

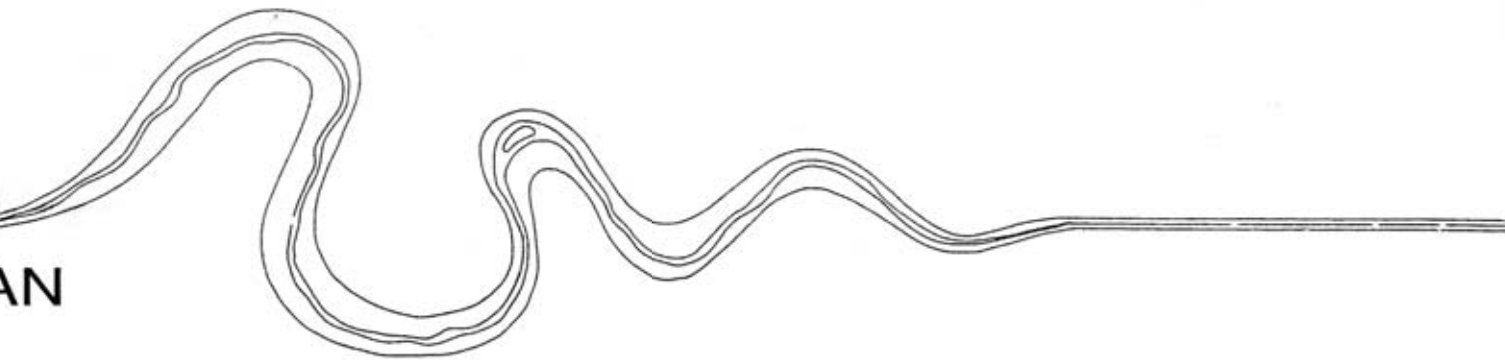
# City of Raleigh



# NEUSE RIVER

## REGIONAL PARK MASTER PLAN

Spring 1996



**Neuse River Corridor  
Comprehensive Recreation Master Plan  
and  
Anderson Point Park & Milburnie Park  
Master Plan Development**

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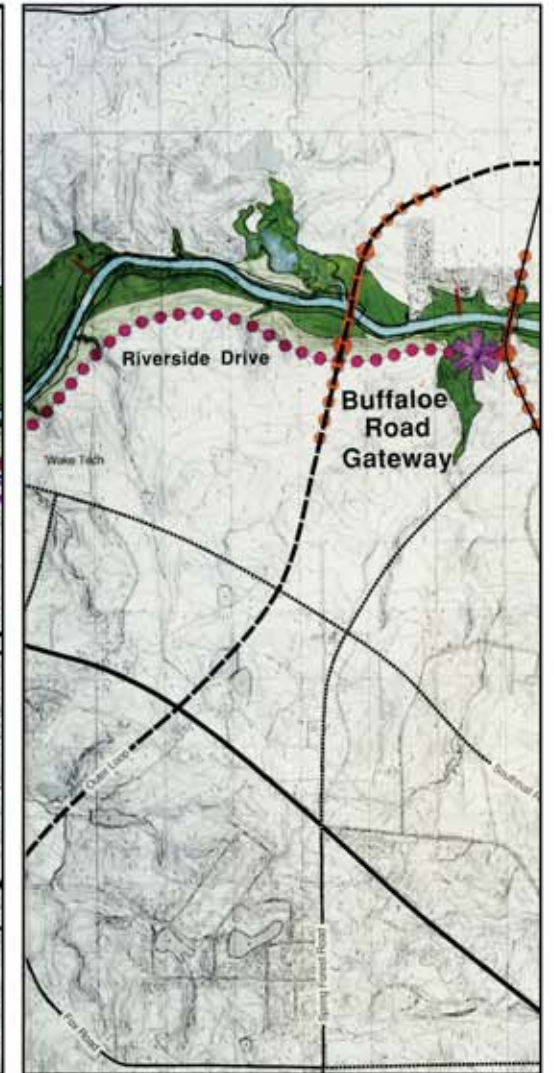
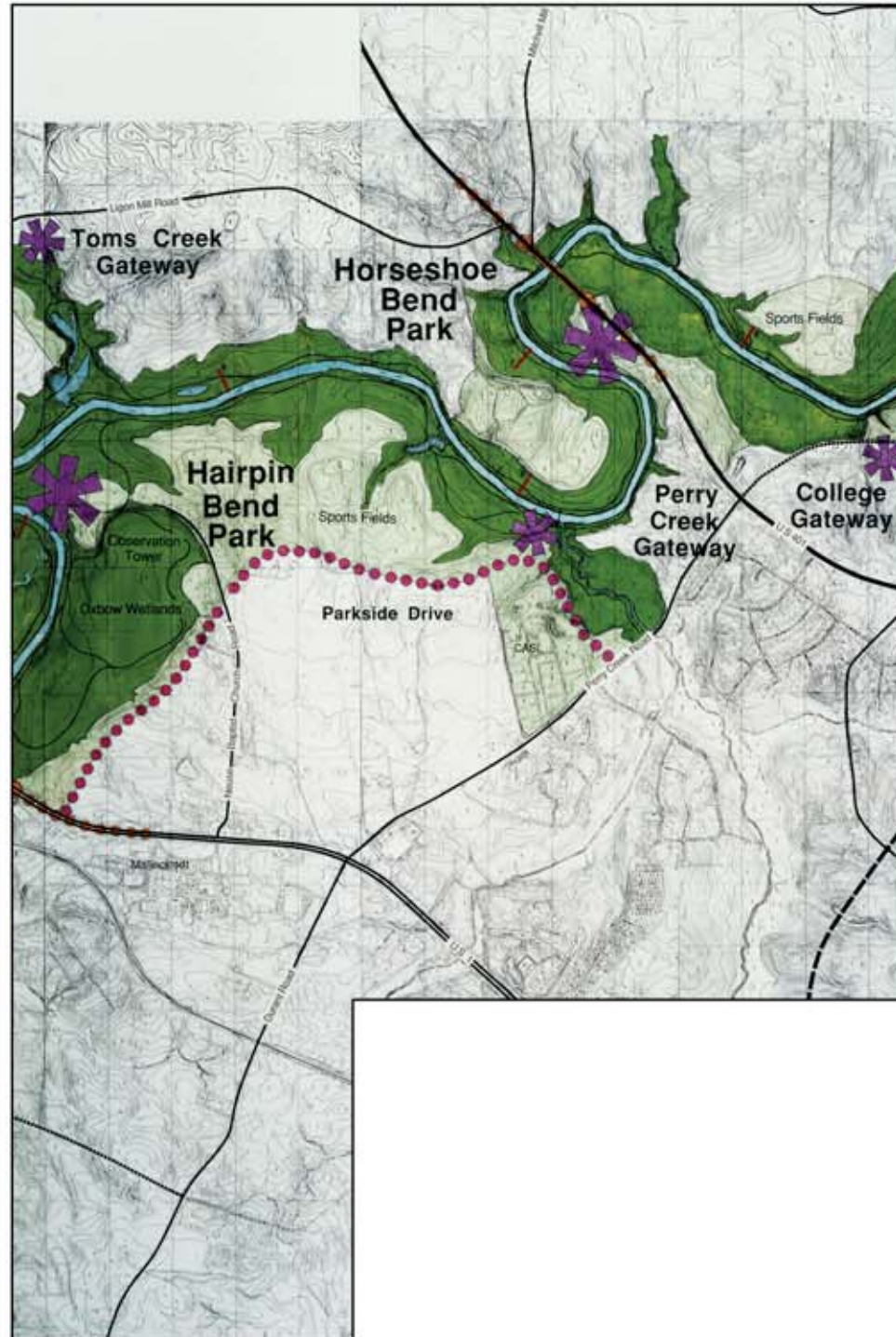
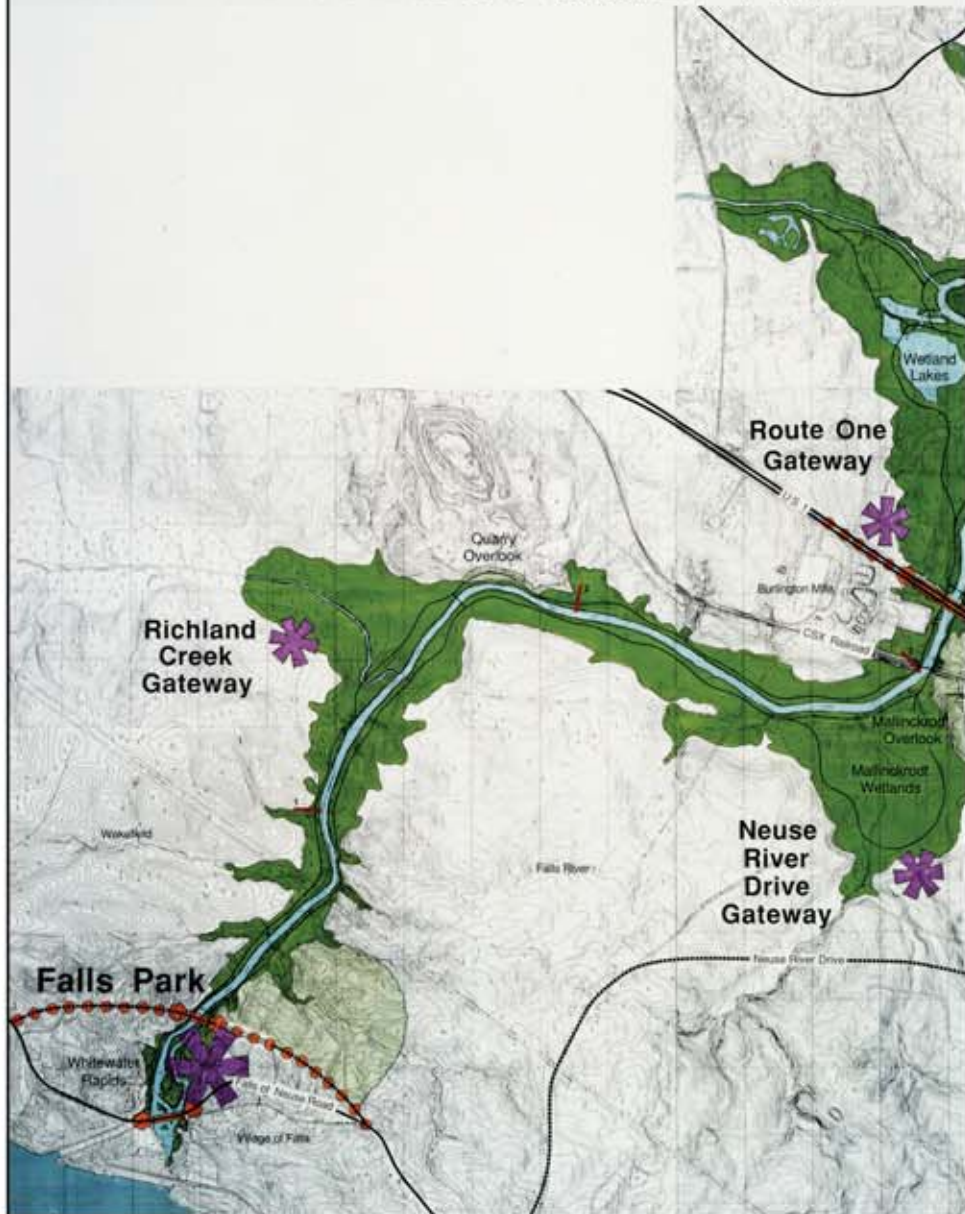
## **Executive Summary**





# NEUSE RIVER

## RECREATION CORRIDOR MASTER PLAN







## **Executive Summary**

The initial objectives set forth by the City of Raleigh are to develop a comprehensive recreation master plan for an eighteen mile stretch of the Neuse River from Falls Lake Dam to Poole Road and detailed master plans for river front parks at Milburnie and Anderson Point. Such plans are intended to guide acquisition of sites for and development of recreational opportunities. The planning process quickly revealed an essential and exciting relationship between recreational opportunity and the river's environmental context. Thus, the primary objective for the whole project is the conservation of the river while incorporating recreational opportunity within the framework of the river's environmental systems.

This framework of environmental systems has two major components: the 100 year flood plain and a sequence of key upland sites along the river. Milburnie and Anderson Point represent two such sites. When linked together, these upland sites and the river's flood plain create a regional-scale park of extraordinary richness and diversity. This park, the Neuse River Regional Park, is a vision that was first anticipated by earlier planning efforts of the City, and is founded on the opportunities now at hand, the capabilities and

interests of the City at large, and the need to conserve and experience the natural beauty of the Neuse River.

The principal components of the Neuse River Regional Park Master Plan consist of the Conceptual Framework, the Corridor Master Plan, the Anderson Point Park Master Plan, and the Milburnie Park Master Plan. The Conceptual Framework identifies general strategies and basic principles for Corridor development, and outlines the broadest spectrum of opportunity. The Corridor Master Plan builds upon the Conceptual Framework to identify a specific strategy for linking flood plain and upland sites into a regional-scale park. It also identifies the specific physical components around which the regional park is structured.

Of these physical components, the critical ones are the Flood Plain, the Neuse River Trail, the Arrival Parks, the Gateways, and Potential Park Land areas (key upland sites). The Flood Plain and the Neuse River Trail are inextricably linked as they wind their way together along the river. The Arrival Parks are destinations in their own right, and two examples are presented in the detailed master plans for Anderson Point Park and Milburnie Park. The Gateways are small parks that provide access to the Neuse River Trail, and the Potential Park Land areas provide complementary

activities that are not appropriate for the flood plain. Each site is considered relative to its relationship to the river and to its potential for upland activity so that amenities and recreational opportunities are offered to a broad range of people.

The Anderson Point and Milburnie Master Plans are ready for immediate implementation, while the Neuse River Regional Park Master Plan is necessarily broader in its outlook and presents more flexible alternatives. It provides a framework for public and private cooperation to incrementally build a regional-scale park of great significance.

This master plan, including all its components, emphasizes the relationship between resource conservation and recreation value. Throughout the planning process a committee of citizens and city staff guided by professional consultants scrutinized specifics as well as principles to strike a balance between active and passive uses, conservation and development. The plan first delineates the areas that require conservation to protect the Neuse River Corridor and then describes how recreation can be accommodated. Next the plan emphasizes the many ways people can enjoy the river; moving along, crossing over, floating down, driving by, or even getting in it. The plan addresses trail systems

for walking and slow recreational cycling as well as parkways and riverside drives accommodating, in addition to vehicles, pedestrians and faster bicycles. It also identifies upland sites where the park can accommodate development for active and organized recreational activities without disrupting the river's environmental systems. In essence, the Regional Park blends all types of recreational activities from bird watching to baseball without conflict, and celebrates the river and the unique pleasures it provides.

In summary, this report presents the opportunities and constraints of the Neuse River Corridor and organizes them into a cohesive vision of the Neuse River Regional Park. In addition it describes in detail plans for two river front Arrival Parks and the short corridor between them. It communicates the intent of the master plan committee and the City of Raleigh staff which is to accelerate a course of action, begun years ago, that will create the eighteen mile long Neuse River Regional Park. This Regional Park represents both a challenge and an opportunity. Its vision reaches to the future but its demands ask much of us in the present. Assembling the pieces identified in this report, one by one, will yield extraordinary rewards in the present and for many generations to come.

**Introduction**



## **Introduction**

### **Project Overview**

The Neuse River Corridor is an exceptional, and vulnerable, resource. For many years, the Neuse rolled virtually unnoticed through the rural fringes of Wake County. This no longer is true. The City of Raleigh's jurisdiction extends to, and in some areas beyond, the Neuse River in response to a rapidly increasing pace of residential development. The towns of Wake Forest and Knightdale also press closer to the river's edge. The river's exposure to development pressures on one hand heightens awareness of the river's exceptional qualities while on the other hand, increases the risk of degrading the river's ecological systems. The Corridor's potential recreational value will rise dramatically as awareness of the river increases. This value can only be sustained through conservation of the river system as a whole.

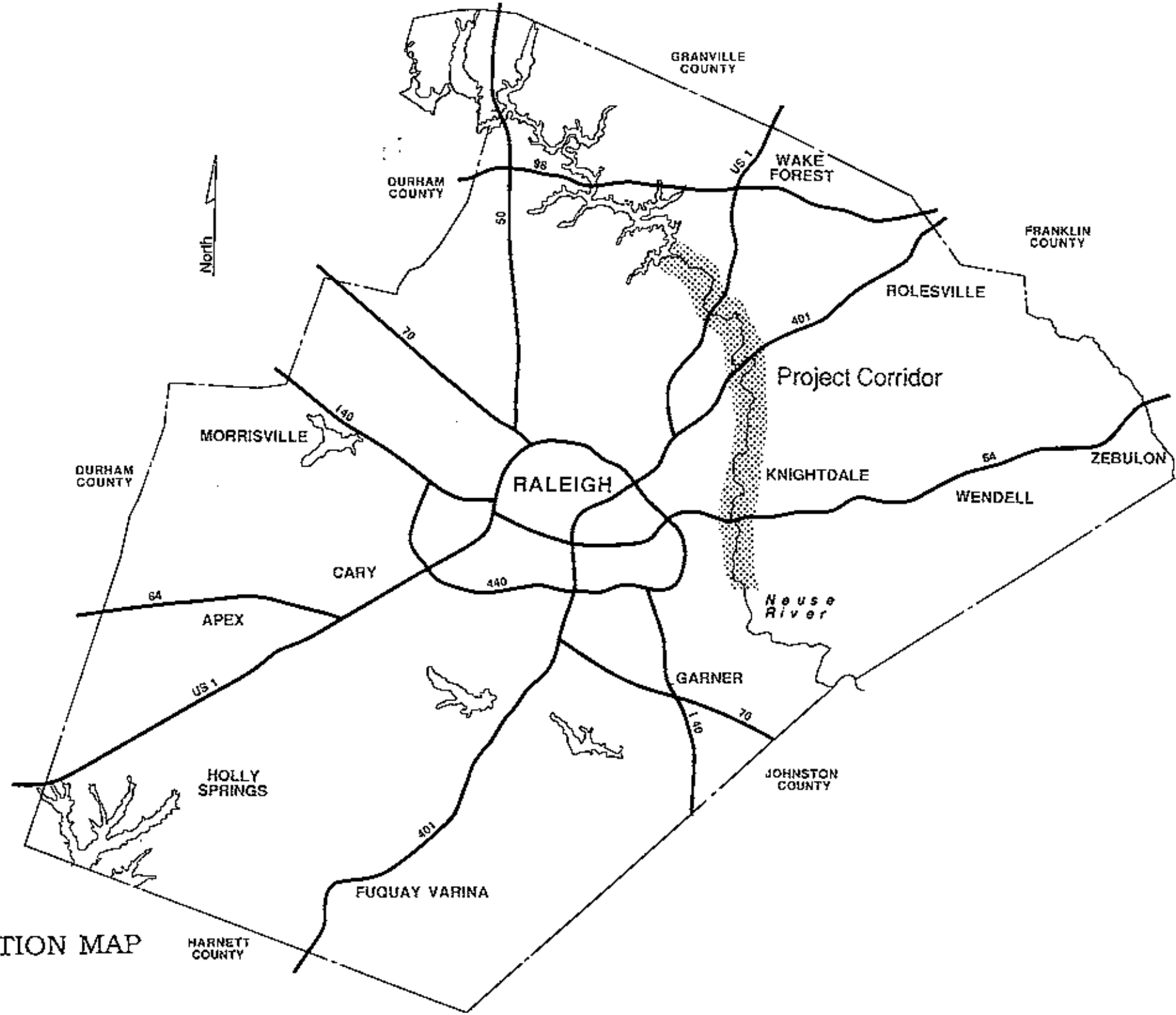
Eastern Raleigh and especially the area along the Neuse River will continue to experience rapid and intense growth over the next five to ten years. Many of the opportunities to preserve

the Neuse Corridor as a regional recreation system will be lost to residential development in the near future. There is, however, a growing awareness, appreciation and demand for recreation in a natural environment. Raleigh residents are accustomed to walking, jogging, bicycling, and observing wildlife on the existing greenway park system in addition to traditional active recreation activities. Essentially, this form of recreation has become an integral part of many people's fitness and quality of life goals.

The City of Raleigh, a national leader in the greenway movement, has long recognized the importance of protecting the water quality, wildlife and vegetation of the Neuse River, as well as the Corridor's potential for recreation. The City's Capital Area Greenway plan, included in the Comprehensive Plan, identifies the Neuse River as a Major Greenway Corridor with a designated width of 150 feet on both sides of the river bank. Recognizing the recreational potential offered by the river, the City of Raleigh has already acquired over 330 acres of park land, including three major sites at Anderson Point Park, Milburnie Park and Horseshoe Farm Park, along with miles of greenway easement and has built three and one-half miles of greenway trail along the Corridor.

The City is now on the threshold of taking another precedent setting step by expanding the Corridor into a Regional Park, as recommended in the Comprehensive Plan. This

LOCATION MAP





park, created by linking the Neuse River Greenway with park land next to the Corridor, will protect the City's major natural resource and create a superb recreational facility for the region. Connections to the City's greenway system will link the river park to much of the City's park system. The park corridor could serve as one leg of a regional Triangle greenway system as well as an important link in the state-wide Mountains-to-Sea Trail. The evolution from river corridor to regional park is both visionary and realistically achievable. It can become a catalyst for the sensitive use, management, and conservation of the Neuse River as it flows eastward. It will certainly create a recreational resource of enormous value to the people of Raleigh.

In 1995, building on many years of thought, planning and land acquisition, the City of Raleigh established a Master Plan Committee and retained a team of planning consultants to develop this Comprehensive Master Recreation Plan for an 18 mile corridor along the Neuse River on the eastern side of the city. Included as part of the master plan are detailed master plans for Anderson Point Park and Milburnie Park on prime sites within the Corridor project area. The City intends to construct the first phase of these two parks in the near future using bond funds allocated for the purpose. These actions begin to identify and establish objectives and standards for future development of the Corridor.

### **Previous Park Planning for the Project Area**

The Neuse River Corridor was first designated as a greenway corridor in the Capital Area Greenway Study of 1972. This designation was adopted as part of the City's Comprehensive Plan of 1979. In 1985, The Future of the Neuse River in Wake County, edited by William L. Flournoy, described the history of the Neuse River in Wake County and discussed the future role it may play in an urban community. This relevant study focused upon the recreational, economic and environmental quality issues relating to the Neuse River Corridor and the options and opportunities this Corridor presents to the City of Raleigh and Wake County at large.

By 1989, the Raleigh Comprehensive Plan identified as one of its natural environment policies the protection of the Neuse River and its flood plain as a regional open space resource. The Raleigh Parks Plan, a part of the Comprehensive Plan, states that future recreation demands may dictate the need for a new type of park in the hierarchy of the Raleigh park system. This "regional park" would be a large-scale facility focusing on the citizens of Raleigh, adjacent municipalities and counties. The Parks Plan recognizes the importance of the Neuse River Corridor as a significant resource throughout Wake County and the City of Raleigh, and identifies the Corridor as a possible regional park. The Plan also identifies urgency for action to protect this Corridor from rapid growth

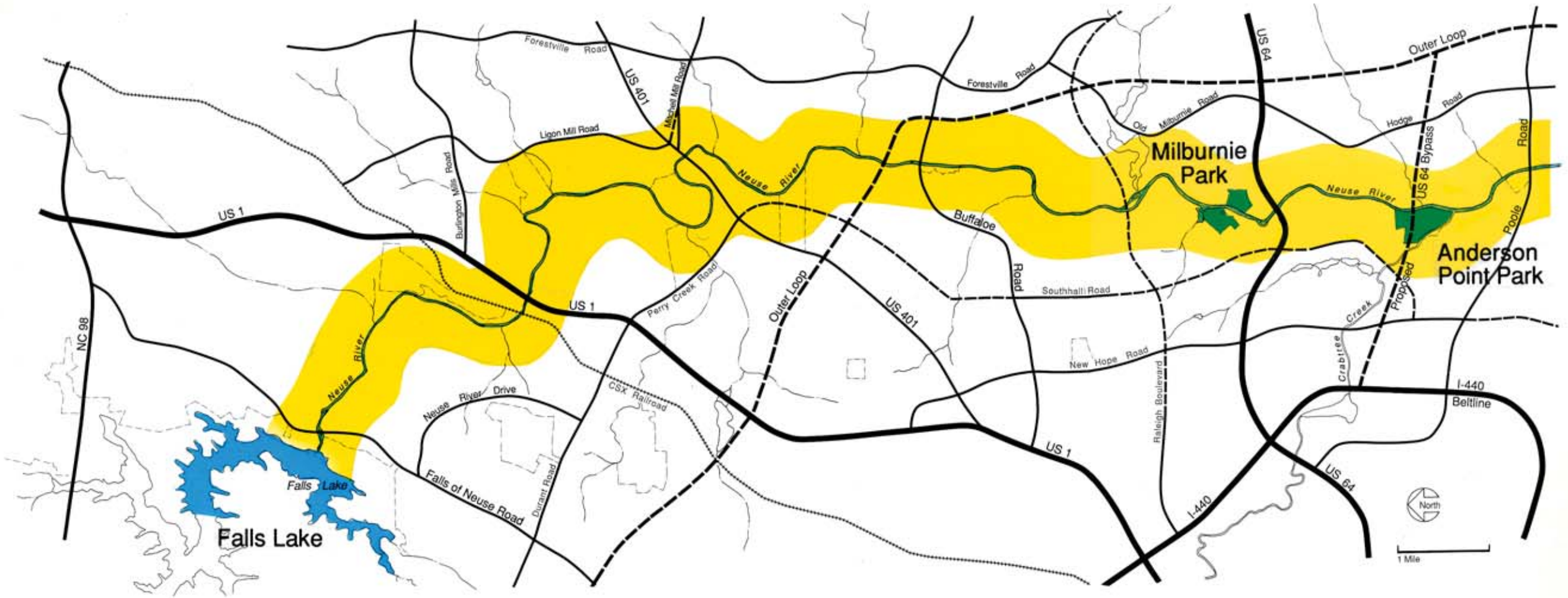
and development. The Parks Plan outlines nine recommendations regarding the development of the Neuse River Corridor as a regional park:

1. Maintain for the Neuse River Corridor the highest priority available for resource allocation;
2. Establish a steering committee to develop concepts for the Neuse River Corridor;
3. Establish a committee of citizens to advise and review recommendations of the steering committee;
4. Maintain the land acquisition process necessary to ensure the development of the proposed Greenway;
5. Identify and protect those parcels of land which are wetlands or rare habitat for flora and fauna;
6. Continue to work with Wake County and the State of North Carolina to develop a conceptual Master Plan for the Corridor;
7. Target critical land holdings in the proposed Corridor and purchase options on such land, purchase such land fee simple, or secure through life tenancy;
8. Identify target park sites abutting or accessible to the Corridor for acquisition and connection to the Corridor as a parallel priority of this development; and

9. Establish the guidelines for a Neuse River Corridor overlay zone to govern development within and adjacent to already protected acreage within the Corridor.

The City has taken action on some of the initial recommendations outlined in the Raleigh Parks Plan. The efforts of this Master Plan process focus upon establishing the framework for protection of the Neuse River Corridor and its development as a regional park.





NEUSE RIVER CORRIDOR

**Scope of Project**

## **Scope of Project**

### **Neuse River Overview**

The Neuse River basin encompasses 6,192 square miles in 19 counties and contains roughly one-sixth of the state's population. It is the third largest river basin in North Carolina and is one of only three major river basins whose boundaries are located entirely within the state. The Neuse River originates at the confluence of the Eno and Flat Rivers northwest of Durham in the northern Piedmont region of North Carolina. This point is now covered by the waters of Falls Lake. The river flows 200 miles southeasterly past the cities of Raleigh, Smithfield, Goldsboro, Kinston and New Bern to the tidal waters of Pamlico Sound.

The Neuse River basin traverses two physiographic regions: the Piedmont Plateau and the Coastal Plain, with the transition between these two regions found within Wake County. Land within Wake County represents approximately ten percent of the Neuse River basin.

## **Project Area**

### **Neuse River Corridor Project Area**

The project area, bounded on the north by Falls Lake Dam, extends approximately 18 miles to the Poole Road crossing and includes one-half mile on either side of the river. In the northern portion of the study area (Falls Dam to Buffalo Road), the City is constructing a canoe launch at Falls Rapids and owns the 135 acre Horseshoe Farm Park on the east bank of the river north of US-401. Along the southern segment (Buffalo Road to Poole Road), the City owns several parcels adjacent to the river. These include a 9.6 acre parcel south of Buffalo Road at Elizabeth Road on the west bank of the river, Milburnie Park - West (formerly called Neuse River West Park) (35.2 acres), Milburnie Park - East (formerly called Neuse River East Park) (23.9 acres), Anderson Point Park (105 acres) and a 22.7 acre canoe access north of Poole Road on the west bank of the river.

### **Milburnie Park and Anderson Point Park**

Milburnie Park and Anderson Point Park are City-owned undeveloped park sites within the project area. Milburnie Park, centered around Milburnie Dam, located fourteen and one-half miles downstream from Falls Dam and approximately one-half mile north of US-64, includes two City-owned park sites. Milburnie West (formerly Neuse West Park) is a 35-acre site on the west side of the river above the dam. Milburnie

East (formerly Neuse East Park) is a 25-acre site on the east side of the river below the dam. The area referred to as Milburnie Park in the plan includes both of these sites, along with land within the Corridor immediately adjacent to these sites. Anderson Point Park is a 105 acre site located at the point where Crabtree Creek flows into the Neuse River, approximately two miles downstream from Milburnie Park. The Corridor segment between these two parks is also part of the more intensive planning process.

## **Project Goals**

### **Neuse River Corridor**

The initial and basic objective set forth by the City is to develop a comprehensive recreation master plan for the Neuse River Corridor to guide acquisition and development along the Corridor from Falls Lake Dam to Poole Road. The project goals are:

1. Protect, enhance and bring attention to the prime natural resource - the river and its ecological system;
2. Develop recreation resources within and adjacent to the Corridor to provide opportunities to experience and enjoy the river Corridor in many different ways;
3. Develop a long distance trail system with opportunities for loop routes of varying lengths,

accommodating a variety of modes of non-motorized travel;

4. Provide access points along the Corridor for both local and regional use. These access points should include, at a minimum, adequate parking, clear wayfinding information, and other trail-related facilities;
5. Identify opportunities for development of river-oriented park facilities adjacent to the river Corridor and upland sites for field sports and other intensive-use, active recreation facilities; and
6. Identify and preserve or develop connections between the river Corridor and private and public land to diversify and expand access to and use of the river Corridor.

### **Milburnie Park and Anderson Point Park**

The project objectives also include development of detailed master plans for Anderson Point Park and Milburnie Park, including intensive study of the Corridor between the two sites. The main goal for the park master plans is to take full advantage of these prime locations along the river for river-oriented and other unique recreation facilities for the entire Raleigh community. A key function of these parks is to provide access to the greenway and to provide recreational

facilities which complement and enhance the recreational opportunities offered by the Corridor.

The Parks and Recreation Department categorized Anderson Point Park as a Community Park within the City's park system hierarchy. The department staff identified the need for a community center at one of the sites, based on the district needs stated in the "Parks, Recreation and Open Space" component of the Comprehensive Plan. They also requested that the master plans for the two parks include a mix of active and passive recreation, including play field areas, picnic facilities, play areas, and trails. They also identified a need for an Adventure Center with a ropes course to be used in association with the existing Adventure Program run by the department. This program currently makes extensive use of the segment of Corridor between Milburnie East and Poole Road for canoe training.

The plan for the Corridor between the two parks establishes the main elements and character of this segment of Corridor. It establishes the framework for land uses and travel along the greenway Corridor in general. Essential elements include the trail systems, links to the adjoining neighborhoods and parks, as well as recognition of special places along the Corridor.





**Rationale for Project**

## **Rationale for Project**

### **Recreational Opportunities**

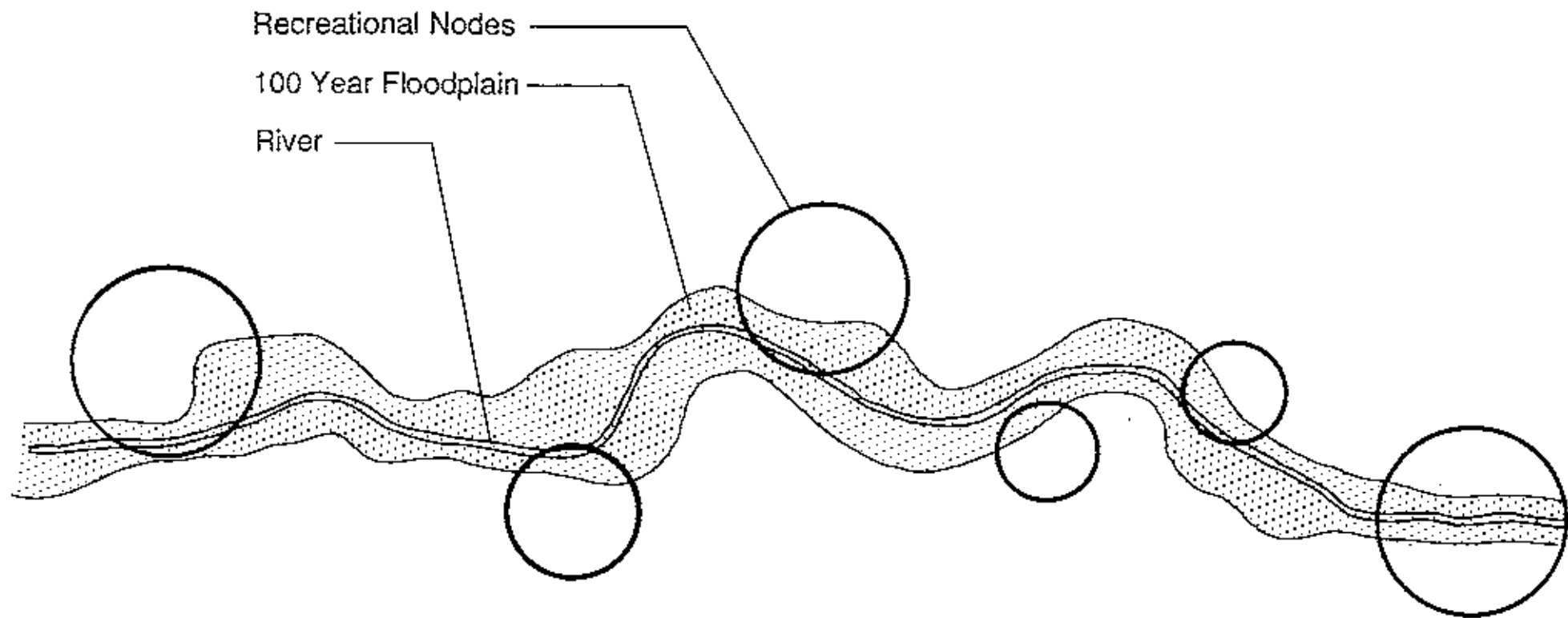
A regional park along the Neuse River will create a recreational resource unmatched in the region, and will simultaneously serve to protect the region's major natural resource. The Neuse River Corridor offers tremendous recreational potential. The linear nature of the Corridor allows opportunity for activities that often conflict with others in a traditional park setting. A corridor can provide more apparent open space than a typical park due to its proportionally higher amount of linear edge. In addition to water-dependent activities such as canoeing, kayaking and fishing, the river corridor can accommodate hiking, bicycling, rollerblading, bird watching, running and many other outdoor pursuits. The addition of upland park sites linked to the Corridor creates opportunities for a broad range of active recreation facilities to complement the river corridor offerings. Acquisition of a relatively small amount of upland property in conjunction with the river corridor creates potential for a series of major parks, each with a unique recreational focus and character, linked together by river greenway to form an outstanding regional park.

### **Economic Benefits**

A river-oriented regional park along the Neuse River is likely to have a substantial economic benefit to the City and to Wake

County as a whole. Rivers and greenway corridors are traditionally recognized for their environmental protection, recreation values, and aesthetic appearance. These corridors also have the potential to create jobs, enhance property values, expand local businesses, attract new or relocating businesses, increase local tax revenues, decrease local government expenditures, and promote a local community (National Park Service, 1990).

Greenways can stimulate the economy by providing an array of economic and quality of life benefits. Numerous studies demonstrate that linear parks can increase nearby property values, which can in turn increase local tax revenues. Spending by residents on greenway-related activities helps support recreation-oriented businesses and employment, as well as other businesses that are patronized by greenway users. Studies show that in urban, suburban and rural areas, properties near trails, forest preserves, rivers, or protected corridors consistently show equal or higher property values than more distant properties (Maryland Greenways Commission, 1994). In cities such as Boulder, Seattle and Philadelphia, studies indicate that property values near greenbelts are highest and decline with distance from the greenbelt. The largest value increases are often for houses with views of or immediate access to greenbelts. These properties were also easier to sell. The findings of these national studies are borne out by Raleigh's experience with



REGIONAL PARK CONCEPT

the existing greenway system. The neighborhoods and properties adjacent to existing greenway trails are some of the most sought-after residential locations in the City.

Potential economic benefits will largely depend upon the amenities offered, the scale and magnitude of the project, accessibility, level of projected use, and intended users (National Park Service, 1990). The greater the amenities provided by the project and the heavier the potential use, the greater the potential economic benefits are likely to be. Development of a regional park focused on the river greenway corridor will greatly increase these benefits.

Conservation of the river corridor as greenway may result in reduced costs to local governments, other public agencies and the community as a whole by reducing the need for more expensive flood and pollution control measures and reducing potential for flood damage to private property.

### **Environmental Quality**

The Neuse River Corridor provides numerous ecological functions for the region. It incorporates diverse plant and animal habitats and serves as a conduit for wildlife migration. In a natural state, the river and associated wetlands function to collect and transport stormwater and, consequently, serve to control flooding. They also act as natural filters, trapping

sediment and cleansing surface water, and provide an opportunity for recharge of groundwater systems. Protection of these natural functions, particularly in an urban area, is becoming critical as environmental quality issues continue to increase in importance.

### **Pace of Change in Project Area**

The City of Raleigh's population increased 41 percent between 1980 and 1990. The City experienced a 56 percent increase in its total number of households during the same period. The 1990 Raleigh Comprehensive Plan projects the heaviest population growth will shift to east of the City.

Development pressures have already reached the Neuse River Valley. Large subdivisions such as Village Lakes, Riverbend, Perry Creek and Hedingham, as well as numerous large lot individual home sites, have been established over the past 10 years. The City is approving development plans on a regular basis for large future developments such as Falls River (Duke property), Wakefield, and North College Park, just to name a few. Developers are also preparing preliminary plans and zoning applications for hundreds of acres of land along the Corridor. Planning for a regional park along this Corridor is timely and must quickly take the form of action before private development projects overwhelm opportunities still available.



**Planning Process**

## **Planning Process**

### **Planning Approach**

Due to the extensive size of the project area and complexity of issues associated with it, the planning approach for this study was simple and direct. The City retained a planning team, consisting of the firms of Mark Robinson & Associates P.A. of Raleigh and JJR/Johnson Johnson & Roy of Ann Arbor, Michigan, to work with a Master Plan Committee and Parks and Recreation Department staff to produce this Master Plan. The team interviewed citizens and City staff members regarding the Neuse River Corridor and its surrounding area. These people identified the following key points to guide the planning process:

1. A vision is needed for the Neuse River which anticipates needs, capabilities and opportunities to be addressed over a 20- to 50-year period of time;
2. Adjacent to the Corridor, the development pace has quickened recently. Consequently, there is pressure to plan and act now before opportunities are lost;
3. There is no other resource like the Neuse in the Raleigh area; and
4. There is a need to bring more people to the water, to let them know that the river is there, and to accommodate and develop water-based recreational activities.

The team prepared an inventory of the basic characteristics of the river Corridor and of the Milburnie and Anderson Point Park sites. The Corridor inventory was based primarily on maps and other documentation provided by the City to identify various aspects of the physical and cultural environment of the project area. The planning team also explored the area by airplane, canoe, car and foot to get a firsthand view of the Corridor. The Milburnie and Anderson Point park sites were examined in more detail. The inventory work resulted in an understanding of 1) the ecological context of the river, 2) the existing and projected patterns of development surrounding the river and 3) the scope of recreational opportunity which this Corridor and the two park sites could potentially accommodate.

The planning team presented an analysis of the inventory to the Master Plan Committee. This analysis, along with program direction provided by the Committee, the Parks & Recreation Department and others, served as a basis for the Corridor and park master plans first shown to the Committee.

### **Master Plan Committee Meetings and Actions**

The City assembled a Master Plan Committee of Raleigh residents to assist the City with creation of the Neuse River Corridor Master Plan. The Master Plan Committee first met on October 11, 1995, for an introduction to the process,



followed by a field trip on November 4 to visit several sites along the river, including both parks.

On January 17, 1996, the planning team presented to the committee the inventory and analysis for the Corridor as a whole and, in more detail, for Anderson Point Park, Milburnie Park and the segment of Corridor in between. The committee met on January 24 to discuss and develop program guidelines for the Corridor.

A public information meeting was held on February 27 to solicit input from citizens and to give them an opportunity to voice concerns. This meeting was attended by approximately fifty people, most of whom were very supportive of the plans for the Corridor and parks. The main concerns focused upon the possible conflicts between public greenway users and adjacent property owners, particularly in the Foxcroft area.

The committee and planning team met again on February 28 for an interactive workshop focused on presentation and discussion of the conceptual framework for the Corridor master plan and three alternative plans each for Milburnie Park and Anderson Point Park. The committee approved in principle the conceptual framework for the Corridor master plan and selected the preferred master plan elements for each of the park sites. A follow-up meeting was held on April

3 to discuss the master plans for Anderson Point Park and Milburnie Park in more detail, including revisions to the previously agreed-upon plan for Anderson Point Park. At this meeting the committee reached agreement on master plans for both parks.

On April 24 the planning team presented the conceptual framework and master plan for the Corridor as a whole, and final master plans for Anderson Point and Milburnie Parks to the Master Plan Committee. After some discussion, the committee members present approved all the plans presented. The committee requested completion of the written report so that the plans and report could be presented to the Parks Advisory Board as a complete package. The committee met on May 15 to review the first draft of the master plan report and met again on June 4 to review and approve the final text. They then approved the plan for presentation to the Parks and Recreation Advisory Board at their next meeting.

This Master Plan, including the Master Plan and Conceptual Framework for the Neuse River Corridor, and the Master Plans for Milburnie Park and Anderson Point Park, was presented to the Raleigh Parks Recreation and Greenways Advisory Board on June 18. The board approved the plan and in turn presented it to the Raleigh City Council for its consideration on June 18, 1996.

**Inventory**

## **Inventory**

### **Land Use and Public Policy**

#### **Current Land Use**

The Neuse River Corridor lies within Raleigh's North, Northeast and Southeast Districts. The Northeast District contains a large segment of the Corridor. Single family dwellings account for over 25% of the land use in the Northeast District, while multi-family dwellings comprise only 2% of the area. A majority of the land, however, is undeveloped. The open space/potential development and agricultural land use categories occupy 62% of the District acreage. The Neuse River and its associated recreational uses make the district attractive for residential development and much of this land is currently being rezoned for additional residential development in the near future.

As these statistics indicate, a majority of the land along the river is either undeveloped or in agricultural use. This is especially true in the northern portion of the study area (Falls Dam to Buffalo Road). Single family residences make up

much of the developed land along the river and are more prevalent along the reach from Buffalo Road to Poole Road.

#### **Jurisdictional Issues**

Jurisdiction for land use regulations along the river is divided between Wake County and the cities of Raleigh, Wake Forest and Knightdale. It is likely that the County's jurisdiction will eventually be relinquished to one of these municipalities. The boundaries between Raleigh, Wake Forest and Knightdale, while generally identified, are not assumed to be absolutely fixed at the time of this report.

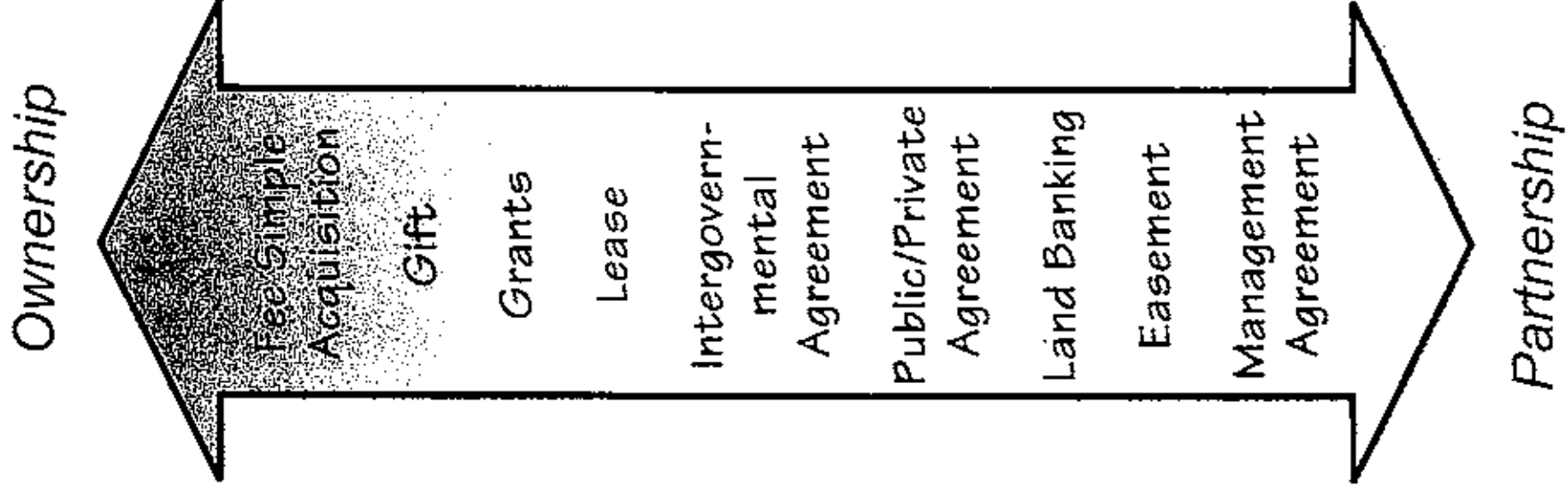
#### **Zoning**

Zoning categories generally reflect holdovers from the rural past or are residential in anticipation of the most prevalent development pressure. Current zoning, except for conservation district, has little influence on Corridor development other than as a sign of likely adjacent land use.

#### **Land Use Controls**

The conservation buffer zoning district, flood plain development standards and the greenway easement, along with the transfer of development density from flood plain areas to upland areas are the primary land use controls currently used to protect the river and gain access along its banks.

# Strategies for Greenway Corridor Protection



### **Acquisition Tools**

The development of parks has traditionally occurred on land owned outright by the City. The expansion of City holdings has traditionally been through fee simple acquisition; that is, the City buys the property outright without any encumbrances or limitations upon the property title. Fee simple acquisition can be modified to allow life tenancy by the seller. While fee simple acquisition remains a primary tool in the City's effort to assemble land for recreational purposes, other tools for resource protection and use are being utilized and can be used even more to meet the City's objectives. Alternatives to fee simple acquisition include:

#### *Easements:*

Easements can be utilized to achieve some degree of protection or to enable right of passage across some properties that the City is unable to acquire. Easements allow a private owner to retain ownership while agreeing to allow the City to influence some aspect of the property's use or development. A conservation easement may simply involve a property owner's agreement not to develop a particular site or it may provide for active management of the site by the City. For example, a scenic easement may establish a buffer zone adjacent to the river within which no development or clearing of vegetation could occur. The City currently acquires greenway easements along the Neuse River within the 100-year flood plain or 150 feet of its bank, whichever is less,

which allows the City to develop and use a greenway trail. This provision could be strengthened by changing the wording to establish a greenway easement over the 100-year flood plain or within 150 feet of the river bank, whichever is *greater*.

#### *Gifts:*

The City may accept gifts of property as a low cost strategy for enlarging the Neuse River regional park while providing a legacy for the interested donors. Depending upon the type of gift, the property may be appropriate for use as park land or for use as property to trade for more desirable property.

#### *Life Tenancy:*

Property owners can sell or give the City property but retain the right to live on the land for the rest of their lives.

#### *Zoning:*

Zoning can be used as a tool to control certain aspects of a private land owner's property for the benefit of the broader community. Currently, a Conservation Buffer District is used as a tool to protect the 100-year flood plain in the portions of the Corridor most recently rezoned or annexed into the City from the County. This type of protection could be strengthened by expanding the current use of the district to

include use as an overlay district to allow protection of resources in the public interest.

*Transfer of Density/Transfer of Development Rights:*

A planning policy allowing transfer of density or transfer of development rights (TDR) enables a land owner, with the City's approval, to transfer the development capacity from land that is less suited to development to land which is better suited for development. This strategy recognizes that land has inherent characteristics which make it either better or worse suited for development, and that it is in the general public's best interest that a developer be allowed and encouraged to only develop the land that is good for development. In this way, land which serves many other benefits such as flood protection, recreational opportunities, wildlife habitat, etc. can be preserved or developed for that use. The City currently allows and encourages transfer of density within a tract of land. The City could broaden the application of this concept to allow transfer of development rights to other parcels.

*Grant Programs:*

Federal and State funds have historically been distributed to deserving local units of government through competitive grant programs. The City could use this type of partnership to leverage land acquisition or development funds.

*Intergovernmental Agreement:*

Public sector partnerships are contracts between governmental agencies which may deal with a variety of open space issues. Partnering with Wake County, Wake Forest, and Knightdale will be an important component of this plan for recreation along the Neuse. Encouraging the protection and recreational development of land controlled by neighboring communities encourages a win-win relationship whereby the residents and facility users of each community benefit.

*Public/Private Partnerships:*

Relationships between the City and private-sector stakeholders can also provide mutual benefits. Private developers are often receptive to providing open space, linkages, and access through proposed developments. This relationship is occurring along the northern reach of the study area. The developers of Falls River, for example, have recognized the added benefit to future residents of environmentally sensitive design and establishment of linkages from their neighborhood to the greenway system. Plans for this development designate the entire 100-year flood plain as greenway corridor and include greenway corridors connecting the interior of the site to the river Corridor. Private-public partnerships could also involve private construction of public greenway trails on privately owned land.

*Land Banking:*

Creating City partnerships with non-profit conservation groups can be beneficial to the objectives of both groups. These conservation groups can often acquire potential park land and critical greenway links on behalf of public agencies. They have the advantage of being able to move quickly to purchase and hold open space while a public agency such as the City secures financing - in effect land banking the site until public ownership can occur. The Nature Conservancy, Trust for Public Land or local organizations (e.g. Triangle Land Conservancy or Friends of the Neuse) may be able to assist the City in this manner.

*Wetlands Mitigation Projects:*

When wetlands must be impacted and/or destroyed by essential development, the U.S. Army Corps of Engineers often requires creation of new wetlands and/or enhancement of degraded wetlands as a means of mitigation. This could involve the establishment of created wetlands or enhancement of degraded wetlands adjacent to Corridor park land and transference of ownership and responsibility for preservation to the City.

*Management Agreements:*

A management agreement between a private landowner and the City may improve the condition of a natural landscape or

protect the quality of land owned privately through the use of staff expertise and other resources. For example, an agreement to install additional storm water retention or to reestablish vegetation along the river in some areas could improve the overall water quality of the river, thus improving the resource for all.

*Leases:*

Leases can provide open space benefits in the short term. However, perpetual protection and use of the property is not guaranteed. Leasing can be a valuable short term tool to facilitate later acquisition of the same property or fill an immediate need until acquisition of another parcel can occur.

Each of these strategies could be implemented to help the City reach the goals of this project. Each strategy has times when it would be the most appropriate solution. However, these strategies can often be used to greatest advantage in tandem. These tools can also be used as interim solutions on the road to outright acquisition.

### **Transportation/Thoroughfare Plan**

The existing road system adjacent to the Neuse River includes six road crossings of the river at the following locations:

Falls of Neuse Road

US-1

US-401

Buffaloe Road

US-64

Poole Road

Additionally, two railroads cross the river. The CSX crosses just upstream from US-1 and the Norfolk Southern Railway crosses south of US-64 through the northern section of Anderson Point Park.

The adopted Thoroughfare Plan for the urbanized area is mutually approved by the governing bodies of all local jurisdictions and the North Carolina Department of Transportation. It includes those roadways which are considered the most important Corridors for safe and efficient travel throughout the City and the region.

The most significant additions to the roadway system in this area will be the Northern Wake Expressway (Outer Loop), the easterly extension of Raleigh Boulevard, upgrading to freeway status the portion of US-1 which is north of the proposed

Northern Wake Expressway (Outer Loop) and the US-64 Bypass.

Projects in the Northeast also include improvements to two major thoroughfares: the extension of Spring Forest Road to Buffaloe Road and the widening of US-401 from US-1 North to Ligon Mill Road. Planned minor thoroughfare improvements are the extension of Highwoods Boulevard to the proposed Raleigh Boulevard, construction of Neuse River Road from Falls of Neuse Road to US-1 and completion of Southhall Road from the proposed Spring Forest Road to Rogers Lane at US-64 east.

East of the river, projects include the Hodge Road/Old Milburnie Road connector, continuation of Raleigh Boulevard to the Northern Wake Expressway and Forestville Road, realignment of Mitchell Mill Road at US-401 and realignment of three minor thoroughfares east of Forestville Road.

These proposed road improvements will result in the addition of four new river crossings, plus construction of a new bridge in place of the existing US-401 crossing. Falls of Neuse Road relocation will include a new bridge south of the existing bridge which will remain in place. The Northern Wake Expressway (Outer Loop) will include a new bridge north of Buffaloe Road. Raleigh Boulevard extension will include a new



bridge halfway between Buffalo Road and US-64. The US-64 Bypass as currently proposed by NCDOT will require a new crossing through Anderson Point Park. The proposed US-64 Bypass will result in taking of park land which will require acquisition of additional park land by NCDOT to mitigate this loss and the construction of an access bridge connecting the two segments of the park.

#### **Utilities**

The "Interlocal Cooperation Agreement" between the City of Raleigh, the County, and the private sector provides for joint responsibility for wastewater services to be supplied through the Neuse River/Perry Creek wastewater collection system. One of the main goals is to incorporate small package treatment plants into the wastewater collection system. The development of the 3.5 mile greenway trail along the Neuse River was linked to sanitary sewer easement acquisition and construction. Although sewer easement acquisition is not technically tied to greenway development, it provides a convenient tool for efficient acquisition.

#### **Development Trends**

As the City of Raleigh continues to expand, development will soon encompass the Neuse River. The primary type of development anticipated for this area is single and multi-family residential. Commercial development is anticipated in

the vicinity of the US-64 Neuse River crossing as well as a proposed commercial center where US-401 intersects with the proposed Northern Wake Expressway (Outer Loop). These commercial centers will increase development pressure on the river but they will also provide an opportunity to increase awareness and use of this special resource.







AGRICULTURE		LAKES		OFFICE		ERROR	
COMMERCIAL		FORESTRY		RESIDENTIAL		CORPORATE LIMIT	
INDUSTRIAL		PARKS		VACANT		ETJ	
INSTITUTIONAL		UNKNOWN					

EXISTING LANDUSE  
**NEUSE RIVER CORRIDOR MASTER PLAN**

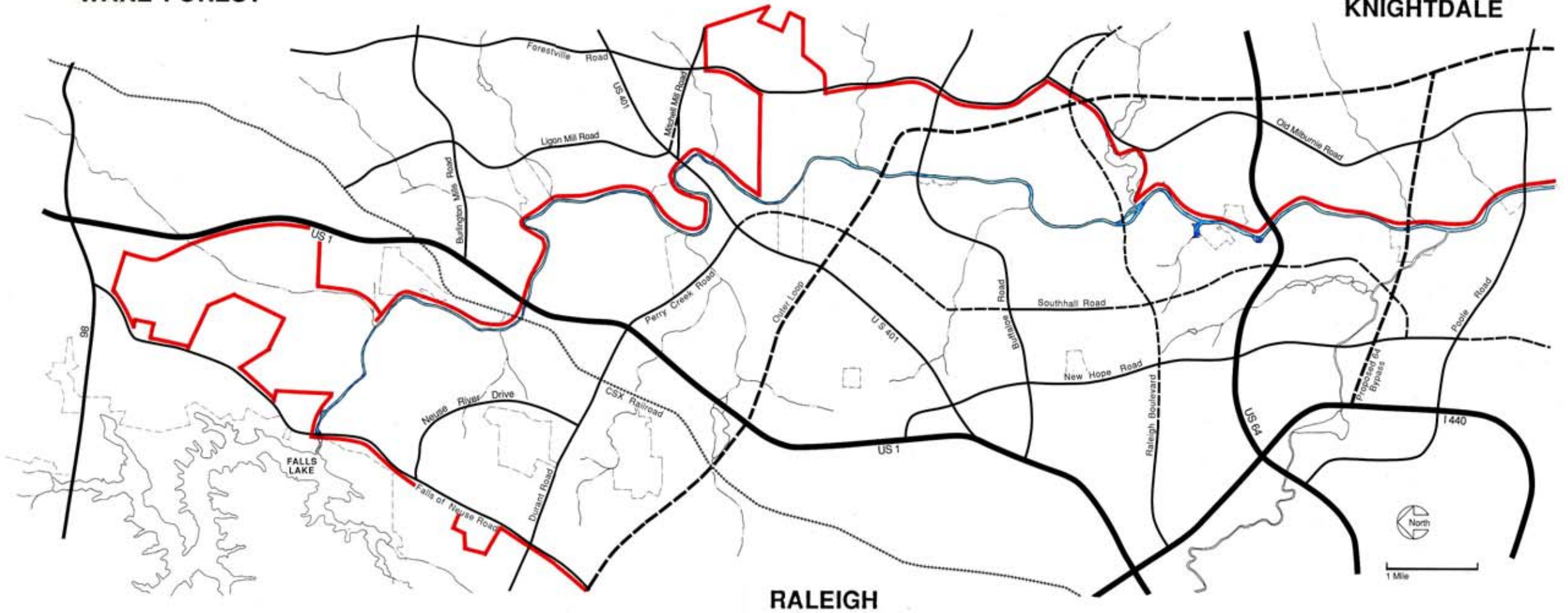
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WAKE FOREST

KNIGHTDALE



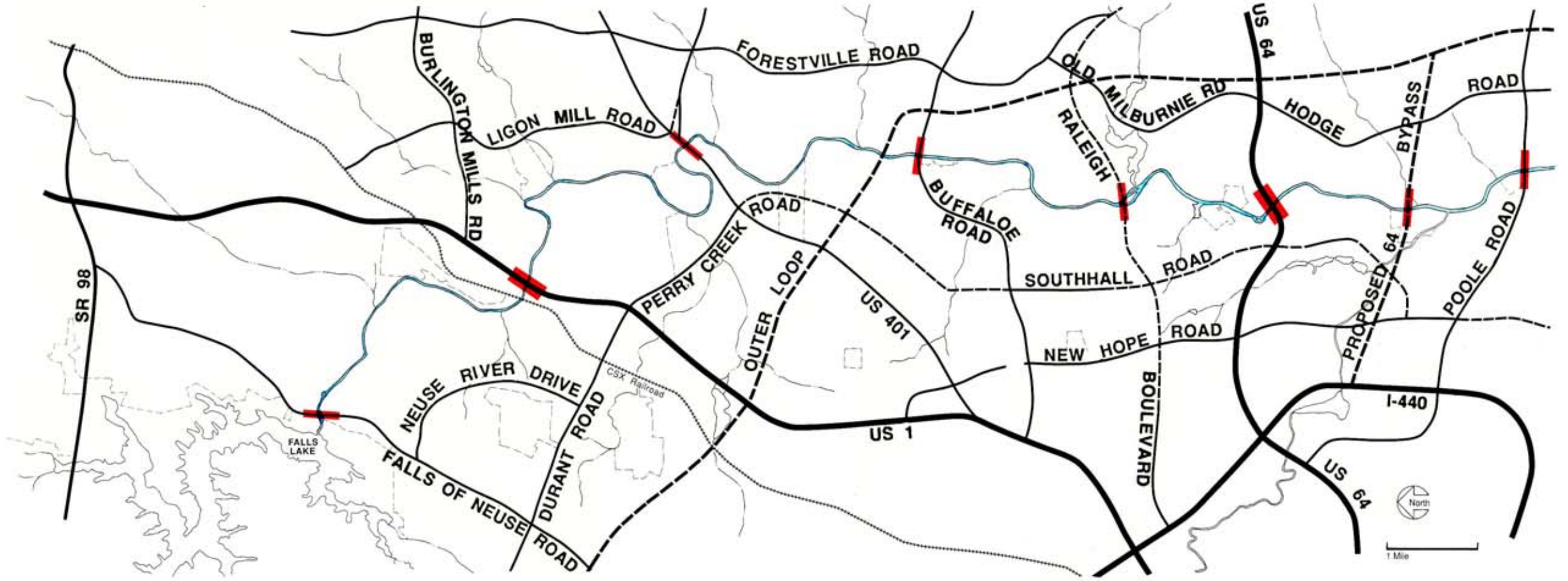
RALEIGH

**LEGEND**



City of Raleigh  
Extraterritorial Jurisdictional (ETJ)

**JURISDICTIONAL BOUNDARIES**



**LEGEND**

- BRIDGE
- EXISTING
- PROPOSED  
(State Thoroughfare Plan, 10/1/93)

**THOROUGHFARE MAP**





**EXISTING PARK LAND & GREENWAYS**

## **Environmental Systems**

### **Physiographic Context**

The Neuse River traverses two physiographic regions: the Piedmont Plateau and the Coastal Plain. The project area coincides with the meeting point; the rocky transition area between the two regions known as the "fall line" starts at Falls Dam and extends to Poole Road.

The Piedmont Plateau is typified by highly-erodible clay soils, rolling topography with broad ridges and sharply defined stream valleys, and low gradient streams composed of a series of sluggish pools separated by riffles and occasional small rapids. Stream flood plains are relatively narrow and mostly forested. There are no natural lakes in the region but several small ponds have been created. Soils in the region are underlain by a fractured rock formation with limited water storage capacity which offers only a limited supply of groundwater. The Piedmont Plateau makes up 40 percent of the river basin, encompassing much of the Raleigh-Durham area, and is more populated and industrialized than the Coastal Plain. Despite the increasingly urban nature of the region, agricultural activity remains widespread, and forests occupy over one-third of the land area.

The Coastal Plain is characterized by flat terrain, low-lying swamplands and productive estuarine areas. Streams,

including the mainstream of the Neuse, are much more meandering, slower-moving, have lower banks, and are often lined by extensive swamps, bottomland hardwood forests, or marshes. The Coastal Plain is underlain by deep sands and groundwater is more abundant. Forestry and agriculture are the primary land use activities in the Coastal Plain.

### **Geology**

The project area is generally underlain by relatively uniform bedrock, lying at some distance below the ground, which does not particularly affect the dynamics of the river. There are, however, several linear outcrops of a harder rock called diabase dikes, which run along and across the river in several places in the project area. These outcrops have caused the river to change course abruptly in places, such as at Riverbend. An outcropping of the Rolesville Dome, a granite rock formation, caused the river to change course dramatically in the vicinity of Horseshoe Farm and US-401 crossing, forming two horseshoe shaped bends. Rock outcrops have created rocky rapids in places along this otherwise flat-water Corridor and steep rocky slopes and knobs close to the river banks. These rocky slopes have fostered development of communities of plants more commonly found in the mountains, such as mountain laurel, especially where the slopes face north or east. The flood plain is very narrow in these areas.

### **River Character**

Within the study area, the river is relatively uniform in width. Exceptions occur at the rapids below Falls Lake, the impoundment above Milburnie Dam and the area below Milburnie Dam where the river is much wider. The river bottom substrate varies from sandy/silty to rocky with areas of large rocks scattered throughout.

The reach of the river north of US-401 has been impacted by flood surges associated with intermittent discharges from Falls Lake Dam. Release from the dam, controlled by the Army Corps of Engineers, can cause dramatic fluctuations in water levels below the dam. The results of these extreme fluctuations in water volume and velocity include scouring and bank erosion to the first levee. Despite such unnatural conditions, some stretches along the northern part of the river contain beautiful examples of flood plain and bottomland forests. This is especially true at the oxbow area on the west bank just south of the US-1 crossing and at Horseshoe Farm. The reach of the river below US-401, although containing more residential development, contains a more typical flood plain cross-section.

### **Water Quality**

The water quality of the Neuse River within the project area is considered to be generally good. In the project area the

undisturbed flood plain acts as a buffer that removes nutrients and pollution from urban runoff before they reach the water courses. Studies show that natural woodland is far better at removing silt and other pollutants than is lawn. The greenway corridors established by the City of Raleigh, along with other nutrient and pollution management measures, serve to protect the water quality of the river.

Increased urban development and population growth of the region as well as agricultural activity are causing the water quality of the Neuse River to deteriorate along the course of the river. Urban runoff includes high levels of pesticides, heavy metals, nitrogen and siltation from construction activities. Agricultural runoff includes high levels of pesticides, fertilizer, silts, and animal wastes. In 1995 several major failures of animal waste facilities resulted in these wastes being released into the Neuse River. The water quality of the Neuse River was lowered. The result in 1995 was three major fish kills which occurred in the lower Neuse River. With increased urban development in both the upper basin where Raleigh is situated and in the lower basin, it is not only important to continue acquisition and protection of the Neuse River and its tributaries, but to increase efforts to intercept pollutants prior to discharge into the river. Neuse River water quality is a major agenda item for the region.



### **Flood Plains**

The flood plain of the Neuse within the project area is generally broad and forested. The width on each side of the river ranges from less than 40 feet at the narrowest points to over 1500 feet at very wide areas, with an average width of 300 - 400 feet along much of the Corridor. A large portion of the 100-year flood plain is frequently or permanently flooded and is categorized as wetlands. In much of the Corridor the flat portion of the flood plain lies at or below the level of the 10-year flood elevation and is therefore flooded at relatively frequent intervals. This level is typically 8 - 12 feet above the normal water level of the river. The 100-year flood elevation is typically 5 or 6 feet above the general level of the flood plain. In some areas there is a steep valley wall between the flood plain and the adjacent uplands; in other areas there is a more gradual transition.

Flooding along the Corridor is controlled in large part by the U.S. Army Corps of Engineers. The Corps has reduced the possibility of the extremely high flood levels which occurred occasionally prior to the creation of Falls Lake. The Corps can, and at this time does, release water at the rate of a naturally occurring 100-year storm event and the 100-year flood plain remains a functioning part of the river system.

### **Vegetative Communities**

Flood plain areas are generally forested in mixed hardwood species. Farming has occurred on small areas within the flood plain, and larger areas have been timbered at times in the past. The wetness of the flood plain land in general and the frequency of flooding has limited development of the flood plain for agricultural or residential purposes in the past. Even where adjoining flood plain land was timbered or cleared, a wooded buffer remains along the river edge, resulting in a fringe of mature hardwoods along much of the river. The nature of these forest communities varies depending on the relative height of the flood plain among other factors; oaks are more prevalent at higher, drier elevations, with sycamores and river birches more prevalent in lower areas.

### **Wetlands**

Wetlands along the Neuse River within the project area include riverine wetlands, wetlands contained within a channel, such as the river itself, along with tributary streams and creeks, and palustrine (non-tidal) wetlands which are forested or dominated by shrubs and emergent vegetation.

A majority of the forested wetlands along the Corridor are dominated by broad-leaved deciduous trees. This would include such species as water oak (*Quercus nigra*), sycamore (*Platanus occidentalis*), river birch (*Betula nigra*), green ash

(*Fraxinus pennsylvanica*) and red maple (*Acer rubrum*). This type of wetland is common along the Corridor and is typically associated with the river flood plain.

Less common wetland systems found adjacent to the river include forested wetlands that contain bald cypress (*Taxodium distichum*) and emergent wetlands dominated by persistent and non-persistent vegetation such as cattail (*Typha latifolia*), pickerelweed (*Pontederia cordata*) and arrow arum (*Peltandra virginica*). Bald cypress wetlands are unique because the Neuse River represents the western limit of the range where this species normally occurs. Emergent wetland communities, typically referred to as marshes, provide excellent opportunities for wildlife observation. Emergent wetlands attract many species of birds, mammals and amphibians to feed and nest. Due to the relative scarcity of these wetland communities along the Neuse River Corridor, they offer excellent opportunities to provide interpretive experiences.

#### **Wildlife**

Rivers and streams act as natural corridors for wildlife migration and breeding. Seasonally, they offer sites for birds and mammals to feed or nest and provide continuous travel ways for movement of individuals from one location to another. They are also home and refuge to many animal

species. In addition to the river itself, uplands adjacent to the river with thick shrubby growth or mature woodlands offer important wildlife habitat.

Many of the wildlife species found in the Neuse River Corridor depend for survival on a variety of habitats, both within the river corridor and on the adjacent uplands. A species may use one habitat type for a food source, another for cover and yet another for breeding. The river corridor provides connections between these habitats as well as providing habitat itself. Large tracts of land uninterrupted by roads and development also serve as important wildlife habitat, providing havens for species unable to survive in smaller, more fragmented environments. The extensive wetlands, and large tracts of flood plain and upland forest along the Neuse are particularly valuable for this reason. As noted earlier, wetlands along the river also have special value for wildlife species.

Numerous bird and mammal inventories have been completed in Wake County by organizations such as the Audubon Society, as part of their spring bird count, or by agencies such as the North Carolina Heritage Program or the Raleigh Parks and Recreation Department while evaluating regional natural features. Bird species frequently observed along the Neuse River include Wood Duck, Kingfisher, Green and Great Blue Heron, Pileated and other woodpeckers, Red-shouldered

Hawk, and various thrushes, flycatchers, warblers and songbirds. Resident mammals include river otter, beaver, deer, raccoon, gray fox, cottontail rabbit and numerous moles, voles and shrews. This list is, by no means, exhaustive. A more thorough inventory of animal species observed along the Neuse River Corridor would be a valuable spin-off project of this study. The important point is that rivers and adjacent habitats are home to many animals, and protection of these habitats is critical to maintaining the diversity of species, particularly in rapidly developing areas.

#### **Habitats and Species of Special Concern**

Regional natural area inventories completed by the North Carolina Natural Heritage Program and the Triangle Land Conservancy (LeGrand and Astey, 1987 ; LeGrand and Smith, 1993) located three sites along the Neuse River Corridor where special habitats exist or potentially exist. These include parcels on the north and south side of the river just downstream of the US-1 Neuse River crossing, the Horseshoe Farm property north of the US-401 Neuse River crossing and the reach of the river from Beaverdam Lake to Poole Road.

The two parcels downstream of the US-1 crossing contain excellent quality bottomland and swamp forests. The majority of this area is classified as mature Piedmont/Mountain Bottomland Forest. On the west side, a swamp forest is

present in what probably represents a remnant oxbow of the Neuse River. Numerous sloughs are found through this area that potentially represent important breeding sites for amphibious species. The area on the north side of the river also contains extensive wetland areas, including a large wetland lake. A portion of this area was cleared within the last five years.

A natural area at Horseshoe Farm contains a mature, essentially undisturbed bottomland and hardwood forest. A well-developed natural levee and a few flood plain pools are present. Three natural community types are represented at this site: Piedmont-Mountain Levee Forest, Piedmont-Mountain Bottomland Forest and Flood Plain Pool.

The reach of the river from Beaverdam Lake to Poole Road is significant for its aquatic habitat and contains a rather narrow flood plain several hundred yards wide at a maximum. This area contains numerous wetlands and small ponds located in the flood plain. The unique character of these wetlands is described above. The river itself is home to several animal species of special concern in North Carolina. The native Neuse River waterdog (*Necturus lewisi*), a gilled, aquatic salamander, has been collected at several sites along this stretch of the river. A rare mollusk, the ancient floater (*Alasmidonta heterodon*), has been collected in two locations but has not been found in recent years and may no longer

exist in this stretch of the Corridor. The notched rainbow mollusk (*Villosa constricta*) has also been taken from the river east of Raleigh.

### **Cultural Resources**

Records of use by Europeans within the Neuse River Corridor date back to the early 1700's, with archaeological evidence of use by Native Americans well before that time. Over time, bridges, ferries, mills and farmsteads have come and gone. Some evidence of this history is still visible along the riverbanks. While it is not within the scope of this report to investigate past uses along the Neuse River, numerous records of above and below ground resources exist with the City and the State. These records should be reviewed prior to the start of any specific project within the Corridor. Historic sites along the river identified by the North Carolina Division of Archives and History are indicated on the Historic Sites Map at the end of this section.

### **Overview of Environmental Regulations**

Development of a park/greenway system along the Neuse River may require coordination with various state and federal agencies. The agencies involved and the extent of interaction will depend on the type of development proposed, anticipated impacts to natural resources and potential sources of funding. Some of the environmental programs that may affect construction along the Neuse River Corridor are described below.

#### **Wetlands**

Section 404 of the Clean Water Act authorizes the U.S. Army Corps of Engineers (COE) to regulate the disposal of dredged or fill material into "waters of the United States." Waters of the United States include both wetlands and surface waters. As described in previous sections, there are numerous wetlands existing along the Neuse River within the project area. Impacts to these wetlands, including boardwalk construction, may require coordination with the COE.

#### **Soil Erosion and Sedimentation Control**

Prior to construction, Soil Erosion and Sedimentation Control plans are required to minimize soil erosion and to prevent siltation of surface water. Local municipal and/or state authorities review these plans. Additionally, projects resulting in the disturbance of five acres or more will be

subject to National Pollutant Discharge Elimination System (NPDES) stormwater regulations administered by the North Carolina Department of Environment, Health and Natural Resources.

#### **Flood Plains/Floodways**

Wake County is a participant in the National Flood Insurance Program. Federal Emergency Management Agency (FEMA) Flood Insurance Rate maps identify the approximate boundaries of the 100-year flood plain and floodway. Construction activities in designated flood plain areas must be in accordance with FEMA regulations. These regulations are primarily concerned with residential structures and require elevation of the first floor one foot above the 100-year flood plain elevation. The City of Raleigh also requires public roads to be constructed higher than the 100-year flood elevation. Construction associated with park and greenway development in the flood plain and floodway where the main concern is impacting the flood elevation, will be reviewed and permitted by local municipal authorities, typically through their engineering departments.

#### **Threatened or Endangered Species**

Federally funded activities are subject to review by the United States Fish and Wildlife Service (USFWS) regarding impacts to federally-protected plants or animals under the Endangered

Species Act. In the case of state-funded actions, the USFWS has the authority to exercise jurisdiction on behalf of a protected plant or animal. Plants or animals with state designations of Endangered, Threatened or Special Concern are granted protection by the State Endangered Species Act and the State of North Carolina Plant Protection and Conservation Act. At a minimum, records pertaining to known occurrences of plants or animals at the federal and state level should be reviewed early in the design process and certainly before the start of construction for any specific project along the Neuse River. A more thorough approach would involve completion of plant and animal inventories along the Corridor that would provide a useful database ensuring protected species would not be affected.

## **Existing Parks and Greenway: Acquisition and Development**

The Comprehensive Plan identifies the Neuse River as a major Corridor of the Capital Area Greenway System, with a width of 150 feet from each bank. City code requires dedication of greenway easement over land 150 feet from the river bank or the 100-year flood plain, whichever is less, whenever properties along the river are subdivided or developed. The City has acquired several miles of greenway easement as land along the river is developed or in association with the extension of the Neuse River/Perry Creek Sewer line. The City has also acquired outstanding park sites at Horseshoe Farm, Milburnie and Anderson Point, and smaller sites at Elizabeth Road and Poole Road, totaling over 330 acres. In addition to land and greenway easement acquisition, the City has already built 3 1/2 miles of greenway trails as well as two canoe launch facilities along the Neuse River.

The City has rezoned several miles of the Neuse River flood plain as Conservation Buffer as part of recent annexation agreements and utilizes at least one mechanism for preserving flood plain areas by encouraging transfer of density. In recent years, the majority of landowners and developers along the Neuse have been willing to transfer their development densities to the uplands and preserve the flood plain in its natural state.

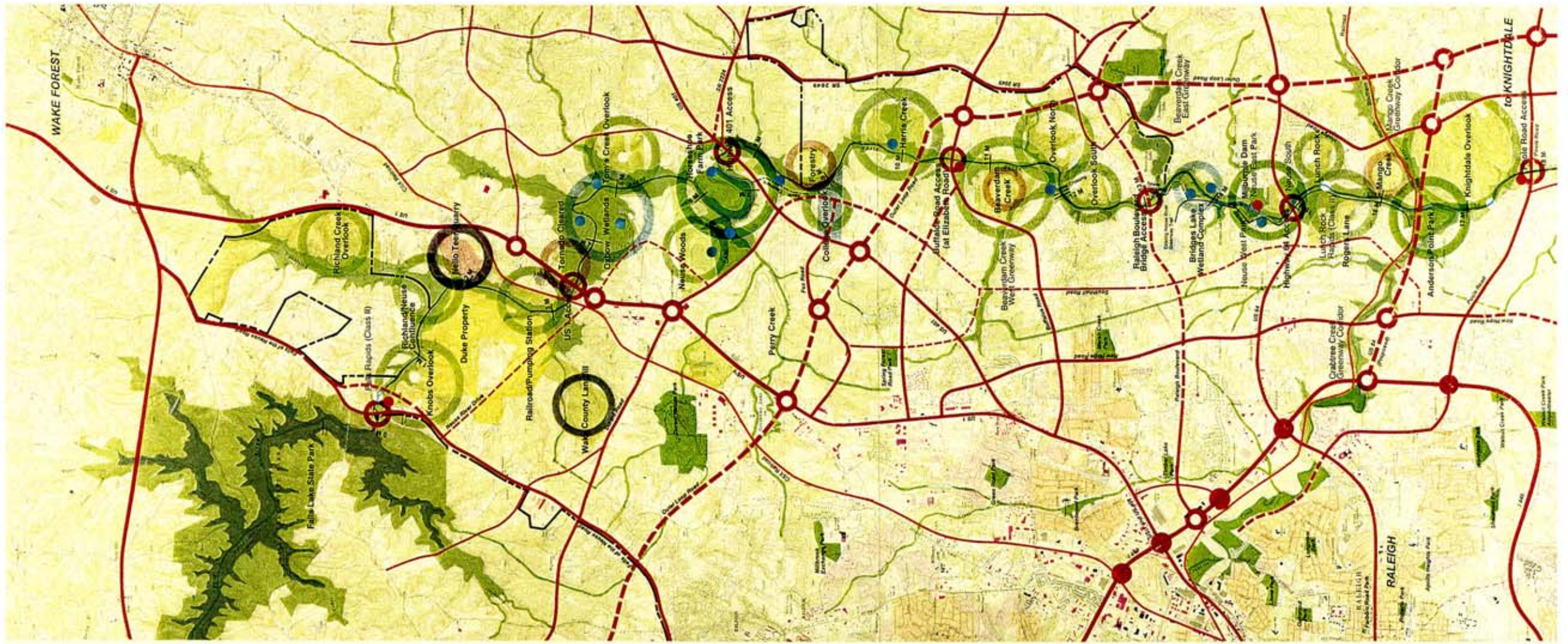
## **Milburnie Park and Anderson Point Park Sites**

The team of consultants inventoried Anderson Point Park and Milburnie Park (formerly Neuse River Park East and West) in more detail as part of the master planning process. They prepared summary inventory and analysis maps for each of these sites and for the segment of river Corridor which connects them. The two parks are situated approximately two miles apart on either side of US-64.

Milburnie Park, just north of US-64, is centered around Milburnie Dam. Milburnie Dam is a historic stone structure with a more recent hydroelectric plant at the west end. The dam site is currently in private ownership. Milburnie East is wooded, with a broad wet flood plain bordered by steep slopes leading to a small hilltop. Milburnie West is a relatively open site with a wooded area on the interior side and grassy slopes along the river. A long high ridge along the southern edge of the site, underlain by a diabase rock dike, slopes gradually to the north along the river, with moderate side slopes extending the upland close to the river's edge.

Anderson Point Park is located approximately two miles further south along the river, at the point where Crabtree Creek flows into the Neuse River. This 105-acre farm is divided by an existing railroad which separates a 12-acre parcel north of the railroad from the main 93-acre portion of





- |                     |  |                 |  |                                    |  |                   |  |
|---------------------|--|-----------------|--|------------------------------------|--|-------------------|--|
| EXISTING PARK LAND  |  | FLOOD PLAIN     |  | VEHICULAR ACCESS/CANOE LAUNCH SITE |  | FREEWAYS          |  |
| OPEN/LEVEL ZONE     |  | RIVER/LAKE      |  | QUALITY WETLAND SITE               |  | MAJOR THROUGHFARE |  |
| WOODED/ROLLING ZONE |  | EXISTING PARKS  |  | CLASS II WHITewater                |  | MINOR THROUGHFARE |  |
| SWAMP ZONE          |  | GREENWAY SYSTEM |  | BRIDGE ACCESS POINT                |  | INTERCHANGE       |  |

INVENTORY AND ANALYSIS  
**NEUSE RIVER CORRIDOR MASTER PLAN**

SCALE 1:24,000  
 MRA JAN



the site. The central uplands are open farmland, separated from the river flood plain by steep forested slopes. The site is bordered by the Neuse River on the east and Crabtree Creek on the west, which come together at the southern end of the property, forming "the point".

More detailed descriptions of these two park sites are provided in the sections of the report which describe the individual park master plans.

The Corridor between the two parks is representative of the Corridor as a whole. The flood plain varies from a scant 50 feet in width on the west side along Milburnie West and in a rocky area just above US-64, to over 1400 feet in width on the west side of the river at the wetland lake area south of the highway. The wetland lake area is extensive and includes a variety of forested and emergent wetland habitats intermingled with drier forest and old fields. There are two small Class I rapids between Milburnie and Anderson Point, with a Class II rapids located a short way beyond the end of Anderson Point Park. This river segment is used extensively by the Parks and Recreation Department Adventure Program for canoe and kayak training classes.



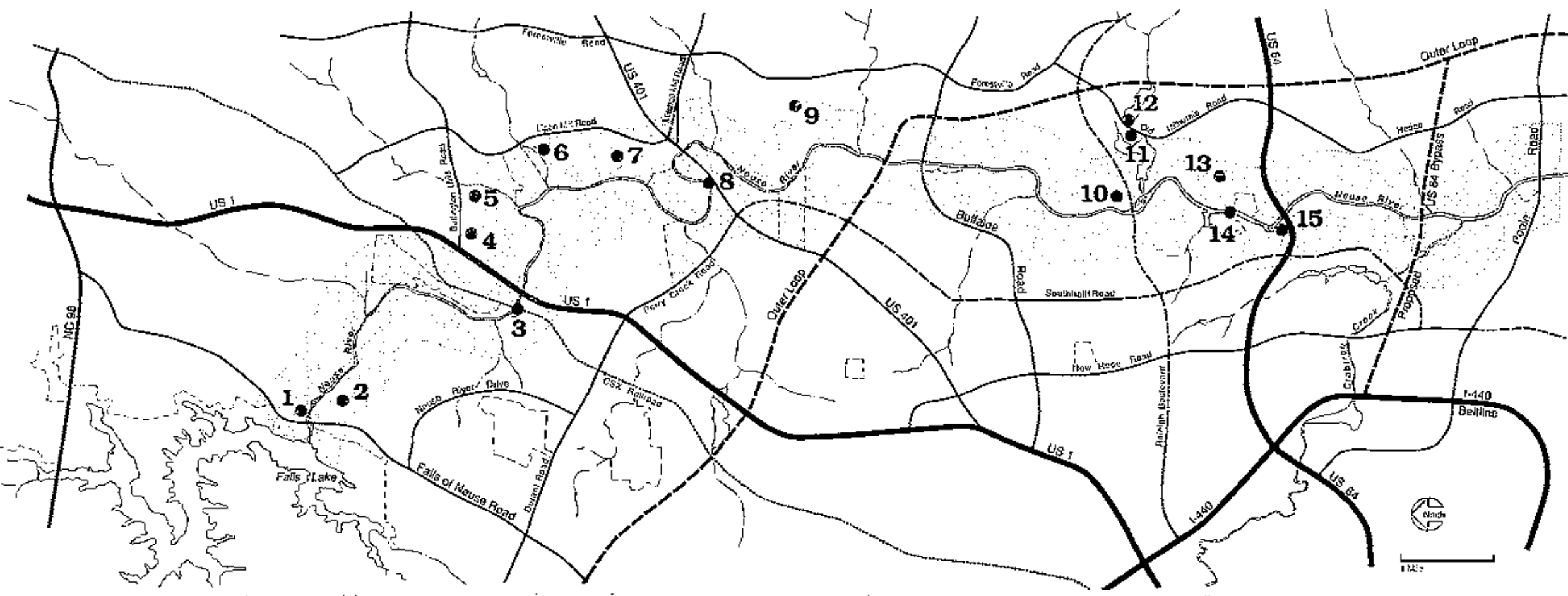
### **Inventory Summary**

The following diagram titled Inventory and Analysis summarizes the land use, jurisdictions, Thoroughfare Plan, rapids, wetlands, flood plains, access points and resource areas suitable for various park types. The 24 circles shown designate special resource areas along the Corridor considered as possible candidates for the Arrival Park sites proposed in the following Conceptual Framework.

A series of places of interest along the Corridor were also mapped as part of the Inventory: significant historic and cultural sites, high quality wetlands, rock outcrops, high river overlooks, scenic terrain, level open land and young pine woods. With the exception of the historical sites data, which was provided by the North Carolina State Division of Archives and History, this mapping is based on topographic maps, aerial photography and limited site reconnaissance. The maps are intended to identify potentially special places which should be investigated further as specific plans are developed for the Corridor and the adjacent land.



INVENTORY AND ANALYSIS  
 NEUSE RIVER CORRIDOR MASTER PLAN

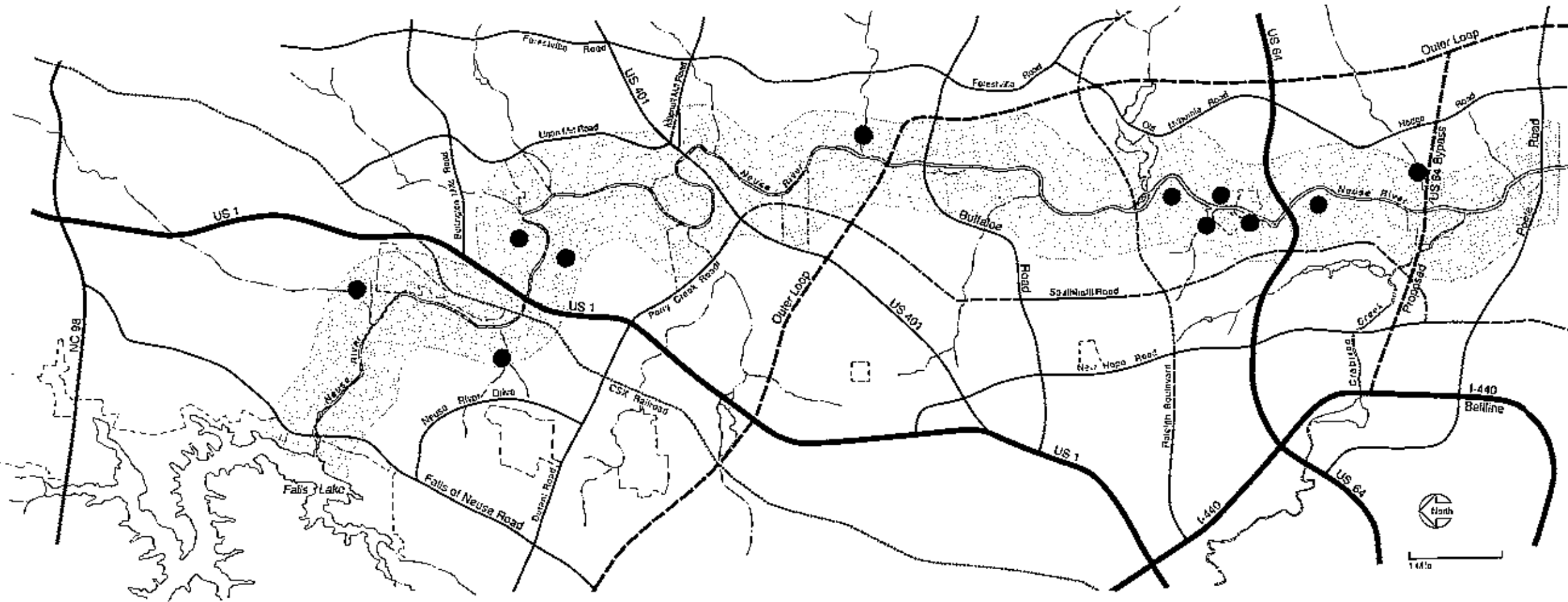


- |   |                              |                                 |
|---|------------------------------|---------------------------------|
| 1. Neuse Manufacturing Co. (Nat'l Register) | 6. Ligon Mill Site           | 11. Beaverdam Fishing Clubhouse |
| 2. Dr. Thompson House                       | 7. Fort O'Neal House Kitchen | 12. Neuseoco Lake Dam           |
| 3. Railroad Truss                           | 8. O'Hara Stell Farm         | 13. Joseph Collier Farm         |
| 4. Gil Shearon Farm                         | 9. Wade Hampton Hollow Farm  | 14. Milburnie Dam               |
| 5. James Macon Farm                         | 10. Tarheel Clubhouse        | 15. Roadside Rest Area          |

## HISTORICAL SITES

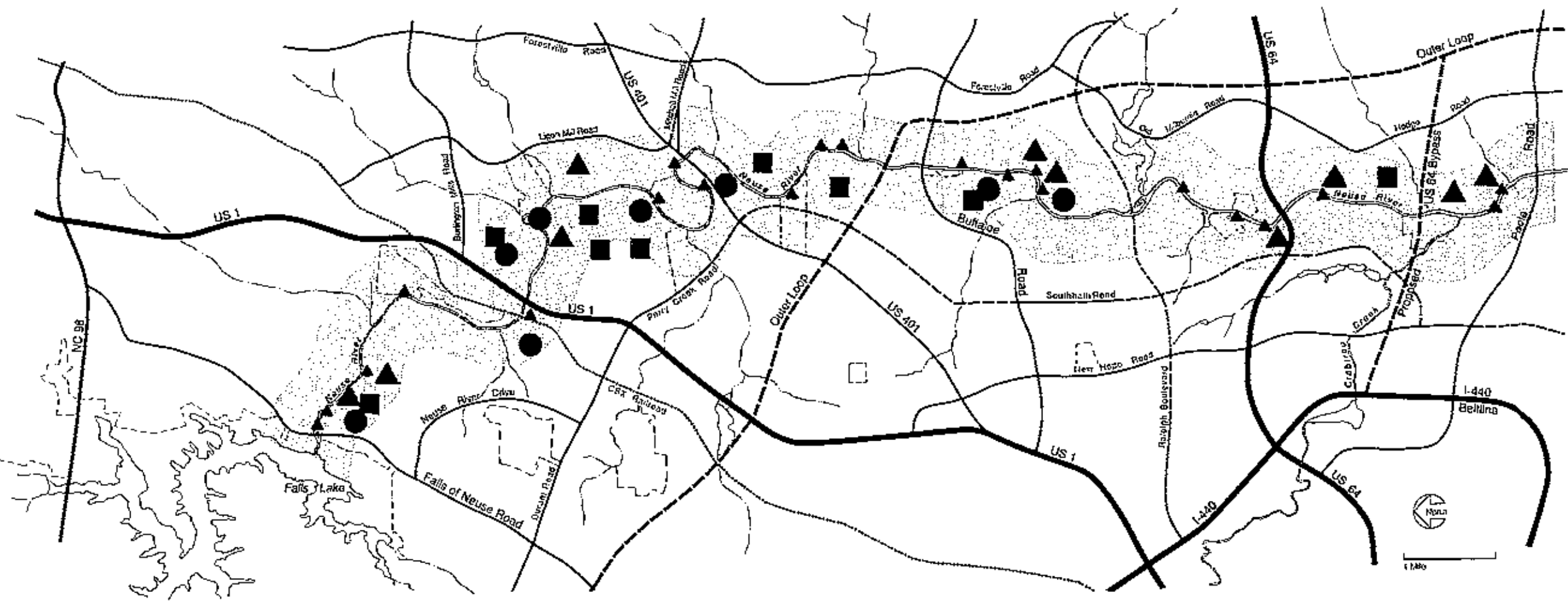






HIGH QUALITY WETLANDS





- Level Fields & Pinewoods
- Scenic Terrain
- ▲ Steep Hills next to River
- ▲ Rock Outcrops

TOPOGRAPHIC FEATURES





**Analysis**

## Analysis

### Neuse River Corridor

Canoeing down the Neuse from Falls Dam to Poole Road, one is struck by the apparent remoteness of the Corridor. For long stretches the river is edged by continuous forest on both sides with no visible sign of human development. Except in a few areas, existing development along the river is set well back from the banks, beyond and above the broad wooded flood plain. The Corridor is not completely removed from the city; sounds of traffic, quarry activities and industry punctuate the river sounds, but the wildness of the area certainly stands in contrast with more urban development nearby.

Preservation of the 100-year flood plain is essential to preservation of the wild character of the river, as well as the water quality and wildlife value of the riverine environmental system. The river and flood plain together form the core attraction for a regional park along the Neuse and need to be conserved to maintain their special character.

In order to realize the recreational potential of the Corridor, three conditions need to be addressed. First, more frequent and better public access is needed, including adequate parking. Second, trails are needed so people can explore the Corridor on land as well as by river. Public access to the river is at present limited, especially for people without access to

canoes. Thirdly, there should be opportunities for a range of recreational activities along and adjacent to the river to heighten awareness of the river and provide facilities in an attractive setting. In addressing these conditions, it is important to keep sight of the primary goal of conservation of the river corridor. All facilities and recreational amenities should be designed and sited with this goal in mind.

The City has already begun to address these needs, first by acquiring greenway easement and park sites, and further by building 3-1/2 miles of trail as well as parking areas and canoe launches. There are additional opportunities along the Corridor to address these needs. While the character of the Corridor is generally uniform, it is punctuated at relatively frequent intervals by features of natural, historical or cultural interest which could serve as focal points for access and recreational centers. There are several large parcels of land along the river owned by public or quasi-public institutions, such as Wake Tech and Capitol Area Soccer League, with potential for sharing of access and facilities.

Road bridges offer potential for access points and pedestrian crossings and opportunity for increased visibility and public awareness of the park. Beyond this, there are a number of large currently undeveloped properties along the Corridor with upland areas well suited for development of active recreation facilities to complement the river corridor. There

is also great potential for linkage to other City parks and surrounding neighborhoods via greenways along the tributaries of the Neuse. Lastly, there is a network of existing and proposed roads which roughly parallel the river on both sides, providing opportunity for greater access and connections to the Corridor.

### **Milburnie Park and Anderson Point Park**

Milburnie Park and Anderson Point Park are situated at prime locations along the river. The two park sites are easily accessible from US-64 and contain natural, scenic and cultural features unique within the project area. They also contain land well suited for development of a variety of recreational facilities.

#### **Milburnie Park**

Milburnie Park centers around a historic stone dam, the only dam remaining within the project area. The park offers potential for a variety of recreation opportunities. At Milburnie West the high ridge, the proximity of upland to river and the open character of the site offer unusually good opportunities for open park land with views and easy access to the river. The more isolated, steep and wooded terrain at Milburnie East is best suited for less intensive uses which can take advantage of the rugged woodland character of the site.

The extensive and varied wetland areas around the Milburnie area provide prime wildlife habitat.

#### **Anderson Point Park**

Anderson Point Park is located at the confluence of the region's two main waterbodies, the Neuse River and Crabtree Creek. The rolling open upland fields in the center of the site are scenic and well suited for informal play and passive recreation. The river is separated from the uplands by steep wooded slopes and wet flood plain areas, making it more challenging to provide easy access to the river banks. The area around the point is attractive, with large hardwood trees and a relatively open understory. Its development potential is limited by frequent flooding and separation from the uplands by a broad flood plain area and a power line corridor. It is, however, a scenic and symbolically important spot with potential for better views up and down river and up Crabtree Creek. The highway crossing proposed by NCDOT will greatly affect the current pastoral and reasonably quiet character of the site, particularly the upland areas on either side of the proposed highway corridor.

The segment of Corridor between and just below these two parks includes several rapids, the only whitewater in the project area south of the Falls section, as well as a major wetland area on the west side of the river south of US-64.

**Master Plan**

## **Master Plan**

The master plan for the Neuse River Corridor has two components: a Conceptual Framework and a Corridor Master Plan. The Conceptual Framework identifies general strategies and basic principles and outlines the broadest spectrum of opportunity. The Corridor Master Plan builds upon the Conceptual Framework to identify a specific strategy for linking flood plain and key upland sites into a regional-scale park. Together these plans identify both the range of opportunity and the advantages of a focused strategy.

### **Conceptual Framework**

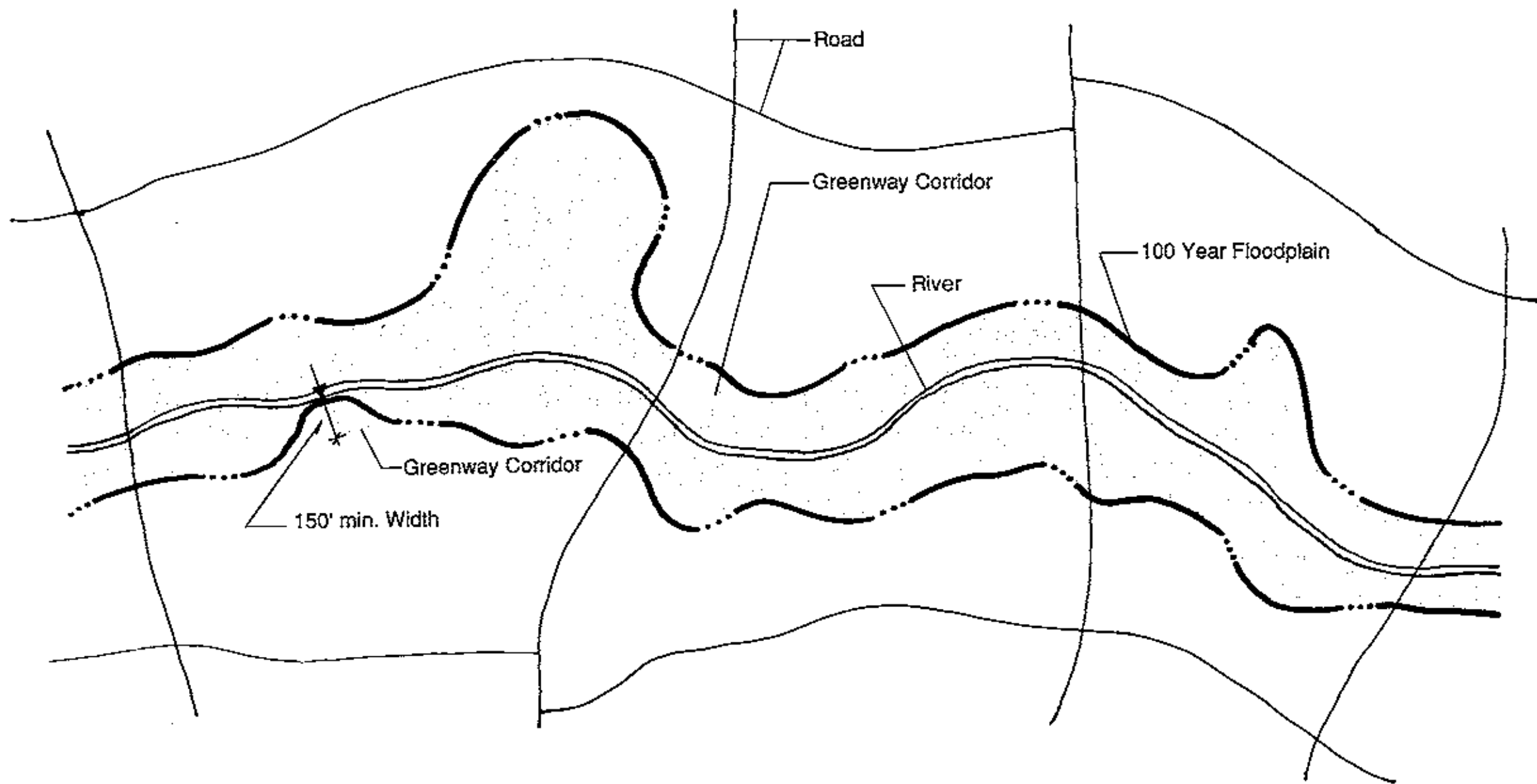
Clearly, there is no better time than the present to develop a strategy and adopt a Master Plan to preserve the outstanding natural resource, open space and recreational opportunities existing in the Neuse River Corridor. The City of Raleigh's Comprehensive Plan of 1989 envisioned a Neuse River Corridor Regional Park. The Neuse River Corridor Master Plan Committee worked with the planning team to develop a master plan to implement the original vision. This Conceptual Framework, jointly with the Corridor Master Plan,

provides a clear direction and strategy to guide the creation of this exciting river park. Though prepared for the City of Raleigh, this is a Regional Plan and encourages a partnership of communities including Raleigh, Wake Forest, Wake County and Knightdale, each implementing their respective segments to achieve the entire vision presented by the Master Plan.

The Conceptual Framework establishes the structural components of the Master Plan, taking the form of a description of plan elements and principles, instead of a site specific master plan. Rather than target specific sites for parks, the conceptual framework describes the nature of the regional park corridor, the trail system, the function and characteristics of "gateways" and "arrival parks", and a system of "parkways" which serve to link elements within the linear park and facilitate use of the Corridor.

These are the four essential elements that comprise the Conceptual Framework for the Neuse River Corridor:

1. Greenway Corridor
2. Greenway Trail System
3. Arrival and Gateway Parks
4. Parkway Road System



CONCEPTUAL GREENWAY CORRIDOR

### **Greenway Corridor**

In this plan the term "greenway corridor" refers to the 100-year flood plain or 150 foot width, whichever is *greater*, along both sides of the Neuse River within the project area. This definition expands on the current definition in the City zoning code which includes only the *lesser* of the 150 feet from the river bank or the flood plain. In much of the Corridor the flood plain extends considerably further than 150 feet from the river bank. In these areas the greenway corridor should be extended to include the entire flood plain. The rationale for including the entire flood plain within the Corridor is as follows:

1. The flood plain contains an abundance of wetlands which yield varying combinations of the following values: flood storage and reduction of peak stormwater flow, refuge for species of special concern, and groundwater recharge and discharge;
2. The flood plain provides migration/travel corridors for wildlife species;
3. The flood plain offers protection of surface water from runoff associated with adjacent uses; and
4. The flood plain functions as a buffer from adjacent development.

In some portions of Corridor, where banks are quite steep, the flood plain is narrower than 150 feet. In these areas the

greenway width should be 150 feet. This would entail greater easement acquisition cost since it would involve developable property, but is greatly desirable to protect the environmental quality of the river system and the continuity of the recreational aspects of the Corridor.

Acquisition tools and strategies for protection of the flood plain are described in the Inventory section of this report. Strategies are already in place for establishing a conservation buffer over the flood plain through zoning, transfer of development density and other means, in addition to the greenway easement provision within the City code. Protection of the flood plain and acquisition of a 150 foot minimum greenway width can be facilitated by changing the wording of the Zoning Code to establish a greenway easement over the 100-year flood plain or within 150 feet of the river bank, whichever is *greater*. The 18-mile greenway corridor, including the entire 100-year flood plain, is therefore realistically achievable within the City's jurisdiction.

The remaining eight miles of Corridor on the east side of the river are in the jurisdiction of Wake Forest, Knightdale, and Wake County. In order to complete the Corridor as a comprehensive regional open space system, the neighboring communities need to be involved as partners in this process. It is not too early to work with these communities and encourage them to recognize the value and potential of

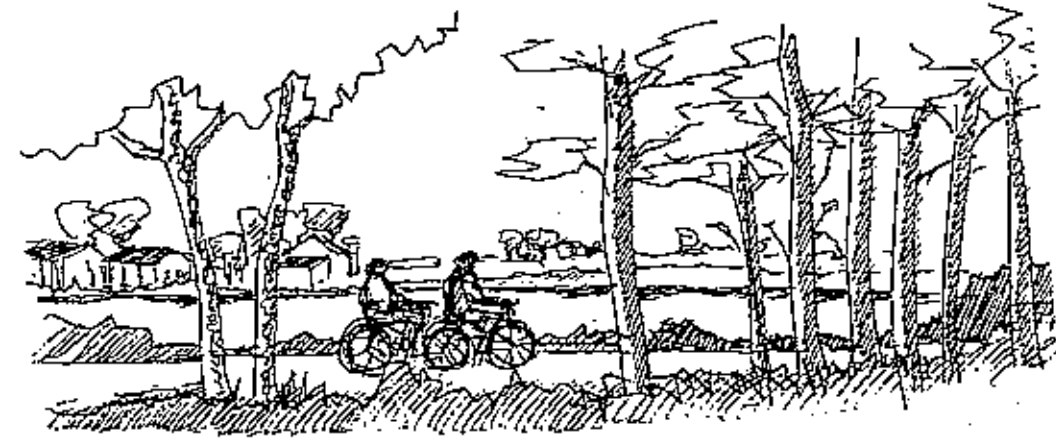
preserving the Neuse River as a natural resource and regional park. The City should encourage these communities to take steps to preserve the flood plain and establish greenway easements and arrival parks along their segments on the east side of the river as part of their annexation process. Consistent with Raleigh's recognition of the current pace of development, it will be much easier for these neighboring communities to take action now rather than wait until development pressure reaches the east side of the Neuse River.

### **Greenway Trail System**

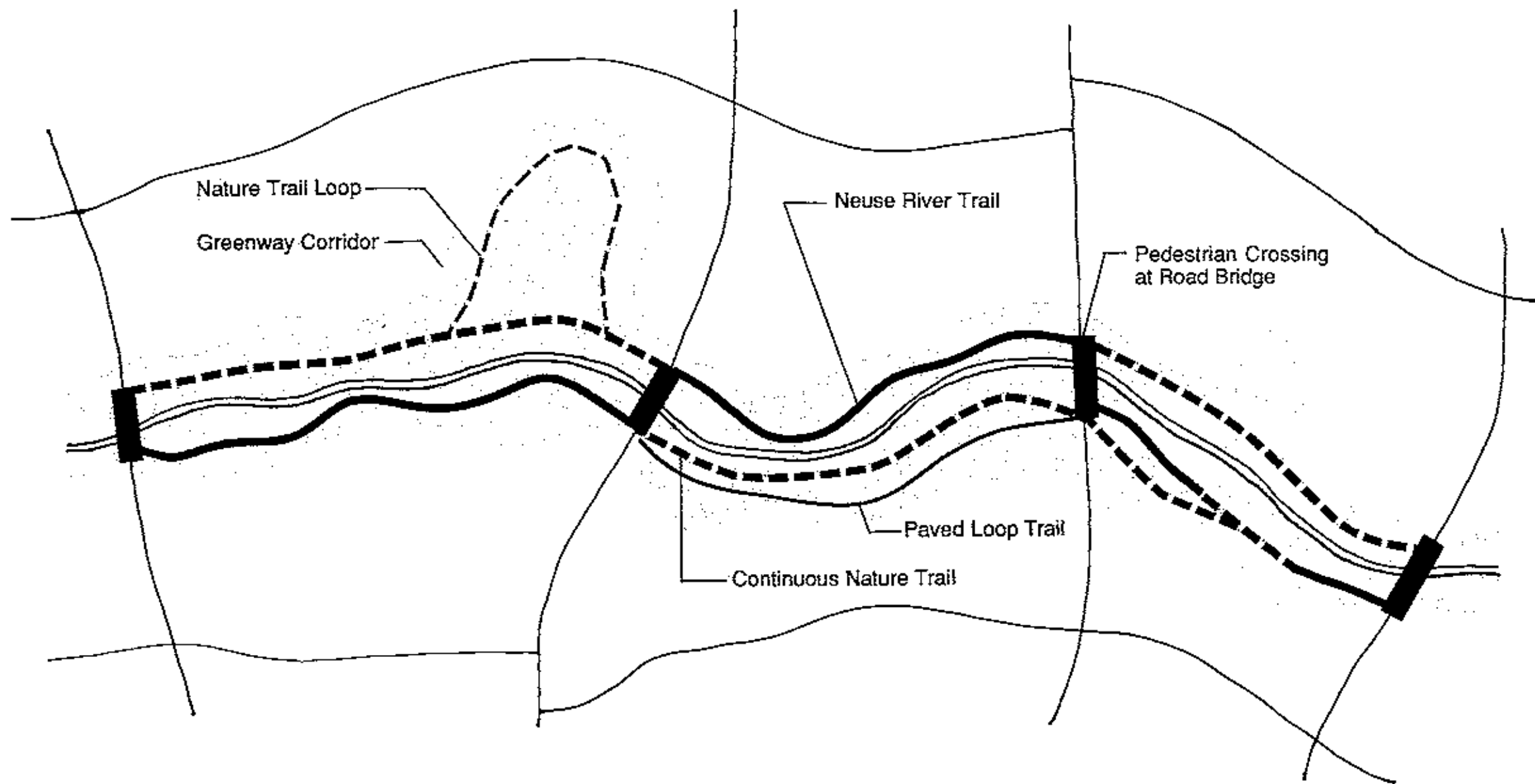
The Greenway Trail system is the backbone of the Neuse River Corridor. The 18-mile Corridor affords a unique opportunity for long-distance, nature-oriented, off-road travel. Opportunity also exists for a variety of trail types and experiences which will accommodate diverse recreational travel. The main users are expected to be pedestrians--hikers, joggers and casual strollers, and recreational bicyclists.

Long distance bicycling is a use which is desirable to accommodate in the Corridor but which can conflict, potentially dangerously, with slower-moving users. The Conceptual Framework calls for a continuous route along the Corridor, if possible, using a combination of trail segments and parkway roads. The City should work with the North Carolina Department of Transportation to provide bike lanes or similar measures on parkway roads wherever feasible.

Other uses which may be desirable to accommodate in places along the Corridor include horseback riding and mountain biking. Both these uses can create severe erosion and trail damage, as well as perceptual conflict with other users. They need to be limited to trails and terrain which can withstand these uses. Upland areas near the Corridor, including the quarry and landfill sites, should be considered as possible







CONCEPTUAL GREENWAY TRAIL SYSTEM

sites. It is important to seek input from representatives of a broad cross-section of users to aid in determining the best way to accommodate these uses.

All forms of non-motorized circulation may be allowed along the Primary Trail System in the early phases of development but conflicting uses should be separated onto secondary routes as usage increases in certain areas.

#### *Neuse River Trail and Continuous Nature Trail*

The centerpiece of the greenway trail system will be a single, continuous primary trail which traverses the entire length of the 18 mile Corridor. This trail will be called the Neuse River Trail. For practical and aesthetic reasons, the Neuse River Trail will likely cross from one side of the river to the other. It will be accessible from all the Gateways and Arrival Parks and will, in turn, provide access to the other trails in the Corridor.

The Neuse River Trail should have the standard Capital Area Greenway width, currently 10 feet, and should be paved in areas of high use near access points and arrival parks. The trail could be unpaved in more remote sections between parks and in special natural areas until increased use indicates need for pavement. It should be connected to other paved trails or parkway bike lanes at several points along the

Corridor to create loop trails of varying lengths and character. It should also be connected to unpaved secondary and nature trails to create loops which include a variety of trail types.

A second continuous trail along the Corridor should also be developed, consisting of a network of primarily unpaved secondary and nature trails, to provide slower, quieter, more nature-oriented experiences along the entire length of the Neuse River Corridor. Where possible, this trail should be located on the opposite side of the river from the Neuse River Trail and should be separated from it and other paved trails by significant distance and vegetation.

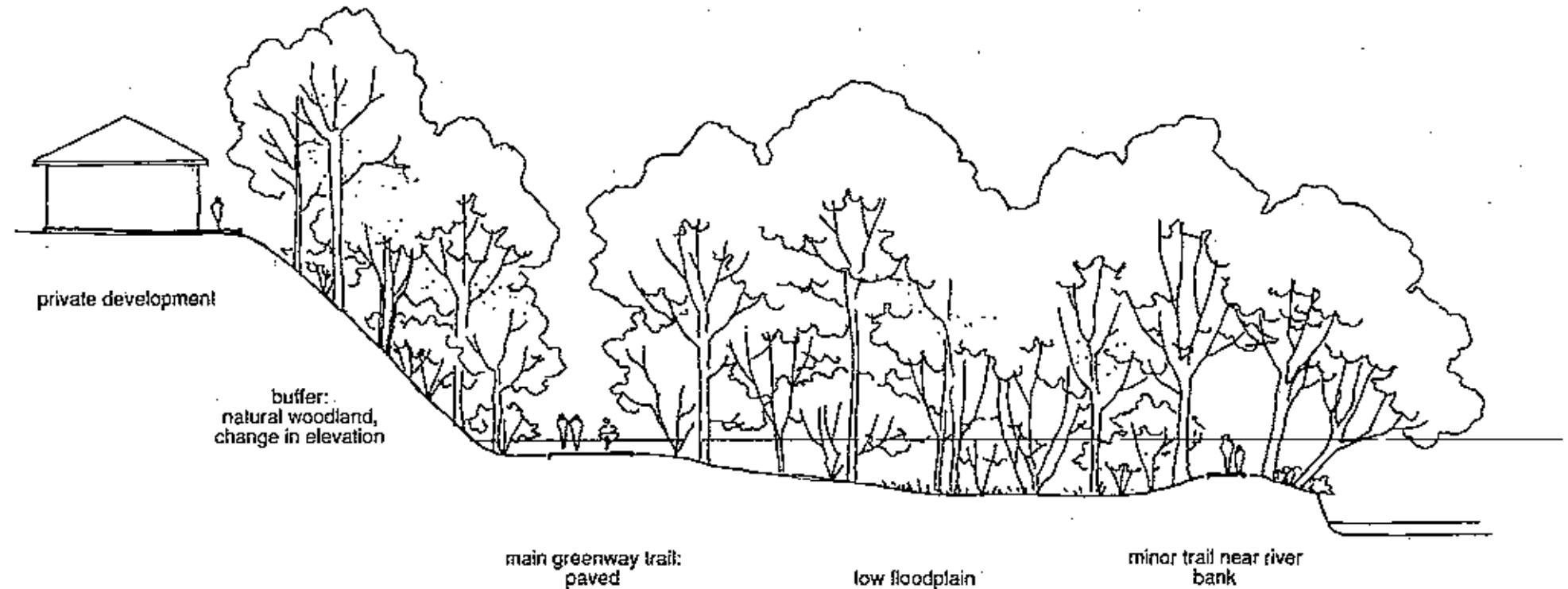
There are already two locations on the west bank where existing development at Foxcroft and Riverbend makes it difficult to develop a trail due to the terrain and proximity of homes. Fortunately, in both cases, the land on the east bank is undeveloped and bridging opportunities are nearby, so the trail can continue at least on one side. Negotiations should begin immediately to secure at least a 150-foot greenway easement on the east bank opposite Foxcroft and Riverbend up to the Buffalo Road bridge and a feasibility study should be completed for pedestrian bridges at Goat Island/Raleigh Road and Buffalo Road to complete this important link in the greenway trail system. This example demonstrates the importance of securing the remaining greenway easement on both sides of the river as soon as possible to avoid the need

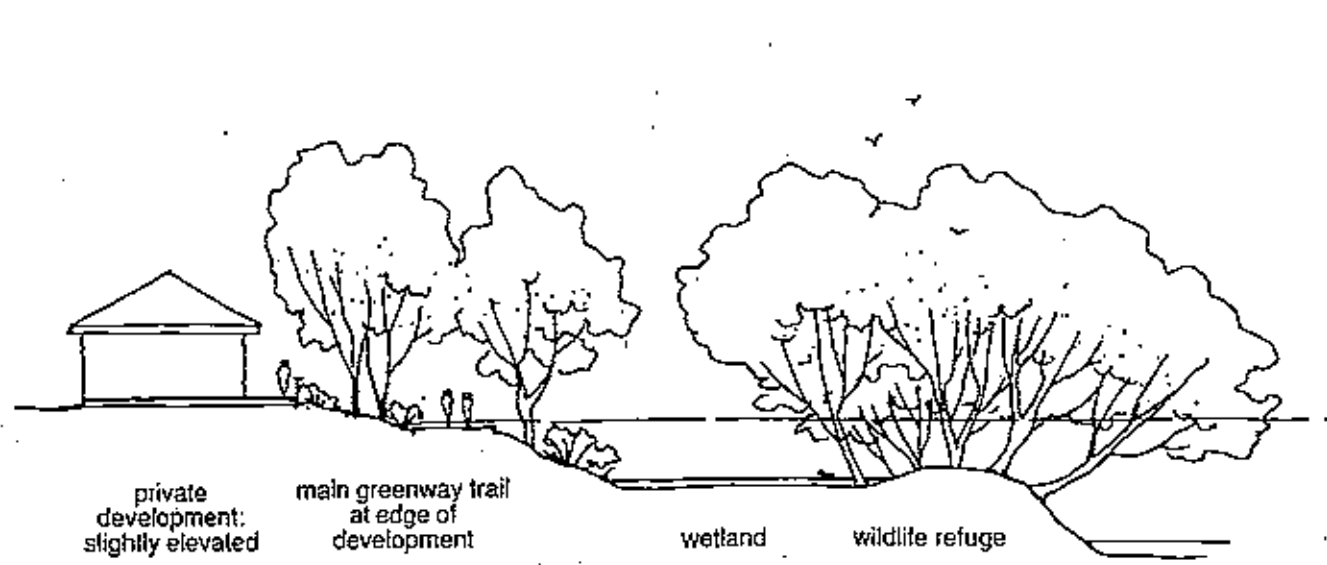
for additional free-standing pedestrian bridges. Since pedestrian bridges should be built above the 100-year flood elevation, they will generally require spans of 200-300 feet. These can be built most cost-effectively if attached to an existing or proposed highway bridge.

*General Trail Design Criteria*

Trails in the Corridor should be designed to reveal the Corridor's variety of environmental aspects and scenic character. The routes of the two continuous trails should

meander, sometimes passing close to the river and other times traversing higher ground near the upper edge of the flood plain. Where possible, trails should be designed to pass through the forest, with clearing of trees limited to the minimum needed for construction. Where a trail is constructed on a sewer line clearing, effort should be made to curve the alignment and shape the space along the trail by adding vegetation, managing natural recolonization and selective clearing, to reduce the linear impact of the original sewer line and to reduce the separation between the trail and the surrounding woods.



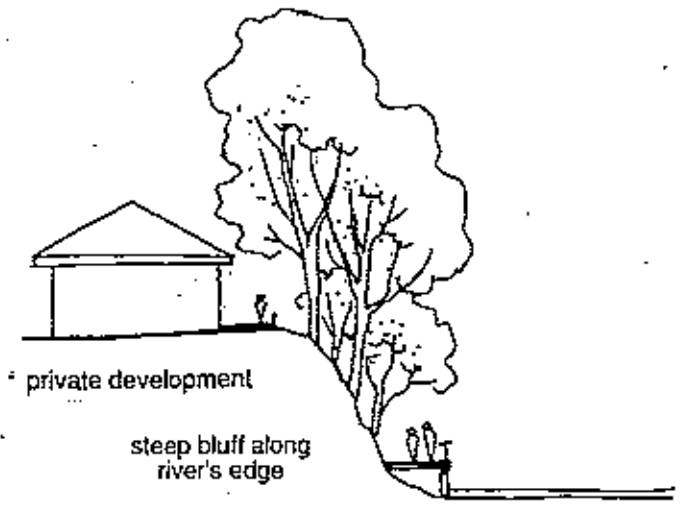


private development: slightly elevated

main greenway trail at edge of development

wetland

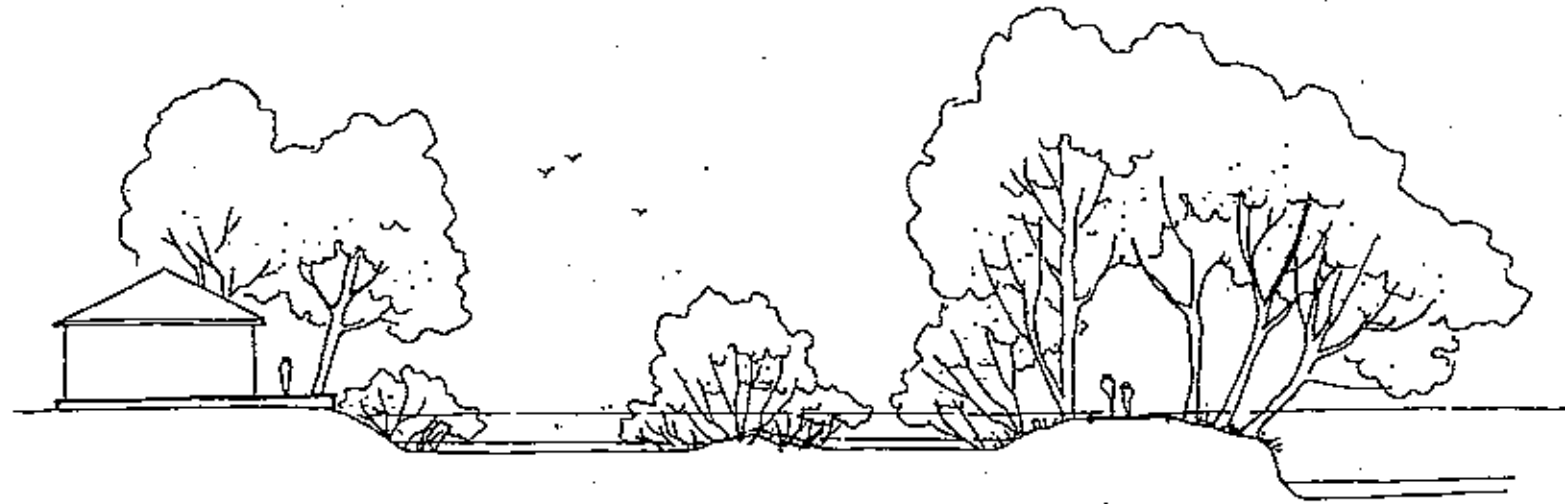
wildlife refuge



private development

steep bluff along river's edge

greenway trail on embankment or boardwalk



private development

buffer: wetland or lake

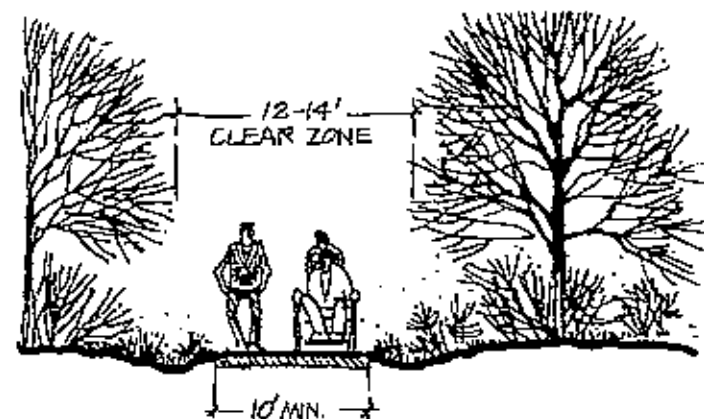
main greenway trail on river levee

Where trails are located close to the river, opportunities for river views should be sought and enhanced. Access to the banks should be planned and measures taken to protect the banks at these points to prevent degradation of river edges. In order to preserve and enhance the nature-oriented focus of the Corridor, trails on opposite sides of the river should be aligned so that primary or secondary trails are not near the river at the same location, and trails are not visible from each other, except at river crossings.

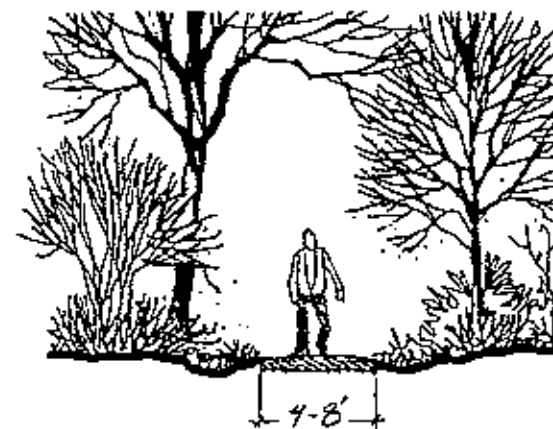
Trails located near the outer edge of the flood plain may be in close proximity to development on adjacent uplands. Ideally, a buffer of at least 100 feet width of natural woodland vegetation and a substantial change in grade should be used to protect the natural focus of greenway trails and provide privacy for adjoining residents. Where such a buffer is not feasible, tree plantings and a slight elevation of the private living space above the trail elevation can help create a sense of separation.

#### *Primary Trails*

Primary trails are the major arteries of the greenway system. These include the Neuse River Trail, greenway trails along major tributaries of the Neuse and main trails within Arrival Parks. These trails should 10 foot wide paved trails, built according to Capital Greenway Trail standards.



PRIMARY TRAILS - BITUMINOUS, CRUSHED STONE, BARK CHIPS or GRASS.



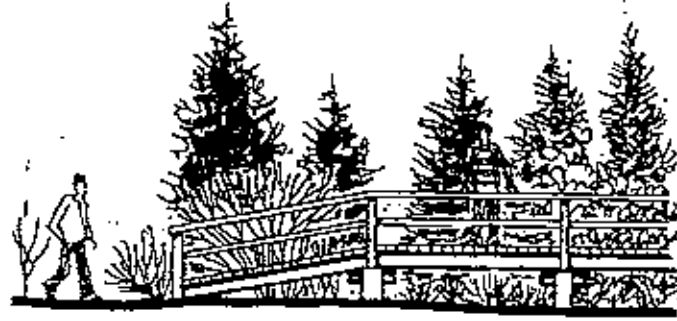
SECONDARY TRAILS - CRUSHED STONE, BARK CHIPS, GRASS or ASPHALT.  
TERTIARY TRAILS - BARK CHIPS or GRASS.

### Secondary Trails

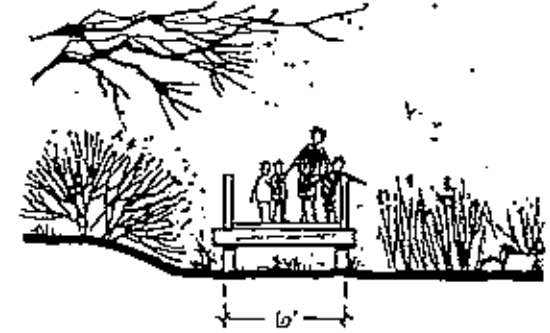
Secondary trails are trail segments that connect the Neuse River Trail and other primary greenway trails to secondary destinations such as adjacent developments, secondary greenways, sensitive natural areas, special features, etc. These trails should be four to eight feet wide, surfaced in crushed stone, bark chips, grass or, where necessary, asphalt, depending on site conditions and use and should follow the natural terrain where conditions allow. Where the Neuse River Trail is located near the outer edge of the flood plain, a secondary or nature trail closer to the river may be desirable.

### Nature Trails and Boardwalks

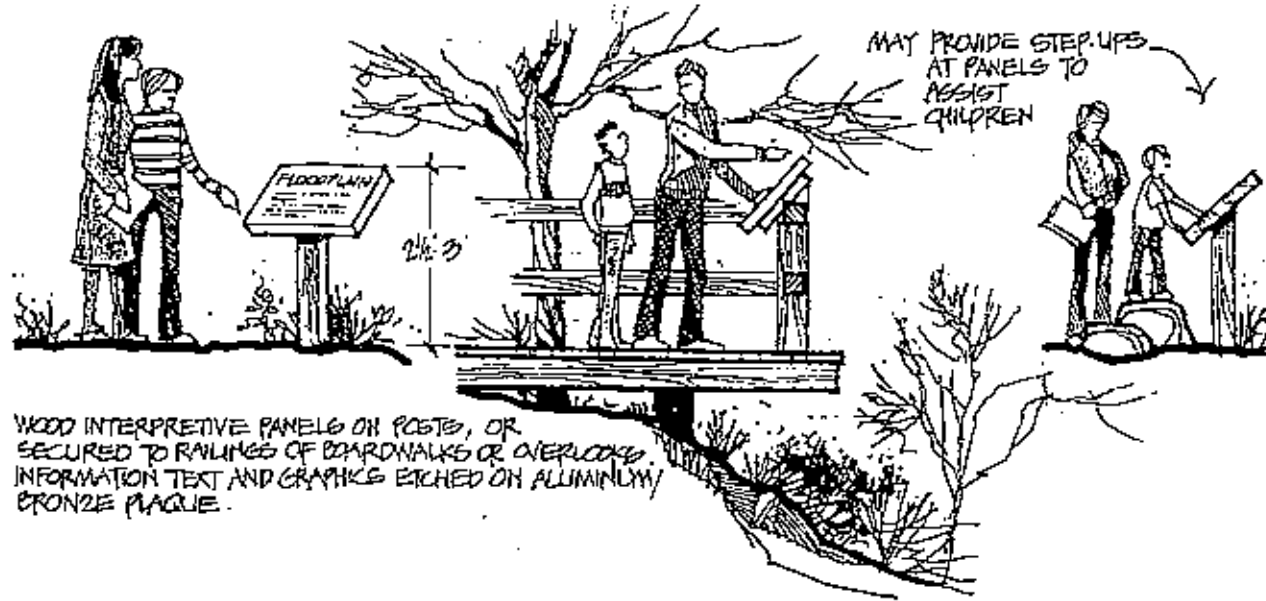
Nature trails are used to access the most secluded and sensitive environmental areas of the Corridor and generally take the form of loops or spur trails off the primary or secondary trail system. These trails should be four feet wide with a soft surface of bark chips, turf or natural soil. Boardwalks should be used under most circumstances along the edges of wetlands, but care should be taken to keep them from becoming visually obtrusive in the natural environment. Boardwalks are generally six feet wide and do not require rails if kept close to the ground or shallow water. Because of the cost and potential environmental impact of boardwalks, nature trails alongside sensitive areas should be used when possible.



TRAILS THROUGH WET AREAS  
RAMP UP TO BOARDWALK.  
MAXIMUM RAMP GRADE 8% (PREFERRED 1-5%)



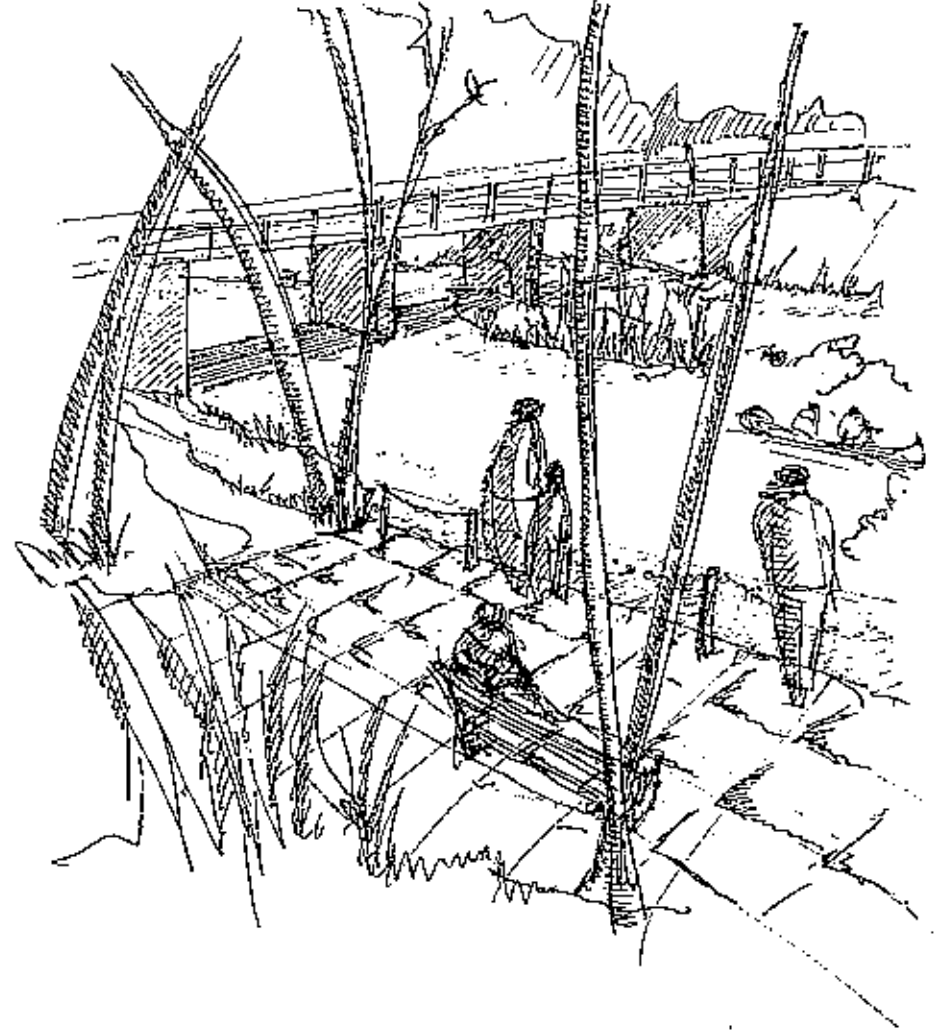
BOARDWALK THROUGH WET AREAS.  
RAILING HEIGHT 33" to 36"



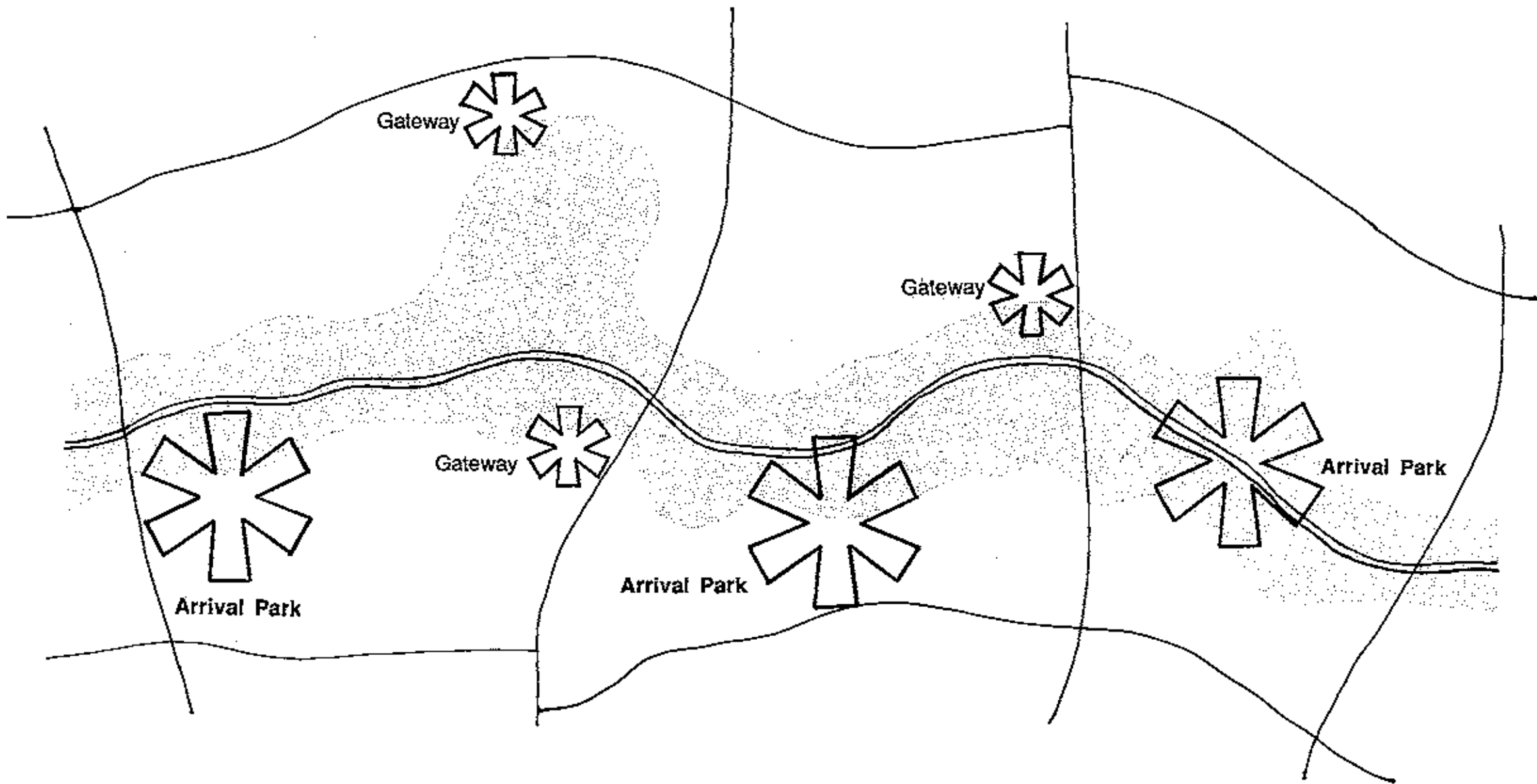
WOOD INTERPRETIVE PANELS ON POSTS, OR  
SECURED TO RAILINGS OF BOARDWALKS OR OVERLOOKS.  
INFORMATION TEXT AND GRAPHICS ETCHED ON ALUMINUM/  
BRONZE PLAQUE.

### *Bridges*

There are six existing and four proposed highway bridge crossings over the Neuse River Corridor. Feasibility studies should be conducted by the City or NCDOT to attach pedestrian bridges to existing bridges at Falls of Neuse Road, US-1, Buffaloe Road, US- 64, and Poole Road; and proposed bridges at the relocated Falls of Neuse Road, Northern Wake Expressway (Outer Loop), Highway 401, Raleigh Boulevard, and US-64 Bypass. These ten bridges will provide linkage and trail loop opportunities along the 18-mile river Corridor and reduce the need for additional free-standing pedestrian bridges. Pedestrian crossings should be designed to provide separation from vehicular traffic for increased safety and comfort. They should be located underneath the road bridge if feasible. An excellent example of a pedestrian river crossing exists in Richmond, Virginia where a bridge suspended below a highway provides pedestrian access to an island park in the James River.



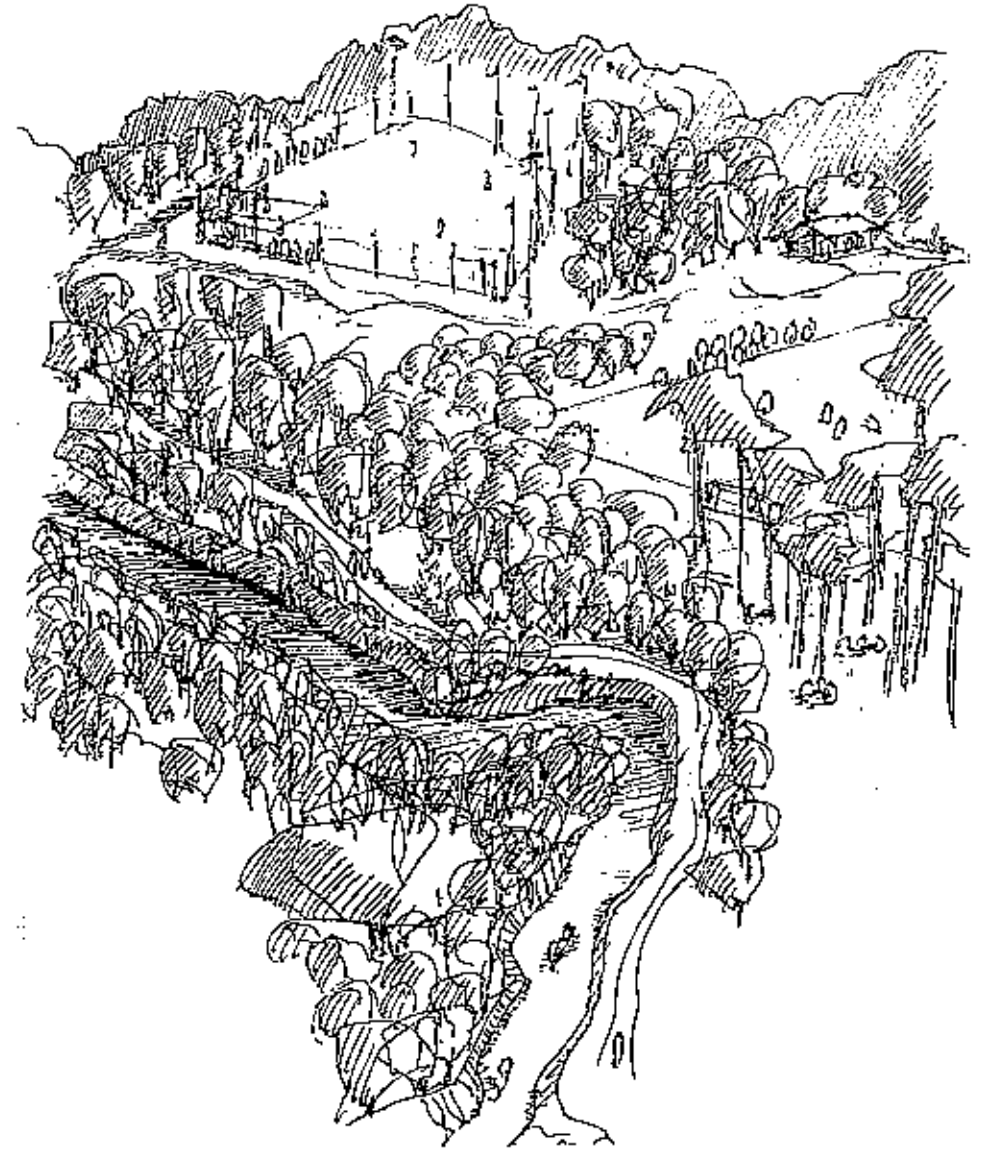




CONCEPTUAL ARRIVAL PARKS & GATEWAYS

### **Arrival Parks and Gateways**

Another major component to the success of the Neuse River Corridor is the ability to gain access to the Greenway Corridor and to provide land out of the flood plain for parking, restrooms, and recreation at reasonable intervals along the Corridor. Currently, public access to the river is achieved on three small isolated pieces of land with a parking lot and canoe launch or on foot from adjacent greenway trails. This form of access is not only limited in its capacity, but is difficult to manage from a security and maintenance perspective. In order to avoid the isolated nature of this form of access, the Conceptual Framework recommends that either Arrival Parks or Gateways be established at approximately two to three mile intervals along the Corridor to provide access from both sides of the river. These parks could range from ten to one hundred acres in size and should contain a critical mass of recreational components to help ensure that there will be people there during typical park hours. Arrival Parks are intended as destination facilities in themselves, as well as access points to the Corridor, with a range and scope of recreational facilities typical of a Community or Metro Park within the Raleigh Parks System. Gateways are typically smaller, with a primary function of providing access to the Corridor from parkways and crossing points.



### *Arrival Parks*

In order for the Neuse River Corridor to function as a regional park system rather than a collection of conventional community parks, a variety of recreational needs should be distributed along its entire length. Given the wide range of environmental characteristics available on land along the Corridor, sites should be selected that are ideally suited for a specific use. There is a need for three general categories of recreation facilities and park land which are appropriate along the Neuse River Corridor: Active, Passive, and Nature Reserves. The river corridor also offers unique opportunities for Adventure Program Elements which can be incorporated into Arrival Parks.

Active Recreation Sites generally contain playing fields and courts for organized athletics, recreation centers and associated support facilities. Sites selected for active recreation should be generally flat open land or pine woods that are reasonably well-drained and do not have bedrock close to the surface. Sites should be buffered from residential development and have good access to the primary road system. There are several sites along the Corridor that have been used for agriculture and forestry that fit this criteria.

Passive Recreation Sites typically accommodate informal forms of recreation such as walking, picnicking, fishing,

canoeing, horseshoes, bird watching, cultural interpretation, etc. The ideal type of site for these activities is a rolling wooded site with creeks, rock outcroppings, hardwood forests, ponds, and dramatic overlook views, all contributing to the natural beauty of the park. There are several sites along the Corridor that exhibit these environmental characteristics and the majority of park land will probably be of this type.

Nature Reserves are primarily selected because they contain unique environmental characteristics such as rare plant communities or prime habitat for wildlife which provide secluded educational and interpretive opportunities related to the natural ecology of the area. The most significant environmental characteristics present in the Neuse River Corridor are bald cypress and emergent wetlands and large tracts of undisturbed bottomland and hardwood forests. These areas contain a rich diversity of vegetation which provide ideal wildlife habitats teeming with birds, animals, and aquatic life native to the region. Large undisturbed tracts provide a type of habitat which is fast disappearing in the City at large. They are essential for preservation of some of the wildlife species currently existing in the Corridor. To be successful, these sites need to be in quiet, secluded areas away from highways and major development. Access to these sites should be limited to protect the value of the wildlife habitat.

Several unique sites are identified on the Inventory and Analysis drawing. These include Oxbow Wetlands, Horseshoe Bend Farm, Harris Creek, Beaverdam Creek West, Bridges Lake, and Rogers Lane Wetlands. The master plan recommends acquisition of these sites, or of greenway easements allowing access for limited interpretive trails and boardwalks. Since most of these sites are within the 100-year flood plain, they should be relatively inexpensive to acquire by one of the means described earlier in this report. At a minimum, the City should ensure their protection through Conservation Buffer zoning or other conservation techniques. Due to their remote nature, these sites can be accessed from the greenway trail and do not necessarily require vehicular access and parking. In some cases, they may be a special zone within another Arrival Park.

Adventure Elements are unique features, both natural and man-made, which create opportunities for Outdoor Adventure Programs and individual adventure activities. The Neuse River itself is the most significant adventure element in the Corridor providing eighteen miles of canoe, kayak, and boat trails. To make this journey more exciting, whitewater rapids challenge the adventurer at Falls Rapids, Lunch Rock and north of Poole Road. Wake County prepared a report investigating the potential of Falls Rapids to become a regionally significant white water canoe/kayak course. An artificial whitewater course, constructed outside the river

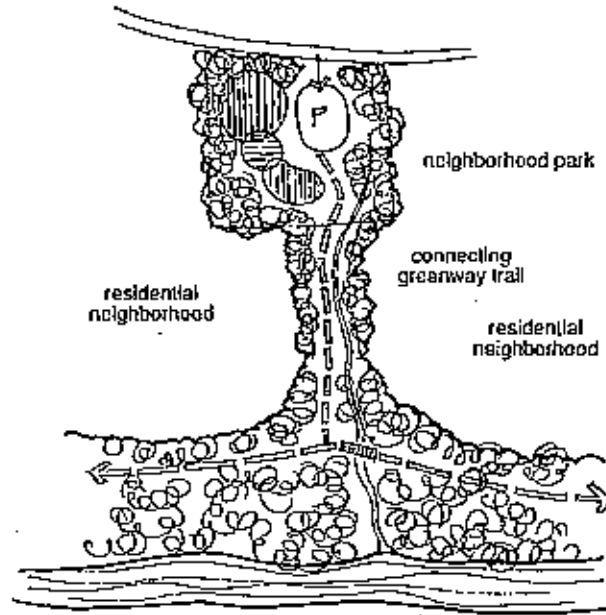
bed, may be possible. Other unique cultural experiences available along the Corridor include seeing how granite is quarried at the Nello Teer quarry, discovering the historic mill site near the Route-401 river crossing, exploring archaeological sites, and seeing the hydroelectric dam at Milburnie.

To make these adventure opportunities more accessible to the general public, an outstanding Adventure Program exists within the Parks and Recreation Department which organizes canoe trips, provides naturalists for nature hikes, teaches rock climbing and camping skills, and plans adventure trips around the region. The Adventure Program primarily operates along a three mile stretch of river from the canoe launch at Milburnie, through the rapids at Lunch River Rock and south of Anderson Point to the take-out at Poole Road.

The Adventure Program and the experience for individuals can be greatly expanded and enriched with the addition of special facilities along the Corridor. Canoe launch facilities at strategic locations, group camp sites, ropes courses, rock climbing walls, canoe rental facilities, and an Adventure Program Center would all contribute to making the Neuse River an adventure in itself. Specific locations for these elements should be included in future master plans for Corridor segments, as they are in the plans for Anderson Point Park-Milburnie Park segment.

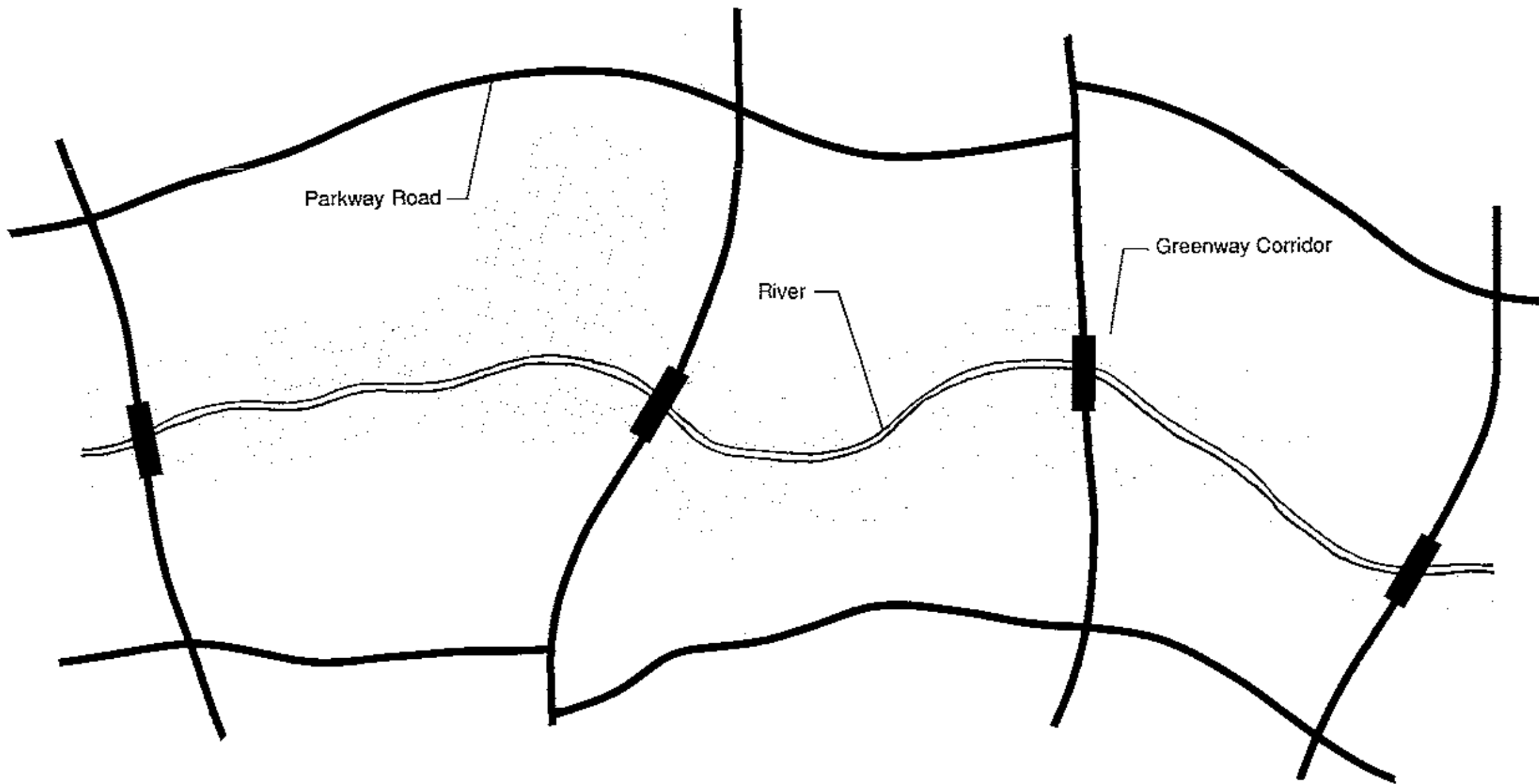
### *Gateways*

The primary focus of Gateways is provision of access to the Corridor. Gateways are to be located adjacent to roadways to facilitate easy access to the Corridor. Parking, wayfinding information and trail-associated facilities should, at a minimum, be provided. Where feasible and desirable, additional acreage can be acquired and developed for expanded recreation and/or conservation purposes. Gateways, however, are not proposed as sites for traditional active recreation facilities. Such facilities can more efficiently and suitably be accommodated elsewhere.



### **Parkway Road System**

The Parkway Road System is a network of existing and proposed streets that parallel the Neuse River Corridor. The purpose of the parkways is to provide access to the Corridor, and serve as scenic routes for vehicular and bike travel. They also serve as a wayfinding system to each of the Gateway or Arrival Parks and to increase public exposure and awareness of the Neuse River Corridor and the Regional Park. Bicycle lanes should be provided along all parkways so the parkways can serve as part of the bicycle trail network for the Corridor. Pedestrian walkways are also highly desirable along the parkways. The Parkway system can be created with a series of "Trail Blazer" signs similar to the ones used for Scenic Highway routes.



CONCEPTUAL PARKWAY ROAD SYSTEM





**Corridor Master Plan**

## **Corridor Master Plan**

Building on the Conceptual Framework, the Corridor Master Plan weaves together guiding principles and site specific opportunities along the Corridor into a plan for a cohesive regional park. This regional park is built upon the conservation of the 100-year flood plain and the provision of trails along both sides of the river wherever feasible. The plan uses existing park sites as core facilities and identifies key upland sites which are suitable to significantly expand traditional recreation facilities. Private, quasi-public and public properties in other jurisdictions are identified as potential partners in structuring and providing access to this regional park. Road crossings are emphasized as means to increase and enhance awareness of the Corridor. Two new roads bring vehicular access closer to the river and to the park. Parkways, as described in the Conceptual Framework, will serve as a wayfinding system to the regional park and increase public exposure and awareness of the Neuse River Corridor as a whole.

### **Plan Foundation**

The Corridor Master Plan is built on a strong foundation of existing policies and public land holdings which support and make eminently feasible its development. A series of plans illustrates the layers of support on which the master plan is developed:

**Plan 1: Neuse Greenway**, shows the river itself, together with the 150-foot greenway Corridor on each side. This is the core layer of the plan's foundation.

**Plan 2: Flood Plain, Wetlands and Special Places**, expands this greenway Corridor to include the entire 100- year flood plain with its many wetland areas. This map also indicates by means of colored dots a number of special places along and near the Corridor. These special places consist of scenic, historical or cultural resources such as rock outcrops, unusual wetland types, historic farms, mills or other structures and other unusual places such as the quarry and the hydroelectric plant. These places contribute to the character and to the potential use of the Corridor, whether within public or private control.

**Plan 3: Connecting Greenways and Adjacent Development**, adds context to the plan, showing the connecting greenways of the Capitol Area Greenway System and the existing development adjacent to the Corridor. This map shows both existing opportunities and limits to the project area.

**Plan 4: Existing Parks and Opportunity Sites**, shows the existing public and quasi-public properties along the corridor including City-owned park sites, the proposed Wake Tech

campus, the Capital Area Soccer League fields and the Wake County landfill. These all present opportunities to develop connections between the Corridor and adjacent upland areas, to provide access and parking, to provide a greater range of recreational facilities, and simply to bring more people to the river.



**LEGEND**  
 150 Ft. Greenway Corridor

City of Raleigh  
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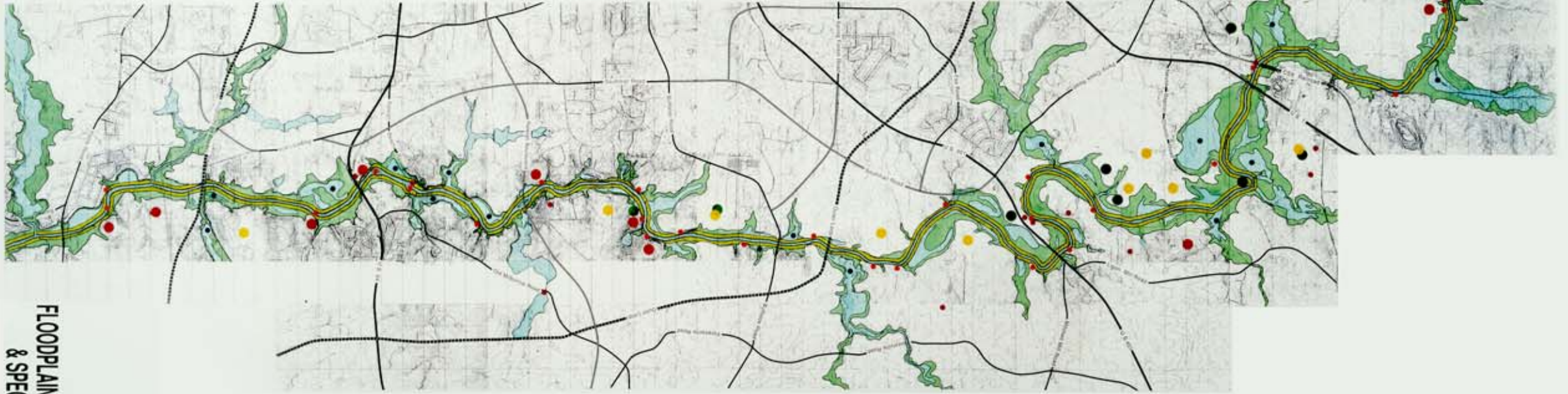
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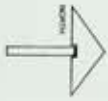


**LEGEND**

- 150 Ft. Greenway Corridor
- 100 Yr. Floodplain
- Wetlands
- Special Places:
  - Historic & Cultural Sites
  - Rock Outcrop
  - High Quality Wetlands
  - Level Open Land & Forests
  - Scenic Terrain Pulling Open Land & Hardwoods
  - High River Overlooks



**FLOODPLAIN, WETLANDS  
& SPECIAL PLACES**



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- LEGEND**
- 150 Ft. Greenway Corridor
  - 100 Yr. Floodplain
  - Wetlands
  - Special Places:
    - Historic & Cultural Sites
    - Rock Outcrops
    - High Quality Wetlands
    - Level Open Land & Pinewoods
    - Scenic Farmlands
    - Rolling Open Land & Hardwoods
    - High River Overlooks
  - Connecting Greenways
  - Adjacent Residential Development
  - Adjacent Non-Residential Development
  - Existing Parks
  - Opportunity Sites: Public or Institutional Properties



**EXISTING PARKS & OPPORTUNITY SITES**

City of Raleigh

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**CONNECTING GREENWAYS  
& ADJACENT DEVELOPMENT**

- LEGEND**
- 150 Ft. Greenway Corridor
  - 100 Yr. Floodplain
  - Wetlands
  - Special Places:**
    - Historic & Cultural Sites
    - Rock Outcrops
    - High Quality Wetlands
    - Level Open Land & Pinewoods
    - Scenic Terrain - Flooding Open Land & Hardwoods
    - High River Overlooks
  - Connecting Greenways
  - Adjacent Residential Development
  - Adjacent Non-Residential Development

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### **Corridor Master Plan Map**

The final map, the **Corridor Master Plan**, is structured around the layers of opportunities and limitations presented in the preceding four maps. The Corridor Master Plan utilizes available resources to build a regional park, respects limitations already existing along the Corridor, and illustrates the potential relationships between the Corridor and properties controlled by other governing authorities or private organizations. Most importantly, this map introduces the features and proposed acquisition of specific upland sites that will distinguish the Neuse River Corridor as a regional park of extraordinary value in terms of recreational opportunity and resource conservation.

### **Principal Elements**

The Corridor Master Plan has eleven major components. These components are as follows:

1. Flood Plains and Wetlands
2. Gateways
3. Arrival Parks
4. Potential Park Land
5. Opportunity Sites
6. Existing Parks
7. Trail System
8. Special Places
9. Riverside/Parkside Drives
10. Corridor Crossings
11. Parkways

A more complete description of these components is provided in paragraphs following the map.





- LEGEND**
- 100 Yr Floodplain
  - Wetlands
  - Special Places**
  - Historic & Cultural Sites
  - Rock Outcrop
  - High Quality Wetlands
  - Lower Open Land & Paved Area
  - Soils, Terrain, Ripping Open Land & Hardwood
  - High River Overlook
  - Connecting Greenways
  - Existing Parks
  - Opportunity Sites, Public or Institutional Properties
  - Potential Park Land
  - Proposed Arrival Parks
  - Proposed Gateways
  - Roadside Drive
  - Comber Closings
  - Parkways
  - Misc Marker

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### **Flood Plain and Wetlands**

The 100-year flood plain, which includes the wetland areas shown on the Corridor Master Plan, is the backbone of the plan. The inclusion of the 100-year flood plain is the minimally acceptable measure of protection for the river system. It serves as flood storage, provides refuge for wildlife and exceptional vegetation, helps to maintain water quality, and buffers the Corridor from adjacent land uses. The flood plain is the true boundary of the river. Conservation of the river and the experience of the river are both incomplete without the continuous relationship and connection between river and flood plain.

In some locations, the flood plain is narrower than the City of Raleigh's 150 foot standard greenway width for the Neuse Corridor. In these locations, the 150 foot greenway easement should be obtained by acquisition or other voluntary means. In all other situations, the full width of the 100-year flood plain should be conserved. Ideally, this flood plain should come into public control. However, flood plain areas can remain privately held. Under these circumstances, an agreement should be sought to prohibit clearing of flood plain areas and to provide public access via the 150 foot greenway easement provisions currently in the codes.

The 100-year flood plain, associated wetlands, the 150 foot greenway easement and, of course, the river itself, when combined together, form a distinct and substantial recreational resource. They are also the foundation for the greater regional park planned around them.

### **Gateways**

There are ten Gateways proposed on the Corridor Master Plan. These ten Gateways are:

1. Richland Creek
2. Neuse River Drive
3. Route One
4. Tom's Creek
5. Perry Creek
6. College (Wake Tech)
7. Buffalo Road
8. Raleigh Boulevard
9. Route 64
10. Poole Road

These Gateways could range from ten to one hundred acres in size, depending on their specific locations and the distance from the adjacent roadway to the river. All of the Gateways are located adjacent to roadways so to facilitate easy access to the Corridor. The combination of Gateways and Arrival Parks (described below) provide access from each side of the river

at intervals of two to three miles along the entire Corridor. This frequency of access, combined with trails on both sides of the river, crossovers at roadway crossings, and lesser pedestrian access points through residential developments, establishes sufficient opportunity to enter and logically travel along the Corridor.

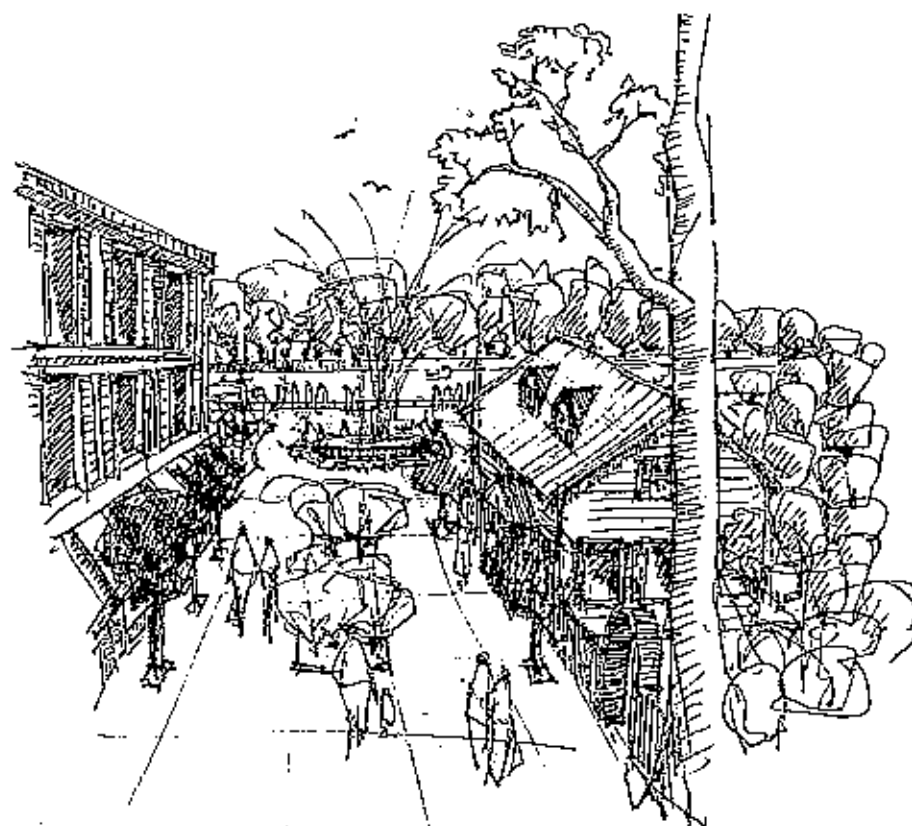
### **Arrival Parks**

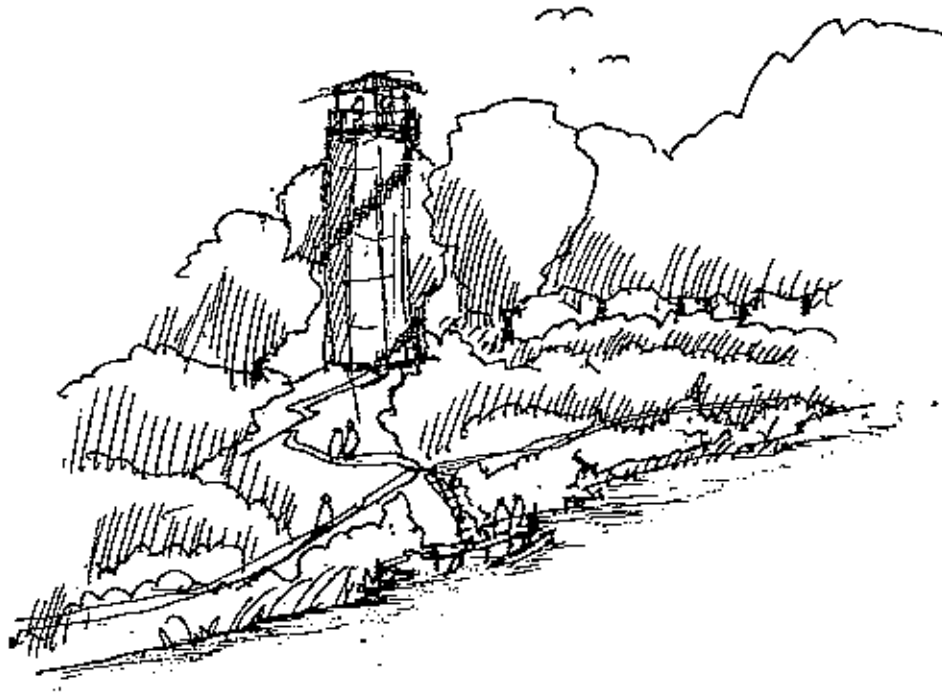
There are six Arrival Parks proposed for the Corridor. These parks are major centers of recreational activity along the Corridor and within the regional park. Each Arrival Park represents a unique opportunity for recreational activity. The six Arrival Parks are described below.

#### *Falls Park*

Falls Park, located at the base of the Falls Lake Dam and adjacent to the Village of Falls, is the primary gateway to the Corridor. Falls Park encompasses the Knobs Overlook identified in the Conceptual Framework and suggests that a modestly urban linkage between the Village of Falls, new development and the park could be developed to create an integrated and exceptionally interesting relationship to the river. It is also proposed that a whitewater kayaking facility be developed here, taking advantage of the change in elevation from the lake to the river and sufficient water volume to make such a facility work.

The City of Raleigh already leases from the Army Corps of Engineers a small parcel of land at the falls for use as a canoe launch. The land suggested for the greater Falls Park has excellent bluffs from which to view the river, scenic terrain, rocky outcrops and open, flatter land suitable for more traditional recreation activities.





### *Hairpin Bend Park*

Hairpin Bend Park is located between Route 1 and mile 5 as measured downstream from Falls of Neuse Road. The heart of this park is extensive wetlands found on both sides of the river, in particular the Oxbow Wetlands and the Wetland Lakes areas shown on the Corridor Master Plan. At the hairpin turn in the river, the plan shows an observation tower for looking out over the broad expanse of wetlands and wetland forests.

Immediately south of the Oxbow Wetlands is a large expanse of undeveloped uplands, relatively flat and open or in pine woods, which are ideally suited for intensive development of athletic fields. This expanse extends southward until it connects with the Capital Area Soccer League property. This land, combined with the extensive wetland areas and areas of mature hardwoods near the river, could create an Arrival Park and a zone within the regional park that offers extensive and exceptional opportunities for active and passive recreation.



### *Horseshoe Bend Park*

Horseshoe Bend Park as shown on this plan centers around and expands on Horseshoe Farm, a site already owned by the City of Raleigh. A pedestrian bridge to the Capital Area Soccer League Property and Perry Creek Greenway to the west immediately expands recreational opportunity for users at both sites. A historic farm site which adjoins both sides of U.S. 401 would be a valuable addition to this park. Just northeast of this farm site on the west side of U.S. 401 is an excellent site for provision of access to the river. The riverbank here has a modest slope and would serve well as a launch/takeout point for canoes. Access via a bridge directly into Horseshoe Farm from US-401 may also be desirable.

South of US-401 on the east bank of the river is a site identified in the Conceptual Framework as the Forestry Site. This site has been cleared for timber, is flat and generally out of the flood plain. It is ideally suited for intensive athletic field development. Across the river from this site is the future northern campus of Wake Technical College. A cooperative effort with the College to develop riverfront amenities for public use should be pursued. The Forestry Site and the Wake Tech property establish the southern limits of the expanded Horseshoe Bend Park.



### *Botanical Garden/Arrival Park Search Area*

Between Buffalo Road and the proposed crossing point of Raleigh Boulevard, an Arrival Park is desirable to provide access to the river and additional recreation opportunity. There are at least two sites which are well-suited for development as a botanical garden. It is known that the Wake County Botanical Garden Society is searching for approximately two hundred acres to create a new, privately funded botanical garden, and they may be interested in the potential sites in this search area. Otherwise, the Inventory and Analysis Plan identifies several sites suitable for development as an Arrival Park.

### *Milburnie Park*

Milburnie Park consists of two sites currently known as Neuse East Park and Neuse West Park, along with properties in the Corridor between them and adjacent to them. A master plan has been developed for these sites. Please refer to the description of the Milburnie Park Master Plan for more detail.

### *Anderson Point Park*

Anderson Point marks the confluence of the Neuse River and Crabtree Creek. A master plan has been developed for this site. Please refer to the description of the Anderson Point Master Plan for more detail.

### **Potential Park Land**

Potential Park Land is land not in flood plain and not already owned by the City of Raleigh that is undeveloped and particularly suitable for recreation or as a unique amenity. Four such areas have already been described under Arrival Parks. These include land at Falls Park, Hairpin Bend Park, and Horseshoe Bend Park, as well as the Botanic Garden/Arrival Park Site.

Additional lands recommended for acquisition or joint use include the Mallinckrodt Overlook, located just west of U.S. 1, a strip of uplands between the proposed Parkside Drive and the Oxbow Wetlands, a strip of uplands between the proposed

Riverside Drive and the river, and additional acreage at Anderson Point Park to accommodate neighborhood-scale active recreation. Other areas, at least ten acres in size, are also recommended for acquisition for Gateways as shown on the Corridor Master Plan.

Potential Park Land sites are the principal targets for acquisition and offer, in the main, outstanding opportunities for the development of active recreation facilities.

### **Opportunity Sites**

Opportunity Sites are public or institutional properties which can be woven into the fabric of the regional park. These properties include the Corps of Engineers land at Falls Lake, the Nello Teer Quarry, the Wake County landfill, the Wake Forest wastewater treatment plant, the Capital Area Soccer League site, and the Wake Tech campus. All of these properties have the potential to contribute to recreation opportunity along the Corridor or, at a minimum, to retain significant open spaces along or adjacent to the Corridor. Cooperative efforts between the City of Raleigh and the owners of these properties should be pursued to enhance the conservation and use of the Neuse River Corridor.

**Existing Parks**

A description of park sites already owned by the City of Raleigh has been provided earlier in this report. These sites are highlighted on the 1000 scale Corridor Master Plan. These park sites, along with the flood plain/greenway spine of the plan, constitute a significant core for the ultimate regional park.

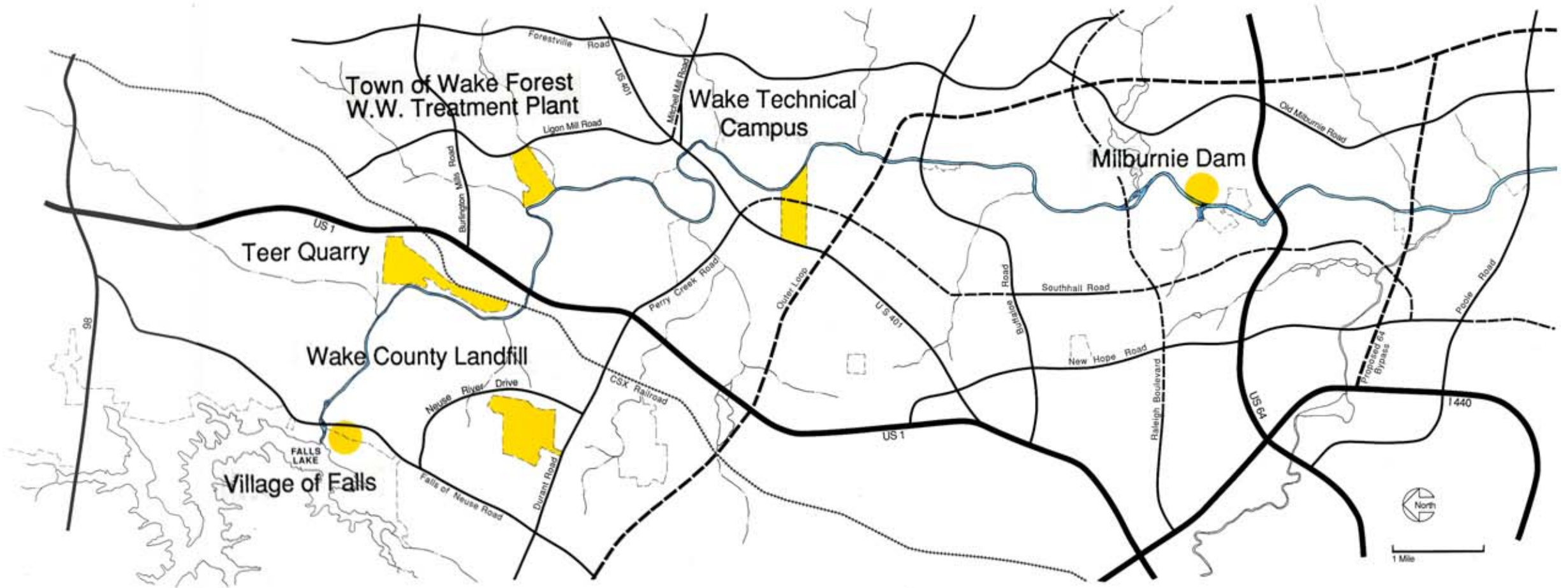
**Trail System**

The proposed trail system is described in detail under the Conceptual Framework section of this report. A conceptual system of trails is shown on the 400 scale Corridor Master Plan drawing. Both long distance and shorter loop trails are the most essential ingredients to the success of the regional park.

**Special Places**

Numerous colored dots on the 1000 scale Corridor Master Plan represent significant historic and cultural sites, rock outcrops, high quality wetlands, level open land and pine woods, scenic terrain, and high river overlooks. These are documented on maps in the Summary Inventory section of this report. Some of these special places fall within Flood Plains, Arrival Parks or Potential Park Land, while others do not. As proposals for development come before the City of Raleigh or other jurisdictions, it is recommended that these

special places be noted and addressed in some manner. If they fall within targeted acquisition areas, the City has the opportunity to purchase or influence the use and/or conservation of a special place or resource. If they fall outside targeted acquisition areas, developers should be made aware of them and encouraged to consider their conservation and incorporation as private or public components adjoining the Corridor. In this manner, the reach and richness of the Corridor as a whole is extended and the relationship of developments and people to the river is expanded and enhanced.

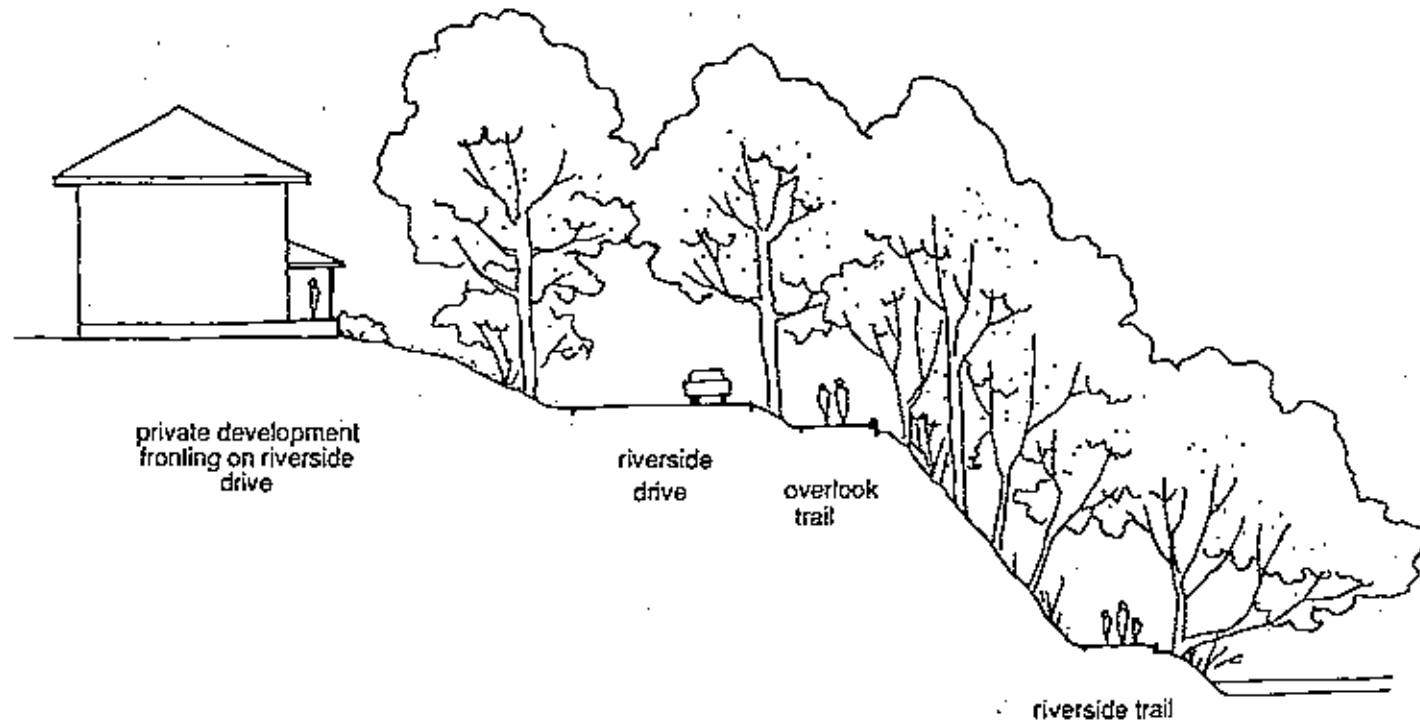


**OPPORTUNITY SITES**

### Riverside/Parkside Drives

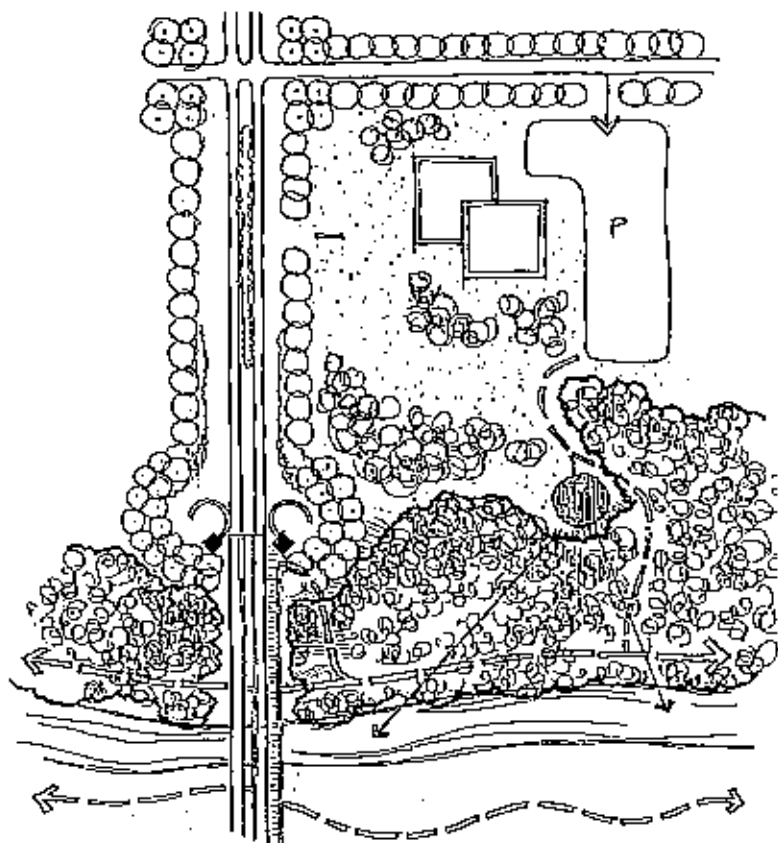
These two roadways are proposed to bring people in vehicles closer to the park, or in the case of the Riverside Drive, closer to the river itself. Parkside Drive links U.S. 1 with Perry Creek Road and creates the western boundary of the proposed park area between Hairpin Bend and Horseshoe Bend. Riverside Drive links Southhall Road at Wake Tech to Buffalo Road.

These roadways should be coordinated with the development of the Parkway System. They also should be developed with bike lanes so that alternate high speed and local bicycling routes can be accommodated. Sidewalks should be included along them to increase opportunities for pedestrian movement. Scenic turnouts should be incorporated along Riverside Drive and along Parkside Drive near the Oxbow Wetlands. These roadways add another dimension to accessing the Corridor and, in a limited sense, add another dimension to recreation opportunity along the river.



### Corridor Crossings

Where roadways cross the Corridor, the plan proposes use of plantings, signage, and physical markers to increase awareness of the Corridor, to guide people to points of access, and to establish a distinct, bold sense of identity for the Corridor as people pass over it. A landmark or gateway emblem is recommended to mark the edge of the Corridor.



Development at Major River Crossing

Within the Corridor, the natural vegetation should be extended as close to the road as possible to enhance a sense of continuity along the Corridor. Plantings, such as street trees, can extend along roads crossing the Corridor for as much as several thousand feet on both sides of the river so that people recognize that they are entering the Corridor. This visual extension of the Corridor beyond its obvious boundaries enhances awareness of the Corridor and physically links the Corridor with surrounding land uses at these points of crossing.

### Parkways

The purpose and design criteria for a Parkway Road System are described in the Conceptual Framework portion of this report. The Parkway route begins on the west side of the river with Neuse River Drive (proposed on the Thoroughfare Plan) at the north, connects to Perry Creek Road and then follows the Southhall Road extension all the way to Anderson Point Park. The route continues across Poole Road on the east side of the Corridor to Hodge Road and goes north along Forestville Road (SR2049) up to US-1, then back to the dam on Falls of Neuse Road. The Parkway System can be a valuable recreational resource in itself, providing a scenic route for driving and cyclists as well as connecting the Arrival and Gateway Parks.

## **Master Plan Summary**

The **Conceptual Framework** and the **Corridor Master Plan** together comprise the **Master Plan**.

The **Conceptual Framework** for the Neuse River Corridor provides a comprehensive vision and guiding principles for a Regional River Park System along eighteen miles of Neuse River. Its full implementation will require an intergovernmental partnership involving State, County and Local Governments working cooperatively over the next 10-20 years, each implementing the portions of the overall plan within their respective jurisdictions. The final vision for the plan will incorporate a **Greenway Corridor** consisting of over 2,000 acres of flood plain, a **Greenway Trail System** containing an extensive trail network, **Gateways or Arrival Parks** at two to three mile intervals and **Parkside, Riverside and Parkway Road Systems** involving many miles of existing and proposed roads and thoroughfares. Once complete, the Neuse River Regional Park System will contribute greatly to the open space preservation and environmental recreation goals of Raleigh, Wake County, Wake Forest and Knightdale, as well as to the conservation of a critical natural resource.

The **Corridor Master Plan**, built upon the Conceptual Framework, presents a more specific vision for the Regional River Park System. Building first upon the City of Raleigh's greenway easement initiative and the preservation of the 100-year flood plain and associated wetlands, this plan demonstrates how existing park sites, other public and institutional properties, and specific acquisition sites can be linked together to create a recreational resource of unparalleled quality and diversity. This specific vision also demonstrates feasibility. Many of the major land components of this Regional River Park System can be secured through means other than direct purchase. The plan shows that many of the major components are outstanding in themselves. Linked together, they create a system that is, in a true and achievable sense, spectacular.





**Master Plans:  
Anderson Point Park and Milburnie Park**

## **Master Plans for Anderson Point Park and Milburnie Park**

### **Relationship to the River Corridor**

Anderson Point Park and Milburnie Park are the first two Arrival Parks to be developed as part of the Neuse River Regional Park. The specific master plans are based on the individual qualities that each site offers relative to its relationship with the river and the potential for recreation opportunities beyond river-oriented amenities and facilities. Each park is considered as a part of the proposed larger whole. As parts of this larger whole, the plans for these parks focus on the unique contributions the parks can make to the regional system. The plans for these parks will be diminished or significantly compromised if the greater Corridor/Regional Park goals are not pursued and accomplished to reasonable degrees. This is because they are designed as Arrival Parks, offering and enhancing services to the Corridor, rather than as independent destinations. These park plans do not offer a model for other Arrival Parks because each Arrival Park plan must seek, identify and develop its unique qualities as a critical node in the Regional River Park System.



**Anderson Point Park Master Plan**



City of Raleigh

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# ANDERSON POINT MASTER PLAN



# **Anderson Point Park Master Plan**

## **Summary Site Description**

Anderson Point Park is a 105 acre site, split into two parts by the existing railroad. The main section of the park south of the railroad, approximately 93 acres in area, is roughly triangular in shape, bounded by the Neuse River to the east and Crabtree Creek to the west. Vehicular access to the site is from Rogers Lane on the north end of the site.

The City of Raleigh purchased Anderson Point from the Anderson family in 1988 to develop the entire parcel as a park. In 1992, the City and NCDOT agreed to trade a right-of-way for the highway along the northern edge of the property for mitigating lands adjacent to Anderson Point and certain incidental features along the road site.

The central upland portion of the main section, approximately 25 to 30 acres in area, is pastoral in character with rolling open fields punctuated by hedgerows and occasional cedars. A grove of large oaks surrounds the existing farmstead on the hilltop. The open uplands are separated from the river by steep wooded slopes and a broad flood plain. A narrower fringe of hardwood forest on moderately steep slopes borders Crabtree Creek with a much narrower flood plain. A sanitary sewer line parallels the river, leading to a pump station near the southern tip of the uplands. A power transmission line

traverses the site just south of the pump station. The flood plain forms a broad flat point at the confluence of the river and creek, with relatively mature and open hardwood forest, including some enormous oaks.

The twelve acre section north of the railroad is primarily open field and is traversed by a power transmission line with a 100 foot wide right-of-way. There is a large grove of mature hardwoods near Rogers Lane at the top of the draw between the power line and the railroad.

## **Master Plan Summary**

The Master Plan for this site includes a major gateway to the greenway north of the railroad, and a variety of recreational elements in the main section of the park accentuating the confluence point, connections to the river, and the scenic pastoral character of the central uplands. The planned facilities accommodate many recreational uses with a focus on informal play, walking, picnicking and other means of enjoying and exploring the varied and scenic qualities of the site. A more detailed description of the plan elements follows.



## **Master Plan Elements**

### **Access and Parking**

A bridge over the railroad and proposed US-64 Bypass in the location of the existing footbridge will provide access to the park from Rogers Lane. Separate, parallel vehicular and pedestrian pathways lead across the bridge into the park. The entry road leads past the parking lot for the riverfront/greenway area and by a water feature which introduces the visitor to the park. The drive then leads to a circular drive/drop-off area and to a parking area for approximately 200 cars just south of the highway corridor and west of the entry drive. Just beyond the circular drop-off, an entry pavilion serves as the pedestrian gateway into the park. A drive reserved for use by handicapped visitors leads to the southern end of the site, running parallel to the highway and then roughly following the existing road along the edge of the woods. The drive ends in a small parking lot with twenty spaces for handicapped users at the southern end of the site below the sewer pump station, providing more convenient access to the point and riverside walks.

### **Entry Pavilion**

An entry pavilion located at the intersection of the entry drive and a major cross-site pathway introduces visitors to the main portion of the park. Paths lead out from the pavilion into the oak grove, the central lawn area and toward the beech grove.

### **Oak Grove**

The plan preserves the mature oak grove around the portion of the existing farmstead south of the highway corridor as a forecourt for one multi-use building and as a shady overlook area with views out over the central lawn area.

### **Multi-Use Building - Oak Grove**

A multi-use facility, with functions based on the City's future program needs, is located in the area just east of the oak grove. The architecture of this building should complement the pastoral landscape around it and reflect the farming history of the site.

### **Gathering Garden**

This garden, located on the ridge east of the multi-use building, serves as outdoor gathering space for functions at this facility and as a place for educational and interpretive programs. The tobacco barns and any historically significant portion of the farmhouse should be relocated, if feasible, to this area to give structure and greater utility to the garden space and to add historical context and opportunities for interpretive exhibits on the site's historical use. The garden is envisioned to create a microcosm of the park with a water feature reflecting the park's main focus as well as helping to

mask highway noise, and plantings reflecting the site's agricultural history and its varied natural environments.

#### **River Overlooks**

The cross-site axis extends through the garden to a river overlook at the top of a steep slope with trails leading down to the flood plain and to the pedestrian bridge across the river next to the proposed US-64 Bypass. Another upland overlook is located on a nearby knoll in the woods with views of the wooded slopes, flood plain and ephemeral wetland pond.

#### **Stone Overlook Terrace and Riverwalk**

South of the river overlook, a trail leads down the slope through the beech woods to a stone overlook terrace next to the river and a stone riverwalk along the river's edge, just above the normal water level where park visitors can get close to the water on solid ground.

#### **West Cross-Site Pathway**

A tree-lined trail leads west from the entry pavilion towards Crabtree Creek. Stepping down to a boardwalk across the beaver pond below the existing farm pond, the pathway ends in a beech grove at a bend in the creek.

#### **Fishing Pond**

If the proposed US-64 Bypass is constructed through the park, the portion of the existing farm pond outside of the highway Corridor should be reshaped and buffered from the highway embankment to create a fishing pond.

#### **Picnic Shelters**

A large picnic shelter is planned at the edge of the woods bordering Crabtree Creek with convenient access from the main parking area. An informal lawn is located adjacent to the picnic area. It is separated from the main lawn by hedgerows which provides a semi-private space. Smaller shelters are shown at several points around the edges of the central lawn and at the upland overlook.

#### **Multi-Use Building - West Meadow**

A second multi-use building at the southern end of the separate lawn offers potential for development as a corporate retreat center or other function as determined in the future. This building looks over the enclosed play lawn and through the woods to Crabtree Creek.

#### **Central Lawn Area**

The central upland portion of the park remains open with a long informally shaped lawn extending from the existing oak grove on the hilltop to the southern end of the upland.

accentuating the length of the site and leading the eye toward the point. A lobe of this lawn extends to the east below the gathering garden, offering additional space for informal play. The lawn shape is modulated to create three informal spaces within the greater lawn area. This 'great lawn' is intended to remain as rolling ground, with grading limited to the extent necessary to make lawns suitable for pick-up games, kite-flying, frisbee-playing and other informal play. The lawns, and indeed the entire park area south of the railroad, are not intended for organized athletics. Small groves of trees and meadow areas are proposed to shape and differentiate the open lawn areas.

#### **Sculpture Terrace**

A sculpture terrace crowns the knoll on the eastern edge of the central lawn with views out over the site across rough meadows on the slopes of the knoll.

#### **Flood Plain Areas**

The plan accentuates and enhances the diversity of natural habitat in the flood plain areas of the park, providing a variety of trails so that visitors can explore this area. The existing wetland and ephemeral pond area west of the sewer line should be managed to encourage more diverse wetland vegetation. The woods mass south of the power line should be shaped to reduce the linear character of the cleared Corridor

and to accentuate views towards the point. A new wetland pond is shown on the western end of the power line corridor. The banks of this pond are intended to be gradually sloped and the pond kept shallow enough for wading in order to provide safe access for participants in park nature programs.

#### **The Confluence Point**

An island overlook at the tip of the point, connected to the point by a short bridge provides panoramic views up and down the Neuse, up Crabtree Creek and back to Anderson Point. The existing tip of the point, currently covered with brambles and including no significant trees, will be cut off to create the island. The larger trees at the point are set back from the tip and will be preserved, with some thinning of underbrush to accentuate the open woodland character of this area. A planned bridge across Crabtree Creek just north of the confluence, will connect to future greenway trails along the Neuse down to Poole Road and to the Crabtree Creek greenway.

#### **Crabtree Creek Trail**

A planned trail leads through the rich hardwood forest on the slopes along Crabtree Creek from the point to the Beech Grove. Trail portals will identify access to this trail from the central lawn. Access to the creekside woods will be

restricted except where trails are provided to minimize damage to vegetation on the slopes.

#### **Trail Network**

A network of trails will connect the various site elements and provide opportunities for circuit routes of varying lengths and character. All main site elements will be served by at least one hard-surfaced trail for universal accessibility. Surfaces of other trails will vary, ranging from soft surfaces such as bark chips, grass or fine gravel to hard surfaces such as stone, asphalt or concrete.

#### **Pump Station**

Most of the shrub and pine screen plantings around the pump station should be removed and replaced with groves of oaks and other native hardwoods to soften the views of the facility in a manner more compatible with the park landscape.

#### **Restrooms**

A small restroom building is shown at the southern end of the uplands to serve the flood plain and confluence areas.

#### **Greenway Gateway North of Railroad**

The area north of the railroad and the planned US-64 Bypass will serve as a major entrance to the greenway with a focus on the riverfront. A canoe launch, picnic shelter and greenway

service facility with restrooms and possibly food service, and bike or canoe rentals, is located on the riverbank along with a 180 space parking area for greenway users. A river marker, designed in conjunction with others along the Corridor, serves as a landmark, identifying the park entrance from the water. A small fishing pond is shown in the draw north of the railroad embankment.

#### **Greenway Trail Connections**

Several routes are proposed to connect the park to the greenway trail north of the site. A trail follows the river from the canoe launch, passing under the railroad bridge on a 12 foot wide embankment or boardwalk, and continuing under the proposed highway to connect to trails on the park flood plain and uplands. The proposed highway crossing should be designed to accommodate a 12 foot wide path along the river to provide for possible future trail widening. Another trail crosses the northern section of the park past the fishing pond to enter the main park over the entry bridge. A pedestrian bridge connected to the proposed US-64 Bypass crossing allows connection to Knightdale's proposed Mingo Creek Greenway as well as to future trails along the east side of the river. A new pedestrian bridge over Crabtree Creek at the southern end of the site enables connections to future greenway trails extending south along the river and upstream along Crabtree Creek.

### **Mitigation for Proposed Highway Corridor**

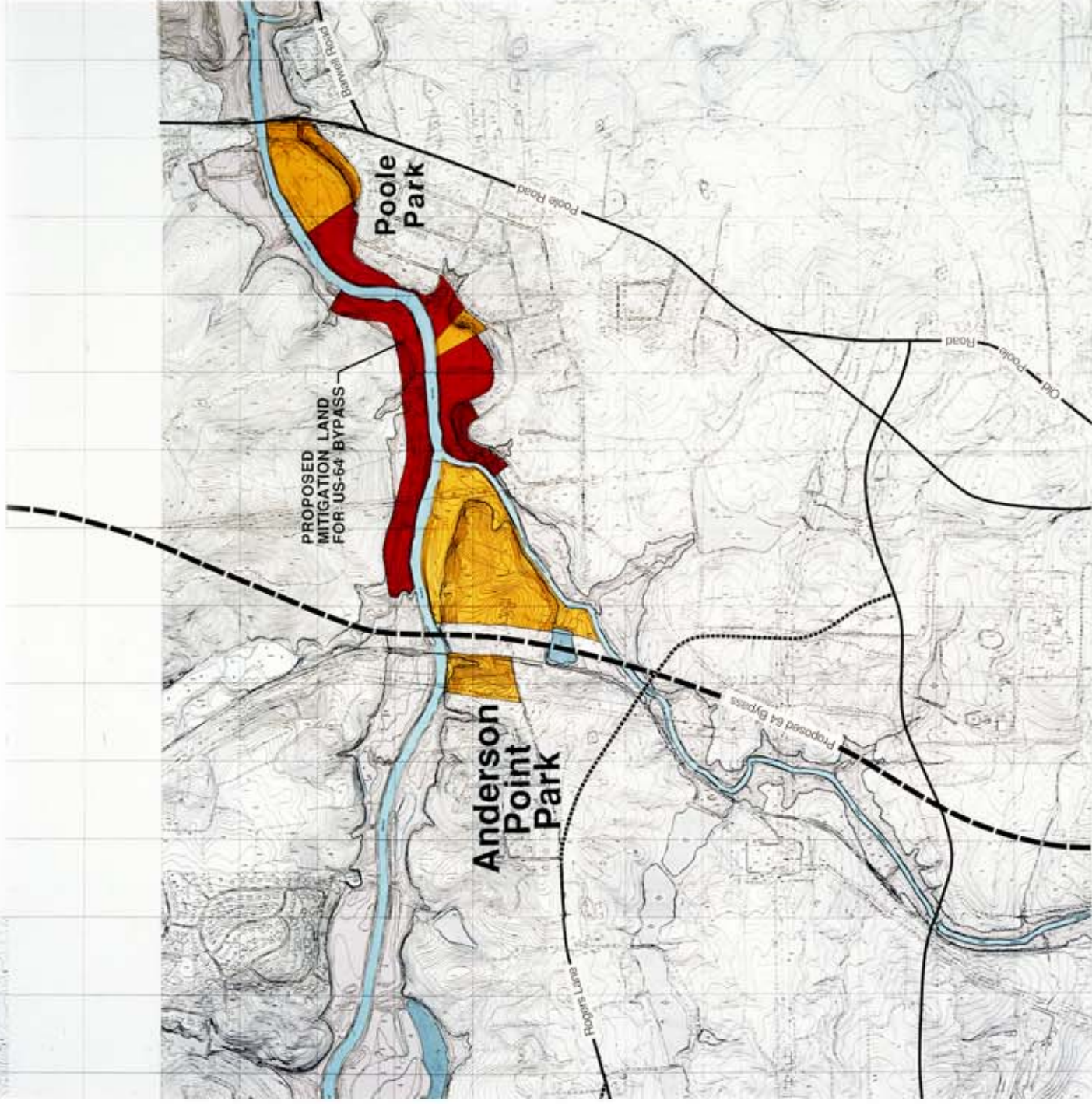
The 200 foot wide US-64 Bypass highway corridor proposed by NCDOT to cross the park south of the railroad would have a major impact on the park environment. The highway would impact far more of the park than the approximately ten acres which would be taken for highway right-of-way. Highway noise would be significant throughout the park site, with most severe effects extending approximately 500 feet on both sides of the highway corridor. The width of this corridor would create a complete separation between park land on both sides, and would also affect the access to the park, requiring long bridges or underpasses for the entrance road and trails.

NCDOT proposes to build an access bridge to the park from Rogers Lane, and to acquire additional land adjacent to the park as mitigation for the impact of the highway corridor. If built through the park, the highway should be set at approximately the grade of the existing railroad track, which is depressed below the adjacent grades in the center of the site and elevated above the park nearer the river and creek at the approaches to the bridges. The entrance bridge to the park should be wide enough to comfortably accommodate two way vehicular and separated pedestrian travel. NCDOT has agreed to construct sound walls and/or berms to reduce highway noise adjacent to the road corridor.

NCDOT should also acquire land across Crabtree Creek and along the Neuse River across from the park and along both sides of the river south of the park. This land is needed to protect views from "the point" and to facilitate connections to existing City parks to the south. NCDOT should acquire and transfer to the City of Raleigh land along the east bank of the Neuse River, from and including Mingo Creek to the tributary stream just south of the rapids north of Poole Road. Also to be included are lands along Crabtree Creek south of the park and continuing south along the river to complete the connection with City owned property and the existing Poole Road Canoe Access Park. NCDOT should construct as an incidental feature of the US-64 Bypass project, a bridge for pedestrian and light vehicular access. This bridge should span Crabtree Creek near the southernmost point of Anderson Point Park (as shown on the Master Plan) to connect the main park and the mitigation lands along the western shore of the Neuse.

The highway bridge crossing over the Neuse should include a pedestrian walkway as well as adequate space for 12 foot wide trails under the bridge on both sides of the river connecting to the greenway trail north and south of the highway. In addition, connecting pedestrian ramps should be provided between the bridge crossing and the greenway trails at each end.





**LEGEND**

Buffer Area Alternatives:

-  Alternative 1 - 34.3 Acres
-  Alternative 2 - 54.9 Acres
-  Alternative 3 - 67.3 Acres
-  Park & Greenway Property

**PROPOSED 64 BYPASS  
BUFFER COMPENSATION ALTERNATIVES**

City of Raleigh

# NEUSE RIVER

RECREATION · CORRIDOR · STUDY

Mark Robinson & Associates P.A. · Johnson Johnson & Royline, Inc. · Spring 1996



**Proposed Park Addition Northwest of Railroad**

The plan includes a recommendation to purchase the property in the northwest corner above the US-64 bypass. This property could serve as a neighborhood recreation area and link the park to residential developments to the north. Facilities suggested for this additional property include two athletic fields, a children's playground, restroom facilities and a 110 space parking area. A caretaker's residence and park maintenance facility are also suggested for this area.





**Milburnie Park Master Plan**



City of Raleigh

# NEUSE RIVER

RECREATION · CORRIDOR · STUDY

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MILBURNIE DAM AREA

MASTER PLAN

## **Milburnie Park Master Plan**

The City of Raleigh currently owns two park sites in the vicinity of Milburnie Dam, formerly known as Neuse Park East and West. As part of this plan, these sites have been renamed Milburnie East and West and are referred to as such. The master plans for each of these sites can work independently. The plan, however, strongly recommends connecting them by means of a pedestrian bridge and developing the river Corridor area between and adjacent to them to create a unified park named Milburnie Park.

## **Milburnie West**

### **Summary Site Description**

Milburnie West is a 35 acre site consisting of upland ridges and slopes underlain by bedrock close to the surface. Much of the land was formerly cultivated or used as a trailer park, resulting in typical old field vegetation and stands of young pines. It has approximately 1,050 feet of river frontage above Milburnie Dam and borders Bridgers Lake and its outlet to the Neuse at the northern end of the park. The flood plain along the river is very narrow and open with rough lawn extending to a fringe of trees at the river's edge. The river banks are low, and water level fluctuations are less extreme than elsewhere along the Corridor due to the dam. On the western edge of the site the vegetation is a medium aged woodland of

mixed hardwoods and pines. There is a small area of large mature hardwoods on the steep slopes above the existing greenway trail and hardwood forest and open groves on the slopes south of the central ridge. The site offers excellent opportunities for views of and access to the river and for connections between the river corridor and adjacent open uplands.

### **Master Plan Summary**

The master plan proposes a community park focused on river related recreation, along with some field space for athletics and a traditional community center with gymnasium at the upper, inland section of the site.

### **Master Plan Elements**

#### **Great Lawn**

A long, informal lawn along the sloping ridge parallel to the river extends from ridge top to Bridgers Lake. It offers sweeping views up and across the river and ample space for informal play, festivals, sunbathing and picnics.

#### **Riverside Terraces and Overlooks**

Terraces at several levels along the river above the dam provide overlooks and river access. A long curved terrace just above high-water level allows close contact with the river and opportunities for fishing. Another broader overlook terrace

higher up the slope offers sweeping river views and space for small gatherings and picnicking. The plan preserves a grove of large existing trees on the slope above the terrace to create a stately backdrop for this area.

#### **Canoe Launch**

A canoe dock located between Bridgers Lake and the river provides a safe take-out point well above the dam for canoeists coming down river and an opportunity for a canoe rental facility. A boat house is provided nearby for this purpose. A riverside marker is proposed at the northern end of the park which will contribute to the park's identity and clearly mark the location of the canoe launch. A boardwalk extending south along the river from the canoe launch leads through a wetland forest area, connecting back to the greenway trail and great lawn.

#### **Boathouse**

A boathouse located near Bridgers Lake will provide restroom and snack facilities for park and greenway users as well as a potential canoe rental facility and/or storage of City-owned boating equipment. Bicycle rentals are another possibility for this facility.

#### **Bridgers Lake**

The Bridgers Lake area which includes a beaver pond and extensive wetland areas upstream, encompasses a rich variety of wildlife habitats and contains stands of coastal plain vegetation not commonly found in the Piedmont, including Bald Cypress, Sweetbay Magnolia and Switchcane. The lake and wetland areas are part of Hedingham but are designated as permanent open space to be managed according to a management plan designed by the City and agreed upon by Hedingham. A boardwalk and lakeside shelter located at the park edge of the lake will provide access for wildlife viewing and nature programs as well as for general enjoyment of the lake. The remainder of the lake and wetlands are to remain natural, including a 50 foot minimum buffer of undisturbed vegetation on all sides to provide protection for wildlife habitat and water quality as well as the scenic character of the area.

#### **Bridgers Lake Picnic Shelter and Picnic Grove**

Selective thinning of underbrush within the park woods south of Bridgers Lake will create a shady picnic area. A picnic shelter for group picnics is also proposed in this area.

#### **Access and Parking**

Raleigh Beach Road will be realigned to lead directly into the park, climbing diagonally up the steep slopes on the south



edge of the site. The road then winds over the ridge and down through the woods on the western edge of the park, terminating at a circular turnaround near the boathouse. This turn-around provides access to the canoe dock and Bridgers Lake facilities as well as an opportunity for people with limited walking ability to get near the river.

The major parking area, with approximately 290 spaces, is located at the upper end of the bowl west of the great lawn. It provides convenient access to the sports field, the future community center, the great lawn and the children's play area. A smaller lot with around 100 spaces is located lower on the slope in the woods above the Bridgers Lake picnic area. A third lot with around 95 spaces is shown on the ridge above the park entrance to serve the proposed restaurant facility on the edge of the quarry as well as to provide additional parking for the community center.

#### **Children's Play Area**

A large children's play area is located in a wooded bowl just west of the great lawn with convenient access from parking and other activity areas.

#### **Special Use Facility**

A pavilion at the top of the central ridge offers long views up river over the great lawn as well as views through the woods

on the south slope toward the dam area and Milburnie East. The form and use of this facility is flexible. It could be a large picnic shelter for group gatherings or could be developed as a special use building, such as a cultural or arts center or other function, depending on program needs identified by the City. Any structure built in this location should be designed to create an attractive focal point which complements the park's character and takes advantage of the extensive views afforded by this site.

#### **Field Sports**

An open playfield area approximately 200' x 400' is shown on the ridge in the western corner of the site.

#### **Future Community Center Site**

A private inholding totally surrounded by park land is identified as the site for a future community center. The center will include gymnasium space and other indoor facilities. This land should be acquired for inclusion in the park.

#### **Restaurant/Cafe Terrace**

A restaurant or cafe with outdoor terraces at the top of the old quarry will overlook the water falling over Milburnie Dam and the rock outcrops in the river below. This facility should step down the slope and provide connections to the riverfront area

around the dam. The facility could be wholly public or a public/private joint venture.

### **Inholdings**

There are two areas of private land located within the main boundaries of the park site. One area consisting of two vacant lots is located along the southern boundary near the proposed special use facility. The other area, consisting of four lots, two with mobile homes and two vacant, is located completely within the park, in the area where the future community center is proposed. This master plan proposes acquisition of all these properties for inclusion in the park.

## **Milburnie East**

### **Summary Site Description**

Milburnie East is a 24 acre wooded site bordering the east side of the river below Milburnie Dam with access from Old Milburnie Road. Steep wooded slopes and a broad wet flood plain make the site best suited for low intensity development and uses which can benefit from the site's varied topography and mature woodland vegetation.

### **Master Plan Summary**

This master plan for Milburnie East creates an outdoor activity center for the Adventure Program in a secluded, wooded setting. Adventure program facilities focus on a ropes course and canoeing. The plan also includes trails and boardwalks through the flood plain and along the slopes to provide pedestrian access to the wetlands and flood plain forest and to provide the potential for loop trails with connections to the main greenway trail on the west side of the river.

### **Master Plan Elements**

#### **Ropes Course/Alpine Tower**

An alpine tower, high ropes facility, and low ropes course are located on the hilltop. An open field created on the north slopes of the hilltop provides space for adventure program



activities as well as to opening up views of the wetlands and river. A low ropes course consisting of a narrow trail with small clearings for individual activity sites, is located within the mature hardwood forest on the west slopes. The ropes course area, including the open field, will be enclosed by a security fence to protect the structures from vandalism and unauthorized use. This fence should be set within a vegetated buffer so the fence structure is not readily visible from either within the area or from surrounding drives and roads and does not detract from the wilderness appearance of the site. The ropes course area is accessed on foot from the parking area at the edge of the flood plain or across the bridge from Milburnie West to increase the sense of seclusion.

#### **Canoe Launch**

The existing canoe launch is incorporated into the Master Plan for this site.

#### **Parking**

A parking area for approximately 85 cars is located on the site of the existing package treatment plant, which will be abandoned when sewer lines are extended to the area. A restroom facility near the parking area will serve both the ropes course and the canoe launch.

## **Milburnie Park Area**

Because of the differences in terrain and vegetation, the two parks offer a contrast in environmental character, proposed facilities and approaches to the river. A direct connection across the river between these sites will create a park which is greater than the sum of its parts. This master plan, therefore, has gone beyond the bounds of property currently owned by the City to suggest possibilities for future development of the land between and adjacent to the parks.

### **Master Plan Elements**

#### **Pedestrian Bridge**

The new pedestrian bridge crossing the river above the dam follows an existing embankment on the east side believed to be the original roadbed for Route 64 and bridges both the river and the wetland on the west side. There are two masonry pillars near the river's edge opposite the embankment remaining from the earlier crossing. The central portion of the bridge will be widened to accommodate fishing and river watching. The crossing site is owned by the hydroelectric company west of the river and by the Beachwood Homeowners' Association east of the river.

### **Milburnie Dam**

Milburnie Dam, the only surviving historic dam in the Corridor, is a unique site, offering the opportunity to see how the river has been and continues to be harnessed to provide power. The falling water and the rocky islands below the dam create a scenic attraction. The rocks and oxygenated water also create prime habitat for animals such as otters and shellfish. The existing greenway trail circumvents the area around the dam, leading through Milburnie West and crossing the large wetland forest area to the south of the hydroelectric property.

The plan reroutes the greenway trail through this area and will provide interpretive signage explaining the history of the site and the role of the current hydroelectric plant. Overlook terraces above and below the dam will take advantage of the scenic character of the site and of the long views up and down the river.

### **Raleigh Beach**

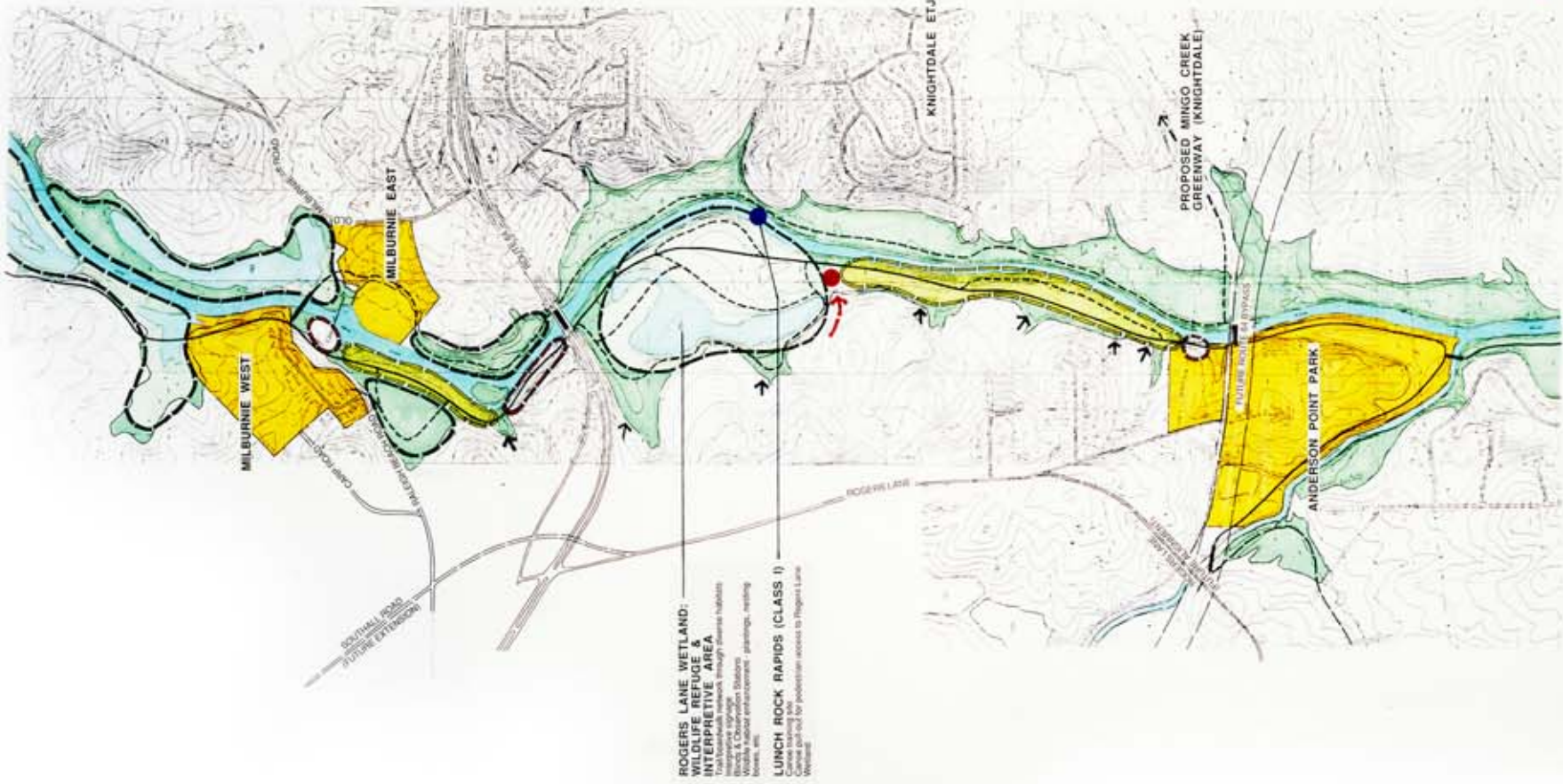
The gently sloping sandy riverbank just south of the dam on the west side of the river, historically known as Raleigh Beach, was for many years a popular spot for picnicking and river watching. The master plan of the Milburnie Park Area renovates this area as a picnic area. A summer pavilion and terraces are proposed at the north end of the beach

overlooking the falling water and housing a seasonal cafe or food vending facility, possibly linked to the restaurant above the quarry. A parking area and riverview loop drive are also shown to provide convenient access to the river in this area.

### **Wetland Habitats**

There are a number of extensive wetland areas along the Corridor to the north and south of Milburnie Park which offer a wide variety of high quality wildlife habitat. The dam impoundment created large wetland lakes and marshes upstream, just above the dam on the east side and further north on the west side. Tributary streams and drainageways feed extensive hardwood swamp forests above Bridgers Lake and below Raleigh Beach Road. There is also a small cypress pond between the dam and the proposed pedestrian bridge on the east side. Preservation and protection of environmental quality is the paramount guideline for all these wetlands. A boardwalk loop is designed at the southern end of the lake at the eastern end of the pedestrian bridge. Interpretive trails may also be provided at other wetlands, but should be designed to leave large portions of each area inaccessible so as to protect wildlife refuges and breeding grounds.

**Milburnie - Anderson Point Park  
Corridor Master Plan**



-  **PARK LANDSCAPE**  
Open woods and meadow areas along trail and user's path. Provide a sense of place and a sense of enclosure, with a general canopy of mature trees. Provide connections to adjoining neighborhoods. Good visibility along main trail.
-  **NATURAL AREA**  
Preserve natural resources and environmental value. Interpretive system and observation stations compatible with resource conservation.
-  **INTENSIVE USE AREA**  
Develop high-level public development of recreational resources. Development of compatible commercial or institutional facilities on adjacent uplands, with access to trail greenway.
-  **100 YR. FLOODPLAIN**
-  **MAIN GREENWAY TRAIL**
-  **SECONDARY TRAILS**
-  **PROPOSED PEDESTRIAN CROSSING**
-  **EXISTING & PROPOSED NEIGHBORHOOD ACCESS**
-  **PROPOSED VEHICULAR ACCESS & PARKING AREA**



**MILBURNIE - ANDERSON PT. CORRIDOR  
 MASTER PLAN**

## **Milburnie - Anderson Point Corridor Master Plan**

### **Corridor Description**

A more detailed analysis and conceptual master plan was made for the segment of greenway corridor between Milburnie Park and Anderson Point Park as part of the master planning effort for these two parks. This two mile segment of corridor includes a range of flood plain and adjacent land use conditions representative of the entire Corridor and is proposed as a pilot study for development of the greenway as a whole.

The flood plain west of the river in this segment varies in width from approximately 50 feet just north of US-64 to over 1,400 feet at Rogers Lane. The more typical width is 300 to 400 feet. Adjacent land uses are primarily residential subdivisions or undeveloped woods and agricultural land. No development has occurred within the flood plain. The newer subdivisions have transferred density to the upland portions of the development and have placed ownership of the flood plain areas in homeowners' associations with conservation buffer status or have given the land to the City outright. Lots in older subdivisions typically extend to the river, but development is generally located on the upland portion only.

There is an existing gravel greenway trail connecting the two parks along the west side of the river, generally following the alignment of the sanitary sewer easement. In many cases this is much farther from the river than the 150 foot greenway easement proposed along each bank.

A privately owned property on top of a high rock outcrop just north of US-64 provides an excellent vantage point for viewing the river and could become a landmark site for westbound travelers on US-64 as well as for users of the greenway corridor.

### **Master Plan**

The environmental quality of the water, vegetation and wildlife, as well as the attraction of the greenway, are dependent on protection of the vast majority of the flood plain, not just a few isolated areas. This is especially true for wetland areas in their natural state. This plan identifies "natural areas" along the Corridor and recommends management of these areas to protect and enhance wildlife and environmental values.

### **Neuse River Trail - Design Recommendations**

The alignment of the existing trail through the clearing for the sewer line has resulted in a rather straight trail in many places. This trail offers few views of the river and is separated

from the woods on either side by a barrier of brushy vegetation. The existing crushed stone surfacing is neither attractive nor comfortable for walking or biking. The Neuse River Trail through this segment of corridor should be paved with asphalt. The character of the trail should be enhanced by management of the vegetation to create a more park-like character in the disturbed areas along the main trail. Recommended techniques include selective clearing of underbrush along the trail and woods edge to open up views into the woods and towards the river. Replanting of native trees close to the trail will create a canopy that will reduce the underbrush. Managing and shaping the open areas will create more appealing spaces along the trail, enhancing visibility and creating a sense of security for trail users. Plantings of trees, shrubs and herbaceous plants will attract wildlife. This will create a richer and more attractive trail environment.

#### **Trail Network**

The Neuse River Trail should vary in location from close to the river to the outer edge of the flood plain in response to varying characteristics of the terrain. A system of mainly unpaved secondary trails creates opportunities for loops and closer access to the river, as well as a different quality of trail experience with less rapidly moving traffic than will generally be found along the Neuse River Trail. Crossings shown are the same as those shown in the Corridor Master Plan.

#### **Canoe Run**

The segment of river between Milburnie Dam and Poole Road is a very pleasant run for recreational canoeing. It is mostly flat water but includes two small sections of Class I rapids and one section of Class II rapids located between Anderson Point Park and Poole Road. The Raleigh Parks and Recreation Department Adventure program uses this segment extensively for basic whitewater training. The staff has named a large boulder near the Class I rapids midway down this segment "Lunch Rock" and uses it as a stopping place during their trips. This plan provides a canoe landing near this location with pedestrian access to the Rogers Lane Wetland nearby. Canoe landings for side trips ashore are also planned along the Anderson Point Park riverfront as well as the launch site north of the railroad.

#### **Rogers Lane Wetlands**

Rogers Lane Wetlands is a prime environmental site in this segment of Corridor with a diversity of wetland types intermixed with drier flood plain areas and upland slopes, creating prime habitat for a large variety of wildlife. The plan calls for development and management of this area as a wildlife refuge and interpretive area, with an internal network of nature trails and boardwalks, including interpretive signage and observation stations. Limited access and parking is suggested at the southern end of the site. Wildlife habitat

**Project Summary**



should be enhanced by adding nesting boxes and plants for wildlife to feed on in the old field areas of the drier flood plain.

#### **Intensive Use Areas**

Opportunities for intensive use areas, where numbers of people can get close to the river, exist at three points along the Corridor segment where high, dry land is in close proximity to the river and where river banks have been scarred by previous construction. These sites, located at Milburnie Dam, the area just north of US-64, and the northern end of Anderson Point Park, present potential for terraces, promenades and overlooks along the riverbanks. Two of these sites are addressed in the master plans for the parks. The third presents an opportunity for private/public cooperation in the development of an upland site that enhances views of the Corridor, provides access to the Corridor, and becomes an attractive visual component of the Corridor.

#### **Neighborhood Connections**

The plan also suggests neighborhood access trails and parking for developments located adjacent to the Corridor. These communities are encouraged to view the greenway as an amenity and to create close and open connections where

appropriate so that neighbors feel safe and comfortable using the greenway corridor.



## **Project Summary**

The major components of this Neuse River Recreation Corridor Master Plan are the **Conceptual Framework** for the Corridor, the **Corridor Master Plan**, the **Anderson Point Park Master Plan**, and the **Milburnie Park Master Plan**. Together they begin to define the **Neuse River Regional Park** and the means to undertake the acquisition and implementation of such a park. The scope of the total proposal is breathtaking. This plan is not only a recognition of opportunity but also a recognition of responsibility. This plan presents a significant and worthy challenge to our generation to realistically preserve this Corridor as a marvelous gift to all who follow us.

With this plan it is easy to imagine what we can accomplish in the form of the Neuse River Regional Park. Imagination, when focused and applied toward realistic goals within our grasp as presented in this Master Plan, enlivens the present and enriches Raleigh for all future generations.



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