



Wakarusa River

Design Development

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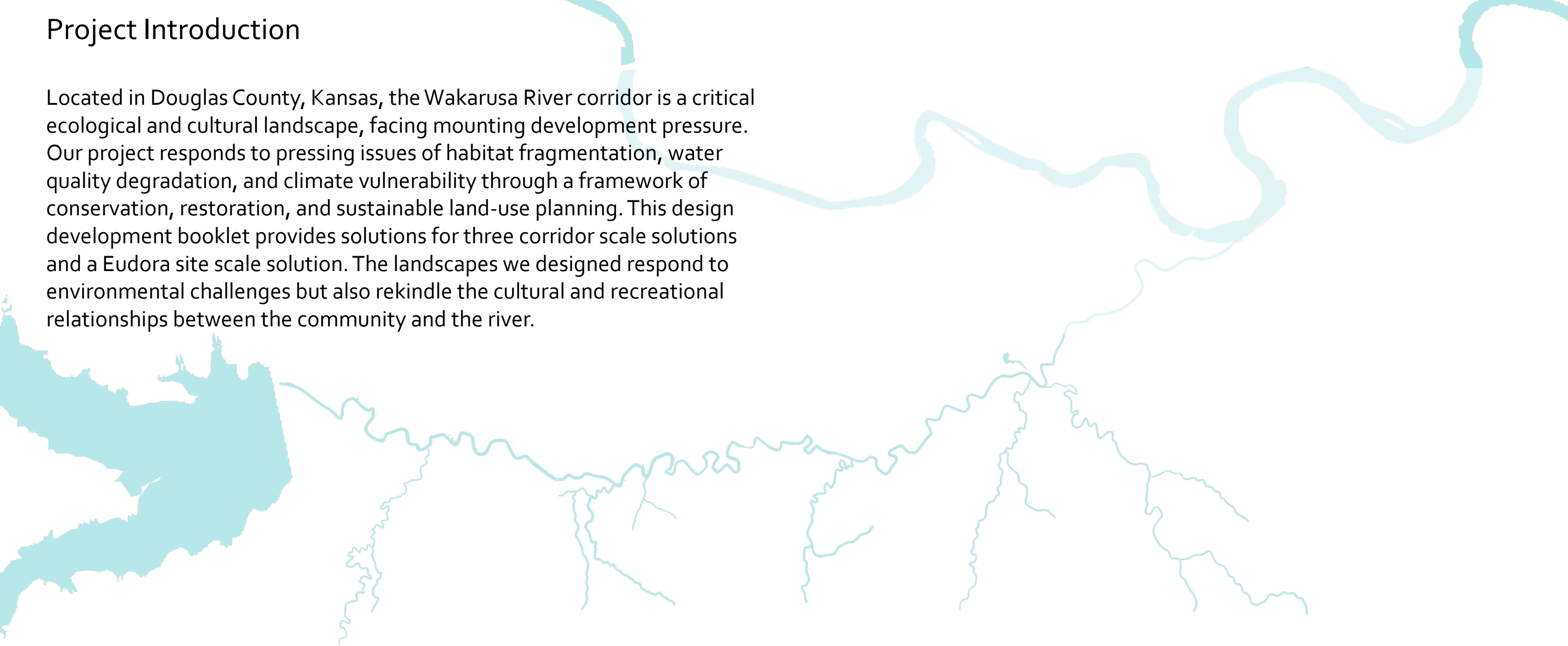
Acknowledgments:

Thank you Douglas County, Eudora Parks & Rec, and Biohabitats for involving us in this project. We appreciate the guidance provided by Associate Professor Hyung Kim, Ph.D. and GTA Graduate Teaching Assistant David Roscero Cervantes.



Project Introduction

Located in Douglas County, Kansas, the Wakarusa River corridor is a critical ecological and cultural landscape, facing mounting development pressure. Our project responds to pressing issues of habitat fragmentation, water quality degradation, and climate vulnerability through a framework of conservation, restoration, and sustainable land-use planning. This design development booklet provides solutions for three corridor scale solutions and a Eudora site scale solution. The landscapes we designed respond to environmental challenges but also rekindle the cultural and recreational relationships between the community and the river.



Part 1

Wakarusa Regenerative Corridor

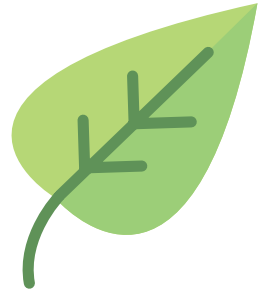
Corridor Scale

Wakarusa Regenerative Corridor

The Wakarusa River Regenerative Corridor enhances the native ecology, agriculture, and riparian functions along the Wakarusa River while serving as an educational & recreational amenity that fosters public stewardship. This project demonstrates how equitable social and ecological resilience can help mitigate the social and environmental impacts of climate change.

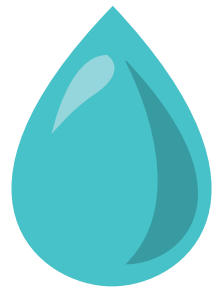


Goals & Objectives



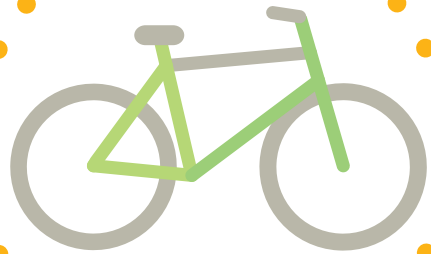
Ecology & Biodiversity

- Preserve & **Regenerate Native Ecosystems**
- Introduce regenerative **agriculture**
- Enhance ecological **connectivity**



River & Water

- Improve water **quality**
- Enhance water **infiltration**
- Plan for water **preservation**



Social Connectivity

- Provide **equitable access** to the river
- Integrate local & indigneous **culture**
- Increase **stewardship** through **education**

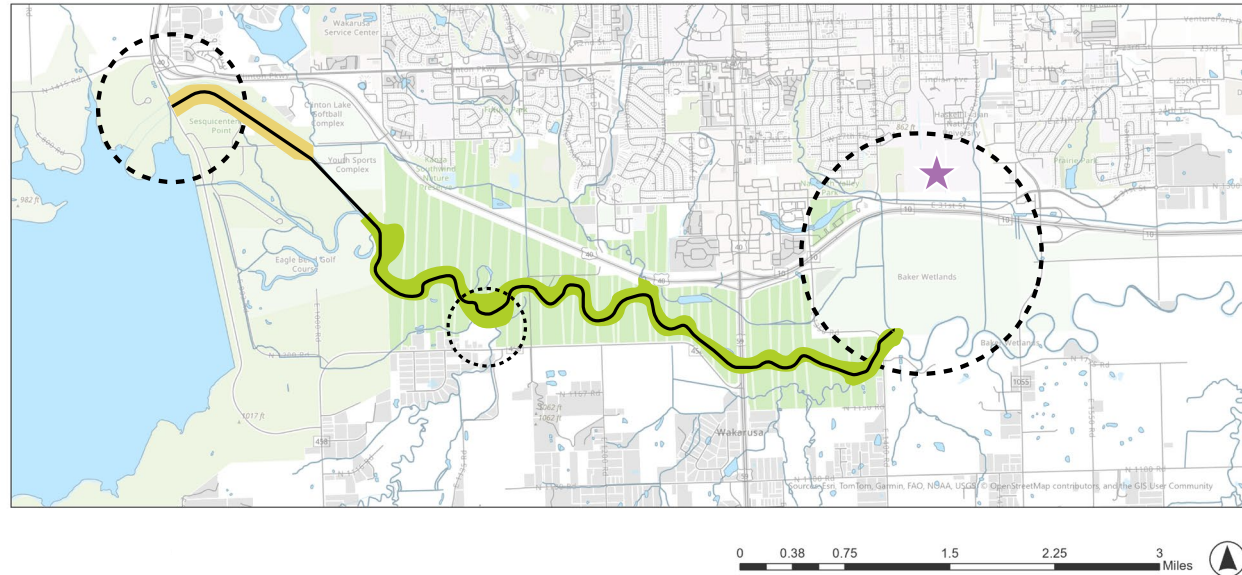


Focus Areas

1

Wakarusa Regenerative Greenway

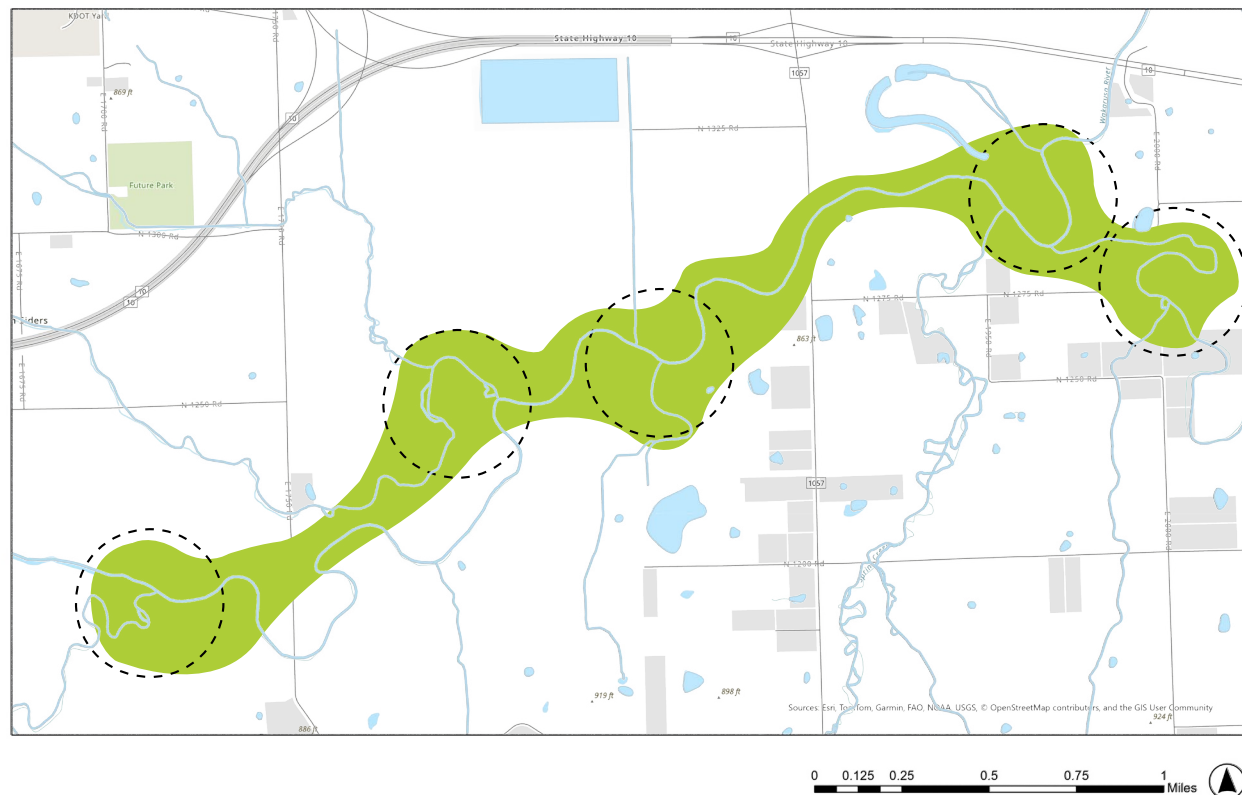
Connecting South Lawrence to equitable green space



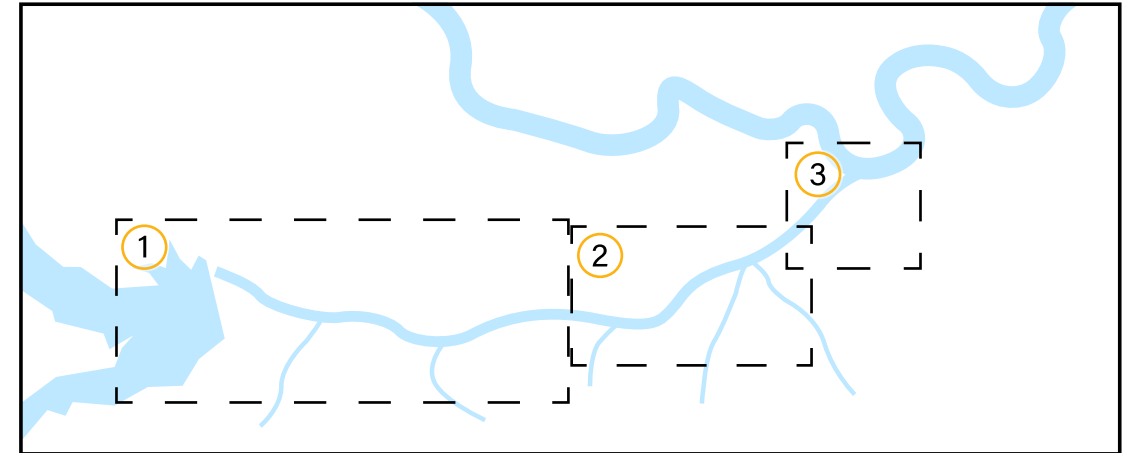
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Confluence Wetlands

Ecological restoration



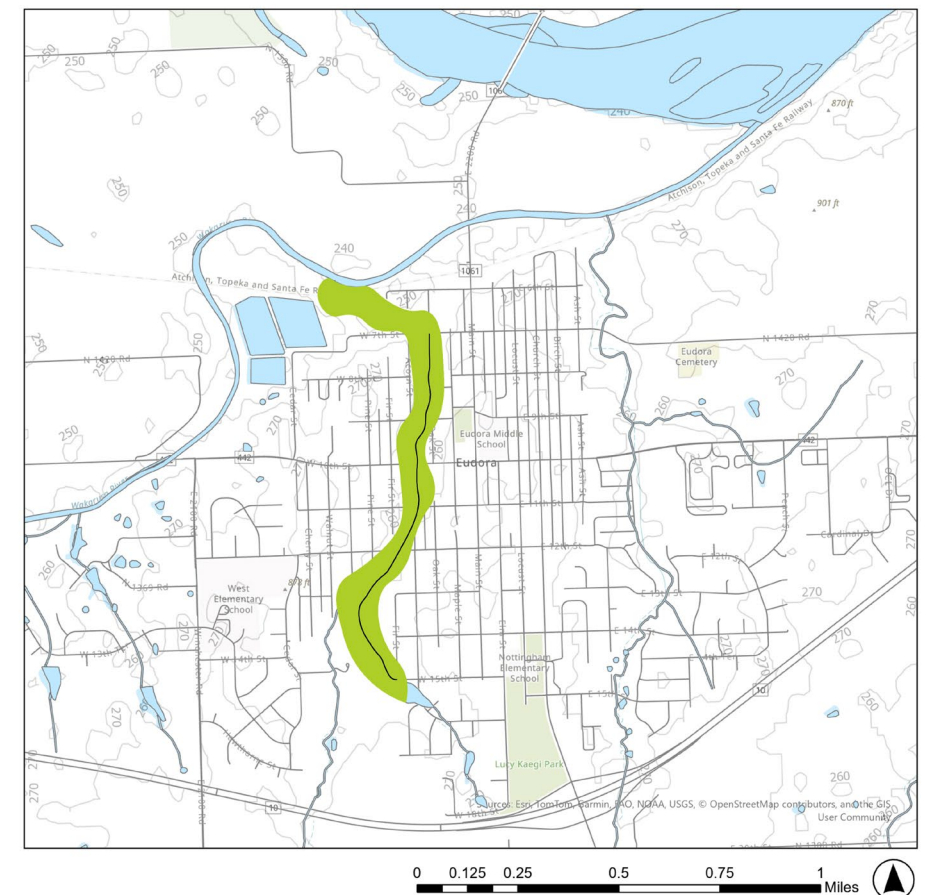
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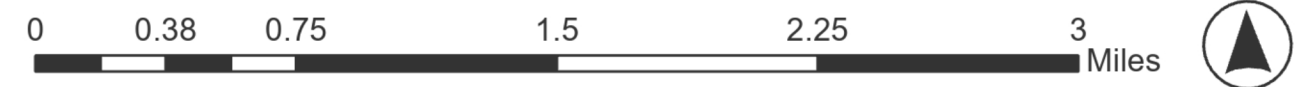
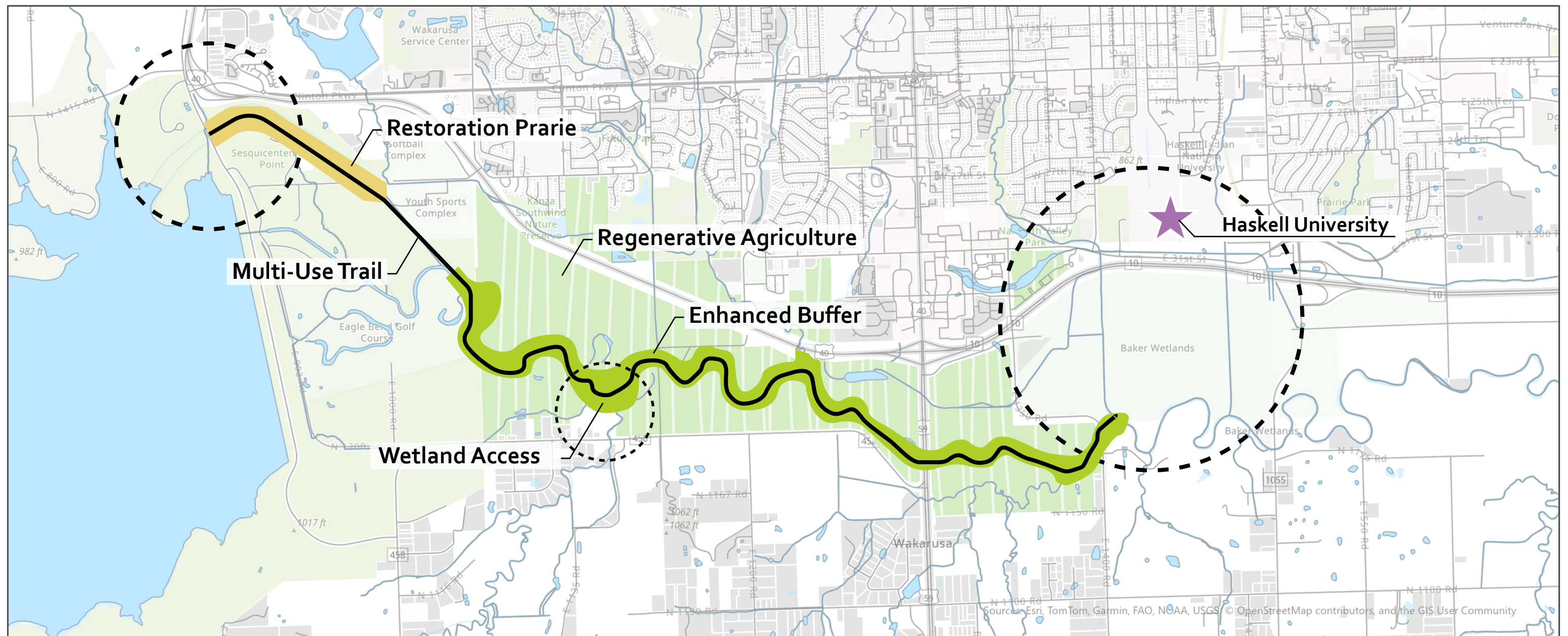


3

Eudora Greenway

Flood mitigating linear park



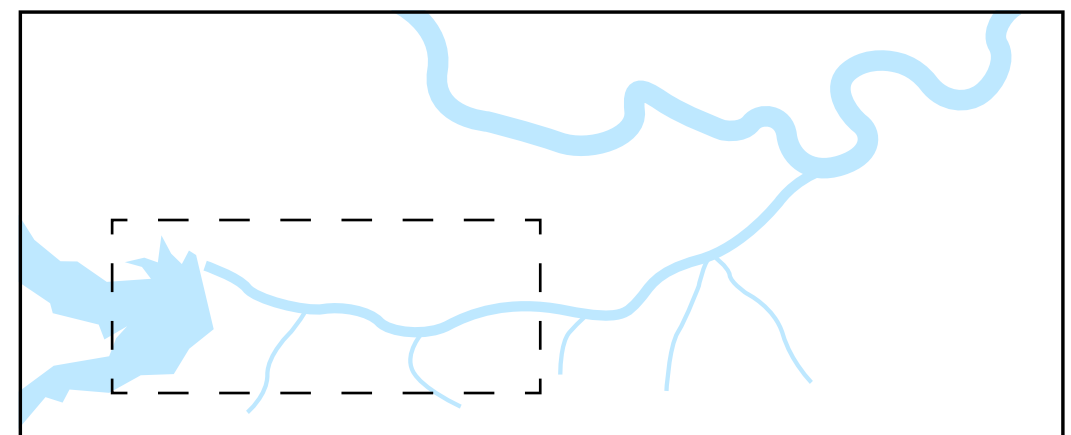


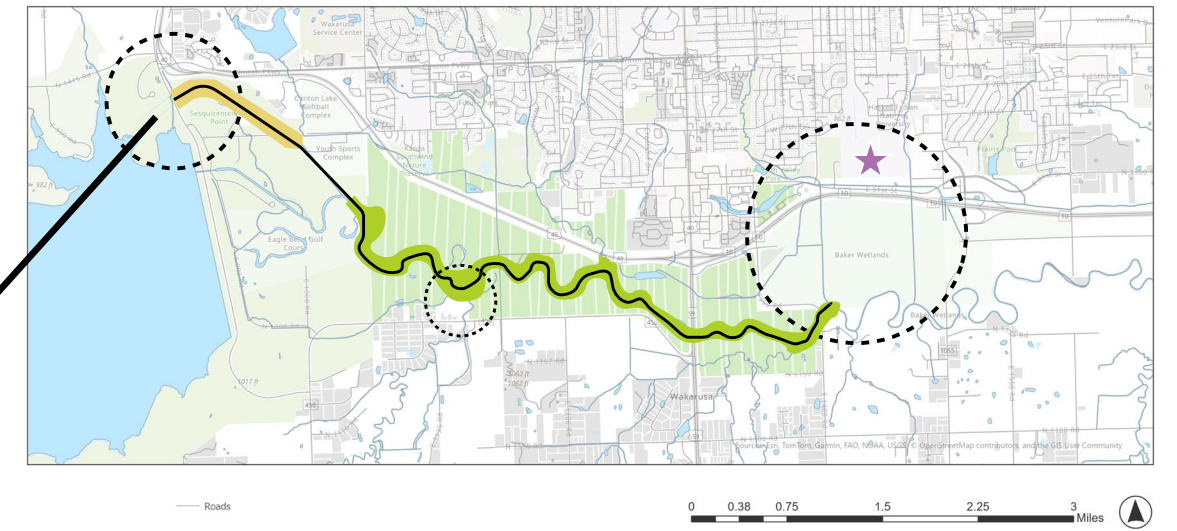
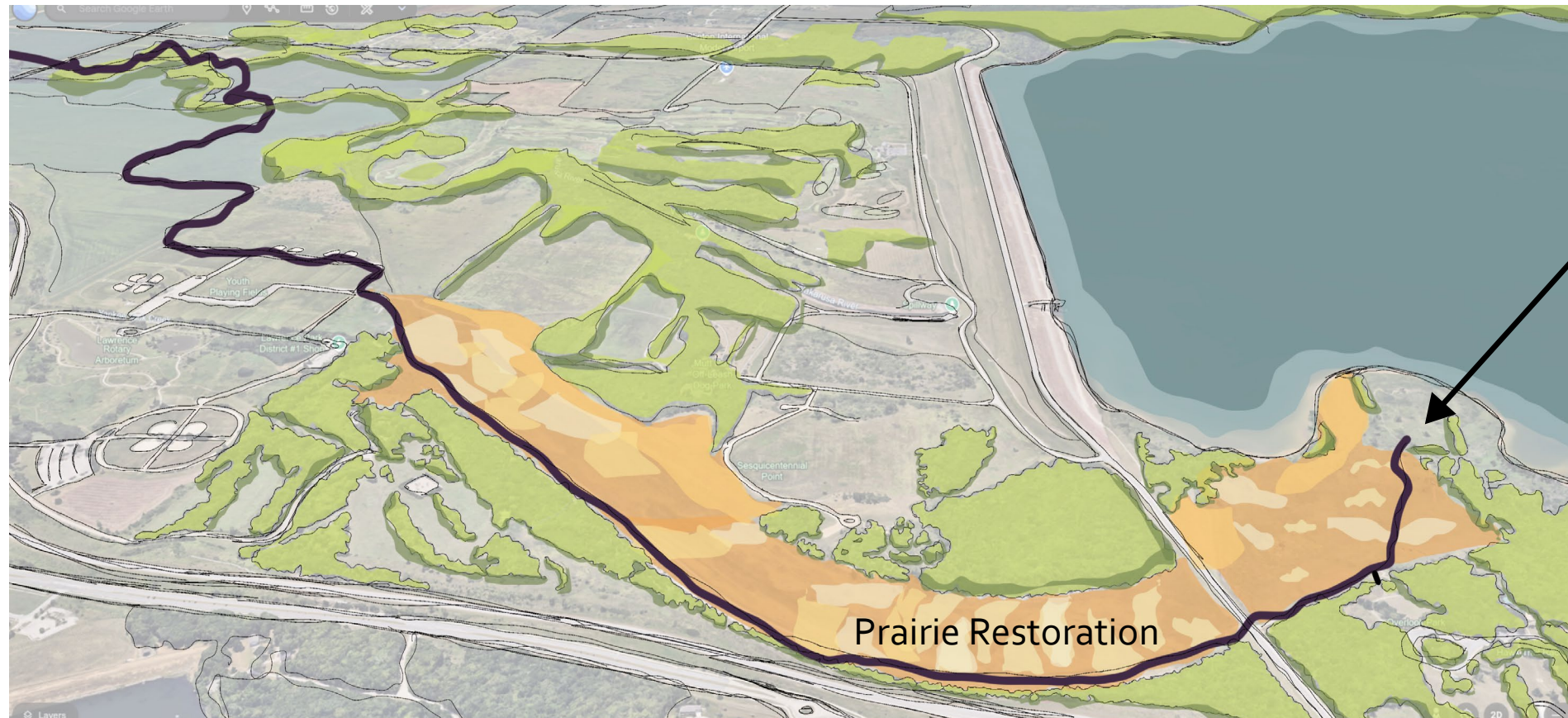
1

Wakarusa Regenerative Greenway

Connecting South Lawrence to equitable green space

- Connects diverse recreational amenities & ecology
- Equitable access for socially vulnerable community members
- Enhanced vegetation buffer and agricultural practices improve ecology
- Water quality & infiltration enhanced through vegetation
- Shaded trail and river mitigate warming temperatures along the path





Monarch Butterflies



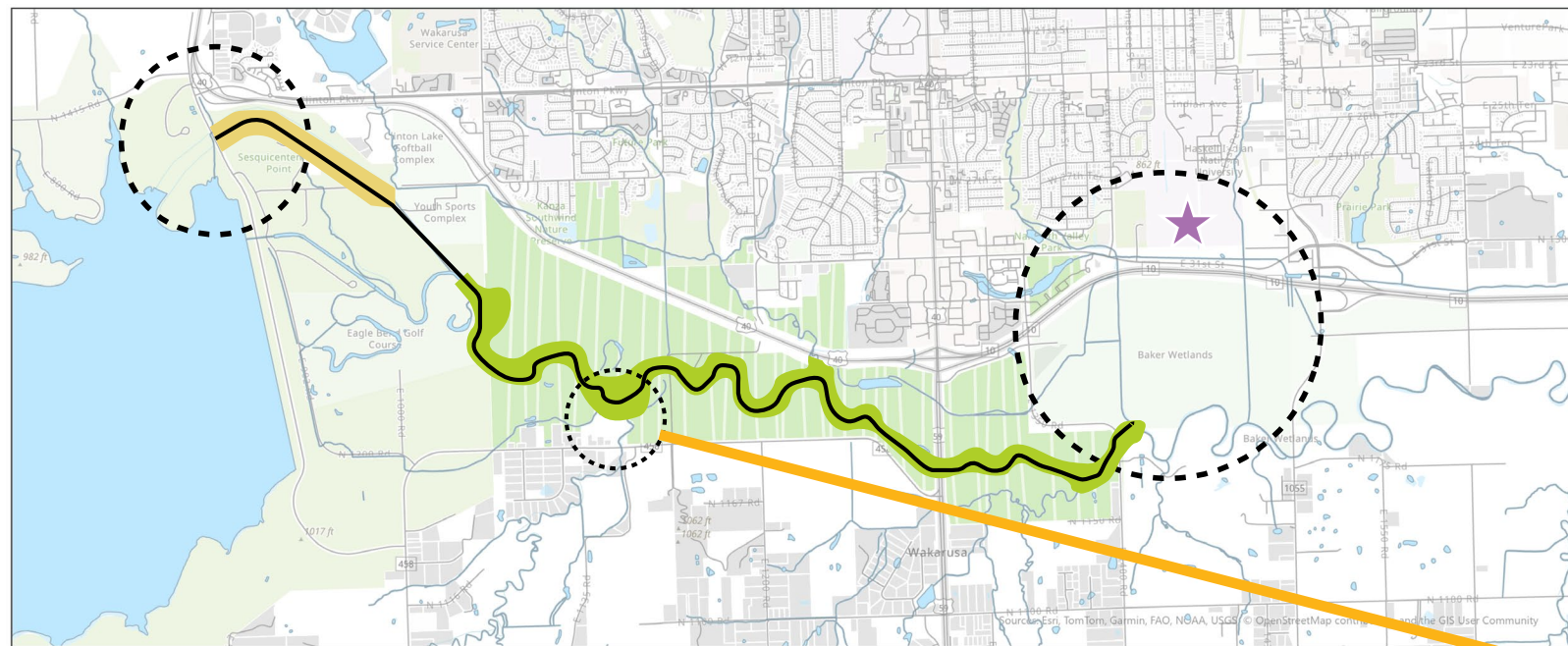
Lesser Prairie-Chicken



Tall Grass Prairie

Tall Grass Prairie Restoration

Habitat dedicated to threatened native species

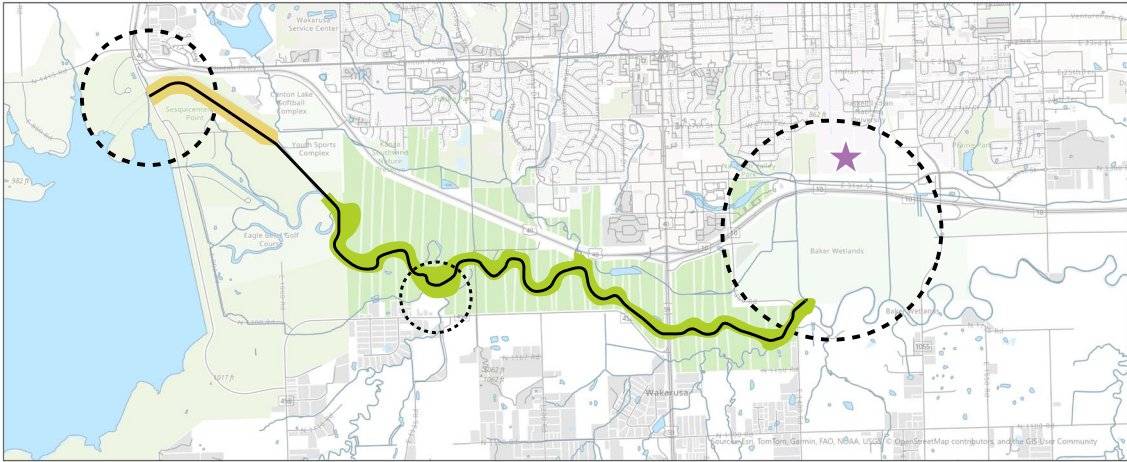
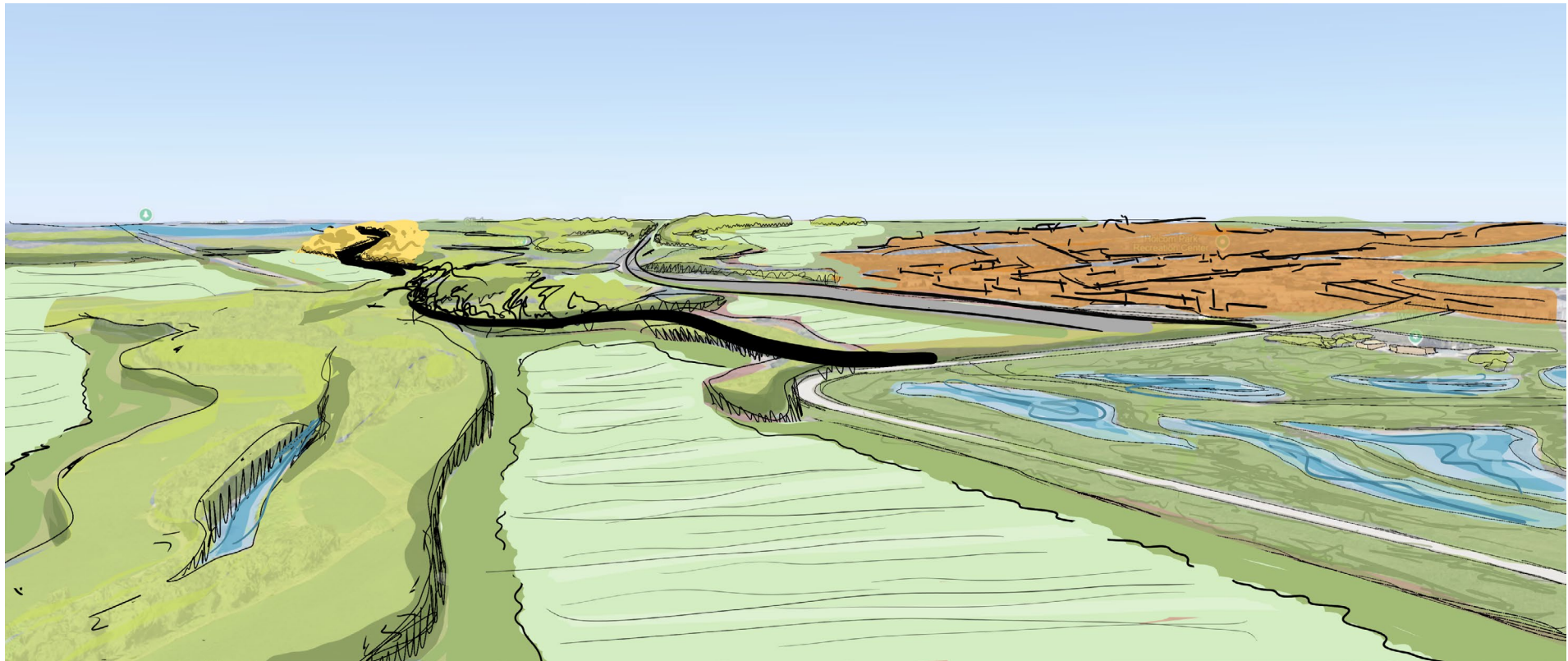


Wetland Access

Washington Creek & Wakarusa confluence wetland access



- Preservation supports diverse plant and animal species
- Naturally removes pollutants & captures sediment
- Absorbs excess water, helping reduce flood risks
- Critical habitat and migration pathways for wildlife
- Opportunity to integrate educational and Indigenous cultural elements



Wakarusa Regenerative Greenway

Regenerative agriculture abutting trail

- Builds deep, healthy soils that retain moisture and withstand extreme weather
- Sequesters carbon with cover crops and no-till farming
- Improves water retention, reduces runoff and erosion
- Protects riparian ecosystem by reducing chemical runoff

5 Core Principles of Regenerative Agriculture



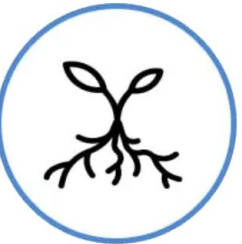
Minimize
Soil disturbance



Maximize
Crop diversity



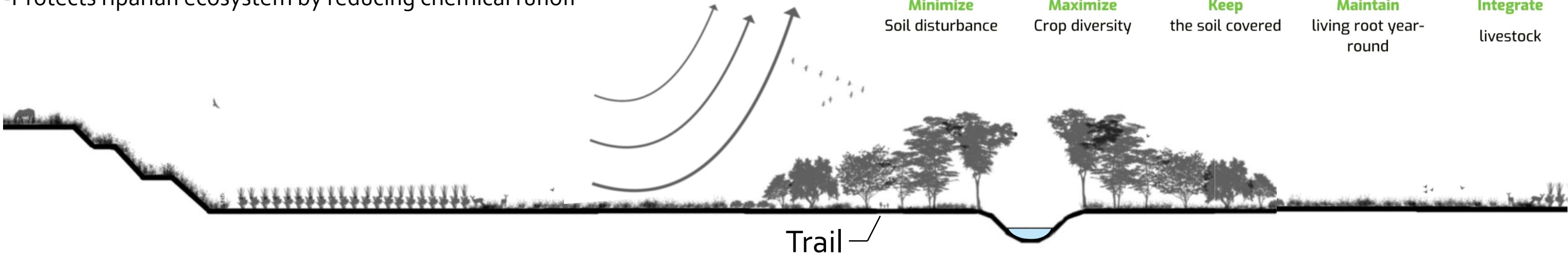
Keep
the soil covered



Maintain
living root year-
round



Integrate
livestock



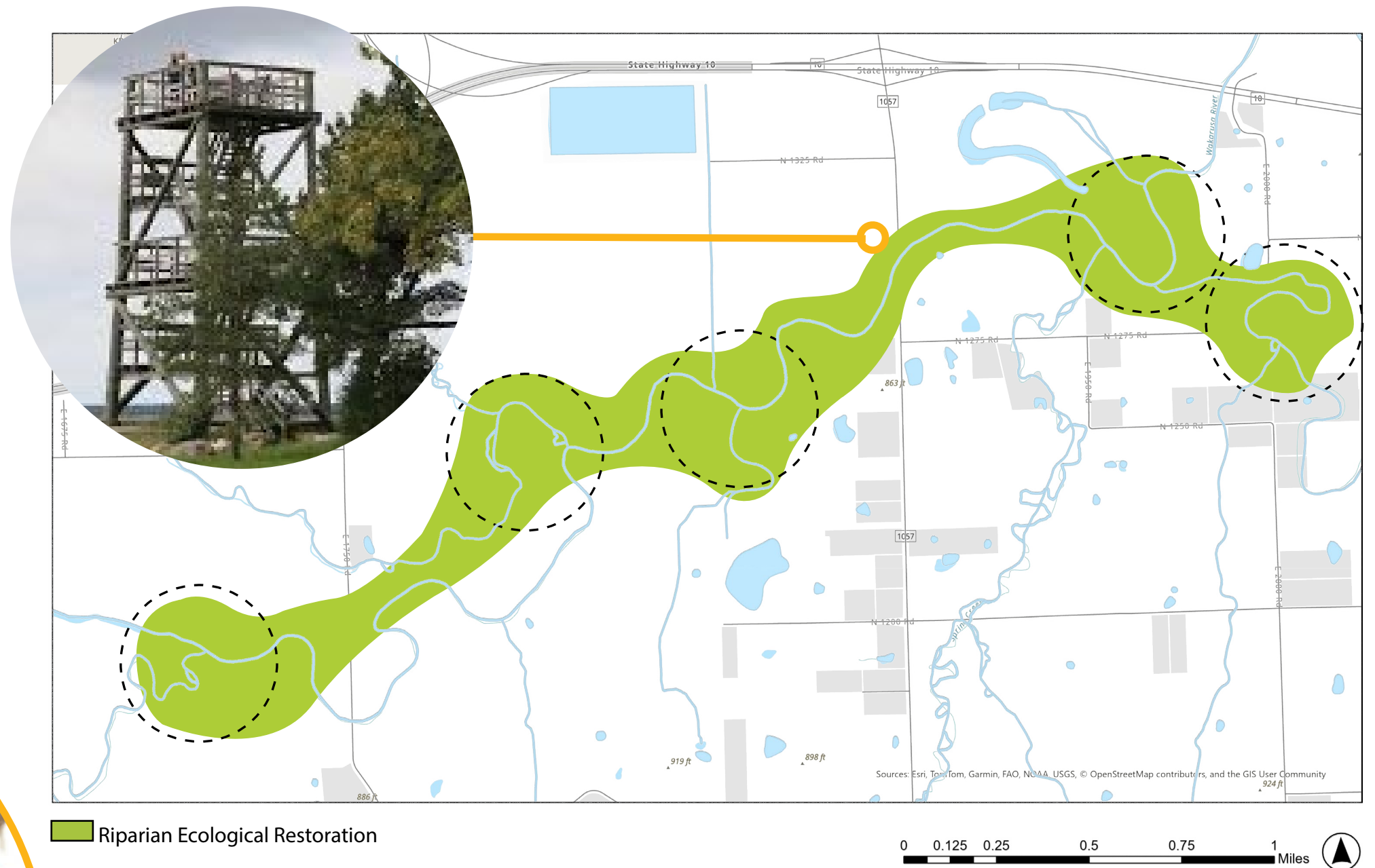
Greenway Section

Enhanced vegetated buffer & trail system

2

Confluence Wetlands Riparian Ecological Restoration

- Connects critical habitats, supporting wildlife movement and migration
- Enhances biodiversity by linking ecosystem
- Improves water quality through natural filtration
- Mitigates flooding with restored wetlands and vegetation
- Provides undisturbed refuge for sensitive species
- Supports bird conservation with minimal disturbance



Eudora Greenway Vision

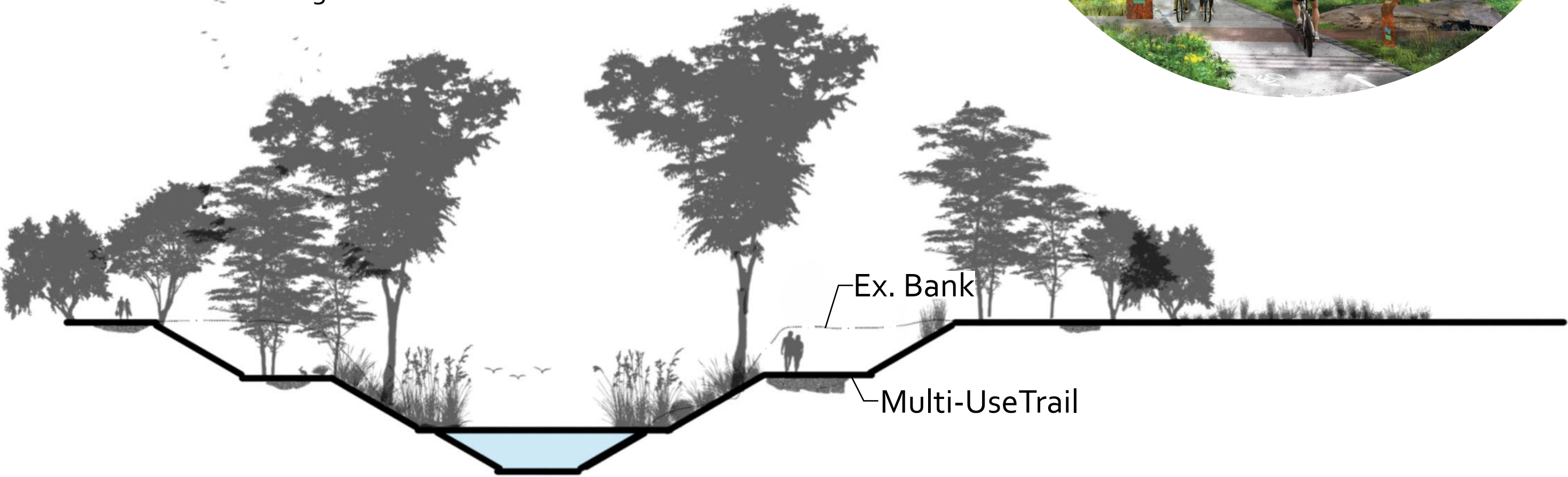


3

Eudora Greenway

Flood mitigating linear park

- Stepped lower-angle bank to slow & manage water flow
- Expanded native vegetation to enhance infiltration and reduce runoff
- Recreational ammenity that also has storm water management function



Part 2

Eudora Riverside Revival

Eudora Site Scale

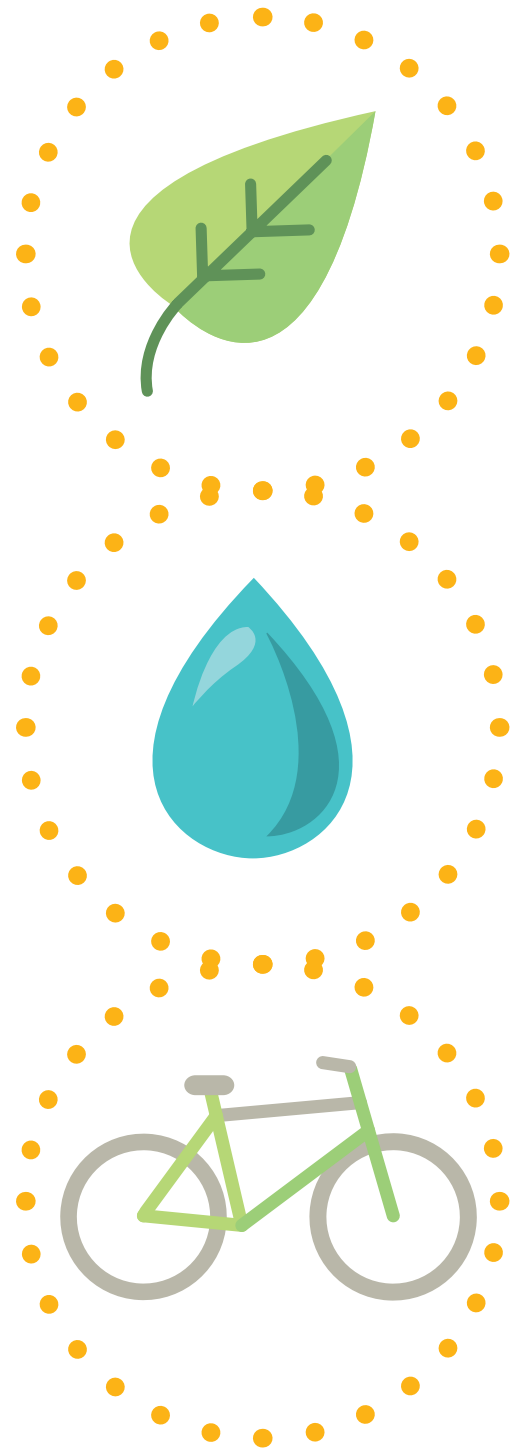
Eudora Riverside Revival

History - Ecology - Connection

Wakarusa Riverside Revival restores Eudora's **historic bond** with the Wakarusa River, a place once known for gathering, recreation, and celebration, while establishing a **purposeful landscape** for future generations to enjoy. With new amenities, renewed access, and restored native habitats, the park becomes both a living memory and a lasting place for **connection**, play, and community pride.



Goals & Objectives



Ecology & Biodiversity

- Restore **native riparian ecosystem**
- Create **washlands**
- Enhance **ecological connectivity**

River & Water

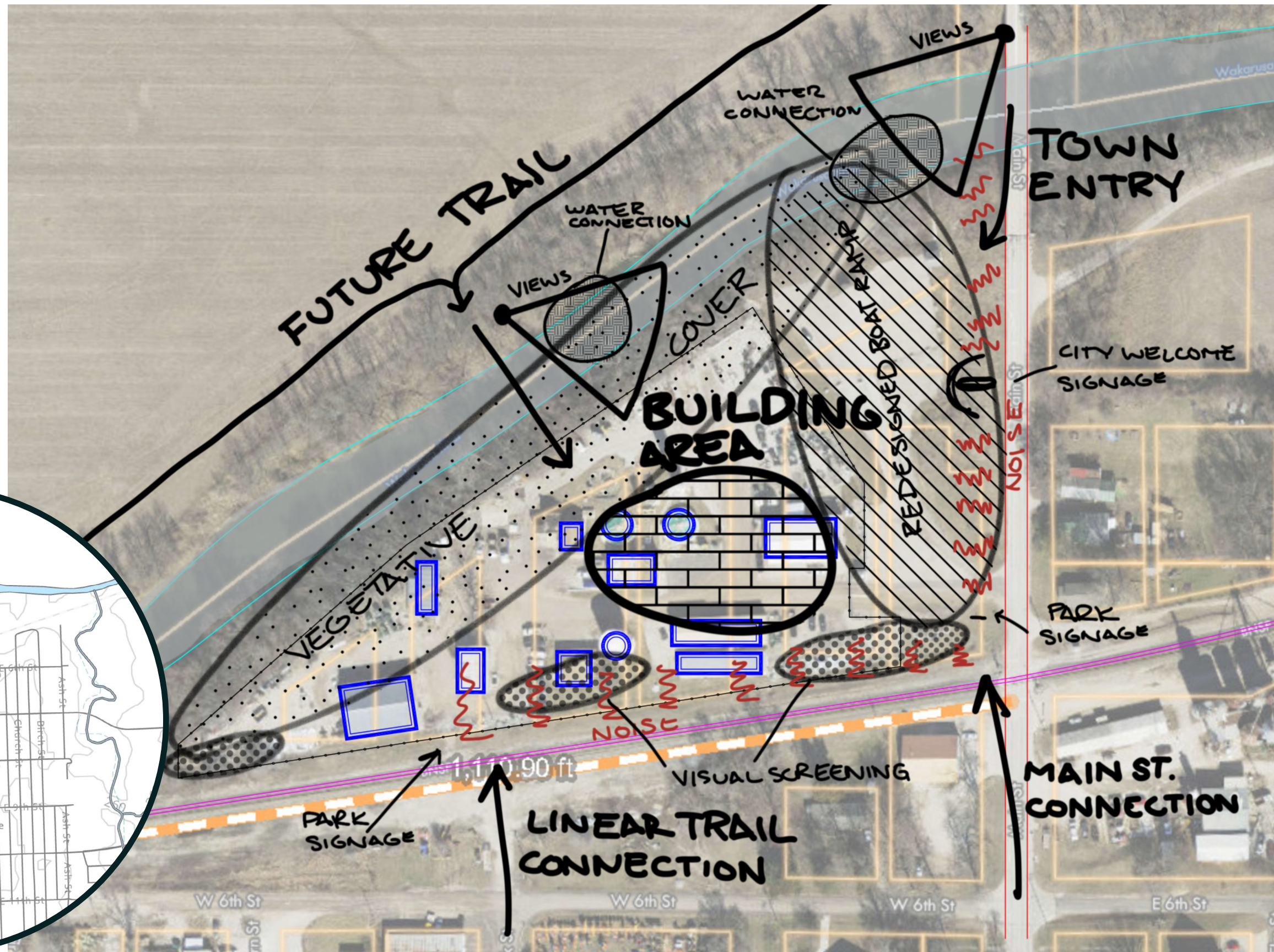
- Improve water **quality**
- Increase **flood resilience**
- Reclaim **river access**

Social Connectivity

- Strengthen **community connections**
- Celebrate **local culture**
- Attract **entertainment**



- River access
- Street & train traffic
- Circulation connectivity
- Existing vegetation
- 500 yr. flood elevation



User Analysis



Teenager

- Demographics:** Male, 16 years old.
- Income:** Part-time job earnings.
- Housing:** Lives with parents
- Interests:** Videogames, basketball, and socializing with peers.
- Usage Patterns:** Afternoon & early evening visits after school & on weekends.



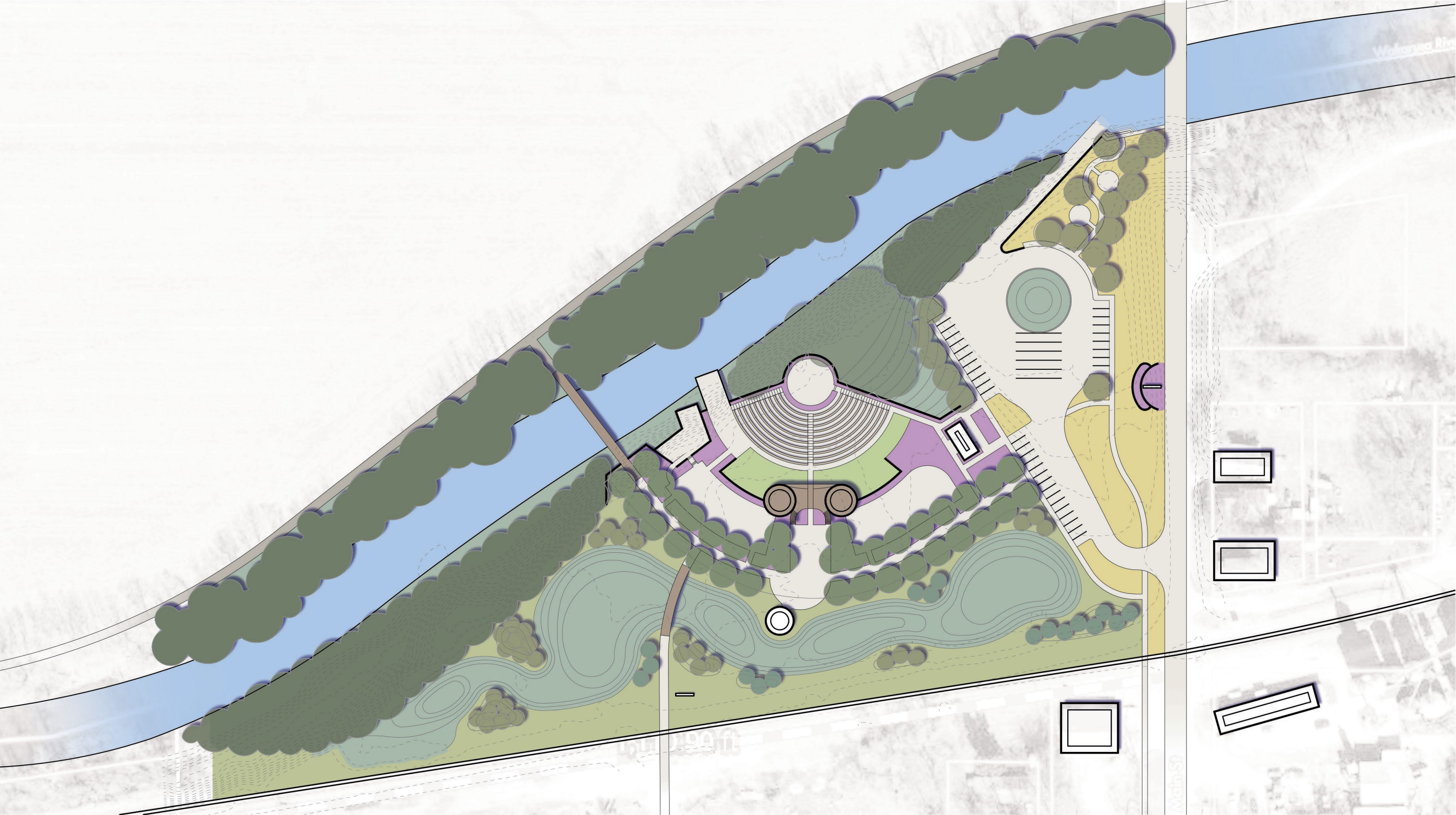
Young Couple

- Demographics:** Married couple in their early 30s with a toddler
- Income:** Combined household income of approximately \$110,000.
- Housing:** Homeowners in SE side of town in more suburban neighborhood.
- Interests:** Playground facilities, family picnic areas, and walking trails suitable for strollers.
- Usage Patterns:** Frequent weekend visits and occasional weekday afternoons.

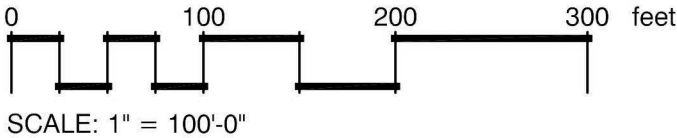


Retired Couple

- Demographics:** Single female, aged 68
- Income:** Fixed retirement income
- Housing:** Owns a townhouse in Eudora.
- Interests:** Gardening, bird-watching, and gentle exercise like walks.
- Usage Patterns:** Morning visits on weekdays for relaxation and socialization.

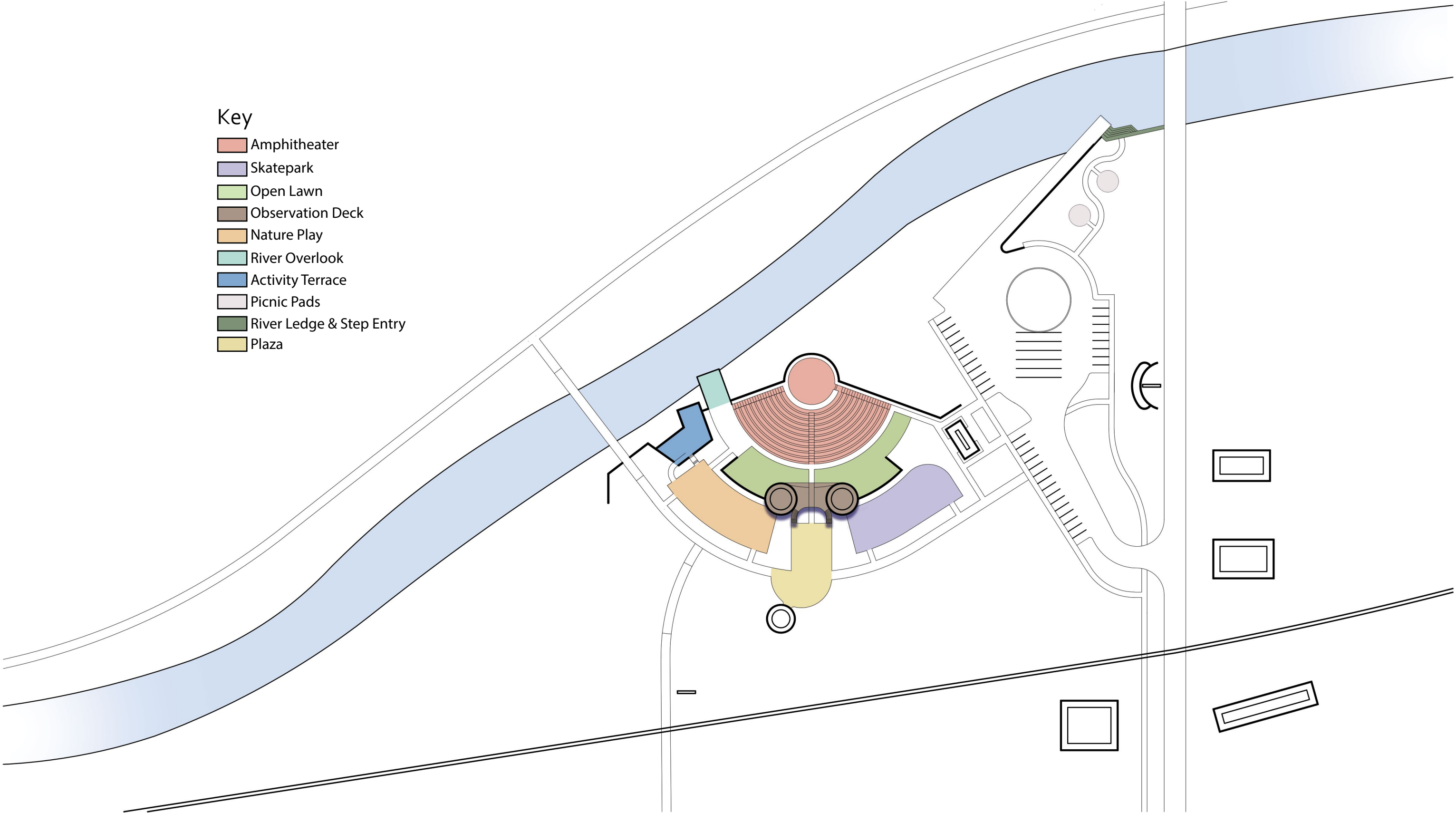


SITE PLAN
SCALE: 1"=100'-0"

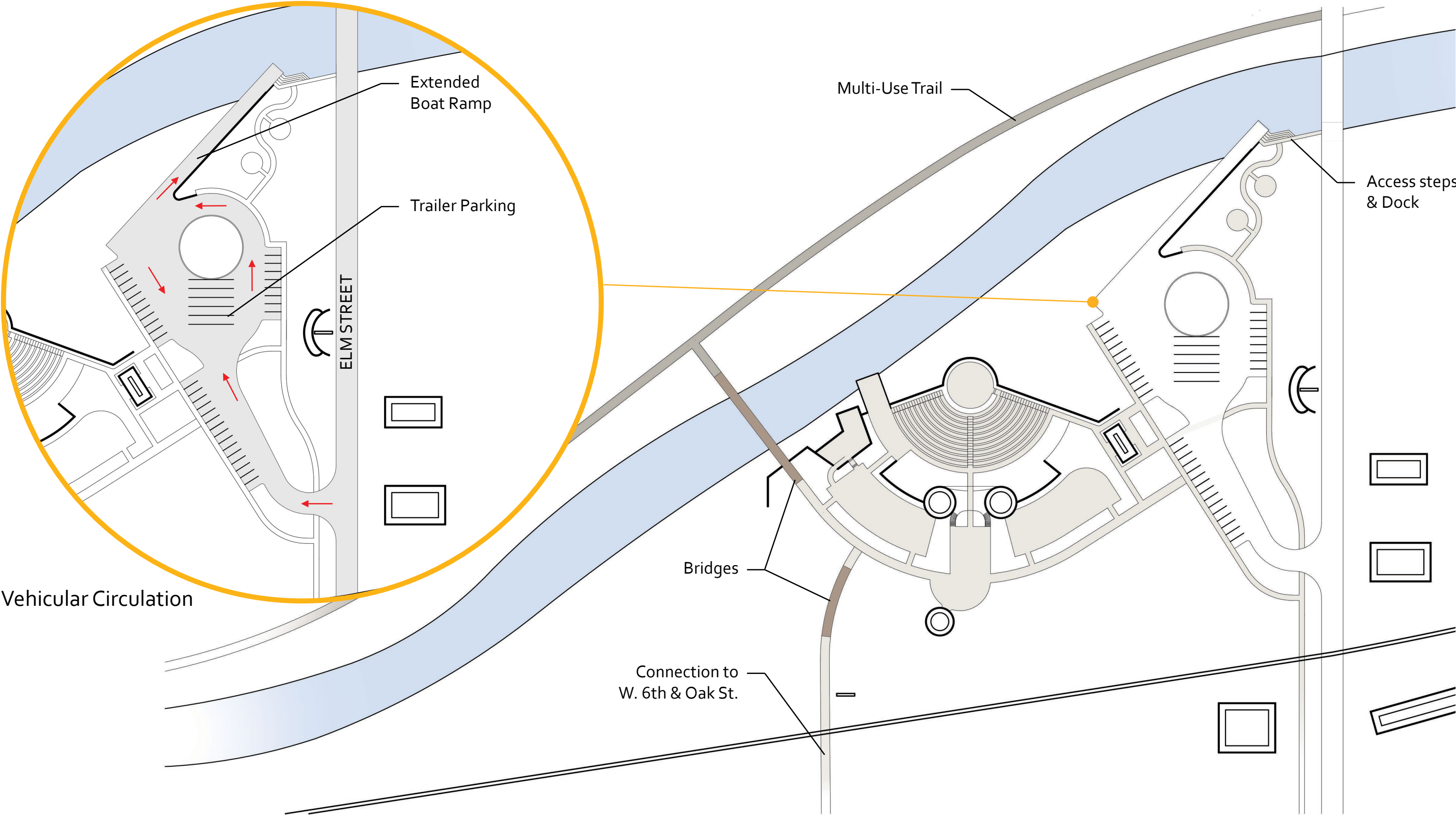


Programming

- Key
- Amphitheater
 - Skatepark
 - Open Lawn
 - Observation Deck
 - Nature Play
 - River Overlook
 - Activity Terrace
 - Picnic Pads
 - River Ledge & Step Entry
 - Plaza



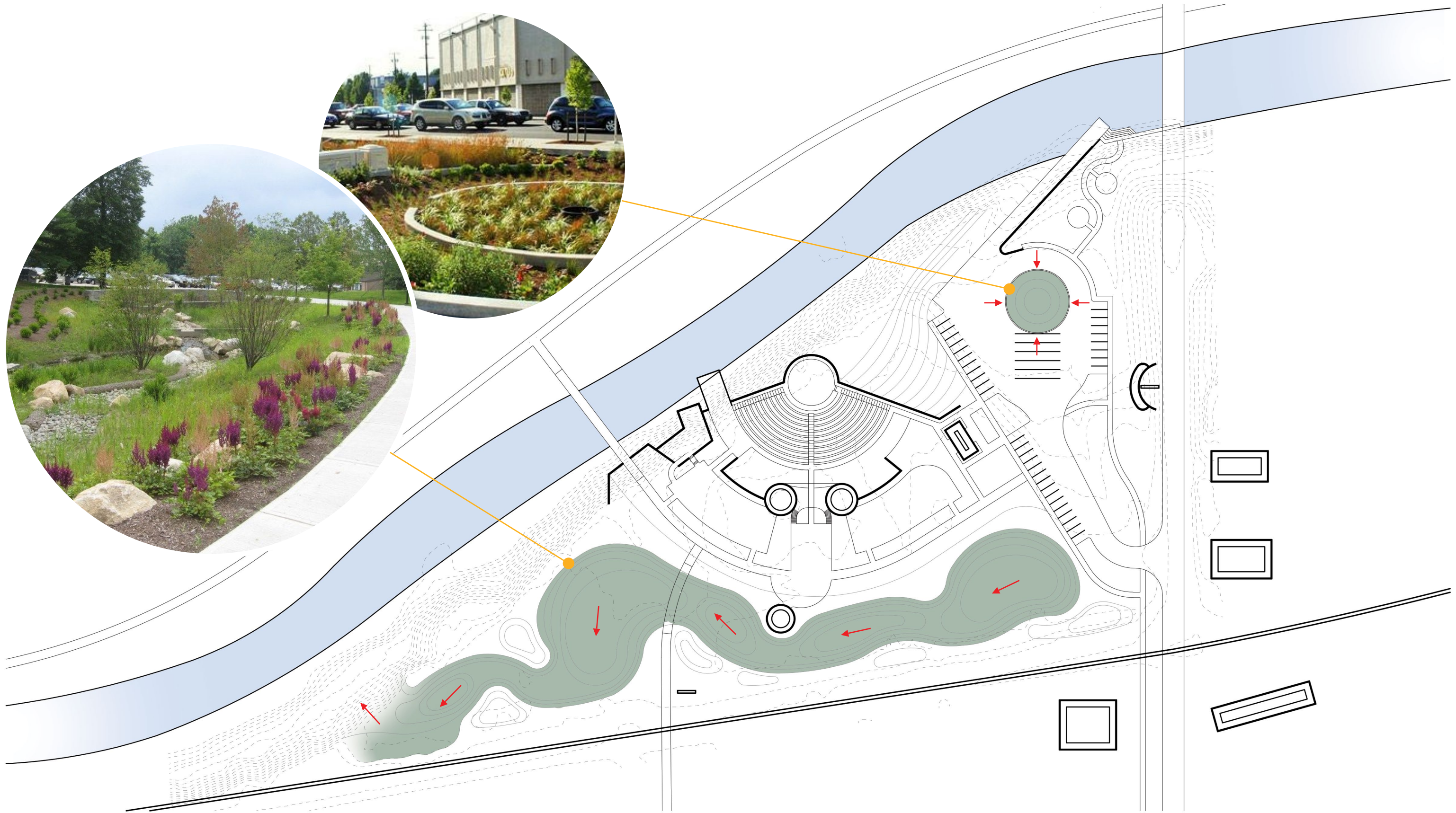
Circulation



Vehicular Circulation

Pedestrian Circulation

Stormwater Managment



Vegetation



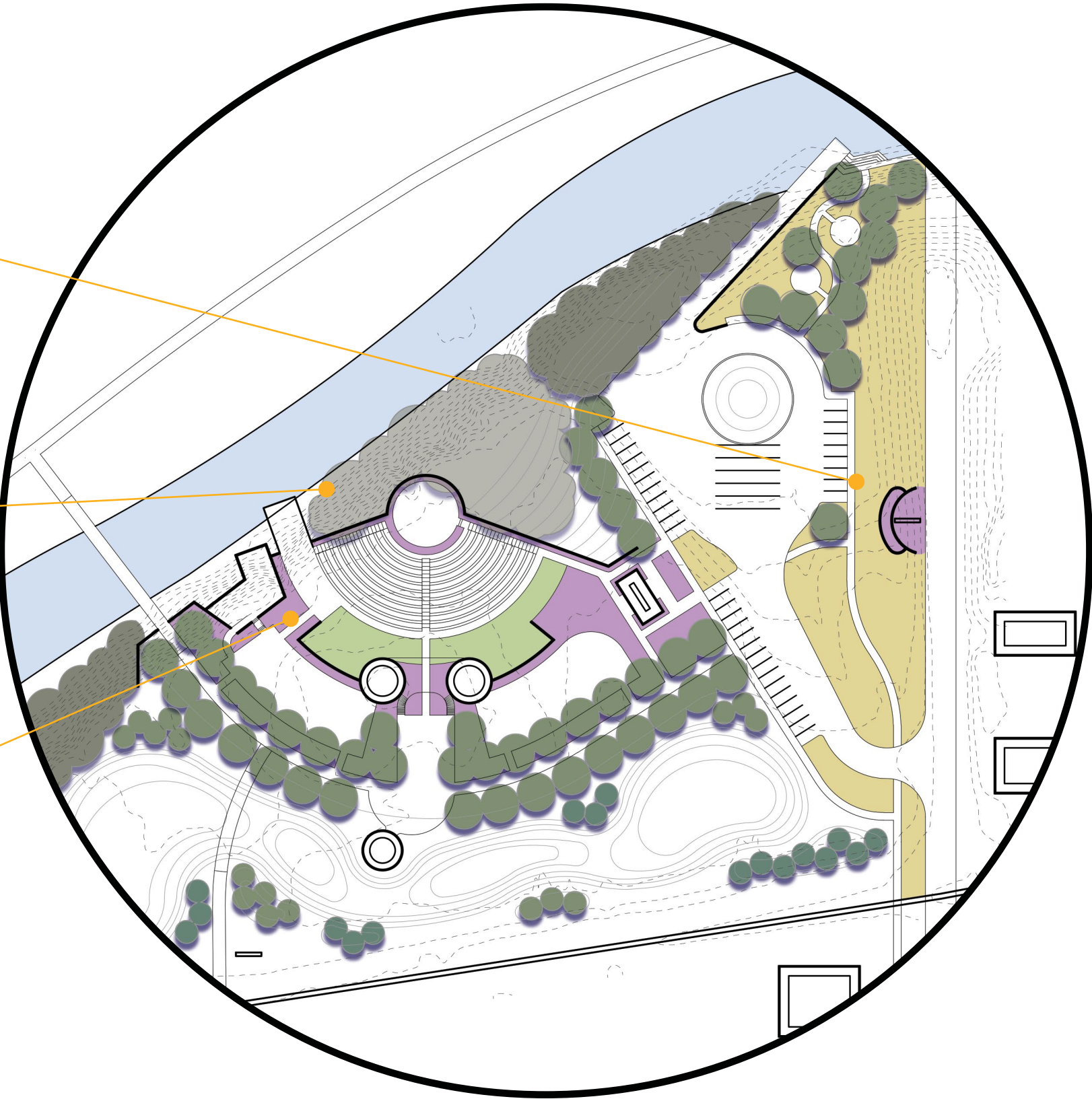
Native prairie



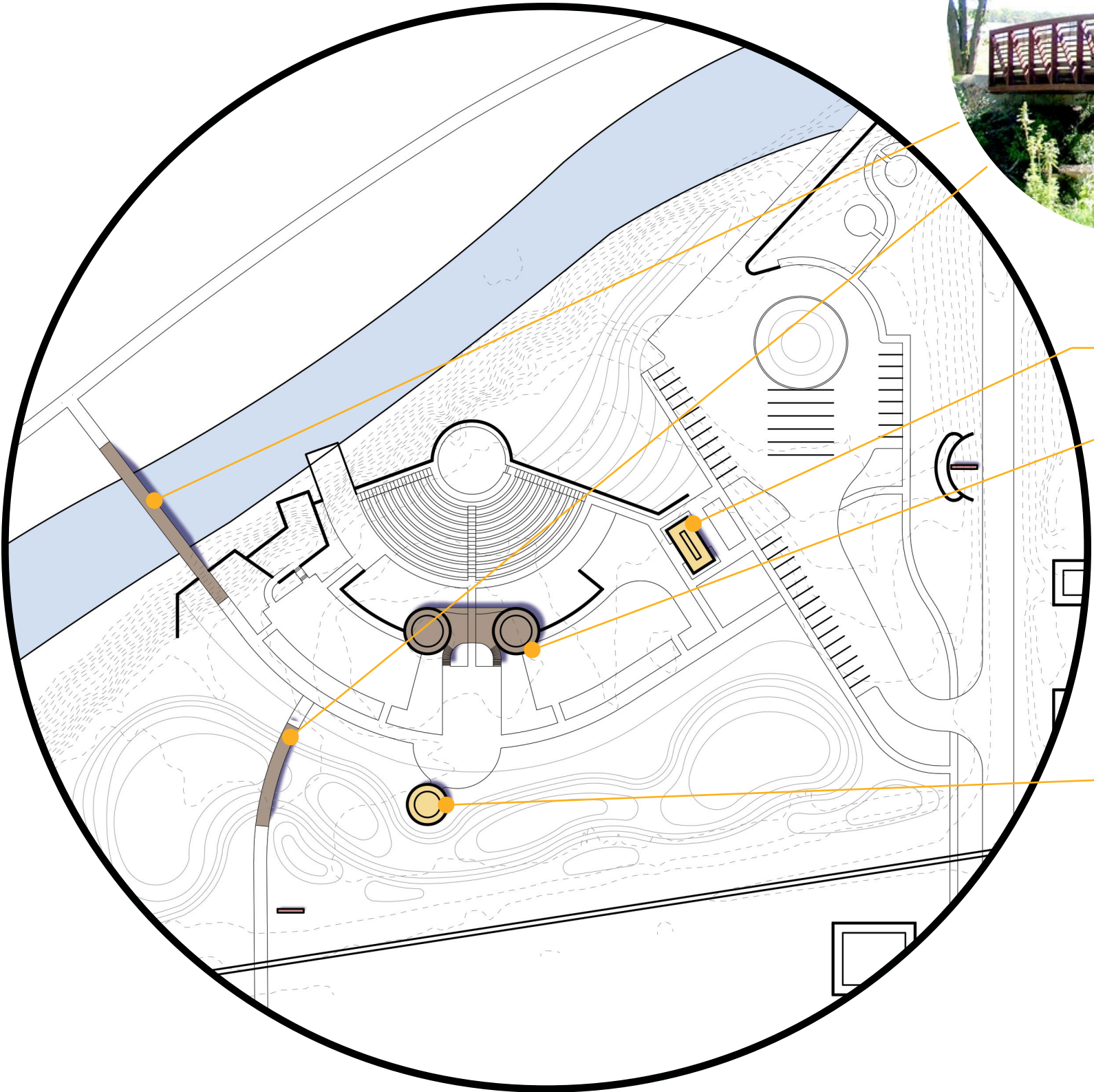
Oak-hickory savanna



Pollinators



Site Structures



Bridge

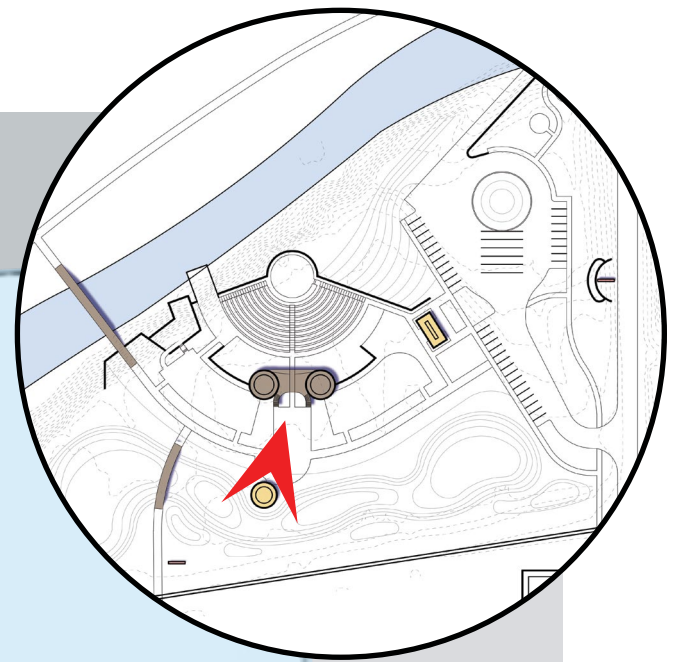
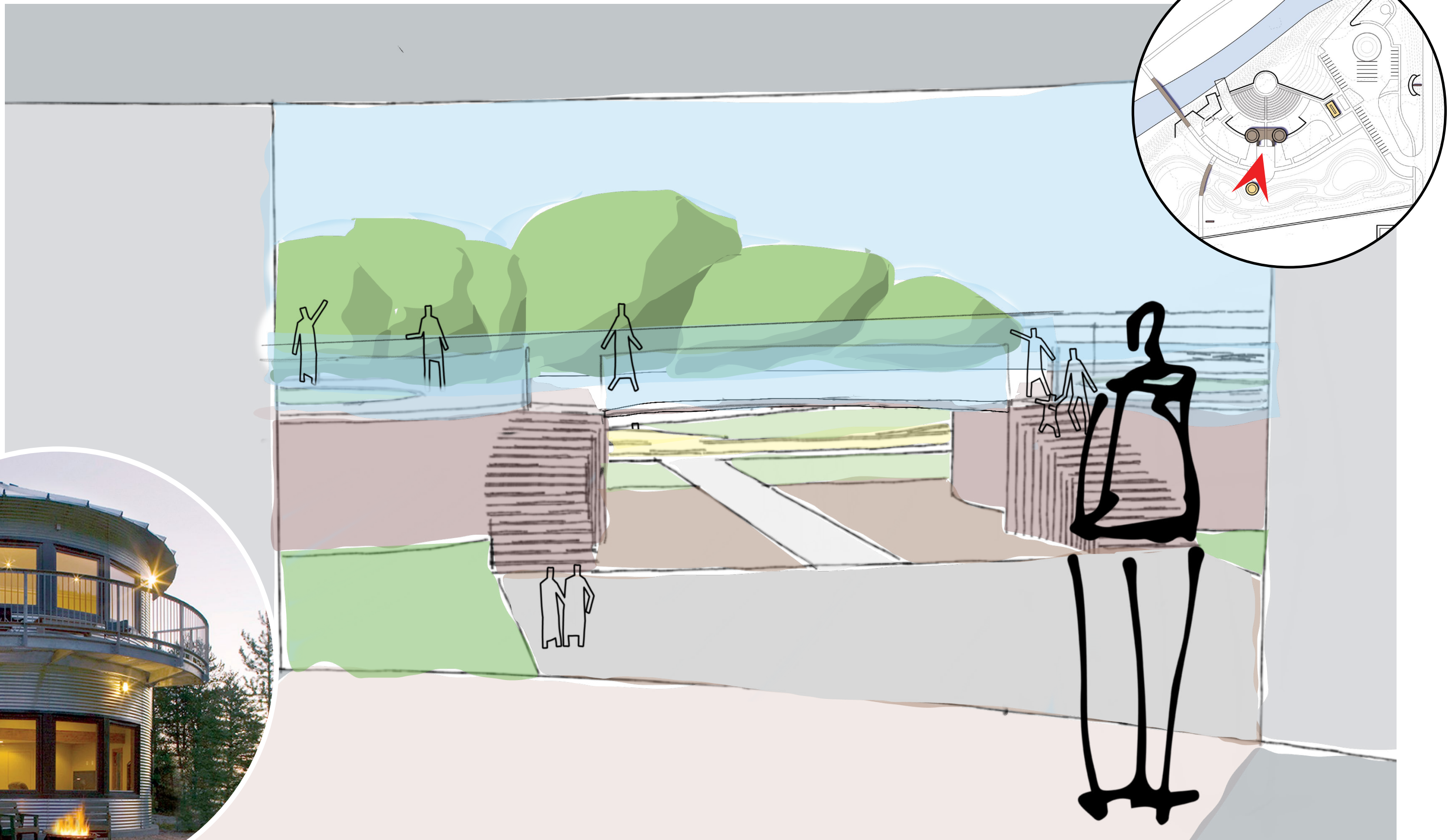


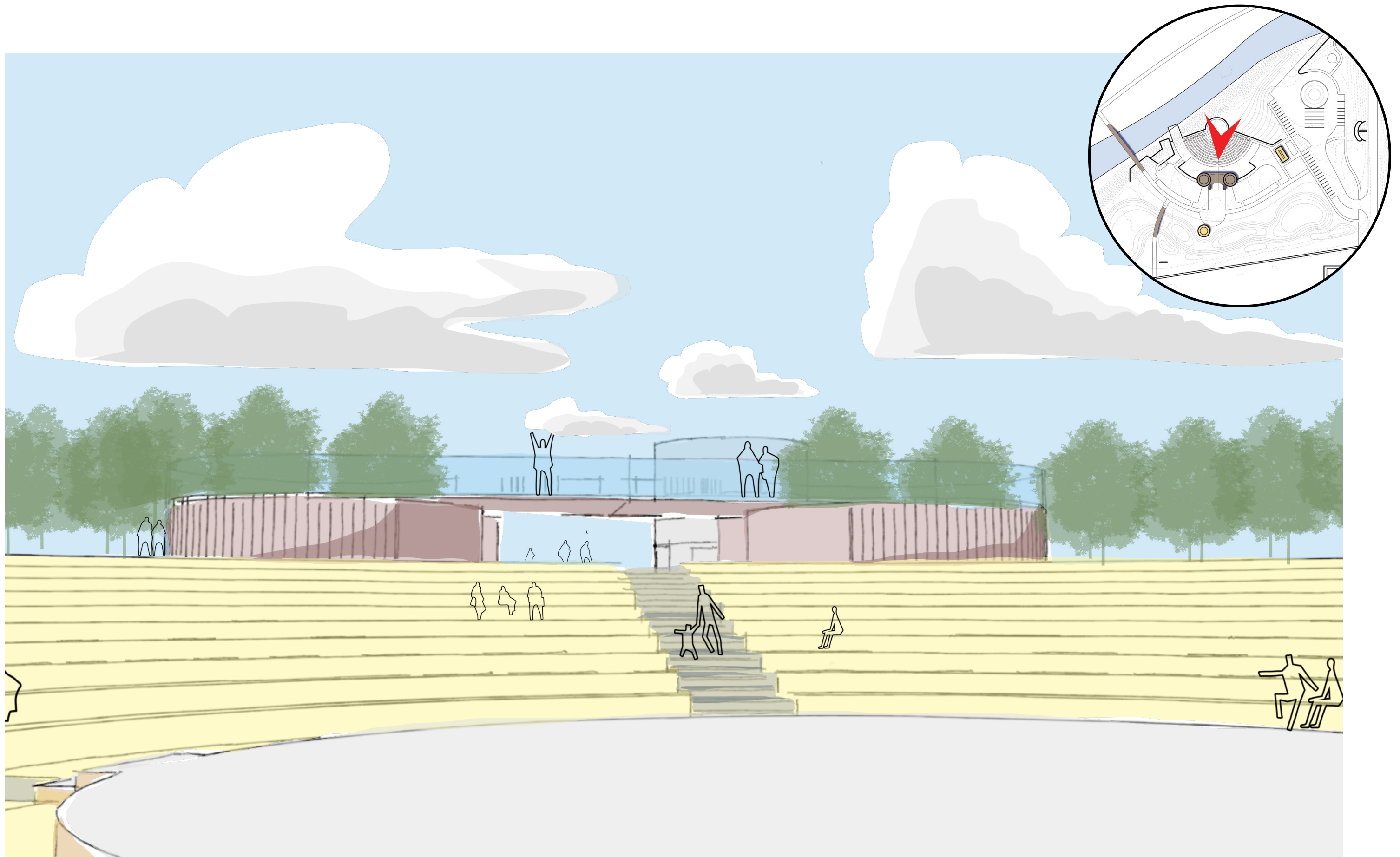
Bathroom

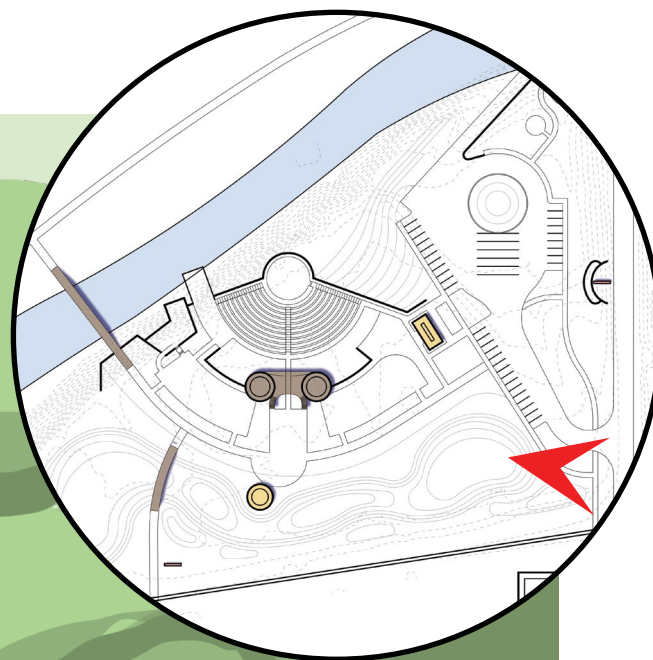
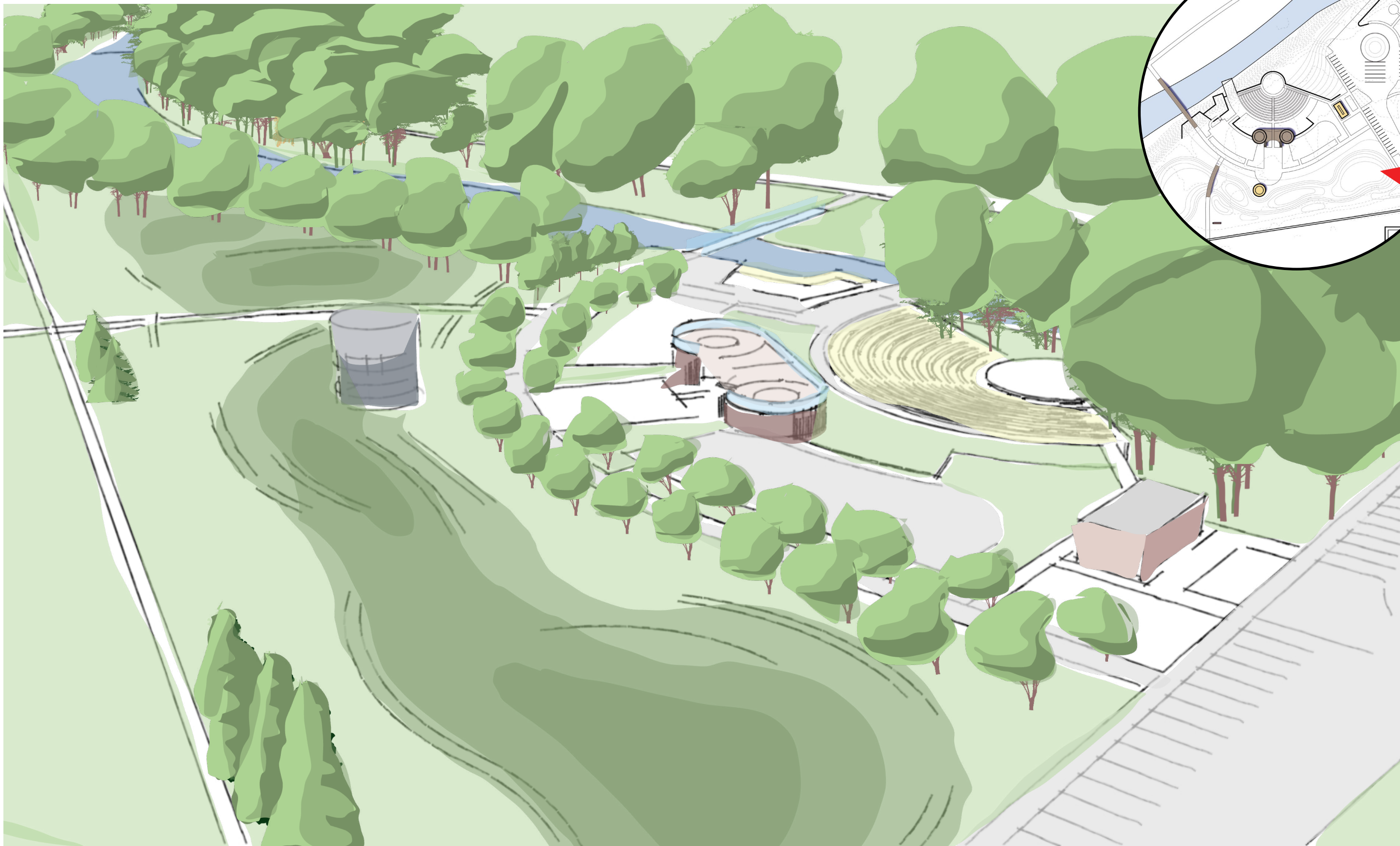
Overlook Deck

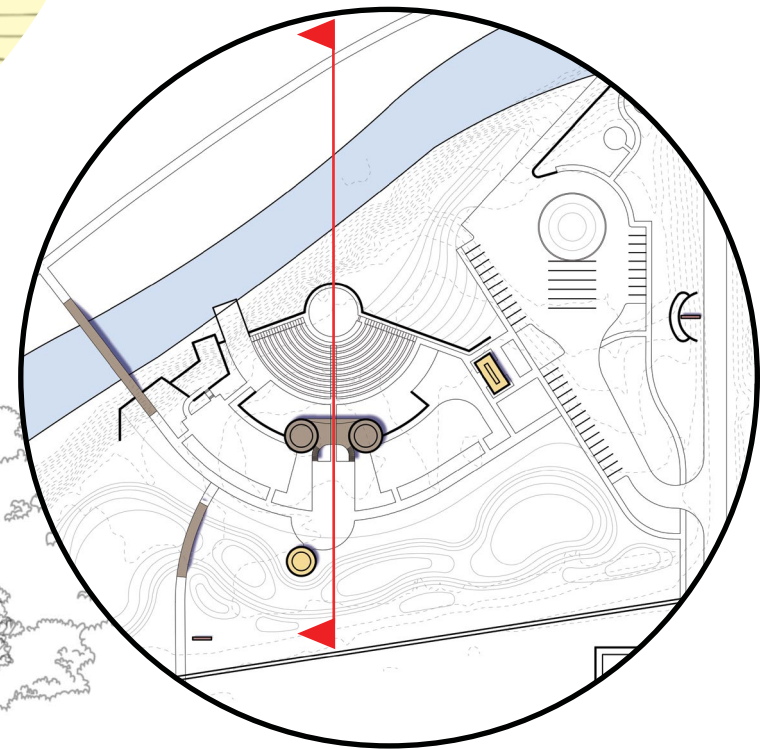
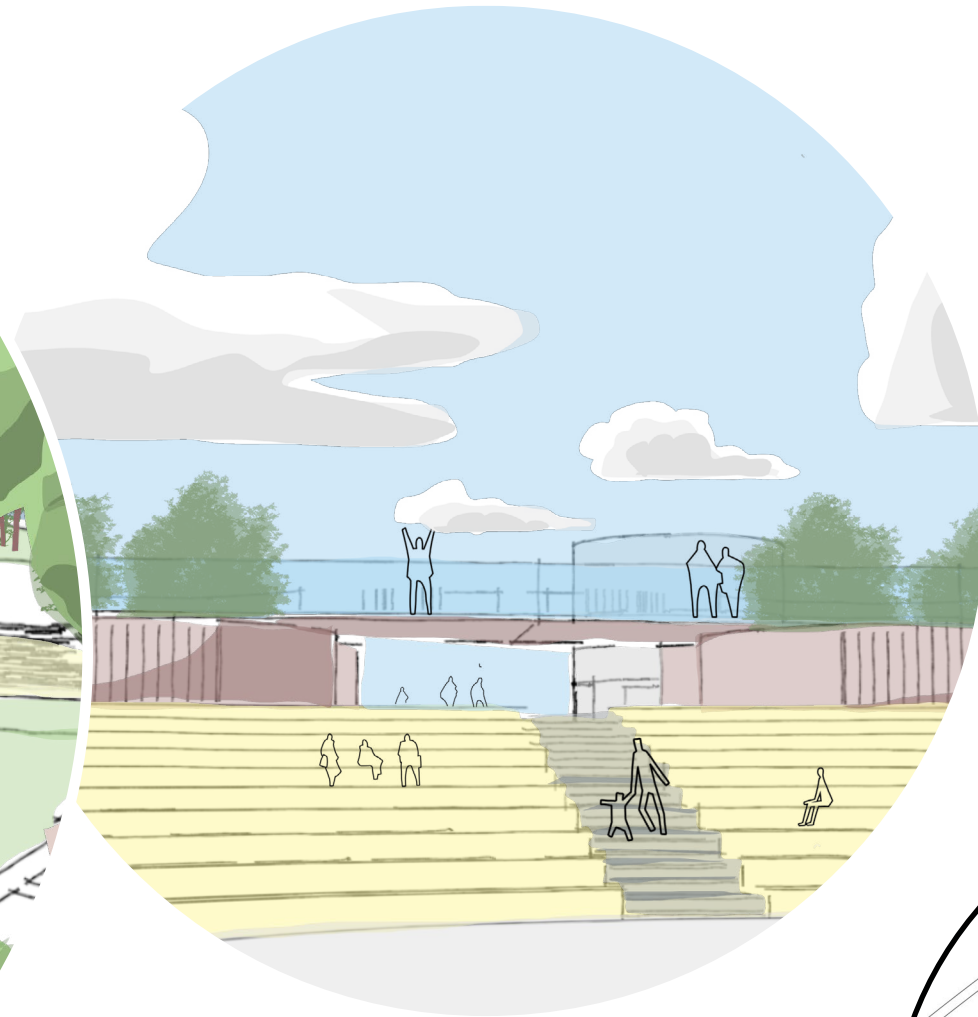
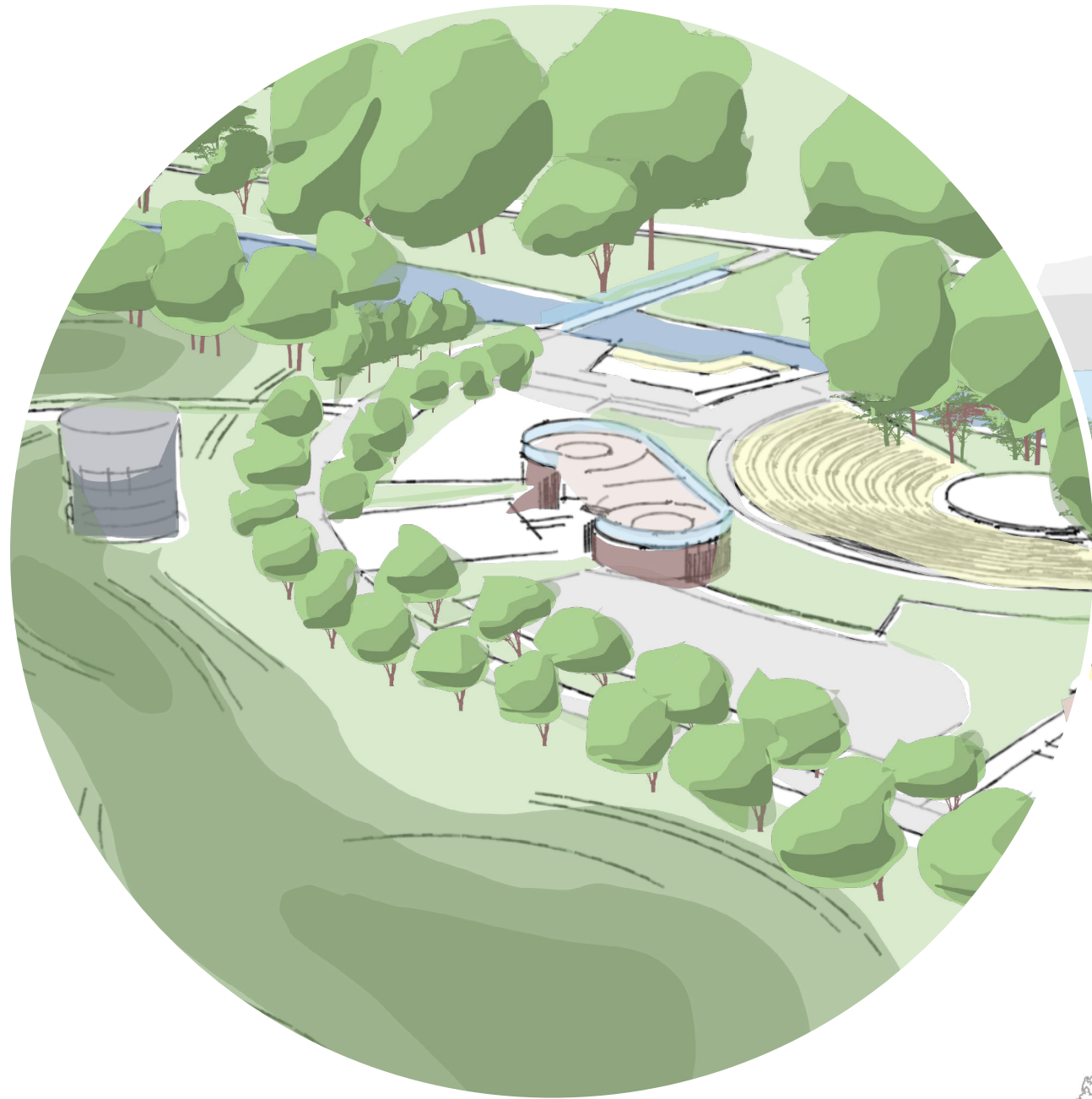


Adapted Shelter

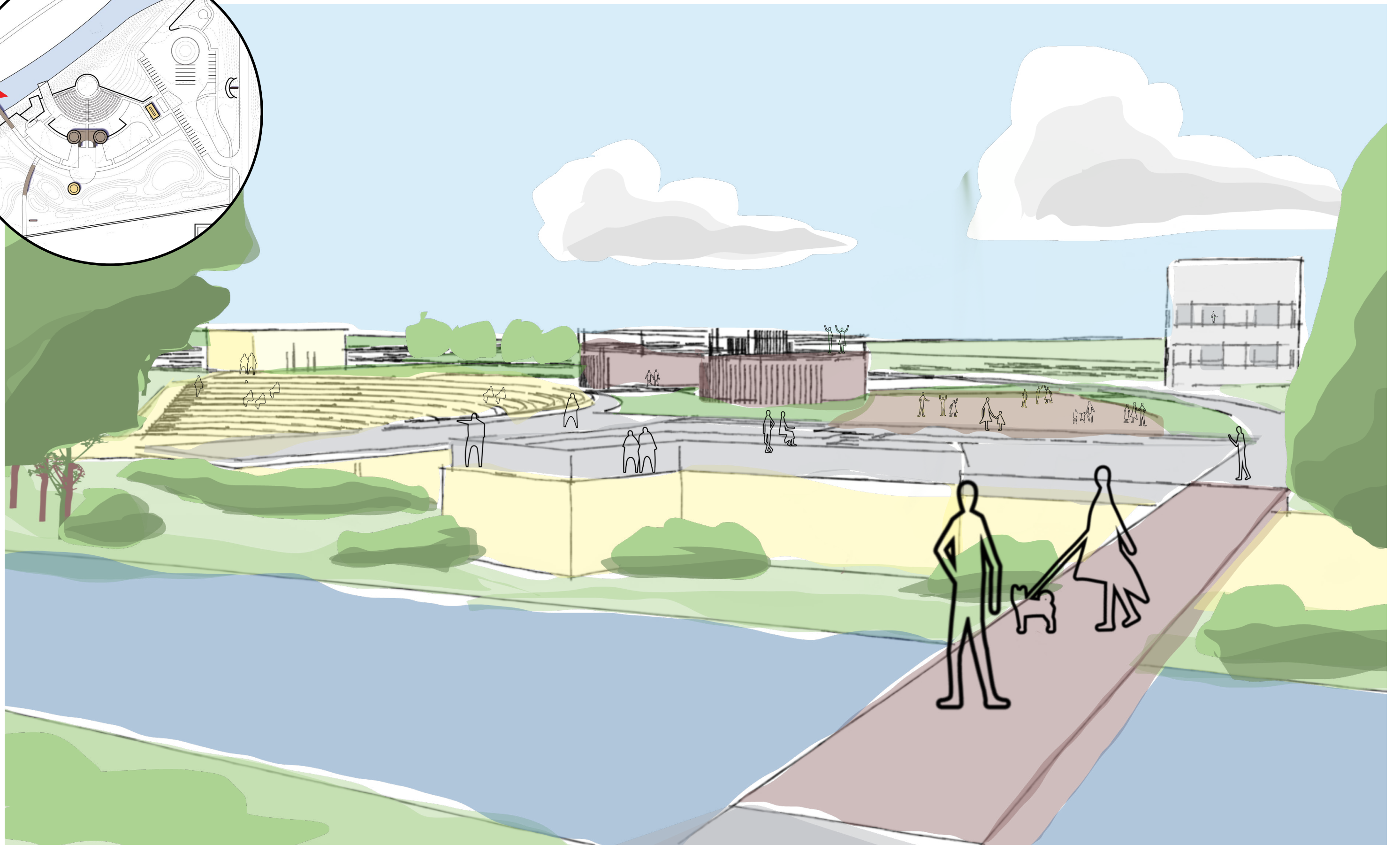
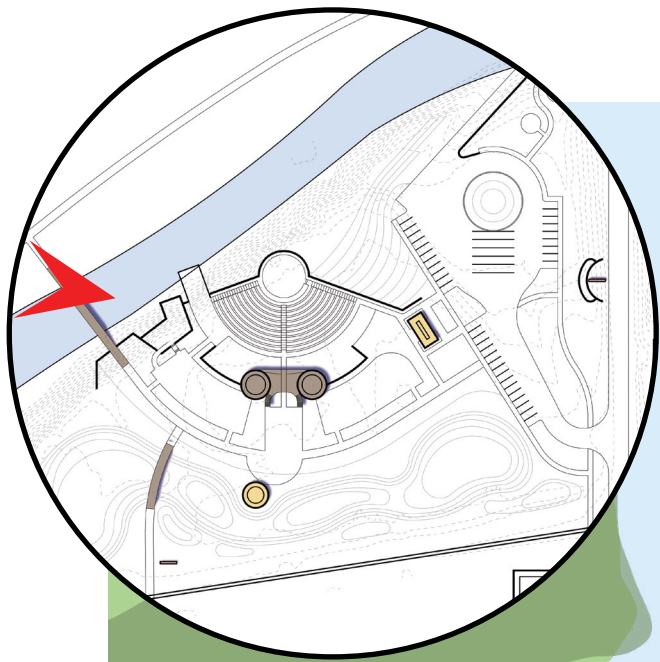


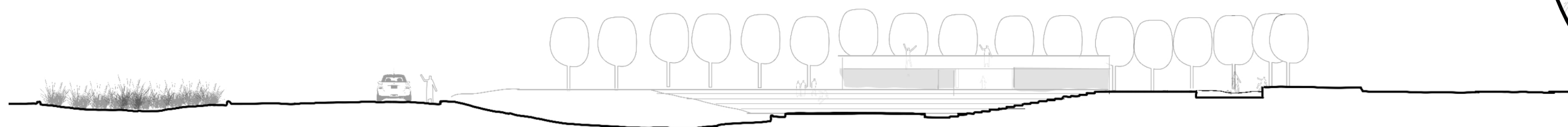
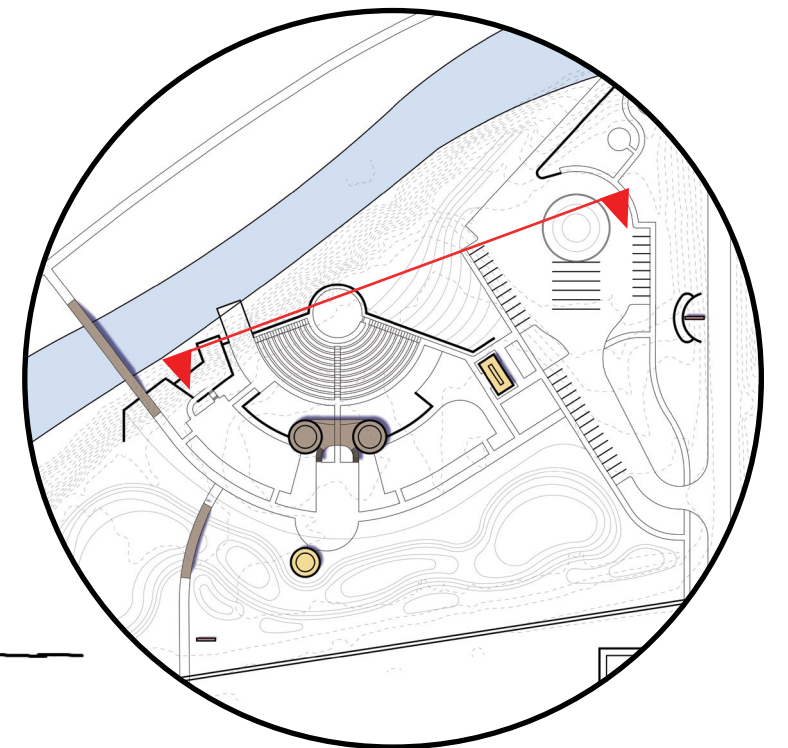
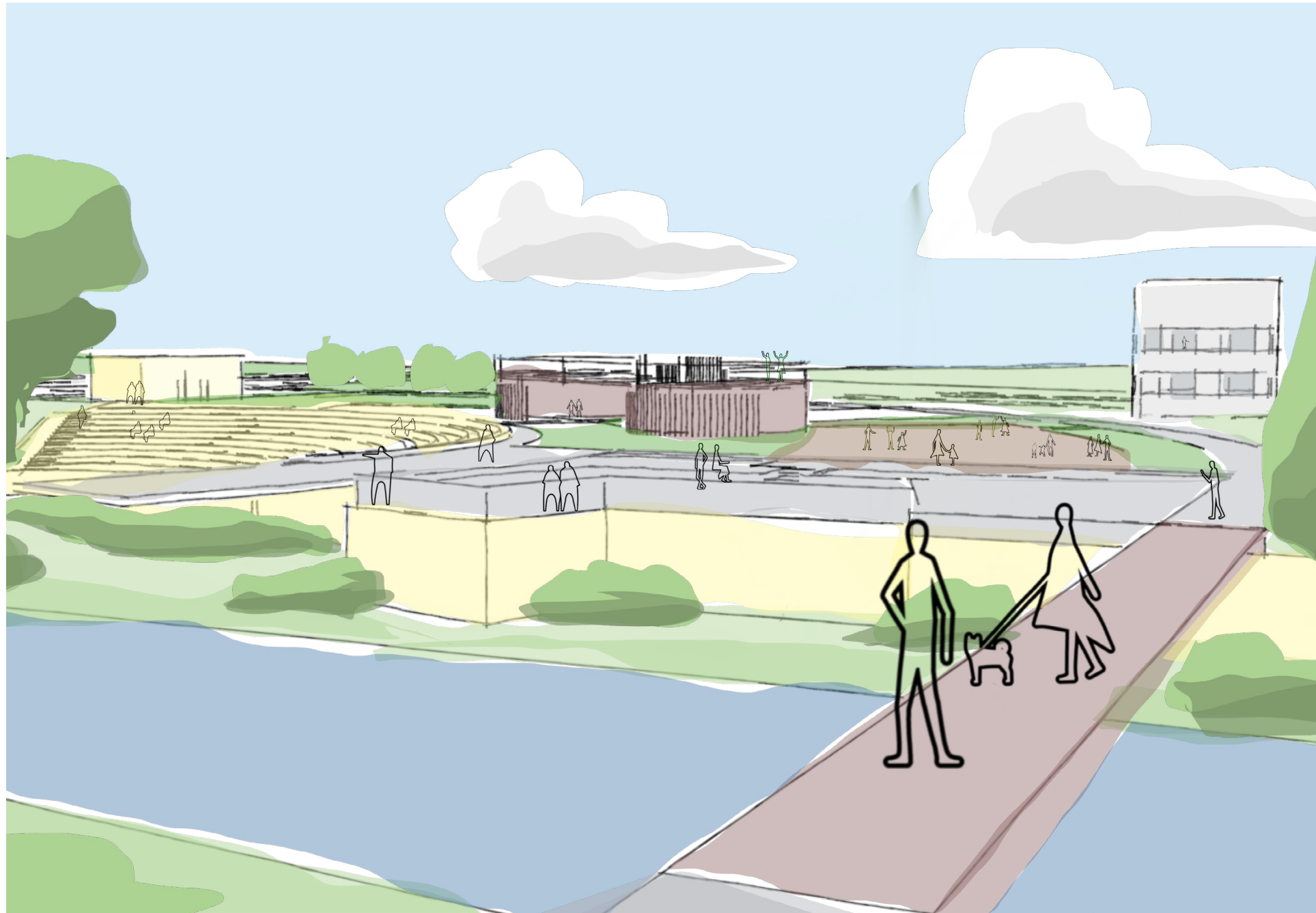


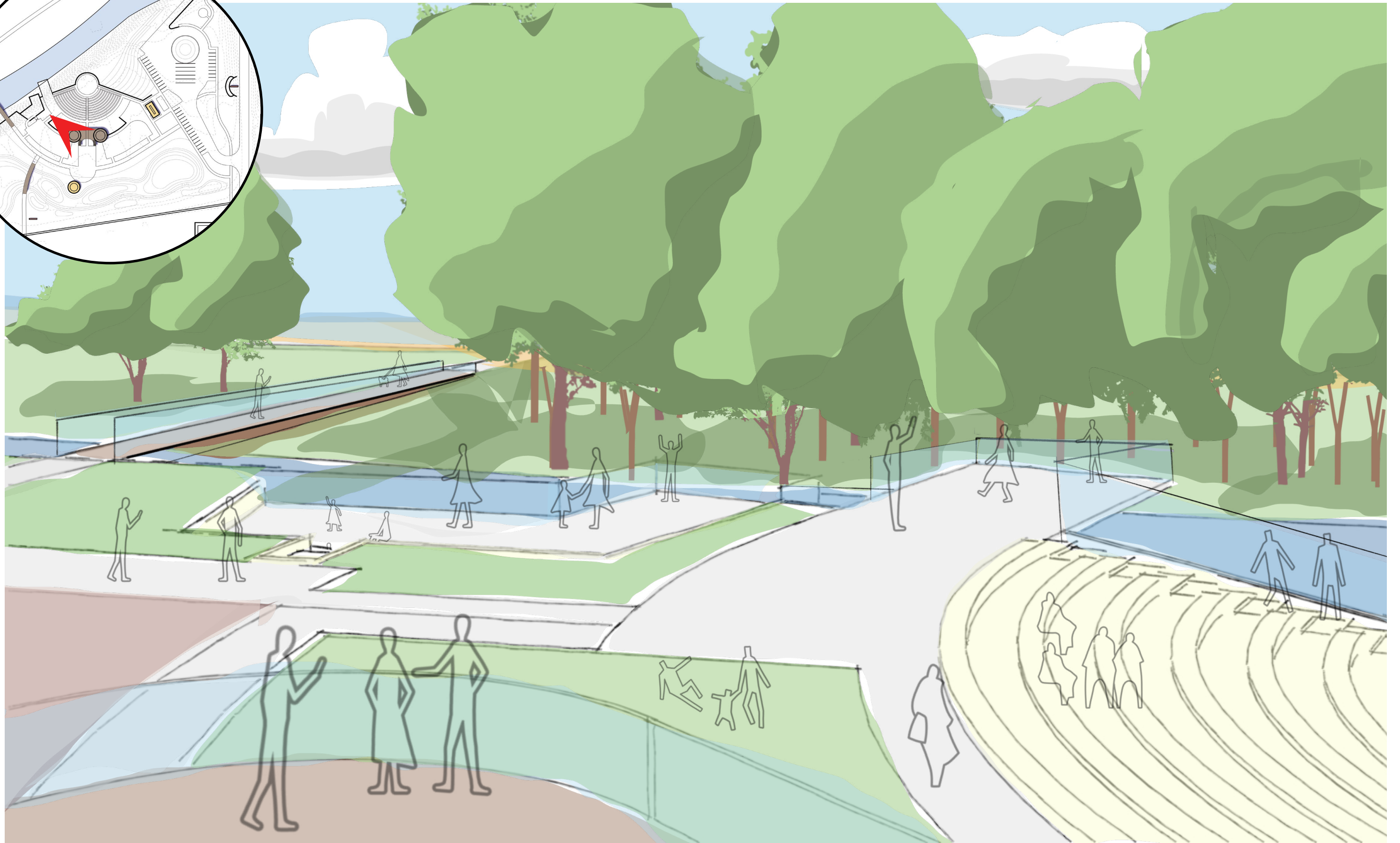
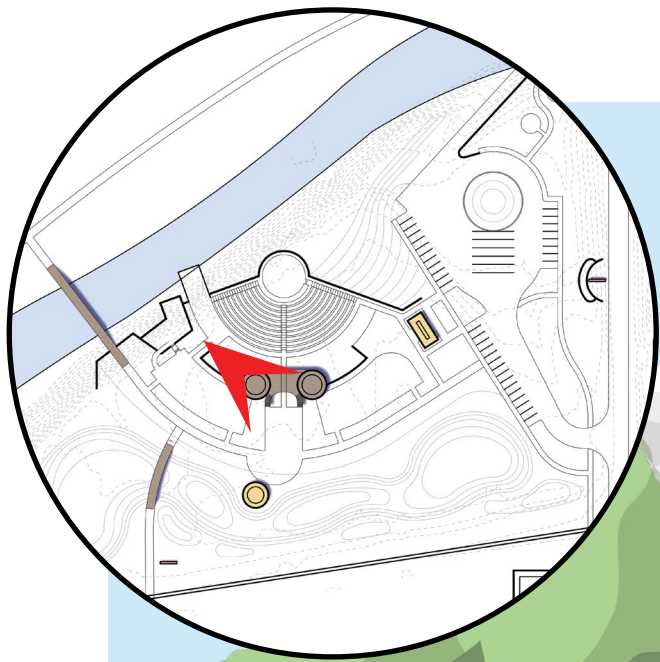


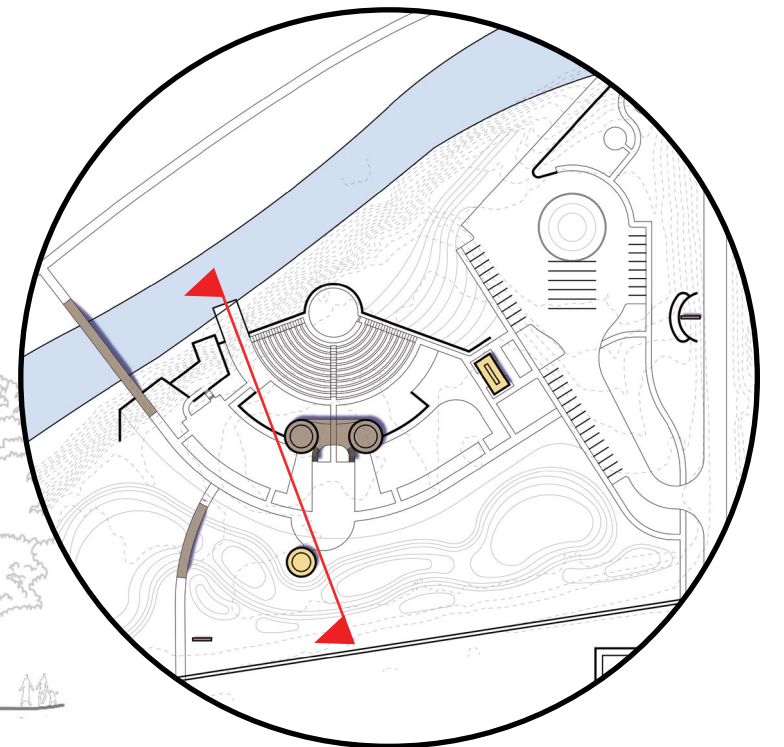
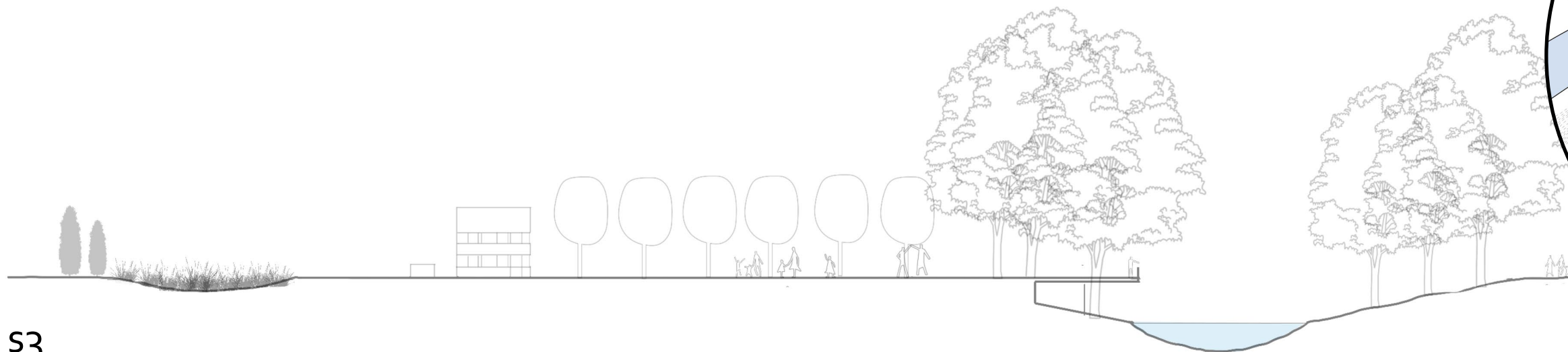
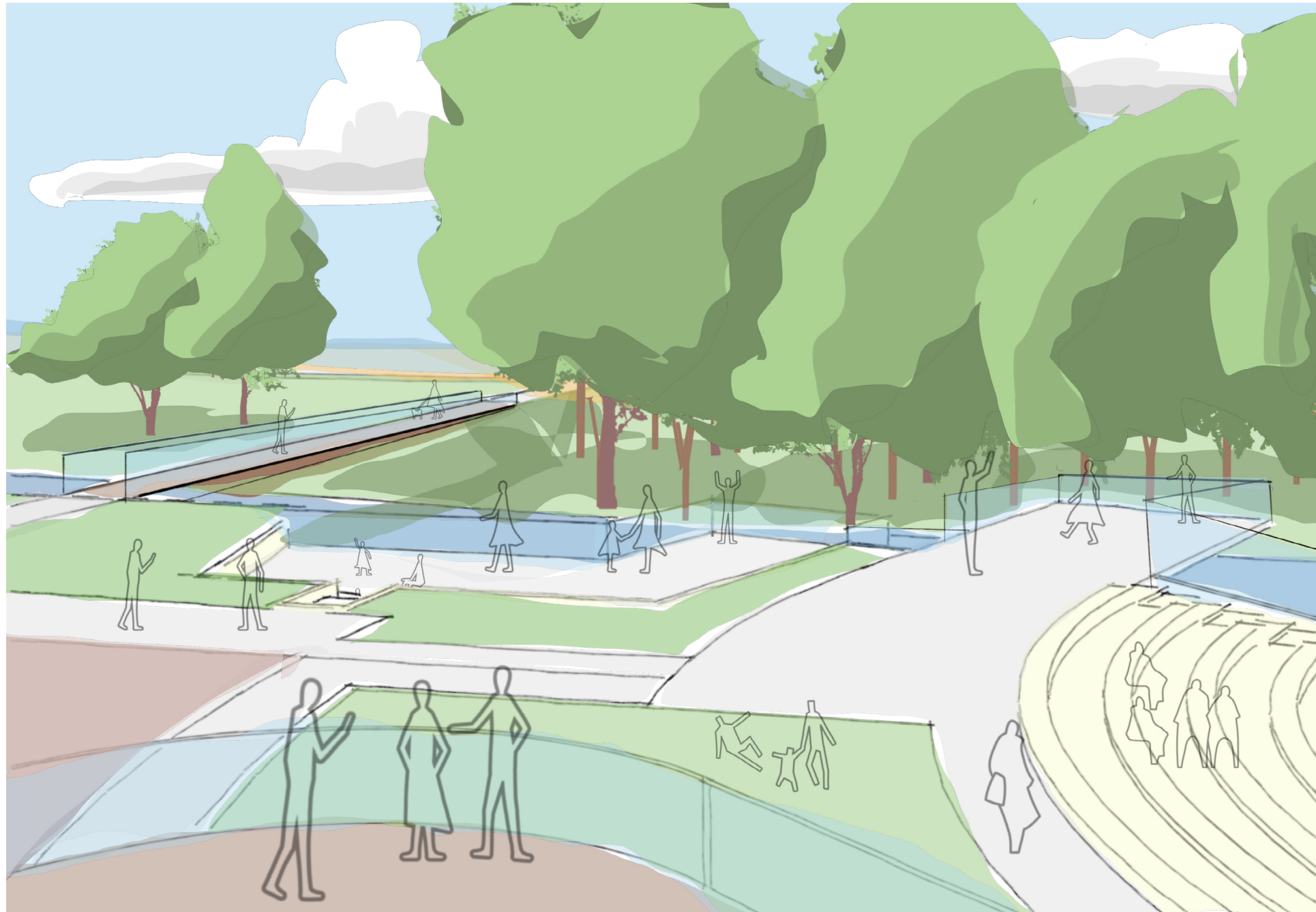


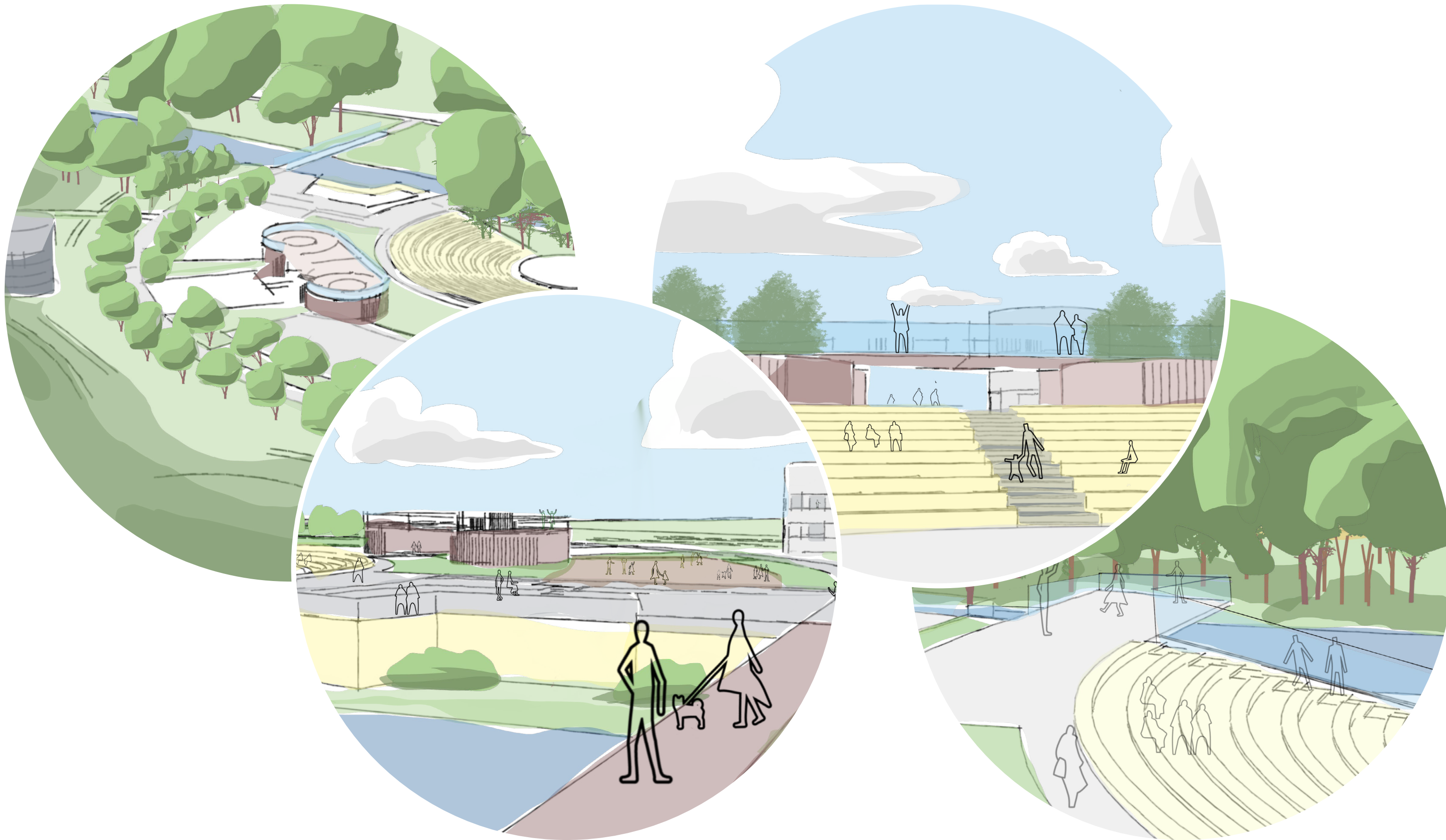
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Thank You!