

Doan Brook Restoration Near Horseshoe Lake Park Virtual Meeting

THE MEETING WILL BEGIN MOMENTARILY



**Northeast Ohio
Regional Sewer District**

Public Engagement Process

- Tonight's meeting
 - Share information and findings to date
 - Recording available at www.neorsd.org/DoanBrook
 - Use the Q&A function in Zoom or email askus@neorsd.org



Public Engagement Process

- December 3-4 at Shaker Heights Public Library
 - Saturday 10:30 a.m. – 1:00 p.m.
 - Sunday 1:00 – 3:00 p.m.
- Opportunity for community to weigh in
 - Interactive, hands-on activity with design team
 - Explore potential park amenities



Stream alignments / considerations

- Modeling and stream function will dictate the final solution
- Best alignment from a park integration standpoint
- Informed by community input December 3-4
- Cost will not be a deciding factor; stream function is the project's top priority



Q&A



**Northeast Ohio
Regional Sewer District**

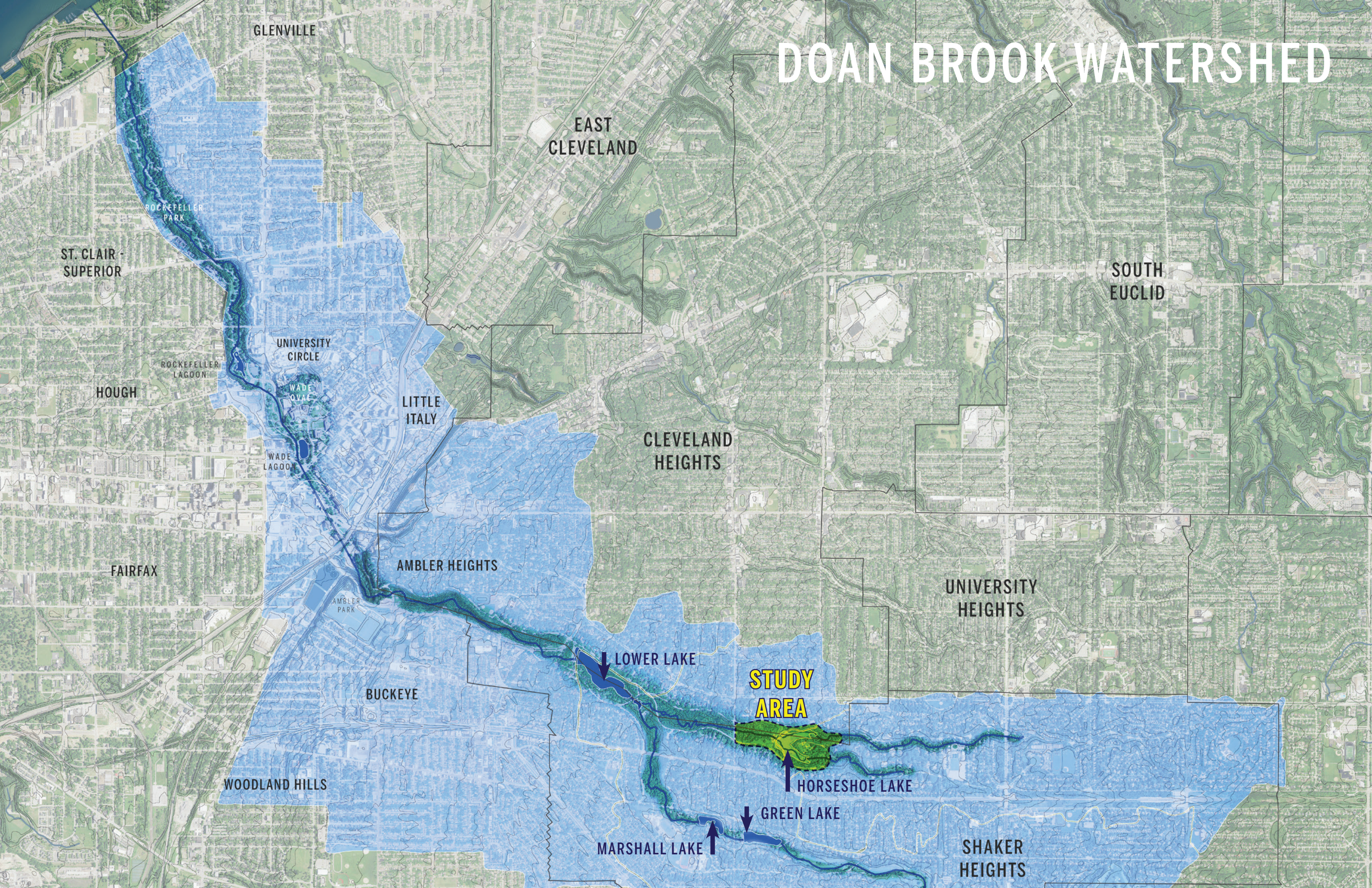
DOAN BROOK RESTORATION

PUBLIC FORUM #2 VIRTUAL MEETING
THE DOAN BROOK RESTORATION NEAR HORSESHOE LAKE PARK

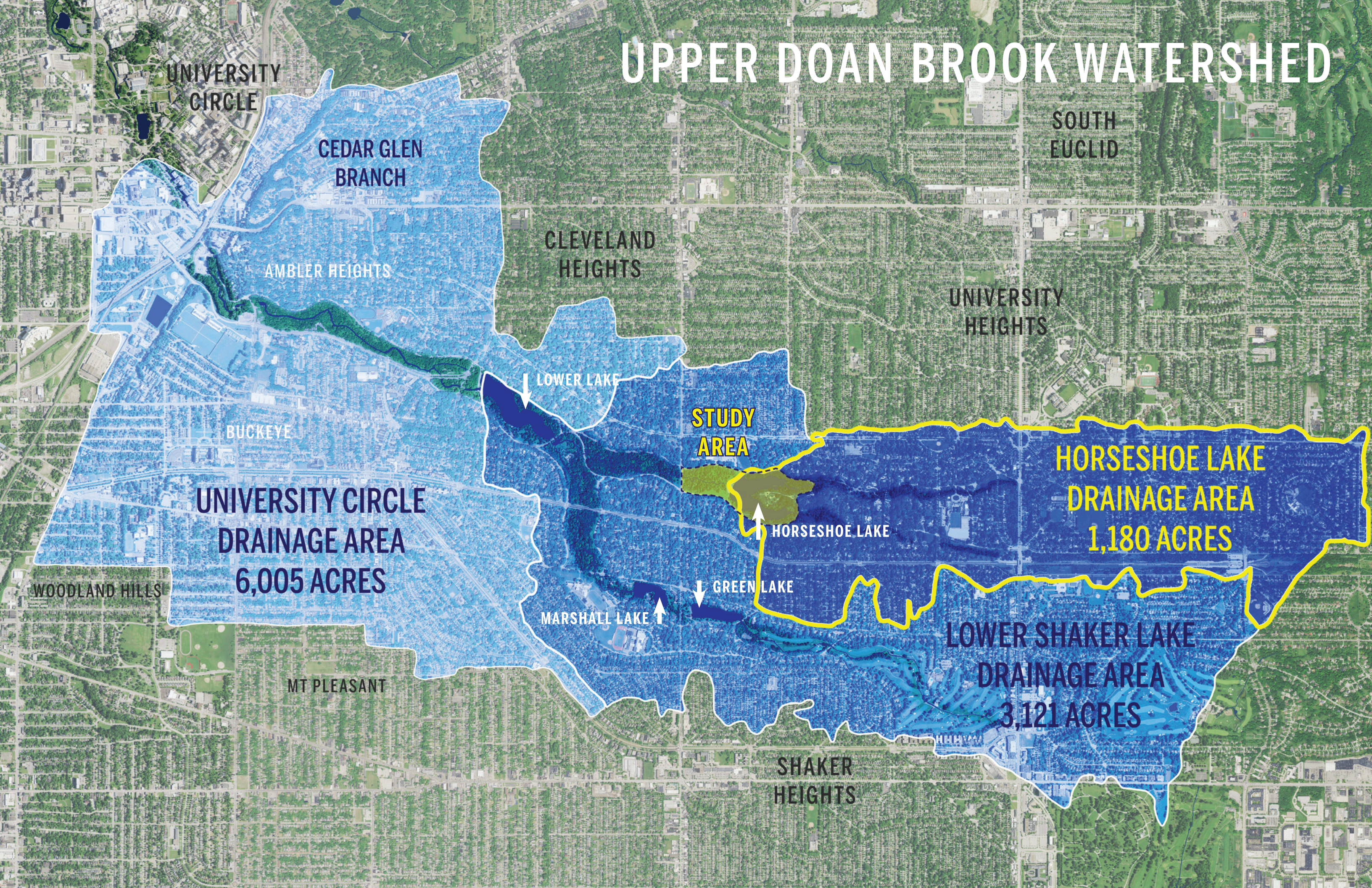
NOVEMBER 30, 2022



DOAN BROOK WATERSHED



UPPER DOAN BROOK WATERSHED



UNIVERSITY
CIRCLE

CEDAR GLEN
BRANCH

SOUTH
EUCLID

CLEVELAND
HEIGHTS

AMBLER HEIGHTS

UNIVERSITY
HEIGHTS

LOWER LAKE

BUCKEYE

STUDY
AREA

HORSESHOE LAKE
DRAINAGE AREA
1,180 ACRES

UNIVERSITY CIRCLE
DRAINAGE AREA
6,005 ACRES

HORSESHOE LAKE

WOODLAND HILLS

GREEN LAKE

MARSHALL LAKE

LOWER SHAKER LAKE
DRAINAGE AREA
3,121 ACRES

MT PLEASANT

SHAKER
HEIGHTS

- 
- **Regional Stormwater Management Program Goals**
 - **ODNR Dam Safety Regulatory Requirements**
 - **Risk and Maintenance of a High Hazard Dam**
 - **Management of Sediment**



NORTHEAST HARBOR | Mt Desert Island, ME



HARDBERGER PARK | San Antonio, TX



FOREST PARK | Lake Forest, IL



COONAMESSETT RIVER GATEWAY PARK | Falmouth, MA

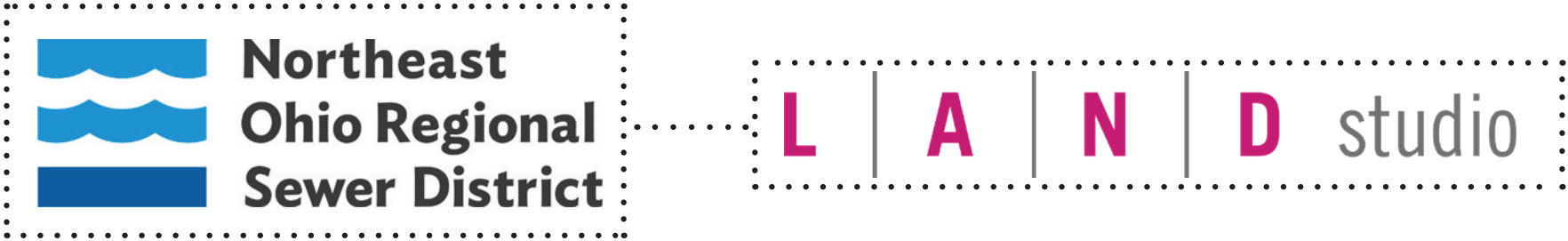


FLORENCE GRISWOLD MUSEUM | Old Lyme, CT



FERROUS FOUNDRY PARK | LAWRENCE, MA

DESIGN TEAM



PROJECT MANAGERS

MATT LANGAN, ASLA, PLA, LEED AP
Project Manager
STIMSON | Landscape Architect

IVAN VALENTIC, ASLA, PLA
Deputy Project Manager
GPD Group | Landscape Architect

DAM REMOVAL & SEDIMENT
MANAGEMENT

AECOM

TROY NAPERALA (Dam Removal TASK LEADER)
Vice President | Professional Engineer

BRIAN MASTIN (Sed. Mgmt. TASK LEADER)
Dredging/Dewatering SMEG

RACHEL EVANS
Landscape Historian | Landscape Architect

LANDSCAPE INTEGRATION PLANNING
& STAKEHOLDER ENGAGEMENT

STIMSON

GLEN VALENTINE, ASLA, PLA (TASK LEADER)
Principal-in-charge | Landscape Architect

LAUREN STIMSON
Consulting Principal | Landscape Architect

CAMILA CAMPOS HERRERA
Associate | Landscape Architect

CECILIA HUBER
Landscape Designer

STREAM RESTORATION &
SITE INFRASTRUCTURE

GPD GROUP + ENVIROSCIENCE

JULIE BINGHAM (TASK LEADER)
Restoration Designer | EnviroScience

TINA BELZ
Principal | GPD Group

TOM WASHKO
Site Infrastructure Engineer | GPD Group

SUPPORT SERVICES AND KEY ADVISORS

LOCAL ARCHEOLOGY & URBAN ECOLOGY
BLUESTONE ENV. EDUCATION
ROY LARICK

COST ESTIMATING & CONSTRUCTIBILITY
RIVER REACH CONSTRUCTION
SHANNON CARNEAL

SITE SURVEYING
KS ASSOCIATES
MARK YEAGER, P.S.
Director of Land Surveying Services

SEDIMENT SAMPLING
HZW ENVIRONMENTAL CONSULTANTS

HISTORIC RESOURCES
LAWHON AND ASSOCIATES, INC

CLEVELAND HEIGHTS

LEE ROAD

FAIRMOUNT BOULEVARD

BEAUMONT SCHOOL
HIGH SCHOOL

RUFFING
MONTESSORI
SCHOOL

FIRST BAPTIST
CHURCH OF GREATER
CLEVELAND

SHELburne ROAD

NORTH PARK BOULEVARD

EATON ROAD

6 ACRES

SHAKER HISTORICAL
SOCIETY

PARK DRIVE

SOUTH PARK BOULEVARD

ATTLEBORO ROAD

LEE ROAD

SHAKER BOULEVARD

SOUTH
WOODLAND
ROAD

SHAKER HEIGHTS

CLEVELAND HEIGHTS

LEE ROAD

FAIRMOUNT BOULEVARD

RUFFING
MONTESSORI
SCHOOL

BEAUMONT SCHOOL
HIGH SCHOOL

FIRST BAPTIST
CHURCH OF GREATER
CLEVELAND

SHELBURNE ROAD

NORTH PARK BOULEVARD

EATON ROAD

60 ACRES!

6 ACRES

SHAKER HISTORICAL
SOCIETY

PARK DRIVE

SOUTH PARK BOULEVARD

ATTLEBORO ROAD

LEE ROAD

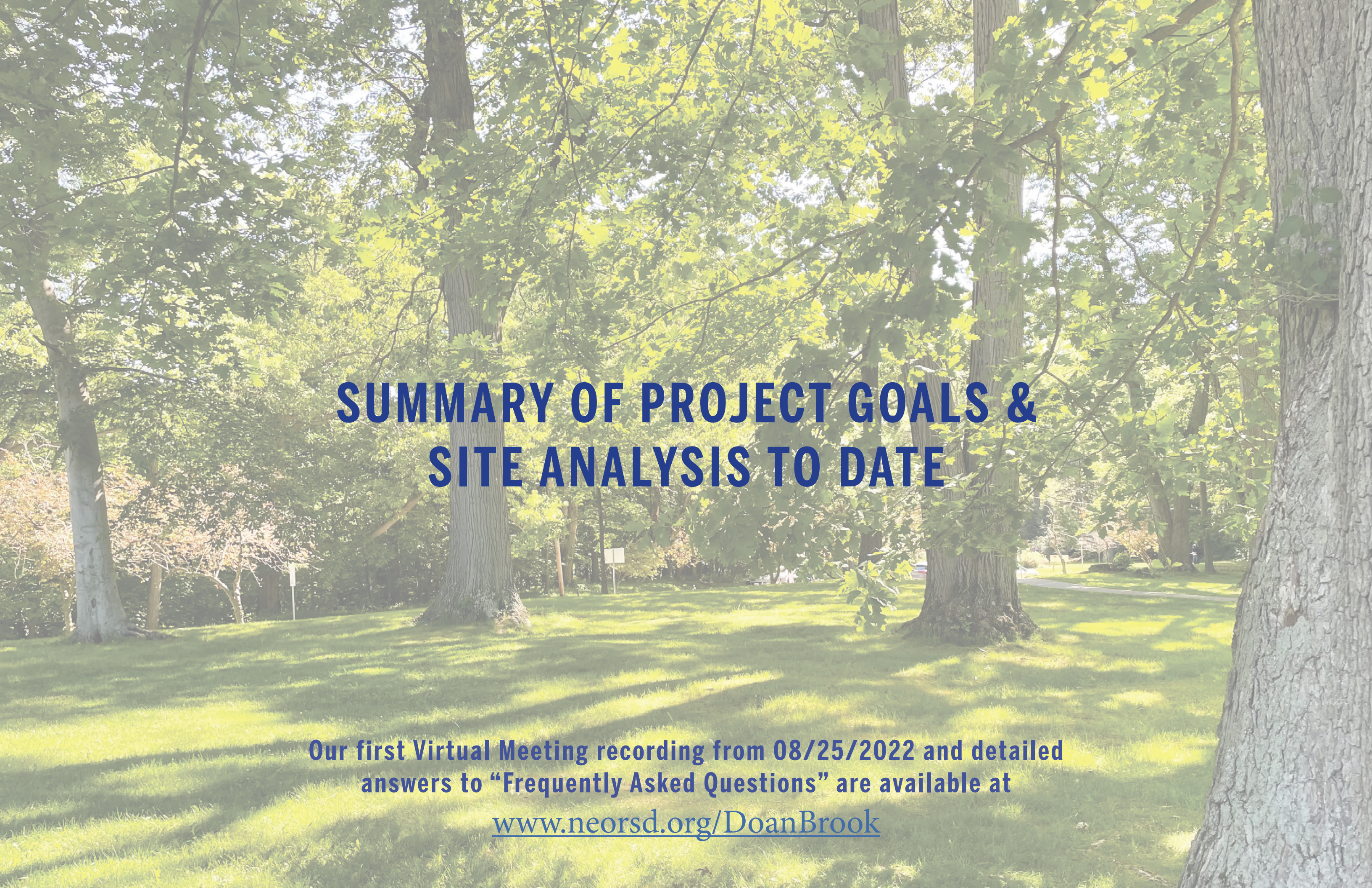
SHAKER BOULEVARD

SOUTH
WOODLAND
ROAD

SHAKER HEIGHTS

AGENDA

- 1 Summary of Project Goals & Site Analysis to Date
- 2 Engagement Summary & Synthesis of Findings
- 3 Initial Landscape Integration Concepts
- 4 Potential Park Amenities
- 5 Preview of 12/3&4 Open House “Hands-on” Activity
- 6 Moderated Q&A

A photograph of a park with large, mature trees and a grassy field. The trees have dense green foliage, and their shadows are cast on the grass. The scene is bright and sunny.

SUMMARY OF PROJECT GOALS & SITE ANALYSIS TO DATE

Our first Virtual Meeting recording from 08/25/2022 and detailed answers to “Frequently Asked Questions” are available at
www.neorsd.org/DoanBrook

PROJECT GOALS & OBJECTIVES

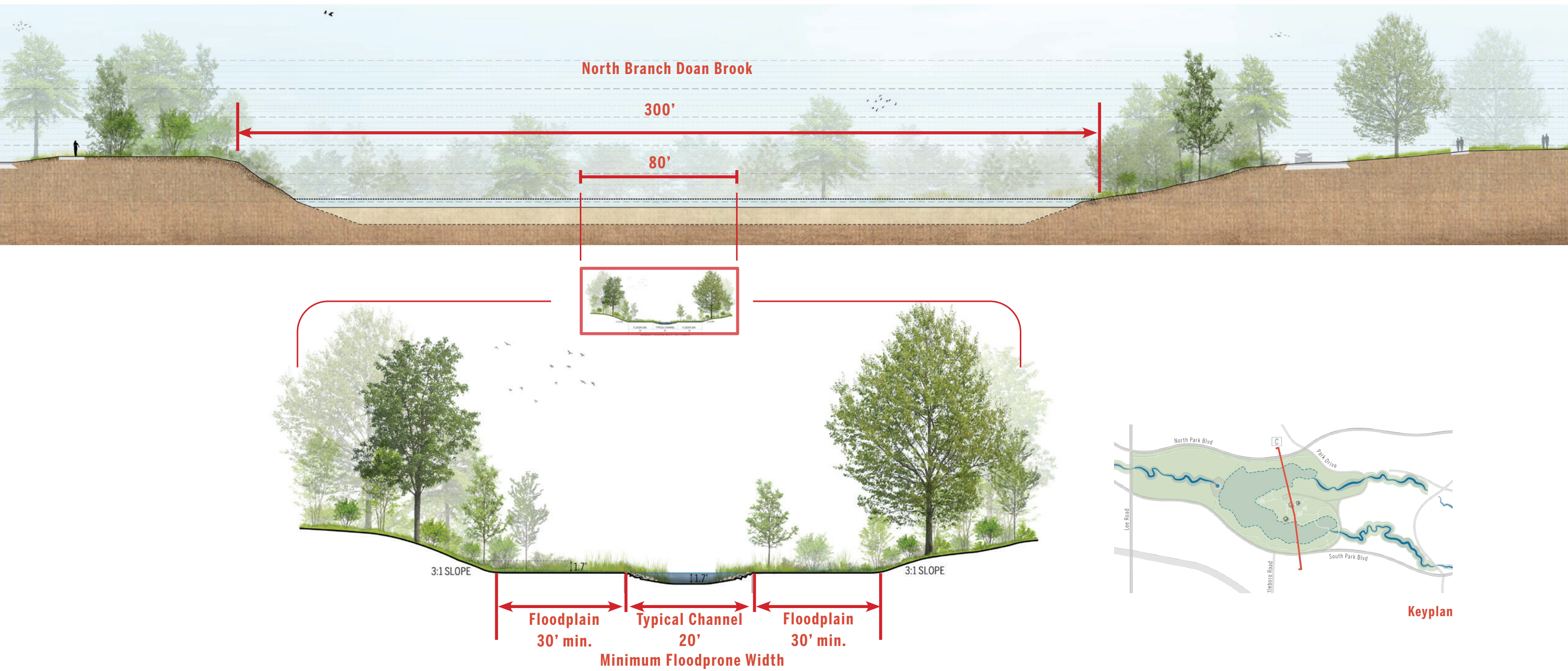
Develop a landscape plan that integrates ecological, cultural, & recreational amenities



- Interpret the multifaceted historical, natural, and cultural legacies impacting ecology and use of the site
- Recommend park design elements informed by community needs and interest
- Repair and expand physical connections to amenities and through the site
- Ground the landscape vision with an achievable management plan

PROJECT GOALS & OBJECTIVES

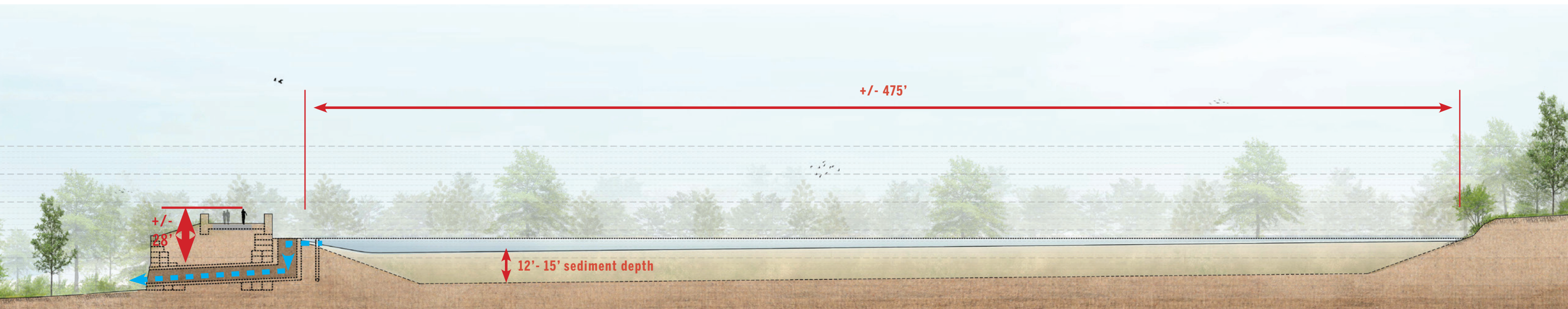
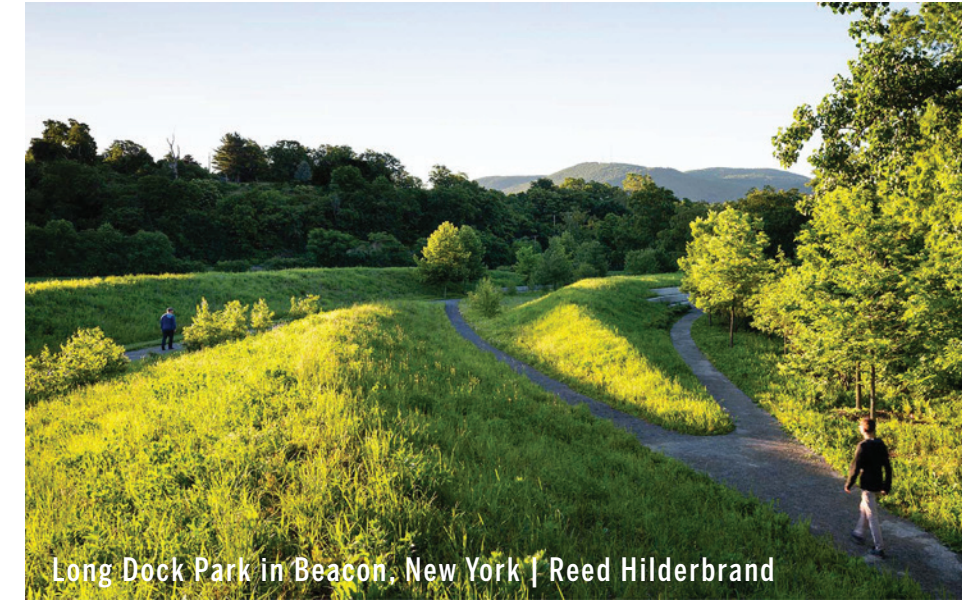
Restore the stream corridors and enhance ecological sustainability



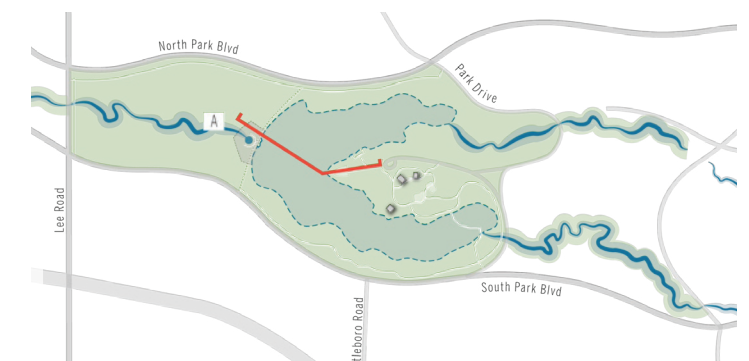
- a. Re-naturalize the Doan Brook channels & riparian features to improve ecological function
- b. Make data-driven recommendations to manage storm events, erosion, and flow in an environmentally responsible way
- c. Make decisions for restoring this portion of Doan Brook that consider the watershed as a whole

PROJECT GOALS & OBJECTIVES

Manage waterway sediment to support the project program in a way that is cost effective



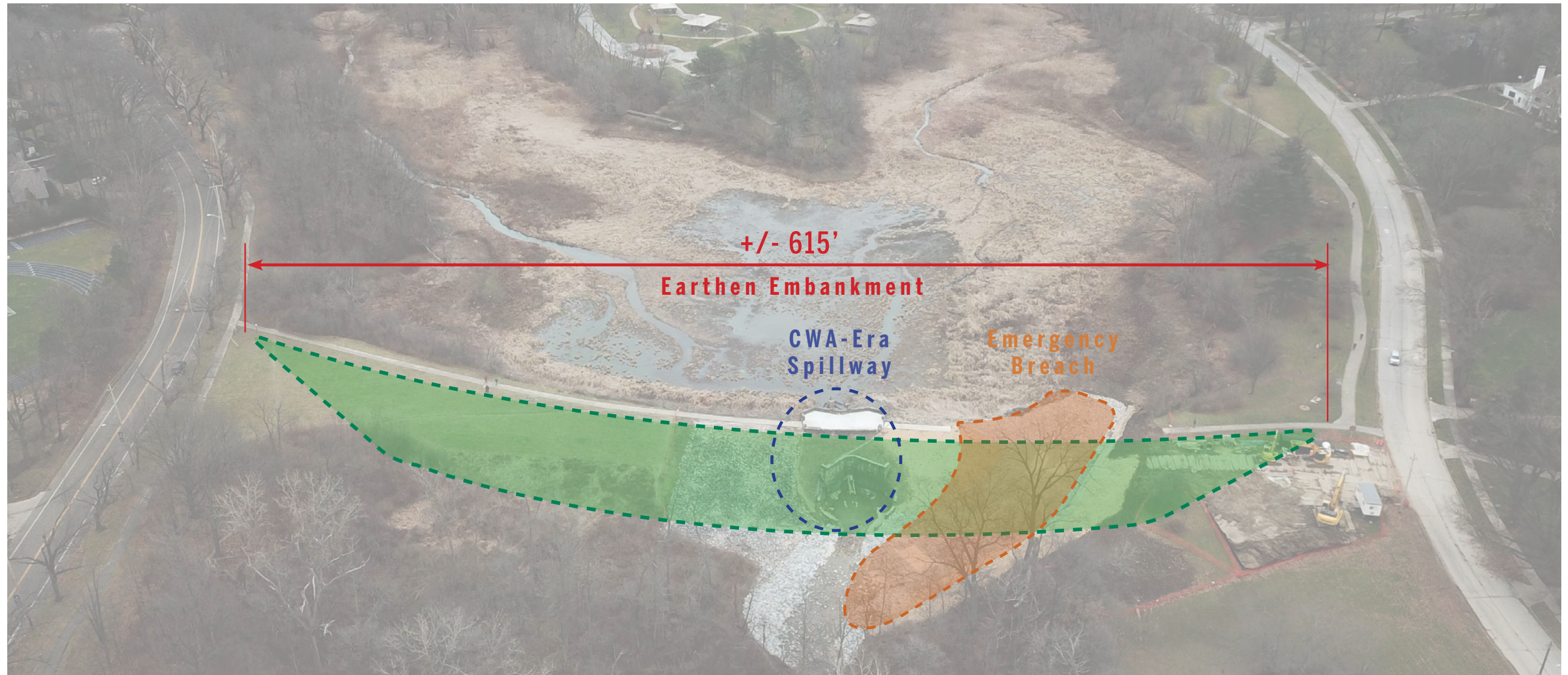
- Provide a data-driven cost/benefit analysis for the best ways to reuse, re-purpose, and/or dispose of stream sediment
- Make sediment management decisions that consider the watershed as a whole



Keyplan

PROJECT GOALS & OBJECTIVES

Remove the dam to mitigate risk during and after construction

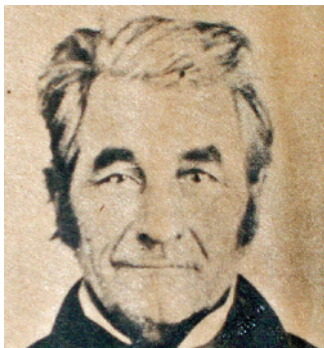


- a. Communicate the regulatory, public safety, and environmental challenges associated with dams
- b. Demonstrate deficiencies of the existing structure
- c. Develop an approach for removal that minimizes safety risks while managing variable stream flows during construction
- d. Integrate dam removal with stream restoration and sediment management

A photograph of a park with large trees and a grassy field. The text "SITE ANALYSIS SUMMARY" is overlaid in the center.

SITE ANALYSIS SUMMARY

SITE HISTORY



Ralph Russell

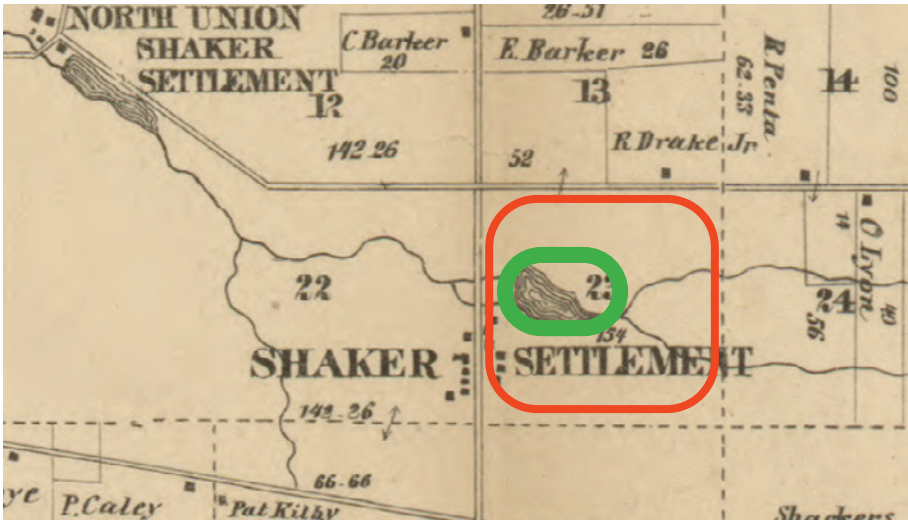
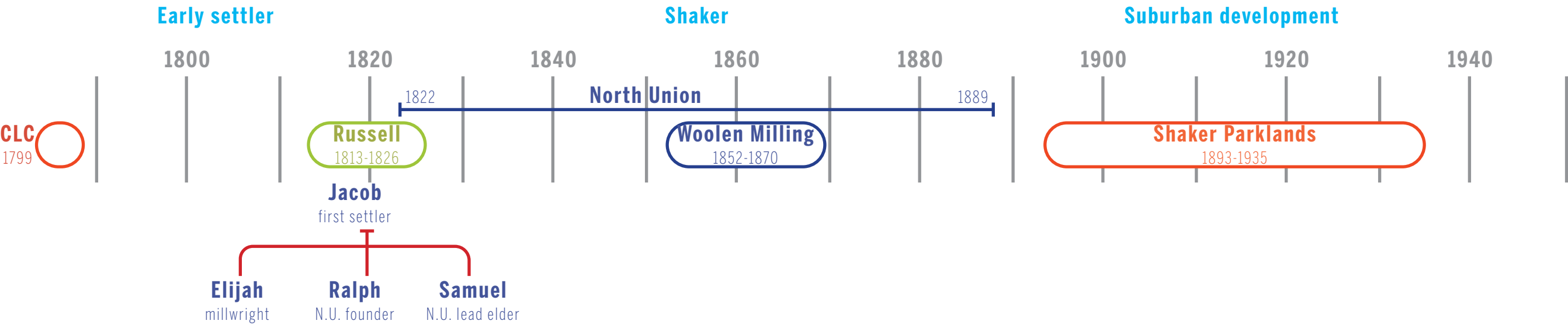


Deforestation c. 1900

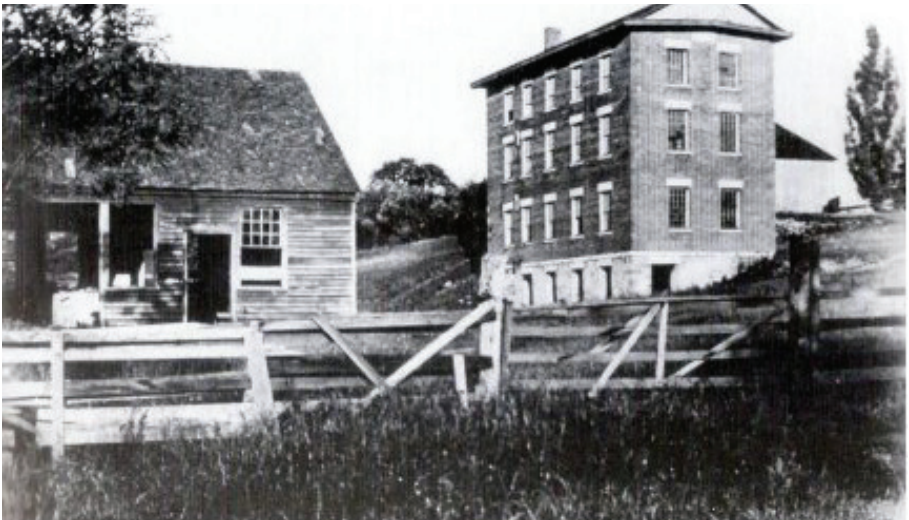


Upper Lake spillway outfall c. 1900

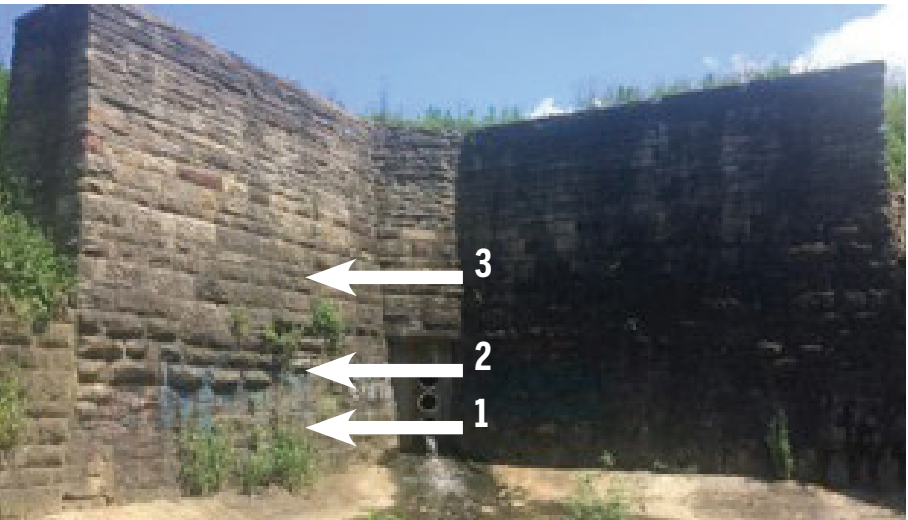
Historical resources timeline



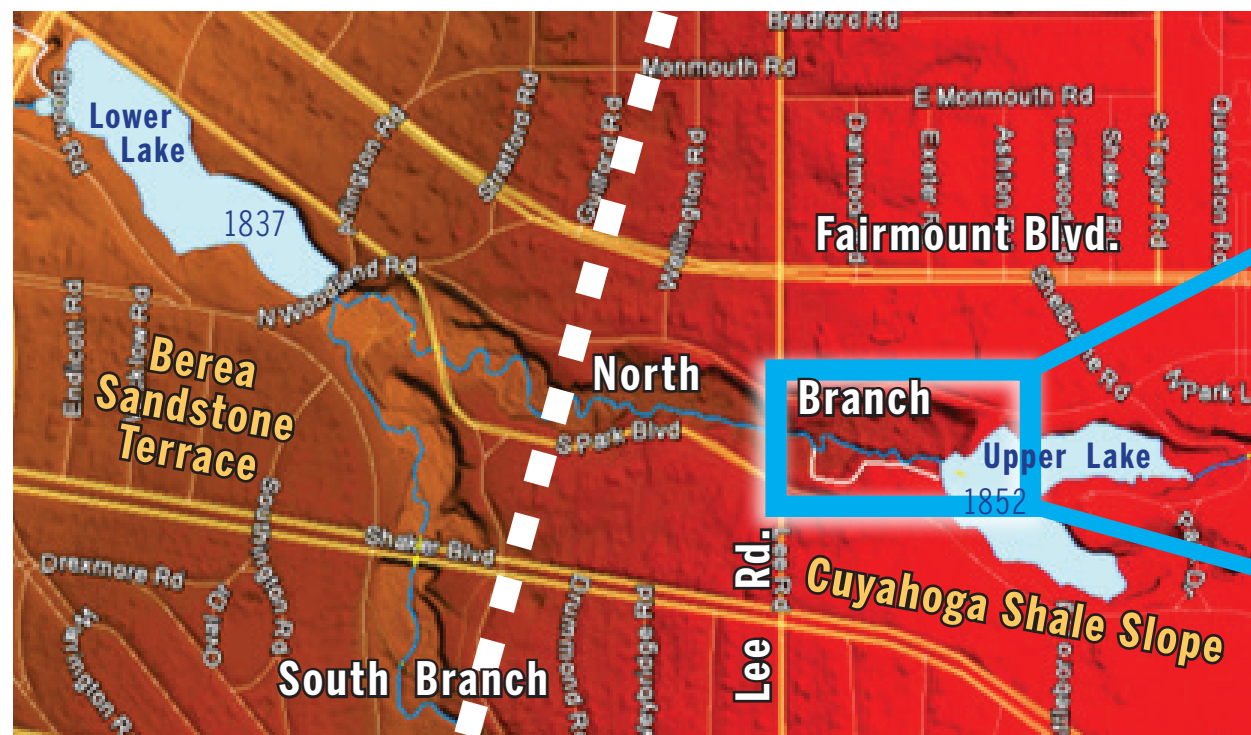
Elijah Russell sawmill millpond, 1820s (Hopkins 1858)



Woolen Mill & blacksmith shop c. 1895



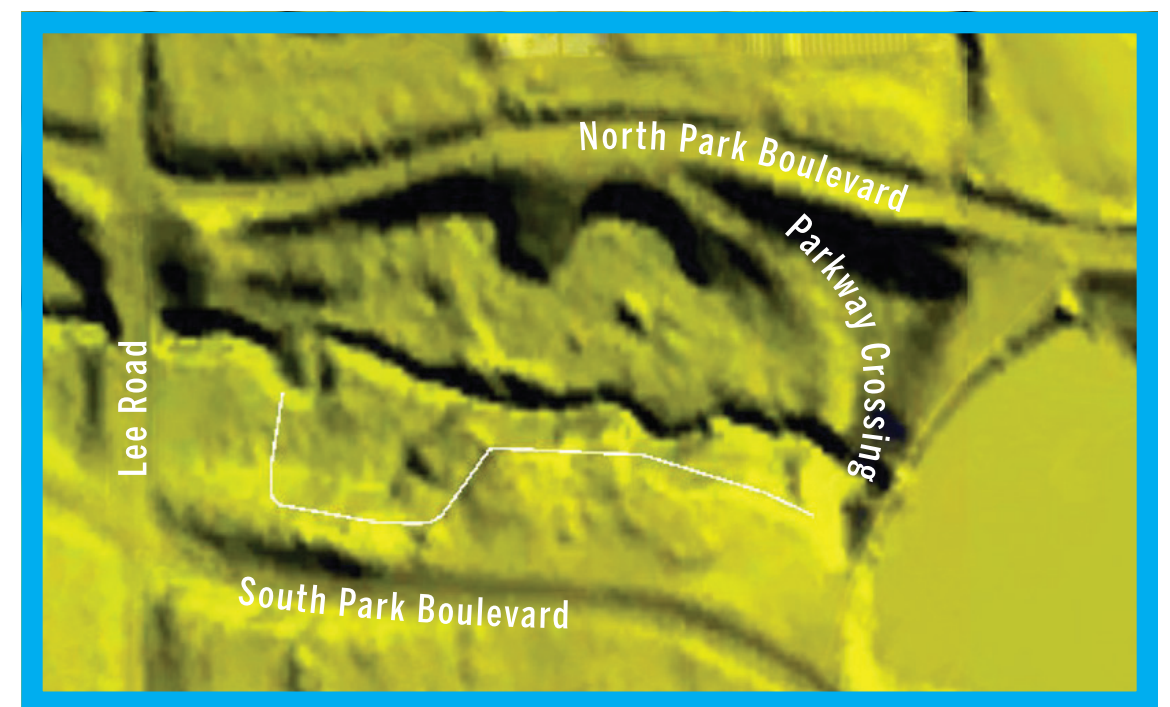
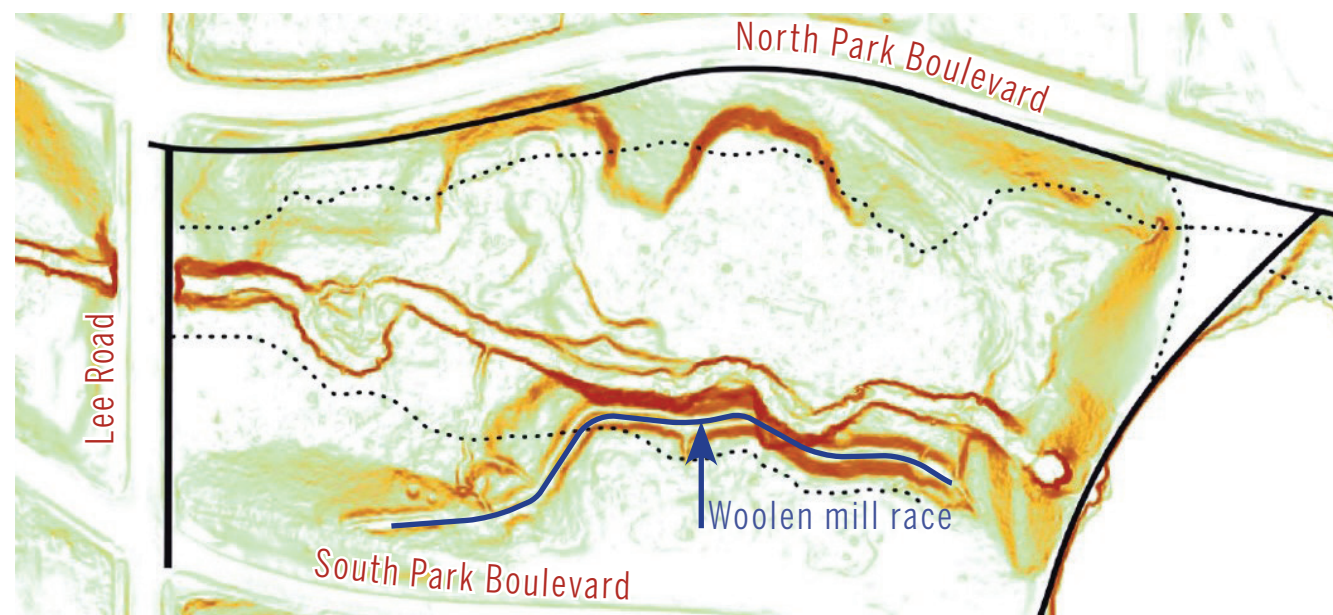
Civil Works Administration (CWA) masonry, 1934



Surface Bedrock

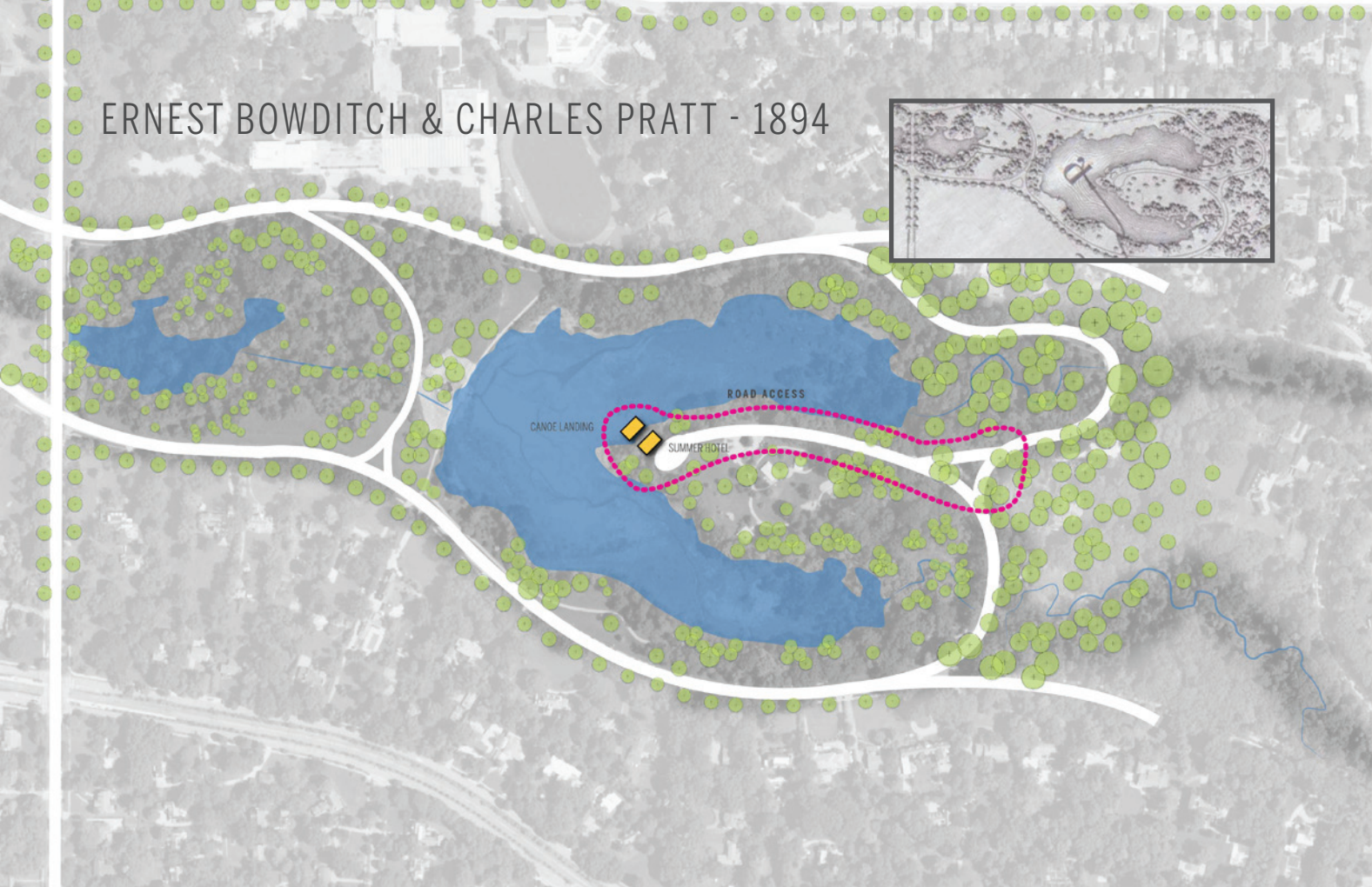


Bowditch & Pratt - 1894

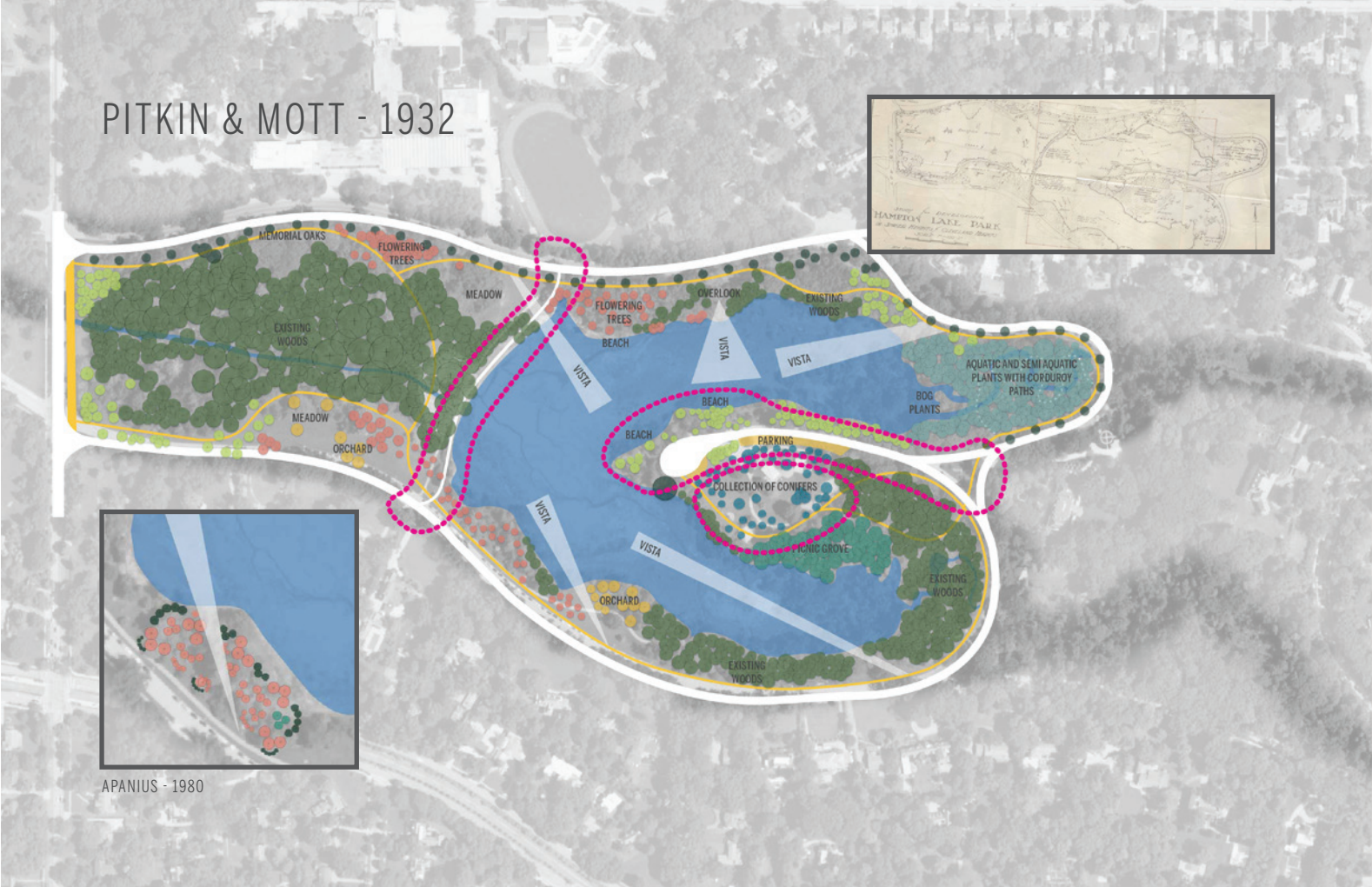


Current Topography (LIDAR)

ERNEST BOWDITCH & CHARLES PRATT - 1894

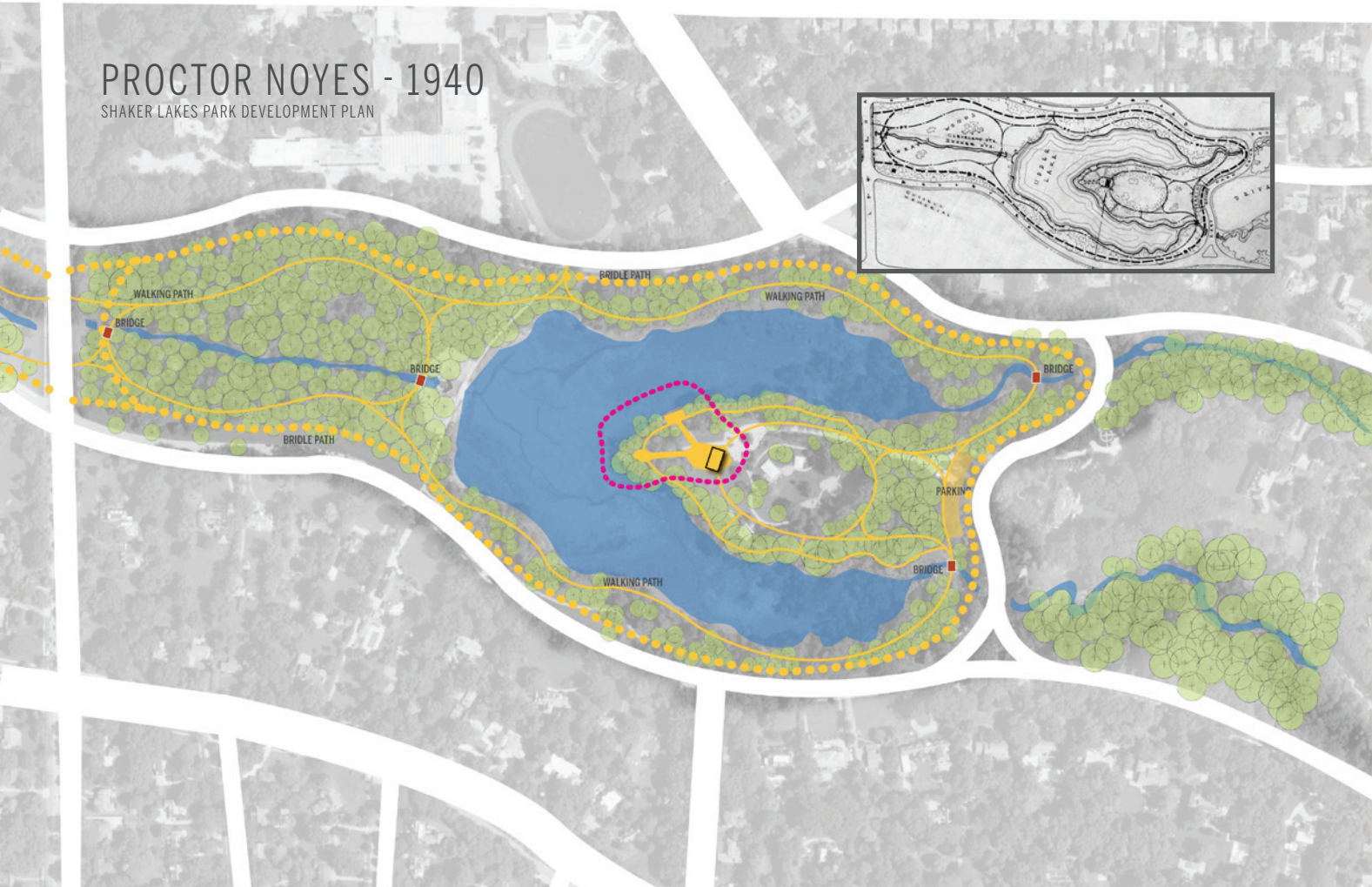


PITKIN & MOTT - 1932



PROCTOR NOYES - 1940

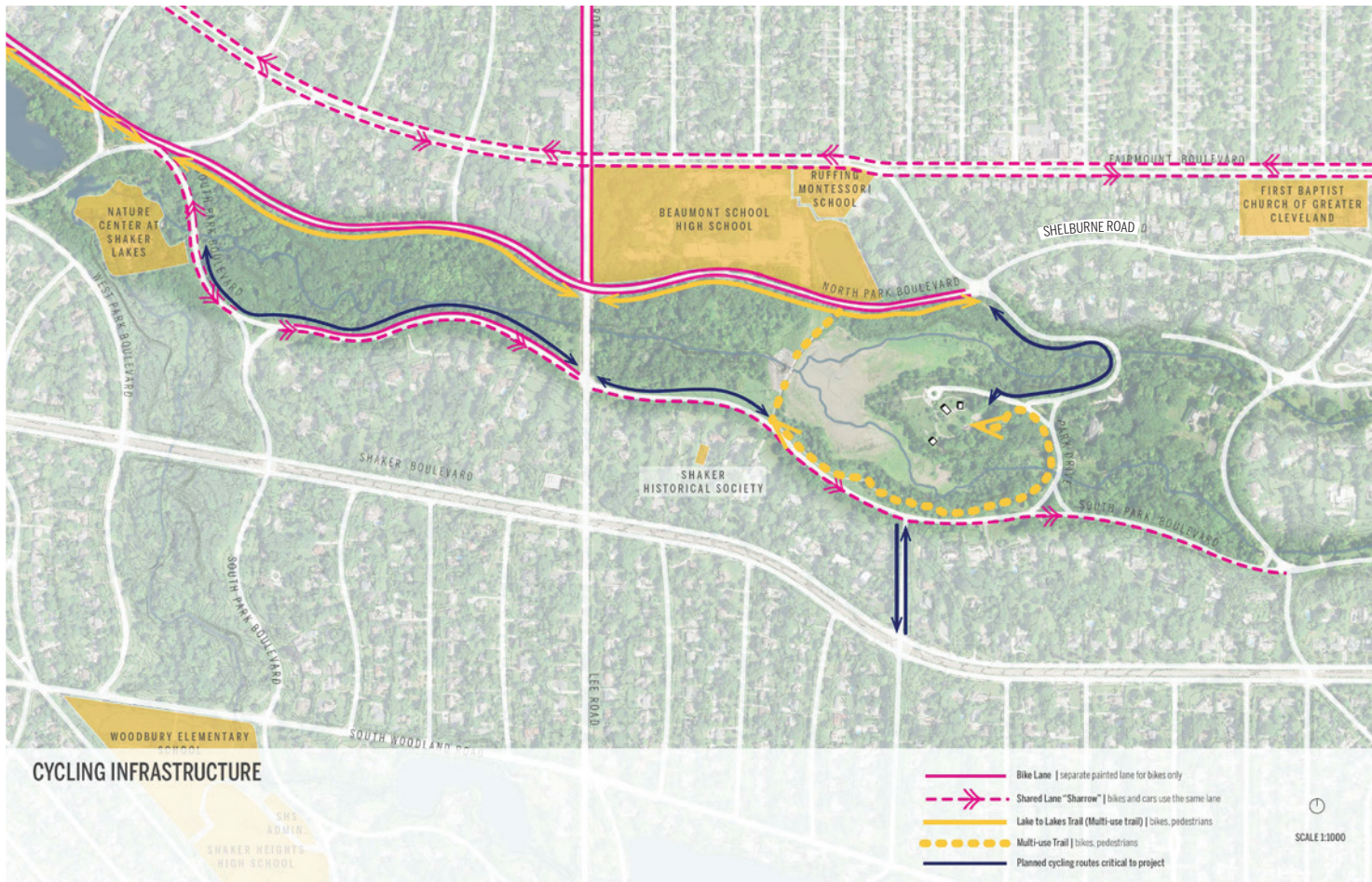
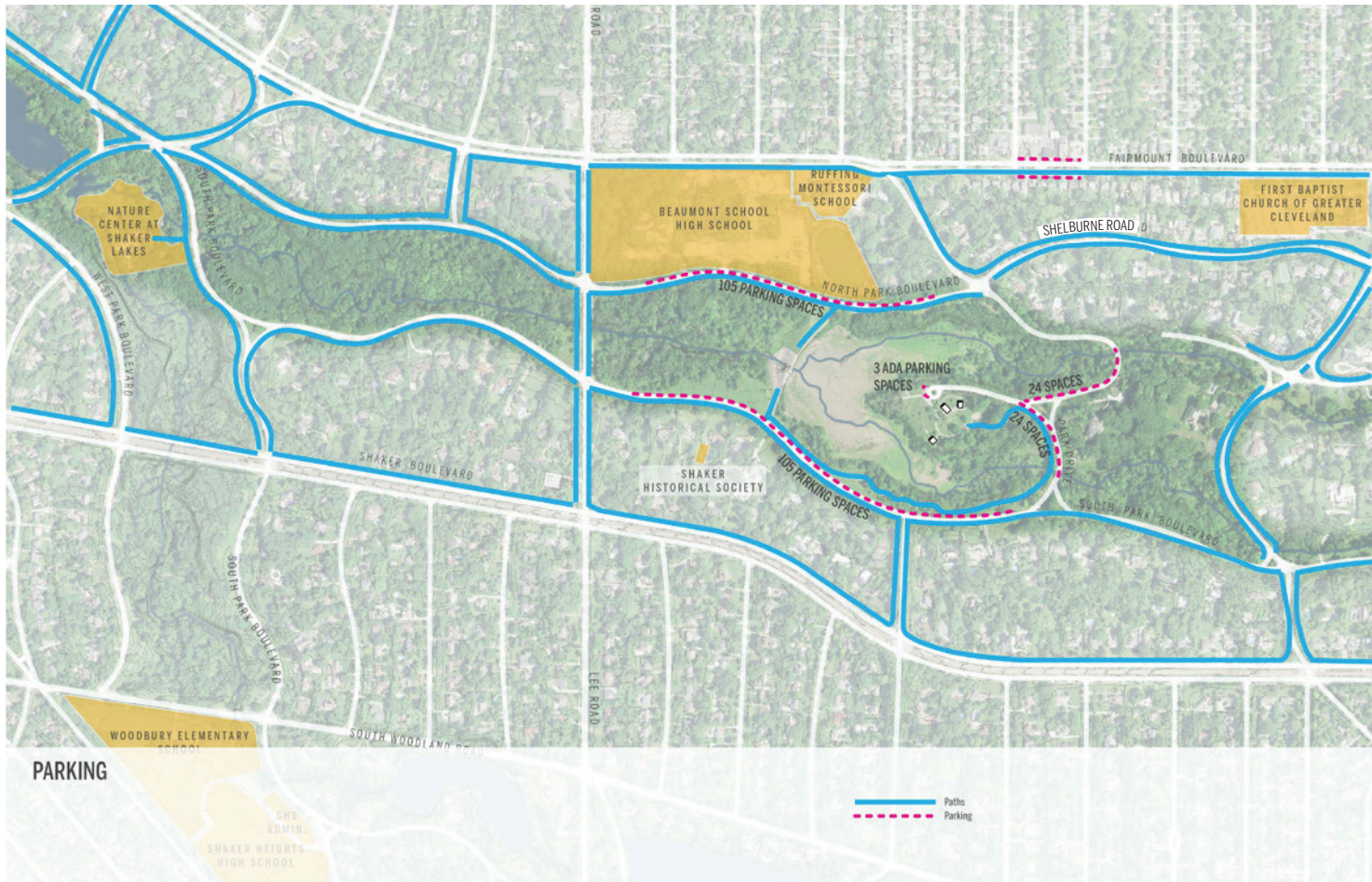
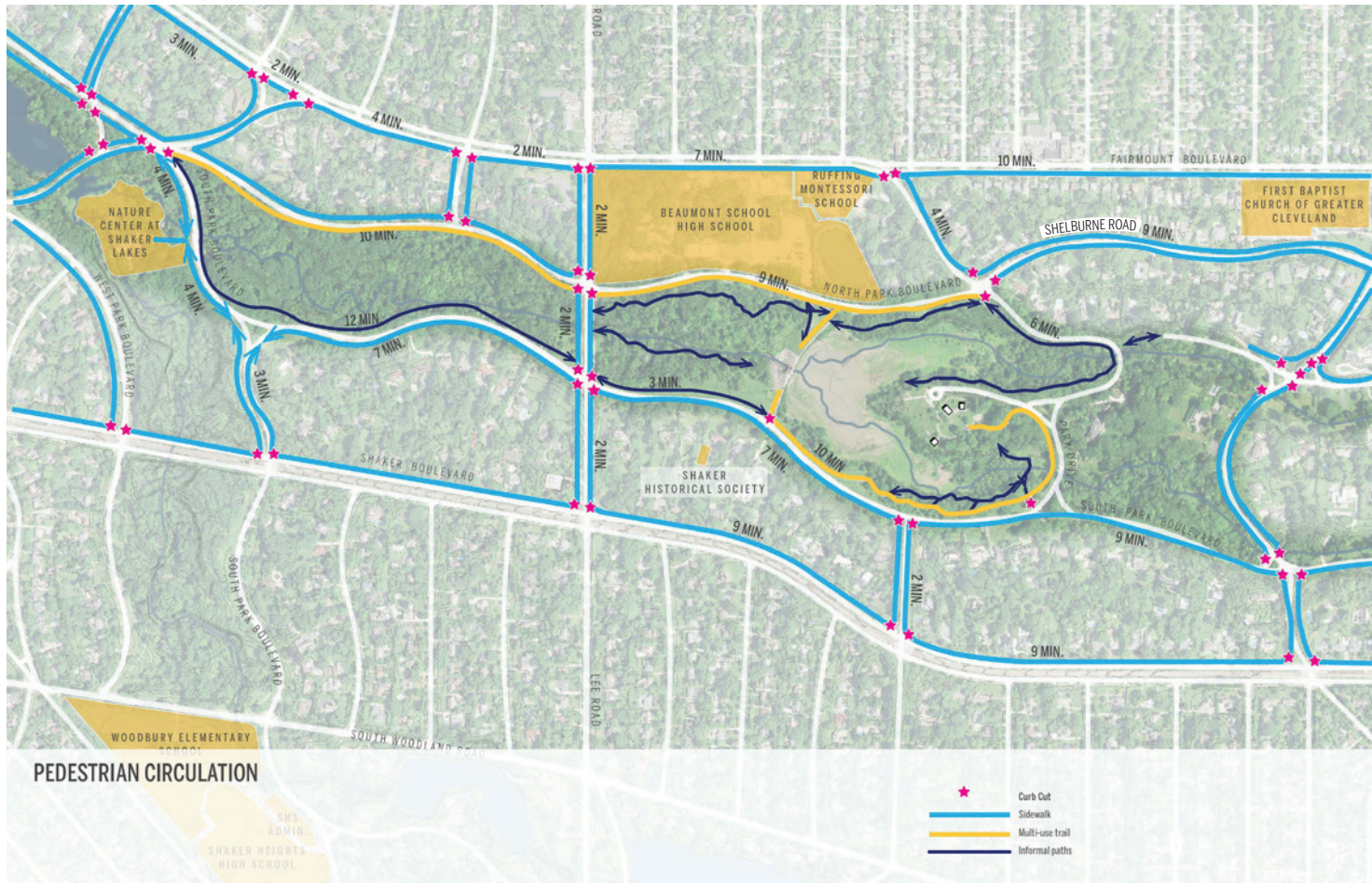
SHAKER LAKES PARK DEVELOPMENT PLAN



VILLAGE GARDEN CLUB



ACCESS & CIRCULATION



ENVIRONMENTAL INVESTIGATION



Oak grove



Eastern Cottonwood



Shagbark Hickory



Northern Red Oak



Tulip Tree



Sycamore



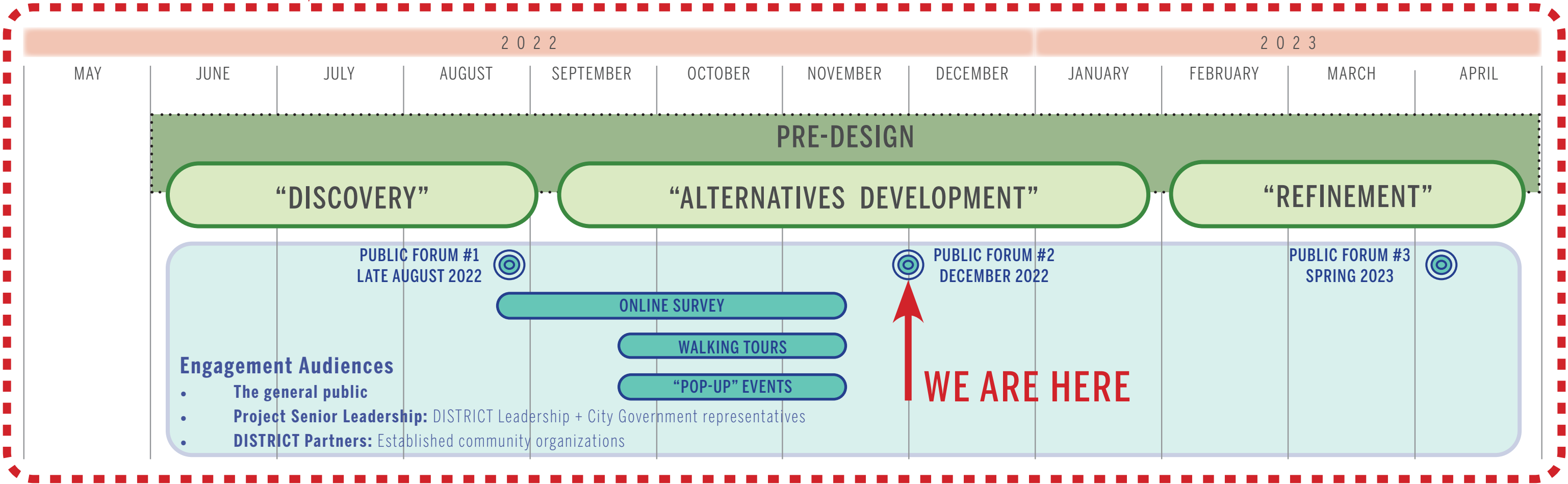
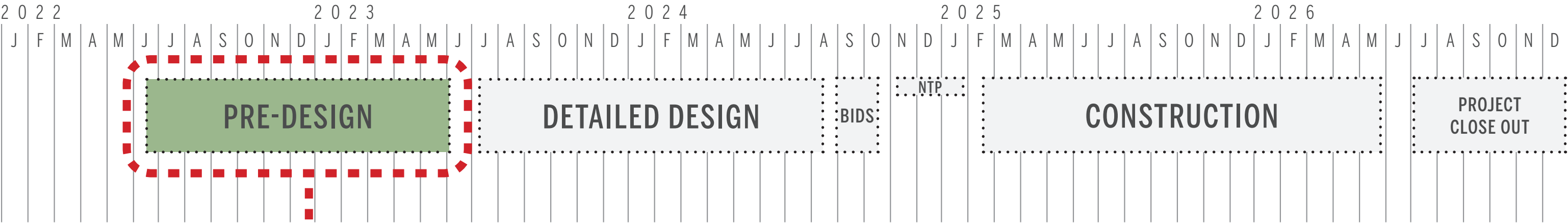
Black Locust



A photograph of a park with large trees and a grassy field. The text "ENGAGEMENT SUMMARY & SYNTHESIS OF FINDINGS" is overlaid in the center.

ENGAGEMENT SUMMARY & SYNTHESIS OF FINDINGS

PLANNING, DESIGN, IMPLEMENTATION, & STEWARDSHIP



ENGAGEMENT TO DATE | BY THE NUMBERS

Public Forum #1 Virtual Meeting: **283**

Public Forum #1 Open House: **275** (est.)

Pop-up Engagement events: **60** (est.)

Walking Tours: **98**

Online Survey: **846**

Total to date: ***1,562 participants***

ENGAGEMENT TO DATE | PUBLIC FORUM #1



ENGAGEMENT TO DATE | PUBLIC FORUM #1

LANDSCAPE CHARACTER & PARK AMENITIES

- Miss the walk across the dam
- Celebrate water in some way
- Places to approach/play/overlook/interact with the streams
- More space for quiet contemplation and exploration
- Places for birdwatching and opportunities to observe wildlife
- Preserving and/or reusing historic masonry throughout the park
- Protect the existing large trees
- Desire for Nature play

ACCESS & CIRCULATION

- Improving and expanding existing pedestrian circulation
- Making walks and trails safer and more accessible
- Desire for a variety of trail types
- Expressed concerns about bike/ped safety
- North/South connectivity is of critical importance

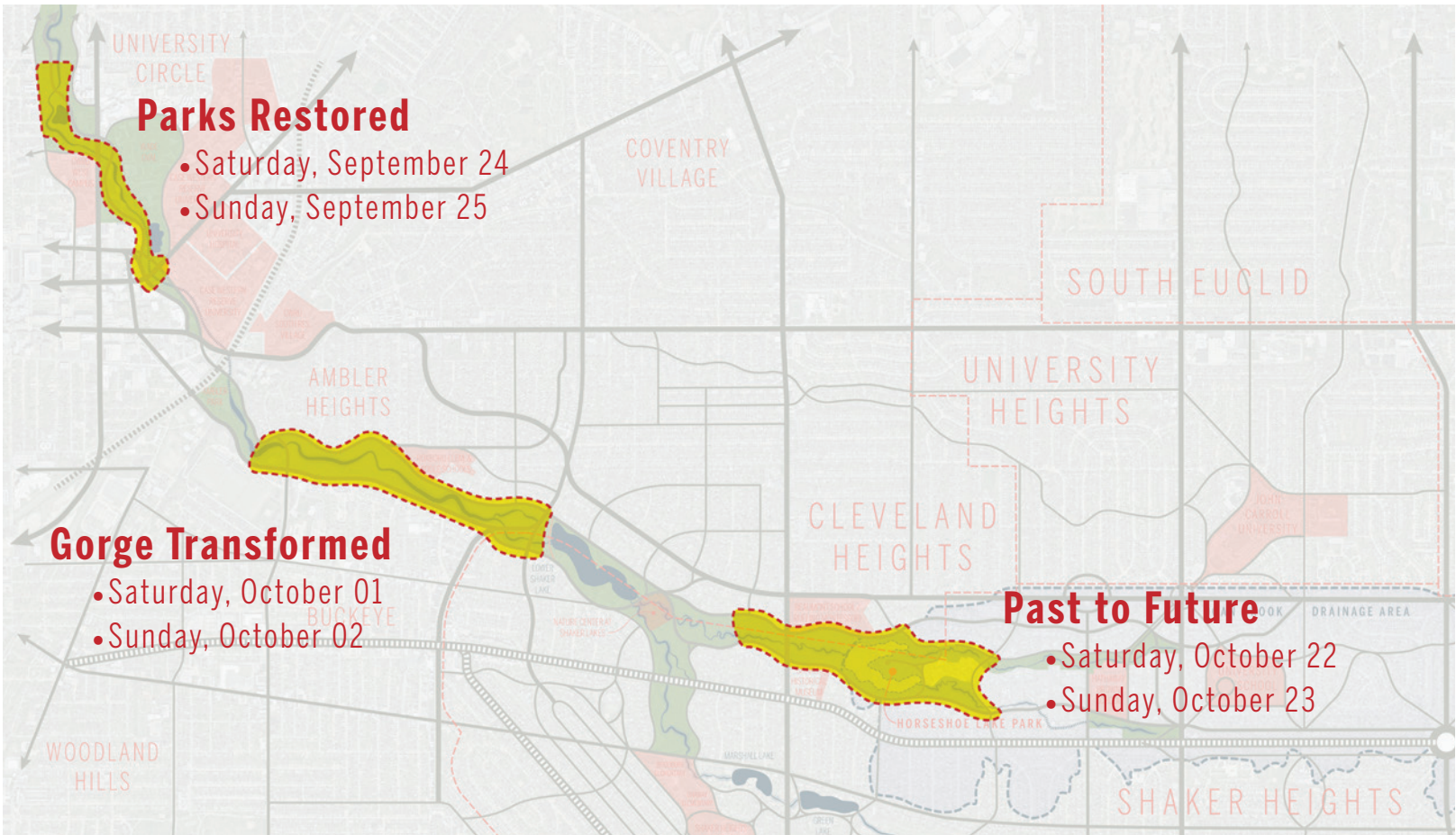
MAINTENANCE & SUSTAINABILITY

- Better connections to the park on all levels
- Dog friendly
- More native plants and naturalized landscapes
- Consideration of trees that will adapt to climate change
- Many noted that invasive species are a concern
- What are the future maintenance responsibilities

ENGAGEMENT TO DATE | PUBLIC FORUM #1



ENGAGEMENT TO DATE | WALKING TOURS



Walking Tour #1: **Parks Restored**

- Location: University Circle
- Participants: 38

Walking Tour #2: **Gorge Transformed**

- Location: Doan Brook gorge
- Participants: 30

Walking Tour #3: **Past to Future**

- Location: Project Study Area
- Participants: 30

ENGAGEMENT TO DATE | POP-UP EVENTS



Pop-up Event #1

- Location: Shaker Heights Public Library
- Participants: 10 (est.)

Pop-up Event #2

- Location: Nature Center @ Shaker Lakes
- Participants: 30 (est.)

Pop-up Event #3

- Location: Lee Road near Cedar Lee Theater
- Participants: 20 (est.)

LAND studio, a private nonprofit organization that specializes in the activation of public spaces through arts and design, was engaged by NEORSD to develop, manage, and analyze survey responses.



The survey was open for two months (August 25 – October 31).

846 people spent an average of **9 minutes** answering questions.

(That's 7,614 minutes – or 127 HOURS – or 5 ¼ DAYS!)

Based on past surveys conducted by both LAND studio and STIMSON, this survey had an **EXCELLENT** response rate.



Survey Demographic Breakdown

Ages 25 & under: **2%**

Ages 26 – 39: **21%**

Ages 40 – 49: **21%**

Ages 50 – 59: **19%**

Ages 60 – 69: **22%**

Ages 70 – 79: **12%**

Ages 80 & over: **3%**

Caucasian or White: **85%**

Prefer not to answer: **8%**

Prefer to self-describe: **3%**

Black, Afro-Caribbean, or African

American: **3%**

East Asian: **1%**

Hispanic or Latin origin: **1%**

Female: **56%**

Male: **39%**

Prefer not to answer: **3%**

Prefer to self-describe: **1%**

Non-binary/third gender: **<1%**

None of the above: **<1%**

44120: **32%**

44118: **30%**

44122: **24%**

44106: **7%**

44121: **3%**

Other: **4%**

LAND studio worked with STIMSON to design a survey to help us understand **WHO** is using Horseshoe Lake Park, **HOW** they get here, **WHAT** makes it special, and their **HOPES** for the future.



How I get to the park

I came to Doan Brook/Horseshoe Lake Park with: *(select all that apply)*

A friend, partner, or spouse	85%
Nobody else (I visit the area by myself)	42%
A dog	36%
Young children	35%
An elder/senior	17%
Teenagers	16%
A large group	13%
Other (please specify)	6%
I don't visit this area	1%

I arrive at Doan Brook/Horseshoe Lake Parklands: *(select all that apply)*

In a car	69%
On foot	65%
On a bike	44%
Other (please specify)	2%
None of the above	1%
With the support of an assistive mobility device, such as a wheelchair, walker, etc.	1%
Via RTA Attleboro Rapid Station	1%
Via RTA Bus Route 40	0%

How I access the park

When arriving by car, I typically: *(select all that apply)*

Parallel park on Park Dr. near the park entrance	57%
Parallel park on South Park Blvd.	26%
Not applicable - I don't arrive by car	22%
Parallel park on North Park Blvd.	14%
Other (please specify)	4%
Park at a handicap-accessible space within the parking lot	3%

When arriving by foot or assistive mobility device, I'll likely enter the park from: *(select all that apply)*

Corner of South Park Blvd. and Park Dr.	28%
Corner of North Park Blvd. and Shelburne Rd.	25%
Crossing South Park Blvd. at Attleboro Rd.	22%
Corner of North Park Blvd and Lee Rd.	21%
Not applicable - I don't arrive by foot or wheelchair	21%
Corner of South Park Blvd. and Lee Rd.	20%
Other (please specify)	5%

When arriving by bike, I'll likely use: *(select all that apply)*

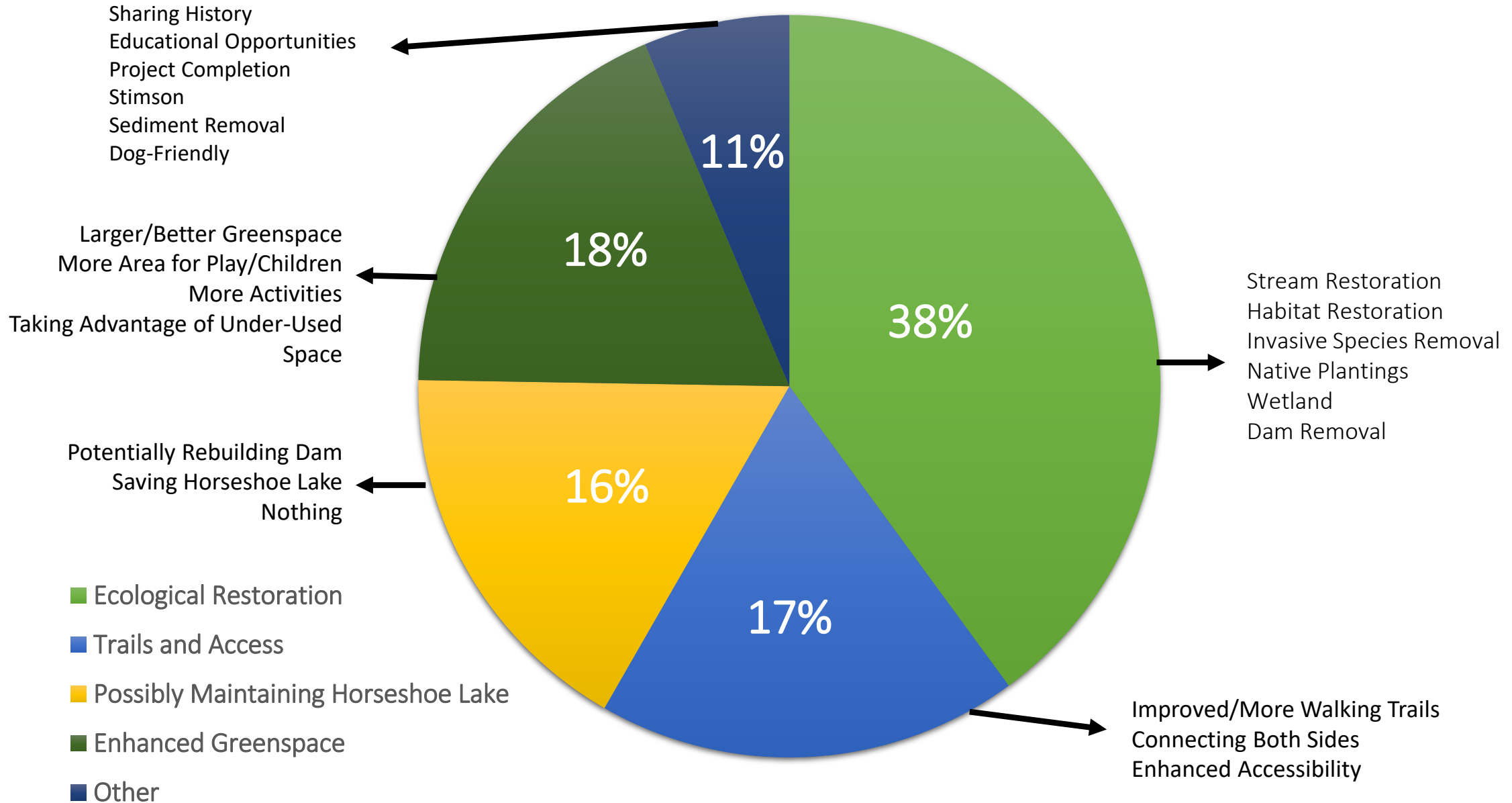
Not applicable - I don't arrive by bike.	43%
Bike lanes on North Park Blvd.	33%
Shared bike/car "sharrow" lanes in South Park Blvd.	31%
The paved asphalt pathway within the park (along South Park Blvd.)	27%
The Lake to Lakes Trail System	13%
Other (please specify)	3%

Improvements to increase park accessibility

I would like to see greater access to and through the park by improving and enhancing the following connections *(select all that apply)*:

New trails or paved paths between North Park Blvd. and South Park Blvd. (with stream crossings)	57%
New or improved trails or paved paths between Lee Rd. and Horseshoe Lake Park	44%
Shared-use paths in the parklands (bikes and pedestrians sharing paths safely)	34%
All of the above	32%
Dedicated bike paths in the parklands (rather than the streets)	25%
Other (please specify)	14%
None of the above	7%

With regard to the project, I'm most excited about:



I am most excited about...

“Natural landscape restoration, native plants, enhanced open space and passive recreation amenity”

“All of it!!! Especially watershed health, public safety downstream, incorporation of native plants and support of native wildlife species. Education and interpretation (ecological, historical).”

“Returning the area to a sustainable state”

“NOTHING. I’m one of the people who’s feeling despair and rage that the lake is not being restored. We need empty spaces in the city and Horseshoe Lake was a godsend.”

I am most excited about...

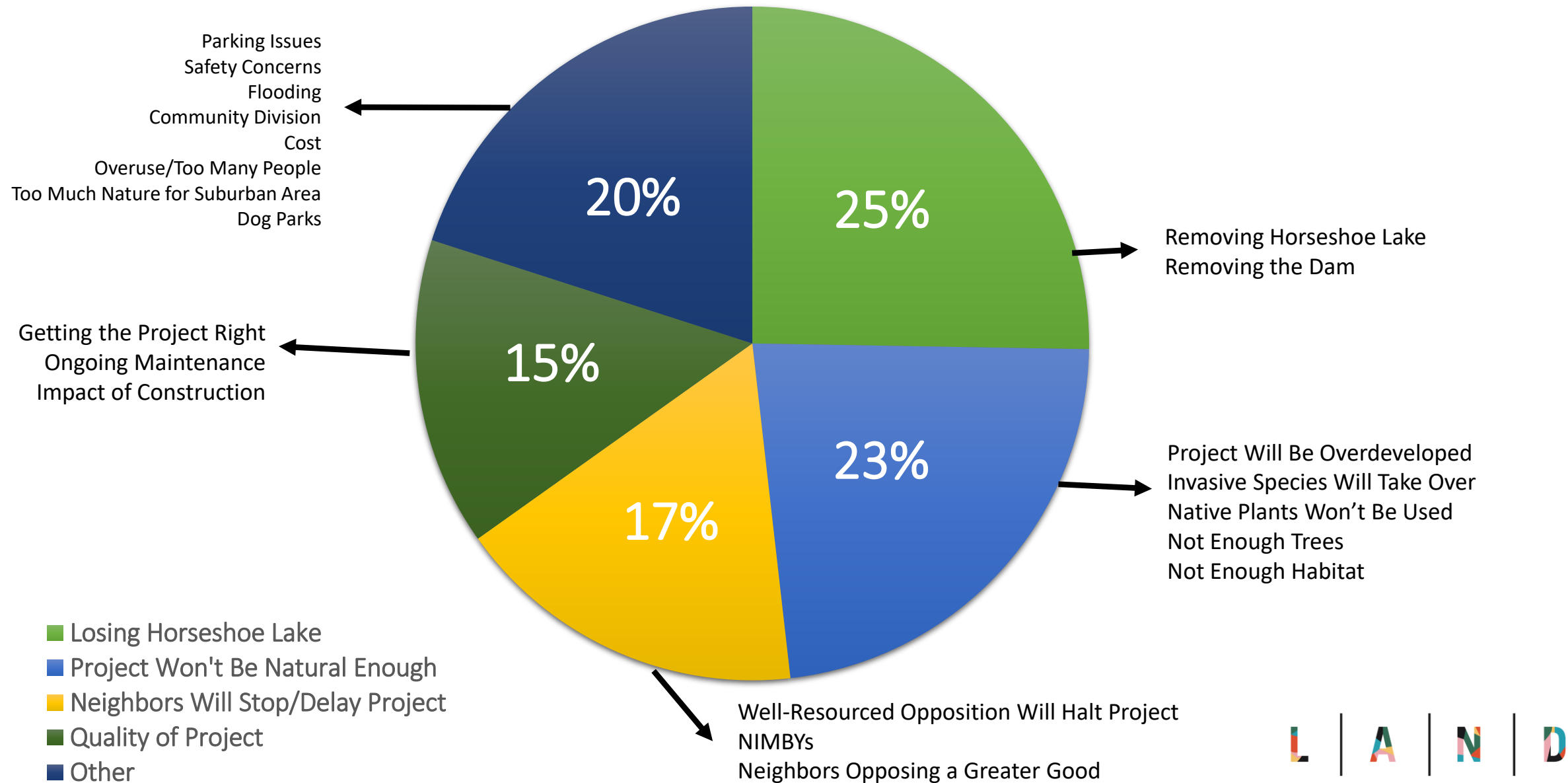
“The streams being brought back to their natural state AND making the entire space more usable by the public.”

“Want the ability to “loop” around horseshoe lake again. The dam being closed makes this a hard path walk! Would love to see a safe way to walk down park drive from Shelbourne/North Park as well. Right now pedestrians walk on the road or in the woods.”

“Dedicated wetland areas for wildlife and flood control”

“More space for taking walks with children and friends”

With regard to the project, I'm most concerned about:



I am most concerned about...

“A vocal minority getting a lot of attention and the project catering to them.”

“The area is left as a smelly swamp”

“Impact on wildlife and seeing it transform into something that people will use without overly changing the intimate feel of the area.”

“How this project will change the look and feel of the lakes which are a unique and very special place in this community.”

“Uneven paths that would be hard for my young children or elderly parents to navigate.”

I am most concerned about...

“Creating and MAINTAINING a quality habitat. Funding to allow the construction of high quality park amenities to make the restoration accessible.”

“That those not supporting the change will prevent the project's success.”

“I want the project to have as much of an environmentally positive impact on the area as possible. Also it should be affordable.”

“I fear that choices might be made that don't properly consider the ecology of the area; it would be a lost opportunity if the restoration did not include a removal of invasives and the restoration of natives.”

“NIMBYs”

Fondest memories of Horseshoe Lake Park & the
Doan Brook Parklands *(people gave more than one response):*

Top Responses

- Trail Walking/Hiking (135)
- Time With Children/Play (130)
- Gatherings/Picnics (121)
- Nature/Wildlife Observation (96)

We asked people to use one word to describe Horseshoe Lake Park **TODAY**:



A word cloud of responses for Horseshoe Lake Park. The word 'Peaceful' is the largest and most central. Other words include 'Inaccessible', 'Underwhelming', 'Community', 'potential', 'Memories', 'Unfinished', 'Dry', 'Interesting', 'Restorative', 'Walking Beauty', 'love', 'Serenity', 'Lovely', 'enjoying', 'Saddening', 'quiet', 'Relaxing', 'Disappointing', 'Transition', 'Calming', 'gone', 'Peace', 'Limited', 'Good', 'Hopeful', 'Fun', 'Nature', 'Sad', 'lake', 'Beautiful', 'Missing', 'Nice', 'Natural', 'loss', 'Enjoyable', 'Pleasant', 'Depressing', 'BIRDING', 'Okay', 'Nostalgic', 'Frustrating', 'Lacking', 'disappointment', 'Horseshoe Lake', 'underutilized', and 'Disrepair'.

potential Memories Inaccessible Underwhelming Community
Unfinished Dry Interesting
Restorative Walking Beauty love Serenity Lovely enjoying
Saddening quiet Relaxing Disappointing Transition
Calming gone Peace Peaceful Limited Good
Hopeful Fun Nature Sad lake Beautiful
Missing Nice Natural loss Enjoyable Pleasant Depressing
BIRDING Okay Nostalgic Frustrating Lacking
disappointment Horseshoe Lake underutilized Disrepair

We asked people to use one word to describe how they hope to describe Horseshoe Lake Park in the **FUTURE**:



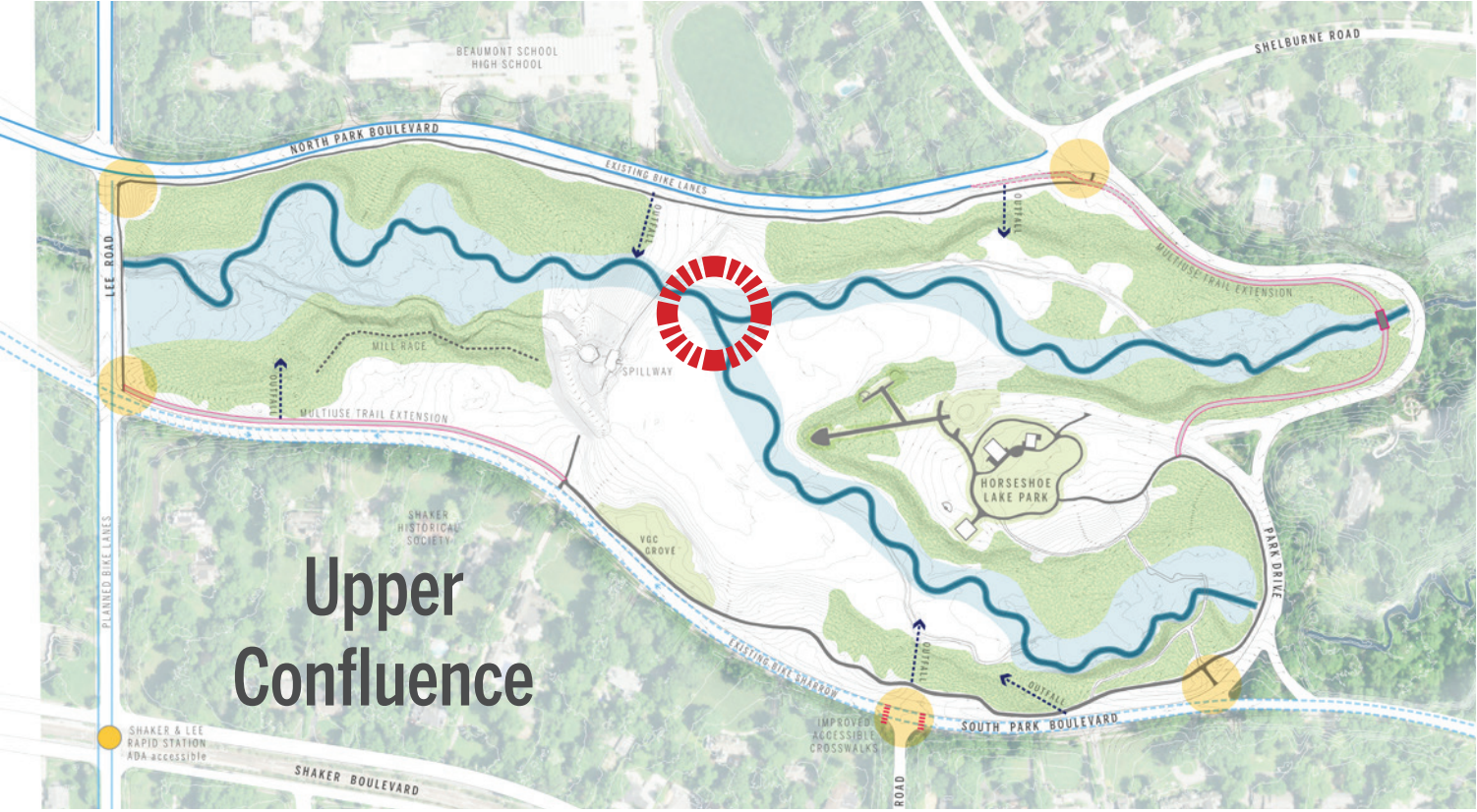
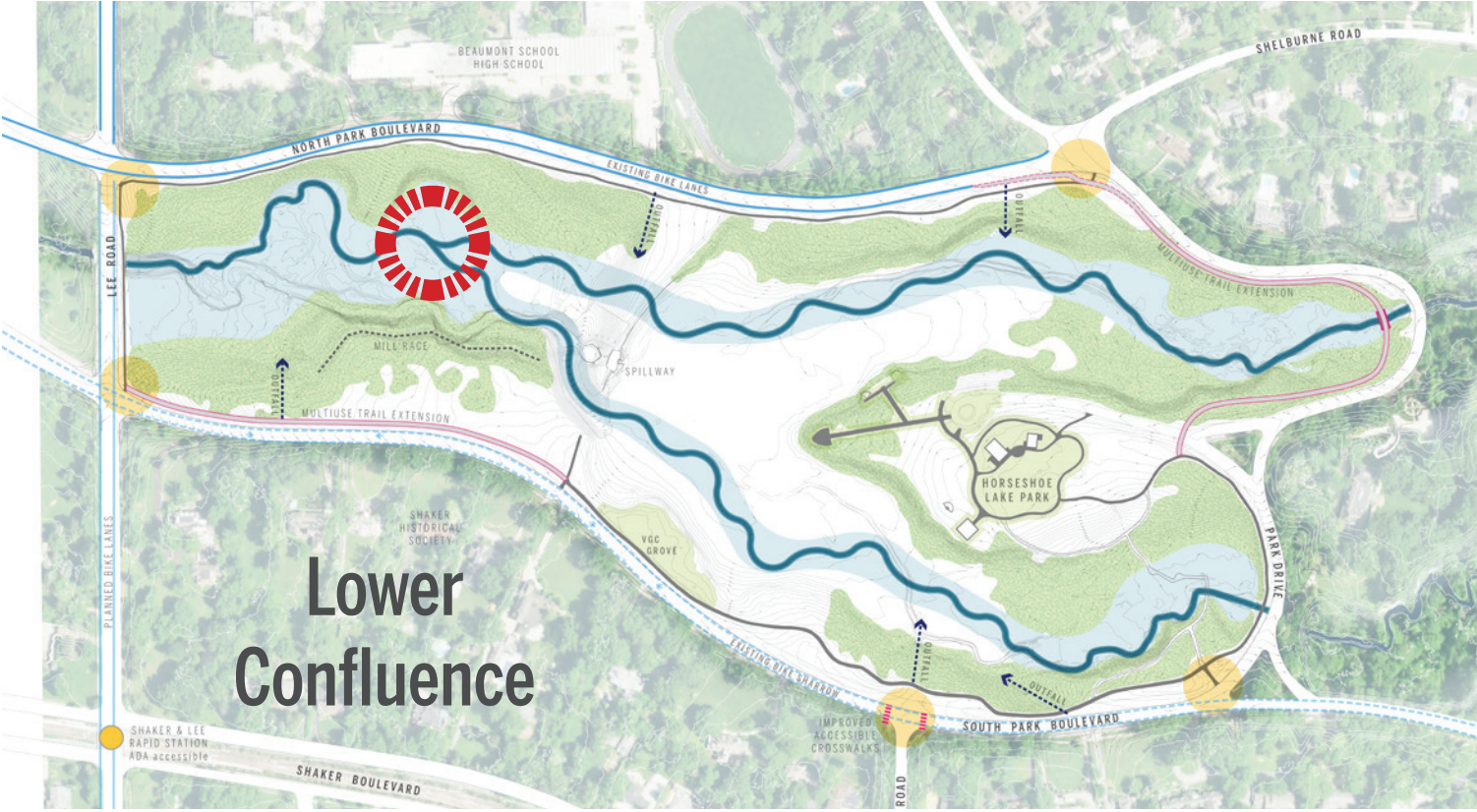
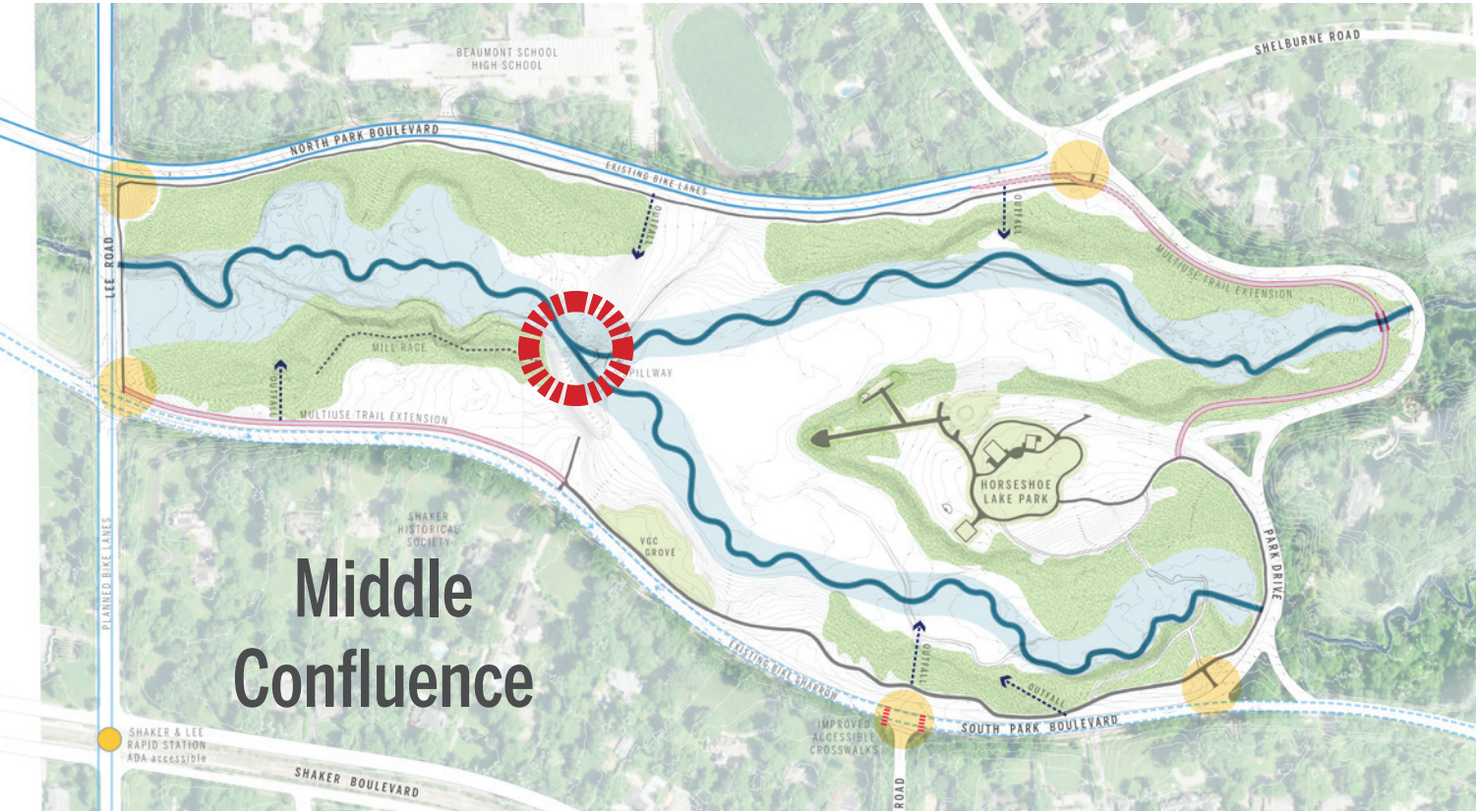
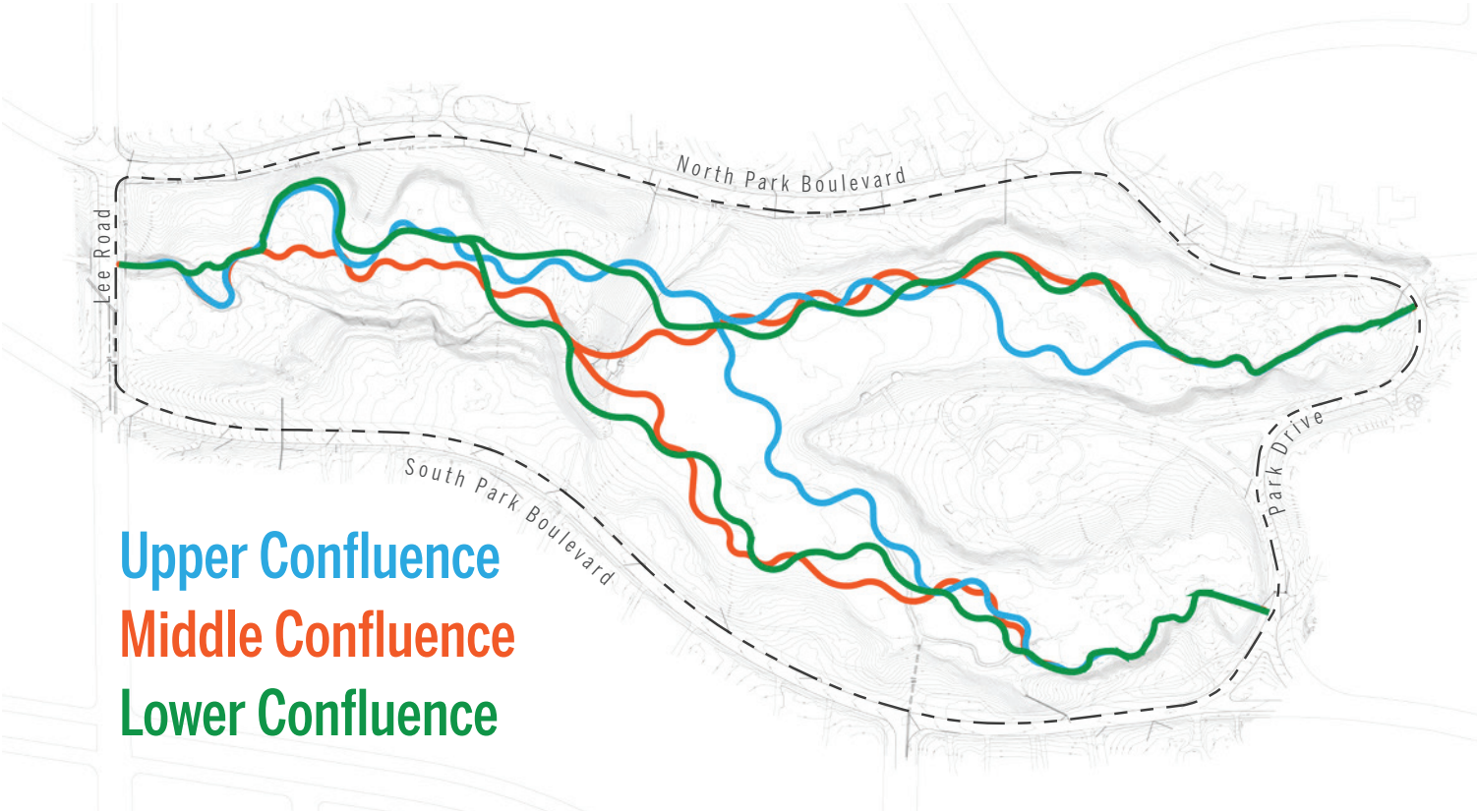
Overarching Themes

- Nature is valued here as a respite, an oasis, a place that brings peace
- This is a place people are emotionally connected to and part of everyday life

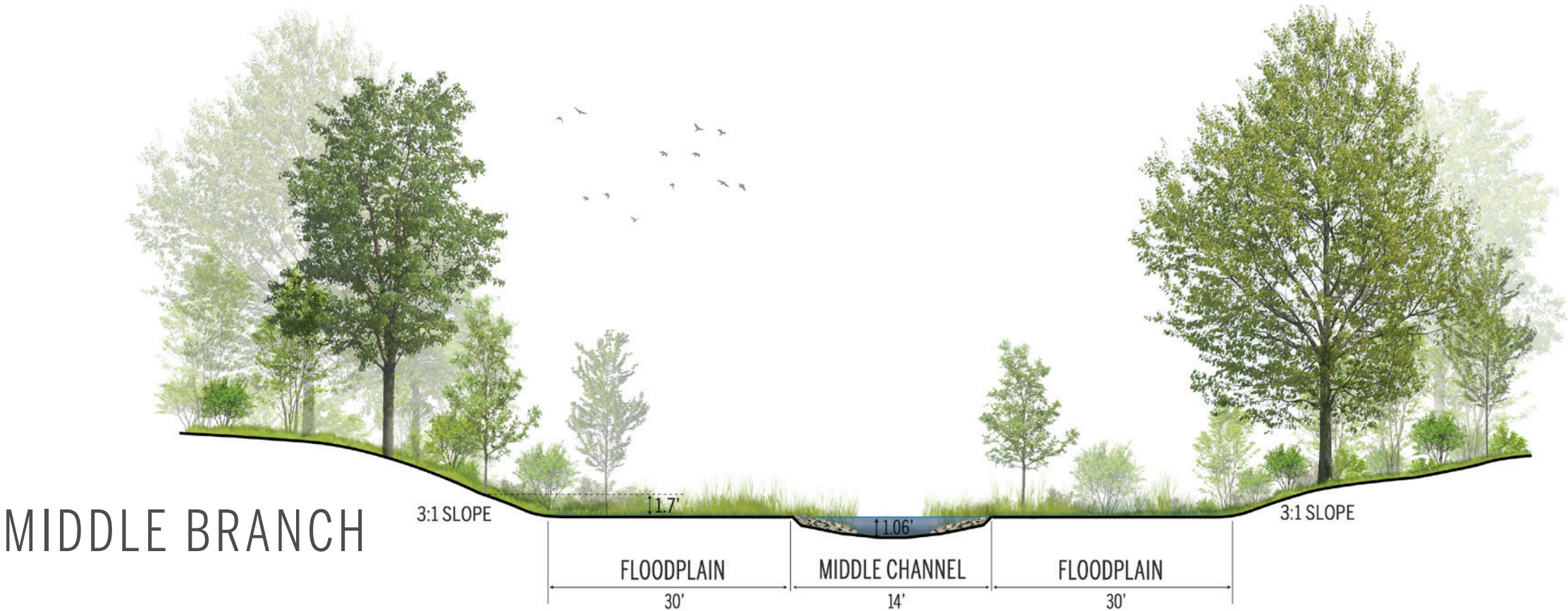
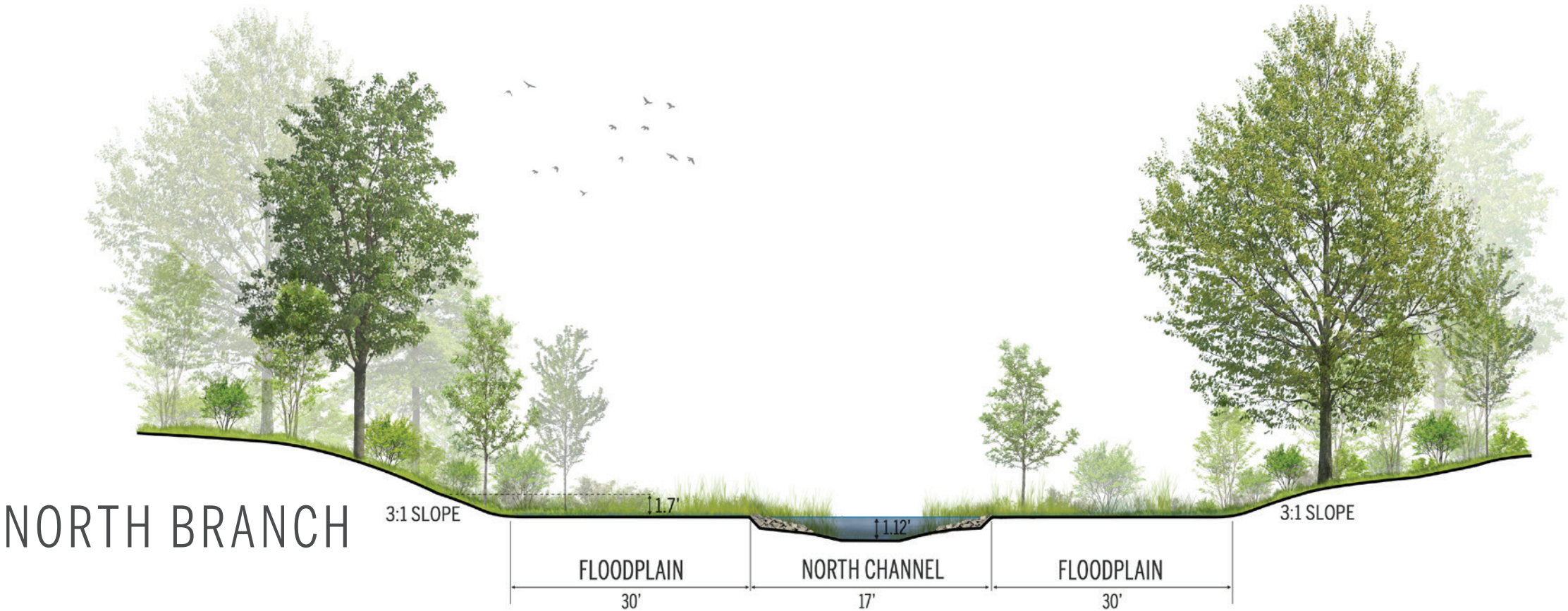
A photograph of a park with large trees and a grassy field. The text "LANDSCAPE INTEGRATION CONCEPTS" is overlaid in the center.

LANDSCAPE INTEGRATION CONCEPTS

STREAM HYDROLOGY | POSSIBLE ALIGNMENTS



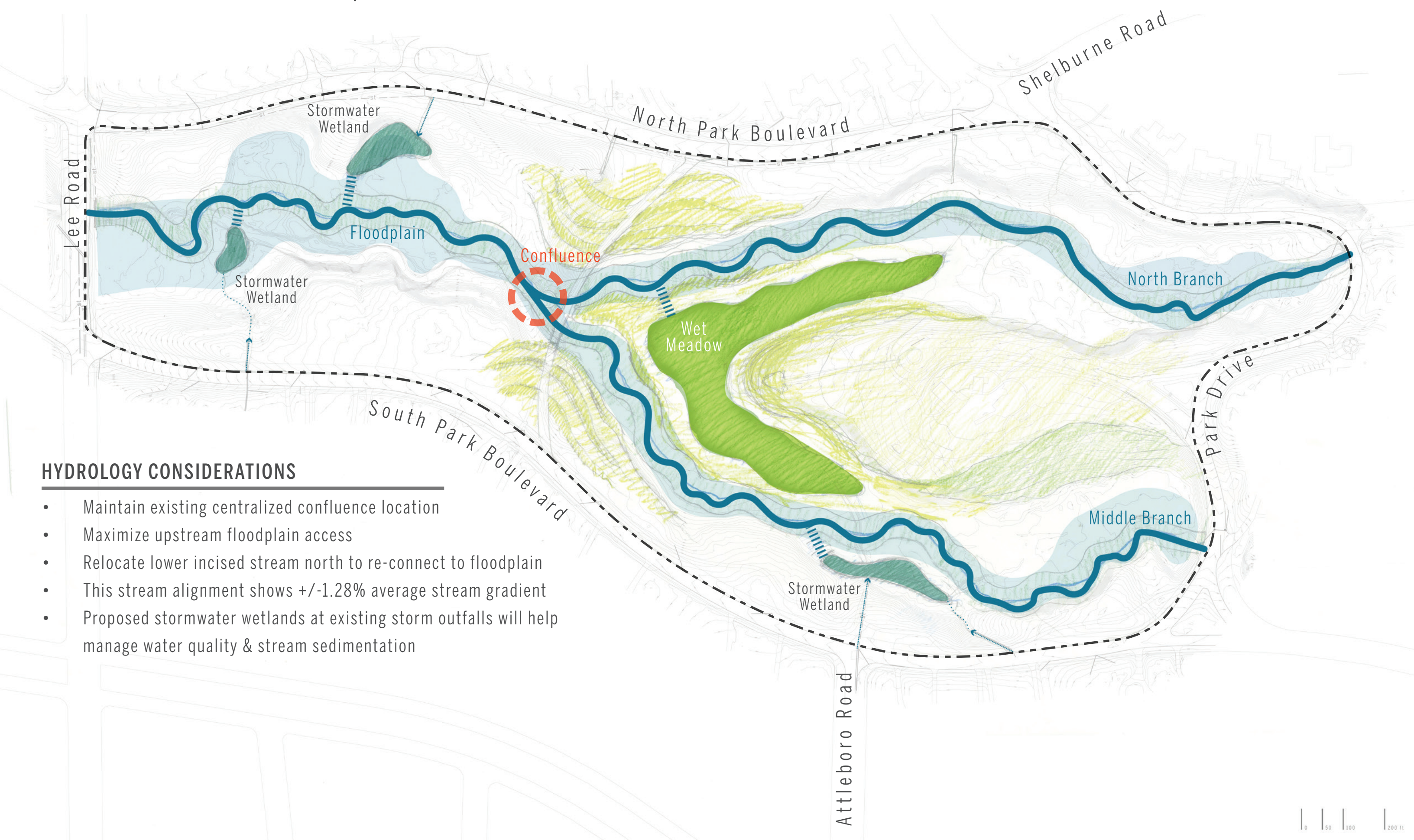
STREAM HYDROLOGY | TYPICAL SECTIONS



MIDDLE CONFLUENCE



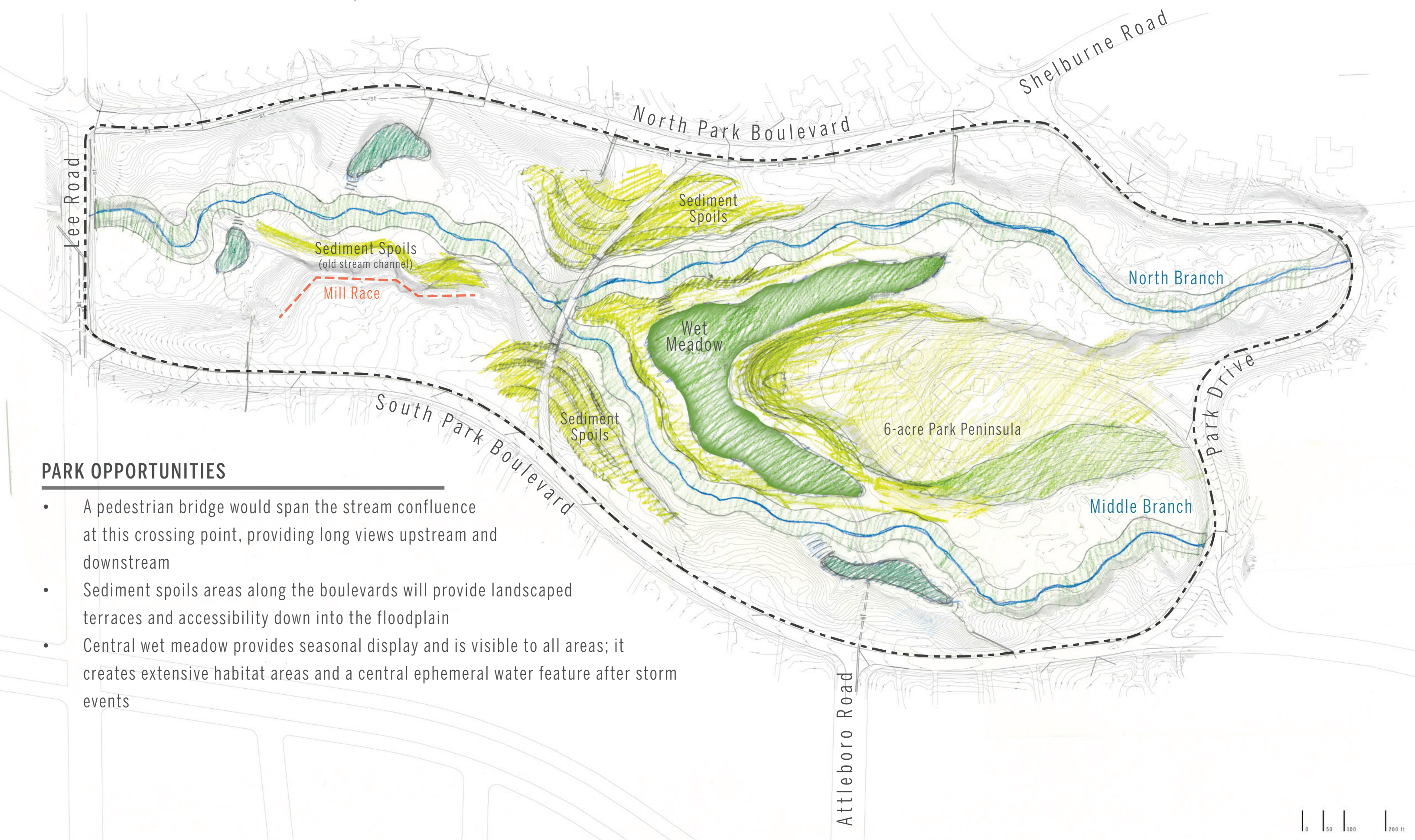
MIDDLE CONFLUENCE | PARK HYDROLOGY



HYDROLOGY CONSIDERATIONS

- Maintain existing centralized confluence location
- Maximize upstream floodplain access
- Relocate lower incised stream north to re-connect to floodplain
- This stream alignment shows +/-1.28% average stream gradient
- Proposed stormwater wetlands at existing storm outfalls will help manage water quality & stream sedimentation

MIDDLE CONFLUENCE | PARK FRAMEWORK



PARK OPPORTUNITIES

- A pedestrian bridge would span the stream confluence at this crossing point, providing long views upstream and downstream
- Sediment spoils areas along the boulevards will provide landscaped terraces and accessibility down into the floodplain
- Central wet meadow provides seasonal display and is visible to all areas; it creates extensive habitat areas and a central ephemeral water feature after storm events

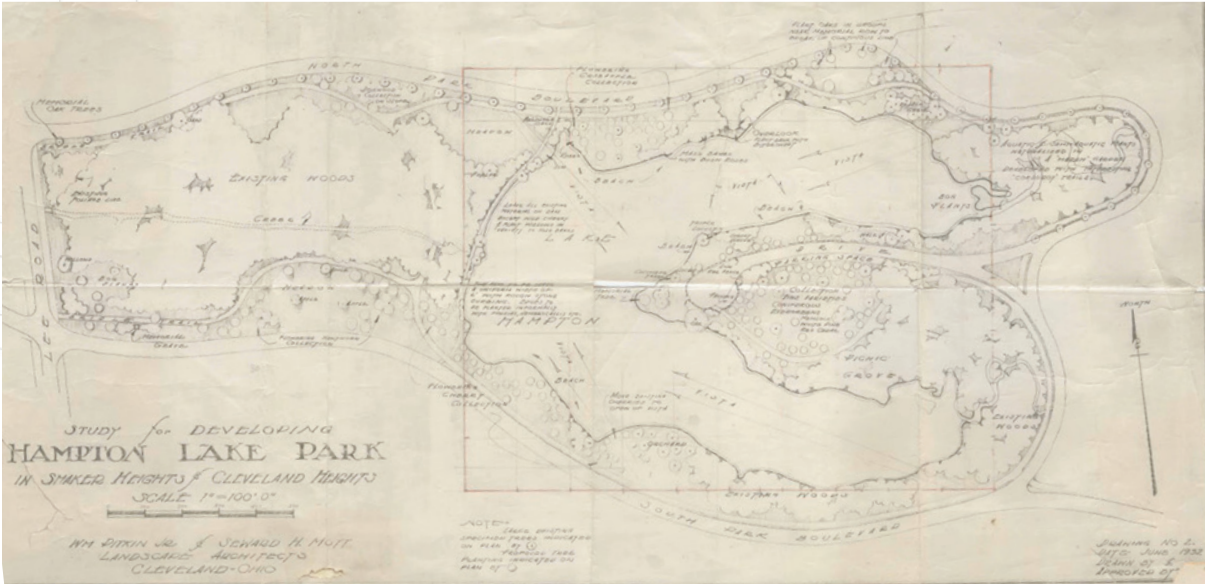
MIDDLE CONFLUENCE | PARK CONCEPT

ONE POSSIBLE PLANTING CONCEPT THAT FIRST WELL WITH OVERALL PARK CONCEPT WOULD BE TO HIGHLIGHT HISTORIC ORNAMENTAL PLANTING

- Lawn Area (mowed weekly)
- Upland Forest
- Floodplain Forest
- Open Marsh

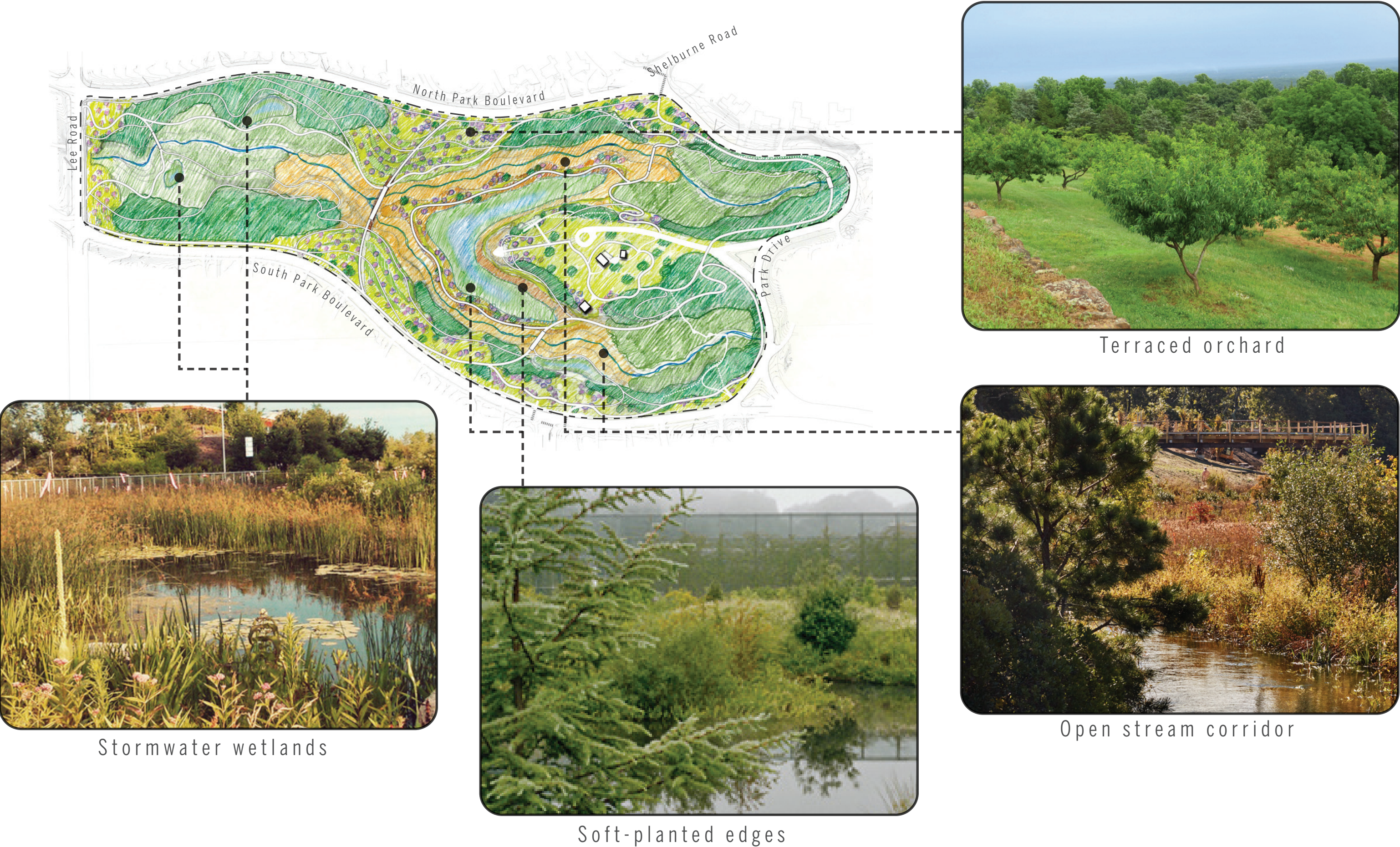


PITKIN & MOTT - 1932

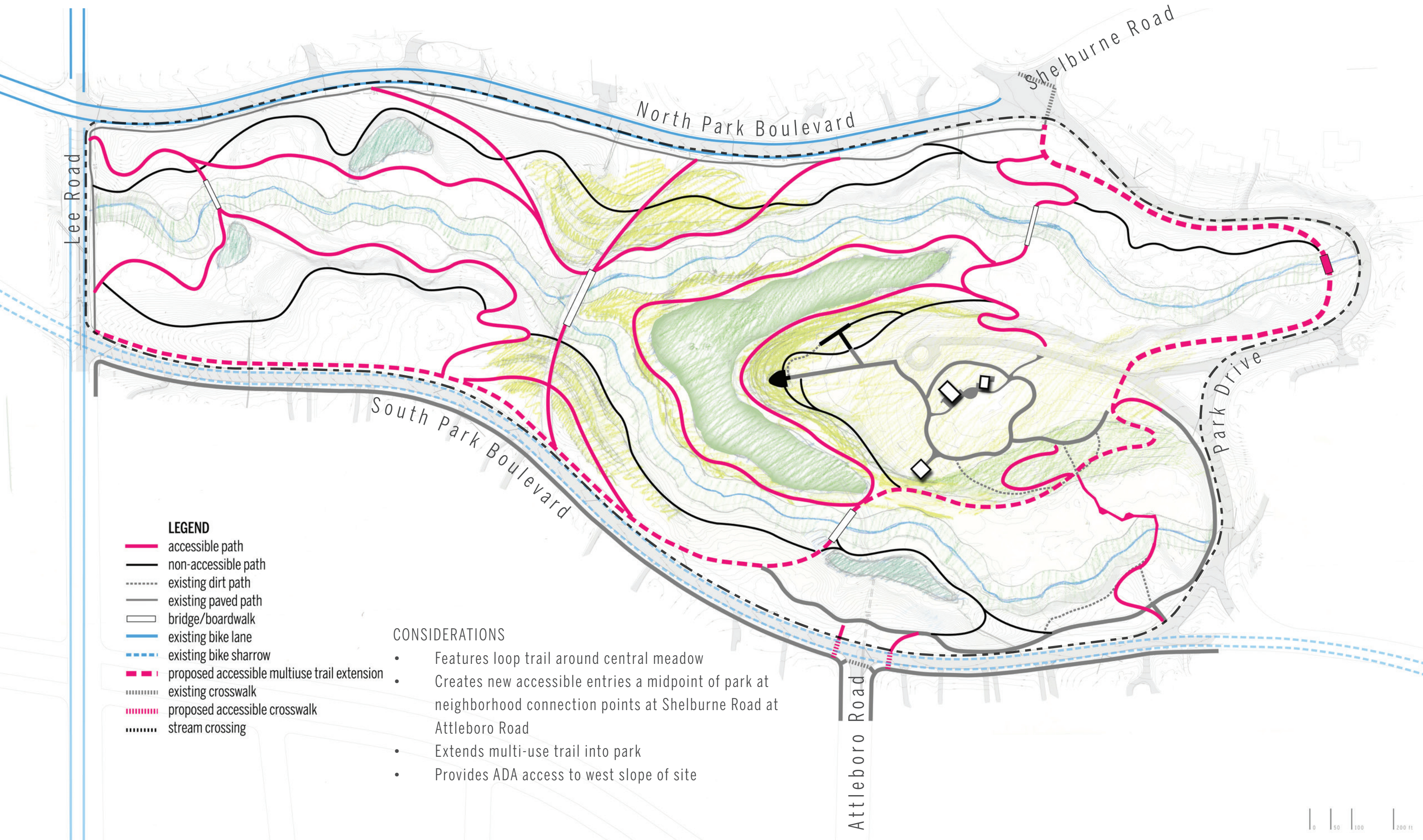


- CONSIDERATIONS
- Removes invasives in flood plain
 - Celebrates shaker heritage by replanting orchards
 - Is inspired by Pitkin + Mott plant that envisions series of garden entries into park boulevards of existing village garden club group
 - Central wet meadow will be planted for dynamic seasonal display and flooding after storm events

MIDDLE CONFLUENCE | PARK CONCEPT



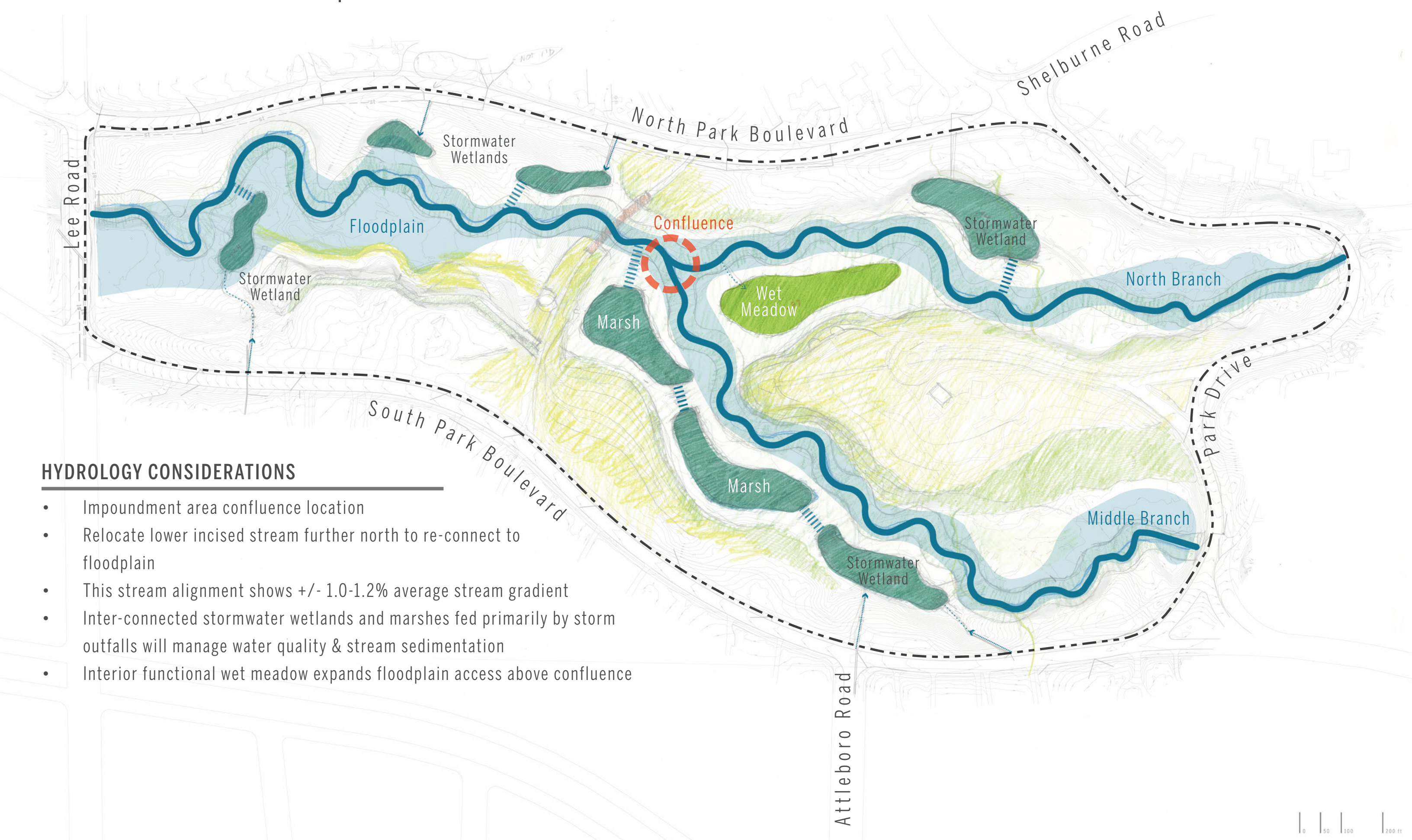
MIDDLE CONFLUENCE | PARK ACCESS & CIRCULATION



UPPER CONFLUENCE



UPPER CONFLUENCE | PARK HYDROLOGY



HYDROLOGY CONSIDERATIONS

- Impoundment area confluence location
- Relocate lower incised stream further north to re-connect to floodplain
- This stream alignment shows +/- 1.0-1.2% average stream gradient
- Inter-connected stormwater wetlands and marshes fed primarily by storm outfalls will manage water quality & stream sedimentation
- Interior functional wet meadow expands floodplain access above confluence

UPPER CONFLUENCE | PARK FRAMEWORK



PARK OPPORTUNITIES

- Preserve most of the earthen embankment, masonry, and spillway
- Conserve the mill race and consider an interpretive trail to highlight the Shaker Legacy and extend the trail to meet earthen embankment
- Expand sediment spoils areas along South Park Boulevard will provide landscaped terraces and accessibility down into the floodplain
- The 6-acre park peninsula is preserved and complimented with a variety of aquatic & wildlife habitats in the stream valley
- Maximize habitat diversity by creating a series of unique wetland habitats
- All outfalls captured by stormwater cleansing features

UPPER CONFLUENCE | PARK CONCEPT

WITH THIS DIVERSITY OF WATER BODIES THE NATURAL PLANTING APPROACH WOULD BE TO MAXIMIZE AND STRENGTHEN THE DIVERSITY OF NATURAL HABITATS

- Lawn Area (mowed weekly)
- Upland Forest
- Floodplain Forest
- Open Marsh



CONSIDERATIONS

- Removal of invasives in flood plain
- Reforestation of site, upland and floodplain woodlands extended to create more complete woodland corridor
- Unique wetland planting for maximum habitat diversity such as blueberry, button bush marshes, vernal pools and bogs

UPPER CONFLUENCE | PARK CONCEPT



Reuse of masonry



Marshes with islands

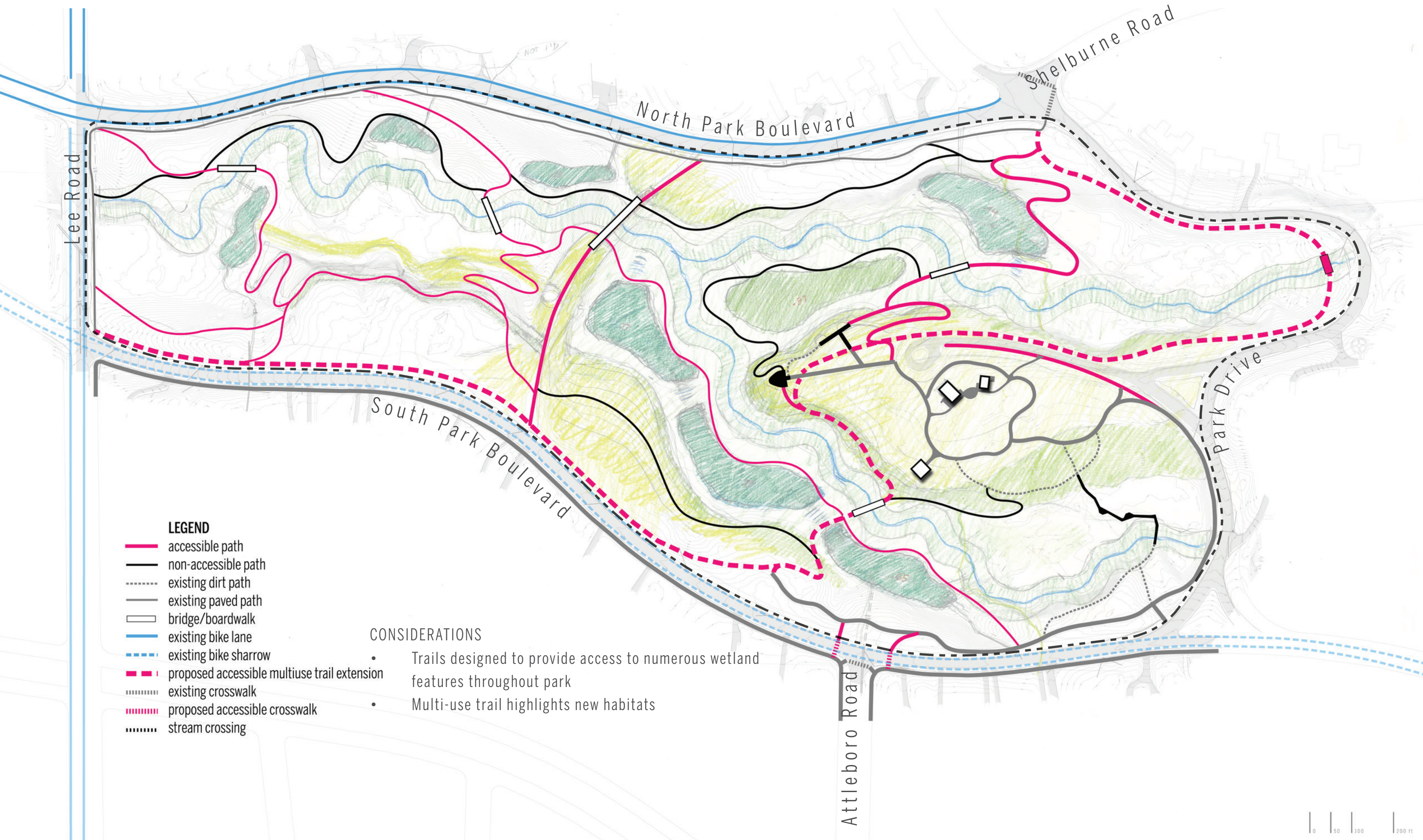


Stormwater wetlands



Wooded stream corridor

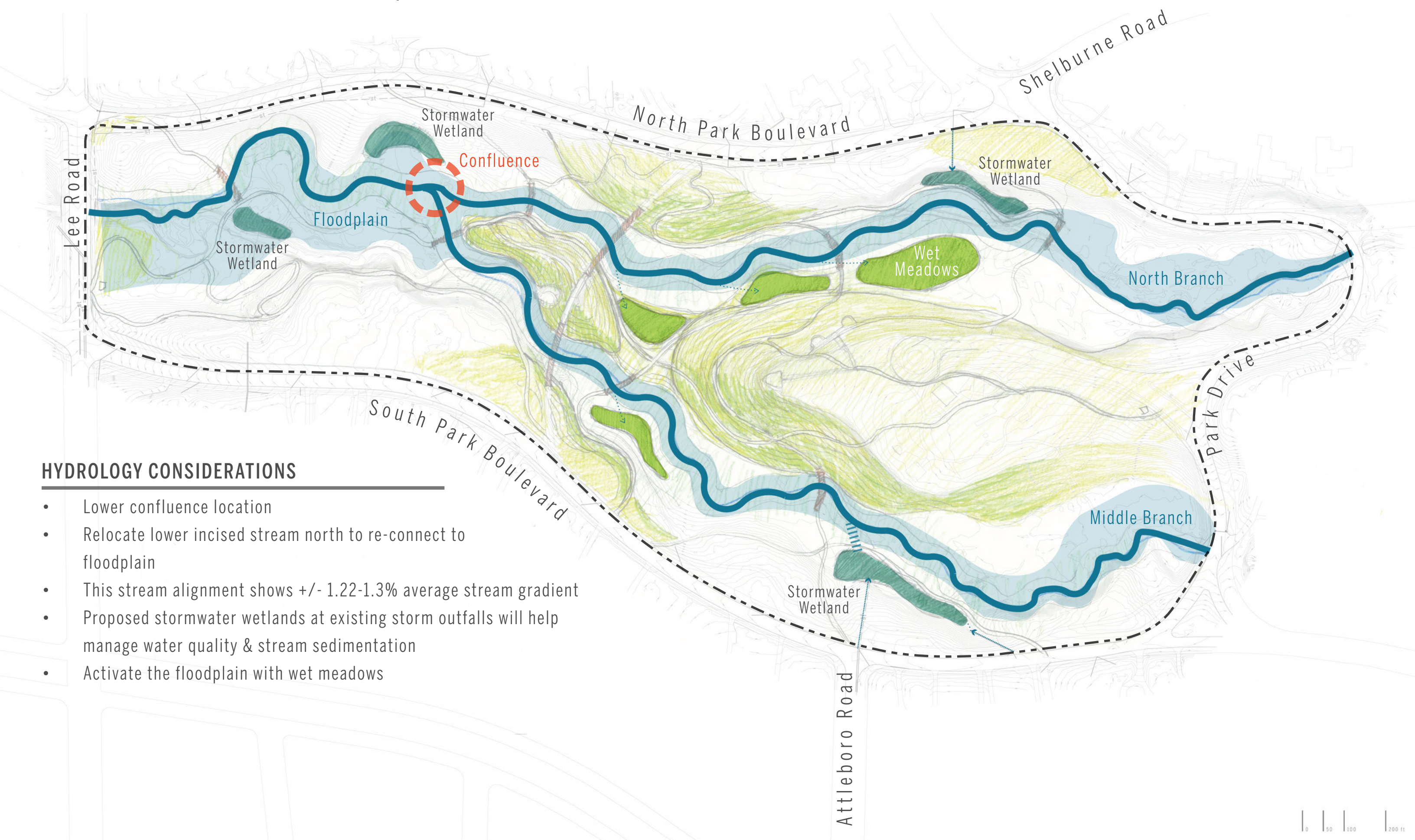
UPPER CONFLUENCE | PARK ACCESS & CIRCULATION



LOWER CONFLUENCE



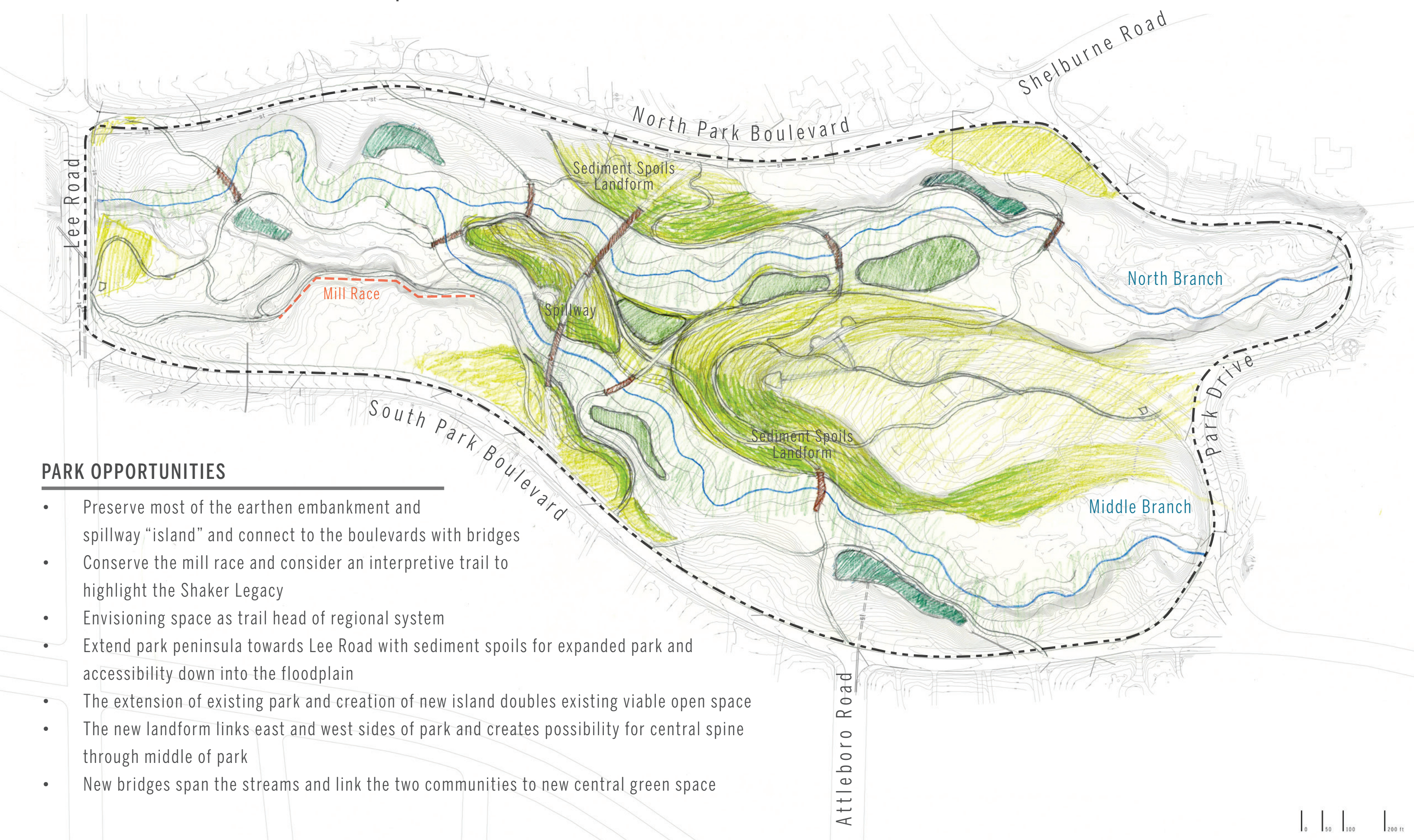
LOWER CONFLUENCE “A” | PARK HYDROLOGY



HYDROLOGY CONSIDERATIONS

- Lower confluence location
- Relocate lower incised stream north to re-connect to floodplain
- This stream alignment shows +/- 1.22-1.3% average stream gradient
- Proposed stormwater wetlands at existing storm outfalls will help manage water quality & stream sedimentation
- Activate the floodplain with wet meadows

LOWER CONFLUENCE “A” | PARK FRAMEWORK



PARK OPPORTUNITIES

- Preserve most of the earthen embankment and spillway “island” and connect to the boulevards with bridges
- Conserve the mill race and consider an interpretive trail to highlight the Shaker Legacy
- Envisioning space as trail head of regional system
- Extend park peninsula towards Lee Road with sediment spoils for expanded park and accessibility down into the floodplain
- The extension of existing park and creation of new island doubles existing viable open space
- The new landform links east and west sides of park and creates possibility for central spine through middle of park
- New bridges span the streams and link the two communities to new central green space

LOWER CONFLUENCE “A” | PARK CONCEPT



LOWER CONFLUENCE “A” | PARK CONCEPT



Serpentine accessible park trail



Bridges

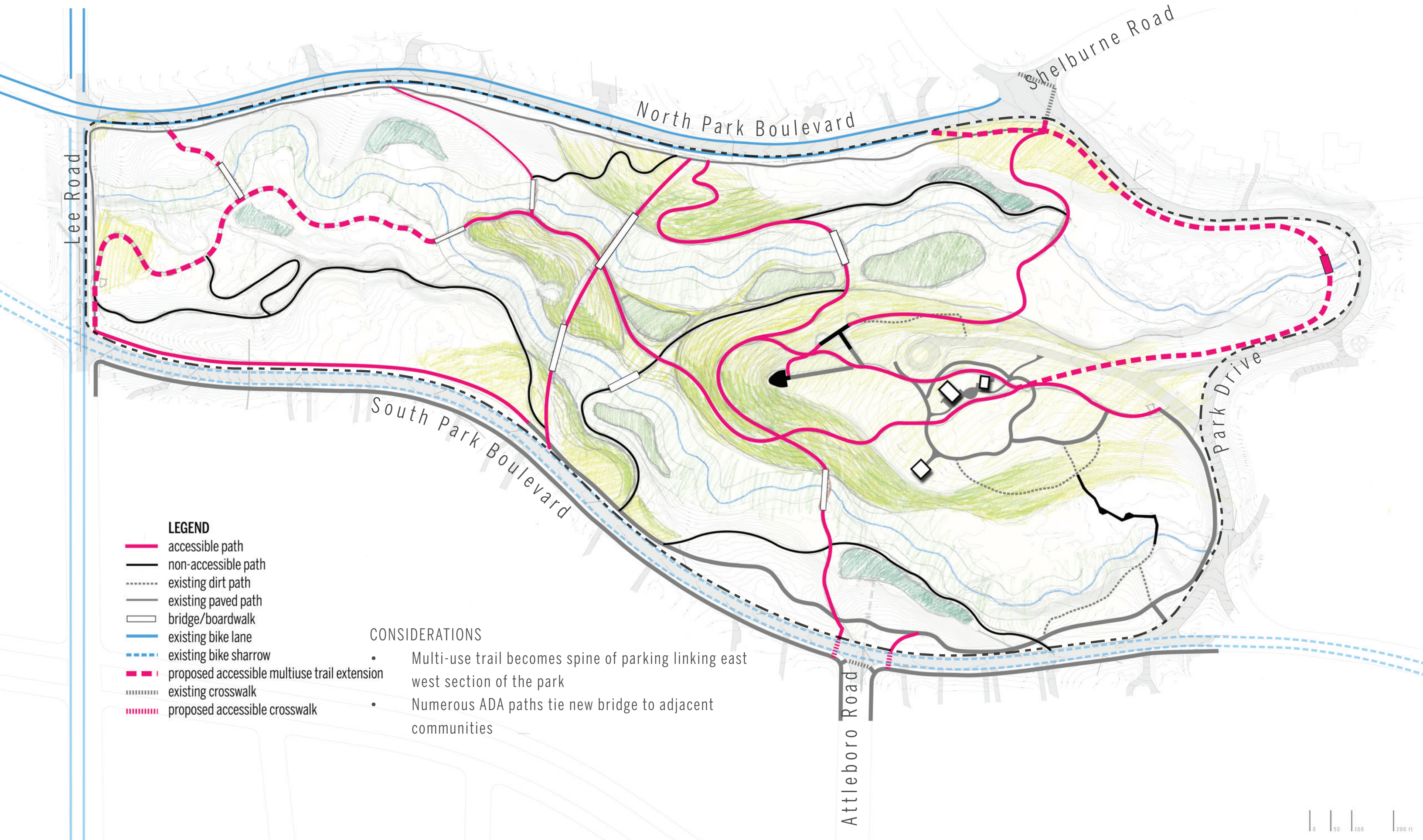


Paved multi-use trail

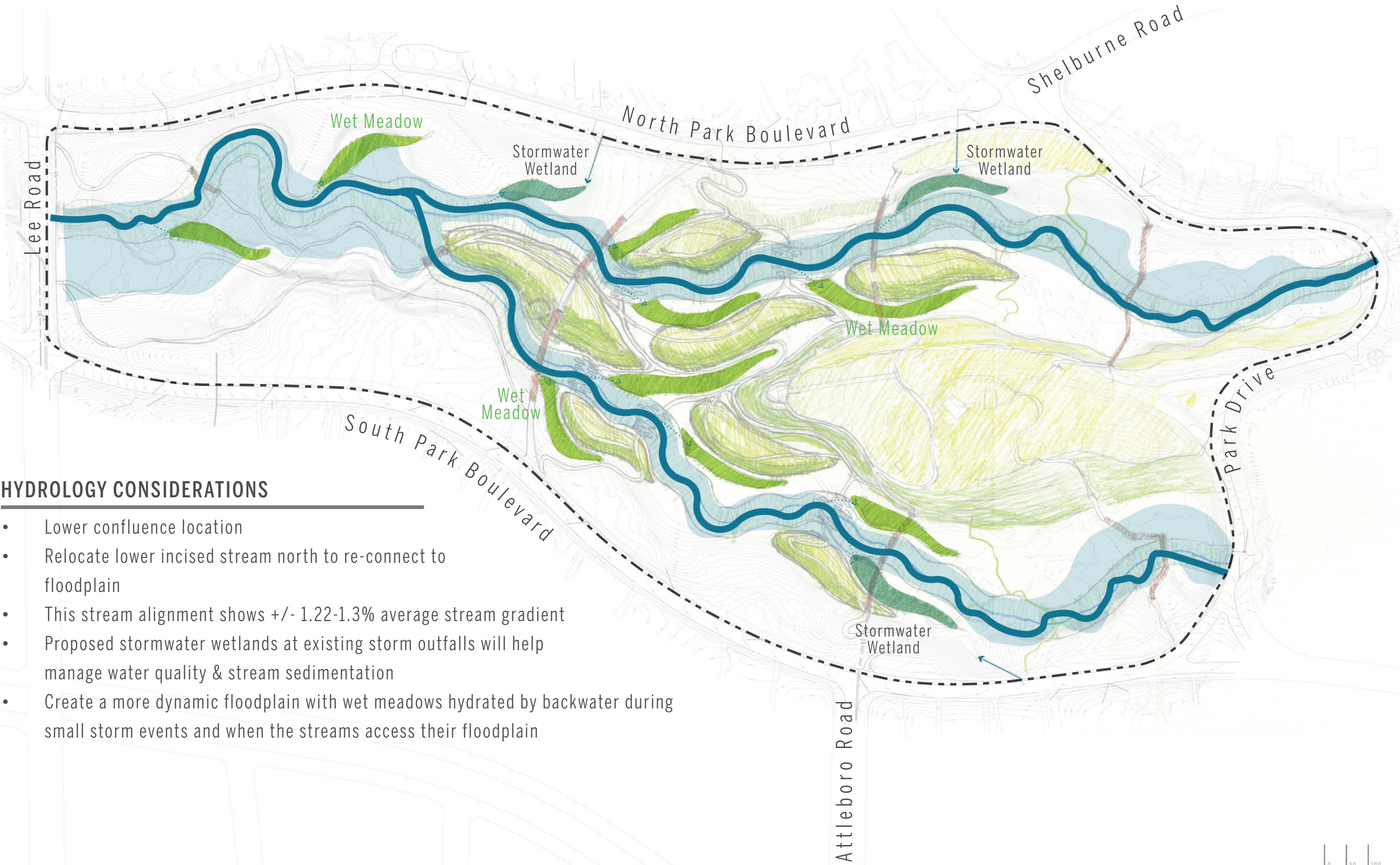


Wet meadows

LOWER CONFLUENCE “A” | PARK ACCESS & CIRCULATION



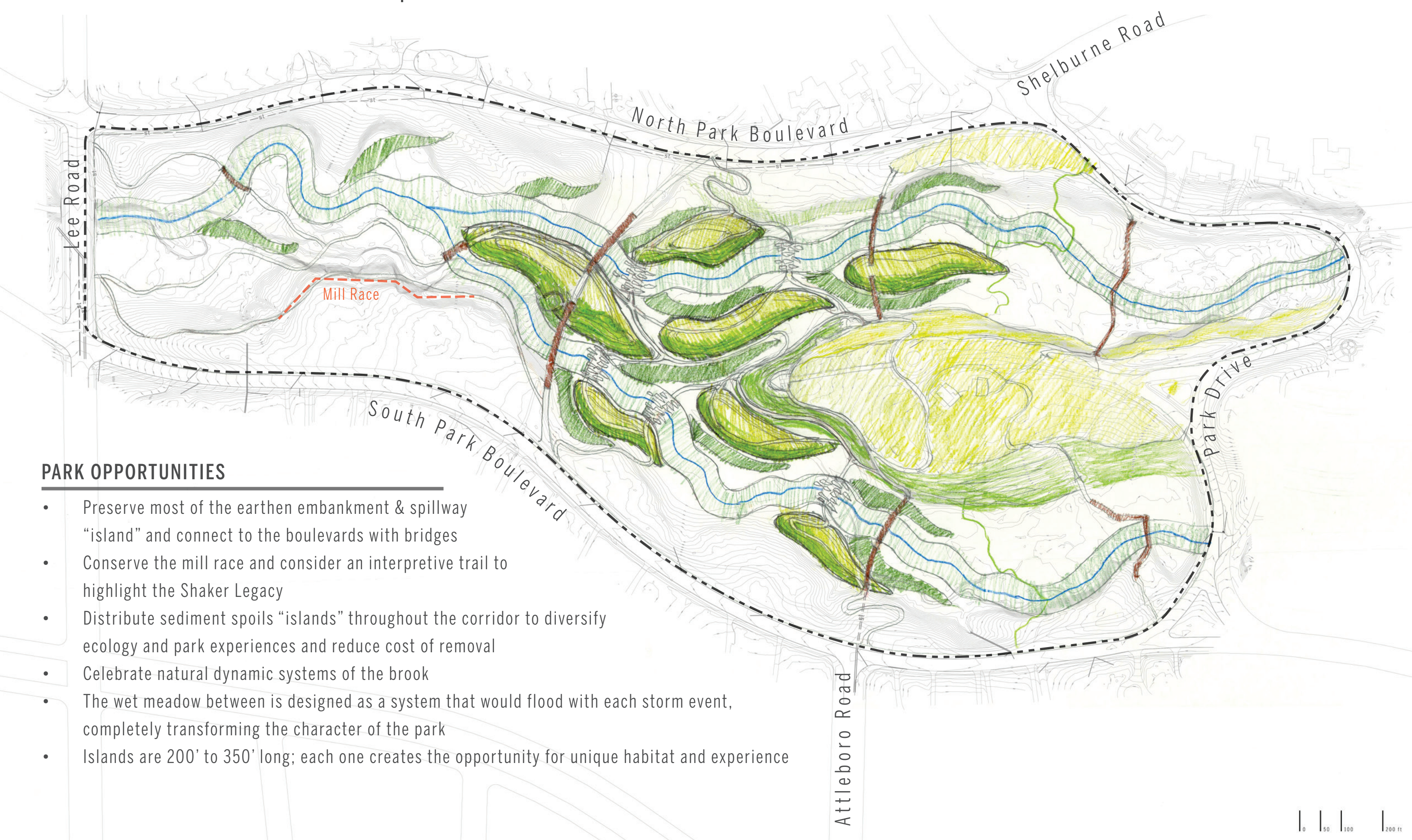
LOWER CONFLUENCE “B” | PARK HYDROLOGY



HYDROLOGY CONSIDERATIONS

- Lower confluence location
- Relocate lower incised stream north to re-connect to floodplain
- This stream alignment shows +/- 1.22-1.3% average stream gradient
- Proposed stormwater wetlands at existing storm outfalls will help manage water quality & stream sedimentation
- Create a more dynamic floodplain with wet meadows hydrated by backwater during small storm events and when the streams access their floodplain

LOWER CONFLUENCE “B” | PARK FRAMEWORK



PARK OPPORTUNITIES

- Preserve most of the earthen embankment & spillway “island” and connect to the boulevards with bridges
- Conserve the mill race and consider an interpretive trail to highlight the Shaker Legacy
- Distribute sediment spoils “islands” throughout the corridor to diversify ecology and park experiences and reduce cost of removal
- Celebrate natural dynamic systems of the brook
- The wet meadow between is designed as a system that would flood with each storm event, completely transforming the character of the park
- Islands are 200’ to 350’ long; each one creates the opportunity for unique habitat and experience

LOWER CONFLUENCE “B” | PARK CONCEPT



CONSIDERATIONS

- Each island is envisioned as its unique space framed by groves of trees
- Distinctive tree and shrub species of park might be highlighted on individual islands such as hickory, sycamore, catalpa, or paw paw
- The marsh “fingers” throughout the park would be planted to create unique habitats and to create strong seasonal display
- The floodplain becomes central planting feature

LOWER CONFLUENCE “B” | PARK CONCEPT



Stream crossings



Sculptural landforms

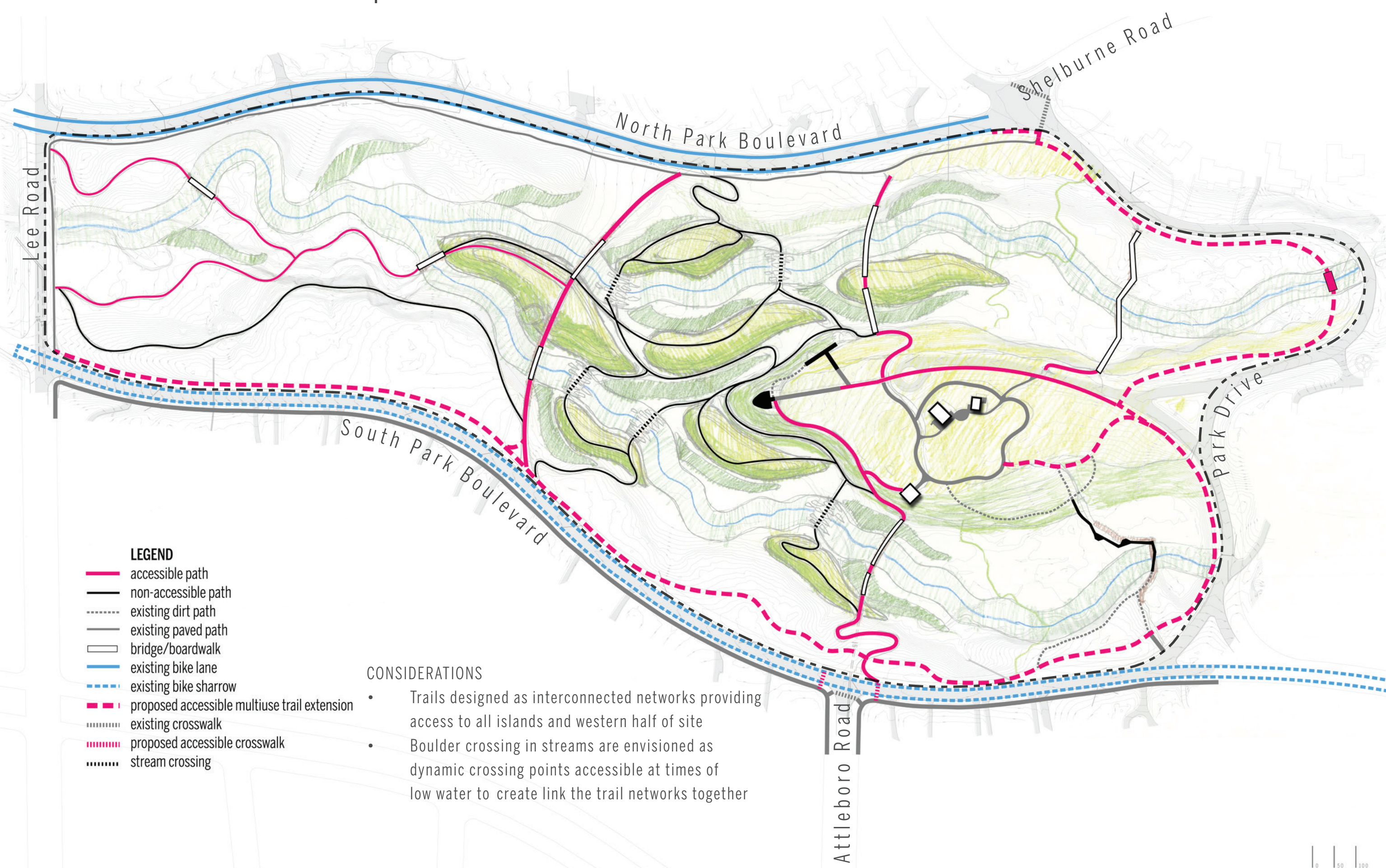


Sculptural landforms



Stream crossings

LOWER CONFLUENCE “B” | PARK ACCESS & CIRCULATION



LANDSCAPE INTEGRATION CONCEPTS

MIDDLE CONFLUENCE

UPPER CONFLUENCE

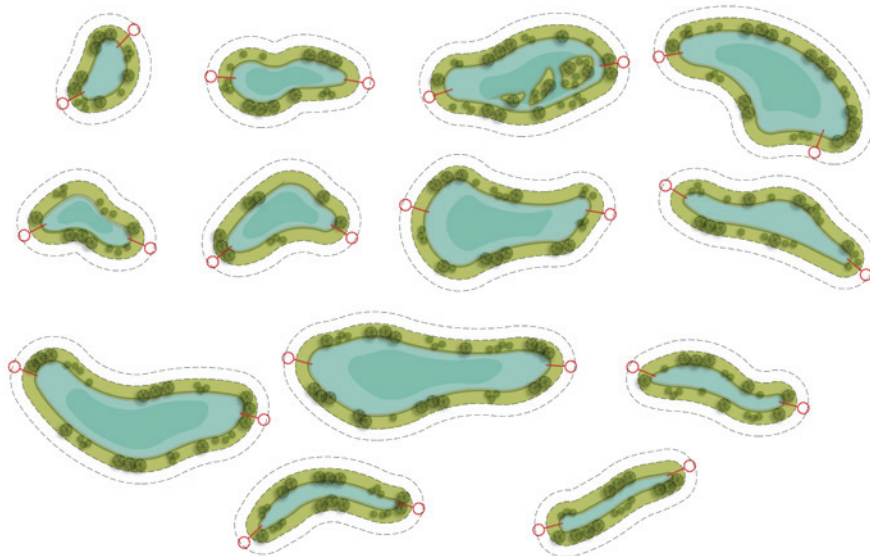
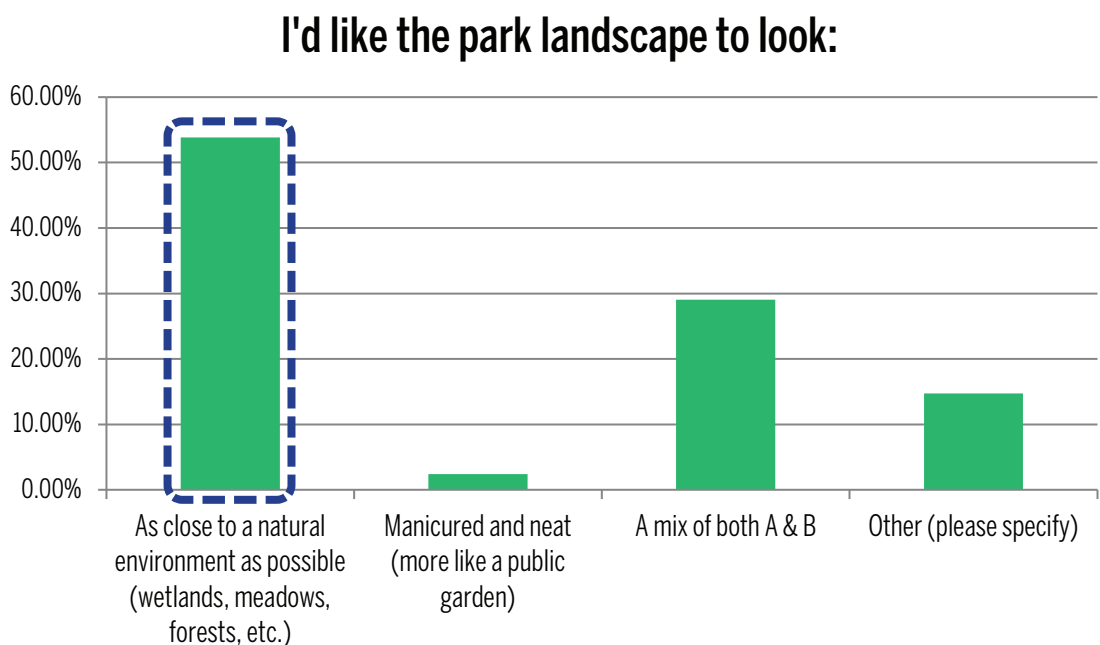
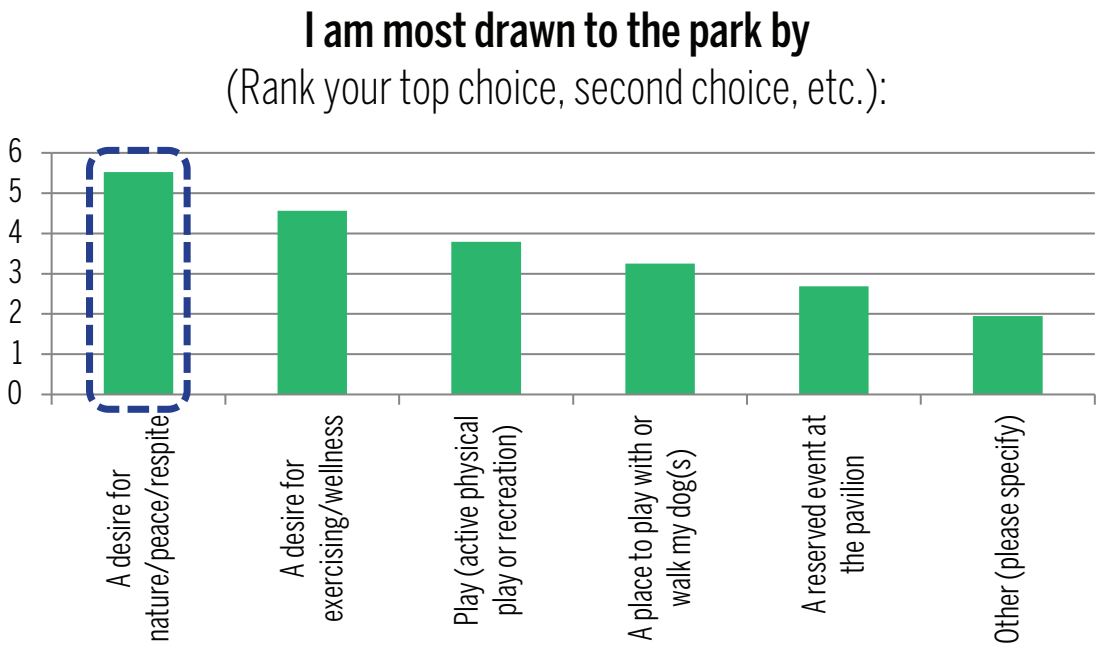
LOWER CONFLUENCE A

LOWER CONFLUENCE B

A photograph of a park with large trees and a grassy field. The text "POTENTIAL PARK AMENITIES" is overlaid in the center.

POTENTIAL PARK AMENITIES

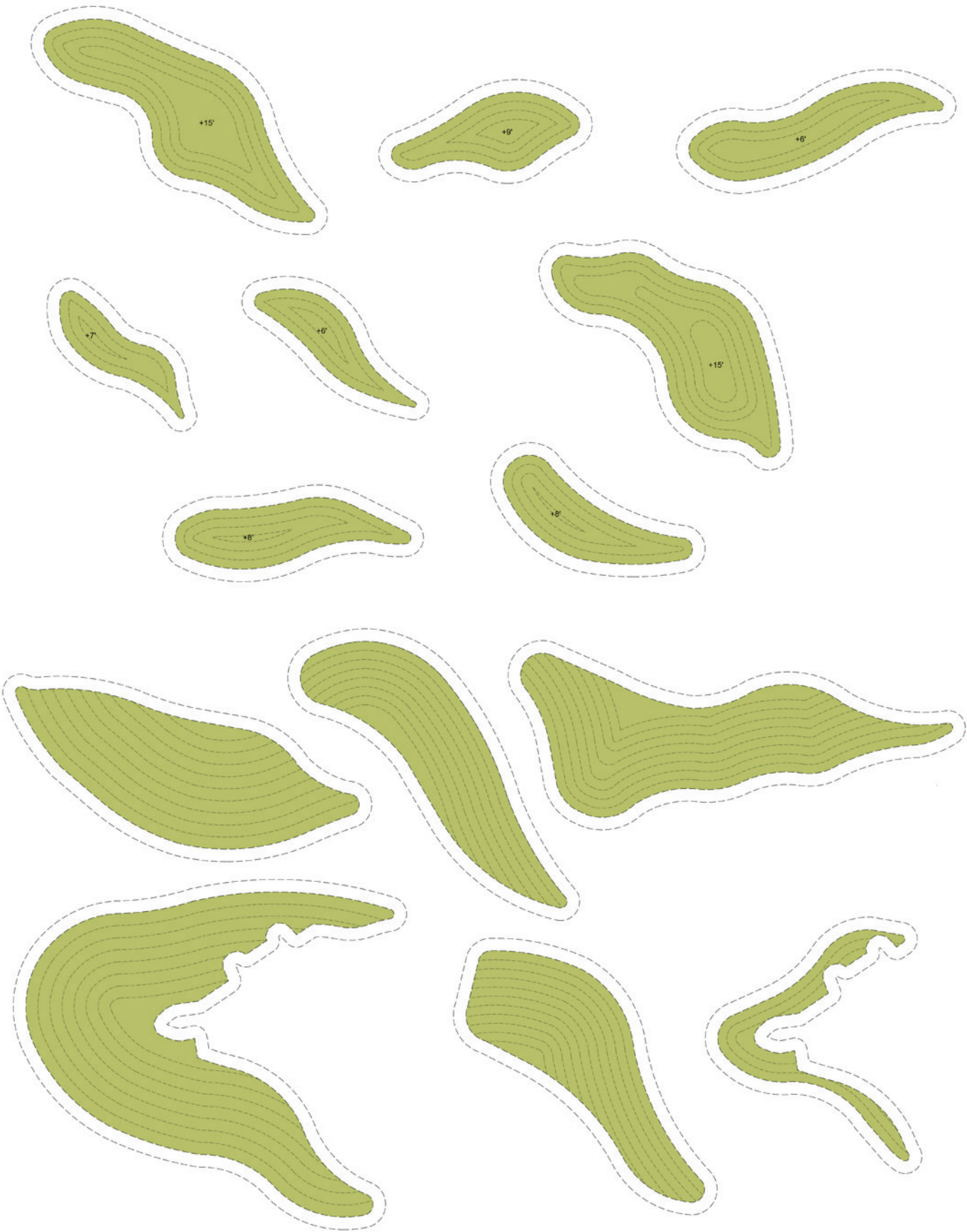
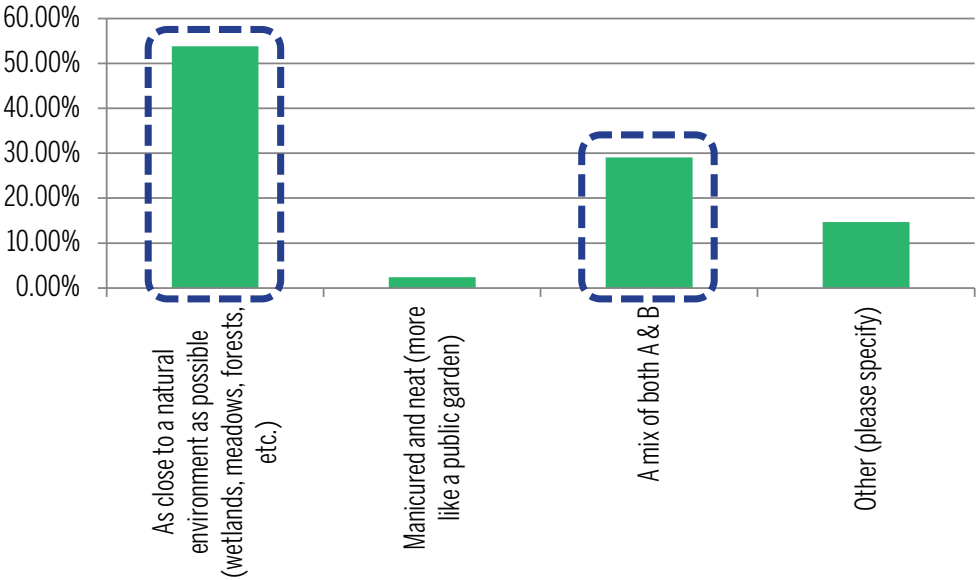
NATURE-BASED AMENITIES | STORMWATER WETLANDS, MARSHES, & WET MEADOWS



NATURE-BASED AMENITIES | SEDIMENT MANAGEMENT LANDFORMS, SLOPES, & HILLS



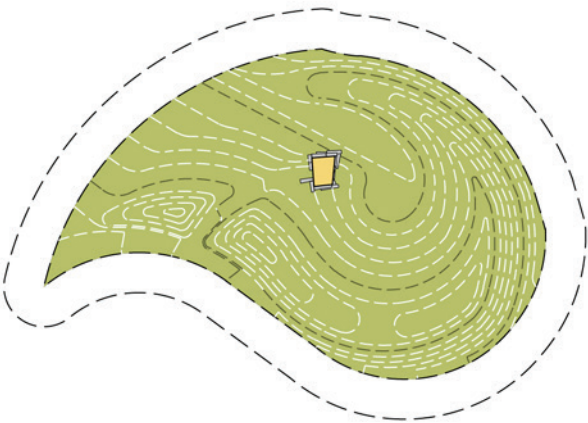
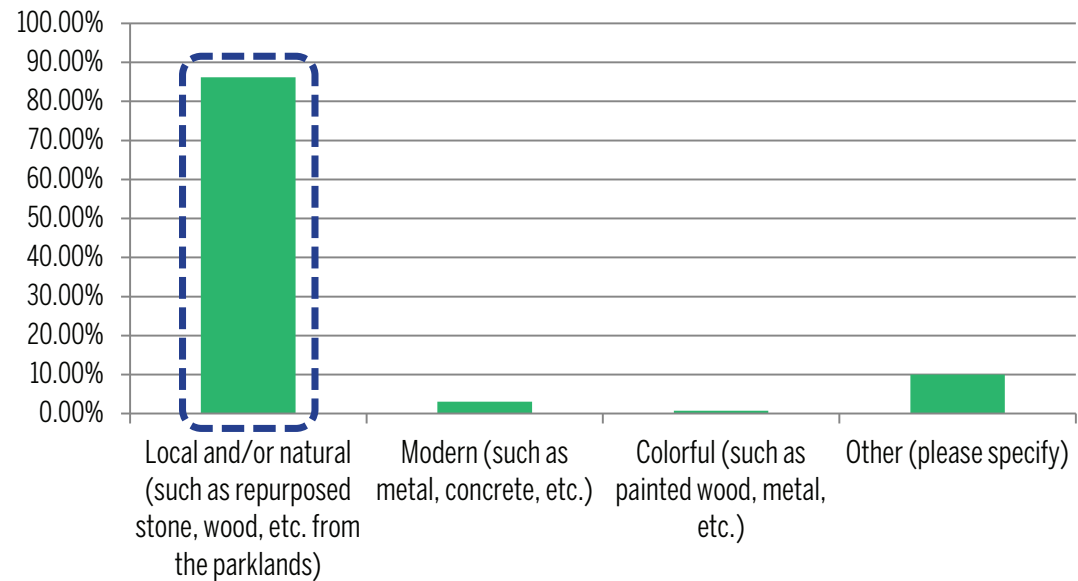
I'd like the park landscape to look:



NATURE-BASED AMENITIES | BIRD BLINDS

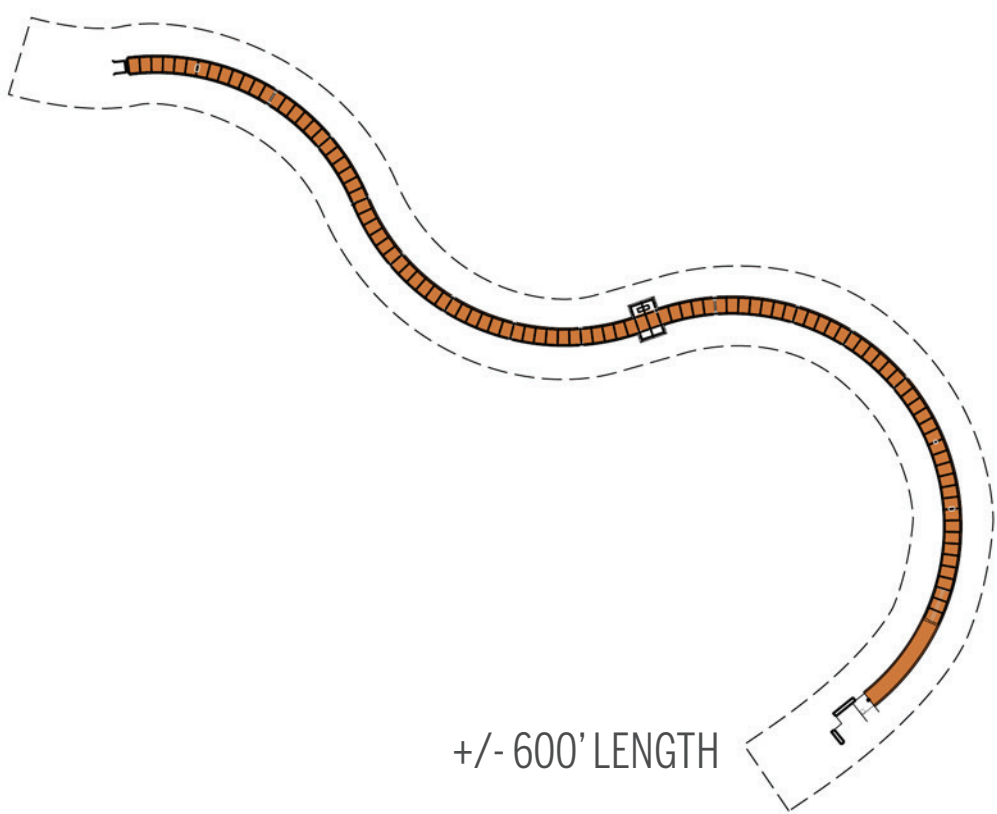
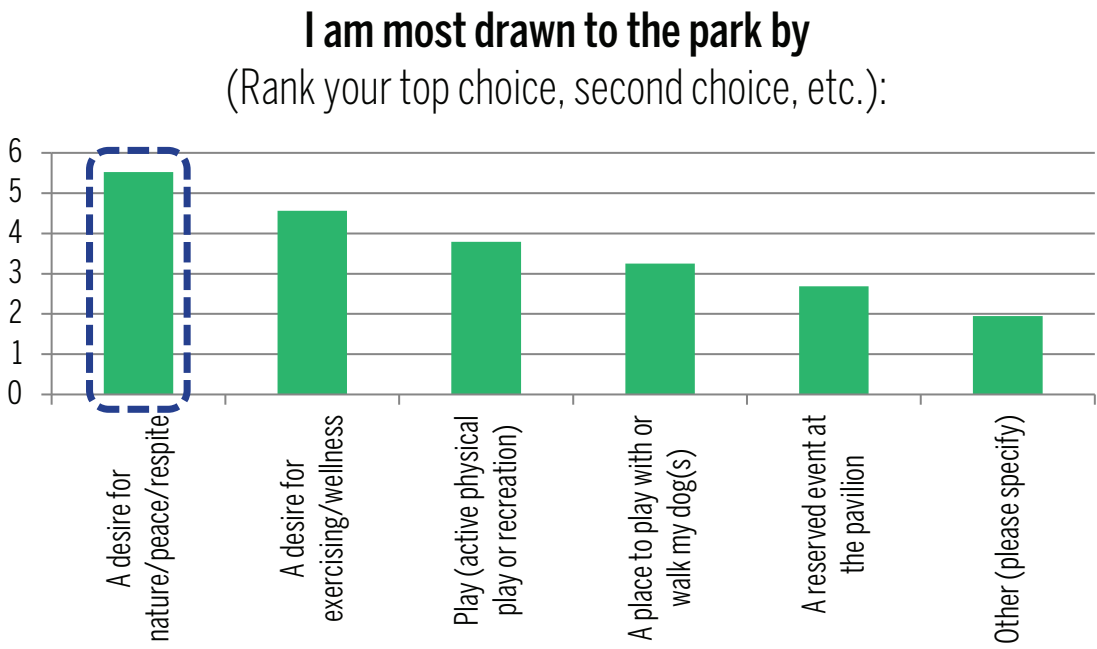


Generally, I think new park amenities should be built out of materials that are:



BIRD BLIND

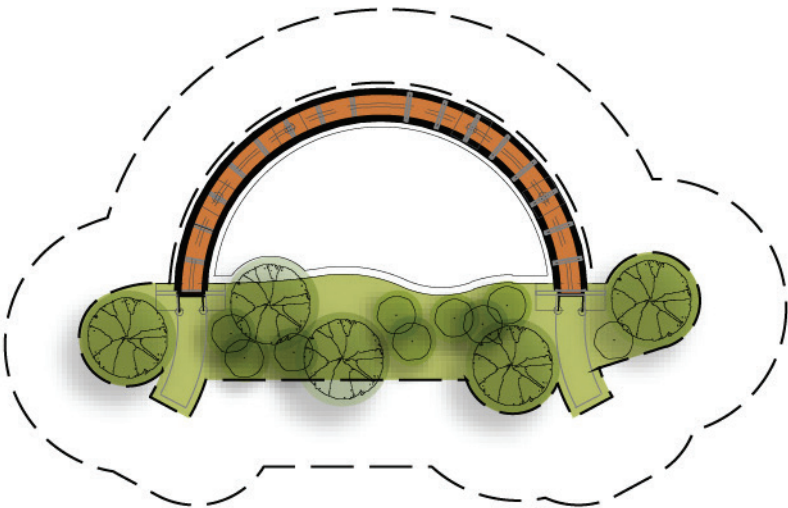
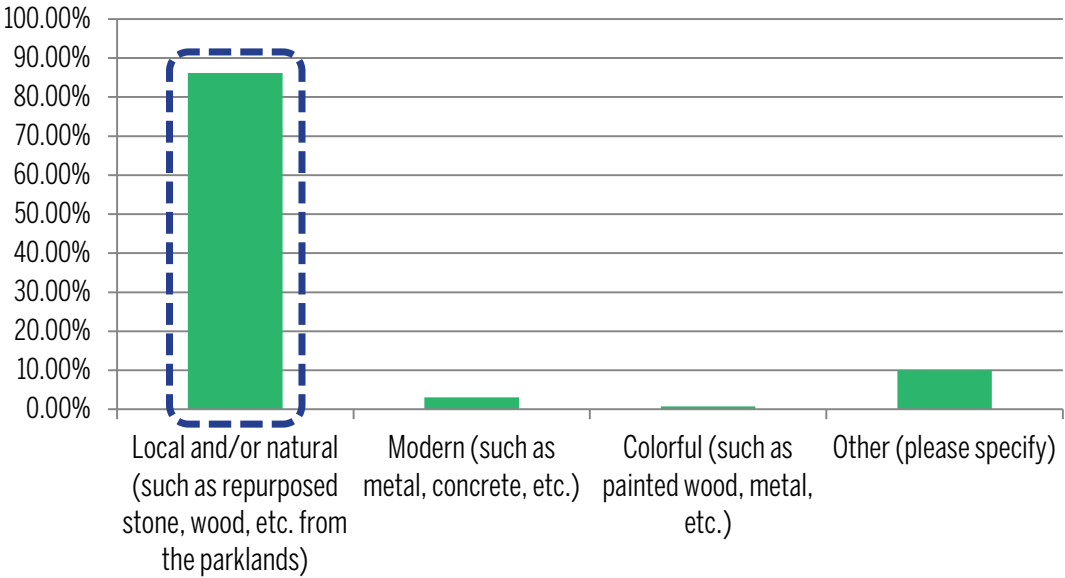
NATURE-BASED AMENITIES | CANOPY WALK OR WETLAND BOARDWALK



NATURE-BASED AMENITIES | STREAM VALLEY OVERLOOK



Generally, I think new park amenities should be built out of materials that are:

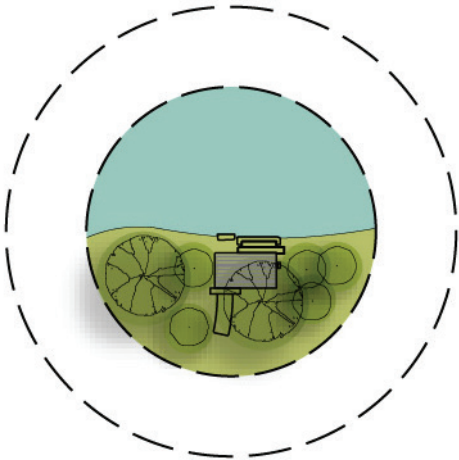
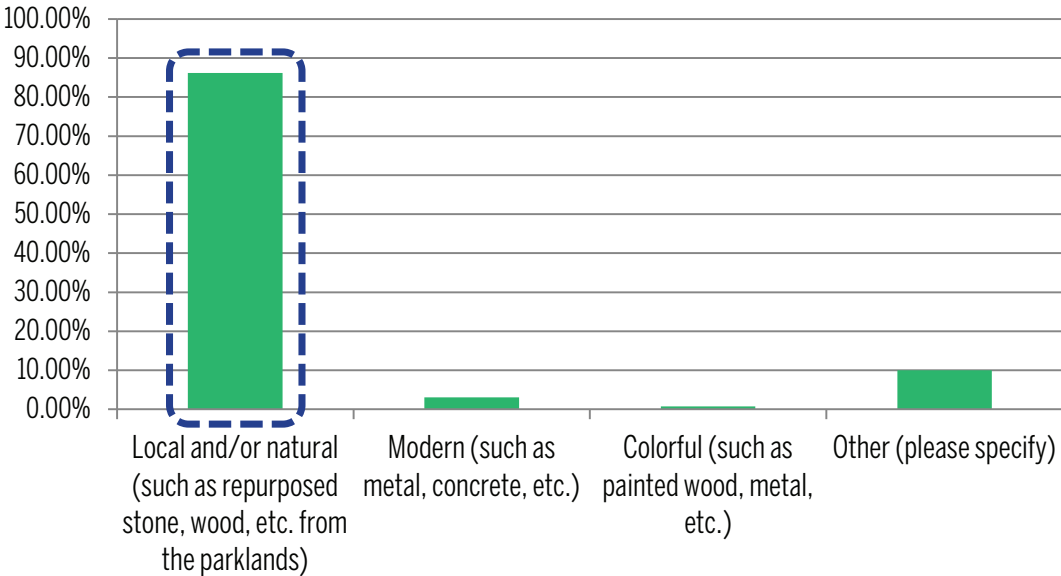


STREAM VALLEY OVERLOOK

NATURE-BASED AMENITIES | WATER'S EDGE OBSERVATION DECK



Generally, I think new park amenities should be built out of materials that are:

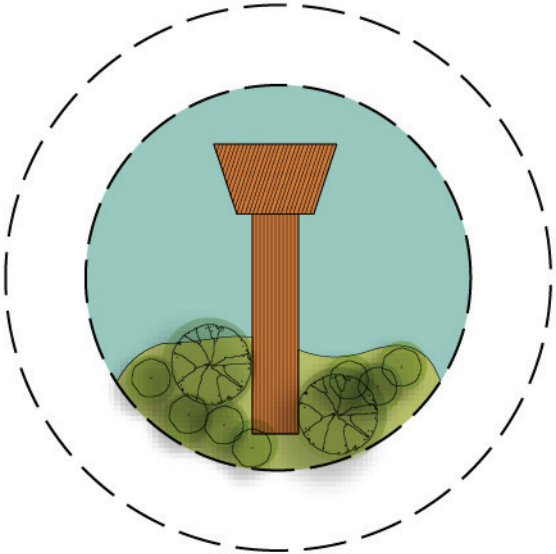
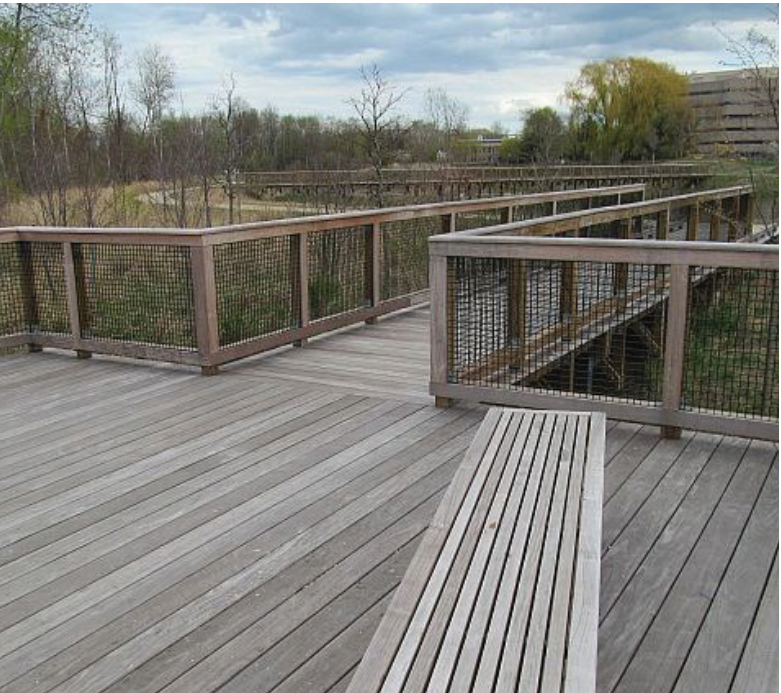
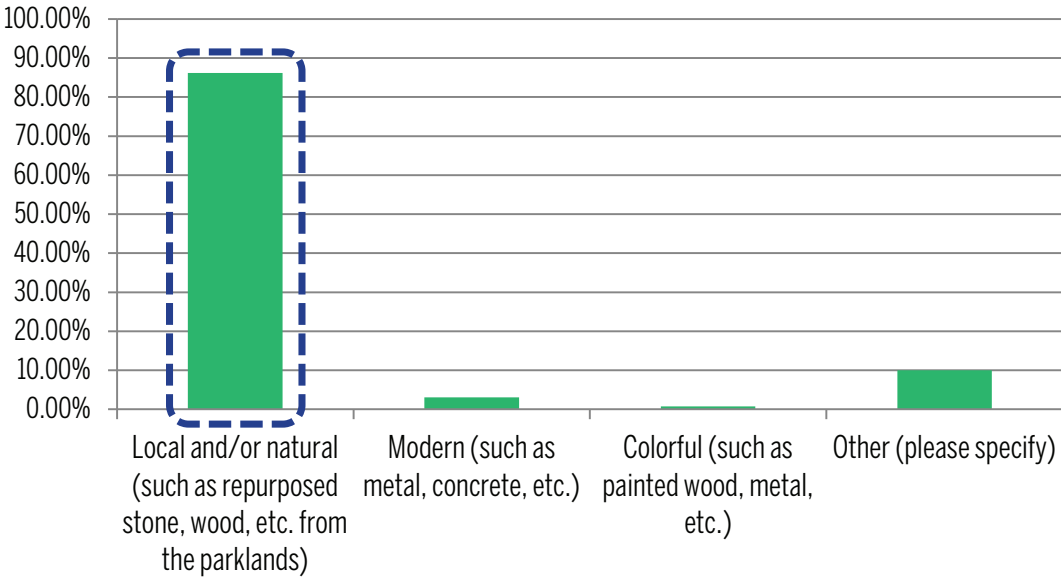


WATER'S EDGE
OBSERVATION DECK

NATURE-BASED AMENITIES | WETLAND EDUCATION/INTERPRETATION DECK

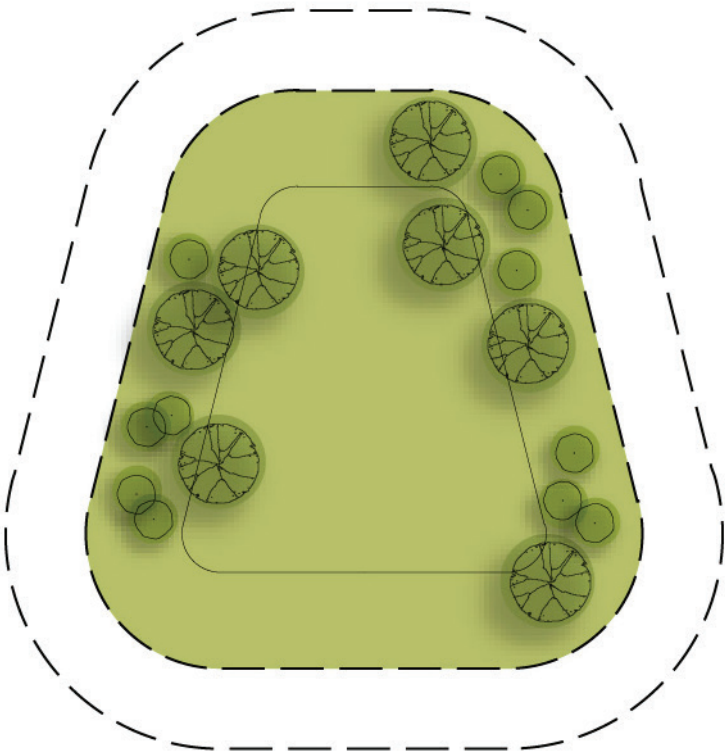
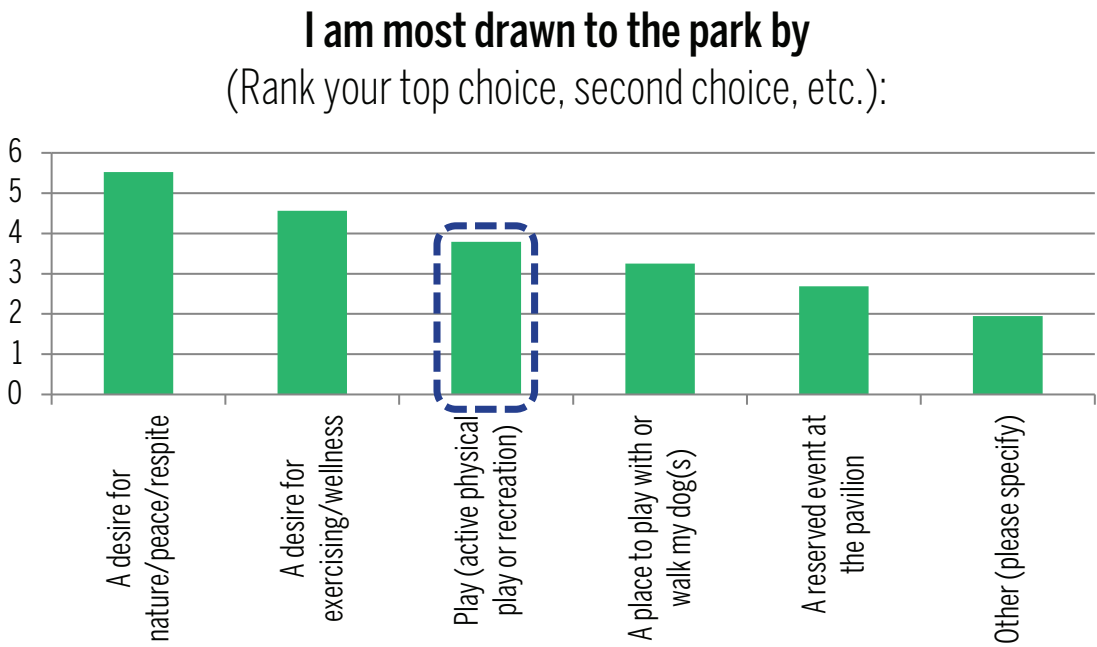


Generally, I think new park amenities should be built out of materials that are:



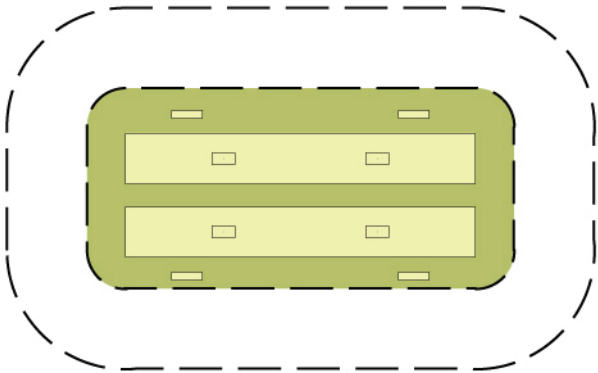
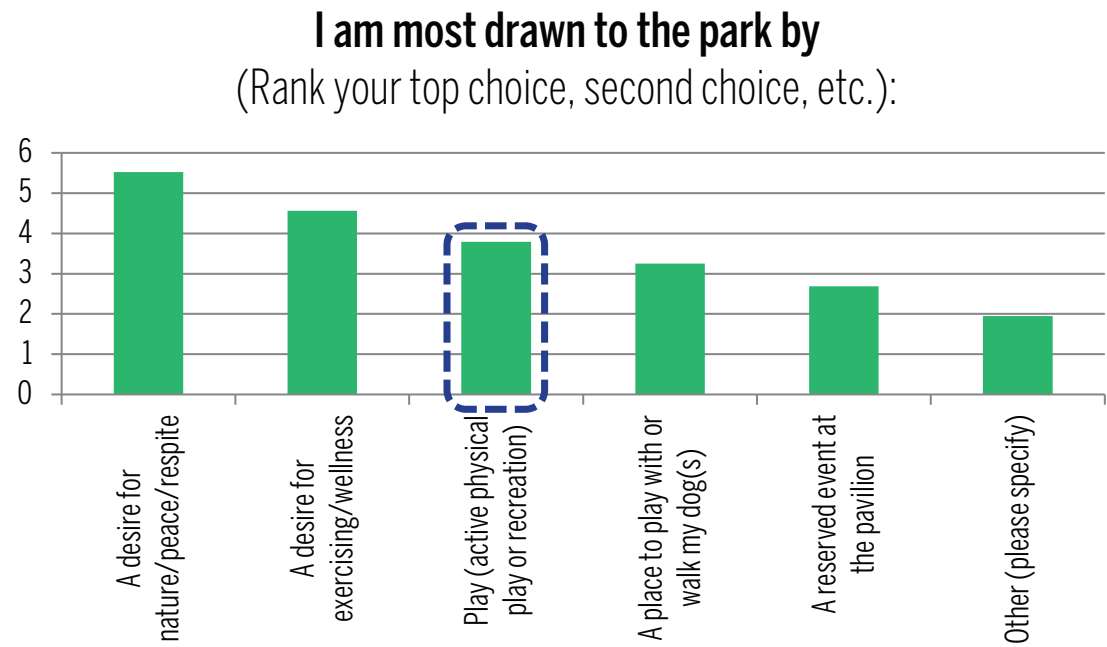
WETLAND OVERLOOK

ACTIVE RECREATION AMENITIES | SLEDDING HILL



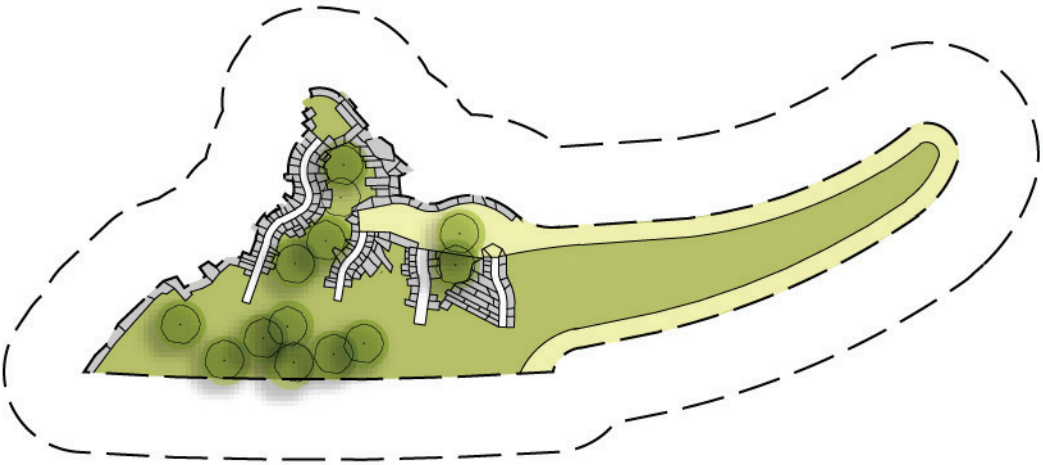
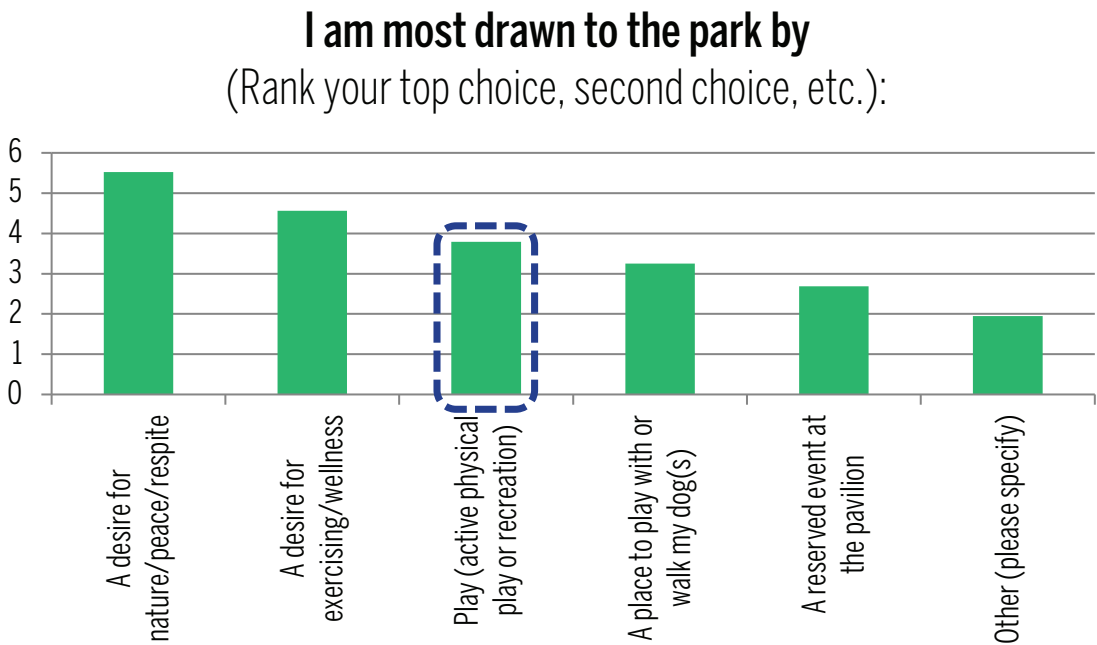
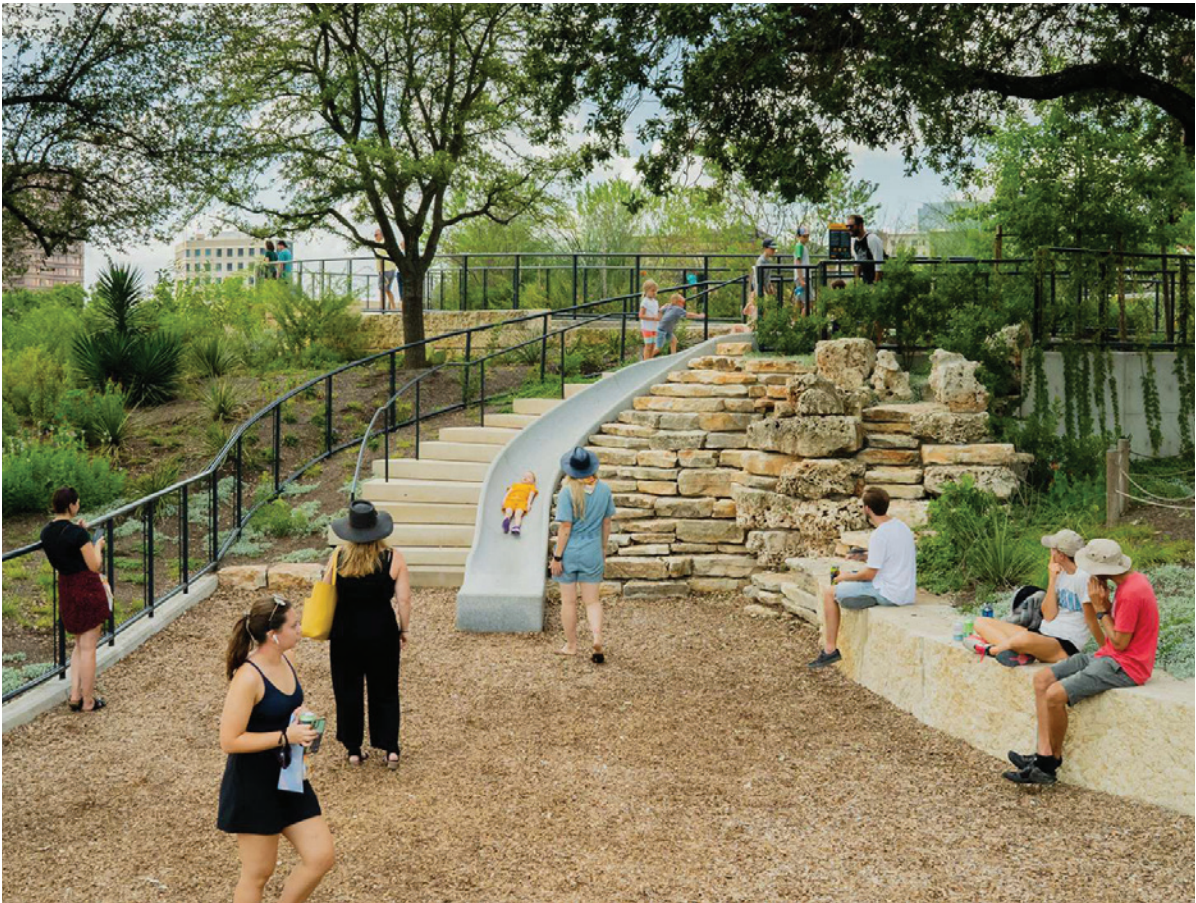
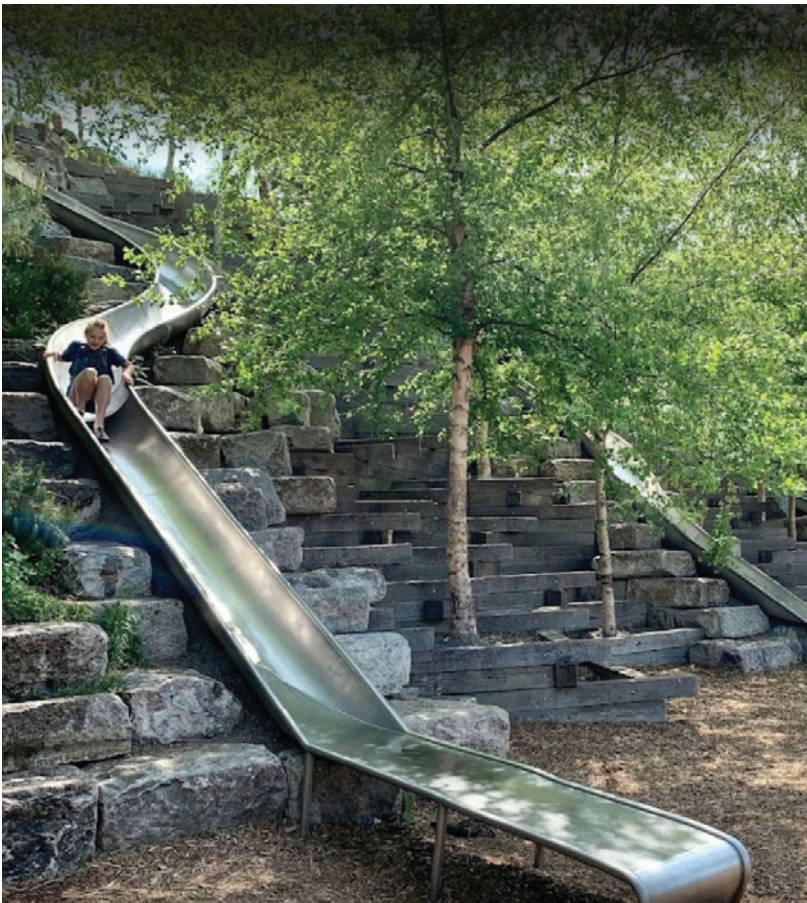
SLEDDING HILL

ACTIVE RECREATION AMENITIES | BOCCE AND HORSESHOE PITS



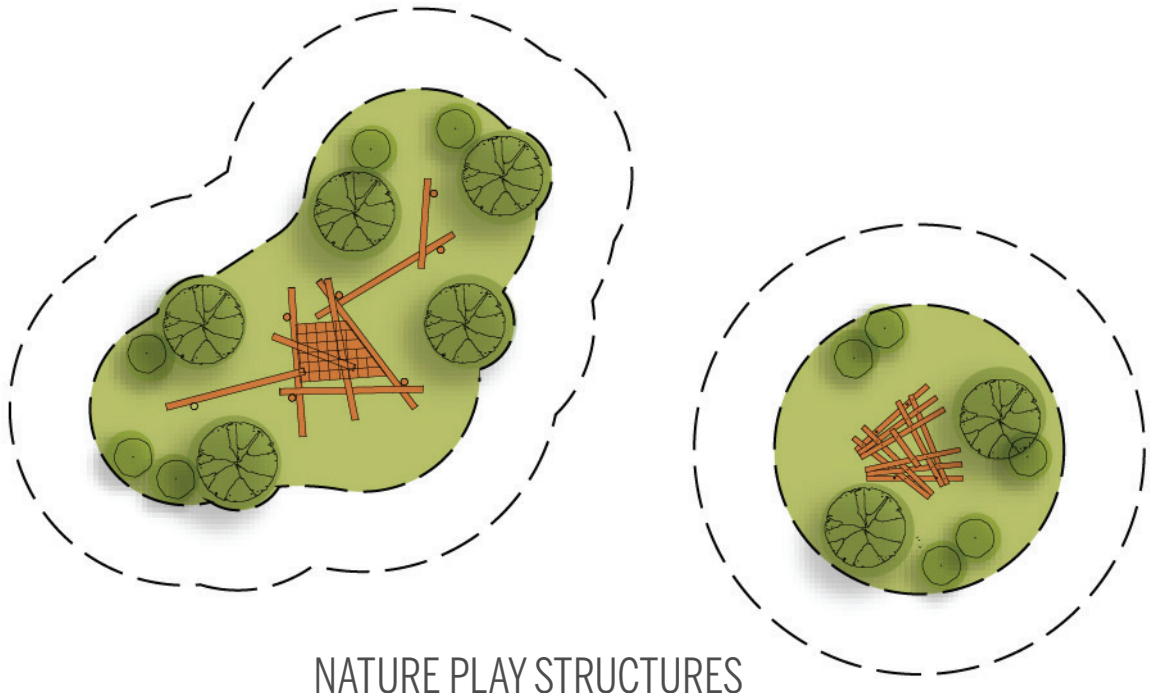
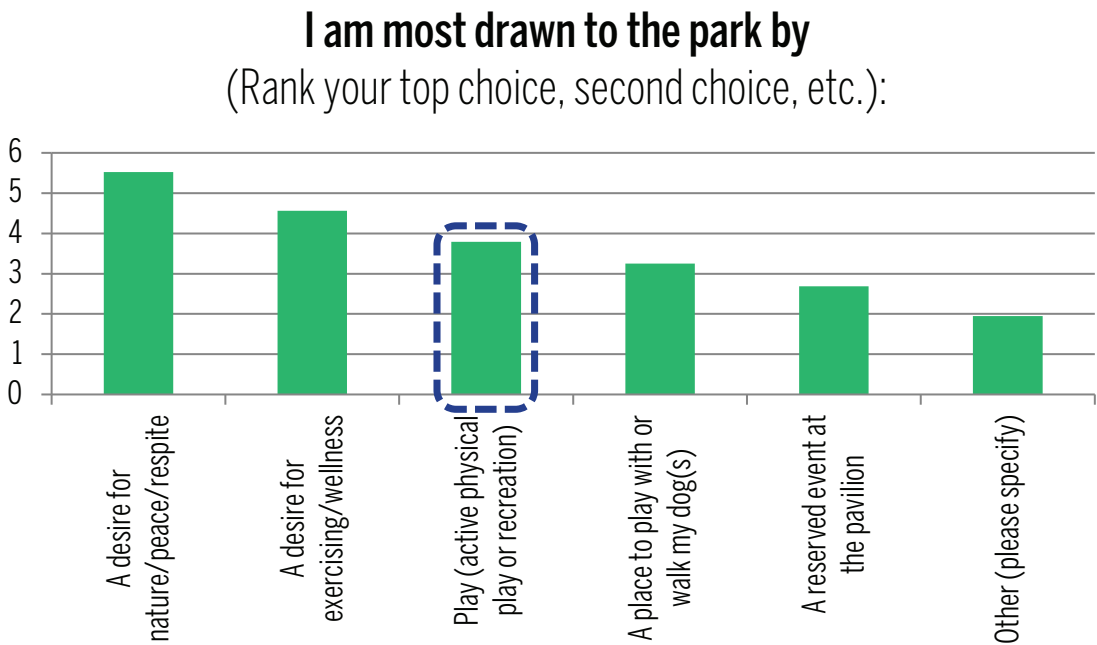
BOCCE COURT /
HORSESHOE PITS

ACTIVE RECREATION AMENITIES | SLIDE EMBANKMENT & ROCK SCRAMBLE



SLIDE EMBANKMENT & ROCK SCRAMBLE

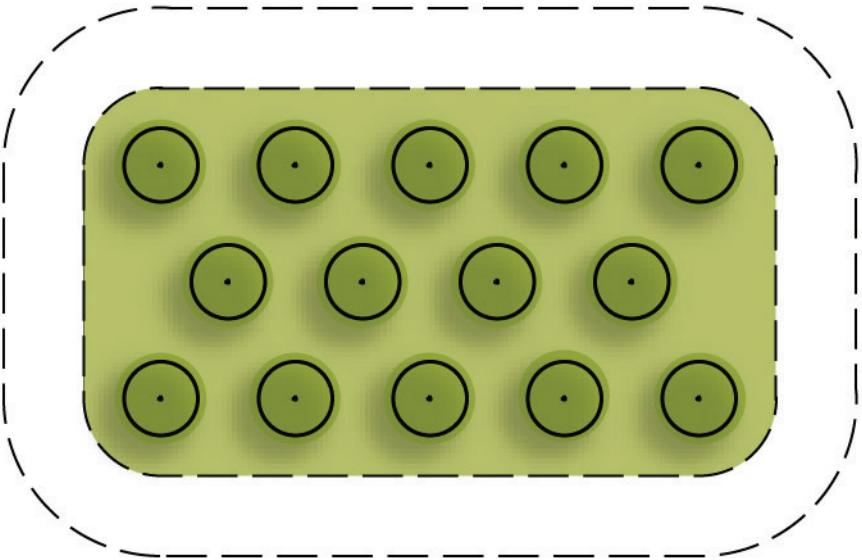
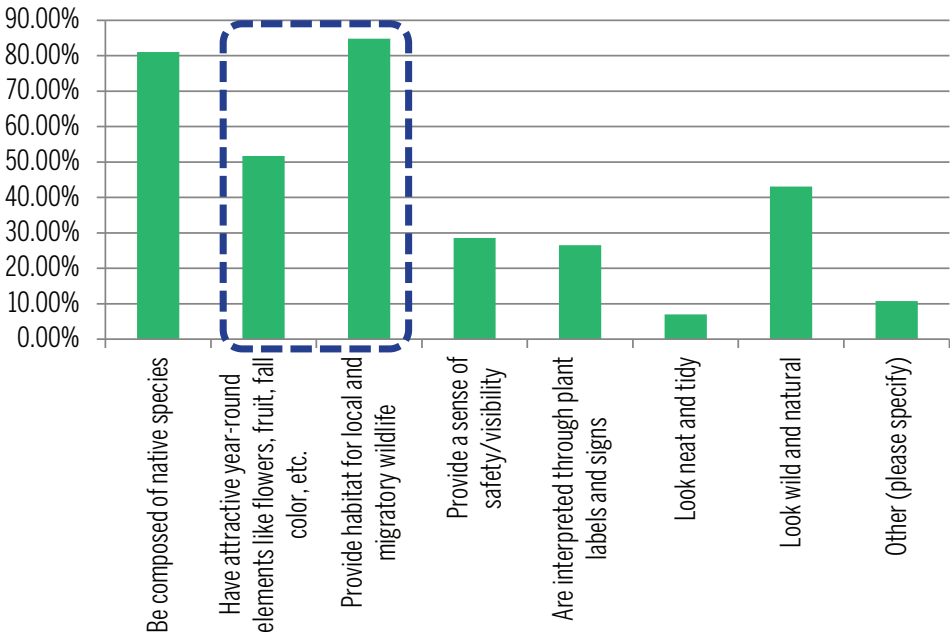
ACTIVE RECREATION AMENITIES | NATURE PLAY



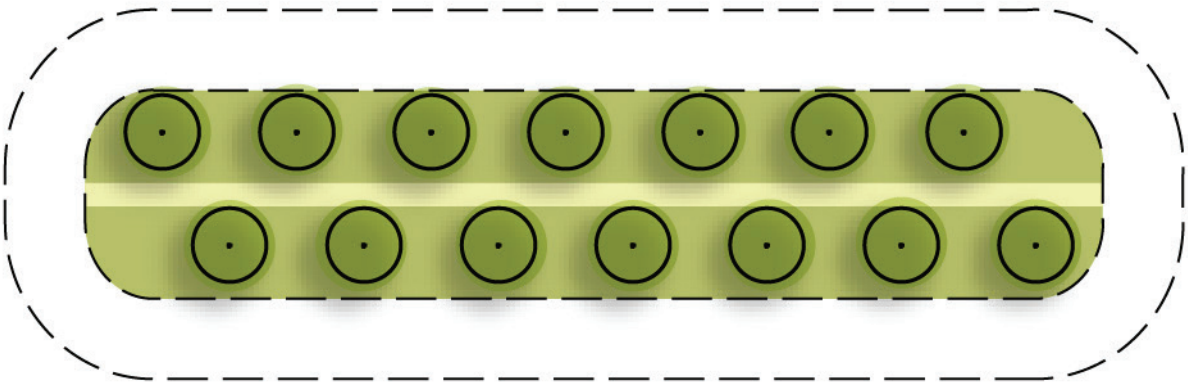
GARDEN-BASED AMENITIES | ORCHARDS & ALLEE PROMENADES



To me, it is important that the landscape plantings:
(select all that apply)



ORCHARD

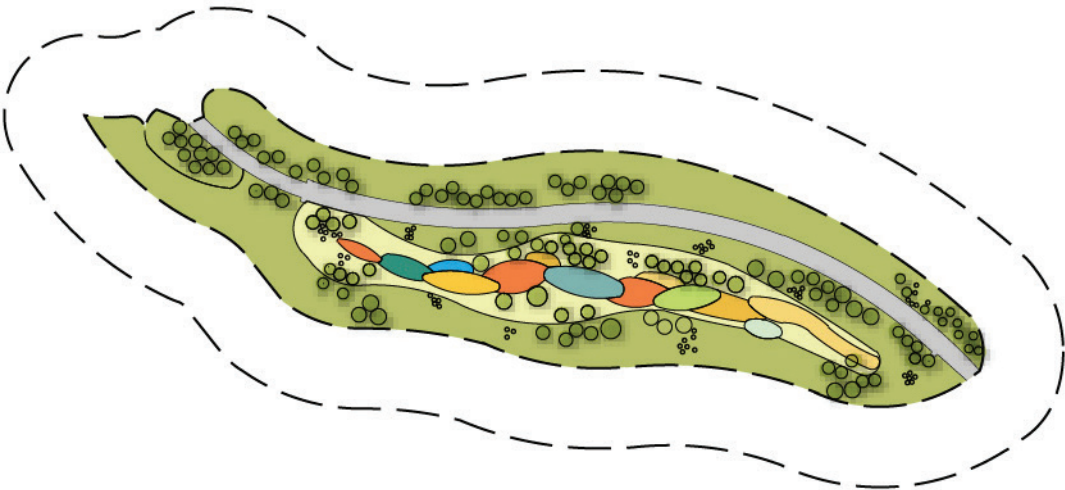
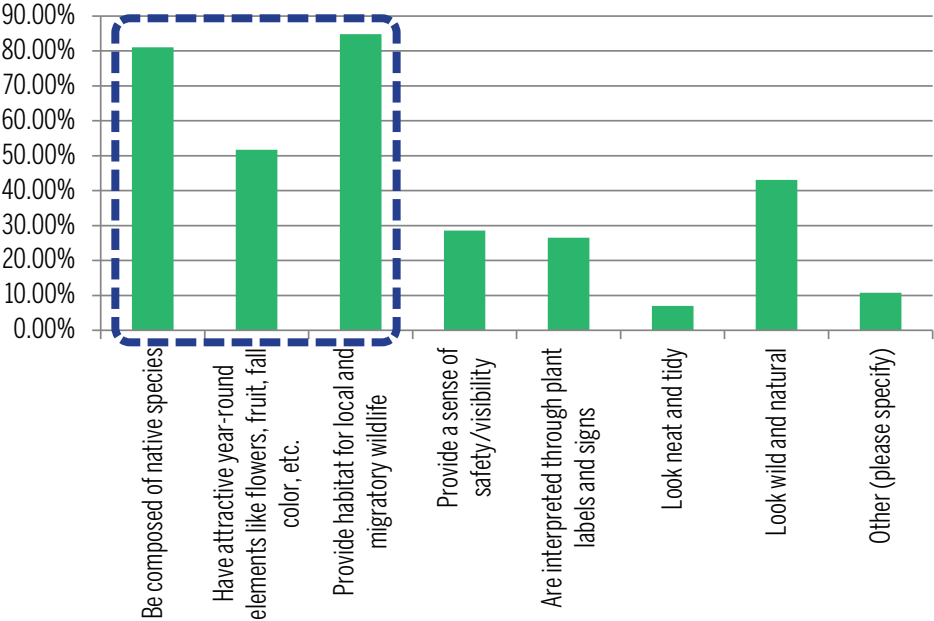


ALLEE PROMENADE

GARDEN-BASED AMENITIES | NATIVE POLLINATOR GARDEN



To me, it is important that the landscape plantings:
(select all that apply)

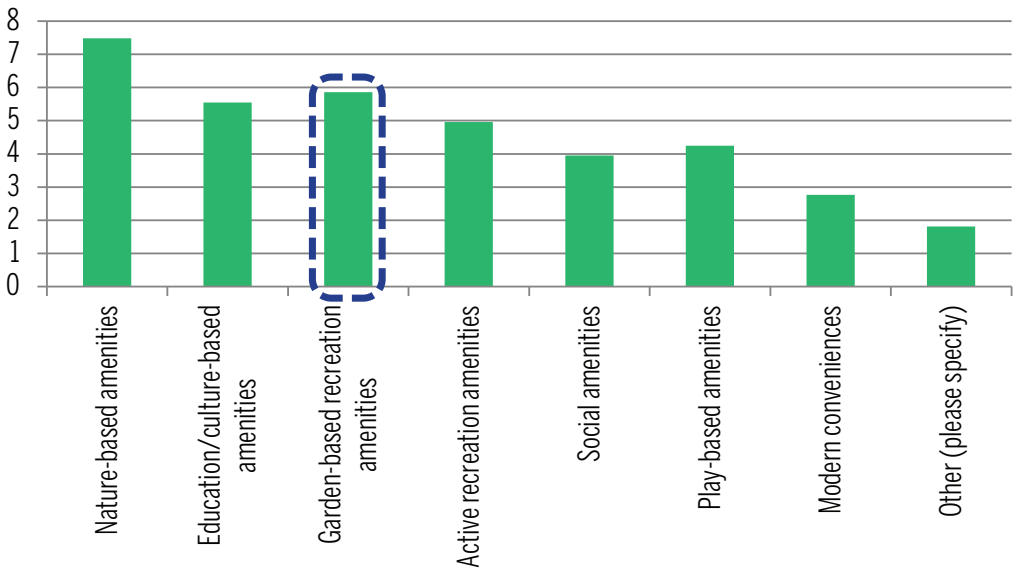


POLLINATOR GARDEN

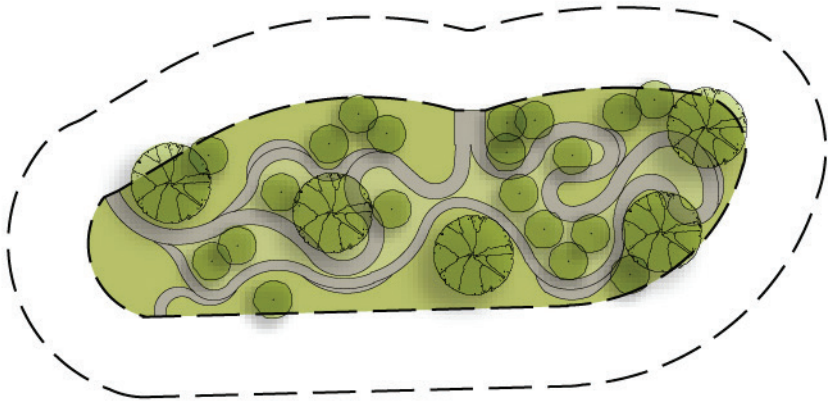
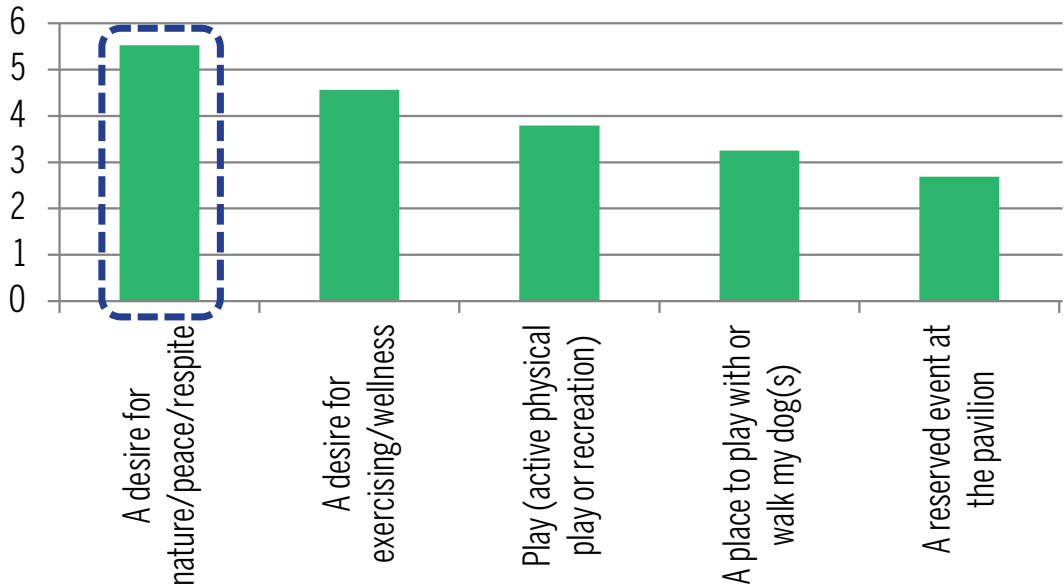
GARDEN-BASED AMENITIES | READING GARDEN OR SENSORY GARDEN



The types of park amenities that are most appealing to me include: (please rank the choices below, with 1 being "most appealing" and 9 being "least appealing")



I am most drawn to the park by (Rank your top choice, second choice, etc.):

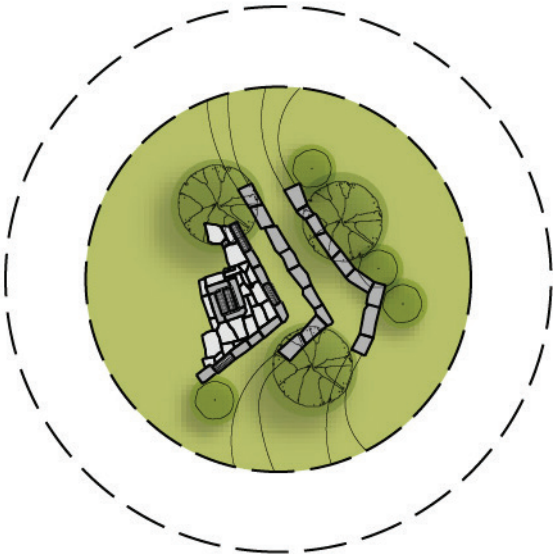
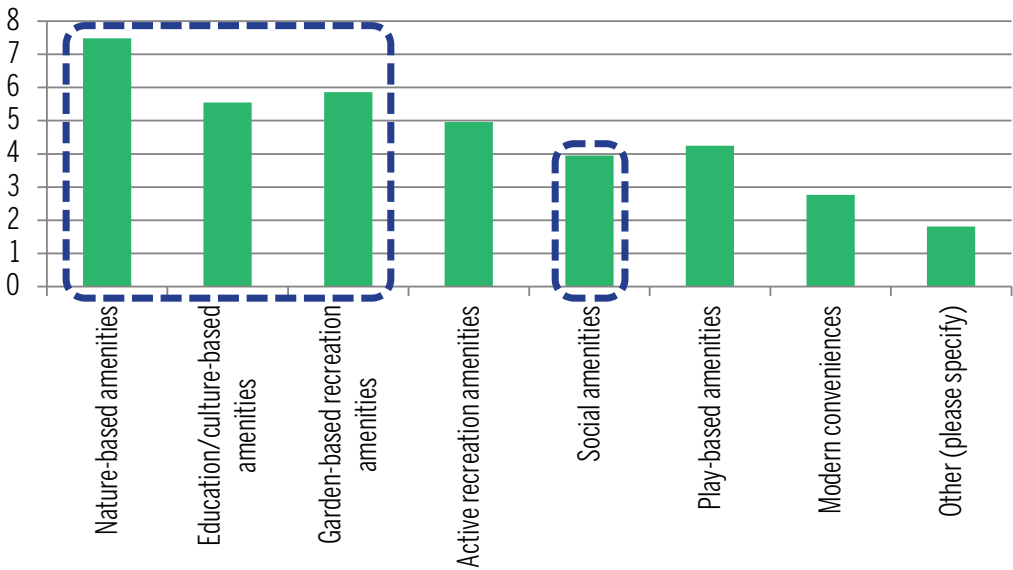


READING GARDEN OR SENSORY GARDEN

SOCIAL AMENITIES | OUTDOOR CLASSROOM



The types of park amenities that are most appealing to me include: (please rank the choices below, with 1 being "most appealing" and 9 being "least appealing")

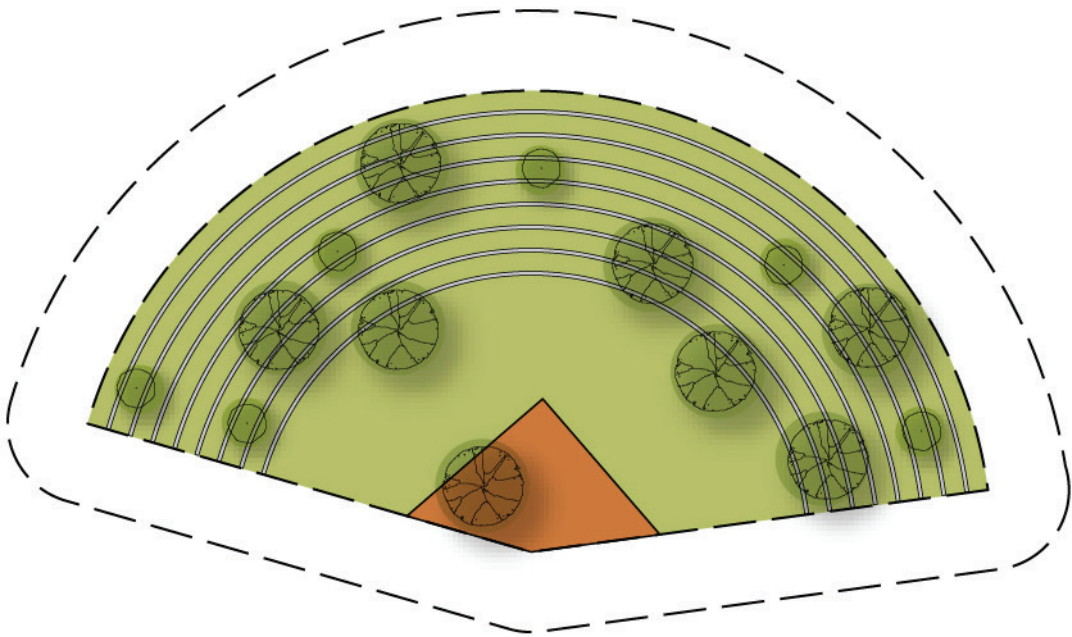
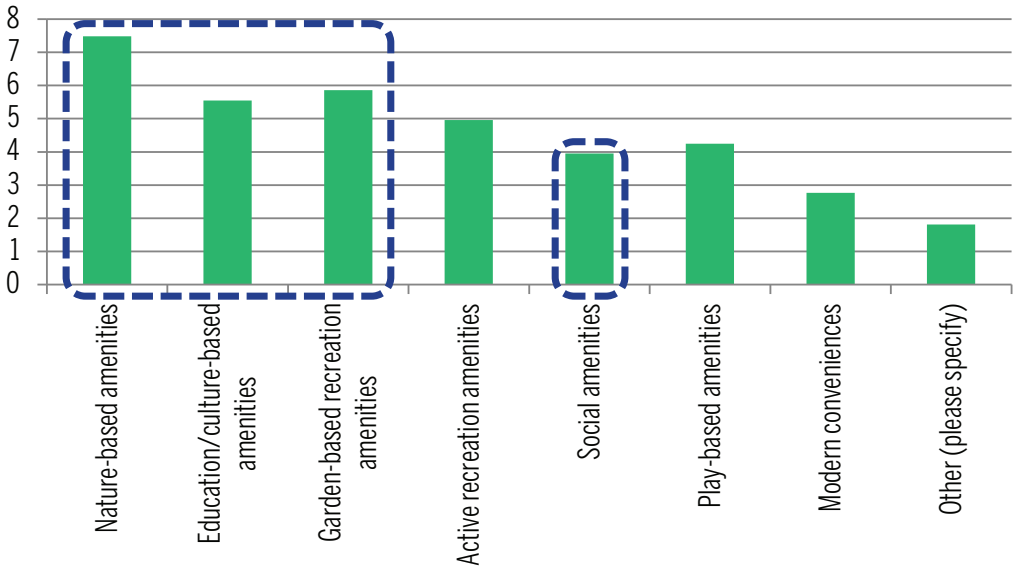


OUTDOOR CLASSROOM

SOCIAL AMENITIES | FOREST AMPHITHEATER



The types of park amenities that are most appealing to me include: (please rank the choices below, with 1 being "most appealing" and 9 being "least appealing")

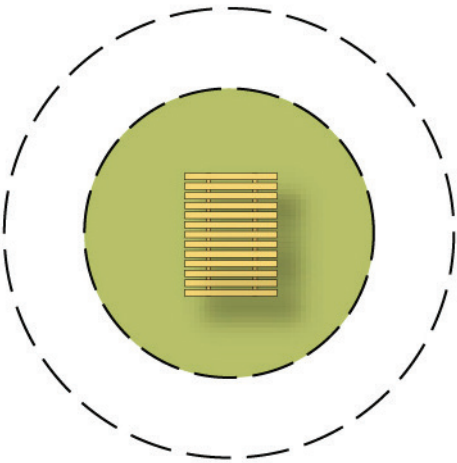
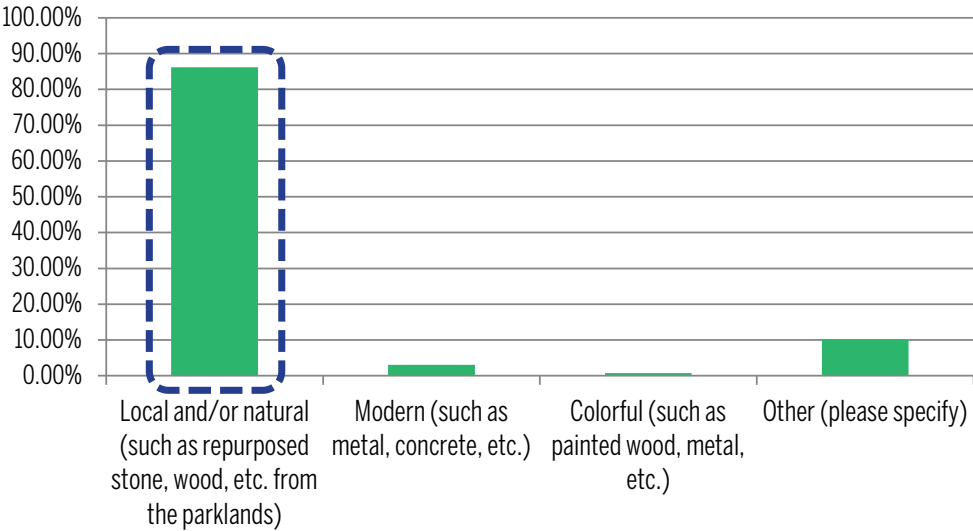


FOREST AMPHITHEATER

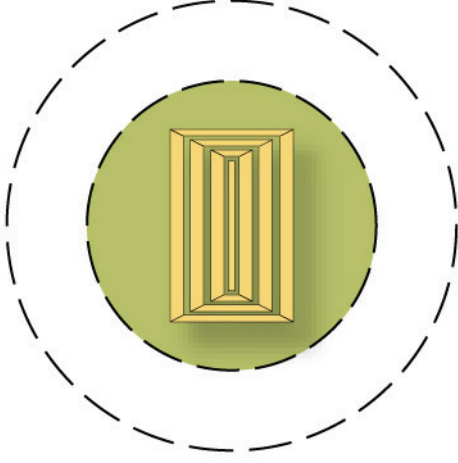
SOCIAL AMENITIES | SMALL SHELTERED SEATING AREAS / GATHERING SPACES



Generally, I think new park amenities should be built out of materials that are:

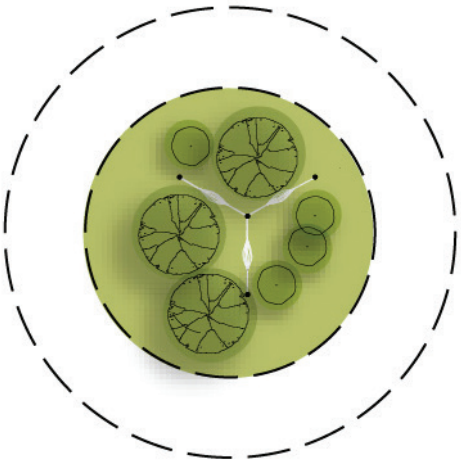
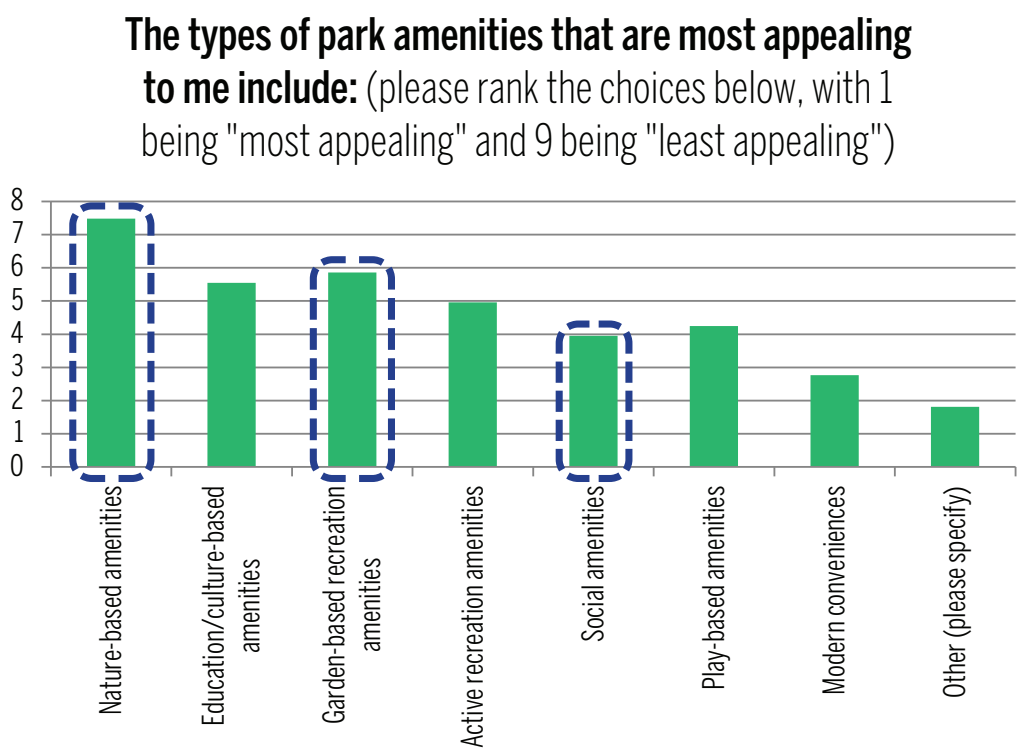


SMALL TRELLIS

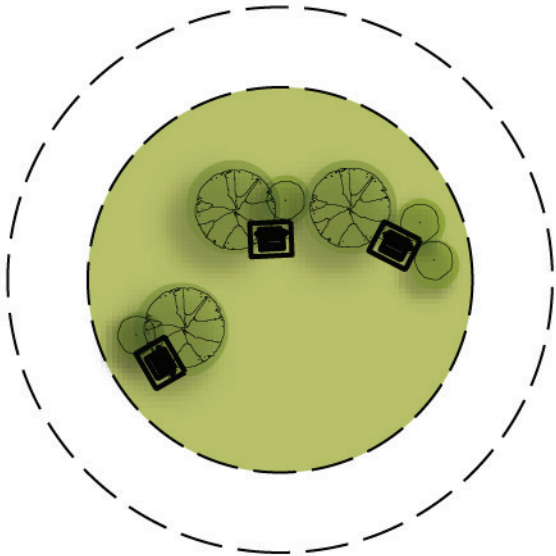


LARGE TRELLIS

SOCIAL AMENITIES | PICNIC GROVE WITH GARDEN SWINGS

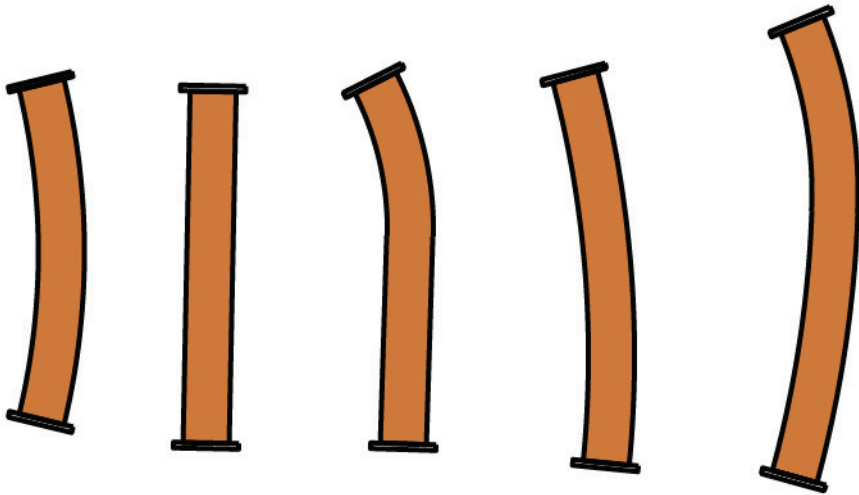


HAMMOCK GROVE
HITCHING POSTS



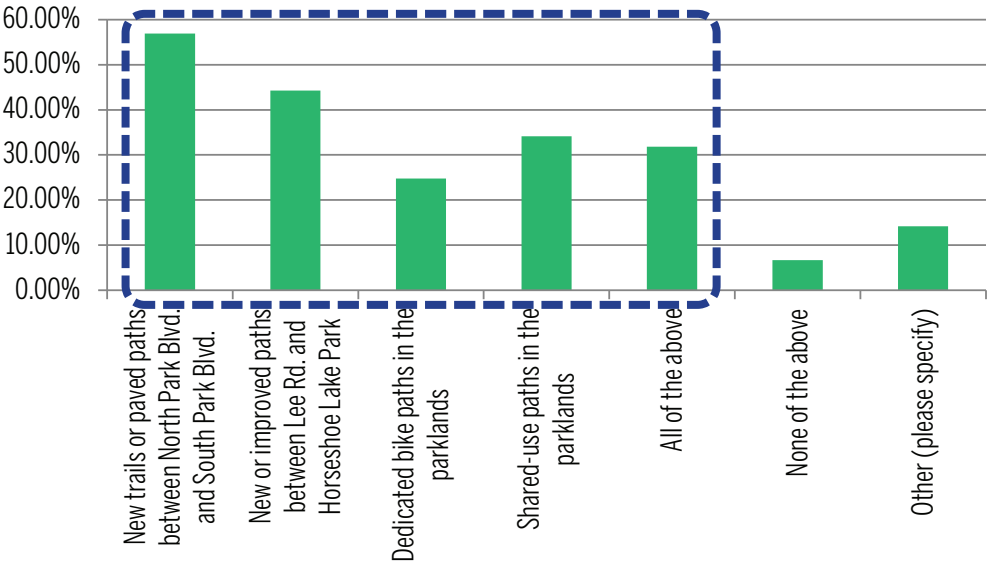
PICNIC GROVE WITH GARDEN SWINGS

STREAM CROSSINGS | BRIDGES



BRIDGES
(85'-115' LENGTH)

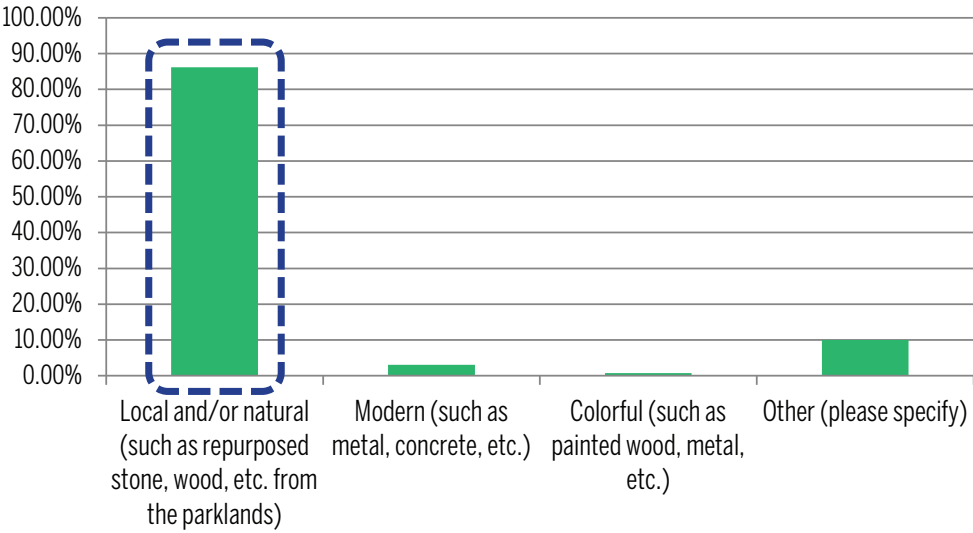
I would like to see greater access to and through the park by improving and enhancing the following connections: (select all that apply)



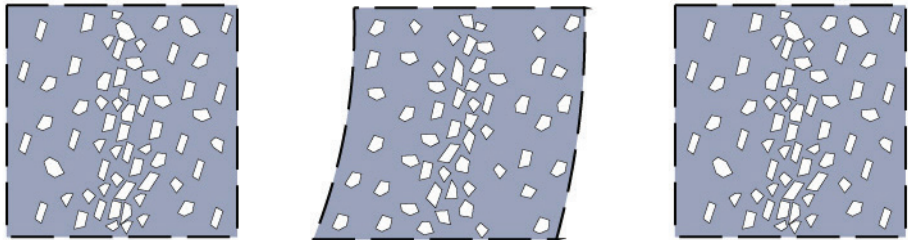
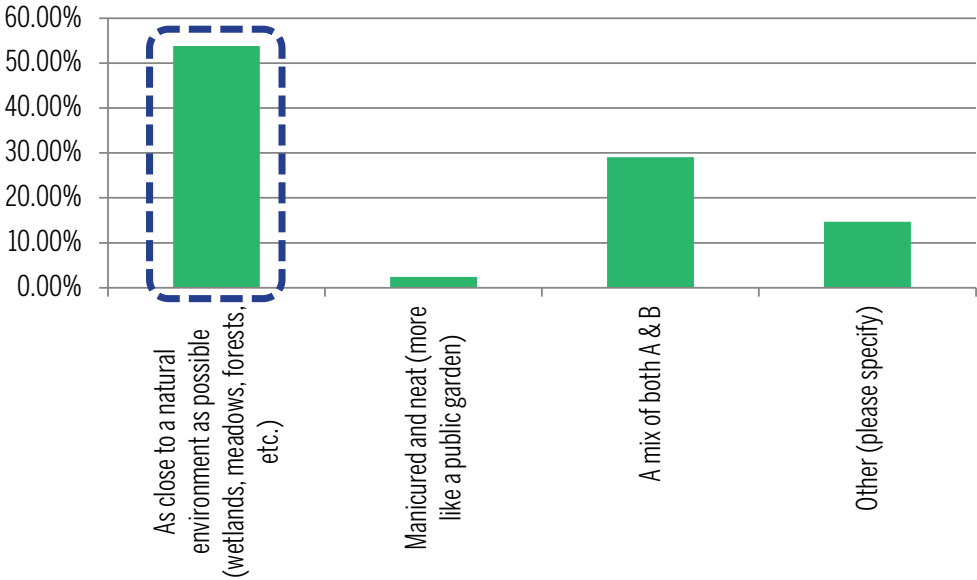
STREAM CROSSINGS | BOULDERS & STEPPING STONES



Generally, I think new park amenities should be built out of materials that are:

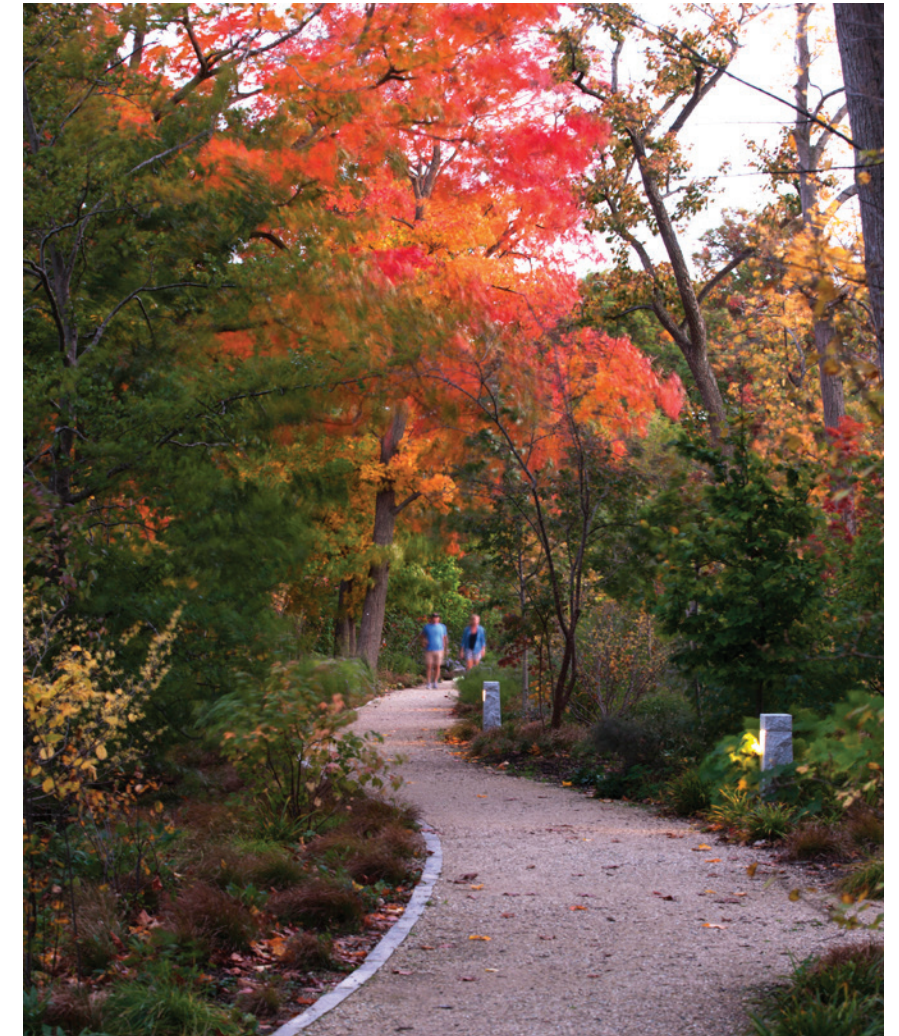


I'd like the park landscape to look:



BOULDERS & STEPPING STONES

ACCESS & CIRCULATION



A photograph of a large, open green lawn with several large, mature trees. The trees have thick trunks and dense green foliage. Sunlight filters through the leaves, creating a pattern of light and shadow on the grass. In the background, a paved path or road is visible, and some distant buildings can be seen. The overall scene is peaceful and natural.

PREVIEW OF 12/03 OPEN HOUSE “HANDS-ON” ACTIVITY

DESIGN ELEMENTS | FOR CONSIDERATION

NATURE-BASED AMENITIES

- Stormwater wetlands, marshes & wet meadows
- Sediment management landforms, slopes, & hills
- Bird blinds
- Canopy walk
- Wetland boardwalks
- Stream Valley overlook
- Water's edge observation deck
- Wetland education/interpretation deck



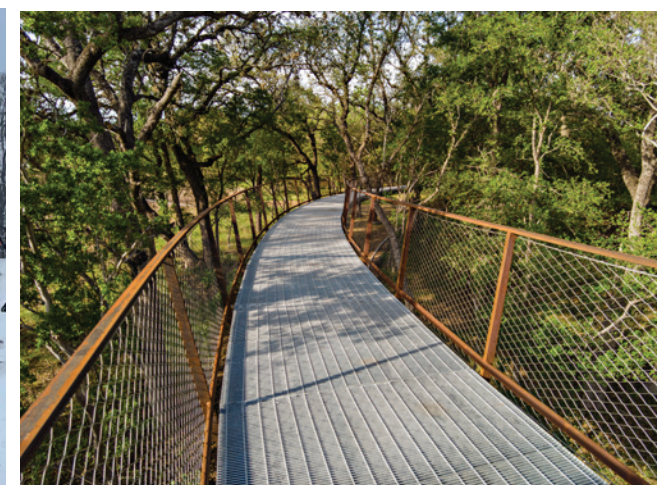
ACTIVE RECREATION AMENITIES

- Sledding hill
- Bocce courts
- Horseshoe pits
- Embankment slide & rock scramble
- Nature play equipment



GARDEN-BASED AMENITIES

- Orchards
- Allee promenade
- Pollinator / Butterfly garden
- Sensory garden
- Reading garden



SOCIAL AMENITIES

- Outdoor classroom
- Forest amphitheater
- Small sheltered seating areas / gathering spaces (not for rental)
- Garden swings
- picnic grove

PUBLIC FORUM #2 OPEN HOUSE | “HANDS-ON” PROBLEM SOLVING ACTIVITY

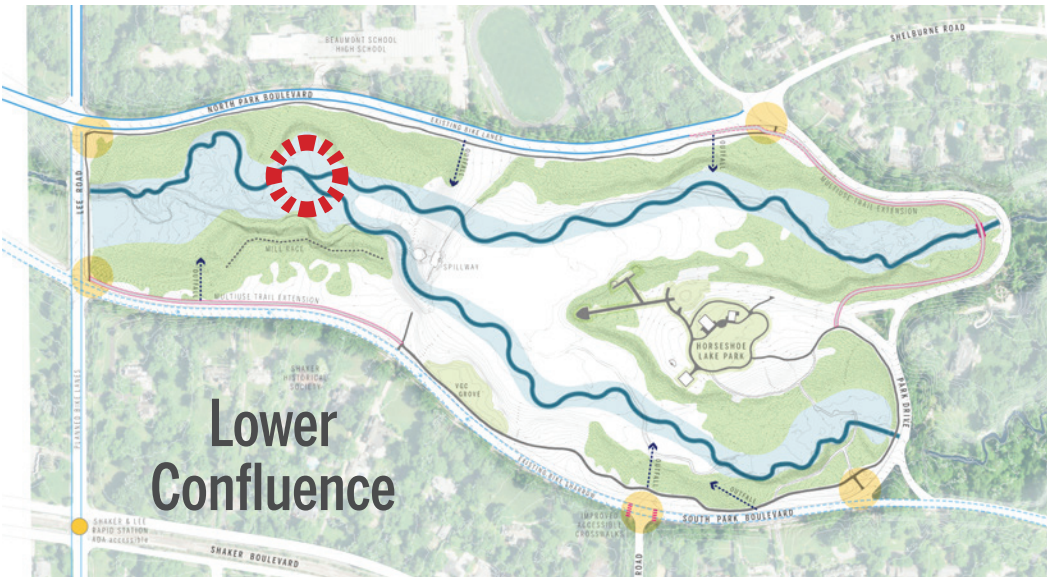
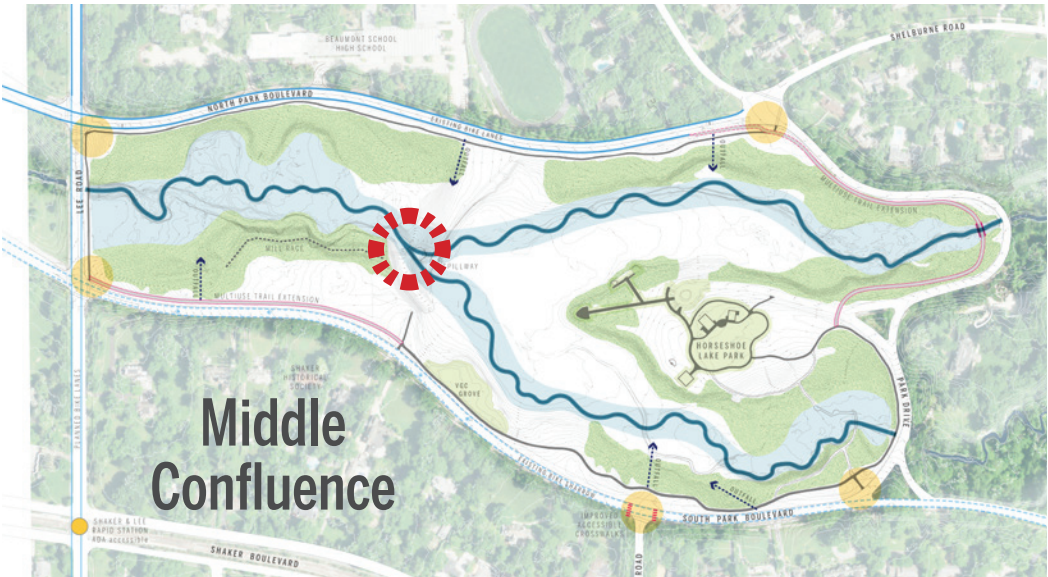
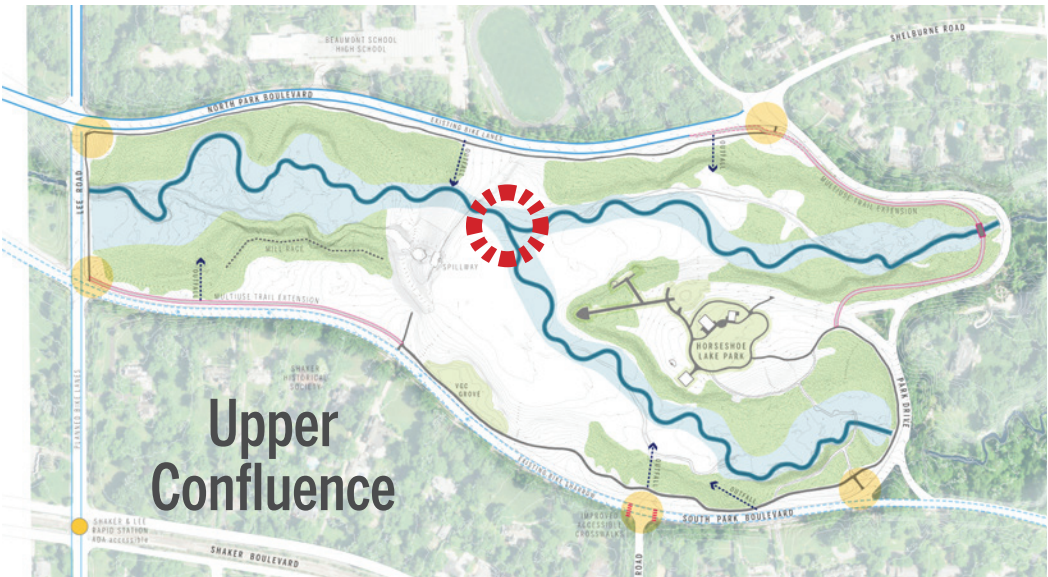
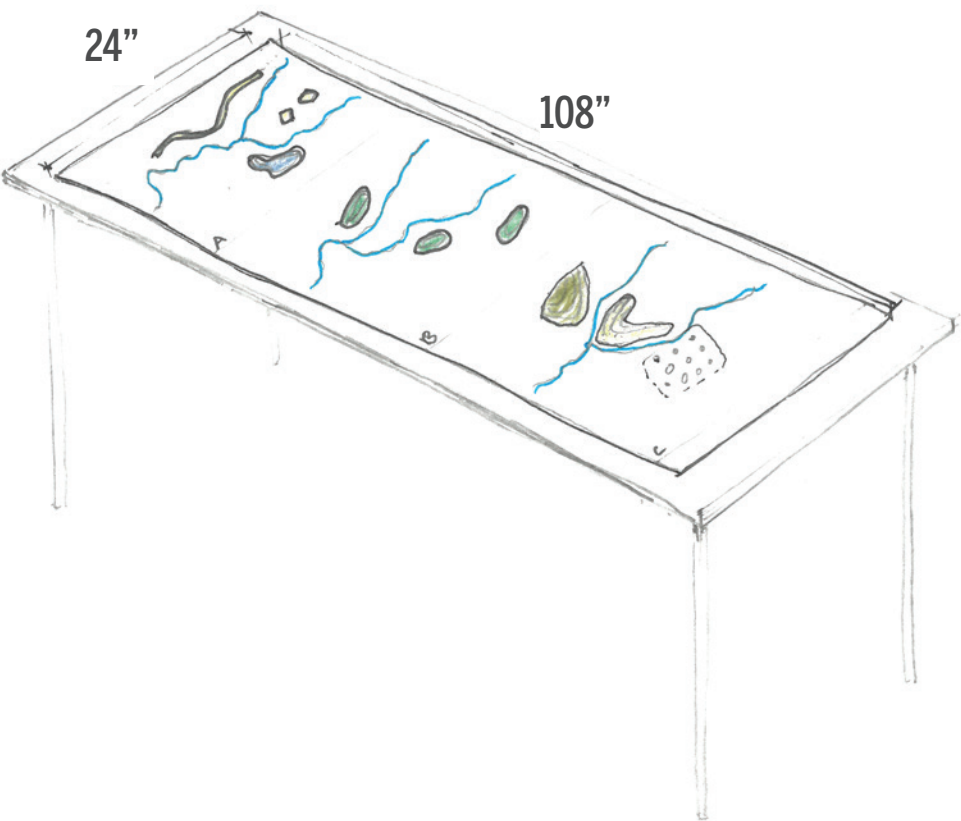
STEP 1: Stream alignment - Explanation of three stream alternatives being evaluated by the Design Team

STEP 2: Sediment management - Explore opportunities to re-distribute 180,000 cubic yards of sediment

STEP 3: Ecological improvement - Consider habitat & water quality with stormwater wetlands & marshes

STEP 4: Park amenities - Imagine and prioritize potential park amenities to enhance your park experience

STEP 5: Park access & circulation - Connect your community with stream crossings, walks, & trails



SEDIMENT MANAGEMENT & ECOLOGICAL IMPROVEMENT | 1" = 100' SCALE CUTOUTS

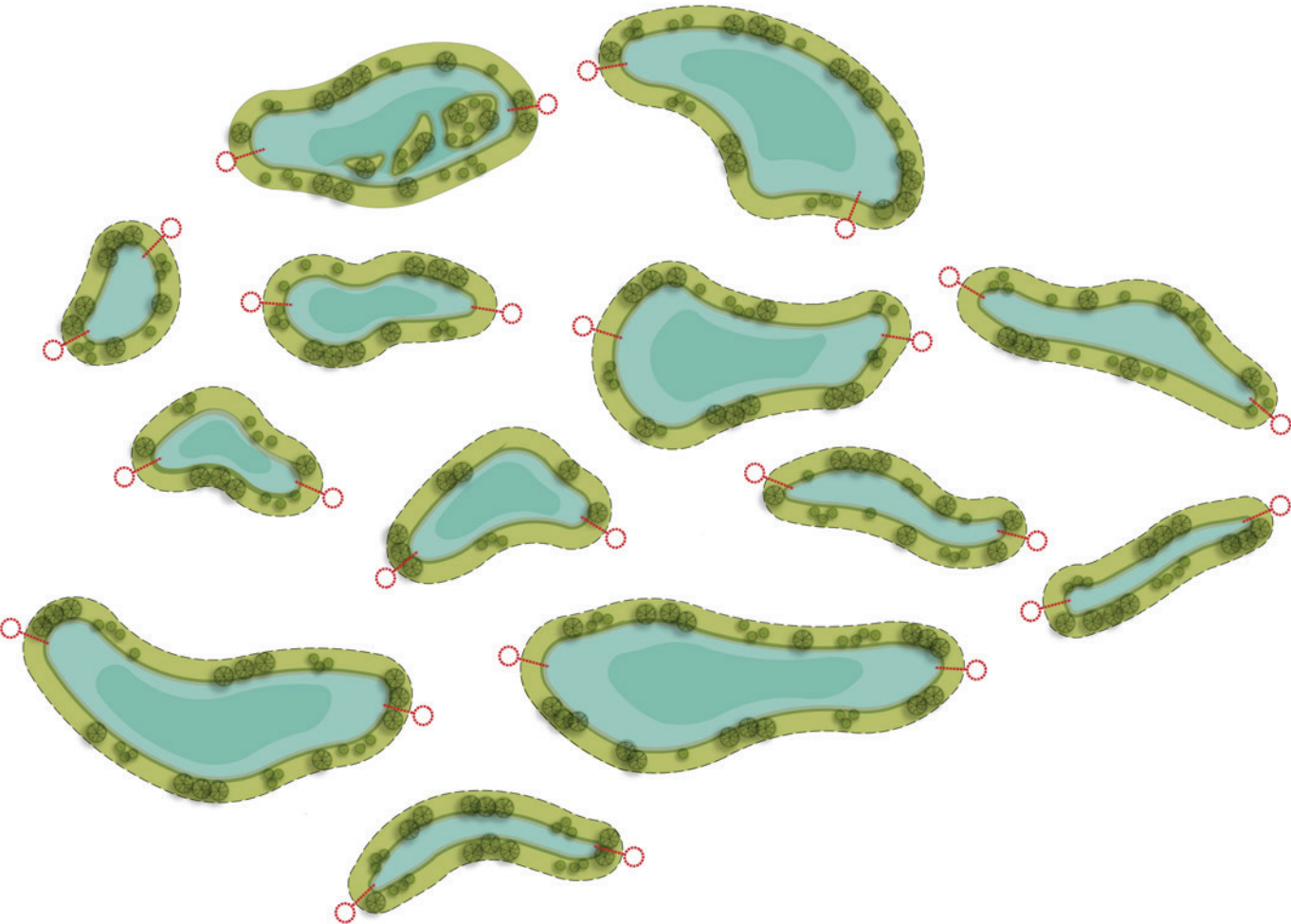
LANDFORMS



EMBANKMENTS & SLOPES




STORMWATER WETLANDS, MARSHES, & WET MEADOWS




PARK AMENITIES | 1" = 100' SCALE CUTOUTS

GARDENS, WILDLIFE OBSERVATION, & GATHERING SPACES: \$100 BUDGET


\$5 AMENITIES




LOUNGE SWINGS




HAMMOCK GROVE



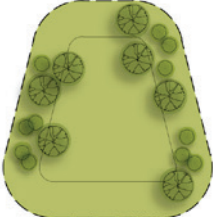
OUTDOOR CLASSROOM



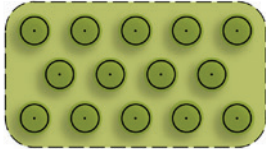
WATER'S EDGE OBSERVATION DECK




BOCCE COURTS / HORSESHOE PITS



SLEDDING HILL




FRUIT / NUT ORCHARD




TREE ALLEE & PROMENADE


\$15 AMENITIES




SMALL TRELLIS



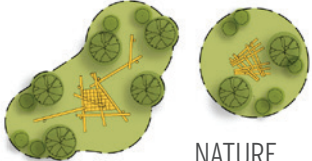
LARGE TRELLIS



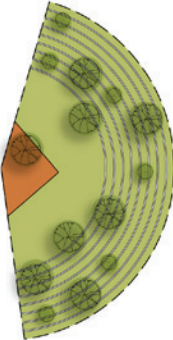
SENSORY GARDEN



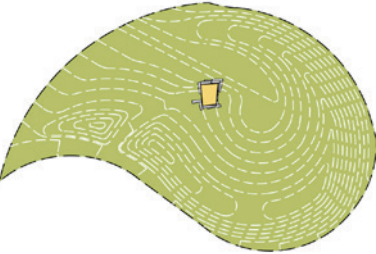
STREAM OVERLOOK DECK



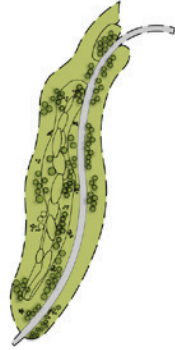
NATURE PLAYGROUND



AMPHITHEATER

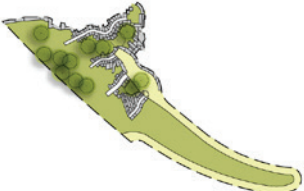


BIRD BLIND




POLLINATOR GARDEN

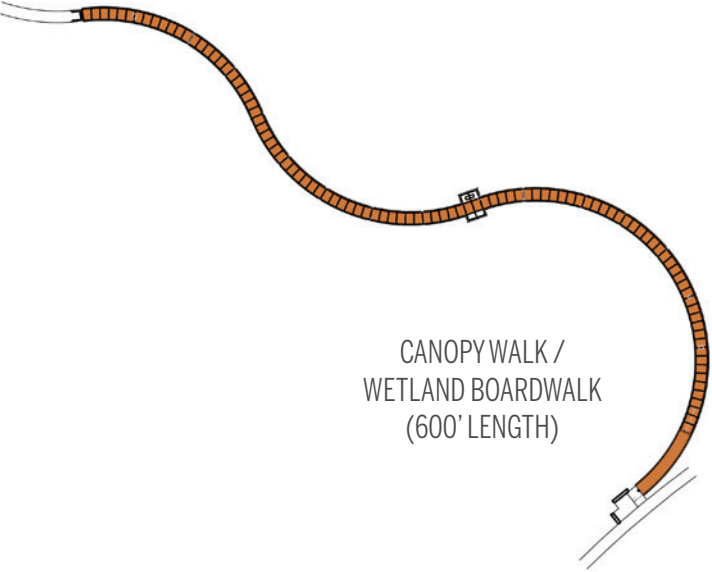
\$40 AMENITIES



SLIDE HILL



OVERLOOK DECK

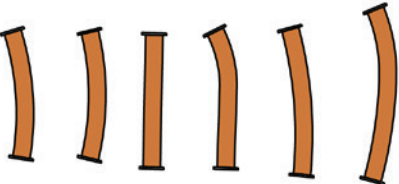


CANOPY WALK / WETLAND BOARDWALK (600' LENGTH)


ACCESS & CIRCULATION | 1" = 100' SCALE CUTOUTS

STREAM CROSSINGS: \$100 BUDGET

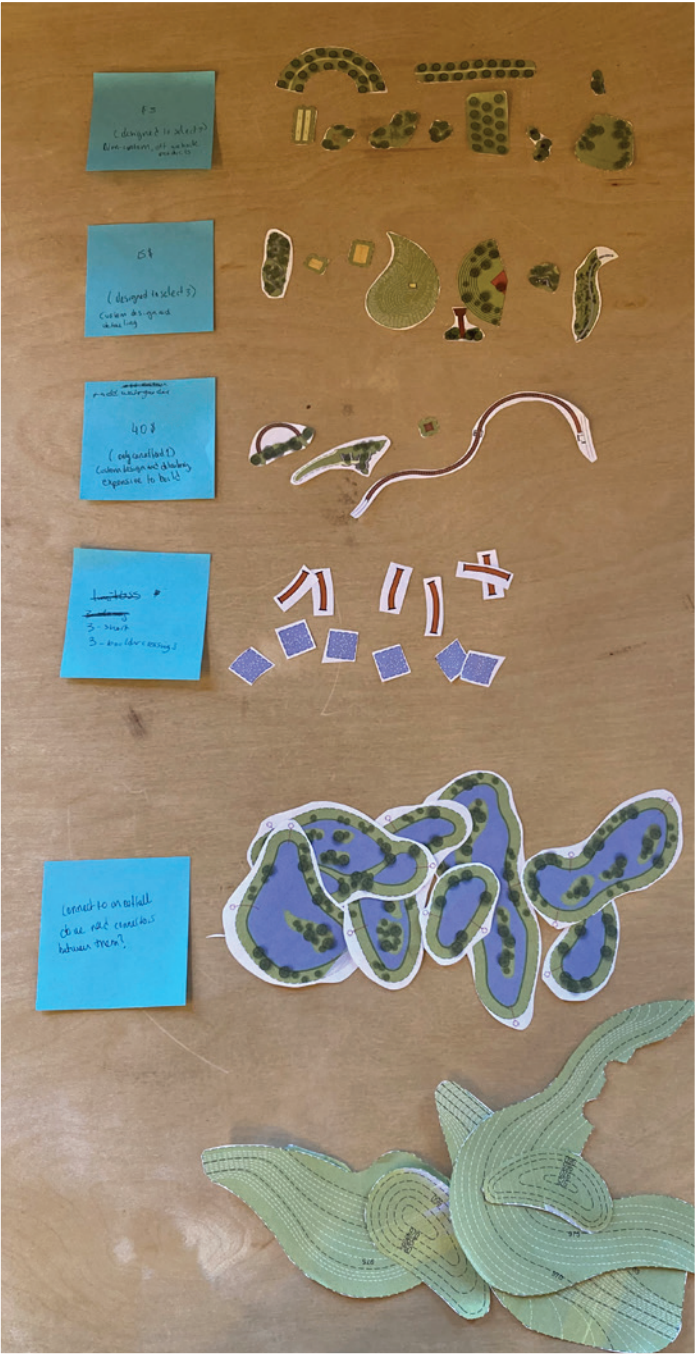
\$30 BRIDGES



\$10 BOULDER CROSSINGS



PUBLIC FORUM #2 OPEN HOUSE | PROBLEM SOLVING ACTIVITY



NEXT STEPS

- 1** **Public Forum #2 Open House & “Hands-on” Activity at the Shaker Heights Public Library**
 - Saturday, December 03 from 10:30am - 1:00pm
 - Sunday, December 04 from 1:00 - 3:00pm
- 2** **Work with engineering team to recommend the stream alignment that functions best**
- 3** **Refine Initial Landscape Integration Concepts and integrate park amenities, incorporating your feedback**
- 4** **Public Meeting #3 in Spring 2023 to present our recommended stream alignment and Landscape Plan to carry forward into the Detailed Design Phase**

A photograph of a park with large, mature trees and a grassy field. The trees have dense green foliage, and the grass is bright green. The scene is brightly lit, suggesting a sunny day. The text "Q & A" is centered in the middle of the image.

Q & A

Please visit www.neorsd.org/DoanBrook for:

- **Public Forum #1 Virtual Meeting recording (from 08/25/2022)**
- **Public Forum #2 Virtual Meeting recording (available by Friday 12/02/2022)**
- **Detailed answers to “Frequently Asked Questions”**