

2024

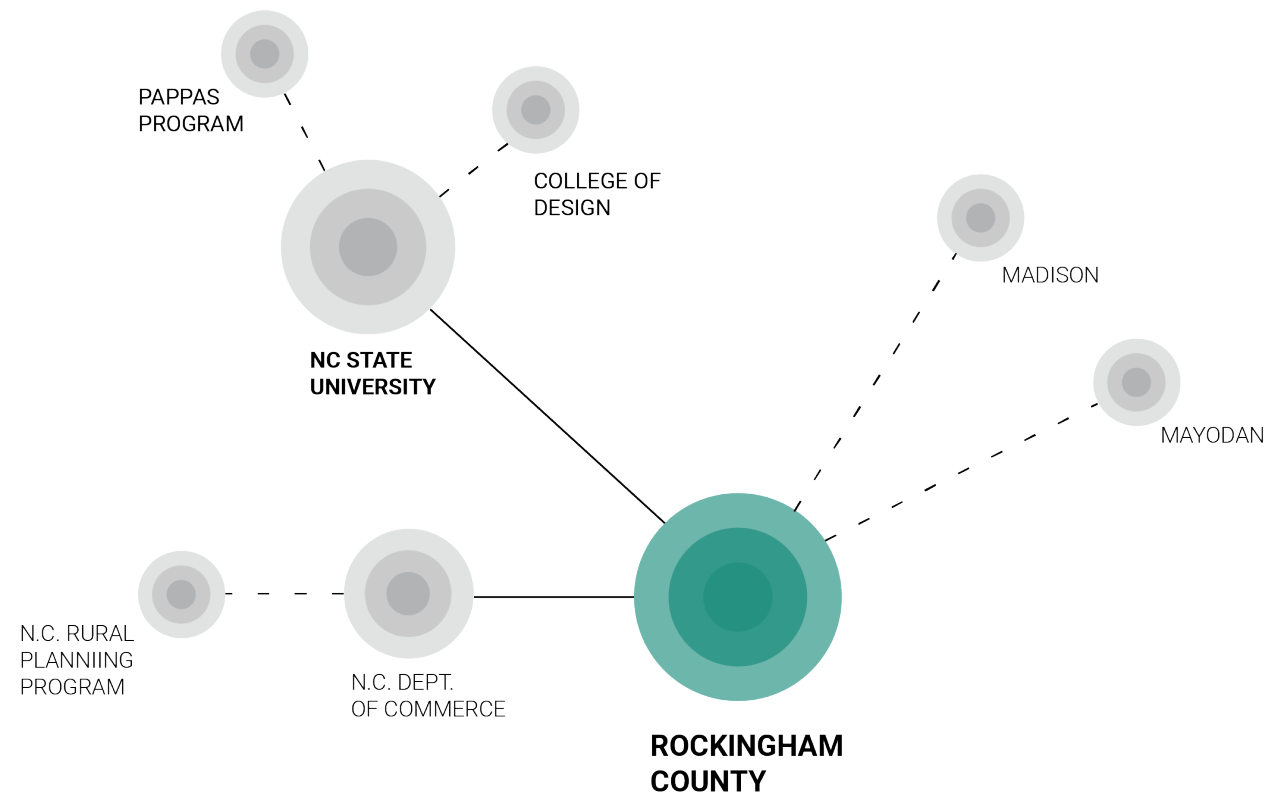
CREATING OUTDOOR RECREATION ECONOMIES
DESIGN STUDY

Mayodan, NC



Pappas Real Estate
Development Program

The Pappas Real Estate Development Program and faculty and students from the College of Design at North Carolina State University, in partnership with the North Carolina Department of Commerce's Rural Economic Development Division (REDD), is supporting communities participating in REDD's Creating Outdoor Recreation Economies (CORE) program. NC State's CORE team is focused on advancing CORE planning initiatives through design and planning expertise. Our goal is to collaborate with CORE communities to develop a clear and inspired path forward while fostering a shared understanding of how to achieve CORE plan goals. This report is the culmination of the team's efforts with Town and County leadership.



CORE TEAM

Pappas Program Team



Adam Walters, PLA, ASLA,
ISA Certified Arborist
Associate Director

Co-principal Investigator



Elizabeth Gabriel, MFA
Design Lead

College of Design



Carla Delcambre, PLA, ASLA
Associate Professor of
Landscape Architecture and
Environmental Planning

Principal Investigator



Jules Mainor, MLA
Research Associate



**Andrea Padilla
Guerrero**, MLA
Research Associate



Jordan Wells,
M.ARCH
Research Associate



Pappas Real Estate
Development Program



**NC DEPARTMENT
of COMMERCE**
RURAL ECONOMIC
DEVELOPMENT

©2024 All Rights Reserved

A Pappas Real Estate Development Program Publication

Printed in the USA

Contents

7 Scope of Work

8 Regional Analysis

Hydrology & Ecology (pg.8)

Recreational Projections & Demographics (pg.10)

12 System Analysis

Site Hydrology & Ecology (pg.12)

19 Concept Development

Master Plan Concept (pg.15)

Recreation Implementation (pg.16)

Nature-based Design (pg.17)

Gateway to Mayodan (pg.19)

20 Recommendations and Conclusions

Summary (pg.20)

Funding (pg.20)



SCOPE OF WORK

SCOPE OF WORK

Mayodan, a town nestled atop a promontory overlooking the Mayo River, presents a curious paradox. Though physically proximate, 850ft from Town center to riverbank, the town remains disconnected from the river's edge due to barriers such as the railroad, the Refuge + First Baptist Church properties, and significant topography.

The NC Commerce Department's CORE program aims to address this challenge by fostering sustainable outdoor recreation economies. NC State's CORE design support team is tasked with visualizing the implementation of CORE strategies and action items within these communities. Our goal is to inform, inspire, and support fundraising efforts by providing tangible examples of how these strategies can be brought to life.

A key opportunity presented during the Study Team's site visits was the historic site of the Washington Mills Textile Plant, a federally recognized historic place. This site, once home to a four-story mill building, offers a unique vantage point:

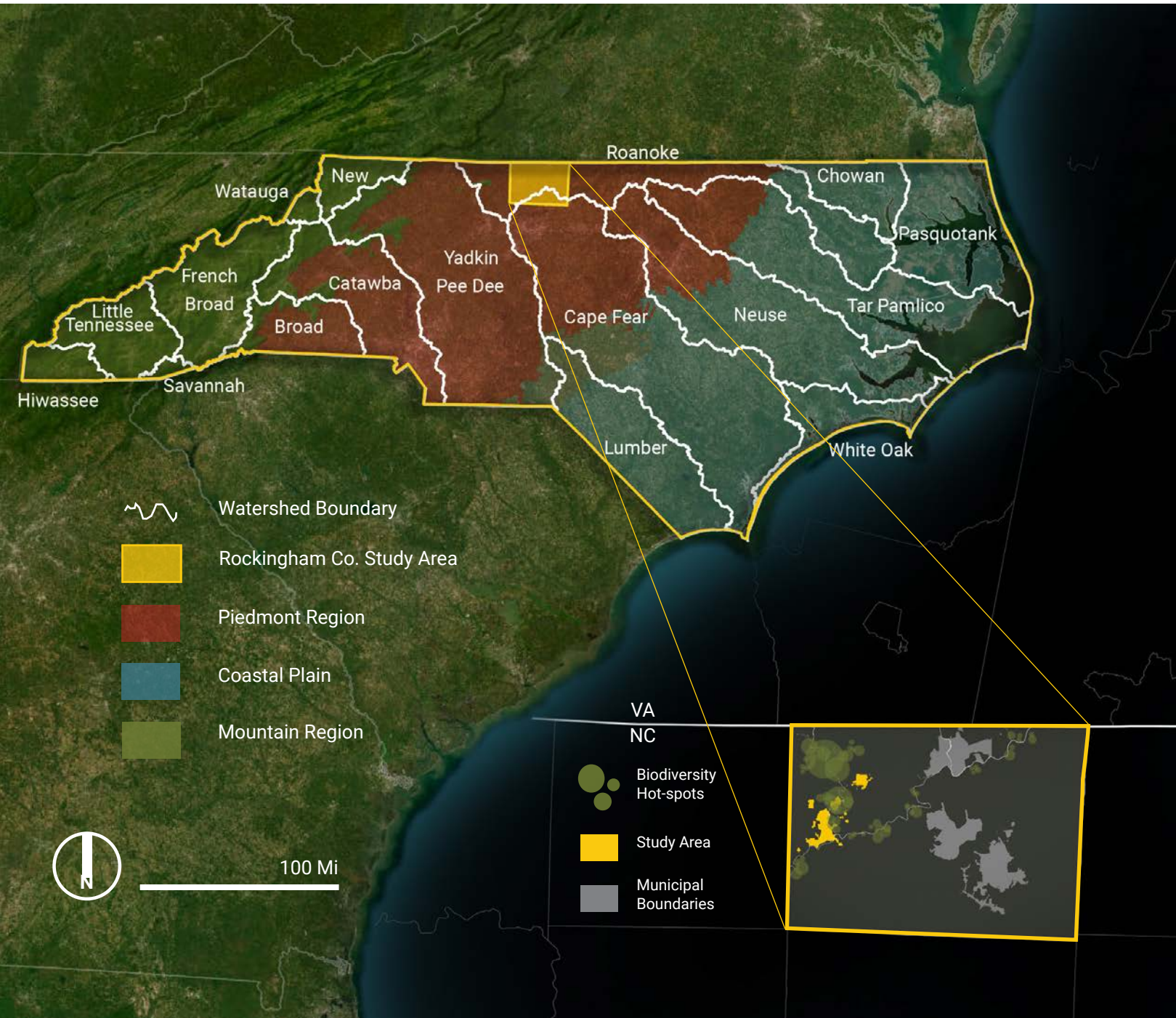
- 1) Its location on the river-side of the railroad provides direct access to the water's edge.
- 2) Positioned at a major gateway to Mayodan, the site offers high visibility and accessibility, presenting a chance to reconnect the town's residents and visitors to the river.

In an effort to highlight and elevate this opportunity, the NC State CORE study team has developed a site design that honors local and regional character while incorporating placemaking and activation elements to enhance quality of life, social cohesion, healthy habits, and economic vitality. Our vision is to create a beloved destination that inspires pride among locals and admiration from visitors.

Like many rural North Carolina towns, Mayodan has faced challenges in defining its purpose post-tobacco and textile eras. The proposed redevelopment of the Washington Mills site represents a pivotal moment, offering the opportunity to foster a stronger sense of community, reconnect with the river, attract new residents and visitors, and revitalize the town's economy.

By embracing this opportunity, Mayodan can embark on a new chapter, becoming a thriving community where people are connected to each other and the river.

ECOREGIONS, WATERSHEDS, AND BIODIVERSITY HOT SPOTS



NORTHERN PIEDMONT

Regional Context

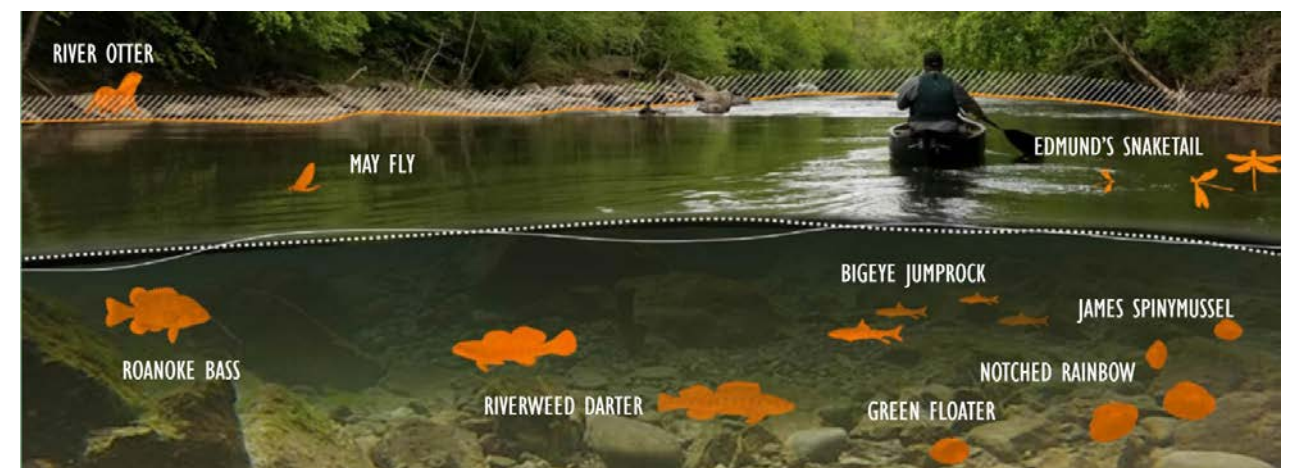
Rockingham County is situated in the Piedmont region of North Carolina, a landscape characterized by rolling hills and significant hydrological networks. This region hosts three of North Carolina's major river basins: the Cape Fear, Roanoke, and Yadkin-Pee Dee. Within Rockingham County, four major rivers—the Mayo, Smith, Dan, and Haw—serve as key ecological and hydrological resources. Notably, the Mayo, Smith, and Dan rivers drain into the Roanoke River Basin, which is further subdivided into the upper and lower Dan River sub-basins. Classified under WS-IV water supply standards, these rivers flow through moderately to highly developed areas, making them vulnerable to ecological degradation from human activities.

The region's shallow, broad waterways—fed by clean mountain tributaries—historically attracted industries such as milling and tobacco production. The demand for energy to sustain these industries led to the construction of hydroelectric plants and dams along the Mayo and Dan Rivers. While these developments supported local economies and communities, they significantly disrupted the rivers' ecological functions, fragmenting wildlife habitats

and altering natural flow patterns.

Despite these challenges, the Mayo and Dan Rivers continue to support rich and critical ecosystems, meandering through areas of relatively undisturbed wilderness. The Natural Heritage Inventories have identified 19 unique natural areas within this region, recognized for their ecological significance at regional, state, and national levels (Piedmont Land Conservancy). These lands constitute a biodiversity hot-spot, harboring numerous endangered and threatened species. Among these is the Roanoke Logperch, a fish endemic to the Roanoke watershed, which was recently delisted from the Federal Endangered and Threatened Wildlife list due to successful dam removal and river restoration efforts.

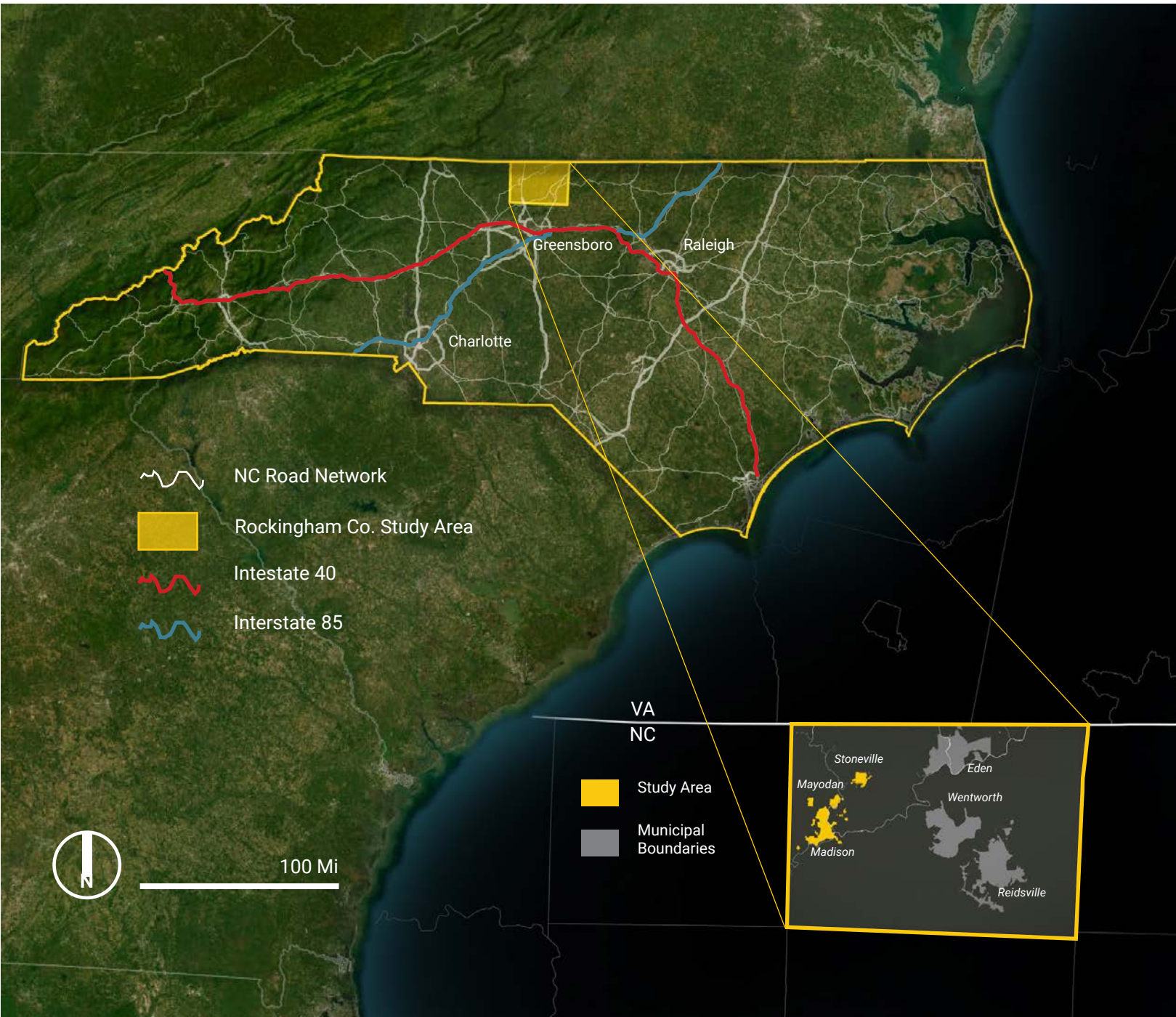
Although ongoing conservation initiatives aim to preserve the natural beauty and ecological integrity of the region, increasing development along the river corridors poses a persistent threat. Maintaining a balance between growth and ecological stewardship is essential to safeguarding these invaluable natural resources.



Threatened and endangered species within the Dan and Mayo River network.

Image Credit: Timmons Group, Mayo River State Park Master Plan

POPULATION PROJECTIONS, RECREATION STATISTICS, AND TRANSPORTATION CORRIDORS



RECREATIONAL PROJECTIONS

Regional Context

Rockingham County is situated in a centralized location with near proximity to two major interstates and one of North Carolina's largest cities. North Carolina's population is expected to grow 21.5% over the next 20 years, yet Rockingham County is currently seeing a population decrease and a very small increase of 0.88% in the next 20 years (Rockingham Vision 2040 Land-use Plan, 2021). Along with the exodus of residents, much of the population is above 65 years old and is expected to grow 240% by 2050. However, since COVID, Rockingham county has seen a drastic increase in visitations and revenue generated from tourism. Overall visitor spending across multiple sectors (food and beverage, transportation, lodging, recreation, and retail) increased 13.2% from 2021 to 2022, coming in as the 22nd fastest-growing tourism revenue in the state of North Carolina

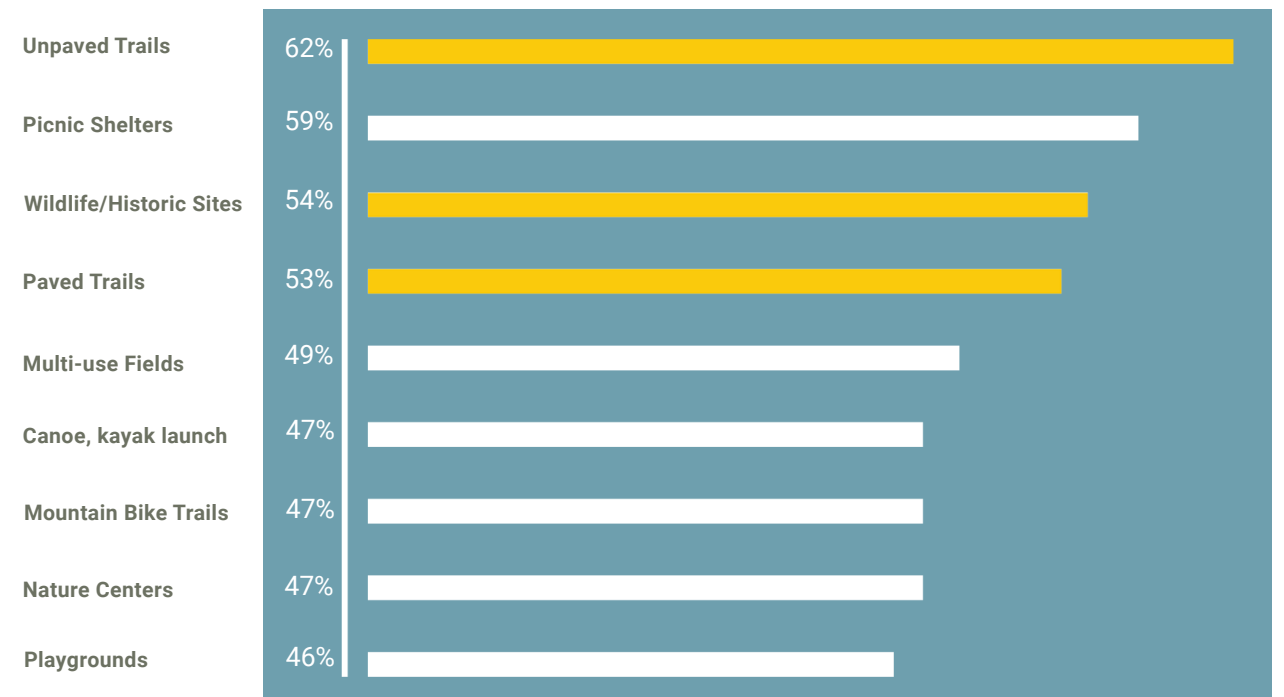
(Rockingham Update, 2023). There is a need for updated mechanisms to increase visitation times to Rockingham County regarding tourism and recreational ventures.

Within the 2040 Vision Plan for Rockingham County, one of the main guiding principals is "Natural Resource Conservation & enhanced Public Access," where one of the main priorities is to "invest in outdoor recreation infrastructure and improve public access to the county's rivers and protected natural areas to improve quality of life and attract visitor." Therefore, prioritizing the creation of destination areas, enhancing visitor experiences, perpetuating resilient community amenities, and preservation of natural resources is imperative within the study area.

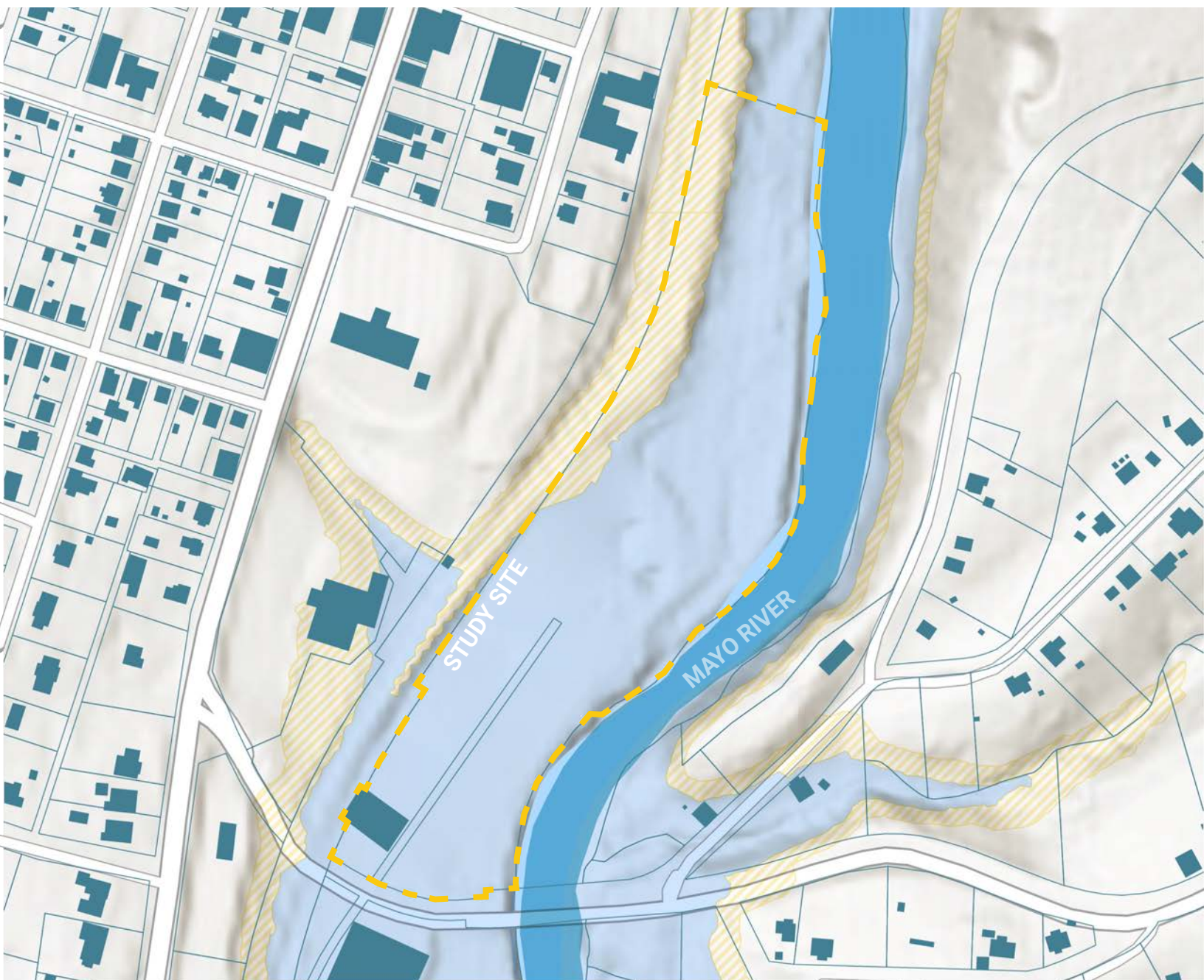
Recreational Assets:

Priorities and Types of Facilities

Most Popular Outdoor Recreational Activities

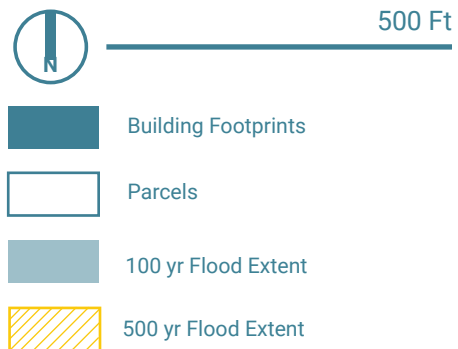


SITE SYSTEMS ANALYSIS



Site Hydrology

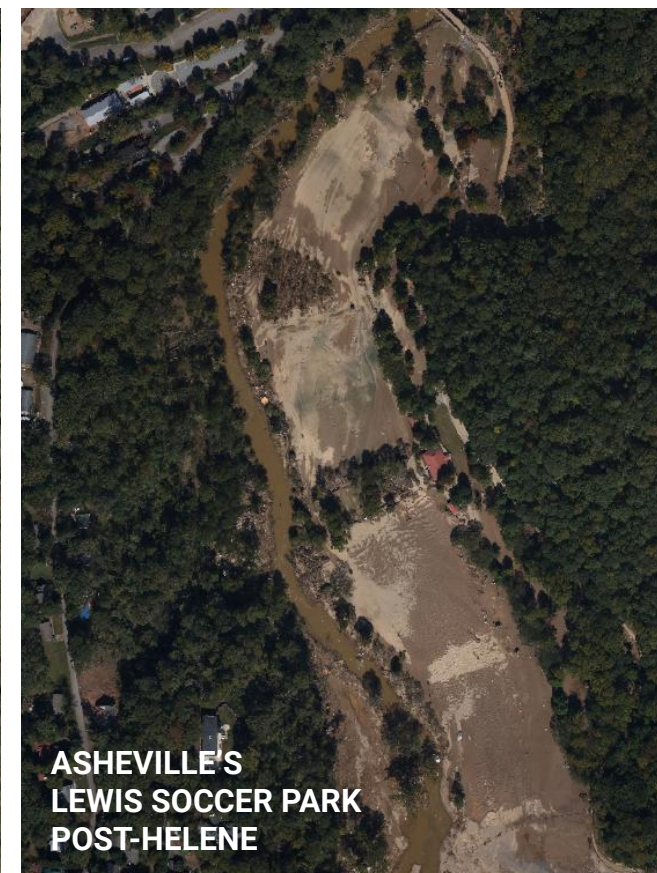
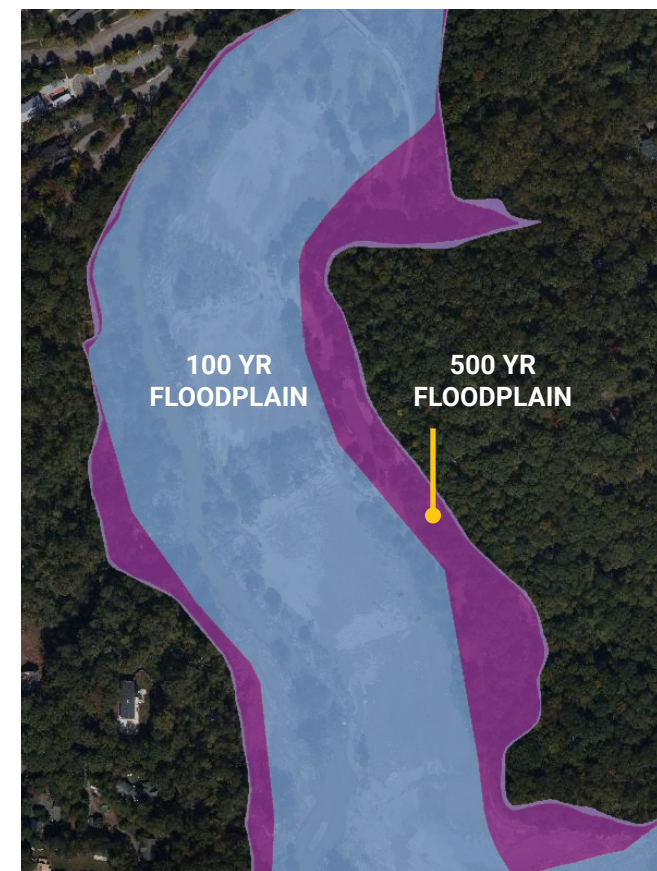
Possibly the most substantial and complex site condition is that more than 90% of the property is within the 100 year floodplain and all is within the 500 yr floodplain. This means that this site will flood substantially and will most certainly include powerful lateral water-flow within the lifetime of any proposed structures.



This site condition drives our design ideation toward resilient landscapes and structures. Buildings and other structures will need to be designed to be above BFE +2 or more and be resistant to flood damage and intrusion. Flatwork and hardscaped areas should be minimized or elevated to reduce the likelihood of damage.

An example of a similar site and use in Asheville illustrates the impacts to an active recreation park located in the 100 year floodplain of a similar sized river.

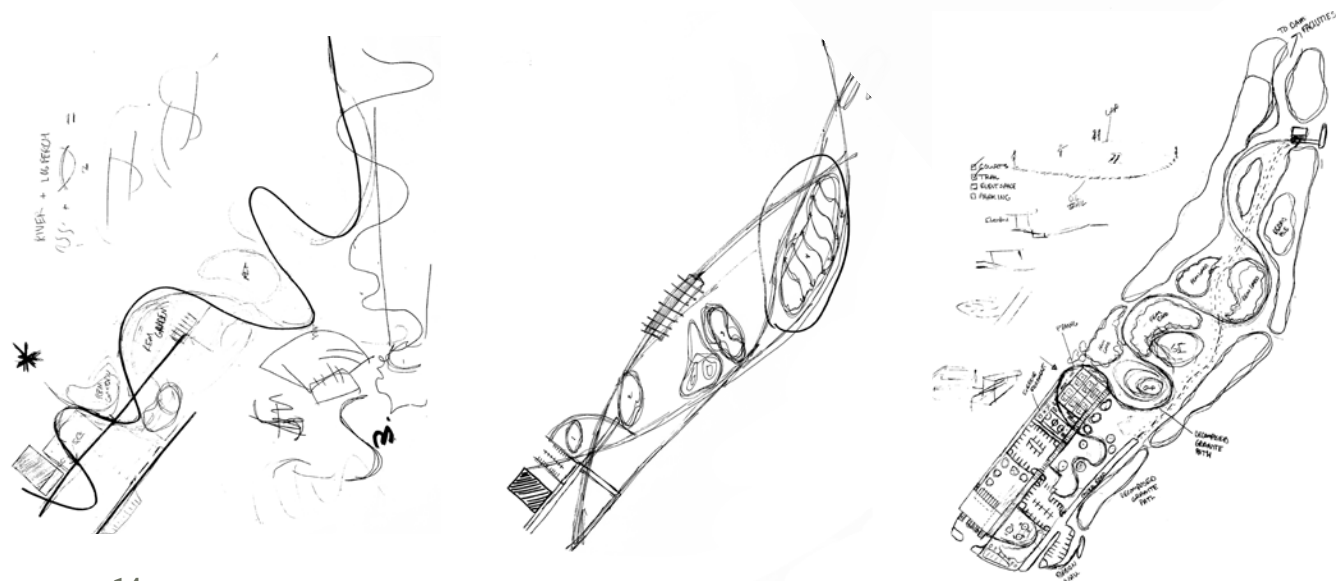
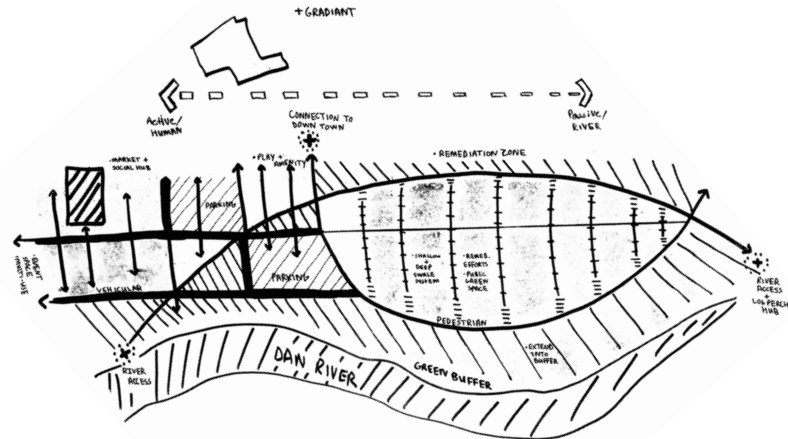
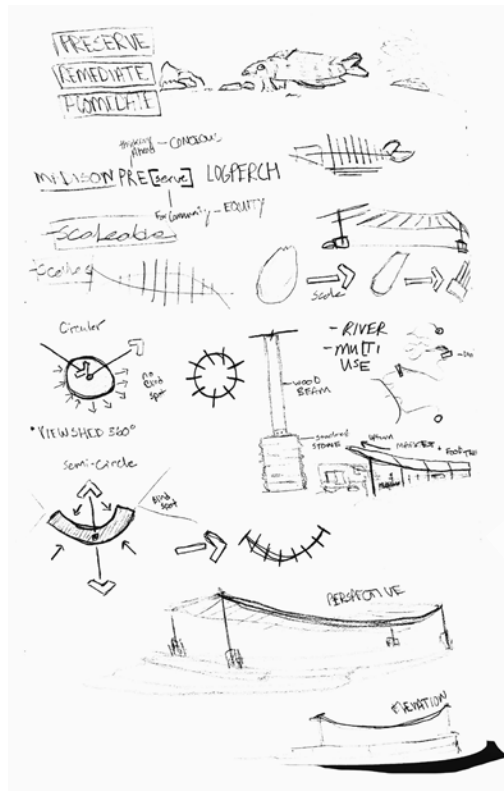
In many ways, parks are great ways to program and activate floodplain areas when properly designed. The Town of Mayodan should consider funding strategies and planning that includes 'rainy day' funds for flood repair when considering developing a park or other elements within a floodplain.



CONCEPT DEVELOPMENT

The concept is set up into four zones; Celebrate, Activate, Remediate, and Preserve, with the zones overlapping and blending together for maximum efficiency of space. A series of Ideation studies shows where circulation, programing, and remediation efforts are best fit. Playing off of the

existing reminiscence of the old mill, elements throughout the park tell the story of historic degradation and shift the narrative to one of celebrating natural resources and environmental stewardship.



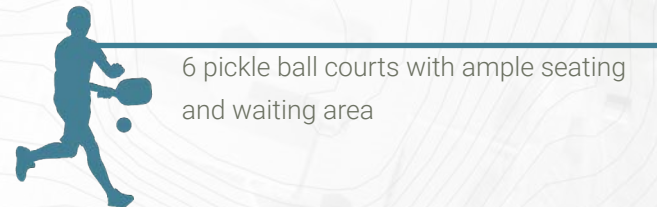
CONCEPTUAL MASTER PLAN

- 1 Re-purposed Building
- 2 Multi-use Stage
- 3 Amphitheater Plaza
- 4 Gateway Plaza
- 5 Public Parking
- 6 Historic Brick Promenade
- 7 Gateway Garden Plantings
- 8 Main Lawn
- 9 Multi-use Decomposed Granite Path
- 10 Public River Access
- 11 Basketball Seating Area
- 12 Basketball Courts
- 13 Play/Workout Area
- 14 Pickleball Seating Area
- 15 Pickleball Courts
- 16 Mounded PCB Cap
- 17 Remediation Meadows
- 18 Constructed Wetlands
- 19 Low Impact Boardwalk
- 20 Ridge line Trail
- 21 River Overlook Boardwalk
- 22 MAD River Tubing River Access



Recreational Opportunities and Activation Strategies

Meeting the needs of the community members by creating spaces for diverse programming of the site. Approximate metrics for designed amenities. Focusing on developing a resilient programmable space, with diversity in outdoor recreational sports, gatherings, and environmental/historic education.



6 pickle ball courts with ample seating and waiting area



Two new river access points. One public and another semi-public dedicated to MAD River Tubing



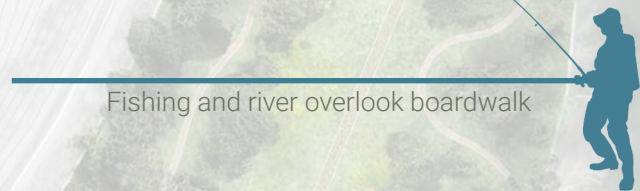
Added approximately 2,812 linear feet of walking and running trails



Added approximately 38,500 sq ft of seating and plaza space



Incorporated 64 regular parking spaces and three handicap parking spaces



Fishing and river overlook boardwalk



Full length basketball court with seating area



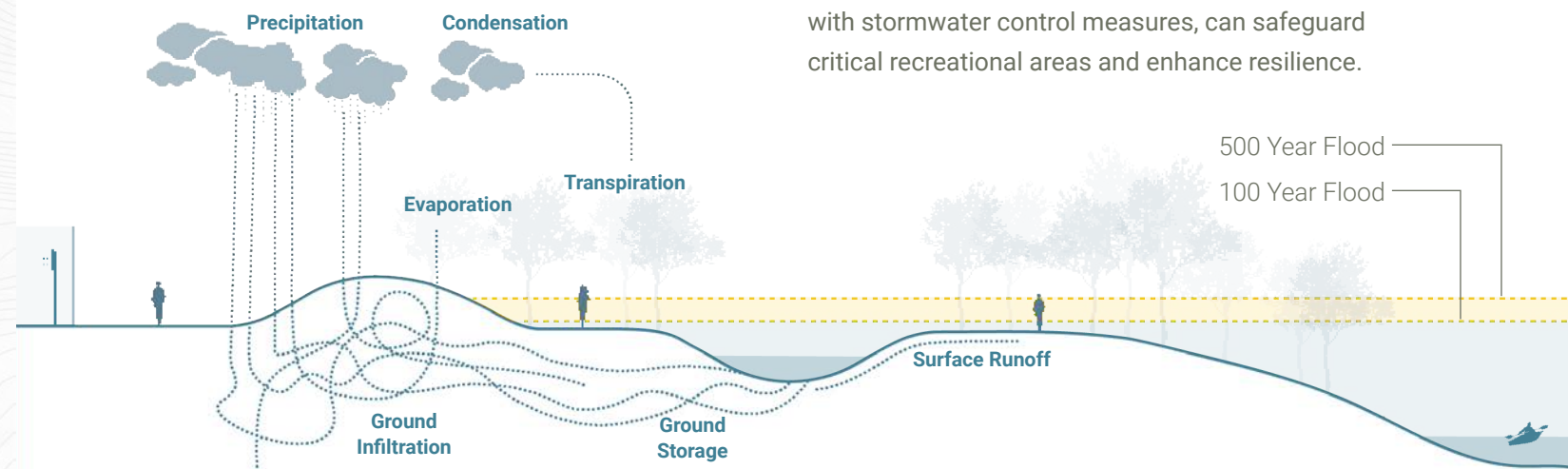
Added an 18,000 sq ft event space/ amphitheater plaza



Nature Based Design

To establish a resilient cornerstone park, nature-based solutions such as constructed wetlands and strategic earthwork are employed to harmonize ecological function with community needs. Recreational infrastructure elevated above the

floodplain, while green stormwater management systems are integrated to capture, filter, and infiltrate excess water and pollutants. Addressing the challenges of increased erosion and intensified storm events, these interventions aim to protect the natural beauty and cultural heritage of the Mayo and Dan Rivers. The conceptual section below illustrates how flood-able park spaces, combined with stormwater control measures, can safeguard critical recreational areas and enhance resilience.



CONCEPT DEVELOPMENT

Gateway to Mayodan

An advantageous location located off of Highway 135, this park is envisioned as a prominent gateway to Mayodan, offering a vibrant hub of activity. The main entrance serves as the focal point, featuring diverse programming spaces such as an open-air market with a back porch stage,

large event plaza, sports courts, wildflower gardens, parking, trails, and river access. A reclaimed brick pedestrian promenade, aligned with the historic main corridor of the mill, forms the central axis, seamlessly connecting visitors to various recreational amenities. The conceptual design emphasizes flexibility, accommodating potential future additions like a splash pad, playground, food

CONCEPT DEVELOPMENT

truck plaza, and fitness stations, ensuring the park evolves with the community needs. This critical zone of the design has the opportunity to show off Mayodan's sense of place, and be a destination for visitors and community members alike.



Re-purposed Building

Large Event Plaza

Pickle Ball Courts

Basketball Courts

Gateway Plaza

Main lawn + Trails

Historic Brick Promenade

RECOMMENDATIONS & CONCLUSIONS

Adapt the Washington Mills Site as a Functional Gateway to Mayodan

- Preserve its historical legacy while implementing modern adaptive reuse facilities.
- Install multiple sports courts and trail amenities to connect the community to the Mayo River.
- Develop a larger events plaza that can hold festivals and other community events.

Foster a Regenerative landscape through Biophilic design

- Repurposed salvaged construction materials from the mill redevelopment as park features
- Promote biodiversity and site ecological health through planting design.

Implement Floodplain-Resilient Features

- Construct wetlands, raingardens, and systems that can handle overflow from the Mayo River during extreme weather events.
- Elevate sports courts and other recreation facilities out of the flood plain, while developing floodable programming in lower areas of the site such as trails and boardwalks.

Funding

Although the NC State CORE team is primarily tasked with design assistance, we offer a few select programs for potential project funding. The NC Department of Commerce CORE program staff is a resource for further funding sources and assistance formulating grant proposals.

- [Hometown Strong Rural Grants Program](#): A database with useful links and other resources for completing infrastructure based projects
- [Urban Heat Island Effect Solutions and Funding](#): A North Carolina based resource guide for evaluating urban heat island and acquiring funding.
- [Nature-based Solutions Funding Database](#): national Wildlife Federation's databased for all funding opportunities and tools associated with constructing nature-based infrastructure on a community scale.





Pappas Real Estate
Development Program