Between The Currents

A Project That Brings Ecological Resiliency Through a Regional Park Destination in Georgetown, MN by applying principles of Network Connectivity, Aesthetics, and Modularity.

What makes a resilient landscape system?

1. Based on systems of the natural world

2. Ability to adapt or adjust to external or internal stressors

3. Integration of adaptability that allows for site to retain identity, function, and structure

4. Made up of systems that are open to constant states of change

How can this be applied to design?

1. Embracing potential changes to the environment to be used as a tool to strengthen system

2. Through awareness of the existing systems design can be implemented to maximize resiliency

2. Aknowledging there limitations to a landscape systems ability to maintain function of normalcy

What is network connectivity?

1. Integration of natural function to areas that are used by people

2. Functioning of a system is reliant on the spatial configuration of patterns in the landscape

3. Natural and built systems within the environment have an established relationship that needs to be well balanced

How can this be applied to design?

1. Natural and built elements of the landscape should be integrated

2. User pathways should establish connection that allows for experience without disruption of the natural environment

What is modularity?

1. Network of functioning units or nodes of incerased interaction

2. How robust the different areas of the site selection are in terms of connections to the network

3. Enables landscape system to shut down one function within without collapsing the network

How can this be applied to design?

1. Since landscape systems are part of the environment it is important to treat potential environmental factors as though the design is integrated to adapt to these changes

2. Functions and patterns within the landscape need to maintain a strong identity that gives individual character to the nodes while remaining as part of the entire network

What is beauty and why does it pertaint to resiliency?

1. It is important to go beyond the functional considerations of a design and consider beauty

2. Aesthetic experiences are more easily understood by people

3. Aesthetics of a place can be powerful and bring people together

4. Resilient landscapes should connect people with their sorrounding environment

5. Promotion of interactions with nature

How can this be applied to design?

1. Implementing a variety of passive and active functions within the design that diversifies user experience

2. Planning for observation and contemplation within design

3. Direct engagement that physically gets people to interact with their sorrounding environment

4. Incorporate colors, textures, and depths to be visually stimulating

5. Develop a relationship between the user and the environment

Project Statement

As a regional riverfront park, this will seek to develop into a landscape that aims to provide strong network connectivity and functionality through passive and active programmed spaces that are adaptable to disruptive flooding events of the Red River and Buffalo River while bringing outdoor recreational opportunities to the region.

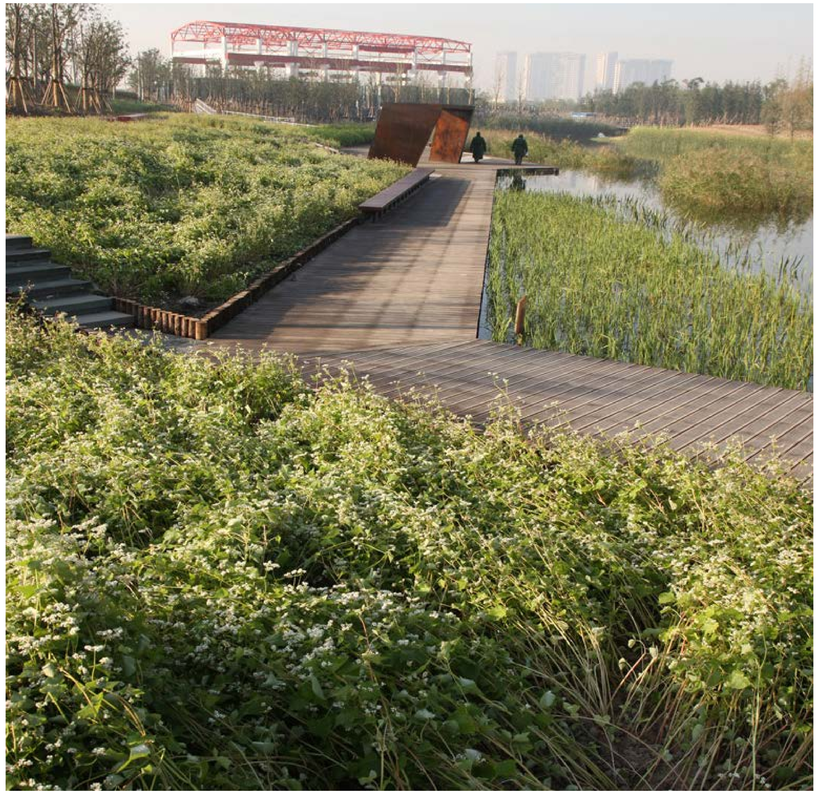
Narrative

Between the current is inspired to embrace the natural fluid state of the river. Rather than attempting to control the rise in river levels the water becomes a driving design factor. By programming the regional park that is anchored by destination areas that people in the region seek to experience as part of an outdoor recreational scene that could bring value to peoples daily lives.

Case Study 1

Project: Shanghai Houtan Park
Typology: Bridges and Piers | Flood Resilience | Parks | Waterfronts | Wetlands | Sponge City
Location: Shanghai, China
Size: 34.6 acres
Landscape Architect: Turenscape Landscape Architecture
Status: Designed – January 2007 | Constructed – May 2010
Project Elements: Constructed Wetlands, Path Network, Observation Platforms, Groves, Boardwalks, Shelters

X - Weak xx - Medium xxx - Strong	C1. Shanghai Houtan Park
Resilience as a Design & Planning Paradigm	xx
Connectivity & Pattern-Process Relationship	xx
Diversity of Ecological Structure	xx
Self-Organization	x
Modularity & Flexible Structure	xx
Multi-Functionality & Ecosystem Services	xx
Multi-Scale & Nested Systems	xx
Natural Beauty & Perception	xxx
Dynamic Character of Natural Processes	xx



Case Study 2

Project: Tianjib Qiaoyuan Park
Typology: Wetland | Parks/Open Space | Creation/Restoration
Location: Shanghai, China
Size: 54 acres
Landscape Architect: Turenscape Landscape Architecture
Status: Completed - 2008

X - Weak xx - Medium xxx - Strong	C2. Tianjib Qiaoyuan Park
Resilience as a Design & Planning Paradigm	x
Connectivity & Pattern-Process Relationship	xxx
Diversity of Ecological Structure	xx
Self-Organization	xx
Modularity & Flexible Structure	xxx
Multi-Functionality & Ecosystem Services	xxx
Multi-Scale & Nested Systems	xx
Natural Beauty & Perception	xx
Dynamic Character of Natural Processes	xxx

Case Study 3

Project: Sydney Park Water Re-Use Project
Typology: Wetland | Green Infrastructure | Parks
Location: Tianjin, China
Size: 4 acres
Landscape Architect: Turf Design Studio
Status: 2015-Current

X - Weak xx - Medium xxx - Strong	C3. Sydney Park
Resilience as a Design & Planning Paradigm	xxx
Connectivity & Pattern-Process Relationship	xx
Diversity of Ecological Structure	x
Self-Organization	xx
Modularity & Flexible Structure	x
Multi-Functionality & Ecosystem Services	xx
Multi-Scale & Nested Systems	x
Natural Beauty & Perception	xxx
Dynamic Character of Natural Processes	xxx

Case Study Results

X - Weak
xx - Medium
xxx - Strong

	C1. Shanghai Houtan Park	C2. Tianjib Qiaoyuan Park	C3. Sydney Park	
Resilience as a Design & Planning Paradigm	xx	x	xxx	6
Connectivity & Pattern-Process Relationship	xx	xxx	xx	9
Diversity of Ecological Structure	xx	xx	x	5
Self-Organization	x	xx	xx	5
Modularity & Flexible Structure	xx	xxx	x	8
Multi-Functionality & Ecosystem Services	xx	xxx	xx	7
Multi-Scale & Nested Systems	xx	xx	x	5
Natural Beauty & Perception	xxx	xx	xxx	8
Dynamic Character of Natural Processes	xx	xxx	xxx	8

Project Goals

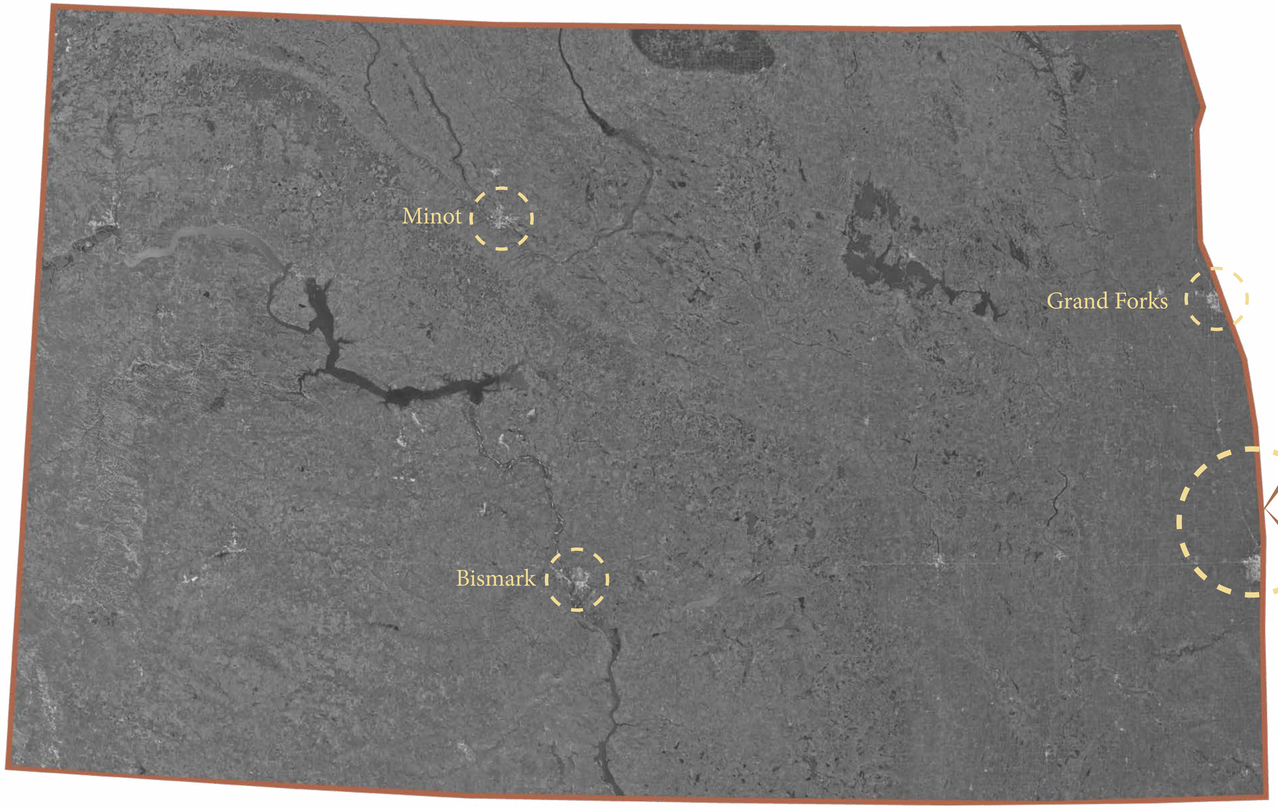
1. Network Connectivity - The built and natural systems of the landscape will allow for a functional park while minimizing the disruption of flooding to maintain a cohesive regional park designed based on the existing topography, tree canopies, and function of the land.

2. Modularity - As water levels change with the river the user experience can be impacted as well due to flooding. It is important to factor this in to the design by establishing programming that is flexible enough to adapt to these changes while maintaining experience throughout the park.

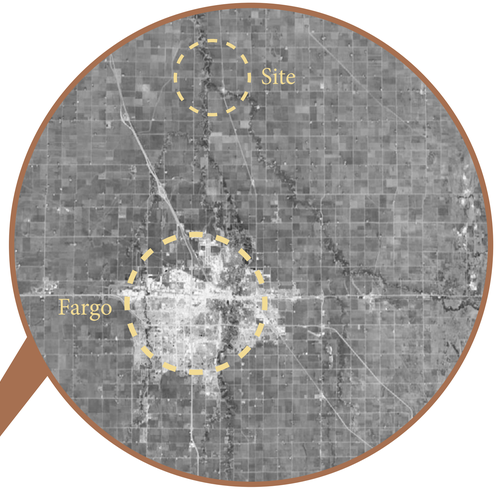
3. Aesthetics - Important to the character of the park through natural presence of vegetation and wildlife that embrace the conditions of the flood plains of the red river water-sheds. The design of the regional park supports the essence of what can be captured through design and maintained for reframing user experience.

Site Location

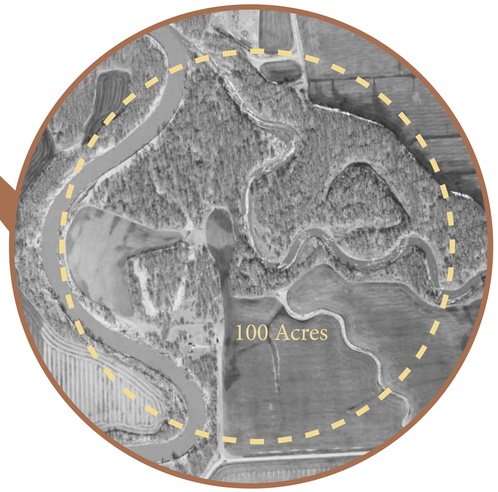
North Dakota



Region



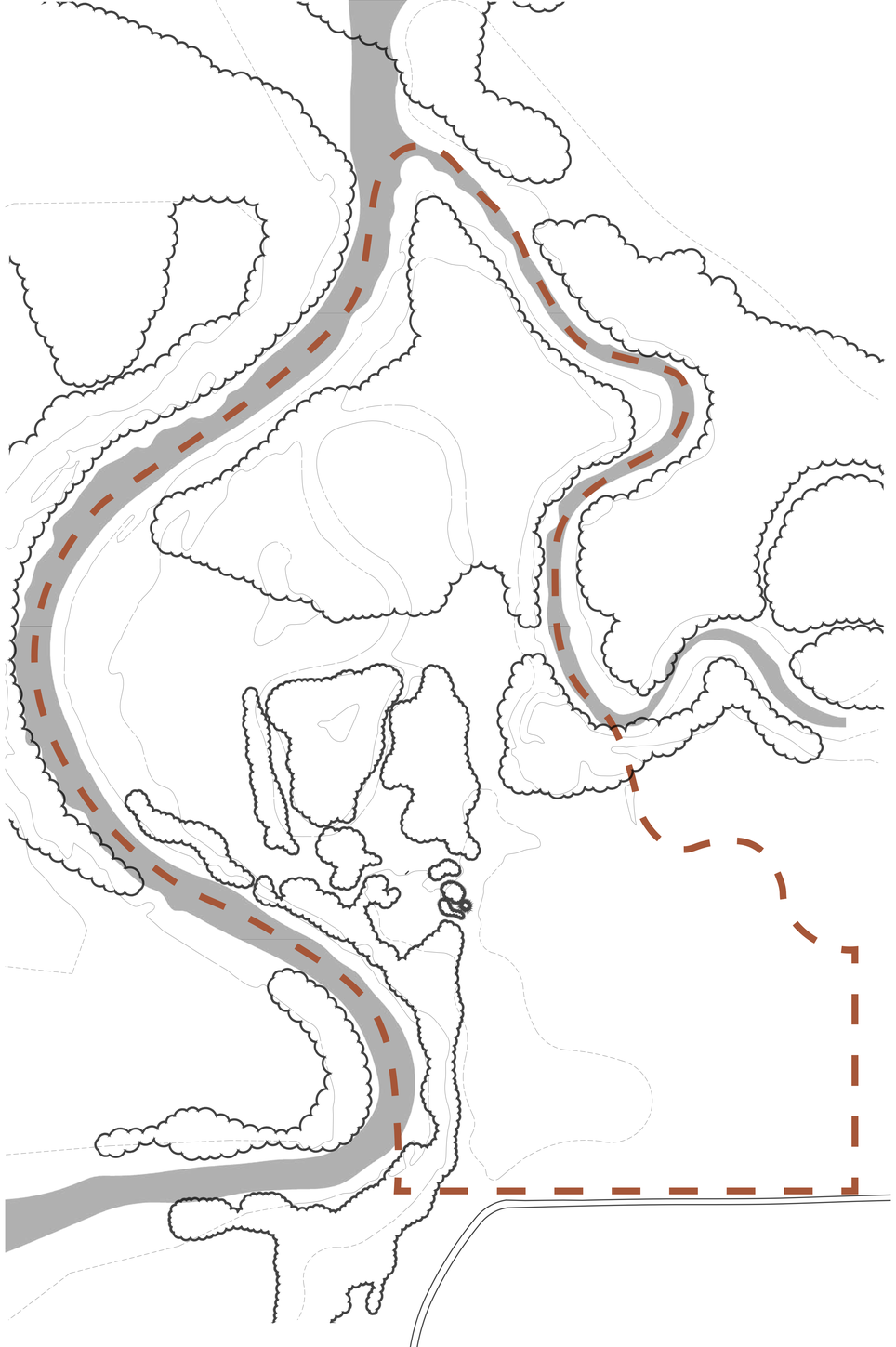
Site



Site Selection

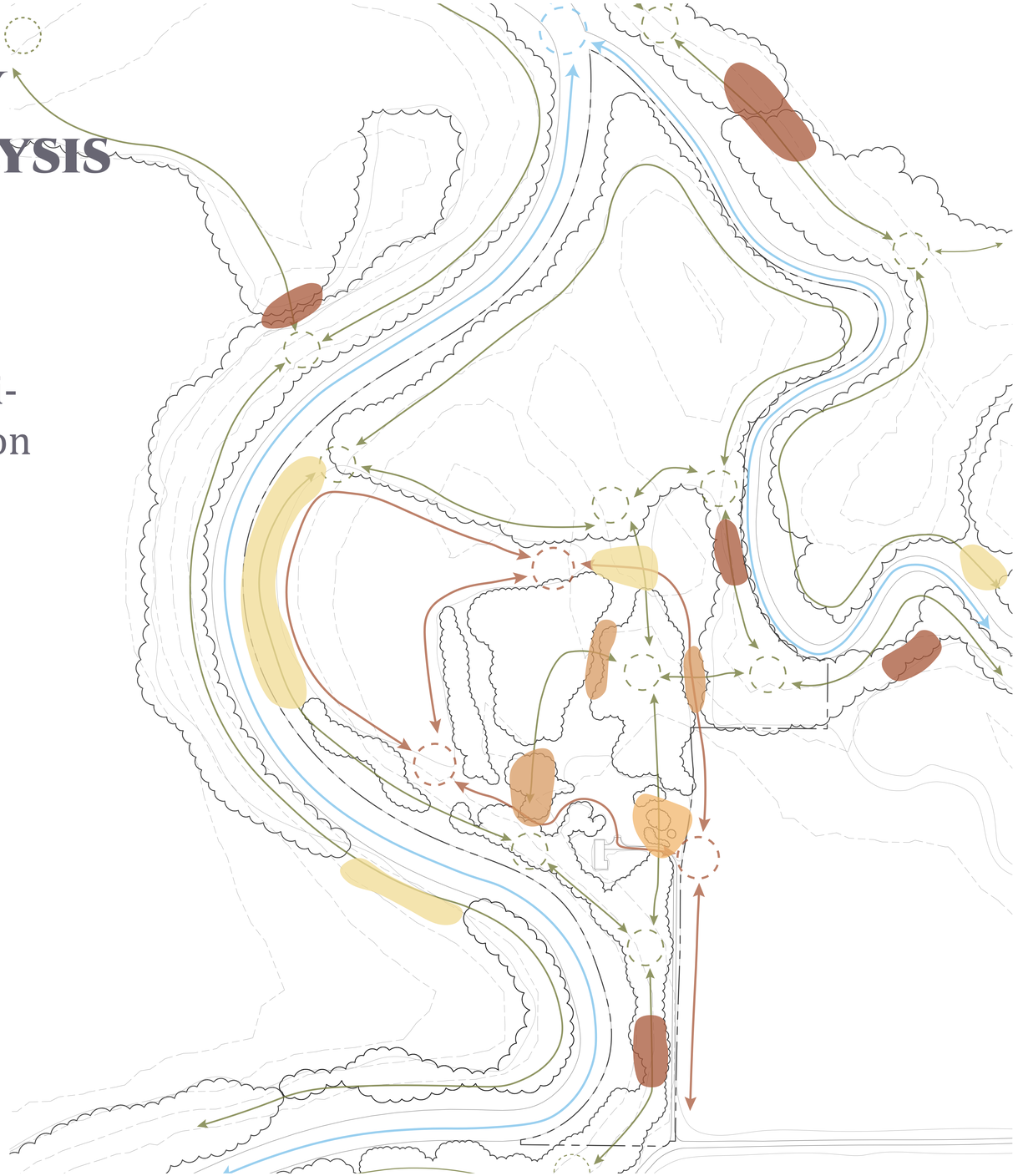
Location:
Georgetown, MN

Size:
100 Acres



Connectivity Inventory / Analysis

Functioning of a system is reliant on the spatial configuration of patterns in the landscape



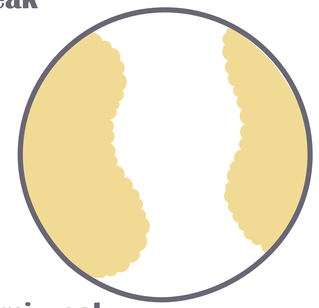
Connectivity

Weak — 1
2
3
Strong — 4

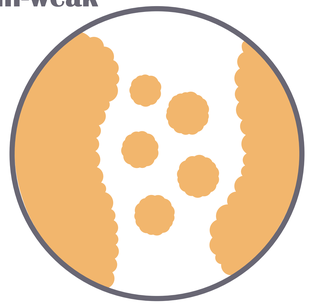
Circulation/Nodes

River
Natural
Built

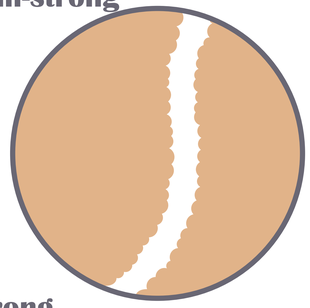
Weak



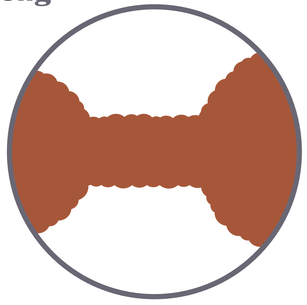
Semi-weak



Semi-strong

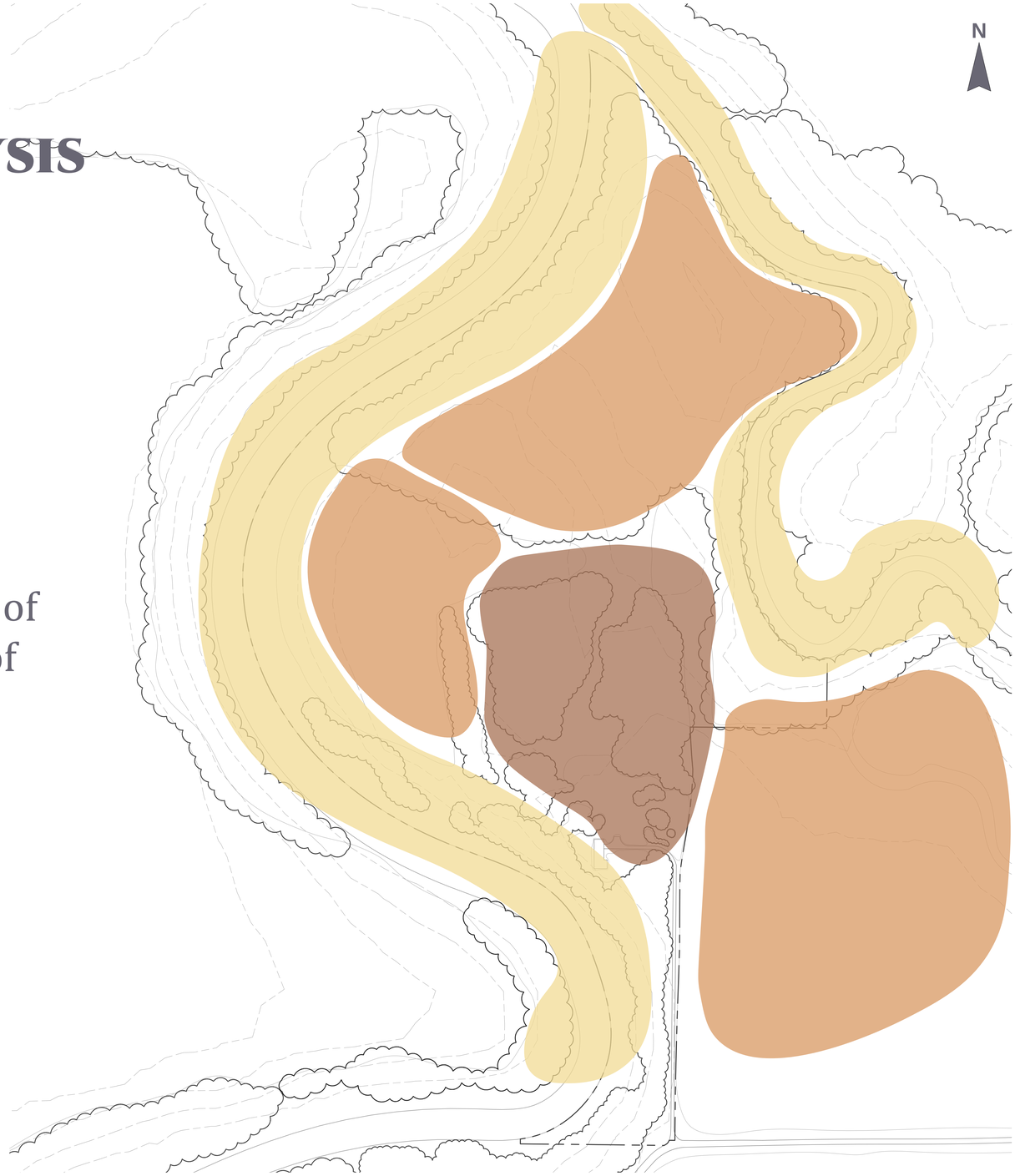


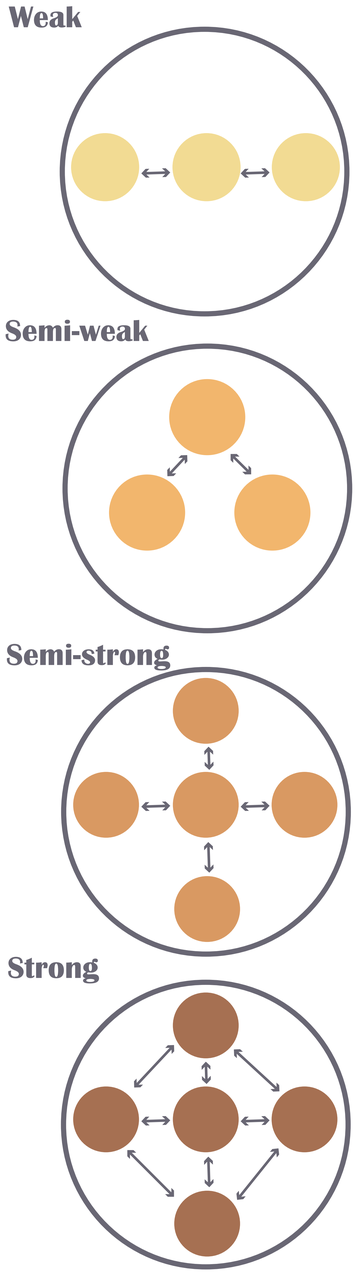
Strong



Modularity
Inventory / Analysis

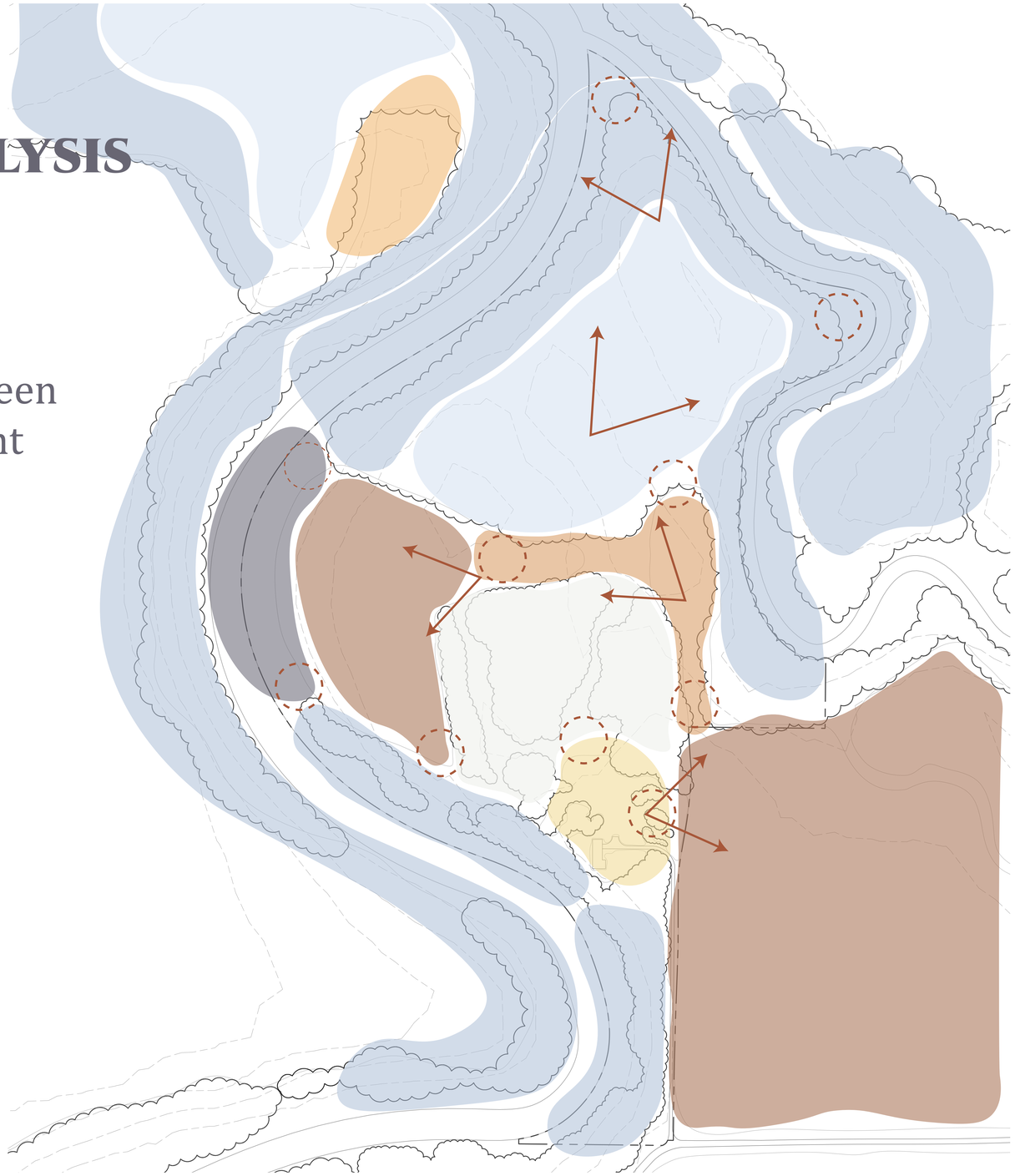
How robust the different areas of the site selection are in terms of connections.





Aesthetics Inventory / Analysis

Develop a relationship between the user and the environment



Thresholds

Views

Built

Closed	1
Semi-Closed	2
Semi-Open	3
Open	4

Natural

Closed	1
Semi-Closed	2
Semi-Open	3
Open	4

Closed

Semi-closed

Semi-open

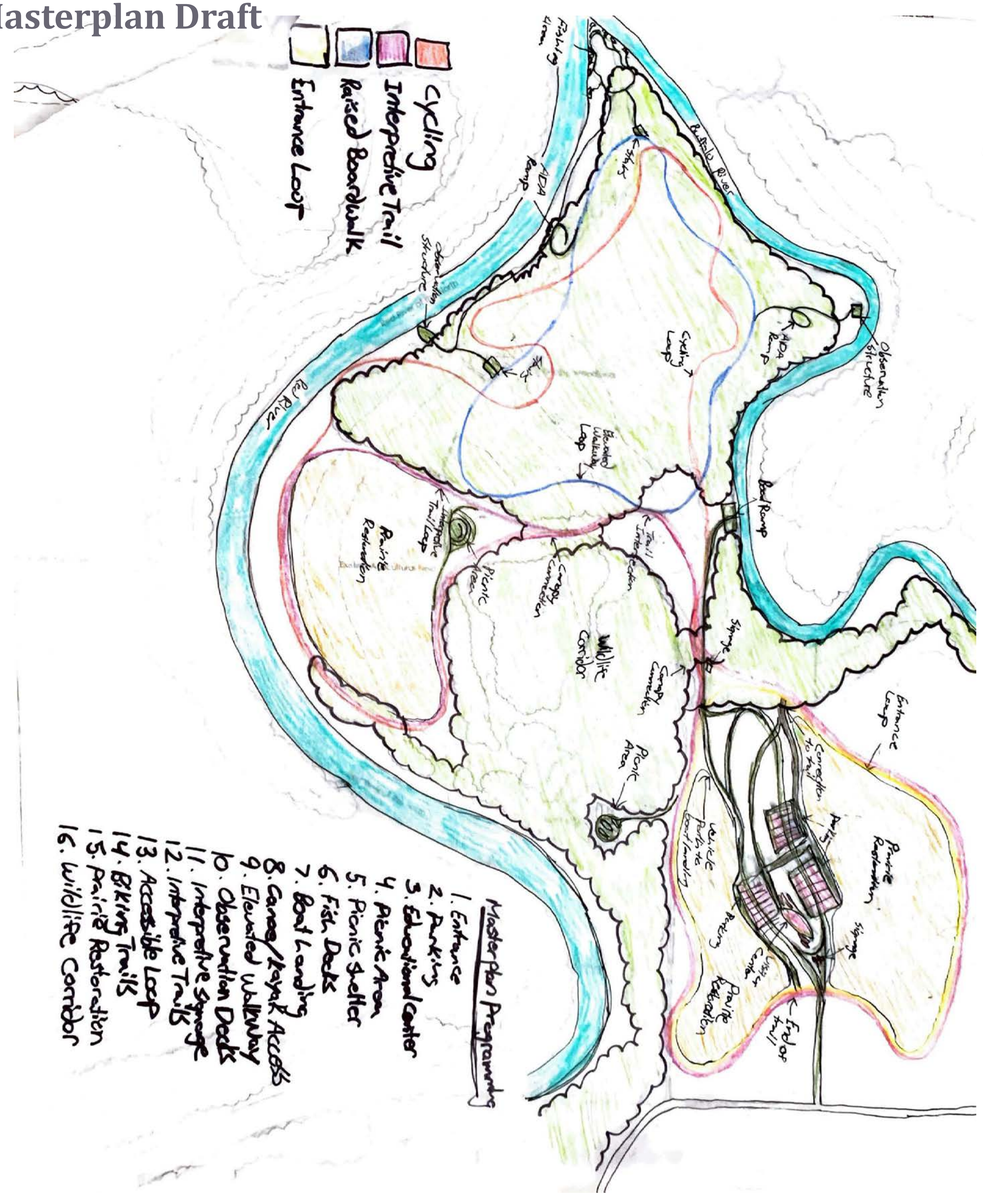
Openness

MN / ND Regional State Parks Programming Chart

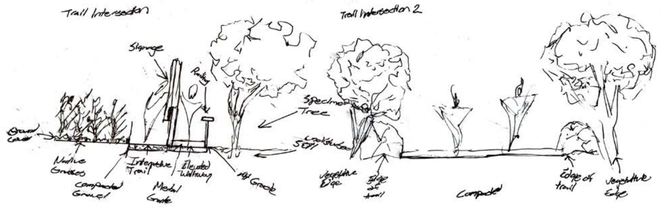
	School Craft State Park	Red River State Recreation Area	Kilen Woods State Park	Grand Portage State Park	Carley State Park	Big Bog State Recreation Area	Buffalo River State Park	Average	Average (Rounded)
1. Entrance	1	1	1	1	1	2	1	1.1	1
2. Parking	3	10	3	2	2	1	2	3.3	3
3. Educational Facility	N/A	N/A	N/A	7,000	N/A	N/A	8,000	7500	7500 SF
4. Picnic Areas	1	5	1	1	1	4	1	2	2
5. Picnic Shelters	N/A	N/A	1	1	1	2	1	1.2	1
6. Fishing Platforms	N/A	1	N/A	N/A	N/A	2	N/A	1.5	2
7. Boat Landing	1	3	N/A	N/A	N/A	2	N/A	2	2
8. Canoe / Kayak Access	N/A	N/A	2	N/A	N/A	N/A	N/A	2	2
9. Boardwalk	N/A	N/A	N/A	700	N/A	5,280	N/A	2,990	2990 LF
10. Observation Platforms	N/A	N/A	2	6	1	4	N/A	3.3	3
11. Interpretive Signage	8	NA	5	5	N/A	N/A	N/A	6	6
12. Interpretive Trail	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
13. Wheelchair Accessible Trail	N/A	0.3	N/A	1.5	N/A	N/A	N/A	0.9	1 Mile
14. Biking Trails	N/A	7	N/A	N/A	N/A	N/A	N/A	7	7
15. Prairie Restoration	N/A	N/A	N/A	N/A	N/A	N/A	8,000	8,000	8,000 A
16. Wildlife Corridor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Design Development

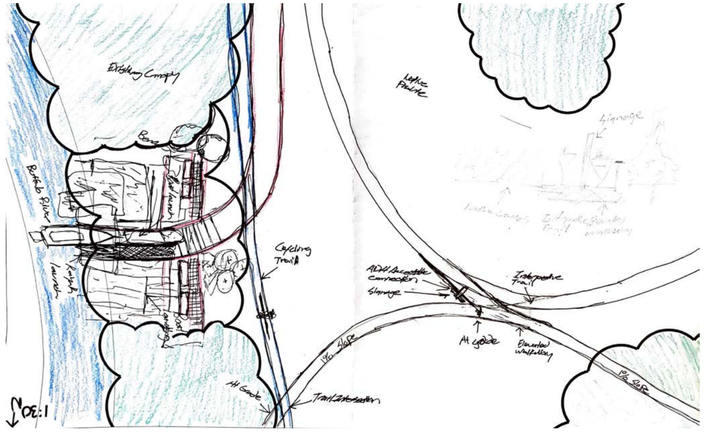
Masterplan Draft

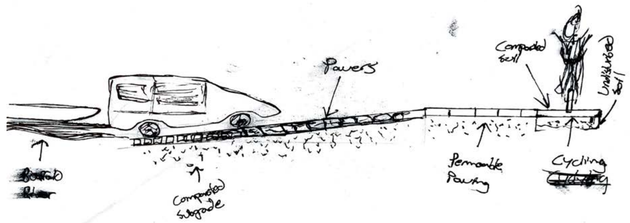


Walkway Sketch

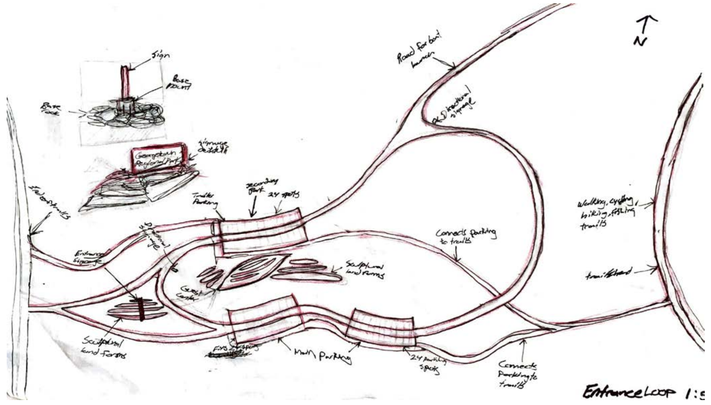


Boat Launch Concept

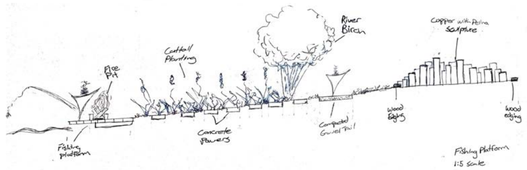




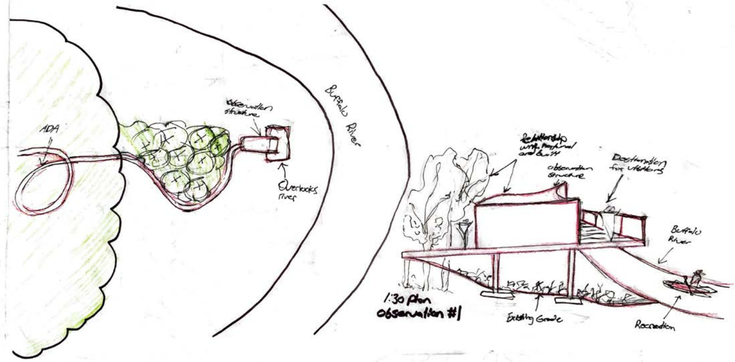
Entrance Concept



Fishing Destination Sketch



Observation Concept



Masterplan

Programming

1. Entrance
2. Parking
3. Visitor Center
4. Picnic Structure
5. Boat Landing
6. Two Bridges
7. Observation Decks
8. Cycling Trails
9. Fishing Destination
10. Widlife Corridor
11. Prairie Restoration

Location:

Georgetown, MN

Size:

100 Acres

Fishing Destination

Two Bridges

Picnic Shelter

Park Entrance

Site Plan Programming

1. Entrance Sign
2. Directional Signage
3. Accessible Parking
4. Visitor Center
5. Parking
6. Vehicle Loop
7. Boat Launch/Parking Signage
8. Picnic Area Signage

Park Entrance

An area that is accesible for visitors of the park that creates an experience for picnicing by embracing the existing farm structure.

Two Bridges

As water levels fluctuate the Two Bridges are functional until the Red River reaches 24 feet.

Section

Multi-Use Path
24’
Side of Swale
18’
Oxbow Swale
18’
Side of Swale
24’
Multi-use Path

18 Feet Water Level

At 18 feet the oxbow that the channel derrives from begins to become inudated.

22 Feet Water Level

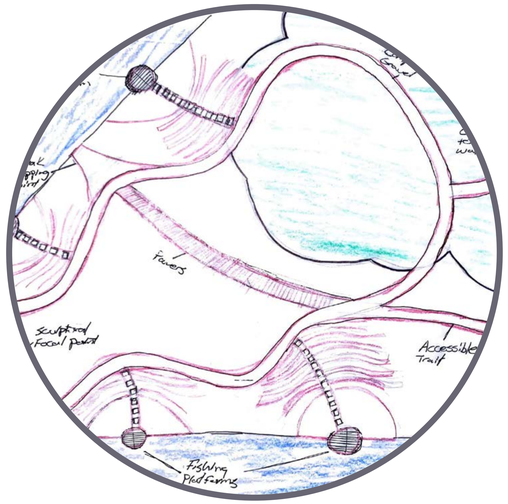
At 22 feet the water levels reach the first sculptural water level indicator.

24 Feet Water Level

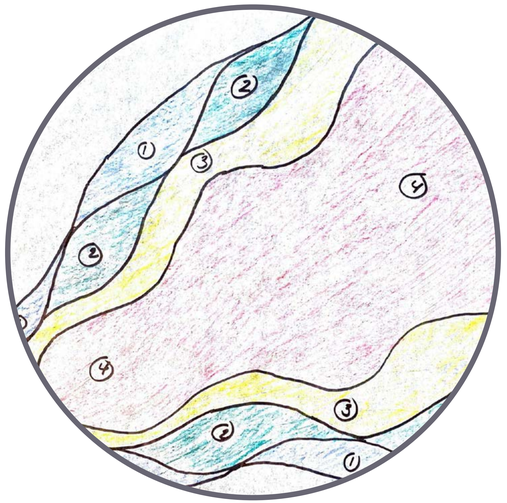
At 24 feet the water levels reach the highest scuptural water levels. If the water levels get any higher two bridges will be shut down.

FISHING DESTINATION
DESIGN DEVELOPMENT

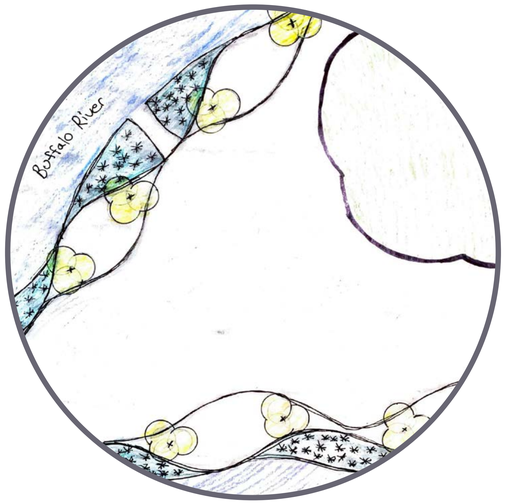
First phase



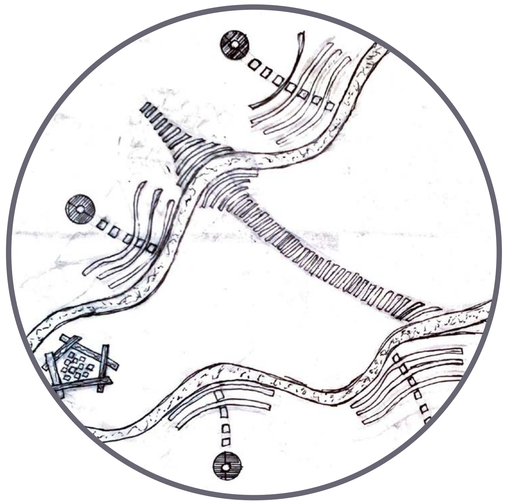
Elevations



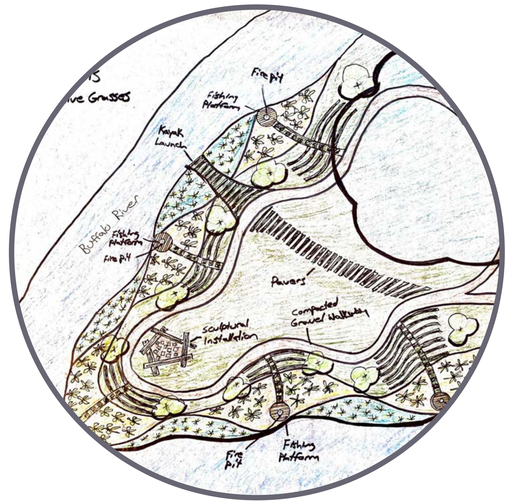
Softscape



Hardscape



Final Stages



Fishing Destination

An area within the park that is to be sought after by fisherman and kayakers that are looking for an outdoor experience with ammeneties catered to their hobbies.

Kayak Access

Masterplan

How between the currents met the goals

1. Network Conectivity - Establishing a well balanced network of natural and built connections

2. Modularity - Two Bridges is able to function while parts of the park are inundated

3. Aesthetics - By embracing the natural environment people can easily interact with nature

QUESTIONS?