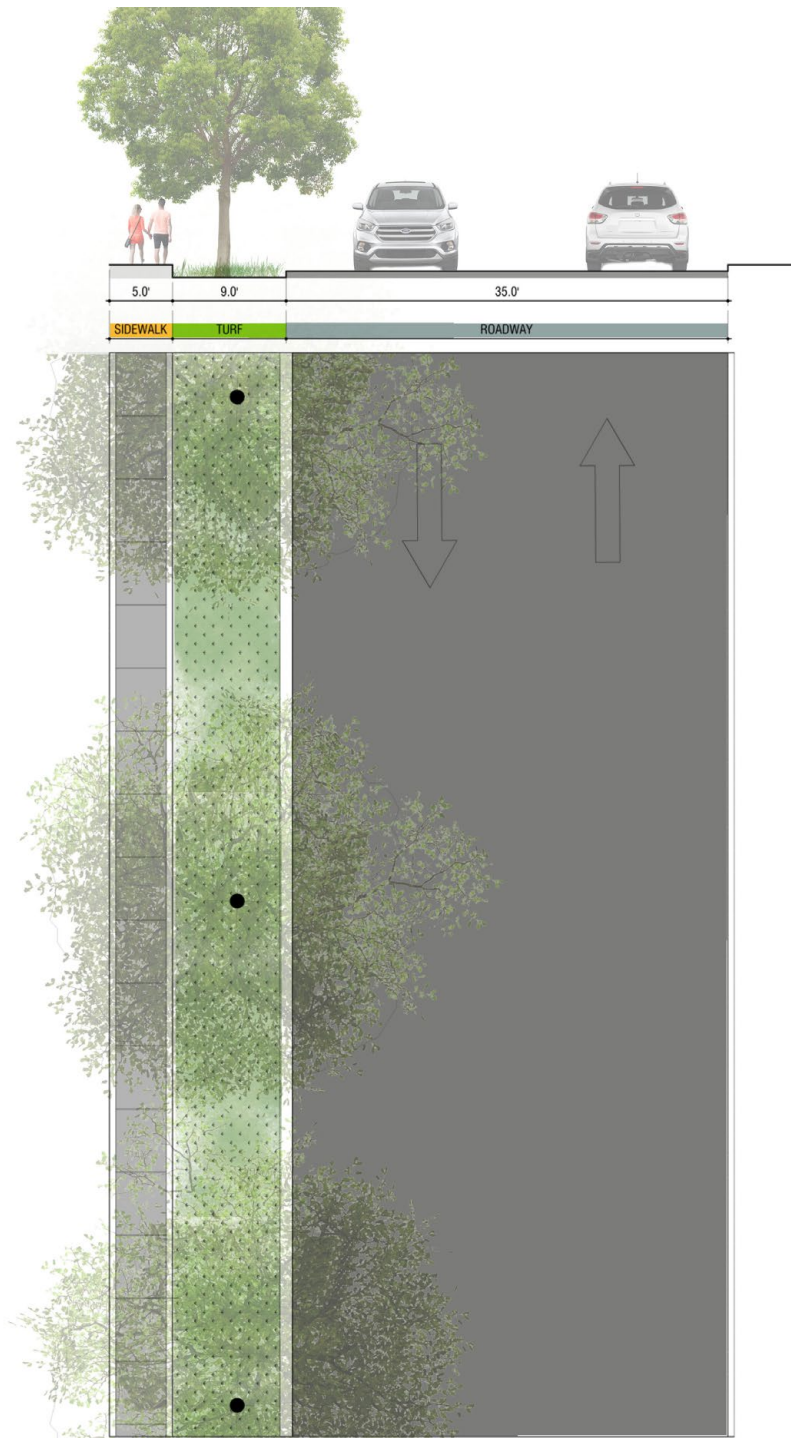
PROPOSED 3RD STREET PLAN

Scale: 1" = 150'

PROPOSED BAY STREET STREETSCAPE SECTION



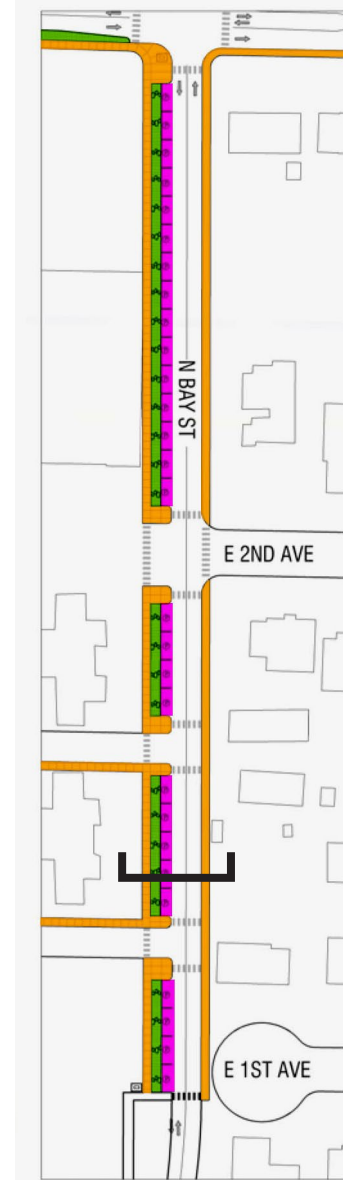
EXISTING BAY STREET STREETSCAPE SECTION



Bay St. updates consist of street parking along the west side of the street till you reach the park entrance. Alongside the street parking is a series of stormwater planter to collect runoff. The planters have stepping stones place in them for each parking spot, for visitors to get from their car to the sidewalk. The final piece to updating Bay St is a consistent sidewalk on either side till you reach the park entrance.

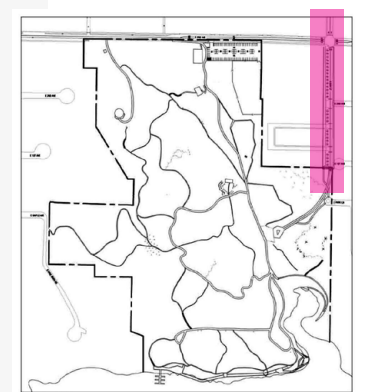
LEGEND

- SIDEWALK
- ST PARKING
- STORMWATER PLANTING AREA



Scale: 1" = 150'

BAY STREET PLAN



Scale: NTS

KEY MAP





# CHARACTER + MATERIALITY

Black Bay Park has a unique natural quality to it and provides visitors with an experience that immerses them in the natural environment of Post Falls. It is a place that is truly nature in the city. There is a diverse range of natural environments within the park, from the pine bluffs to the water tower overlook to the beautiful Spokane River. All these different areas have distinct characteristics, but also materiality that ties them together. The Black Bay Vision Plan strives to use the natural material of the site and fit new design elements to that aesthetic.

# MATERIALS PALETTE

Due to Black Bay's unique aesthetic and natural value it's important that the materials and furnishings fit into the natural feel of the site. The materials to be used in Black Bay will work with the existing materiality and pull inspiration from the area's history.

Natural elements such as stone steps and logs will be used for informal paths within the site. This material provides directionality while preventing the trampling of native vegetation. Another subtle use of design material is the use of cable railings along the overlooks and the boardwalk. This material will provide open views while enhancing safety along the river's edge for park visitors.

Other uses of material in the site such as, ground cover or natural features (logs and boulders) will source local materials to fit the area's character. If possible, such material should be re-used within the site. This reuse strategy could include the use of fallen trees on site, boulders that obstruct paths, or other natural site features that could be used elsewhere in the site.



STONE STEPS



LOG STEPS



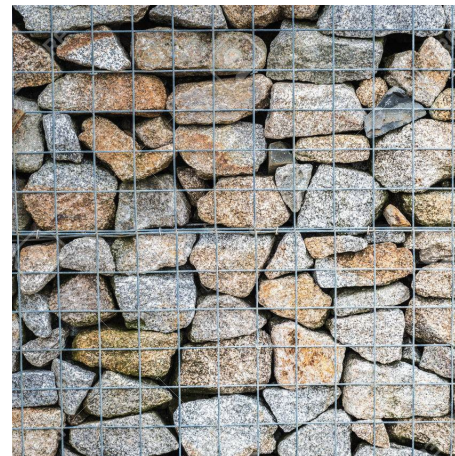
STEPPING STONES



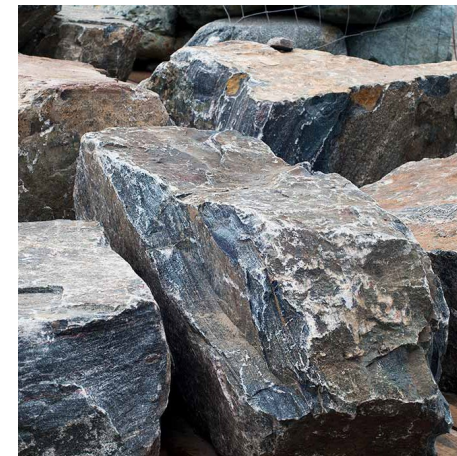
CABLE RAILING



GRAVEL PATH



GABION ROCKS

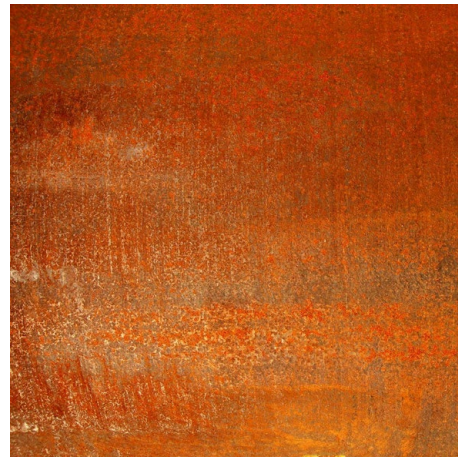


NATURAL BOULDERS

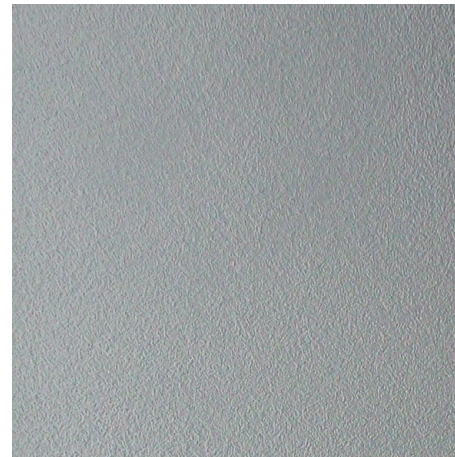


NATURAL LOGS

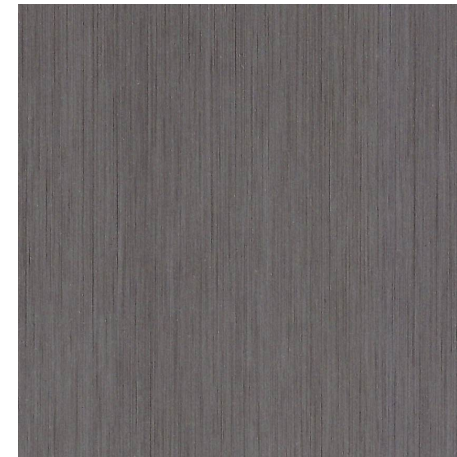
PARK MATERIAL



CORTEN STEEL



POWDER COATED STEEL



BRUSHED ALUMINUM



WOOD DECK

# FURNISHINGS PALETTE

**STRUCTURES**



SHELTERS



RESTROOMS

**WALLS**



GABION RETAINING WALL



GABION WALLS



**STONE WORK**



REST AREAS



SIGNAGE

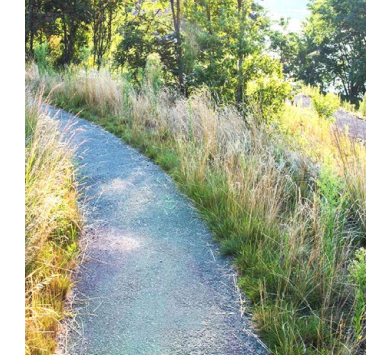
**TRAILS MATERIAL**



WIDE PATHS



SOFT EDGE + WALK



SOFT PATHS



INFORMAL PATHS

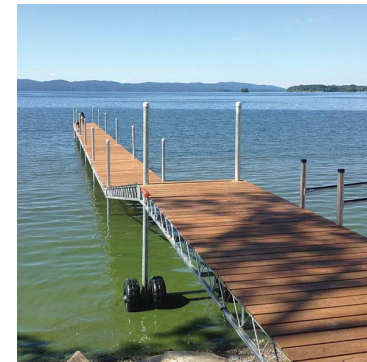
**DOCKS**



COMMUNITY DOCK



DECKING EDGE



DECKING



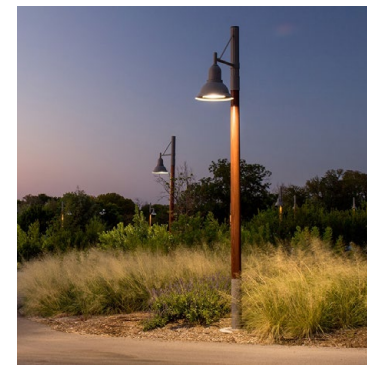
**FURNISHINGS**



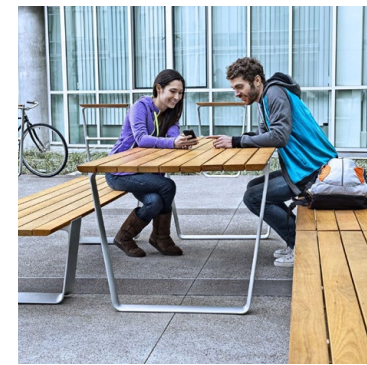
SEATING



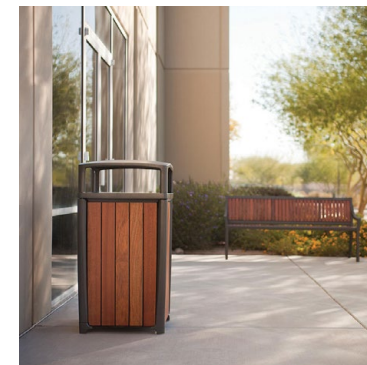
TRAIL LIGHTING



CAR PARK LIGHTING



TABLES



TRASH / RECYCLING

The inspiration for the general furnishings palette is a combination of simple, clean design features that have a natural quality. This strategy helps to not distract from the natural environment, but provides a unique and refined aesthetic feel.

Many of the furnishings include the use of wood and stone, as seen in the proposed gabion features, shelters, signage, decking, and other site furnishings. The purpose of using the stone and wood in most furnishings is to provide features that feel natural and warm to site visitors.



A topographic map of a park area, showing contour lines and shaded relief. The map is oriented vertically, with a tree trunk visible on the left side. The terrain is mostly flat with some low hills and depressions.

# COST + MAINTENANCE

This section provides an opinion of probable cost by phase and a general maintenance plan for Black Bay Park. The general maintenance plan addresses the needs and schedule for maintaining the vision plan in this document.

# COST ESTIMATE - PHASE 1

## BLACK BAY PARK - P1

### COST MODEL MAY 2019

TRAIL SYSTEM, REST AREAS, TERRACED DOCK, OVERLOOKS, RESTROOM, CAR PARK + STREETScape

material	Quantity	Units	\$/Unit	Cost				
<b>Black Bay Park</b>								
<b>Hardscape</b>								
Conc Curb and gutter	4,997	LF	\$30.00	\$149,895.00	standard concrete			
4" St Sidewalk (Sand Finished)	20,611	SF	\$11.00	\$226,721.00				
Asphalt Bike Path	7,083	SF	\$4.00	\$28,332.00	assume 3" bit wear course, 8" class 5 aggregate base			
Asphalt Parking Lot (97 stalls)	41,314	SF	\$2.75	\$113,613.50				
Asphalt Street Parking (28 stalls)	4,959	SF	\$2.75	\$13,636.98				
Asphalt roadway (drop off drive)	730	LF	\$2.75	\$2,008.02	assume 1.5" bit wear course, 2" bit base course, 8" Class 5 or 7 base aggregate, 12" select granular borrow			
Crosswalk (Standard)	495	LF	\$3.00	\$1,484.25				
4" Asphalt Path	69,194	SF	\$4.00	\$276,777.29	10' WIDE			
4" Crusher Fines Path wide	53,639	SF	\$4.00	\$214,556.00	6' WIDE			
4" Crusher Fines Path narrow	14,352	SF	\$4.00	\$57,408.00	4' WIDE			
				<b>Sub-total</b>				<b>\$1,084,432.04</b>
<b>Steps + Decking + Fence</b>								
Log steps with Rope Railing	331	LF	\$200.00	\$66,180.00				
Boardwalk	7,805	SF	\$180.00	\$1,404,900.00				
Overlook	850	SF	\$300.00	\$254,991.00				
Cable Railing	980	LF	\$300.00	\$294,000.00				
Parks Building Fencing	671	LF	\$100.00	\$67,141.21				
Swing Gate @ Park Building	2	EA	\$2,000.00	\$4,000.00				
				<b>Sub-total</b>				<b>\$2,091,212.21</b>
<b>Utilities</b>								
Sanitary Service Connection	1	EA	\$50,000.00	\$50,000.00				
Connect to Existing Sanitary	1	EA	\$0.00	\$0.00				
Pavement Striping - Turn Arrow	10	EA	\$3.00	\$30.00				
Pavement Striping - No Parking Hatch	694	SF	\$3.00	\$2,082.92				
				<b>Sub-total</b>				<b>\$52,112.92</b>
<b>Furnishings</b>								
Nature Play Boulders	9	EA	\$2,500.00	\$22,500.00				
Stepping Stones	81	EA	\$450.00	\$36,450.00				
Trash and Recycling	12	EA	\$2,500.00	\$30,000.00				
Bike Rack	9	EA	\$1,000.00	\$9,000.00				
Seating Boulders in Amphitheater	81	#VALUE!	\$500.00	\$40,500.00				
Benches	13	#VALUE!	\$3,500.00	\$45,500.00				
Lounge Chairs	22	EA	\$2,000.00	\$44,000.00				
Park Entry Signage	5	EA	\$5,000.00	\$25,000.00				
Park Place Making Signage	13	EA	\$2,000.00	\$26,000.00				
				<b>Sub-total</b>				<b>\$278,950.00</b>
<b>Planting</b>								
Water Quality Planters	20,235	SF	\$12.00	\$242,820.00				
3" Caliper Tree	100	EA	\$1,308.00	\$130,800.00				
				<b>Sub-total</b>				<b>\$373,620.00</b>
<b>Structure</b>								
Lift Station	1	LS	\$40,000.00	\$40,000.00				<i>COST TBD</i>
Restroom	1	EA	\$200,000.00	\$200,000.00				
				<b>Sub-total</b>				<b>\$240,000.00</b>
<b>MEP / Electrical</b>								
Bollard Light	11	EA	\$5,000.00	\$55,000.00				
Pedestrian Light (w/ Cantenary)	5	EA	\$10,000.00	\$50,000.00	tapered steel pole			
				<b>Sub-total</b>				<b>\$105,000.00</b>
<b>Demo</b>								
Demo Existing Conc. Sidewalk	1,308	SF	\$2.00	\$2,616.00				
Demo Existing Conc Curb	583	LF	\$7.00	\$4,082.33				
Demo Existing Asphalt Road	696	SF	\$0.41	\$285.19				
Demo Existing Parking Lot	32,905	SF	\$1.00	\$32,904.92				
Demo Tree	8	EA	\$150.00	\$1,200.00				
Salvage Bench/Seating/Tables	3	EA	\$250.00	\$750.00				
Salvage Light Pole	4	EA	\$1,000.00	\$4,000.00				
				<b>Sub-total</b>				<b>\$45,838.44</b>
				<b>Sub-total</b>				<b>\$4,271,165.61</b>
				Construction Contingency		15%		\$640,674.84
<b>TOTAL ESTIMATED COST</b>								<b>\$4,911,840.45</b>



**Phase 1 cost estimate includes:**

- Trail System
- Rest Areas
- Terraced Dock
- River Overlook
- Restroom
- Car Park
- Streetscapes

# COST ESTIMATE - PHASE 2

## BLACK BAY PARK - P2

COST MODEL MAY 2019

COMMUNITY DOCK, RIVER EDGE RESTORATION, PLAY PINE BLUFF

material	Quantity	Units	\$/Unit	Cost
<b>Black Bay Park</b>				
<b>Hardscape</b>				
4" Crusher Fines Path wide	6,610	SF	\$4.00	\$26,440.00
			Sub-total	\$26,440.00
<b>Walls + Decking + Steps</b>				
Gabion Terrace Walls	3,260	LF	\$150.00	\$489,000.00
Log steps with Rope Railing	494	LF	\$200.00	\$98,806.12
Community Dock (Floating)	960	SF	\$75.00	\$72,000.00
Boardwalk	5,721	SF	\$180.00	\$1,029,780.00
Cable Railing	432	LF	\$300.00	\$129,600.00
Deck	903	SF	\$150.00	\$135,404.37
			Sub-total	\$1,954,590.49
<b>Furnishings</b>				
Bike Rack	9	EA	\$1,000.00	\$9,000.00
Trash and Recycling	4	EA	\$2,500.00	\$10,000.00
Table @ Play Area	2	EA	\$5,000.00	\$10,000.00
Nature Play Logs	31	EA	\$450.00	\$13,950.00
Nature Play Boulders	9	EA	\$2,500.00	\$22,500.00
Stepping Stones	166	EA	\$450.00	\$74,700.00
Stepping Logs	81	EA	\$500.00	\$40,500.00
Benches	19	EA	\$3,500.00	\$66,500.00
Park Entry Signage	2	EA	\$5,000.00	\$10,000.00
Park Place Making Signage	3	EA	\$2,000.00	\$6,000.00
			Sub-total	\$263,150.00
<b>Planting</b>				
Soil	1,037	CYD	\$15.00	\$15,555.00
Elevated Turf Lawn with Irrigation	7,982	SF	\$4.50	\$35,919.00
			Sub-total	\$51,474.00
<b>Structure</b>				
Cantilever Play Structure	1	EA	\$400,000.00	\$400,000.00
			Sub-total	\$400,000.00
<b>MEP / Electrical</b>				
Bollard Light	17	EA	\$5,000.00	\$85,000.00
Pedestrian Light (w/ Cantenary)	7	EA	\$10,000.00	\$70,000.00 tapered steel pole
			Sub-total	\$155,000.00
<b>Demo</b>				
Salvage Bench/Seating/Tables	3	EA	\$250.00	\$750.00
			Sub-total	\$750.00
Sub-total				\$2,851,404.49
Construction Contingency			15%	\$427,710.67
<b>TOTAL ESTIMATED COST</b>				<b>\$3,279,115.16</b>





**Phase 2 cost estimate includes:**

Community Floating Dock

Boardwalk

River Edge Restoration

Play Pine Bluff

COST ESTIMATE - PHASE 3

**BLACK BAY PARK - P3**

COST MODEL MAY 2019

BOARDWALK CONNECTION, WATER TANK OVERLOOK

material	Quantity	Units	\$/Unit	Cost
<b>Black Bay Park</b>				
<b>Decking</b>				
Cable Railing	1,097	LF	\$300.00	\$329,100.00
Boardwalk	8,464	SF	\$180.00	\$1,523,520.00
Deck	738	SF	\$150.00	\$110,700.00
			Sub-total	\$1,852,620.00
<b>Furnishings</b>				
Trash and Recycling	2	EA	\$2,500.00	\$5,000.00
Art Mural	1	LS	\$50,000.00	\$50,000.00
Park Place Making Signage	2	EA	\$2,000.00	\$4,000.00
			Sub-total	\$59,000.00
<b>MEP / Electrical</b>				
Bollard Light	17	EA	\$5,000.00	\$85,000.00
			Sub-total	\$85,000.00
			Sub-total	\$1,996,620.00
Construction Contingency			15%	\$299,493.00
<b>TOTAL ESTIMATED COST</b>				<b>\$2,296,113.00</b>



**Phase 3 cost estimate includes:**

- Boardwalk Connection
- Water Tank Overlook

# COST ESTIMATE - PHASE 4

## BLACK BAY PARK - P4

### COST MODEL MAY 2019

PARK BRIDGE ENTRANCE, RELOCATED TENNIS COURT, NORTH RESTROOM, DOUBLE SHELTER AREA + OPEN LAWNS, COMMUNITY DOCK ADD ON, AND NORTHERN PINE BLUFF PROGRAMMING

material	Quantity	Units	\$/Unit	Cost
<b>Black Bay Park</b>				
<b>Hardscape + Decking</b>				
4" Crusher Fines Path narrow	6,694	SF	\$4.00	\$26,776.00
4" Concrete Pad	6,635	SF	\$11.00	\$72,985.00
Community Dock Add Ons (Floating)	1	LS	\$75.00	\$75.00
Wood Bridge Entry	1	LS	\$1,000,000.00	\$1,000,000.00
			Sub-total	\$1,099,836.00
<b>Furnishings</b>				
Trash and Recycling	4	EA	\$2,500.00	\$10,000.00
Table @ Shade Pavilion	2	EA	\$5,000.00	\$10,000.00
Stepping Stones	36	EA	\$450.00	\$16,200.00
Hammocks	14	EA	\$0.00	\$0.00
Benches	6	EA	\$3,500.00	\$21,000.00
Park Entry Signage	2	EA	\$5,000.00	\$10,000.00
Park Place Making Signage	2	EA	\$2,000.00	\$4,000.00
			Sub-total	\$71,200.00
<b>Planting</b>				
Turf Lawn with Irrigation	88,813	SF	\$4.50	\$399,658.50
Native Lawn	71,083	SF	\$1.50	\$106,624.50
			Sub-total	\$506,283.00
<b>Structure</b>				
Tennis Court Relocation	13,790	SF	\$20.00	\$275,796.95
Shade Pavilions	3	EA	\$125,000.00	\$375,000.00
Restroom	1	EA	\$200,000.00	\$200,000.00
			Sub-total	\$850,796.95
<b>MEP / Electrical</b>				
Bollard Light	6	EA	\$5,000.00	\$30,000.00
Pedestrian Light (w/ Cantenary)	2	EA	\$10,000.00	\$20,000.00
			Sub-total	\$50,000.00
<b>Demo</b>				
Demo Existing Tennis Court	13,790	SF	\$5.00	\$68,950.00
			Sub-total	\$68,950.00
Sub-total				\$2,647,065.95
Construction Contingency				15% \$397,059.89
<b>TOTAL ESTIMATED COST</b>				<b>\$3,044,125.84</b>



**Phase 4 cost estimate includes:**

- Park Bridge Entry
- Relocated Tennis Court
- Northern Restroom
- Double Shelter Area + Open Lawns
- Community Dock Add-on
- Northern Pine Bluff

## MAINTENANCE MANUAL

### I. GENERAL MAINTENANCE (G)

In order to keep the Black Bay improvements attractive, clean and sanitary, guidelines for all trash, recycling and litter removal are necessary. The design intent is to establish a convenient, consistent, and effective maintenance schedule for trash, recycling and litter removal.

#### G- 1 TRASH AND RECYCLING

##### A. MAINTENANCE SPECIFICATIONS

- i. Trash cans and recycling bins will need to be emptied regularly. The frequency of emptying will be determined by location and level of use.
- ii. If trash exceeds the holding capacity of the receptacles and overflow occurs, cleaning of the immediate area may be required from time to time.
- iii. Cleaning of the interior will be required on an as needed basis.
- iv. Cleaning of the exterior of the trash cans will be based on the location and amount of use and may range from several times monthly to yearly.

#### G- 2 LITTER REMOVAL

##### A. MAINTENANCE SPECIFICATIONS

- i. Collect litter weekly.

#### G- 3 HARD SURFACE CLEANING

##### A. MAINTENANCE SPECIFICATIONS

- i. Annually, pressure-wash all hard-surfaces.
- ii. Inspect surfaces to make sure no standing water is present during and after storm events, no unsealed cracks over 1/2", no weeds present at any time, no wash boarding or potholes present along gravel trails or parking areas.

#### G- 4 GRAFFITI REMOVAL

##### A. MAINTENANCE SPECIFICATIONS

- i. All graffiti should be removed as quickly as possible with use of proper cleaning agents. The cleaning agents will depend on materials and their susceptibility to chemicals and other cleaning agents.

#### G- 5 SNOW AND ICE REMOVAL

##### A. MAINTENANCE SPECIFICATIONS

- i. During the winter season proactive management will be necessary to maintain clear entry roads and certain paved areas and pathways essential to daily operations and use. Trucks and small utility vehicles can be fitted with plows and spreader attachments to clear snow and apply dry or liquid snow/ice melters or sand to entry roads and pathways. Walks behind spreaders and backpack sprayers may also be used to apply melters and sand to paved areas that are inaccessible by vehicle.
- ii. Snow blowers, snow shovels, and firm bristle brooms may be used to confined paved areas.
- iii. Ice melters should not be applied on the boardwalk to avoid deteriorating the surface.
- iv. Any ice melters applied in other areas must be environmentally-friendly due to the site being located on the edge of the river.
- v. More manual removal rather than mechanical will be required for gravel fine surfaces.
- vi. Clearance of the plow's rubber blades will need to be higher for gravel fines than the clearance used on concrete and asphalt areas to avoid displacing or damaging the surface of the gravel.
- vii. Any snow accumulation on roads, trails, sidewalks, or parking lots 2" or more in depth will be plowed to the channel or down the slope side.
- viii. Designated structure entries and accessible routes will be kept free of snow and ice one hour prior to scheduled use.
- ix. Any ice accumulation will be treated with sand/gravel, or an environmentally safe chemical or both.

## II. SURFACES (UD)

### UD – 1 DECOMPOSED GRANITE

#### A. MAINTENANCE SPECIFICATIONS

- i. Every four months, level through raking, watering and compacting in 2" lifts. Typically once a year but depending on intensity of use, supplement new decomposed granite when necessary. Additional material should be compacted upon installation.

### UD – 2 ASPHALT PAVING

Asphalt paving is located throughout the site as trails/paths and parking lot and street parking surfacing.

#### A. MAINTENANCE SPECIFICATIONS

- i. Keep free of litter and organic matter.
- ii. Regular inspections of surfaces should be made to reveal any need for removal of graffiti or gum.
- iii. Surface repair should be prompt, and may include patching, sealing of cracks, and reapplication of thermoplastic color striping.
- iv. Curbs within the asphalt parking areas should be inspected regularly, and cleaned and maintained as needed.

### UD – 3 CONCRETE PAVING

Concrete paving is located throughout the site as sidewalks, paths, and shelter areas.

#### A. MAINTENANCE SPECIFICATIONS

- i. Clean using backpack blower and power wash as necessary.
- ii. Regular inspections should be performed to ensure there is not cracking of concrete, heaving, uneven settling or spalling.
- iii. Any necessary repair or resurfacing should be executed in a timely fashion.

### UD – 4 IPE WOOD SURFACES AND BRIDGES

#### A. MAINTENANCE SPECIFICATIONS

- i. Twice annually, inspect all surfaces for flush condition and overall condition, repair as needed. Do not stain, varnish or paint. If dirty, wood may be scrubbed with warm soapy water and soft bristle brush. Pressure washing, steel wool/wire brushes are not recommended. Heavily ingrained stains may be sanded away with fine grade sandpaper worked in the direction of the grain. To clean graffiti from unfinished wood surfaces, allow paint to dry, scrape away thicker areas until wood can be seen through paint, then sand using 80 grit, then 100 grit sandpapers until the paint is gone. Solvents or paint removers which may damage the wood or cause it to absorb pigments from the paint shall not be used.
- ii. Quarterly, inspect and tighten all loose connections
- iii. After rain events inspect and remove debris from trenches
- iv. For the Ipe boardwalk, it is not necessary to perform an annual sealing or oil treatment, but doing so can extend the lifespan of the wood boardwalk. Do to the density of the very hard woods, they can warp or rack more severely than typical hardwoods if unevenly moist, which makes regular oil applications important to maintain moisture levels throughout the decking. Given the proximity to the river and the potential for VOCs in oil treatments, it may be best ecologically to not do a sealing or oil treatment.

## III. SITE AMENITIES (SA)

### SA – 1 GENERAL MAINTENANCE

- i. GENERAL: Weekly, check all site furnishings for damage, vandalism and assembly repair three times a year. All bolts should be tight and secure. Reference each material for specific maintenance instructions.
  - a. WOOD: It is the design intent to let the unfinished wood weather to a natural gray patina. Do not stain, varnish or paint. If dirty, wood may be scrubbed with warm soapy water and soft bristle brush. Pressure washing, steel wool/wire brushes are not recommended. Heavily ingrained stains may be sanded away with fine grade sandpaper worked in the direction of the grain. To clean graffiti from unfinished wood surfaces, allow paint to dry, scrape away thicker areas until wood can be seen through paint, then sand using 80 grit, then 100 grit sandpapers until the paint is gone. We do not recommend solvents or paint removers which may damage the wood or cause it to absorb pigments from the paint.
  - b. STEEL: Clean as needed using a soft cloth or brush with a mild detergent. Dry with a towel or cloth to prevent water spots. Wipe in the directions of the polish lines. Avoid steam cleaning, abrasive cleansers, carbon steel brushes/wools and cleaners containing chlorine. Stainless steel cleaners may be used on stainless tabletops to remove stubborn stains.
  - c. COR-TEN STEEL: Cor-Ten is a special alloy that uses copper and nickel to create a weather resistant surface. This steel can be left untreated but an annual coating of fine oil will better preserve the rusted surface and halt pitting.
- ii. Site furnishings should be maintained regularly to make sure surfaces are smooth and clear of any sharp edges.
- iii. Grills are to be kept clean regularly.
- iv. All structures should be checked regularly to maintain they are structurally sounds and functional as intended and maintained in an "as new" working condition.

#### IV. WATER QUALITY ELEMENTS (WQ)

##### WQ – 1 WATER QUALITY BAND – PLANTING MEDIUM

###### A. MAINTENANCE SPECIFICATIONS

- i. Inspect for standing water. Use the bi-annual health evaluation of the plants as an indicator of possible hydraulic problems. If ponding persists for more than 4 hours after a storm event, the following steps will be taken to improve hydraulic functioning; cleaning out the underdrain with a rooter, or replacing the planting medium and pea gravel surrounding the perforated underdrain in that area. Properly dispose of any waste using appropriate disposal methods. Management of vegetation will help in maintaining adequate hydraulic functioning and will limit habitat for disease-carrying animals.
- ii. Fill all Animal burrows. If the problem persists, vector control specialists should be consulted regarding removal steps. This consulting is necessary as the threat of rabies in some areas may necessitate the animals being destroyed rather than relocated. If the BMP performance is affected, abatement will begin. Otherwise, abatement will be performed annually in September.
- iii. During each inspection and maintenance visit to the site, trash and debris shall be removed to reduce the potential for inlet structures and other components from becoming clogged and inoperable during storm events.
- iv. Sediment, debris, and trash, which impede the hydraulic functioning of the WQ band and prevent vegetative growth, shall be removed and properly disposed. If accumulation of debris or sediment is determined to be the cause of decline in the infiltration rate, prompt action (i.e., within ten working days) shall be taken to restore the WQ band to design performance standards. Actions will include using additional fill and vegetation and/or removing accumulated sediment to correct channeling or ponding. The removed medium can be safely landfilled, if testing shows it to be non-toxic. Vegetation will be re-established after sediment removal. Full replacement of the planting media is recommended every 6 years.
- v. Where revegetation has been ineffective, or where other factors have created erosive conditions (i.e., pedestrian traffic, concentrated flow, etc.), corrective steps shall be taken to prevent loss of soil and any subsequent danger to the performance of the WQ band. The corrective actions; include erosion control blankets, riprap, or reduced flow through the area. Designers or contractors will be consulted to address erosion problems if the solution is not evident.
- vi. Organophosphate insecticides and petrochemical fertilizers will not be allowed. Weeds will be removed through mechanical means. Herbicide will not be used because these chemicals may impact water quality.

##### WQ – 2 WATER QUALITY BAND – SAND FILTRATION

###### A. MAINTENANCE SPECIFICATIONS

- i. Inspect for standing water after all large storm events (>0.5 inches of precipitation) to verify that they are working as intended. Typically, sand filters begin to experience clogging problems within 5 years. In order to coincide replacement of material with replacement of the planted sections of the WQB, replacement of the unplanted section is recommended every 6 years. Corrective maintenance of the filtration chamber includes removal and replacement of the top layers of sand, gravel, and/or filter fabric that has become clogged. The removed media can be safely landfilled, if testing shows it to be non-toxic.
- ii. During each inspection and maintenance visit to the site, trash and debris removal will be conducted to reduce the potential for inlet structures and other components from becoming clogged and inoperable during storm events.
- iii. Sand filter systems may also require periodic removal of vegetative growth.

##### WQ – 3 CURB OUTLET FILTERS

###### A. MAINTENANCE SPECIFICATIONS

- i. Inspect the outlet filters on a monthly basis during wet weather and every 3 months during dry weather. Remove any trash and debris to reduce the potential for inlet structures and other components from becoming clogged and inoperable during storm events.
- ii. To clean the filter: remove the curb grate, if present; unbolt the frame from the inside face of the outlet (both sides); pull the frame out; and remove the filter fabric (like a pillow case). Filter fabric can be rinsed with water and reused until replacement is required. Rinse water can be discharged to the WQ band.
- iii. Replacement is required when filter fabric becomes saturated with hydrocarbons and changes from a light grayish coloration to a dull greenish brown color. The replaced filter fabric must be properly disposed of according to applicable local, county, and federal waste control programs. A secondary set of filter fabric should be kept on-hand should any emergency arise requiring immediate replacement.
- iv. Re-install the frame back into place and bolt in place. Re-install the curb grate, if present. Replace grates if visual inspection indicates that they are bent or damaged, creating an impedance to flow or a hazard to pedestrian traffic.



## V. LANDSCAPE (L)

### A. MAINTENANCE SPECIFICATIONS

- i. General maintenance includes:
  - a. CLEAN UP: All debris and rubbish in the planting areas shall be removed. All landscape areas shall be inspected to check for vandalism, broken branches or dying plants, pests, diseases, etc.
  - b. SOIL SAMPLES: Soil samples shall be taken at each type of planting area (each tree type, water quality bands, succulents, shrubs and perennials) and delivered to a soil testing laboratory for evaluation and recommendations.
  - c. FERTILIZATION AND SOIL AMENDMENTS: Recommendations from the soil sample analysis reports shall be followed for supplemental fertilizer type and application rates. Precautions shall be taken to contain fertilizers and amendments in the planting areas.
  - d. MONITOR: Monitor overall health of all planting, soil moisture level and soil levels quarterly by the certified arborist and weekly by the maintenance worker.
  - e. WEED, PEST AND DISEASE CONTROL: Provide weekly weed, pest and disease control for all trees, shrubs, succulents, perennials and bioswale plantings to maintain weed, pest and disease-free plantings at all times.
  - f. REPLACEMENTS: Any and all diseased, damaged, worn, dead or otherwise non-thriving plant material within the project shall be replaced within a week. Replacement of plants is anticipated in the maintenance contingencies. The life span of plants is finite and some plants live longer than others. Plants shall be promptly replaced at the end of the plants life span. In some cases, it is easier to replace plants than to maintain them past their life span. For all tree and shrub replacement plantings shall match as closely as possible to the current size of existing adjacent similar species.
  - g. PRUNING: All pruning shall be under the design direction of a certified arborist who is well versed in the design intent of this project.
  - h. WINTER WATERING: Water plant material when there has been less than 1/2" moisture within a 4-week period when irrigation systems are inactive.

#### L – 1 TURF

Turf is located in the three sections of open lawn along the East edge of the park.

### A. MAINTENANCE SPECIFICATIONS

- i. Weekly mowing and edge trimming from April to October, to a height of 3" for non-athletic turf. Areas not accessible by riding mowers shall be trimmed to match the mowing height.
- ii. Spring and fall fertilization as determined by soil tests.
- iii. Other tasks include: weed control and litter removal.
- iv. After re-sodding, the lawn should be kept closed for at least 6 weeks to allow establishments of new growth.
- v. Fertilization: Apply up to 3lbs of nitrogen per 1000sqft. Application should be based on turf needs for health.
- vi. Aeration: Aerate using hollow tine, slicing, deep tine, or shatter tine to promote increased porosity in the soil to increase oxygen, water and nutrient uptake.

- vii. Edging: Turf along concrete edges will be removed in cool season turf areas to the edge of the concrete curb or walkway using the appropriate edging equipment. The of the concrete surface should be visible after edging.
- viii. Over Seeding: Areas with noticeable bare spots in a contiguous area shall be over seeded with the appropriate seed mix for consistency and sustainability. Seeding will follow PFPD seeding specs.
- ix. Topdressing: Material is to be consistent with existing soil texture where it is to be applied. Organic materials use are to meet PFPD organic material specs. Topdressing is to be used in non-athletic turf when soil test or leveling needs determine the application.
- ix. Fill low spots with matching existing soil when filling noticeable depressions or holes. Compact to meet surrounding soil compaction.
- ix. Utilize a litter lift to remove excess litter, grass clippings, and other debris. Sweeping is not limited to areas needing cleanup after a special event or when additional mowing has not removed clippings adequately.

#### L – 2 TREES

### A. MAINTENANCE SPECIFICATIONS

- i. Trees should be regularly examined for pests and disease infestation, especially during spring, summer, and fall. Inspection involves looking for potential abnormalities, examining roots, trunk, branches, and leaves for unusual patterns.
- ii. Removal is recommended for severely infested plants that are beyond treatment.
- iii. A professional arborist should be consulted if and when diseases and pests are identified after inspection.
- iv. Pruning should be done seasonally while plants are still in their "dormant" state. Additional pruning might be needed throughout the year during special conditions, such as storm events or vandalism. Never prune during wet weather. Pruning is required during the life of the tree to remove dead and diseased parts. Proper and sharp tools are to be used. Tools should be sterilized with 10% solution of bleach before the pruning and especially when moving from tree to tree. Proper techniques should include: thinning, dead wooding, shaping, cleaning, elevating.
- v. Hand watering may be needed to supplement scheduled irrigation in order to keep trees healthy. Newly planting trees will have higher water needs than established trees. Park staff should monitor trees and determine if trees need additional watering. Water should be applied slowly so as to penetrate the entire root zone.
- vi. Trees in turf areas should be dressed with a 2" thick ring of organic mulch, with a min 12" radius around trunks or stems. Mulch is not be placed directly against tree trunks. Trees in lawns should be inspected for damage from mowers or evidence of root girdling.
- vii. Trees should be fertilized in the fall, Oct to Dec, or spring, Feb to Apr, as indicated by soil tests.
- viii. If tree stakes are used they should be inspected regularly to ensure no damage is done to the trees. Guy wires may need to be tightened if they become loose. Materials such as rubber hoses or plastic flagging might need to be replaced overtime. All stakes should be removed after one year.
- ix. Any fruit, seeds, and fallen branches from trees should be cleaned up along pedestrian paths and in frequently used areas.

## L – 3 SHRUBS

### A. MAINTENANCE SPECIFICATIONS

- i. Maintain plant health by removing dead, damaged, or diseased plant tissue.
- ii. Remove branches that crowd, rub, or droop on other branches.
- iii. Stimulate flowering or fruiting.
- iv. Improve plant appearance by training to a particular shape or size.
- v. Rejuvenate old, overgrown shrubs to restore their shape and vigor. Severe pruning is required for rejuvenation.
- vi. Mulching should be consistent, clean chipped mulch to a depth of 4".

## L – 4 WATER EDGE RESTORATIVE PLANTINGS

Along the river edge and bay area will be restorative planting areas for a soft vegetative environment.

### A. MAINTENANCE SPECIFICATIONS

- i. After the initial plant installation and for subsequent plant replacement, it is extremely important to protect the new plantings until they are established, to avoid over-foraging from waterfowl.
- ii. Plants in these areas should be allowed to establish before any maintenance (aside from weed control) is performed.
- iii. Accumulated biomass should be left to stabilize the water edge.
- iv. 1 Year after planting, debris and invasive plants should be removed, cutback should not be performed until the following year.
- v. After the plantings are established, maintenance will include: trimming/pruning, cutbacks, weed control by hand or with skimmer net in order to minimize disturbance.
- vi. A small watercraft or waders may be necessary for proper maintenance access. A floating bin or basin may be used to collect trash, plant material, and debris.
- vii. Litter removal can primarily focus on the edges along pathways.
- viii. The water edge should be monitored frequently and especially after storm events, to ensure no erosion is occurring. Any identified areas of erosion must be quickly assessed and evaluated for repairs and re-stabilization.

## L – 5 WATER QUALITY BAND PLANTINGS

### A. MAINTENANCE SPECIFICATIONS

- i. Monitor soil moisture levels and overall plant health weekly. Inspect plantings for vandalism, general wear and tear.
- ii. Periodically remove old stems to maintain cosmetic appearance. Prune, shear or tip-pinch to maintain natural shape. Replace any diseased, damaged, worn dead plants when needed.
- iii. Fertilize plantings
- iv. Weed, pest and disease control weekly
- v. Soil sample analysis
- vi. Contingency for planting and water quality band soil medium replacement
  - a. Replacement planting shall match as closely as possible to the current size of existing adjacent similar species.
  - b. Replace all plants and soil medium every 5 years to ensure proper function for storm water management

## L – 6 LANDSCAPE MULCHES

### A. MAINTENANCE SPECIFICATIONS

- i. Quarterly monitor levels of mulch and replace mulch as necessary
- ii. Contingency for mulch
  - a. Eco mulch
  - b. Rock gravel mulch
  - c. Water quality band angular rock

## L – 9 NAUTRAL AREAS

### A. MAINTENANCE SPECIFICATIONS

- i. Areas should be left in a natural state, this includes not mowing, trimming, fertilizing, or irrigation. Except to provide optimal plant establishment and maintenance.
- ii. Weed control is limited to removal of noxious plants or for establishment of desired plants.
- iii. Regular maintenance includes restoring natural or native plantings and following recommended practices of maintenance after establishment.
- iv. Grass and fields: If the plant material is healthy it should be left in a natural state. Areas along paved trails may be mowed up to 3 times per growing season.
- v. Trees and shrubs: If the plant material is healthy it should be left in a natural state and maintained to achieve desired species diversity, size, and age.
- vi. Litter control: Keep ground free of litter and debris quarterly or after any complaints.
- vii. Hardscape: Maintain areas to be free of glass, litter, debris, and trip hazards after complaints.

## **VI. IRRIGATION (IR)**

### IR – 1 PROJECTED IRRIGATION WATER USE

#### A. MAINTENANCE SPECIFICATIONS

- i. Conventional irrigation controllers are to be scheduled to deliver irrigation water within three days or less per irrigation zone, between the hours of 6:00pm and 10:00am.
- ii. Adjust sprinklers and controllers to avoid runoff or ponding that would be detrimental to plant health, public health, conservation efforts, or the enjoyment of the public.
- iii. No irrigation should occur within 24 hrs of mowing.
- iv. All irrigation systems will need to be regularly monitored and the components should be frequently inspected. Repairs and maintenance should be performed as needed.
- v. Each year the irrigation system will need to be winterized in the fall and started up in the spring.

### IR– 2 WATER MANAGEMENT PROGRAM

#### A. MAINTENANCE SPECIFICATIONS

Before water requirements are used for landscape planning and management purposes, a few considerations should be noted. Field adjustments, irrigation schedules, soil evaporation, salts and leaching, and potential future use of reclaimed water need to be considered when developing a water management program.

- i. Field Adjustments - The landscape coefficient formula provides estimates of water requirements, consequently adjustments will be needed in the field. If plants are showing signs of water stress, then additional water is needed. Conversely, when it appears that too much water is being applied, then a downward adjustment is needed. When irrigation water estimates are initially implemented in the field, they should be carefully monitored.
- ii. Irrigation Schedules – An estimate of water needs is the first step in development of an irrigation schedule. Irrigation frequency, duration and cycles also need to be determined to create a schedule. The schedule is determined from the soil infiltration rate, rooting depth, sprinkler application rate, allowable depletion amounts and soil holding capacity. Each of these factors needs to be evaluated to determine how frequently to irrigate, how long to irrigate at a given time, and how many cycles are needed.
- iii. Soil Evaporation – Water loss occurs from the soil as well as from the plants. Soil evaporation is most common when the ground is not shaded and no mulch is present. The rate of evaporative water loss from soil depends on the texture, structure and density of the soil. When soil contributes to landscape water loss, water estimates should be increased by 10% to 20%. With sufficient mulching, the soil surface will not be a source of water loss.
- iv. Salts and Leaching – When soil salt concentrations are sufficiently high to impact the condition of the plant, the application of water in excess of that needed to meet plant needs is required. It is recommended that managers have the soil analyzed by a soils laboratory to determine its composition.
- v. Reclaimed Water – Reclaimed water varies in quality. When irrigating with reclaimed water, landscape managers will need to assess and monitor the water quality. Some upward adjustments in water estimates may be needed to reduce plant injury potential with low water quality.

## IR – 3 IRRIGATION SYSTEM MAINTENANCE

#### A. MAINTENANCE SPECIFICATIONS

- i. Repair components to their original operating level at installation. Replace or repair worn out components when a problem is reported or noticed during inspection. Significant changes should be recorded on as-built.
- ii. Utilize the Irrigation Association’s Certified Landscape Irrigation Auditor training to evaluate inefficient irrigation or areas using more than 30 inches per acre/year.
- iii. Maintain a laminated irrigation system chart. Existing components identified and labeled shall include: water meter, stop and waste valve, backflow device and size, mainlines, laterals, valve boxes, drains, quick couplers, and irrigation heads.
- iv. Prioritize repairs/replacement with available resources for winter overhaul and repair.

## **VII. SIGNAGE (SG)**

### SG– 1 ENTRY SIGNAGE

#### A. MAINTENANCE SPECIFICATIONS

- i. Powerwash all lettering and signage elements using a non-abrasive cleaner
- ii. Check mounting of all letters and sign plaques to ensure mounting is tight and true
- iii. Clean stainless steel using 3M scotchbrite cleaning system to ensure any oxidization is removed
- iv. Check for any chips on painted elements of sign plaques, touchup as required

### SG– 2 PLACE MARKER SIGNAGE

#### A. MAINTENANCE SPECIFICATIONS

- i. Powerwash map, and posts using a non-abrasive cleaner
- ii. Check mounting of sign panel to ensure mounting is tight and true
- iii. Check all fastening systems to ensure they are tight, replace any damaged or loose hardware
- iv. Check map for accuracy based on physical site updates or alterations. If changes are required, remove out of date map and replace with a new panel
- v. Check for any chips on painted elements of sign, touchup as required

### SG – 3 WAYFINDING SIGNAGE

#### A. MAINTENANCE SPECIFICATIONS

- i. Powerwash sign panels, and posts using a non-abrasive cleaner
- ii. Check mounting of sign panel to ensure mounting is tight and true
- iii. Check all fastening systems to ensure they are tight, replace any damaged or loose hardware
- iv. Check signage panels for accuracy based on physical site updates or alterations. If changes are required, remove out of date sign panel and replace with a new panel.
- v. Check for any chips on painted elements of sign, touchup as required

## VIII. LIGHTING (LT)

### LT- 1 PEDESTRIAN LIGHT

#### A. MAINTENANCE SPECIFICATIONS

- i. Replace (2) lamps every 5-6 years  
(Re-lamping cycle based on long life 30,000 hour, low-mercury HPS lamps.).
- ii. Inspect for corrosion (when replacing lamp).
- iii. Wipe clean (2) lenses.
- iv. Replace (2) MH ballast every 5 years.
- v. Replace photocell every 5 years.
- vi. Inspect pole finish, touchup as required.

### LT – 2 PAVILION CANOPY DOWNLIGHTS

#### A. MAINTENANCE SPECIFICATIONS

- i. Replace lamp every 3-4 years.

### LT – 3 RESTROOM LIGHTING

#### A. MAINTENANCE SPECIFICATIONS

- i. Replace lamp every 3-4 years.
- ii. Clean exposed lens surfaces for dirt accumulation as per typical SURFACES maintenance.

### LT – 4 BOLLARD LIGHTING

#### A. MAINTENANCE SPECIFICATIONS

- i. Replace lamp every 3-4 years.
- ii. Clean exposed lens surfaces for dirt accumulation as per typical SURFACES maintenance.

## IX. ARCHITECTURE (A)

### A- 1 PAVILIONS

#### A. MAINTENANCE SPECIFICATIONS

- i. GENERAL: Check for damage four (4) times per year.
- ii. Structures require regular cleaning to remove any trapped litter or debris.
- iii. They should receive a thorough cleaning once to twice annually, as needed.
- iv. If the pavilions are rented for other uses, they may need additional maintenance to ensure that they are clean for public use.

### A – 2 BATHROOM

#### A. MAINTENANCE SPECIFICATIONS

- i. GENERAL: Check for damage four (4) times per year.
- ii. Cleaning tasks will include:
  - a. Sweeping and washing of walls, floors, door handles, etc.
  - b. Cleaning of all restroom amenities including: toilets, sinks, soap and towel dispensers, etc.
  - c. Restocking of toiletries
  - d. Lighting maintenance and replacement of light bulbs
  - e. Graffiti/scratchiti/gum removal
  - f. Maintenance and repair of mechanical/electrical/HVAC systems (as needed)
  - g. Maintenance and repair of interior surfaces, walls, floors, and ceilings
- iii. The restroom will also require maintenance including regular spot cleaning and a twice annual powerwashing of the full structure.

## X. PLAY AREAS (PA)

In the continuing effort by the City of Post Falls to provide quality, well maintained, clean and safe playground facilities for the public the Playground Safety and Maintenance Program has been developed. The Public Playground Safety and Maintenance Program is detailed further in its own program. The following information is provided for general reference only.

### PA- 1 PLAY STRUCTURE

#### A. MAINTENANCE SPECIFICATIONS

- i. The play area will feature several different play features and equipment, which will require regular inspection to ensure their safety.
- ii. The play features and equipment should be cleaned and sanitized regularly and repaired immediately as needed. Any damaged equipment that poses a safety risk should be closed for use until repaired or replaced by a trained playground specialist.
- iii. Any unique parts or paints should be kept as attic stock in order to make repairs as soon as possible to avoid shutting down part of the play area.
- iv. Depending on the final play features chosen, special tools and parts may be required for maintenance.
- v. Litter and debris should be removed from the play area regularly.
- vi. Play areas are to be maintained to meet ADA playground requirements.
- vii. Add fall zone material to meet ASTM and National Playground Safety Institute Standards. Fill material to be 4-6 inches below top of containment edge per PFPD design specs. Loose fall zone material inside play area is to be rototilled to reduce compaction within the fall zone.

### PA- 2 NATURAL BOULDERS

#### A. MAINTENANCE SPECIFICATIONS

- i. Boulders should be inspected for graffiti or vandalism regularly and cleaned as needed.
- ii. Any other maintenance and repairs should be performed as needed.

## PA- 3 NATURAL LOGS

### A. MAINTENANCE SPECIFICATIONS

- i. Logs should be inspected for graffiti or vandalism regularly and cleaned as needed.
- ii. Regular inspections should also include maintenance to broken or damaged areas of the log for safety.
- iii. Any other maintenance and repairs should be performed as needed.

## PA- 4 STEPPING STONES

Located in the play areas, off trail paths, and in the streetscape stormwater planters.

### A. MAINTENANCE SPECIFICATIONS

- i. Stepping stones should be inspected for graffiti or vandalism regularly and cleaned as needed.
- ii. Regular inspections should also include maintenance to broken or damaged stones.
- iii. Any other maintenance and repairs should be performed as needed.

## XI. RIVER FRONT / BAY AREA (RB)

### RB- 1 GABION WALLS

#### A. MAINTENANCE SPECIFICATIONS

- i. Walls will require regular cleaning. Powerwashing will be necessary from Apr to Oct along the gabion retaining walls.
- ii. Spot cleaning will be required for gabion walls along the rivers edge. This will include the removal of litter and debris.
- iii. Any other maintenance and repairs should be performed as needed.

## XII. METHODOLOGY (M)

### M- 1 METHODOLOGY

- A. The first step to defining a maintenance plan is to establish a framework that fits the varying maintenance zones of the park and the time of construction for the different zones. For each zone a task list should be developed to estimate the number of hours required for the annual maintenance of that area.

### M- 2 MAINTENANCE ASSUMPTIONS

- A. Peak season for visitors: May to Oct, while off season is Nov to Apr.
- B. Irrigation will be winterized in Oct and started up in May.
- C. The boardwalk is assumed to be pedestrian only, it will not support any vehicles, so any maintenance may need to be transported by boat.

### M- 4 MAINTENANCE FACILITY NEEDS

- A. Minimal new equipment is expected to be needed in order for the City to effectively manage Black Bay Park. Storage space will be required for attic stock for the project. The City should consider storing a small utility cart and frequently used equipment on-site.

## XIII. STAFFING & ORGANIZATION (SO)

### SO- 1 IN-HOUSE VS CONTRACTED WORK

- A. Basic cleaning and grounds keeping will be performed by City staff.
- B. City staff will also perform horticultural care for the lawns and planting areas, as well as tree care. A consulting arborist should be contracted for additional tree care services. Horticultural car for the plantings along the water edge should be contracted out.
- C. Some utility and irrigation work will be done by City staff, contracted services will be used as needed.
- D. Maintenance and repairs will be done by a combination of City and contracted staff.

Volunteers may be used to help with basic cleaning/grounds keeping, trail maintenance, and horticulture tasks. Volunteers will need to be supervised, and may need to be trained, which will involve additional staff time.

### SO 2 ESTIMATED MAINTENANCE COSTS

Estimated on-going maintenance costs for parks during the Visioning process is difficult as design details, construction techniques and final material selections have not been made. However many different organizations use a variety of metrics to determine maintenance costs. Some preliminary research includes:

- A. National Recreation and Park Association - in their 2019 Performance Review, estimates the median level operating expenditures is \$6,750 per acre of park. When applied directly to Black Bay Park this equates to approximately \$425,000 annually. However, because of the extensive natural areas that require minimal maintenance, one could safely assume that this number could be reduced.

(Source: <https://www.nrpa.org/siteassets/nrpa-agency-performance-review.pdf>)

- B. Recent research for a lakefront park, with similar boardwalk features suggested that on-going maintenance costs for a downtown park can range from 3%-6% of the estimated construction costs depending on the materiality, finishes, and landscape system used. Based on this research, and the opinion of probable cost included in this report, Black Bay Park's on-going maintenance could range between \$390,000 to \$780,000 if all phases of the proposed design were to be completed. However, many of the proposed improvements are basic infrastructure elements including paths, lawn area, and native plantings, which suggest that the long-term maintenance costs would fall at the low end of this range.
- C. As the design process for Black Bay Park continues, it is recommended that the Parks Department consider engaging an industry leading expert in Public Space Management and Operations.