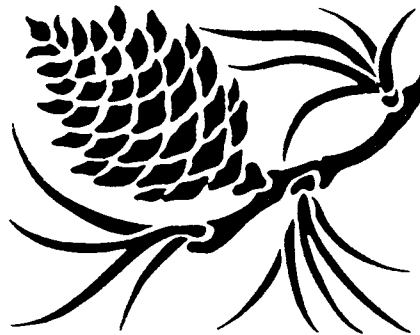


CHAPEL HILL GREENWAYS

Comprehensive Master Plan

*A Planning Guide for Future Physical Improvements
and Operational Policies*



Greenways Commission
Town of Chapel Hill, North Carolina
May 26, 1998

CHAPEL HILL GREENWAYS

Comprehensive Master Plan

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SUMMARY

This report represents the completion of a study begun in November 1996 to develop a Comprehensive Greenways Master Plan for the Town of Chapel Hill. Prepared by Lappas + Havener, PA., this Plan is an expansion and update of previous work by Town Parks & Recreation staff and of the 1985 Greenways Task Force Report, which has been the foundation of the greenways program since its inception.

Since January 1997, this Plan has been reviewed and refined by the Greenways Commission. In addition, the Master Plan has been reviewed by the Transportation Board, Planning Board, Parks and Recreation Commission, over twenty local environmental organizations, the University of North Carolina at Chapel Hill, adjoining local governments, and Town staff.

Goals of the Greenways Program

The Chapel Hill Greenways Program has three major goals:

1. To establish and maintain a system of linear open spaces that will help protect the environment of Chapel Hill.
2. To establish a system of trails, where appropriate, enabling citizens to enjoy the recreational benefits of a network of greenways throughout the Chapel Hill community.
3. To develop specific trails which may offer alternatives to automobile transportation.

Purpose of the Master Plan

This Master Plan provides a foundation for making sound planning and design decisions related to the continued preservation of the Town's greenway corridors. The recommendations provided in the Plan will help to maintain a balance among the goals of the Greenways Program of resource protection, recreational use and transportation opportunities.

It also provides the Council with an effective tool to enter into discussion and negotiation regarding regional open space preservation and trail development initiatives and for interacting with State agencies and other regulatory and funding agencies.

Changes to the 1985 Report

The Comprehensive Greenways Master Plan is designed to replace the 1985 Greenways Task Force Report. The changes reflect current Town conditions and conditions anticipated for the next decade.

The major changes found in the Comprehensive Greenways Master Plan are:

- An updated definition of the term "greenway."
- Addition of recently annexed areas, new schools and planned Town parks, greenway land acquisitions and recent and planned private land developments.
- Addition of newly-identified trail segments to the greenways program.
- Classification of greenway corridors and trails according to different levels of development and intensity of use.
- Recommendations for open space preservation and development of trails for each identified greenway corridor.
- Replacement of timetables with current priorities for land acquisition and trail construction.
- Potential connections with Town sidewalk and bicycle plans and other regional and local open space and trail systems.
- Suggestions for cooperative greenway efforts with the University of North Carolina at Chapel Hill.
- An updated summary of potential methods for future land acquisition and the construction of trails.
- A basis for policies related to trail operation, maintenance and security.
- An outline of opportunities for citizen participation in the greenways program.

Current Condition of the Greenways Program

The 1985 Task Force Report recommended the creation of a Greenways Commission to advise the Council in developing a Town-wide greenway system. Since its first meeting in October 1985, the Greenways Commission has worked to expand the amount of land preserved by the Town and to plan and oversee construction of trails.

Current land holdings within the greenways system total over 100 acres. Seven greenway projects have been built to date and account for approximately 5.4 miles of recreational trails.

The first Town trail was constructed as part of Cedar Falls Park in 1979:

- 1. Cedar Falls 1.2 miles
(Lakeshore Lane through Cedar Falls Park)

The following greenway trails have been constructed since 1985:

- 2. Tanyard Branch .4 miles
(Caldwell Street to Umstead Park)
- 3. Battle Branch 1.5 miles
(Battle Park to Community Center Park)
- 4. Lower Booker Creek - Phase I .1 miles
(Daley Road to Tadley Drive)
- 5. Bolin Creek - Phase I .8 miles
(Airport Road to Elizabeth Street)
- 6. Bolin Creek Phase II .8 miles
(Elizabeth Street to Community Center Park)
(anticipated completion July 1998)
- 7. Fan Branch .6 miles
(Southern Village to Culbreth Road)

Summary of Major Recommendations

A network totaling over 38 miles of linear open space have been identified as potential greenways. The many perennial streams located in Chapel Hill would form the heart of this network, but other areas would also be included. Highway corridors, rail corridors, ridges, and park lands would all contribute to the greenway system.

Some corridors have been identified for their aesthetic value and environmental significance

and are proposed to remain undeveloped as preserved open space, neighborhood buffers and wildlife areas.

The most active recreational use proposed for the greenway corridors identified in this report are bicycle and pedestrian trails. Over 28 miles of the Town's greenway corridors are suitable for development of paved or unpaved trails. A variety of trail types are proposed to suit specific recreational or transportation priorities and specific site conditions. Trails may range from natural surface foot paths and boardwalks utilized to negotiate sensitive or difficult site conditions to paved pedestrian and bicycle trails offering maximum recreational and transportation use.

Design guidelines are presented to address the alignment and construction of trails, accessibility issues, greenway corridor widths, and the relationship of trails to existing woodlands, streams and slope conditions. Standards for special trail needs, amenities and coordinated signage are also outlined.

The following four new greenway trails could be completed by the year 2001 if funding and construction coordination issues are resolved:

- 1. Lower Booker Creek - Phase II
(Tadley Drive to Franklin Street)
- 2. Upper Booker Creek
(Weaver Dairy Road to Northern Community Park)
- 3. Dry Creek - Phase I
(Silver Creek Trail to Perry Creek Road)
- 4. Dry Creek - Phase II
(East Chapel Hill High School to Silver Creek Trail)

A Look to the Future

The recommendations found in this Master Plan offer the present and future citizens of Chapel Hill a plan for integrating their urban environment with the natural world.

The adoption and endorsement of this Comprehensive Greenways Master Plan by the Council and the citizens of Chapel Hill is one step toward ensuring that goal.

Part 1

INTRODUCTION

This report represents the completion of a study begun in November 1996 to develop a Comprehensive Greenways Master Plan for the Town of Chapel Hill, North Carolina. The plan has been prepared by Lappas + Havener, PA under the auspices of the Chapel Hill Town Council, the guidance of the Chapel Hill Greenways Commission, and in cooperation with the Chapel Hill Parks and Recreation Department.

The underlying assumption and need for this study emerges from three long-term concerns of the Town's governing body and its active citizenry. The first reflects the Town's continuing commitment to provide quality recreational facilities for the community. The second exemplifies the Town's commitment to preserving open space as an integrated component of the Town's urban landscape. The third reflects Chapel Hill's commitment to offer alternatives to automobile transportation. The Comprehensive Greenways Master Plan recommends for the linking of the Town's land use objectives with its environmental, transportation and recreation goals to provide a viable network of pedestrian/bicycle trails and other passive recreation opportunities.

As the Town continues to grow, the notion of conserving undeveloped land has become a more pressing matter. Significant population increases and growth are projected over the next several decades in Chapel Hill and surrounding communities. Development pressure will continue to influence the character of the Chapel Hill landscape, inevitably shaping the form and quality of the Town's open space.

The Town-wide greenway system proposed within this Master Plan occurs primarily along the Town's streams and watercourses. These open spaces along wooded stream corridors both protect

and make accessible many of Chapel Hill's unique and beautiful natural settings.

The development of this Comprehensive Greenways Master Plan and its continuing update will contribute to the strategic organization of the Town's open space and greenways. The Master Plan is intended to provide a foundation for making decisions related to the greenways program and the quality of Chapel Hill's physical environment. The Plan's guidelines will help to assure the continuity and coordination of open space conservation, passive recreation and trail facilities for future decades.

The Term "Greenway" Defined

The term "greenway" is used in many communities throughout the United States. However, there is not a single, consistent definition of the term that would fit the needs of each locale. In some communities the word greenway is synonymous with the word "trail". In other towns and cities, the public may associate the term with specific types of trails, such as paved bicycle accessible paths along streams. Other communities use the words "greenbelt" or "greenway" to identify areas which are simply set aside for preservation and/or buffers between non-complimentary uses or between communities.

In 1993, the Chapel Hill Greenways Commission adopted the following language to describe Town "greenways":

Networks of natural spaces which provide corridors connecting areas such as neighborhoods, parks, and schools. These passageways typically include trails for pedestrians and non-motorized vehicles. They are a link to nature for the enjoyment of the community.

This definition describes greenways as linear natural areas which sometimes may be suitable for the inclusion of trails. It is an important distinction to note, however, that some greenway areas in Chapel Hill may not be suitable for trail development and may find their "highest and best" land use by remaining as undeveloped open space, and providing the community with valuable buffers, environmental preserves or wildlife corridors.

Benefits of Urban Greenways

Greenways can provide economic, environmental, recreation, and transportation-related benefits to the entire community in which they are found. A greenway system, well integrated within the Chapel Hill community, can function to:

1. Preserve the natural environment that makes Chapel Hill a pleasant place to live.
2. Provide recreational opportunities ranging from quiet enjoyment of natural areas to hiking and bicycling.
3. Provide natural laboratories where flora, fauna and ecological relationships can be studied by all Chapel Hill citizens.
4. Influence urban growth patterns by conserving open space, separating and buffering conflicting land uses, and connecting compatible land uses.
5. Provide a network of pedestrian and bicycle trails - a safe and pleasant alternative to the Town's street system - that will connect neighborhoods, schools, shopping areas, and parks.
6. Increase the value of all properties in Chapel Hill by creating an aesthetically pleasing community with greater options for non-motorized vehicle transportation and recreation and open space.
7. Mitigate flooding, soil erosion, and stream siltation by preserving buffers between developed

areas and streams.

8. Retard the degradation of air quality by allowing vegetation in the greenways areas to add oxygen, filter dust and air-borne pollutants, and cool the air.
9. Mitigate noise pollution by allowing vegetation in the greenways areas to act as natural noise barriers.
10. Preserve habitat and travel corridors for wildlife within the urban area.
11. Contribute to the aesthetic and visual structuring of the Town, helping to retain and amplify the character of the Town landscape.

History of the Greenways Program

The Chapel Hill greenways program was established by Council resolution in 1985. See Appendix A. However, the concept of preserving open space and greenways has been part of Chapel Hill's planning efforts for four decades. The first deliberate efforts toward preserving linear parcels of open space for the purpose of developing a greenways program began in the 1960s and early 1970s.

The early movement was led by Planning Board member and later Alderman Alice Welsh who led the effort to acquire easements from landowners along the Bolin Creek corridor. These early efforts resulted in an almost unbroken chain of Town-owned properties and easements that stretched along Bolin Creek

Some Greenway Corridors in Chapel Hill may not be suitable for trail development and may find their "highest and best" land use by remaining as undeveloped open space.

from Umstead Park to Franklin Street. The acquisition of these properties and easements contributed greatly toward the Town's goal of preserving Chapel Hill's first and one of its most important greenway corridors – the Bolin Creek Greenway.

During the 1980s, the Town's greenways planning and development efforts became more formalized. In 1981, the Parks and Recreation Department surveyed the Chapel Hill community to determine user concerns. Eighty-four percent of the respondents thought that greenway development was a high to moderately high priority. These findings were reinforced by the 1982 report, "Subcommunities in Chapel Hill: Conditions, Problems, Recommendations." A major concern of citizens outlined in that study was the fear that greenways development would be dropped as a Town priority.

As the decade progressed, greenways programs in other North Carolina cities grew, especially in nearby Raleigh and Cary. As the success of the Raleigh and Cary programs grew, other municipalities, including Chapel Hill, became more interested in a greenways program.

This interest led to a January 9, 1984 resolution of the Town Council to create an eleven member Greenways Task Force to study whether or not the Town should initiate a greenways program. The members of the task force included Lightning Brown (Chair), Diane Byrne, Valerie Carter, Lynn Cox, Karen Davidson (Vice Chair), Betsy Pringle, Zora Rashkis, Gordon Rutherford, Betty Sanders, Randy Schenck, and Philip Szostak. The group included representatives of the development community, the University, environmental groups, the business community, and various neighborhoods. The group presented their report, "Greenways Task Force Final Report" to the Council on February 11, 1985.

The Task Force Report recommended the creation of a Greenways Commission. The Council agreed and on July 8, 1985 adopted a resolution (see Appendix A) which directed that the Greenways Commission be established and that the Parks and

Recreation Department provide staff support for technical and administrative functions. The Council then appointed a seven member Commission which met for the first time in October 1985.

Since its first meeting in October 1985, the Greenways Commission has worked to expand the amount of land preserved by the Town and to plan and oversee construction of trails. The Greenways Commission has been partially responsible for the Town's purchase of over 100 acres of land and has made recommendations that resulted in many acres of property being dedicated or donated to the Town. The Commission has dedicated four major trails to date, and has been a vital part of the decision making process of Town government.

Historical Highlights

1960

Chapel Hill population is 12,500.

1965

An open space plan is adopted by Town Council.

The Council hears the *Mayor's Ad Hoc Open Space Committee Report*. The report urges the development of a greenways system through fee simple purchase of land and easements. The report is not adopted by the Council.

1969

The Research Triangle Planning Commission recommends in its report, *Chapel Hill, NC, Development Alternatives*, that the Town undertake extensive linear park development and acquire open space. No formal action is taken on the recommendations.

1970

The *Community Recreation Evaluation* recommends that greenways be developed along streams and urges the findings of the *Mayor's Ad Hoc Open Space Committee Report* and the Research Triangle Planning Commission Report be adopted. The recommendations of the Reports are not adopted.

1972

The Chapel Hill, *Long Range Policy Plan*, recommends greenway development. The plan is not adopted.

1979

The *Comprehensive Plan: Community Facilities Report* defines "greenways" and recommends implementation of a greenways system that would connect parks and recreation areas. The plan is adopted by the Council.

The Cedar Falls Trail is completed.

1980

Chapel Hill population is 32,400.

1981

The Parks & Recreation Department administers, *The Townwide Leisure Survey*, and finds that 84% of the respondents rate the importance of greenways as moderately high to high.

1982

The results of neighborhood surveys in the report, *Subcommunities in Chapel Hill: Conditions, Problems, Recommendations*, indicates that greenways were looked upon with great favor. Neighbors were afraid that the greenways program would be dropped by the Town.

1984

The Council passes a resolution to create a Greenways Task Force.

The Greenways Task Force makes an interim report to the Council.

1985

The *Greenways Task Force Final Report* is presented to the Council. The Council accepts the Report and incorporates it into the Town's Comprehensive Plan.

The Chapel Hill Greenways Commission is formed and meets for the first time in October.

1986

The Tanyard Branch Trail is dedicated.

A \$2.5 million bond for parks and open space is passed.

1988

The Commission makes an extensive evaluation of greenway possibilities along upper Bolin Creek and Battle Branch.

1989

A master plan for the middle Bolin Creek corridor is completed.

The Battle Branch Trail is dedicated.

The Council adopts the 1989 Community Facilities Report which recommends greenway development.

A \$5 million bond for parks and open space is passed.

1990

Chapel Hill population is 38,719.

1992

The Bolin Creek Greenway Advisory Committee is established by the Council to develop a Conceptual Plan for Phase II of the Bolin Creek Greenway Trail.

1993

Construction of Phase I of the Bolin Creek Greenway Trail begins.

The Council approves the Bolin Creek Greenway Advisory Committee's recommendations concerning Phase II of the Bolin Creek Trail. Work on the Special Use Permit is started.

1994

Phase I of the Bolin Creek Greenway Trail is dedicated.

1996

Phase I of the Fan Branch Trail is constructed.

Greenways Trail Guide is published.

\$3 million bond for parks and greenways land acquisition is passed with 66% of the voters approving.

The Council authorizes the expenditure of funds for a Conceptual Plan Study of the Dry Creek and Upper Booker Creek Trails.

The Dry Creek Trail Advisory Committee is established by the Council.

Hurricane Fran damages all existing trails and fells numerous trees.

The Council dedicates the first phase of the Bolin Creek Trail in honor of former Alderman Alice Welsh.

1997

The Council approves the Conceptual Plan for the Dry Creek Trail.

Temporary 1.5-mile natural surface trail is constructed at the future site of Southern Community Park.

1998

The Council anticipates construction and dedication of Phase II of the Bolin Creek Trail in honor of Lightning Brown, chair of the 1984-85 Greenways Task Force.

Purpose of the Master Plan

The Chapel Hill Greenways Program has had substantial impact on the community as a natural, scenic and recreational resource during its first twelve years of existence. The quality and character of specific greenway corridors contribute significantly to the quality, image and livability of the Town.

The creation and adoption of this Comprehensive

Greenways Master Plan are important steps in the process of continued evaluation of the greenways program. Adoption of a Comprehensive Greenways Master Plan is critical in helping to assure the continuity and direction of the program and its coordinated planning over time.

This Plan is actually an updated master plan, replacing the 1985 Greenways Task Force Report which has been the foundation of the Chapel Hill greenways program since its inception. Through this current master planning effort, citizens, elected officials, and Town staff have reexamined the direction of the Town's greenway corridor preservation and trail development efforts.

Specifically, the Plan will provide an updated evaluation of potential greenway conservation areas and trail opportunities along the Town's primary greenway corridors. Recommendations have been formulated for greenway opportunities in recently annexed areas of Town and for greenways related to new schools and Town parks, recent land acquisitions, as well as to recent private land developments.

As an adopted public policy document, the Comprehensive Greenways Master Plan would assist the Council in several important ways:

- The Master Plan would become an important planning tool, articulating a vision of what the greenways system may become, thereby becoming an essential guide for all future planning and decision-making which impacts the system's physical form.
- The Master Plan would support the Council's legal basis, established in Section 17.9.3 of the Development Ordinance, for requiring the dedication of land for certain recreation areas and easements during the development approval process.
- The Master Plan would provide the Town with a policy mechanism to enter into discussion and negotiation regarding regional initiatives.

- The Master Plan would provide a tool for interacting with State agencies and other regulatory bodies. Some agencies, such as the North Carolina Department of Transportation, may not alter their projects to meet local greenways needs without the adoption of a greenways master plan or similar document

Organization of the Master Plan

The Master Plan is organized into eight complementary sections:

1. The Introduction provides a historical perspective of the Chapel Hill greenways program and describes the philosophical underpinnings of the Plan and its organization.

2. The Planning Process outlines assumptions for the process, goals for the Plan, a brief summary of the planning methodology especially related to the process of consensus-building within the community.

3. Analysis of Current Conditions is a look at the greenways system as it exists today, including the administration of the program, the role of the Greenways Commission and the role of past planning efforts and supportive Town Ordinances. A summary of current land holdings within the greenways system and existing trail development is also provided.

4. Strategic Planning is divided into three sections that organize the greenway system into identifiable corridors:

- **Stream Corridors**
- **Man-Made Corridors**
- **Connector Trails**

These corridor types define the physical framework of the greenways system. Within each corridor type specific greenways are identified and evaluated for potential open space preservation and/or trail use. Recommendations for the development of specific trail segments are given.

- **Regional and Local Coordination** discusses potential connections with Town sidewalk and bicycle plans and other regional and local open space/trail and transportation systems. The potential for cooperative greenway efforts with the University of North Carolina at Chapel Hill is also addressed.
- **Implementation Policies** provides a policy approach for future land acquisition and an outline of potential methods for acquisition.
- **Financing the Greenways Program** provides guidelines for funding the acquisition of land and the construction of trails.

5. The Action Plan outlines the criteria and guidelines for priority land acquisition and trail construction to be accomplished during the next 5 years.

6. Maintenance and Operational Policies provides a basis for making decisions related to trail maintenance and security and presents opportunities for citizen participation in the greenways program.

7. Design Standards and Guidelines provides design guidelines for the alignment and construction of trails within greenways corridors and design standards for special trail needs and amenities.

8. The Conclusion provides a synopsis of the master planning process and the future of the greenway program in Chapel Hill.

Part 2

THE PLANNING PROCESS

Assumptions for the Process

Outlined below are the working assumptions for the Greenway Master Planning process. These assumptions will frame the general direction, focus of the study, and clarify what is to be accomplished through this planning effort. The manner in which the Plan will be developed and presented will reflect the basic assumptions underlying the study.

1. The Greenways Master Planning process is part of a continuing, multi-faceted effort to establish a long-range planning strategy and development policy for the future growth of the Town.

The Greenway Master Plan will focus on the physical planning, implementation goals and operational policies of the greenway system. The Plan's recommendations are to be supportive and consistent with the goals, objectives and policies established within the Town's Comprehensive Plan.

2. The Greenway Master Planning process is an opportunity for the Greenways Commission to fulfill its specific charge of establishing a Town-wide system of greenway open spaces and greenway trails.

The Greenway Master Plan will exhibit the Town's commitment to continually upgrade and expand the greenway system. The Plan will provide a broad-based framework within which appropriate decisions can be made about the future growth of the greenway system and to encourage positive coordination with other Town programs such as parks and recreation development, sidewalk and bicycle plans, and open space preservation.

3. The process is an opportunity to strengthen important relationships and community perceptions.

The Master Plan will foster public input, awareness and participation in the planning process. The planning process will assimilate concerns and ideas from a variety of diverse constituencies, interests, municipalities and other institutions.

Goals of the Master Plan

The findings and recommendations set forth in this document are to reflect and remain consistent with this statement of goals. The Goals of the Master Plan will serve as criteria against which the progress and direction of the study may be tested at key points in the planning process.

1. Create a Plan that will provide a comprehensive direction for the physical development of the greenway system that is both strategic and action-based.

Create a guide for a continuing program of land acquisition, trail development and improvement, and open space preservation. Provide a framework within which future projects can be conceived and remain responsive to changing needs.

An important goal of the Master Plan is to create a guide for a continuing program of land acquisition, trail development, and open space preservation.

Prepare a planning foundation from which more detailed analysis and design of individual greenways and trails may be generated. Provide recommendations for immediate and near-term physical improvements that may be realized within realistic and prudent financial parameters.

2. Create a Plan that balances a sense of stewardship for the Town's natural resources and scenic qualities with the need for public use, recreation and alternative transportation. Provide policy and planning guidelines which will maintain open space systems and natural areas and expand their potential use and aesthetic quality.

3. Provide for the needs of current and potential greenway trail users.

Create a guide for greenway trail implementation and greenway corridor preservation that appeals to a broad range of passive recreational pursuits and offers a variety of experience. Determine standards for greenways development, trails functions and amenities.

4. Establish strong operational policies.

Provide security policies to help create a safe, enjoyable system for the public that is also respectful of the privacy of adjacent property owners. Outline a maintenance policy to assure the protection of the Town's investment in greenways and to assure the upgrade of the facilities over time.

5. Create a Plan that may serve as a vehicle for acquiring grants and other funding opportunities.

A sound master plan is often required to be eligible to receive certain grants.

6. Create a Plan that may serve as a promotional tool.

Provide a document that will raise awareness of greenway and open space issues and encourage broad community-based support for greenways.

Planning Methodology

As an update to the 1985 Task Force Report, this Master Plan has sought reaffirmation of the original goals of the greenways program. In 1989, William Webster, while a Masters of Public Administration student at the University of North Carolina at Chapel Hill, completed an extensive identification of greenway corridors throughout Chapel Hill. Specific trail segments were identified and rated according to recommended levels of development. Corridors were evaluated in terms of their natural features, environmental sensitivity and site conditions favorable for trail development.

The 1998 Comprehensive Greenways Master Plan provides an expanded study of these greenway corridors, refines the trail classification system and offers updated findings. The recommendations in this report are not simply recapitulations of earlier planning efforts. Rather, they are the result of detailed studies, on-site inspections, map reviews, consultation with area professionals and Town staff. Each corridor has been walked to assess its physical and visual character, to evaluate its environmental condition, aesthetic quality, and the feasibility and potential for trail development.

The Master Planning process has followed a logical sequence to ensure that the project's decision-making has been consistent with the stated goals for the Master Plan. The process was organized to forge a consensus plan which is technically workable and responds to the full range of community interests.

The Greenways Commission actively participated throughout the entire process. Participation by citizens was established as an integral part of this planning process. Public information forums and working sessions were conducted to solicit general input and identify issues of concern from the community-at-large.

It has been a planning process that attempted to broaden the sense of community ownership of the Town's open space and greenways. The

(21)

Greenways Commission has sought to solicit and assimilate views and input from a variety of public perspectives. The following agencies, municipalities, institutions and public interest groups were made part of the review process of this Plan and the formulation of recommendations during its draft stages:

- **Chapel Hill Advisory Boards and Commissions:**
Parks and Recreation Commission, Planning Board, Transportation Board.
- **Chapel Hill Town Staff:**
Town Manager's Office, Long Range Planning, Current Development Planning, Transportation, Engineering, Public Works, Parks & Recreation.
- **Neighboring governmental bodies:**
Orange County, City of Durham, Durham County, Town of Carrboro.

Agencies and institutions:

Orange Water and Sewer Authority (OWASA), University of North Carolina Department of Facilities Planning and Design, North Carolina Botanical Garden.

- **Conservation groups:**
Triangle Rails to Trails, Triangle Greenways Council, New Hope Creek Corridor Committee, Sierra Club, Triangle Land Conservancy.

It is hoped that the planning methodology used for this Comprehensive Greenways Master Plan has allowed a balance to be achieved between technical feasibility, input from concerned neighbors and broader community goals.

Part 3

ANALYSIS OF CURRENT CONDITIONS

GREENWAYS PROGRAM ADMINISTRATION

The Chapel Hill greenways program has two major goals: to establish and maintain a system of open spaces that will help protect the environment of Chapel Hill, and where possible, to establish a system of trails, that will enable citizens to enjoy the benefits of greenways to the greatest extent possible.

Advising the Town Council to implement the goals of the greenways program is the responsibility of the Chapel Hill Greenways Commission. The greenways program is administered by a variety of Town departments under the guidance and coordination of the Parks and Recreation Department. The Parks and Recreation Department staff provides planning and technical support, coordination of design and engineering consultants and provides promotional and liaison services to the community.

Role of the Greenways Commission

The Chapel Hill Greenways Commission is a seven member body of citizens which is charged with the task of advising the Council in the creation of a town-wide system of greenways and greenway trails. The Town Council appoints members for three-year terms. Sitting members may apply for a second three year term. The Commission was created in 1985 to perform the following duties:

1. Develop and propose, for the Town Council consideration, a master greenways plan, including a proposed timetable for development and listing of potential greenways properties and extensions.
2. Identify potential property and easements to accomplish the greenway plan with the cooperation of property owners and neighborhood

organizations in areas along greenway corridors.

3. Work with neighborhoods to develop specifications for appropriate design, use, maintenance, and security for greenways.
4. Promote awareness of the greenways program among Town residents. For example, publish maps and trail guides for use of greenways.
5. Advise the Town Council regarding the status of needs of the greenway system annually during the consideration of the Capital Improvement Program and annual operating budget. Recommend property to be acquired and trails to be constructed.
6. Work with community groups to encourage the development and maintenance of greenway trails.
7. Work with regional organizations and Greenway Commissions to coordinate regional greenway plans; encourage linkage of greenway systems when beneficial to Chapel Hill citizens.
8. Review proposals for subdivision or development of land in the identified greenway corridors, and make recommendations to the Planning Board or Town Council regarding provision or dedication of property or easements to accomplish the greenway plan.

Currently there are seven trails in the greenway system, extending approximately 5.4 miles.

9. Recommend and promote alternative funding sources for acquisition and maintenance of greenways.

10. Recommend naming trails or greenway corridors in honor of individuals to the Town Council Naming Committee.

Supporting Plans and Ordinances

The movement toward comprehensive greenway planning is demonstrated in the development and evolution of other Town documents and plans of neighboring communities and institutions. The Chapel Hill greenway program is supported by a wide range of Council-adopted plans and reports within the Town's Comprehensive Plan and important sections of the Town's Development Ordinance. As the greenway program develops, it will continue to rely on the reinforcement and mutual support that these plans and policy statements provide.

Town Comprehensive Plan

The Town's Comprehensive Plan contains several Plans and Reports which support the efforts of the greenway program, including:

- 1985 Greenways Task Force Final Report
- 1989 Natural Environment Report
- 1989 Community Facilities Report
- 1989 Transportation Report
- 1991 New Hope Corridor Open Space Master Plan
- 1993 Regional Bicycle Plan
- 1994 Pedestrian Plan

A brief review of each Report and its recommendations follows.

1985 Greenways Task Force Final Report

The 1985 Report has acted as the greenways program's master plan since its adoption. Although the Report is out-of-date in many respects, it is still a valuable resource for understanding the importance of linear open spaces for natural resource protection as well as for transportation and recreation. The Report describes the stream corridors of most major

Chapel Hill perennial streams. The Report also discusses the importance of trail construction as it relates to community transportation and leisure.

1989 Community Facilities Report

The 1989 Community Facilities Report describes potential trail segments along Bolin Creek, the railroad line that serves the University's power plant, Morgan Creek, Wilson Creek, Booker Creek, and Battle Branch. The Report recommends that the Town try to meet the ambitious goal of completing all planned trail segments by the year 2000.

1989 Natural Environment Report

The 1989 Natural Environment Report identifies critical and sensitive features of the Town's natural environment which include steep slopes, floodplains, bottomland hardwood forests, open space and greenways. The Report recommends the preservation of these natural features and is supportive of open space and stream buffer preservation.

1989 Transportation Report

1989 Transportation Report identifies the goal of safe and efficient movement of people throughout Town. In addition to a safe road network, sidewalks, pedestrian paths and bicycle routes are noted as integral parts of the Town's transportation system. The Report recognizes the need of the recreational community and supports combining recreational needs with commuter bicycle facilities.

1991 New Hope Corridor Open Space Master Plan

Chapel Hill, Orange County, Durham County, and the City of Durham shared the costs of preparing this Report which made recommendations for preserving the remaining wild land between Chapel Hill and the City of Durham. Most of the studied area lies within Durham County and outside of Chapel Hill's jurisdiction. However, the Dry Creek corridor and the area near Eastowne Drive are included in the study. The study recommends that Chapel Hill work to preserve Dry Creek, acquire land for trail development, and plan for a future trail connection to Durham along

Dry Creek. Specific recommendations related to the Chapel Hill greenway system are included in Part 4 of this report.

1993 Regional Bicycle Plan

Chapel Hill, Orange County, Durham County, and the City of Durham shared the costs to develop a Regional Bicycle Plan to study current and future bicycle use patterns and the need for facilities. The Plan identifies Phases I and II of the Bolin Creek trail and the planned Booker Creek Trail as components of the Regional Bicycle Plan.

1994 Pedestrian Plan

The 1994 Pedestrian Plan is intended to lay the groundwork for development of improved pedestrian facilities in order to promote pedestrian versus automobile transportation. Greenway trail segments are recognized as being important and complementary components of an overall pedestrian system composed mainly of sidewalks along Town streets.

Other Supporting Plans

The Chapel Hill greenway system is supported by the findings and recommendations established in planning documents adopted by neighboring communities and environmental groups.

Town of Carrboro Recreation and Parks Comprehensive Master Plan

Adopted in 1994 by the Town of Carrboro Board of Aldermen, the Master Plan outlines recommendations for a Town-wide system of community parks, neighborhood parks, mini-parks and greenways. The Plan supports cooperative efforts with the Town of Chapel Hill to deliver recreational services to both communities. Specific recommendations for connections to several of Chapel Hill's greenways are presented.

Inventory of the Natural Areas and Wildlife Habitats of Orange County, North Carolina

Sponsored by the Triangle Land Conservancy, and completed in 1988, the Inventory of Natural Areas and Wildlife Habitats of Orange County describes 64 sites representing unique and exemplary natural ecosystems, rare species habitats, special

wildlife habitats and scenic areas.

The following reports and plans have been adopted by the University of North Carolina Board of Trustees as guides to the future planning and development of UNC properties in Chapel Hill:

Summary of the Campus Framework Plan, A Guide to Physical Development

The University of North Carolina at Chapel Hill Johnson Johnson and Roy, Inc., March 1991.

North Carolina Botanical Garden Master Plan, A Guide for Development

The University of North Carolina at Chapel Hill, Jones and Jones, and Hunter Reynolds Jewell, March 1992.

Central Campus Open Space Preservation Policy

The University of North Carolina at Chapel Hill, Johnson Johnson and Roy, Inc., 1996.

Study of the University of North Carolina Outlying Properties

The University of North Carolina at Chapel Hill, Johnson Johnson and Roy, Inc., November 1996.

Town Ordinances

The Town's Development Ordinance has several sections which are of vital importance to the enhancement of the greenways program. The most important of these are the sections which mandate the dedication of recreational land and created the Resource Conservation District.

The mandatory dedication of open space levied on private residential development within the Town is an important mechanism for greenway land acquisition. The Resource Conservation District (RCD) aids the greenways system in a broader sense, by providing ordinance protection of land associated with stream bottomlands, the primary component of Chapel Hill's greenway corridors.

Mandatory Dedication of Recreation Area

Most of Chapel Hill's greenway land has been

acquired through the provisions of the Development Ordinance that mandates dedication of recreation space with each new major subdivision and some projects developed under Special Use Permits. This process has been used continually since mandatory recreation area dedication was added to the Town's development ordinance in 1981.

The Development Ordinance (sections 13.7.8 through 13.7.10 and section 17.9) requires the dedication of recreation areas for almost all residential development projects. The intent of the ordinance is to require a prescribed amount of land which could be used for active recreation purposes. For sites that abut or include areas designated as future greenway corridors, the ordinance allows the developer, with Council approval, to dedicate land for greenway use in lieu of active recreation space. This ordinance has been Chapel Hill's most effective greenways land acquisition tool.

The Development Ordinance also specifies (section 17.9) exemptions to required recreation land dedication which include payments in lieu agreements and the substitution of other land areas. These provisions have led to the preservation of greenway corridors, land having steep slopes, environmentally sensitive areas and open space associated with the Town's entranceway corridors.

Resource Conservation District (RCD)

In 1984, the Town adopted its RCD Ordinance restricting development in and adjacent to the 100-year floodplain of the Town's perennial streams. The RCD is an overlay zoning district which protects this critical zone by limiting permitted uses, the amount of impervious surface created by a development, the amount of land that can be disturbed and development density.

The greenways program benefits from the RCD in two ways. First, the district protects large areas of fragile and important natural areas without the need to purchase property. Second, the ordinance lists greenway trail development as an allowable and acceptable use within the RCD.

THE GREENWAY SYSTEM IN 1998

Chapel Hill's greenway system is best viewed as a network or web of open space and trails that provide many benefits, including an opportunity for people and wildlife to safely travel through the urban environment. In a community with ideally planned greenways, it would be possible to travel inside linear open space corridors to any major destination. Neighborhoods, schools, parks, shopping centers, commercial centers, and office areas would be interconnected so that user contact with automobile traffic would be minimized.

The greenway network proposed for Chapel Hill does not reflect the ideal. Although most greenway corridors are at least partially preserved, the transportation aspects of the Town's greenways fall short of providing a complete or continuous system. Portions of the proposed system fit together rather poorly, while other segments have missing pieces. The imperfect plan presented here reflects the reality of trying to implement a greenway trail system in a community which has already been largely developed, contains difficult terrain and has large areas under a single owner, the University of North Carolina at Chapel Hill. See Figure 12. Some lands owned by the University and additional portions of some greenway corridors have areas which are biologically sensitive, including federally-regulated wetlands.

Many acres within potential greenway corridors have already been developed as single family residential neighborhoods and for commercial uses. This existing development occurs predominantly in the central portion of Town and along Morgan Creek and Booker Creek. The corridors associated with small tributaries are often divided by many individual properties, a condition that could make acquisition of trail corridors a costly and difficult undertaking. Some trail development must wait until such time, perhaps far in the future, when land use patterns change enough to allow acquisition of public greenways.

Despite the problems inherent in implementing a greenways system in an urban environment, opportunities abound. Many of the Town's proposed greenways lie in areas not under immediate development pressure, some are located along corridors that the Town controls, while others lie within areas protected by Town ordinances that allow for the preservation of open space and greenways corridors.

Components of the Greenway System

The Chapel Hill greenway system provides a connective amenity for the community, supplying aesthetic value and ecological continuity at some of its most important natural areas. Its valued role as a functional and recreational part of the Town environment, may be further understood by considering three types of greenway corridors: Stream Corridors, Man-Made Corridors and Connector Trails.

Chapel Hill's Greenway System is composed of 3 types of corridors:

Stream Corridors

Land adjoining a perennial stream.

Man-Made Corridors

Linear open space related to roads, utilities or patterns of development.

Connector Trails

Short linkages between greenways or other pedestrian destination points.

Stream Corridors

Stream Corridors are the primary component of the greenways system. The pattern of the Town's major streams - Bolin Creek, Booker Creek, Morgan Creek, Little Creek and Dry Creek and the open spaces along these streams and their tributaries create the basic structure for the Town's open space and greenway system.

Stream Corridors are composed of land directly adjacent to the Town's perennial streams, including both flood plain land and high ground. These linear open spaces may provide trail linkages to generators of pedestrian or recreational activity, such as parks, schools, shopping areas and residential communities. Some Stream Corridors, however, do not include trails and function simply as wildlife corridors and buffers.

The majority of the land within the Town's jurisdiction falls roughly equally within the drainage basins, or watersheds, of three primary streams: Bolin Creek, Booker Creek, Morgan Creek. Dry Creek, in the northeast corner of Chapel Hill, has a fairly small drainage area within the Town limits, and is part of the New Hope Creek watershed. A fifth perennial stream, Little Creek, located in the eastern portion of Town, is created by the confluence of Bolin and Booker Creeks.

Stream Corridors in Chapel Hill vary in width according to the topography of the area, the amount of existing development adjacent to the corridor, the existence of significant biological areas, and patterns of property ownership. Stream Corridors generally straddle the centerline of a stream, although greenway lands are sometimes acquired to include larger parcels of general recreational land and undeveloped land. Some portions of Stream Corridors have already been developed. A large amount of development preceded the enactment of the Town's Resource Conservation District. The planning of these corridors for greenway purposes must take this encroachment into account.

Protection of greenways within the Town's stream watersheds is enhanced by a variety of natural factors. The inherent characteristics of the land immediately surrounding streams such as weak and poorly-drained soils, high water table and steep slopes are often limiting to development. Because of these characteristics, Stream Corridors, to a large degree, have been left in their natural condition. Within the width of a corridor itself, there is often a variety of land conditions, including dry terraces which sometimes allows for the construction of recreational trails. A diverse combination of alluvial flats, drier floodplains, gradual slopes, steep channels, typical common vegetation, regionally rare plant communities, and fine remnant stands of bottomland forest, enrich these corridors, providing habitat for wildlife and a diverse visual amenity for the community.

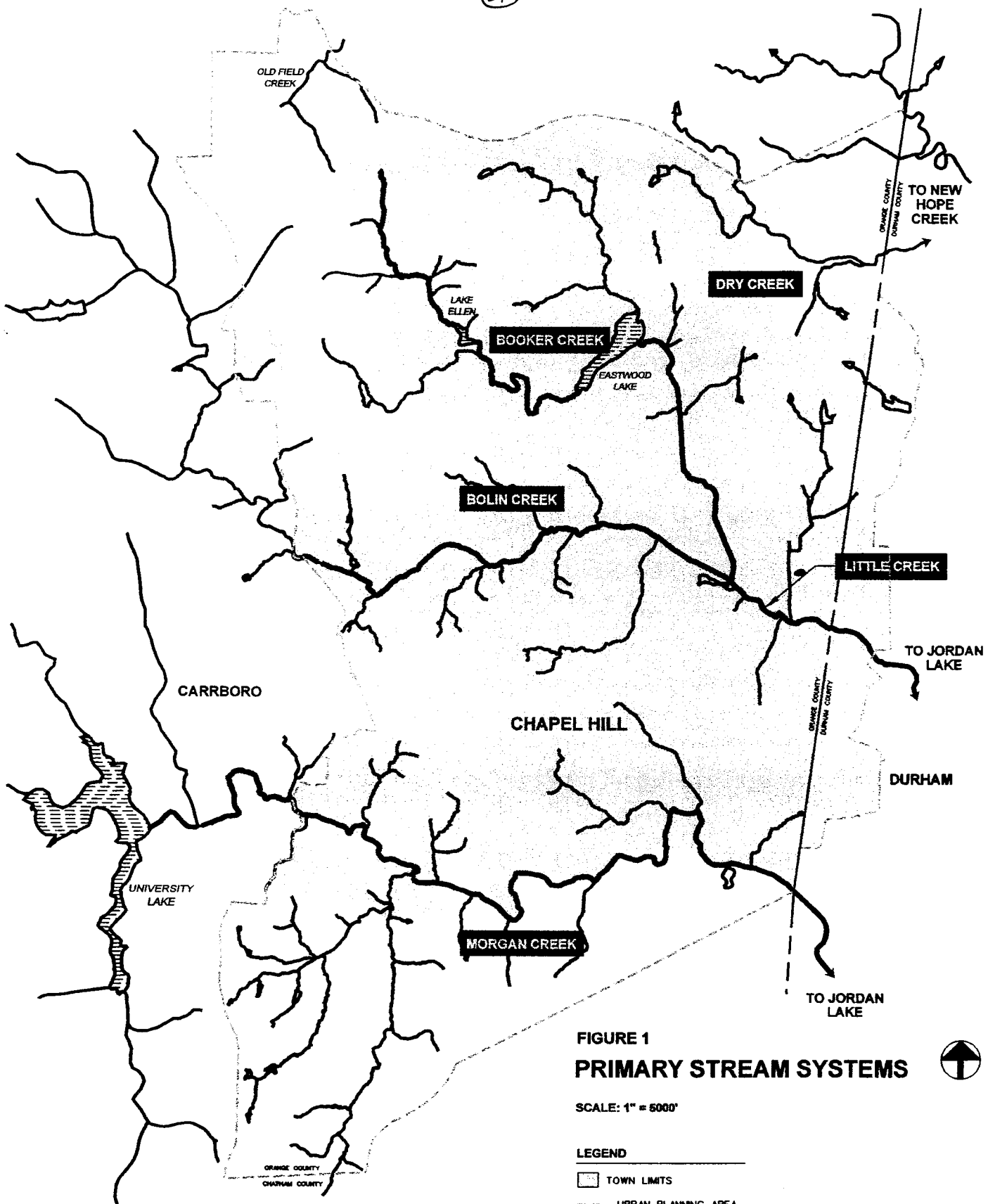
Man-Made Corridors

Man-Made Corridors are greenways which follow man-made features and are identified primarily to provide trails. These corridors typically follow linear elements of the roadway or utility infrastructure or they may follow corridors created by patterns of land development.

Man-Made Corridors can make important connections throughout the system by taking advantage of abandoned rail corridors and highway rights-of way. In addition to linear trails, Man-Made Corridors are sometimes created in conjunction with land development projects, often becoming part of the community open space network.

The Man-Made Corridors, currently possible in Chapel Hill, such as the Rail Trail and the North Trail may become the most significant recreational trails in the Town greenway system in terms of their length. Occurring at the periphery of the Town limits, these corridors also present excellent opportunities to link the Chapel Hill greenway system with neighboring open space programs and regional trails.

25



**FIGURE 1
PRIMARY STREAM SYSTEMS**

SCALE: 1" = 5000'

- LEGEND**
- TOWN LIMITS
 - URBAN PLANNING AREA

Connector Trails

Connector Trails are short segments of greenways which provide important connections among the Stream and Man-Made Corridors of Chapel Hill's greenway system. They increase the general accessibility of the Town's greenway system and provide other valuable community linkages.

Connector Trails offer unique opportunities to link greenway corridors with recreational areas and other destination points, such as schools or shopping areas. They may also serve to connect one greenway corridor with another, linking separate greenway segments to help form an integrated system. Good examples of Connector Trails are the existing Cedar Falls Trail and the proposed Old Field Trail, both located in the northeast portion of Chapel Hill. (See Figure 3).

In many situations, Connector Trails may lie on private property within neighborhoods and residential subdivisions. In these cases, the Connectors may be developed by homeowner associations or may simply become trails by frequent use. Occasionally, Connector Trails may be built and maintained by the Town. Examples of these include the trail connecting Pritchard Park and the Chapel Hill Library with Franklin Street and the trail at Farrell Street connecting Ephesus Park with the Colony Woods subdivision.

Connector Trails located along minor tributaries may provide useful natural and recreational links within the community. Connector Trails may also function as complementary systems to the primary greenway corridors by joining the planned open space network with the Town's sidewalk and bicycle path system. By incorporating neighborhood-to-park connectors and neighborhood-to-school connectors utilizing all the Town's possible pedestrian transportation options, the greenway system can be expanded to serve a greater number of Town citizens.

Trail Classifications

The intent of greenway trail construction is to preserve, yet make accessible, open space without damaging the qualities of the natural environment

that are most valued and appreciated. Trail surfacing should be selected to support projected intensities of use and to enable multiple uses. Surfacing should also take into account site topography, surface drainage, frequency of flooding, construction cost and maintenance concerns.

The greenway system can provide a variety of trail types, from essentially unimproved to very tightly specified and engineered multiple-use trails. Trails can range from primitive woodland paths designed for low intensity pedestrian travel to paved bike paths designed for bicycle and wheelchair use.

In the following section, "Strategic Planning," specific recommendations for the planning and design of greenway corridors are presented. Each greenway segment discussed in the Strategic Planning section is referenced to a specific trail classification. The hierarchy of proposed greenway improvements and trail classifications are found in Part 7, "Design Standards & Guidelines", page 77.

Trail Classifications are defined in Part 7, "Design Standards & Guidelines", page 77.

EXISTING GREENWAY TRAILS

Existing Land and Trails

Through a variety of means, the Town has acquired significant land holdings and easements along many identified greenway corridors. Currently, the system has seven existing trails, totaling approximately 5.4 miles. The Existing Land and Trails Map, Figure 2, represents an inventory of all major parcels of Town-owned land associated with Chapel Hill's greenway corridors. Also depicted are most of the Town's parks.

The parcels of land which currently make up the greenway system, are somewhat scattered. The bulk of the land already acquired lies in the Bolin Creek and Booker Creek watersheds. Much of the property needed to create a continuous, unbroken stream corridor along Bolin Creek from Umstead Park to the Community Center Park has been acquired. Two of the major tributaries available for greenway development, Tanyard Branch and Battle Branch, have been improved.

The Town controls about one-half of the land along the Morgan Creek corridor from the Merritt Pasture to the Chapel Hill-Carrboro boundary. Insignificant amounts of land have been acquired along the tributaries of Morgan Creek. The lower segments of Morgan Creek are subject to restrictions on property development within the 5-mile radius of Jordan Lake by the Division of Water Quality. Also, Town RCD restrictions apply to lands that must comply with overlay zoning restrictions. Additional protection for the lower segments of Booker Creek is provided by the NC Botanical Garden, 100-year flood (FEMA) regulations, and the U.S. Army Corps of Engineers property and easement regulations.

The Town controls about 75% of the land proposed for trails along the Booker Creek corridor, including all the property required to develop the Upper Booker Creek greenway segment and roughly half of the Lower Booker Creek corridor. Acquisition of land and easements is needed along the middle segments of

the Booker Creek corridor to help assure its preservation as an open space greenway.

Early in the greenway program's history, the Town had few practical options in its trail development schedule. The Town's first trail project, Cedar Falls, was built as part of the construction of Cedar Falls Park. In the mid-to-late 1980's, Battle Branch and Tanyard Branch, were selected because most of the required land was already under Town control and the projects were relatively inexpensive. Subsequent projects, such as the Phase I of the Bolin Creek greenway, have had the advantage of more strategic planning, a longer land acquisition history, and eligibility for significant funding by State programs.

The Town is currently in the planning and design stages for several major greenway segments. Conceptual Plans for the Dry Creek corridor received approval by the Council in June 1997, and in September 1997, the Council adopted the Conceptual Plan for the Upper Booker Creek greenway. Conceptual Plans for Phase II of the Lower Booker Creek greenway is scheduled to begin in September 1998.

The Town is also currently working with the private development community in negotiating the construction of two significant trails. These are the Fan Branch greenway, a portion of which is already constructed as part of the development of the Southern Village community and the Meadowmont Trail, in preliminary planning stages, which would be constructed by the developers of the Meadowmont project.

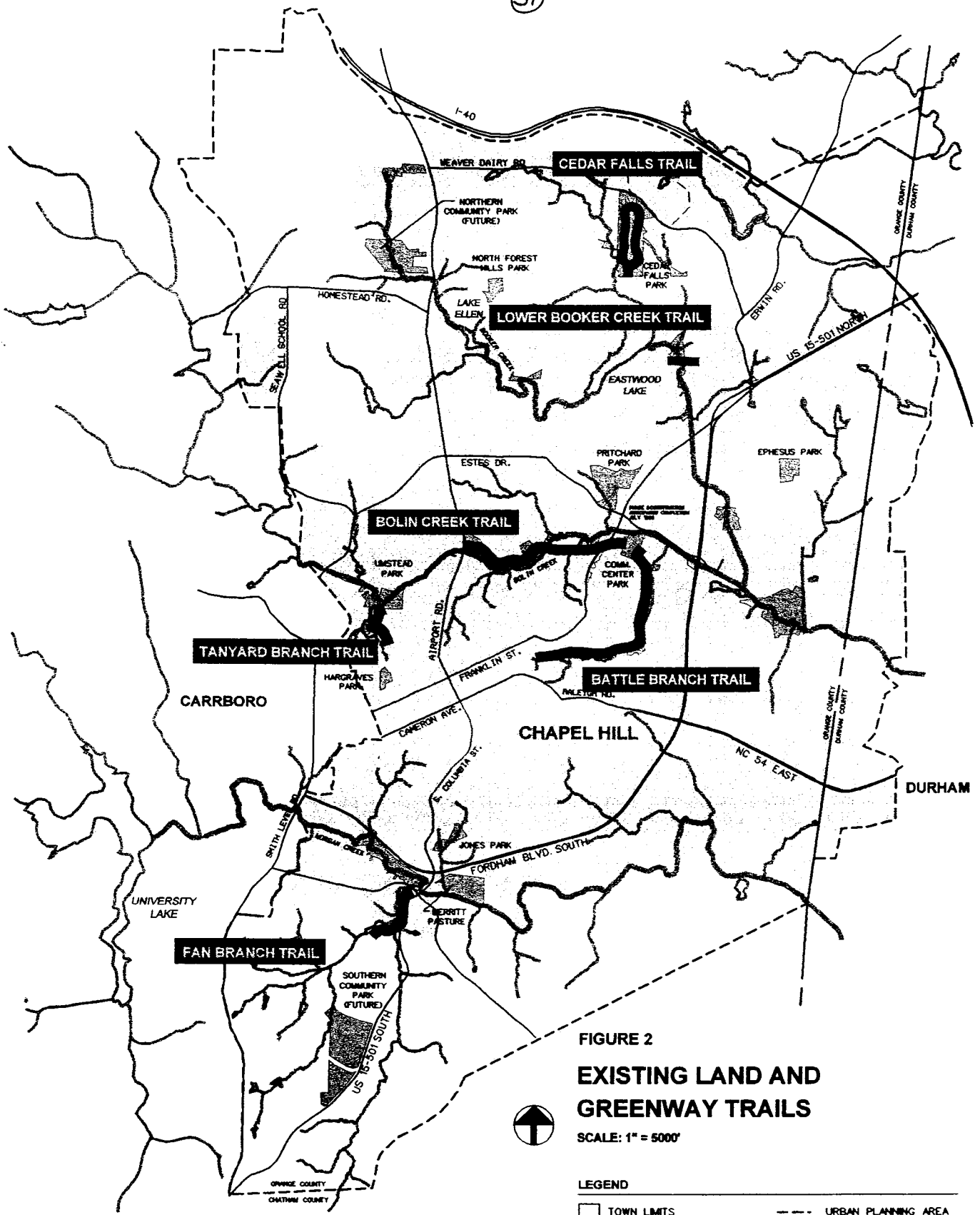


FIGURE 2
EXISTING LAND AND
GREENWAY TRAILS
 SCALE: 1" = 5000'



- LEGEND**
- TOWN LIMITS
 - ▨ TOWN OPEN SPACE/PARKS
 - URBAN PLANNING AREA

Existing Trails

Cedar Falls

- Completed 1979.
- Unpaved, Class 3 woodland trail with some steep slopes within the 51-acre Cedar Falls Park. Approximately 1.2 miles in length.
- Cedar Falls Trail joins with the park's internal network of minor unpaved paths including the .6 mile long Jo Peeler Nature Trail.
- Trail spurs connect the main trail loop with Lake Forest and Cedar Falls neighborhoods, providing access to East Chapel Hill High School.

Tanyard Branch

- Dedicated 1986.
- Unpaved, Class 3 woodland trail with some steep slopes within the Bolin Creek corridor. Approximately .4 miles in length.
- Connects Northside neighborhood with Umstead Park.

Battle Branch

- Dedicated 1989.
- Located on UNC campus next to Forest Theater within the Bolin Creek corridor. One of the longest protected natural areas in Chapel Hill, the University has maintained this site as an undeveloped park since the late-1800's. It is an isolated upland forest of approximately 60 acres, recognized in the 1988, "Inventory of the Natural Areas and Wildlife Habitats of Orange County, North Carolina".
- Battle Branch is a combination of half University-owned land and half Town-owned land. Included are the Town-owned Emily Braswell Perry Park and Greendale Park.
- Trail development is a combination of University controlled footpaths and Town-maintained trails, 1.5 miles long. The Battle Branch Trail is an unpaved Class 3 greenway with some boardwalk sections and a paved sidewalk connection.
- Connects the Community Center Park, the future Phase II of the Bolin Creek Trail, and the UNC campus.

Lower Booker Creek - Phase I

- Phase I completed 1991.
- Ten-foot wide paved Class 6 trail, approximately 300 feet long with a bridge crossing Booker Creek.
- Connects Daley Road and Tadley Drive.

Bolin Creek - Phase I

- Dedicated 1993.
- Ten-foot wide, paved woodland and meadow trail with few steep slopes. .8 miles long. Designed for multi-use, pedestrian and bicycle traffic as a Class 6 greenway.
- Connects Airport Road with Elizabeth Street. Bolin Creek Trail Phase.
- Fourteen acres of adjacent bottomland with steep slopes at the edge offer additional buffering and passive recreation opportunities.

Bolin Creek - Phase II

- Ten-foot wide, paved woodland and meadow trail with few steep slopes, .8 miles long. Designed for multi-use, pedestrian and bicycle traffic as a Class 6 greenway.
- Connects with Bolin Creek Trail Phase I near Elizabeth Street with the Community Center Park.
- Construction is anticipated for completion in July 1998.

Fan Branch

- Phase I completed 1996.
- Paved Class 6 woodland trail with few steep slopes, .6 miles long, along Wilson Creek and Fan Branch, both tributaries of Morgan Creek.
- Additional phases will connect with future Southern Community Park.
- As of July 1998, the Town had not yet taken possession.

Part 4

STRATEGIC PLANNING

The proposed Chapel Hill greenway system potentially encompasses over thirty-eight miles of linear open space. See Figure 3. Within the Stream Corridors and Man-Made Corridors, over twenty-eight miles are suitable for trail development. While providing important pedestrian links within the community, a thorough assessment of Connector Trails is not presented within this Master Plan.

Stream Corridors have been identified and are arranged according to their location within a specific primary stream watershed. Man-made Corridors are identified according to their specific locale or man-made feature along which they are aligned. Recommendations for individual trail segments comprising the greenway system are formatted to provide the following information and commentary:

- Resource Protection
- Potential for Trail Development
- Summary of Constraints for Potential Trail Development
- Summary of Factors Favorable for Potential Trail Development
- Planning Recommendations

For purposes of the following recommendations, all proposed greenways centered on streams are described beginning from the point where the stream enters the Town jurisdiction and continuing downstream. Compass point directions are given with the understanding that despite the many meanders a stream will make, the watercourse will tend to travel in a general direction. For example, Bolin Creek runs more west-to-east than north-to-south. For this reason, descriptions are given with the reference points of north bank and south bank.

The Master Plan recommendations provided for each trail segment offer general planning parameters within which individual trails and plans may be conceived. The recommendations should be used as a basis from which more detailed analysis and design of individual greenways and trails may be prepared. As trails are brought on-line as specific capital projects, the environmental conditions of the corridor, status of surrounding land use, potential for access, location and specific alignment should be revisited and reevaluated at the conceptual design phase of each trail project.

The proposed Chapel Hill greenway system encompasses over 38 miles of linear open space. Over 28 miles are suitable for trail development.

STREAM CORRIDORS

The Bolin Creek Watershed

Bolin Creek begins in south central Orange County and enters Chapel Hill's jurisdiction near Estes Drive Extension. The creek flows approximately 3.8 miles within the Town limits, until it merges with Booker Creek to form Little Creek.

If the proposed trail system were fully developed along the entire length of the Bolin Creek corridor, it would connect directly to the following existing and proposed trails: Rail Trail, Tanyard Branch, Battle Branch, Booker Creek, and Little Creek. The Bolin Creek Trail would connect indirectly, through the above mentioned greenways, to the following trails: North Trail, Old Field, and Dry Creek.

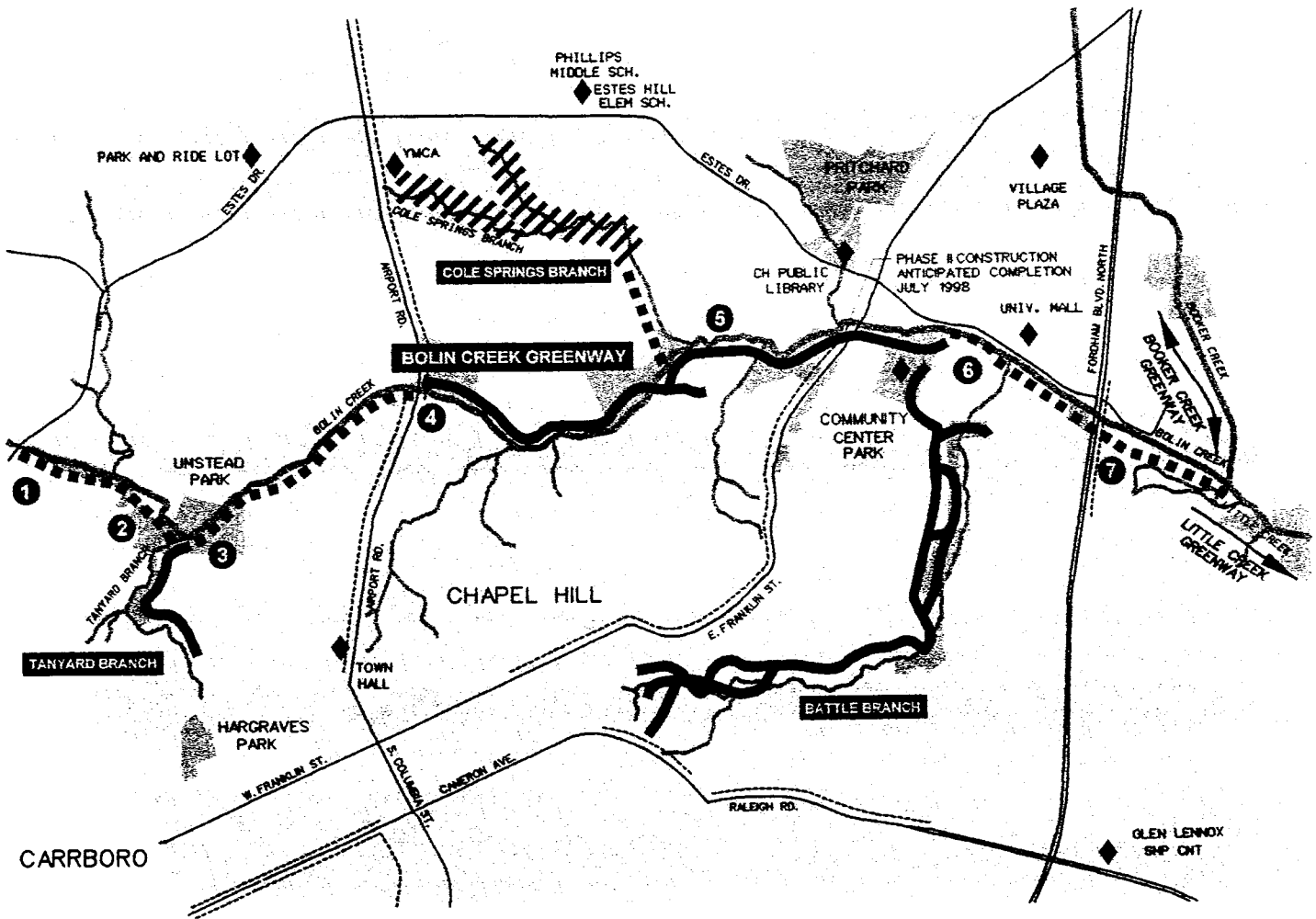


FIGURE 4
BOLIN CREEK WATERSHED



SCALE: 1" = 2250'

LEGEND

- TOWN LIMITS
- TOWN OPEN SPACE/PARKS
- GREENWAY SEGMENT
- EXISTING TRAIL
- PROPOSED TRAIL
- PRESERVATION AREA (NO TRAILS)
- POINT OF INTEREST
- EXISTING BIKEWAYS

① BOLIN CREEK:

Estes Drive Extension to Village Drive

Bolin Creek enters Chapel Hill near Estes Drive Extension. At the point where the creek crosses under Estes Drive Extension, the land is characterized by steep slopes reaching down from the Estes Drive Extension roadbed. Once on the east side of Estes Drive Extension, the creek flows in a small valley with steep slopes on the south bank and a broad floodplain on the north bank. The steep south bank is forested with mixed hardwoods, but also contains a cleared sewer easement that parallels the creek. Some residential development exists on the north bank.

Potential for Trail Development

This section has a high potential for development of a natural surface trail, especially along the south bank. The trail could be important in future connections to any greenways developed within Carrboro's jurisdiction, should that municipality pursue a greenways trail program in the future.

Trail development would be possible on the north bank although existing residential development could force an early exit onto Umstead Drive or a bridge across the creek to the south bank. The most difficult area for construction of a trail exists at the west end of this section. The pipe that currently channels Bolin Creek under Estes Drive Extension is too small to allow human passage. The Town should explore all future opportunities to locate the trail in an underpass at Estes Drive Extension. Without an underpass, the construction of a trail could involve difficult grading of steep slopes or require construction of numerous switchbacks in order to gain access to the current Estes Drive Extension roadbed.

Recommendations

1. The Town should pursue the construction of a Class 3 trail.

② BOLIN CREEK:

Village Drive to Umstead Park

After passing under Village Drive, Bolin Creek

flows in a broad floodplain with considerable development. After a short distance the creek flows through Umstead Park.

Potential for Trail Development

A trail in this area would provide access from Village Drive to the Tanyard Branch Trail and Umstead Park. The trail could provide a safe pedestrian and non-motorized vehicle alternative to Umstead Drive.

The south bank provides the only suitable location for a trail. Trail development along the north bank of the creek would be extremely difficult due to existing residential development.

Recommendations

1. The Town should pursue the construction of a Class 6 trail along the south bank.

③ BOLIN CREEK:

Umstead Park to Airport Road

The Bolin Creek valley just east of Umstead Park has a broad floodplain for a short distance until it passes under Pritchard Avenue Extension. Just east of Pritchard Avenue Extension, Bolin Creek enters a very narrow valley with extremely steep slopes on both banks. The short but dramatic gorge ends at Airport Road where the creek enters an area of moderate topography. Other than an intensely developed area along the south bank, between Umstead Park and Pritchard Avenue Extension, the slopes of this gorge are too steep to allow extensive development. Umstead Drive occupies the only flat land along the creek.

Potential for Trail Development

A trail along this section could enhance Umstead Park and provide for safe pedestrian and bicycle traffic to Umstead Park. The Tanyard Branch Trail would connect directly to the Bolin Creek Trail in Umstead Park.

In 1988, two public meetings were held with the neighborhood concerning greenway development along this section of Bolin Creek. Citizens who attended the meetings strongly supported the

concept of a paved bicycle accessible trail from Airport Road to Umstead Park. This section could also be developed as a primitive trail, or as a mixture of both paved and primitive trails.

The trail could be located on either bank within Umstead Park, although if a paved trail is proposed it might be better suited on the north bank which is less steep and has fewer large trees. Once past the park boundaries the north bank becomes narrow and quite steep for trail development. A trail in this area would be difficult to design and construct, although the finished product would likely be one of the most beautiful and utilitarian sections of trail in the Town.

Summary of Constraints for Potential Trail Development

1. Trail development from Umstead Park to Airport Road would be difficult due to existing development and extremely steep slopes.
2. Trail construction along the narrow sections of the stream corridor will become more difficult over time due to rapidly progressing erosion.
3. Feasibility studies have not yet been undertaken to determine the possibility of crossing under the Umstead Drive and Airport Road bridges. These studies will need to investigate the impact and relationships of flooding and trail construction and the regulatory position of the NCDOT on such a proposal.

Recommendations

1. The Town should pursue the construction of a Class 5 trail.

**4 BOLIN CREEK:
Airport Road to Elizabeth Street**

Completed. Paved 10-foot wide asphalt trail designed as a Class 6 trail, .8 miles in length.

Recommendations

1. A sidewalk should be constructed along the east side of Bolinwood Drive from the Bolin Creek Trail to the existing sidewalk on Hillsborough Street. This connection would mitigate current conflicts of pedestrians traveling to the trail with the numerous parked cars along

Bolinwood Drive.

2. In the event of future widening or replacement of the Bolinwood Drive bridge, lanes for safe pedestrian and bicycle travel should be accommodated.

**5 BOLIN CREEK:
Elizabeth Street to Community Center Park**

Paved 10-foot wide asphalt trail designed as a Class 6 trail, .8 miles in length. Construction completion anticipated in July 1998.

Potential for Trail Development

During the planning of this trail segment, it was a Town goal to provide a pedestrian link from the Town Library, Pritchard Park and neighborhoods north of Franklin Street to this portion of the Bolin Creek Trail. A set of stairs joining the trail with the existing sidewalk on Franklin Street was proposed to meet this need. This concept requires a right-of-way encroachment agreement from the North Carolina Department of Transportation (NCDOT). However, because the stairs would not be in compliance with the Americans with Disabilities Act (ADA), the request for an encroachment agreement was denied by the NCDOT. The Greenways Commission still considers this goal to be unmet.

**6 BOLIN CREEK:
Community Center Park to Fordham Boulevard**

For 3,000 feet the creek corridor is surrounded by streets, businesses, and homes. Estes Drive is located along the north bank. Residences dominate the south bank. The Community Center Park is also located on the south bank.

Potential for Trail Development

Once past Community Center Park, there are two opportunities for trail development: as a sidewalk along Estes Drive or a Class 6 trail in front of Brookwood and Camelot condominiums. This section ends at Fordham Boulevard which acts as a barrier that may discourage pedestrian and bicycle transportation.

Summary of Constraints for Potential Trail Development

1. The sidewalk option is constrained by the presence of a number of utility poles and street trees within the desired alignment. The feasibility of this option is diminished by these constraints.
2. The Town currently owns no land between the Community Center and Fordham Boulevard.
3. The grade change between the elevation of the trail and Fordham Boulevard would be difficult to negotiate.
4. The trail would need to be extended northward to the Estes Drive intersection where the existing traffic signal would allow safe crossing of Fordham Boulevard. This extension might require a bridge over Bolin Creek.

Summary of Factors Favorable for Potential Trail Development

1. A trail located on the south bank could follow the existing sewer easement.

Recommendations

1. The Town should explore the possibility of continuing the Bolin Creek Trail as a Class 6 trail along the south bank.

7 BOLIN CREEK:

Fordham Boulevard to Booker Creek

Once Bolin Creek passes under Franklin Street, the character of the stream banks change from the narrow valleys of the upper stretches, to a very broad floodplain with little topographical relief. As the creek flows under Fordham Boulevard, it enters an area subject to fewer human intrusions. The surroundings become either park like or low density residential. The creek flows along the Rainbow Soccer fields and then continues a short distance downstream where it joins with Booker Creek to form Little Creek. Fifty-two acres of Town-owned open space is located at this juncture.

Potential for Trail Development

Development of a trail along this portion of Bolin Creek is possible although much of this area is prone to flooding. Trails in this area would likely require either extensive boardwalk sections or raised trail beds.

Recommendations

1. The Town should build a Class 3 trail with boardwalk sections.

Summary of Constraints for Potential Trail Development

1. This area is generally low-lying and exhibits poorly drained soils.
2. It is likely that there are extensive wetlands in this greenway segment.
3. At least two bridge crossings would be required in addition to extensive boardwalk sections over wet areas.

For next section downstream, see Little Creek, page 36.

The proposed Bolin Creek Greenway will support foot and bike trails the entire length of the stream.

Tributaries of Bolin Creek

TANYARD BRANCH TRAIL

Completed, Class 3 natural surface trail, nearly one-half mile in length, connecting Caldwell Street and Umstead Park. See Figure 4.

BATTLE BRANCH TRAIL

Completed. Class 3 natural surface trail with some boardwalk and a paved sidewalk connection. The Battle Branch Trail totals 1.5 mile in length and connects Battle Park with the Chapel Hill Community Center. See Figure 4.

COLE SPRINGS BRANCH

The Cole Springs Branch runs in a northwest to southeasterly direction and extends over three-fourths mile to its confluence with Bolin Creek. It is comprised of two major forks one which begins near the intersection of Estes Drive and Airport Road and a second which begins at Airport Road south of Estes Drive near the YMCA. The two forks join into a single stream channel approximately 2,500 feet above the confluence with Bolin Creek.

Potential for Trail Development

The south bank of Cole Springs Branch directly above Bolin Creek is characterized by a wide, dry stream terrace which would allow a variety of options for trail alignment. An existing

sanitary sewer easement follows the north bank. There are no significant conflicts with existing residential development for the first 2,500 feet of the stream.

Above this segment of the stream existing residential development may pose considerable difficulty to trail placement. Coupled with a narrowing of the stream terrace and steep side slopes, trail development may be problematic.

Summary of Constraints for Potential Trail Development

1. Extensive land or easement acquisition would be necessary for trail development.
2. There are some existing residential conflicts.
3. Slope conditions may make trail continuity and linkage with adjacent neighborhoods difficult.

Summary of Factors Favorable for Potential Trail Development

1. Large portions of Cole Springs Branch are relatively flat and exhibit dry, stable soils.

Recommendations

1. The Town should take advantage of any opportunities to acquire easements or land along both banks of Cole Springs Branch and continue to search for linkages to public streets adjacent to the corridor.
2. Any trail should be designed as a Class 3 trail to connect with the Phase II segment of the Bolin Creek Trail.

The Booker Creek Watershed

Booker Creek begins as two small branches. The south branch rises near Homestead Road east of the existing rail line. The north branch begins near the intersection of Weaver Dairy Road and Airport Road and is joined by a smaller tributary midway in its course. The two branches eventually merge just west of Airport Road.

From the juncture of the two branches, Booker Creek flows generally south and east across areas of Town that include both developed and undeveloped tracts. The creek flows into Lake Ellen and Eastwood Lake. From Eastwood Lake, the creek flows through a wide flood plain, continues under Franklin Street, and then literally flows under the Eastgate shopping area. Once past Fordham Boulevard, the creek flows through very low and wet areas until it merges with Bolin Creek. Both Bolin and Booker Creeks lose their separate identities at this point as they become Little Creek.

Booker Creek flows nearly 5.7 miles and has five major segments which may be developed with trails of varied classifications. The central section of the creek has been too heavily developed to practically support a trail program, however trails of Class 6 could be built west of Airport Road and east of Eastwood Lake and a Class 3 or Class 6 trail could be included south of Fordham Boulevard. Further study would be required to determine the appropriate trail width and surfacing.

If the proposed Chapel Hill trail system were fully developed the various sections of the Booker Creek Trail would total nearly 3.2 miles and would connect directly to the following trails: Bolin Creek and the Rail Trail. Various segments of the Booker Creek Trail would connect indirectly, through the above mentioned greenways, to the following trails: Battle Branch, Tanyard Branch, Cole Springs Branch, North Trail, Old Field, and Dry Creek.

① BOOKER CREEK: Weaver Dairy Road to the Northern Community Park

The north branch of Booker Creek drains primarily flat land to the west of and parallel to Airport Road. Currently the majority of this land is undeveloped.

In 1997, the Town began a Conceptual Plan process for this trail segment. Council action on the Conceptual Plan is anticipated Winter 1998-1999.

Resource Protection

The Town is currently developing a 40.77 acre community park which includes approximately 1,100 feet of greenway corridor.

Potential for Trail Development

Trail development would be relatively easy along both sides of the creek. Trails could be constructed to any class with few constraints.

Summary of Factors Favorable for Potential Trail Development

1. There are few topographical constraints.
2. There are few conflicts with residences or businesses.

Recommendations

1. Once this section becomes a top priority, the Town should pursue the construction of a Class 6 trail.

Booker Creek flows nearly 5.7 miles and has a combination of planned trails and preserved wildlife corridors.

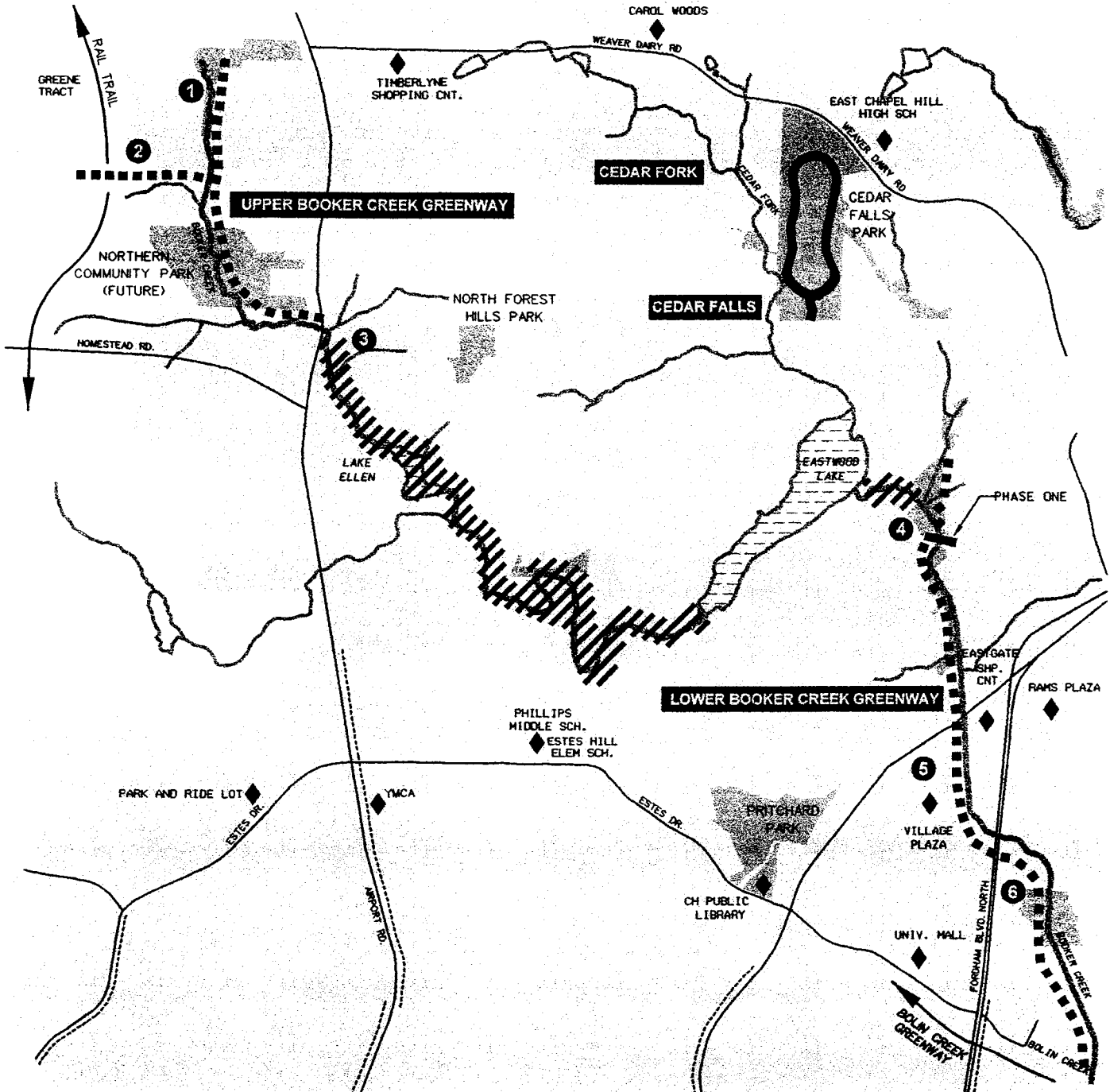


FIGURE 5
BOOKER CREEK WATERSHED

SCALE: 1" = 2250'



LEGEND

- | | | |
|-----------------------|-------------------------------|-------------------|
| TOWN LIMITS | EXISTING TRAIL | POINT OF INTEREST |
| TOWN OPEN SPACE/PARKS | PROPOSED TRAIL | EXISTING BIKEWAYS |
| GREENWAY SEGMENT | PRESERVATION AREA (NO TRAILS) | |

② BOOKER CREEK: Greene Tract to Booker Creek Trail

The west branch is a minor tributary which joins the northern branch of Booker Creek at a point north of the planned Northern Community Park and the proposed Rail Trail. The creek resembles more of a ditch in its early stage and drains large areas of relatively flat land to the west of Airport Road. Currently the majority of this land is undeveloped.

Potential for Trail Development

Trail development would be relatively easy along both sides of the tributary. Trails could be constructed to any class with few constraints and could potentially be extended westward across the rail line to the Greene Tract. The Greene Tract is a 179-acre, undeveloped tract jointly owned by the Town of Chapel Hill, the Town of Carrboro and Orange County. The ultimate use of the Greene Tract has not been determined.

Summary of Constraints for Potential Trail Development

1. Land or easement acquisition would be necessary for trail development.
2. A crossing of the rail line would be necessary.

Summary of Factors Favorable for Potential Trail Development

1. There are few topographical constraints.
2. Currently, there are few existing residential conflict.

Recommendations

1. The Town should take advantage of any opportunities to acquire easements or land along both banks of Booker Creek.
2. Once this section becomes a priority, the Town should pursue the construction of a Class 6 trail.
3. The trail should be planned to connect with the proposed Rail Trail.

③ BOOKER CREEK: Airport Road to Eastwood Lake

Booker Creek crosses under Airport Road and flows for a short distance through an area that is mostly wooded. The north shore of the stream corridor becomes highly developed as it parallels Dixie Drive. Booker Creek eventually flows into Lake Ellen, which is surrounded by single-family homes and steep slopes. Below the dam the creek enters a valley which is often steep with extensive areas of exposed rock. Homes are found throughout this section, some quite near the creek, while others are located on bluffs overlooking the stream. The stream passes under Piney Mountain Road. Eventually the creek flows into Eastwood Lake, near Curtis Road and Kensington Drive.

Resource Protection

The Town has protected some open space downstream of Lake Ellen and at the intersection of Kensington Drive and Curtis Road.

Potential for Trail Development

Trail development would be extremely difficult along this section of Booker Creek. Although cleared Orange Water and Sewer Authority (OWASA) sanitary sewer easements could provide a good surface for the trail along some sections of the creek, portions of the corridor are steep, rocky, and narrow. The greatest constraint to trail development is the absence of Town controlled rights-of-ways in a densely developed area. In many locations, trails would have to be constructed very close to established homes and in several places would have to cross over maintained lawns.

Summary of Constraints for Potential Trail Development

1. Extensive land acquisition would be necessary for trail development.
2. Some bridges may be required.

- 3. Trail development may be difficult given proximity of existing homes.
- 4. Steep slopes predominate throughout the section.
- 5. Feasible access to the Orange Water and Sewer Authority (OWASA) sanitary sewer easement is not apparent in at least two locations.
- 6. Tree and rock outcroppings would be disturbed by trail construction of Class 5 or greater.
- 7. Trails in the vicinity of the two lakes would be difficult to locate.

Summary of Factors Favorable for Potential Trail Development

- 1. An Orange Water and Sewer Authority (OWASA) sewer easement would allow for easy construction of trails in some areas.

Recommendations

- 1. The Town should take advantage of any opportunities to acquire easements or land, for resource protection purposes, along both banks of Booker Creek.
- 2. The Town should not promote a trail in this area unless requested to do so by residents. The corridor should remain undeveloped to a Class 1 or 2 level.

**4 BOOKER CREEK:
Eastwood Lake to Franklin Street
and the Northeast Branch**

From the spillway of Eastwood Lake, Booker Creek crosses several private lots until it merges with the northeast branch, east of Eastwood Lake. From the juncture with the northeast branch, the creek flows almost due south through a broad vegetated, floodplain until it crosses under Franklin Street near the Eastgate Shopping Center.

The northeast branch of the creek begins near Honeysuckle Road and flows south to meet the main branch just south of Booker Creek Road. This section provides an opportunity for trail development that would serve several

neighborhoods and a major shopping and commercial area.

Phase I of the trail has already been built. It is 10' wide paved, Class 6 trail, approximately 300 feet long and includes a bridge crossing of Booker Creek that provides a connection between Daley Road and Tadley Drive.

Resource Protection

The Town has acquired a great deal of land along this section of the Booker Creek greenway, including a majority of the acreage along over 5,000 ft. of stream corridor. In addition to fee-simple ownership of land, the Town has established a large recreation area and over 2,000 feet of pedestrian and non-motorized vehicle easements. The Resource Conservation District (RCD) ordinance assists in protecting the remaining portions of the greenway corridor not directly controlled by the Town.

Potential Trail Development

Trail development would be extremely difficult from Eastwood Lake to the juncture with the northeast branch due to the private property along the lake. However, trail development to Class 6 is possible from Booker Creek Drive to Franklin Street. The best corridor appears to be along the east shore of the creek from Booker Creek Drive to Daley Road. The bridge at Daley Road provides access to the west bank near Tadley Drive. The trail could continue along sewer easements on the west bank of the creek to Franklin Street.

Summary of Constraints for Potential Trail Development

- 1. Some land or easement acquisition would be necessary for trail development.
- 2. It would be necessary to remove trees and vegetation.
- 3. Flooding is common along this section.
- 4. It may be difficult to safely merge a bicycle trail into the traffic patterns of East Franklin Street.
- 5. Wetlands may exist along portions of the trail corridor, especially north of the bridge crossing.

Summary of Factors Favorable for Potential Trail Development

1. Over half of the necessary land has been acquired.
2. There are few topographical constraints to trail development.
3. The North Carolina Department of Transportation (NCDOT) has committed \$260,000 for the construction of this project.
4. \$56,000 in Metropolitan Planning Organization (MPO) direct allocation funds have been committed for the construction of this trail.

Recommendations

1. The Town should take advantage of any opportunities to acquire easements or land along both banks of Booker Creek.
2. The Town should construct a Class 6 trail from the bridge crossing to Franklin Street.
3. The Town should further evaluate the potential benefits and environmental impacts of trail development north of the bridge crossing.

5 BOOKER CREEK:

Franklin Street to Fordham Boulevard

The landscape surrounding Booker Creek changes character once the stream passes under Franklin Street. The entire creek immediately passes beneath the parking lot and main building of Eastgate Shopping Center. From the outflow of the creek on the south side of the Eastgate Shopping Center, the creek resumes a more natural course, although the surroundings are predominantly urban. The creek flows near several commercial buildings and roads until it passes beneath Fordham Boulevard near Willow Drive.

Resource Protection

The entire corridor is in private ownership and is almost completely developed.

Potential for Trail Development

Trail development would be extremely difficult through the Eastgate Shopping Center property. Once on the south side of the shopping center, trail development would be possible, although most of the land and easements would have to be acquired.

Recently, proposed plans for redevelopment of commercial property along Franklin Street north of Elliott Road and also along Fordham Boulevard may provide the opportunity for a continuous pedestrian link between Franklin Street and Fordham Boulevard.

Summary of Constraints for Potential Trail Development

1. Significant land or easement acquisition would be necessary for trail development.

Summary of Factors Favorable for Potential Trail Development

1. There are few topographical constraints to trail development.

Recommendations

1. The Town should take advantage of any opportunities to acquire easements or land along both banks of Booker Creek.
2. Should the Eastgate Shopping Center property be redesigned or rebuilt, the Town should take advantage of the opportunity to assure a trail corridor.
3. The Town should actively pursue the acquisition of easements within redeveloped commercial and adjacent properties for the construction of a Class 3 or Class 6 greenway. Further investigation is needed to determine appropriate trail width and surfacing.

6 BOOKER CREEK:

Fordham Boulevard to Little Creek

Once past Fordham Boulevard, Booker Creek enters a floodplain that is very flat and poorly drained. The areas surrounding Booker Creek probably contain significant areas of wetlands, as defined by the Army Corps of Engineers. Booker Creek ends as it joins with Bolin Creek to form Little Creek.

Resource Protection

The Town owns 16 acres of land along this portion of the Booker Creek corridor.

Potential for Trail Development

Trail development in this area would be

challenging although beneficial to the neighborhoods in the southeast portion of Town. A trail could be used to gain access to the shopping and commercial areas near Elliott and East Franklin Streets, and the Bolin Creek Trail.

Summary of Constraints for Potential Trail Development

1. Some land acquisition would be necessary for trail development.
2. Engineering would be required to overcome problems associated with trail development in wet areas.
3. Extensive use of boardwalks may be required.
4. The University of North Carolina at Chapel Hill owns a 9.8-acre tract of low-lying land which straddles Booker Creek between Fordham Boulevard and Willow Drive. An agreement with the University would be needed to complete the trail corridor.

Summary of Factors Favorable for Potential Trail Development

1. There are few topographical constraints to trail development.
2. The Town controls a significant tract of land along the creek.

Recommendations

1. The Town should take advantage of any opportunities to acquire easements or land along both banks of Booker Creek.
2. Once the section has become a priority, the Town should pursue construction of a Class 3 trail.
3. The Town should negotiate with the University to gain access across UNC property.

For the next section of greenway corridor downstream, see “Little Creek”, page 36.

Tributaries of Booker Creek

CEDAR FORK

Cedar Fork drains much of the area north of Honeysuckle Road and south of Interstate 40. The creek flows generally southeast, over 1.1 miles, until it empties into Booker Creek near the intersection of Brookview Drive and Cedar Falls Court. The stream flows through an area which is heavily developed by both residential and commercial structures.

Potential for Trail Development

Trail development would be difficult along Cedar Fork due to the existing development encountered along the stream. A trail currently exists within Cedar Falls Park (see Connector Trails, page 58.) The park trail and this portion of Cedar Fork could provide a natural connector for persons wishing to travel from the proposed North Trail and Dry Creek Trail to the Booker Creek Trail. Although some travel on streets would be required to connect these trails, Cedar Falls Park greatly reduces the need to walk on Town streets.

Recommendations

1. The Town should acquire easements and land along Cedar Fork.
2. The Cedar Fork corridor should remain as a Class 1 or 2 greenway.

Little Creek

The confluence of Bolin Creek and Booker Creek occurs between the Rainbow Soccer fields and 52 acres of Town-owned open space. Beyond the confluence, Little Creek flows for over 1.1 miles within the Town limits, flowing eastward into the Town-owned tract, through the Chapel Hill Country Club property, through the site of the future 72-acre Meadowmont park and then out of the Town's jurisdiction to Jordan Lake.

① LITTLE CREEK: Confluence to Pinehurst Drive

Resource Protection

The Town owns a 52-acre tract of land, which includes approximately 2,000 feet of greenway corridor, and in the future will likely own 72 acres along the creek in Meadowmont. The future park site is proposed to be coupled with a middle school site to provide a combined 92 acres of publicly-held land.

Potential for Trail Development

Much of the required land within this corridor segment is controlled by the Town. Additional easements would be needed to create a trail connecting the Oaks neighborhood with shopping areas on Fordham Boulevard. As further linkages are made, the planned Meadowmont development could be connected.

Summary of Constraints for Potential Trail Development

1. Extensive wetlands exist along portions of the trail corridor.

Summary of Factors Favorable for Potential Trail Development

1. There are few topographical constraints to trail development.
2. The Town controls a significant tract of land along the creek.

Recommendations

1. Trails should be constructed as a Class 3 trail and integrate boardwalks through wet areas.

② LITTLE CREEK: Pinehurst Drive to Chapel Hill Jurisdictional Limits

Resource Protection

If the Meadowmont project is built as currently designed, the Town will be deeded a 72-acre park site located downstream from the Chapel Hill Country Club property. The park will include soccer fields, softball and baseball fields, picnic areas, trails, and a portion of land along the Little Creek corridor to accommodate a paved bicycle and pedestrian greenway trail.

Potential for Trail Development

A major obstacle to the continuity of the Little Creek corridor for recreational and transportation purposes, is the existing Chapel Hill Country Club golf course. Downstream of the golf course, the trail could follow an alignment shaped by the upper reaches of the US Army Corps of Engineer's flood limits for Jordan Lake. It could provide an important transportation and recreational link with the proposed Town park site and connection to the business and residential developments within Meadowmont. From the future Town park site, near the former Dubose home property (future UNC conference center), the trail could be built as a natural surface trail to negotiate the steep cross-slope conditions and to minimize tree clearing. The trail could continue eastward following the edge of the Jordan Lake flood land to the Town limits near NC 54.

The transportation component could be further enhanced by adding bicycle paths along NC 54. These bikeways could extend westward to the UNC campus and eastward to the Town Limits where their extension into Durham could provide eventual links to the New Hope Corridor and the American Tobacco Trail.

Summary of Constraints for Potential Trail Development

1. Some land acquisition or easements would be necessary for trail development.
2. A continuous trail across the existing Chapel Hill Country Club golf course may not be feasible.

3. The North Carolina Division of Wildlife manages the Army Corps of Engineers land near NC 54. Cooperation from the Corps and North Carolina Division of Wildlife would be required to achieve limited clearing, required grading and paving of the trail.

4. Some portions of the trail would require acquisition of land to avoid wet areas or steep slope conditions within the existing easement.

Summary of Factors Favorable for Potential Trail Development

1. The majority of the Little Creek Trail downstream of the 52-acre Town-owned parcel, would be constructed on land exhibiting somewhat variable slope conditions, but dry and stable soils.

2. The juncture of planned residential uses and development of the trail can be coordinated to minimize potential conflicts.

Recommendations

1. Easements and land acquisition should be acquired as opportunities arise.
2. Once preceding greenway segments are completed, the Town should pursue the potential

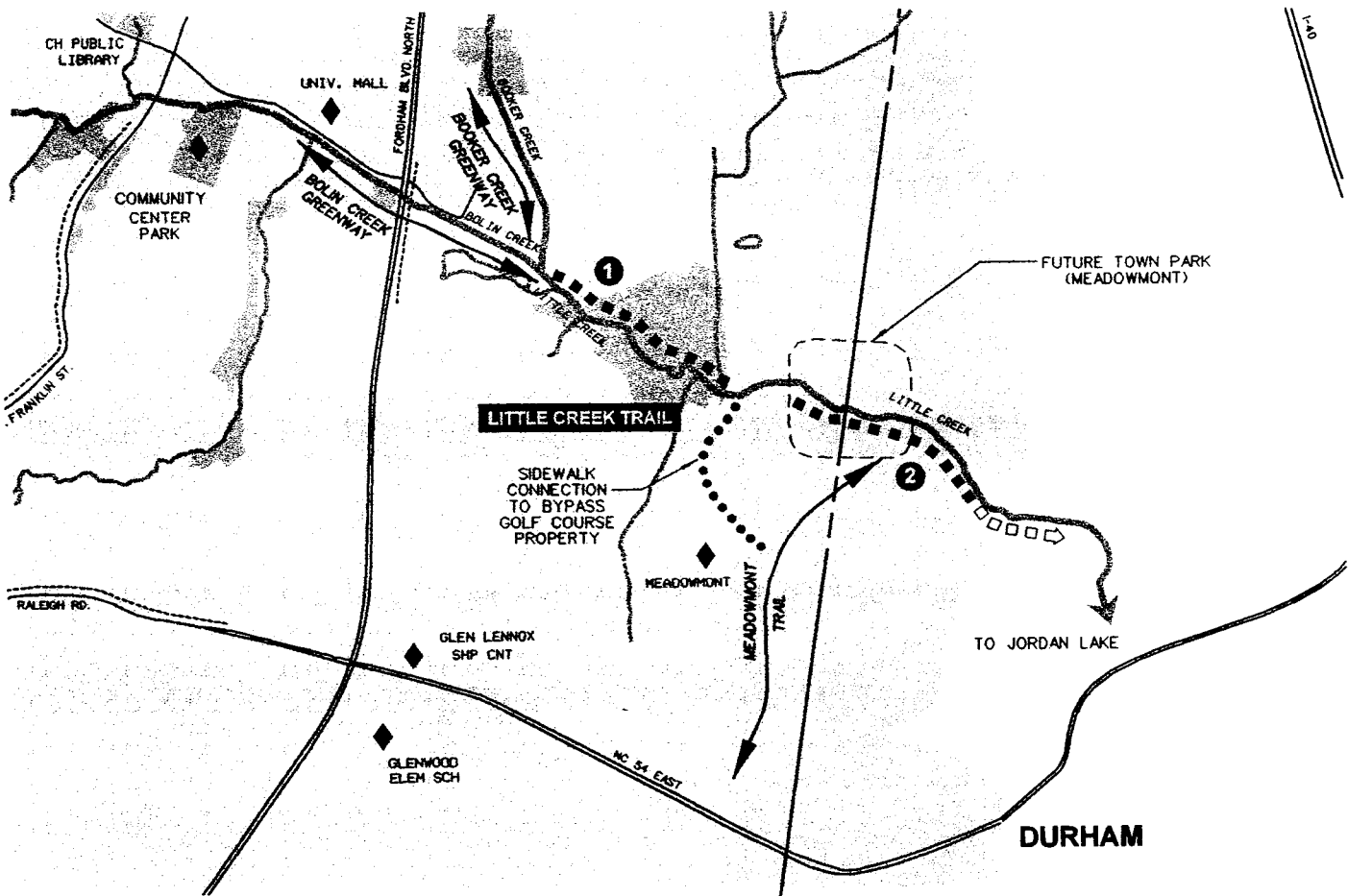


FIGURE 6
LITTLE CREEK

SCALE: 1" = 2250'



LEGEND

- | | | |
|-----------------------|--------------------------------------|-------------------|
| TOWN LIMITS | EXISTING TRAIL | POINT OF INTEREST |
| TOWN OPEN SPACE/PARKS | PROPOSED TRAIL | EXISTING BKEWAYS |
| | PROPOSED NEIGHBORING COMMUNITY TRAIL | |

of a street and sidewalk connection to bypass the golf course property. Trail users could be routed on public sidewalks southward on Pinehurst Drive and connect with new roads within the Meadowmont development and eventually connect with the proposed Meadowmont Trail. This link could be marked as part of the Town's greenway system to assist trail users following the route.

3. The Town should make all efforts to work with the Country Club and surrounding neighborhoods to make the connections possible.
4. The Town should pursue a connection with future Durham trail development as it occurs along Little Creek.
5. The Town should coordinate with the Durham Open Space and Trails program to determine the appropriate trail type that should be constructed from the Town limits to Meadowmont Drive.
6. Until such time as joint planning with Durham occurs, the trail should be constructed as a natural surface, Class 3 trail from the future Town park to the intersection of the Class 6 Meadowmont Trail.
7. Bicycle paths paralleling both sides of NC 54 from Fordham Boulevard east to the Town limits may potentially intersect with planned Durham trails. These possible future connections could link the south end of the Meadowmont Trail with Durham's New Hope Trail and American Tobacco Trail.

Potential American Tobacco Trail Connection

An alternative connection currently proposed by the Triangle Rails-to-Trails Conservancy suggests linking the Little Creek Trail with the American Tobacco Trail via an off-road bicycle accessible trail. This proposal may be possible between the Corps of Engineer's wetland mitigation impoundment of Little Creek at its crossing of NC 54 and the Meadowmont development. Trail development in this area, while scenic, will require either a bridge and/or an extensive and extremely costly boardwalk system to negotiate wet areas, impoundment and dam structure.

While the American Tobacco Trail link is enticing, the construction of a trail through this portion of the Little Creek corridor may be difficult given the pattern of existing neighborhoods and the potential conflicts with the Chapel Hill Country Club golf course. The extent of poorly drained soils and wetland areas may also create significant environmental trade-offs.

Recommendations

1. Because of the importance this corridor has for potentially linking the Chapel Hill greenways system with significant open space and trail opportunities in Durham, this proposed connection requires more detailed and thorough study to determine its feasibility.
2. Until connecting trails beyond the Town limits are constructed by Durham, improved, paved trails in this portion of the corridor should not be undertaken. However, natural surface trails can occur on Town-owned land.
3. The bicycle transportation component should be addressed in part by the provision of off-road bicycle paths along NC 54.

The Morgan Creek Watershed

Morgan Creek begins in central Orange County and flows southeast until it becomes a large stream. Near the Carrboro town limits, the creek enters University Lake, an important water source for southern Orange County.

From its outflow at the base of the University Lake dam, Morgan Creek flows east through Carrboro's jurisdiction until it flows under Smith Level Road. Once the creek passes under Smith Level Road, it enters Chapel Hill's jurisdiction.

Once inside Chapel Hill's town limits the creek flows over 4.5 miles and undergoes several dramatic transformations. From Smith Level Road to its outflow into Jordan Lake, the creek passes through three distinct sections.

The watershed is the most isolated of the major streams in Chapel Hill. Natural connections from Morgan Creek to the Town's trails north of Fordham Boulevard are blocked by high ridges and major roads. Possible trail extensions are proposed for Wilson Creek and Fan Branch trails.

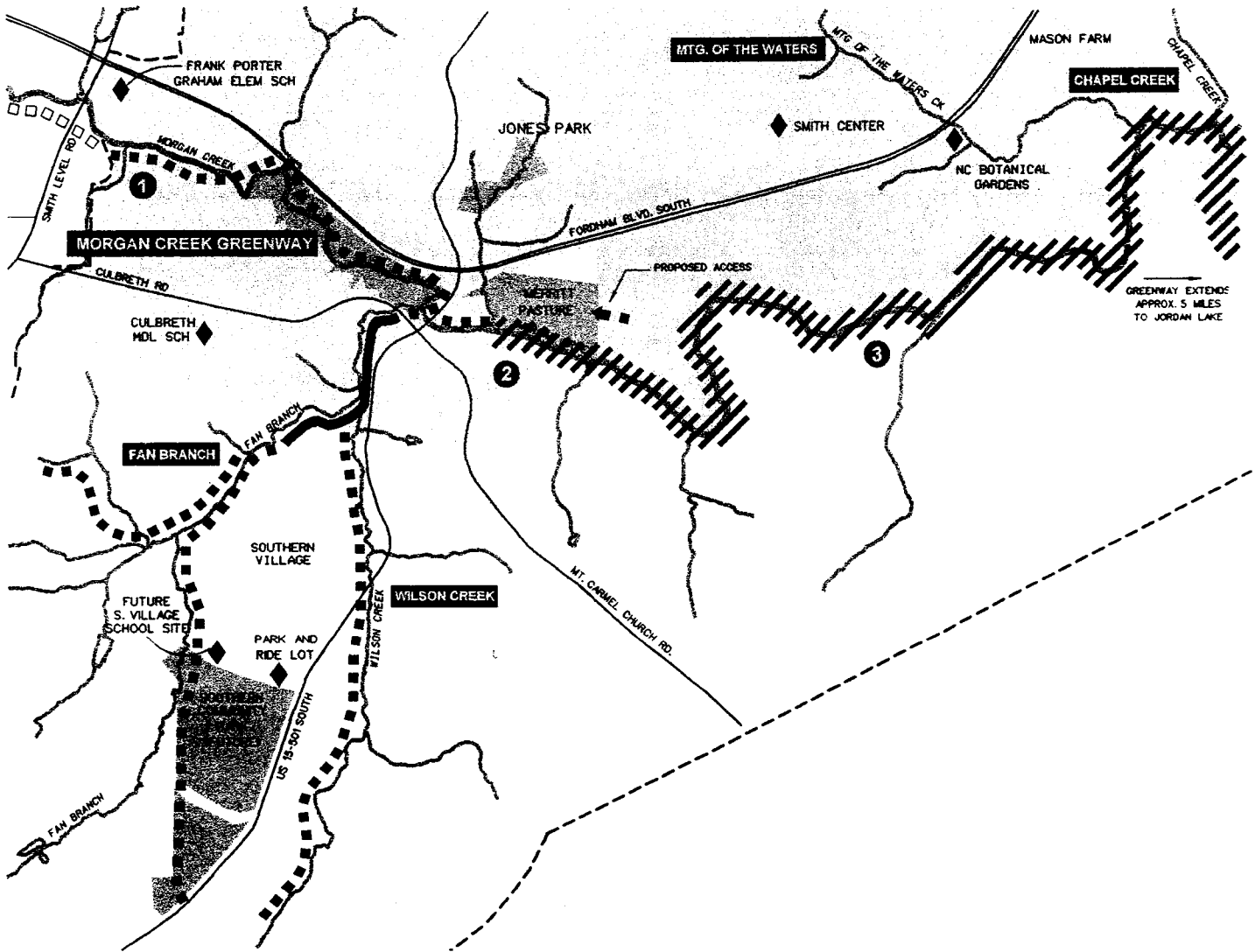


FIGURE 7
MORGAN CREEK WATERSHED



SCALE: 1" = 2250'

LEGEND

- TOWN LIMITS
- TOWN OPEN SPACE/PARKS
- URBAN PLANNING AREA
- EXISTING TRAIL
- PROPOSED TRAIL
- PRESERVATION AREA (NO TRAILS)
- PROPOSED NEIGHBORING COMMUNITY TRAIL
- GREENWAY SEGMENT
- POINT OF INTEREST

① MORGAN CREEK: Smith Level Road to-Merritt Pasture

As Morgan Creek enters the Chapel Hill Urban Services District on the east side of Smith Level Road, the stream flows through a broad flood plain, with its greatest relief being on the south bank. The greenway corridor contains an elementary school, a large apartment complex, a large single-family residential area, an extensive series of power line rights-of-way, and several undeveloped tracts of land.

Resource Protection

The Town has acquired several tracts of land along both banks of Morgan Creek. Although the environmental and aesthetic integrity of much of this property has been compromised by extensive power line construction, there remains some relatively untouched land. As development occurs in the upstream stretch of Morgan Creek, greater opportunities to acquire land and trail corridors through the requirements of the Town development ordinance will occur.

Potential for Trail Development

Once built, the Morgan Creek Trail would interconnect much of the area south of Fordham Boulevard. Citizens would be provided with safe access to Frank Porter Graham School and with trails proposed to be developed along Wilson Creek and Fan Branch. The partially constructed Fan Branch Trail would eventually lead to the new Southern Community Park at Dogwood Acres Drive, the proposed Southern Village school, and to the commercial and residential areas within Southern Village.

In an ideal situation, the west terminus of the trail would be constructed so that the entrance could provide access to both Smith Level Road and Frank Porter Graham School. In this way, residents and schoolchildren could be served by the trail, while minimizing the time pedestrians and bicyclists need travel Smith Level Road.

Although great difficulties may be encountered, the north bank of the creek could provide an excellent trail location if easements could be

provided across the Frank Porter Graham School property and the property of Kingswood Apartments. This option would allow the greatest number of people to access the trail, allow planners to reduce the number of bridges needed, and to limit the number of property owners that would have to be involved in land negotiations.

The south bank of the creek may provide the most practical route. Carrboro's current jurisdiction begins about 200 feet east Smith Level Road. If trail construction were to take place on the south bank, that construction might have to be coordinated with the Town of Carrboro. The south bank contains traces of an abandoned road which could provide a good base for a trail. The major constraints appear to be the current lack of public access, a few isolated areas with steep topography, and large meanders in the creek. A trail built along the south bank would eventually encounter existing homes and extremely steep topography. As the trail tracks eastward, it could cross to Town-owned land on the north bank.

The north bank of the corridor exhibits some steep areas and narrow cross slopes which may require the construction of retaining walls or boardwalk portions of the trail. As the trail approaches Hwy. 15-501, the banks at the meanders of the creek become rocky and extremely steep. The usable portion of the corridor has been narrowed in width by the placement of fill material required for recent lane improvements at Hwy. 15-501. A narrow, unpaved footpath could provide access through this area. Continuing under the Hwy. 15-501 bridge this Class 3 trail could follow the north stream bank to connect with the Town-owned Merritt Pasture.

A final bridge would be required to access the south bank and Culbreth Road west of Hwy. 15-501. The intersection of the trail at Culbreth Road could provide an alignment with the Fan Branch Trail located on the south side of Culbreth Road.

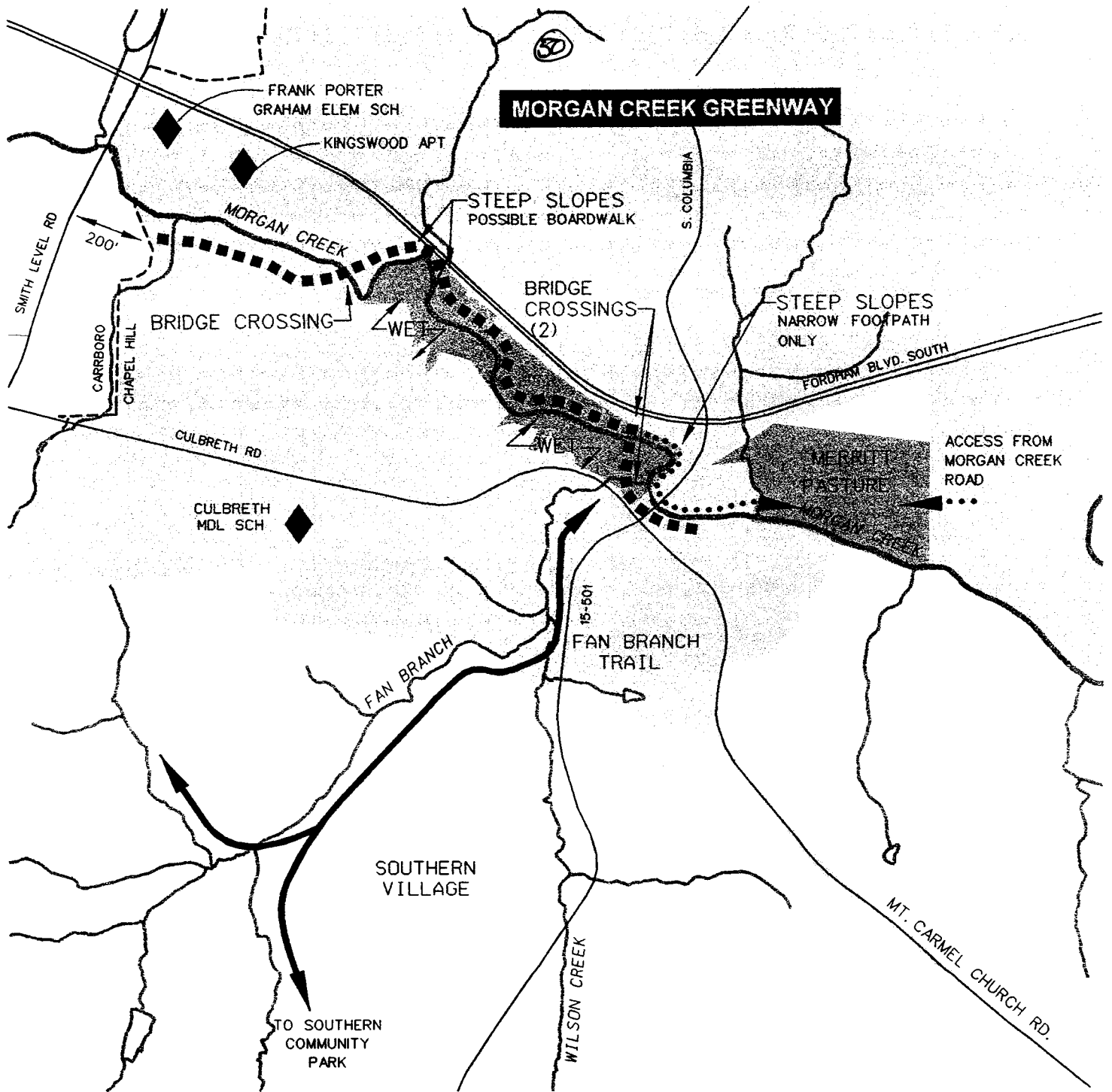


FIGURE 8

**MORGAN CREEK
SMITH LEVEL ROAD TO MERRITT PASTURE**

SCALE: 1" = 1200'



LEGEND

- | | |
|-----------------------|---------------------|
| TOWN LIMITS | URBAN PLANNING AREA |
| TOWN OPEN SPACE/PARKS | EXISTING TRAIL |
| POINT OF INTEREST | PROPOSED TRAIL |

5)

Summary of Constraints for Potential Trail Development

South Bank:

1. An underpass at Culbreth Road, would be the safest, though most expensive method of crossing.
2. At least three, and possibly as many as five bridges may be required.
3. Access to the trail by persons living north of Fordham Boulevard may be difficult.
4. Land or easement acquisition would be necessary.
5. If the south bank is used, it may be necessary to coordinate with the Town of Carrboro to access Smith Level Road.

North Bank:

1. If the north bank were used, it would be necessary to coordinate the trail alignment with the Chapel Hill-Carrboro Schools and the owner of Kingswood Apartments.
2. The continuity of the corridor along the north bank is interrupted by the existing apartment pool facility.
3. Construction of the Duke Power transmission lines has negatively impacted the aesthetics of the creek corridor.
4. Future widening of Highway 15-501 might impact the trail corridor in ways not yet apparent.
5. The north bank, as it parallels Hwy. 15-501, is too narrow and has a cross slope too steep to support more than a minor footpath.

Summary of Factors Favorable for Potential Trail Development

1. Much land acquisition has already occurred.
2. The land is undulating with sporadic topographical constraints on the south bank.
3. There are few conflicts with established residential neighborhoods.

Recommendations

1. The Town should acquire as much land along Morgan Creek as possible.
2. Once all the needed land has been acquired, a Class 6 trail should be constructed from Culbreth Road near the Hwy. 15-501 bridge over Morgan Creek to Smith Level Road and, if possible, to Frank Porter Graham Elementary School.

3. The alignment of the Class 6 trail should be located to align with the Fan Branch Trail.
4. The possibility of a trail underpass at Culbreth Road should be explored.
5. A Class 3 footpath should be constructed along the north bank of the creek as it parallels Hwy. 15-501 and continues under the Hwy. 15-501 bridge to the Merritt Pasture.

② MORGAN CREEK: Merritt Pasture to Ashe Place

After Morgan Creek passes under the Hwy. 15-501 bridge, it enters an area of Chapel Hill that has experienced a great deal of residential development. Specific tracts have also been identified as environmentally sensitive, and are listed in the 1988 "Inventory of the Natural Areas and Wildlife Habitats of Orange County, North Carolina", a study prepared by the Triangle Land Conservancy. As the stream flows east it passes into a small valley with a high ridge along the south bank. Occasionally this ridge plunges directly into the creek, forming steep and rocky banks.

Residential development on the south bank is generally located on the ridge, well above the creek. However, in several locations homes have been constructed quite near the stream. The north bank of the creek is generally lower and has more residential development near the stream bank. Little undeveloped land remains along this section of Morgan Creek.

Resource Protection

The 31-acre Merritt Pasture presents 1,500 feet of Town-owned property along this segment of the Morgan Creek corridor. The Town has acquired very little land beyond this section of Morgan Creek. The NC Botanical Garden Foundation has agreed to work with neighbors to acquire conservation easements to help protect this section of stream.

Potential for Trail Development

An informal trail exists along this section of Morgan Creek, however, it is important to note that most of the trail is in private ownership and is not available for public use. The potential for

trail development for public use is limited along this section of Morgan Creek for several reasons: existing residential development has split ownership of the corridor into many small parcels, the corridor is environmentally sensitive, and the banks are typically steep and rocky. The short section of the corridor, from Hwy. 15-501 to the foot of the steep slopes beneath Old Bridge Lane and Mallard Road, could potentially be developed for trail use.

Summary of Constraints for Potential Trail Development

1. Many bridges could be required.
2. Trail construction would be very difficult due to the sensitive nature of the vegetation and soils.
3. Much land acquisition would be necessary.
4. Steep slopes predominate in this portion of the corridor.

Recommendations

1. The Town should acquire land as required to provide maintenance and pedestrian access to the Merritt Pasture from Morgan Creek Road. This trail could provide an informal pedestrian link connecting the neighborhoods along the north bank of Morgan Creek to the Merritt Pasture.
2. No improvements are recommended within the pasture. Trail construction should terminate at the edge of the pasture.
3. The Town should work with the NC Botanical Garden and the residents along this section of Morgan Creek to ensure that the sensitive environment of the creek corridor is preserved. Assistance should be given when negotiating with applicants of future developments as well as with current landowners.
4. This greenway segment should be preserved as an unimproved Class 2 corridor.

③ MORGAN CREEK: Ashe Place to Jordan Lake

Residential development exists along the north bank of Morgan Creek downstream of Ashe Place and Arboretum Drive. Beyond Bartram Drive the creek is totally within University property. The creek travels through a broad, wooded, flood plain with little evidence of human activity, except for an Orange Water and

Sewer Authority (OWASA) sewer line that parallels the creek.

Eventually the creek flows past the OWASA Wastewater Treatment Plant. Shortly after passing the treatment plant, the creek flows into the Finley Golf Course property toward the Town limits. Beyond the Town limits the creek flows through lands controlled by the U.S. Army Corps of Engineers until it empties into Jordan Lake.

Resource Protection

The land along both banks of Morgan Creek is owned by the University. See Figure 12. Also, see "Cooperation with the University of North Carolina at Chapel Hill", page 62.

Potential for Trail Development

An informal Class 2 trail currently exists along the creek, particularly on the Orange Water and Sewer Authority (OWASA) sewer easement, between Ashe Place and Finley Golf Course.

Summary of Constraints for Potential Trail Development

1. Currently the University wishes to preserve the area for education and research.
2. Access is controlled through the NC Botanical Garden.

Summary of Factors Favorable for Potential Trail Development

1. Should the University increase land available for trail development, most of the necessary land acquisition would already be in place.
2. The existing OWASA sewer easement would provide a good foundation for trail construction.

Recommendations:

1. The Town should continue to collaborate with the University for open space preservation in this area.
2. This greenway segment should be preserved as an unimproved Class 2 corridor.

Tributaries of Morgan Creek

WILSON CREEK

This creek begins in northern Chatham County and flows north until its confluence with Morgan Creek just west of the Hwy. 15-501 bridge. It flows over 2.8 miles within the Town limits, through mostly forested land.

Resource Protection

The Town controls an insignificant portion of the Wilson Creek corridor except that portions fall under the protection of the RCD ordinance.

Potential for Trail Development

Sections of the creek would be suitable for trail development.

Summary of Constraints for Potential Trail Development

1. The portion of the creek east of Hwy. 15-501, is low and prone to flooding. Beaver dams have further increased the area of inundation.
2. Portions of the corridor contain steep slopes.

Summary of Factors Favorable for Potential Trail Development

1. Much of the corridor is undeveloped.

Recommendations

1. A Class 3 trail is recommended from Hwy. 15-501 southward to the Town Limits.
2. As development occurs, land for trail purposes should be reserved along the stream.

FAN BRANCH

Fan Branch is a small stream with two major forks, totaling nearly 1.9 miles in length. One fork begins near Smith Level Road and the other near Dogwood Acres Drive. The forks merge south of Culbreth Road and flow north until they merge with Wilson Creek.

Resource Protection

The majority of the Fan Branch watershed lies within the Southern Village community. This community is being developed to a relatively high density, however the stream corridor will be

preserved from Culbreth Road to the Southern Community Park.

Potential for Trail Development

The first one-third mile phase of the Fan Branch greenway has been completed as a Class 5 trail (see Figure 4). Future trails, will include an extension of the existing paved trail to the Southern Community Park as well as an unpaved Class 3 side trail which parallels the existing pedestrian path adjacent to Arlen Park Drive and other woodland trails along the main stream and to the west along a small tributary. When the Town develops the Southern Community Park, extension of the paved trail southward could occur.

MEETING OF THE WATERS CREEK

This creek flows almost entirely on University lands for a distance of over 1.1 miles. It begins in a ravine that parallels Manning Drive, then passes under Fordham Boulevard. Once on the south side of the bypass, the creek passes through the NC Botanical Gardens until it empties into Morgan Creek near the Wastewater Treatment Plant.

Resource Protection

The land along Meeting of the Waters Creek is owned by the University of North Carolina at Chapel Hill and lies almost entirely within areas currently protected for research purposes. See Figure 12. Also, see "Cooperation with the University of North Carolina at Chapel Hill", page 62.

Potential for Trail Development

Class 3 trails currently exist within the NC Botanical Garden that are open to the public. NC Botanical Garden trails are limited to pedestrian traffic only. Also, Class 2 trails exist on the north side of Meeting of the Waters Creek, extending northward through the Coker Pinetum. See Figure 12.

Summary of Constraints for Potential Trail Development

1. Currently the University wishes to preserve this area for education and research.

Summary of Factors Favorable for Potential Trail Development

1. Should the University increase land available for trail development, most of the necessary land acquisition would already be in place.

Recommendations

1. The Town should continue to collaborate with the University for open space preservation in this area.

CHAPEL CREEK

Chapel Creek, flowing some 1.1 miles, begins north of St. Thomas More School, then passes under Fordham Boulevard. Once on the south side of the bypass, the creek passes through University of North Carolina property until it empties into Morgan Creek near the Wastewater Treatment Plant.

Resource Protection

The land along Chapel Creek is owned by the University of North Carolina at Chapel Hill and lies almost entirely within areas currently protected for research purposes or in sites already developed. See Figure 12. Also, see "Cooperation with the University of North Carolina at Chapel Hill", page 62.

Potential for Trail Development

The Carolina Adventure Outdoor Education Center is located in this area, providing physical education and campus recreation purposes.

Summary of Constraints for Potential Trail Development

1. Currently the University wishes to preserve this area for educational and campus recreational purposes.

Summary of Factors Favorable for Potential Trail Development

1. Should the University become interested in trail development, most of the necessary land acquisition would already be in place.

Recommendations

1. The Town should maintain ongoing communication with the University to facilitate any cooperative greenway planning or trail development in the future.

The Morgan Creek corridor downstream from Merritt Pasture will remain a wildlife corridor.

Dry Creek

Dry Creek is a major tributary of New Hope Creek. The creek has several branches that drain much of the area north of Weaver Dairy Road and south of Interstate 40. The creek flows past Erwin Road then under Interstate 40 where it quickly enters Durham County. The name Dry Creek is misleading since the majority of the creek corridor tends to be very wet and swampy even during dry periods. The potential trail, over two and one half miles in length, could serve as a wonderful pedestrian-only complement to the proposed North Trail.

Portions of the Dry Creek corridor have been identified as environmentally sensitive, and are listed in the "Inventory of the Natural Areas and Wildlife Habitats of Orange County, North Carolina", a study prepared in 1988 by the Triangle Land Conservancy.

The Conceptual Plan for the Dry Creek Greenway was completed by the Dry Creek Greenway Advisory Committee and adopted by Council in June 1997. The Dry Creek Greenway Conceptual Plan Report, by reference, is incorporated as part of this Master Plan.

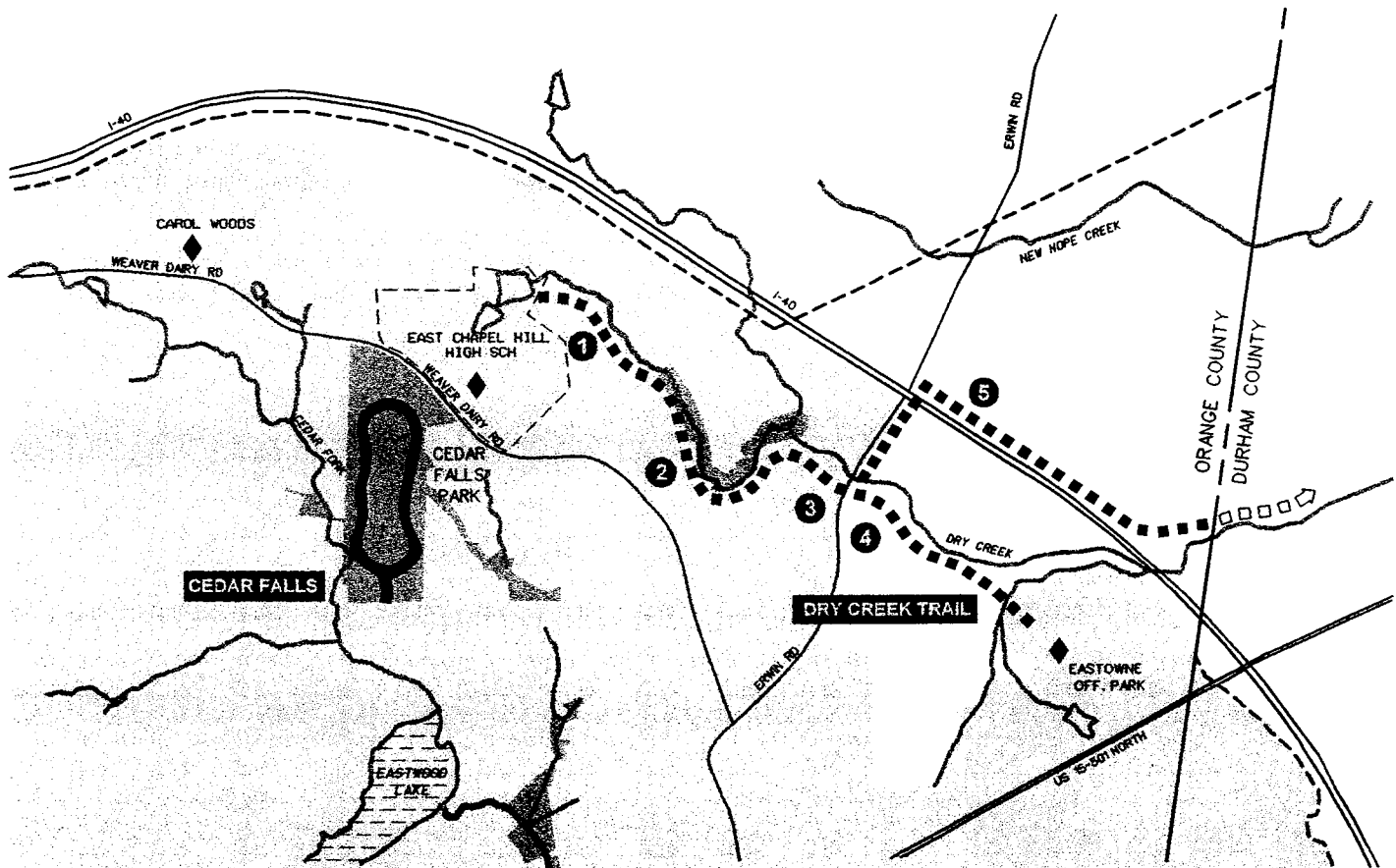


FIGURE 9
DRY CREEK

SCALE: 1" = 2250'



LEGEND

- TOWN LIMITS
- TOWN OPEN SPACE/PARKS
- URBAN PLANNING AREA
- EXISTING TRAIL
- PROPOSED TRAIL
- PROPOSED NEIGHBORING COMMUNITY TRAIL
- POINT OF INTEREST



Summary of Factors Favorable for Potential Trail Development

1. A remnant farm access road at the edge of the school property provides about 500 feet of trail bed suitable for use with minimal improvements or clearing required.
2. The rugged woodland character of the site would contribute to a unique greenway experience.

Recommendations

1. The Town should coordinate with school officials to determine the location of the trailhead on East Chapel Hill High School property.
2. The Town should develop a narrow natural surface footpath wide enough for travel by one person similar in construction to the Town's existing Battle Branch Trail.
3. The trail should begin on the south side of the creek to avoid the overhead power lines and parallel the streambed as closely as possible to mitigate impact to adjacent residential areas.
4. Creek crossing should occur at a steep rock outcropping where stream banks are low and crossing may be achieved without the use of a built structure.
5. The trail should ascend the hillside to negotiate the future road crossing on the north side of the creek.

② DRY CREEK

Silver Creek Trail to Perry Creek Drive

The second segment of the Dry Creek Greenway corridor changes in physical and visual character. The quality of tree cover is diminished from the initial trail segment, being a mix of fewer hardwoods, modest small pines and other new growth species. The initial 100 feet of the trail corridor is relatively steep due to the existing fill slope at Silver Creek Trail.

The remaining portions of this segment are relatively low-lying, flat, and subject to flooding and seasonal ponding. The wet soils here sustain the very thick stand of young pines.

① DRY CREEK

East Chapel Hill High School to Silver Creek Trail

The initial segment of the Dry Creek Greenway begins at East Chapel Hill High School and continues 2,300 feet eastward along the southern branch of Dry Creek. This portion of the greenway is essentially of a woodland character, predominantly hardwoods, and offers a variety of rock outcroppings, waterfalls and picturesque forest experiences.

Resource Protection

The Town has acquired the necessary land to implement this segment of the Dry Creek Greenway.

Potential for Trail Development

The extremely rugged and rocky character of this segment make it both scenic and difficult to develop. The initial 500-foot portion of the greenway exhibits moderate slopes. However the remaining portion is generally rugged and rocky in nature, much of it having 25% slopes or greater. Given the uneven terrain within the corridor, grading and clearing for a trail should be kept to a minimum.

A Duke Power overhead transmission line parallels the creek on its north side. The south side offers the best opportunity for a trail having a woodland character.

Summary of Constraints for Potential Trail Development

1. Several portions of the trail are close to existing single family subdivisions and will require appropriate landscape.
2. Severe cross slopes and longitudinal gradients in excess of 25% and rock outcroppings make trail development difficult.
3. Storm damage from Hurricane Fran will require considerable removal of fallen trees and limbs along the trail.
4. The steepness of the trail required at its crossing with a future roadway within the Silver Creek subdivision may necessitate the construction of steps.

Resource Protection

The Town has acquired the necessary land and easements to implement this segment of the Dry Creek Greenway.

Potential for Trail Development

The first 400 feet of this 1,700-foot greenway segment is rather narrow in width. Future homes to be built as part of the Silver Creek subdivision will impact trail location. A trail generally located as close to the stream as practicable will increase the privacy of adjacent properties and take advantage of the stream as a visual amenity. Trail construction closer to the creek will encounter wet soils.

Summary of Constraints for Potential Trail Development

1. Options for trail alignment are constrained by proximity of adjacent single family development and extensive marshy and wet areas.
2. Privacy issues may dictate an alignment close to the stream and the need for boardwalk sections.

Summary of Factors Favorable for Potential Trail Development

1. Few trees are of sufficient quality to dictate trail alignment.
2. With one exception, near Silver Creek Trail, the corridor is relatively wide.

Recommendations

1. Trail should be constructed to be a narrow natural surface path.
2. Trail should be located on the north side of the creek to minimize impact with neighboring residential development and to avoid the need for stream crossings.
3. Steps may be required at the Silver Creek Trail access point.
4. Landscape buffers will be required on the north side of the creek along existing and future Silver Creek residential development.
5. An 8-foot wide wooden boardwalk should be constructed through marshy areas. Short sections of boardwalk between sections of natural-surfaced trail should be avoided to minimize potential hazard of multiple surface changes.

③ DRY CREEK**Perry Creek Drive to Erwin Road**

This 2,100-foot portion of greenway is comprised of very low land, being wet most of the year. The tree canopy consists of mixed young pines and hardwoods. This segment of Dry Creek is anticipated for a higher level of use than trail segments 1 or 2.

Resource Protection

The Town has acquired the necessary land and easements to implement this segment of the Dry Creek Greenway.

Potential for Trail Development

The variety of physical site conditions suggests a trail that is a combination of asphalt paving and boardwalk.

A cleared OWASA sanitary sewer easement parallels the creek's north bank, suitable for the trail's location immediately east of Perry Creek Drive. A temporary erosion control impoundment located here could be transformed into a modest play area serving the residents of Springcrest subdivision. For a 400-500 foot long section the trail may be paved, but will need to change to boardwalk as wetlands dictate.

Wet soils near the creek in the lower half of this corridor suggest a trail alignment near or on the Duke Power easement, where drier more stable soils may again support a paved trail for nearly 1,000 feet to Erwin Road.

Sidewalk connections northward on Erwin Road would provide a link to Durham's New Hope Creek Corridor.

Summary of Constraints for Potential Trail Development

1. Extensive federally regulated wetlands are most likely present in low areas.
2. Poorly drained soils will dictate location of paved sections of trail
3. Boardwalks may be required within the

OWASA easement and will require coordination to avoid interference with sewer line maintenance

Summary of Factors Favorable for Potential Trail Development

1. The Town owns all the land required for trail development.
2. Existing utility easements provide land already cleared for trail use.

Recommendations

1. The Town should construct a Class 6 trail, asphalt paved, 10-foot wide, from the east side of Perry Creek Drive along the existing OWASA sanitary sewer easement for some 2,100 feet.
2. The trail should follow the easement to about 400-500 east of Perry Creek Drive at which point it may be necessary to change trail surfaces from asphalt to a boardwalk. Paralleling the creek.
3. The eastern portion of the trail approaching Erwin Road should be located along the southern edge of the Duke power easement, entering the treeline where soil and tree conditions allow.
4. A natural surface trail connection running northeastward to the proposed North Trail is possible along a minor tributary of Dry Creek and Town-owned property should be pursued.
5. A small parking area (4-6 cars) at the south end of the Duke power easement, off Erwin Road should be considered.
6. Sidewalk construction linking the Dry Creek Greenway north to Interstate 40 and a planned Durham trail would connect the Chapel Hill and Durham greenways systems and should be pursued.

④ DRY CREEK

Erwin Road to Providence Road

The Dry Creek basin east of Erwin Road is one of the most extensive wetland areas in Orange County. As described by the Triangle Land Conservancy, it is one of the most significant areas of biological diversity in the southern part of the county. The primary goal for this portion of Dry Creek should be to remain as a nature preserve, supporting activities such as bird and wildlife observation.

Resource Protection

1. Some Town land and easement acquisition is required within the corridor.

Potential for Trail Development

The greenway corridor extends 3,300 feet through this segment of Dry Creek. Trail construction will largely be dictated by the extent of wet soils and location of designated wetlands. A significant portion of the trail would require boardwalk, except for a few isolated locations immediately adjacent to single family residences.

The existing OWASA sewer easement provides an alignment option which will minimize environmental disturbance. The final 2,000 feet of trail would be constructed as a natural surface path with bridges by the developer of Sterling Ridge Condominiums until its end at Providence Road in Eastowne.

Summary of Constraints for Potential Trail Development

1. Wet soils and wetlands dominate this segment.
2. Some future residences in the Englewood subdivision may impact trail location and require mitigating landscape treatments.
3. Access from Erwin Road is steep and may require steps or switchbacks.
4. Coordination with the developer of Sterling Ridge will be required during the design and construction of the natural surface trail and bridges north of Sterling Ridge.
5. Possible connection to the New Hope Corridor greenway system could be via sidewalk on Providence Road and Eastowne Drive to the I-40 overpass and New Hope Commons or via the OWASA sewer easement along Dry Creek to the overpass.

Summary of Factors Favorable for Potential Trail Development

1. Tree cover is uniform, relatively mature, with an open understory presenting few constraints to trail alignment.
2. A sewer easement has already been cleared within the corridor.

Recommendations

1. The corridor should remain as a Class 2 greenway with trail improvements being primarily wooden boardwalk.
2. Boardwalks should be sensitively placed to avoid fragmenting the wildlife corridor, utilizing the already-cleared sewer easement.
3. The final 700 feet of this section, ending at Providence Road, is to be constructed by the developer of Sterling Ridge. Town should coordinate design standards.
4. The Town should continue to explore options for trail connections to the New Hope Corridor and Durham greenway system.

5 DRY CREEK: Erwin Road to Durham County Line

This segment of the Dry Creek Greenway would be a joint project with the Durham Open Space and Trails Commission. The portion of the corridor within Chapel Hill's jurisdiction would be approximately 4,600 feet in length. Depending upon location, Durham would extend the trail an additional 1,000 to 2,000 feet to Mt. Moriah Church Road. Durham's long-range plans show a trail extending downstream along Dry Creek to New Hope Creek. The trail surfacing is yet to be determined.

Resource Protection

Nearly all of the land within this portion of the corridor is privately owned. Considerable land and easement acquisition is required.

Potential for Trail Development

The corridor is generally gently sloping with well-drained soils. A mixed hardwood tree cover exists with trees of varying age. The width of the greenway corridor is yet to be determined.

Summary of Constraints for Potential Trail Development

1. Nearly all of the land within Chapel Hill's jurisdiction is privately owned.
2. Some pockets of potential wetlands exist.

Summary of Factors Favorable for Potential Trail Development

1. Few topographic, vegetative or soil restrictions are present.

Recommendations

1. The Town should continue to pursue a joint development effort with Durham in constructing a coordinated trail and open space corridor.
2. A bike lane and sidewalk could continue to north of I-40 along Erwin Road.
3. To the north of I-40 and Erwin Road, a greenway connection would turn east and follow the north side of the Interstate northeast of Dry Creek. The trail would then continue to New Hope Commons shopping center and to New Hope Creek.
4. An alternate northern connection via Mt. Moriah Church Road to Dry Creek could be explored if the I-40 connecting trail proves unfeasible.

Portions of the Dry Creek corridor have been identified as environmentally significant.

MAN-MADE CORRIDORS

This Plan has assessed the potential of five Man-Made Corridors for inclusion in the Chapel Hill greenway system: Public Service of North Carolina gas transmission rights-of-way, Duke Power cross-country transmission rights-of-way, the Norfolk-Southern Railroad, the Interstate 40 corridor, and the Meadowmont development.

Utility Rights-of-Way

Gas Transmission Rights- of-Way

It is the current policy of Public Service of North Carolina, Inc. to prohibit the shared use of its gas transmission line rights-of-way for recreational or trail purposes. At this time, the use of gas transmission corridors is not a viable option for Town greenways.

Power Transmission Rights- of-Way

Cross-country transmission rights-of-way controlled by Duke Power Company may provide a viable opportunity to locate bicycle trails or pedestrian paths as part of the Town greenway system. There are several public trails currently located within Duke Power transmission corridors in municipalities around the state. Shared uses proposed within transmission corridors in Chapel Hill would be evaluated by Duke Power Company on a site specific basis. The Town should explore the feasibility of utilizing these transmission corridors to augment its planned greenways. Several options within Chapel Hill are currently being assessed by Town staff.

For example, there are two overhead power line corridors which exhibit rather typical characteristics and are located in the northwest part of Town. They could serve as a desirable pedestrian link, roughly paralleling Airport Road between the Timberlyne Shopping Center area, adjacent office development and several residential neighborhoods.

Stateside Drive to Kingston Drive

This corridor is somewhat narrow, ranging from 50 to 68 feet in width, and is comprised predominantly of dry, stable soils. The corridor is of a moderate gradient. Steep slopes occur at some of its intersection with existing roads. It is predominantly cleared, grassed, with some young tree growth encroaching on its sides. There are 24 private property owners within the corridor. Several lawn areas, gardens, fences and small structures exist within the transmission easement, at times creating an impediment to clear passage. Many of the single family homes are quite visible from the corridor and would require significant buffering to assure their privacy should a public trail be considered.

A natural surface path has been formed by bicycle and foot traffic already using the corridor near the Kingston Drive crossing. This path is however, interrupted by several fences placed within the corridor.

Kingston Drive to Weaver Dairy Road

This corridor segment is relatively open, flat, and well maintained with a grass cover. Fourteen private property owners, a mix of office and single family residences, are directly within the corridor. These properties are somewhat better buffered from the clearing than those in the southern segment. Assuring adequate screening and privacy would still be of considerable importance.

Recommendations

1. The Town should further investigate the potential for shared use easements with Duke Power
2. These options to incorporate power transmission corridors into the greenway system should be studied further by the Town, recognizing the potential difficulties in resolving privacy issues.

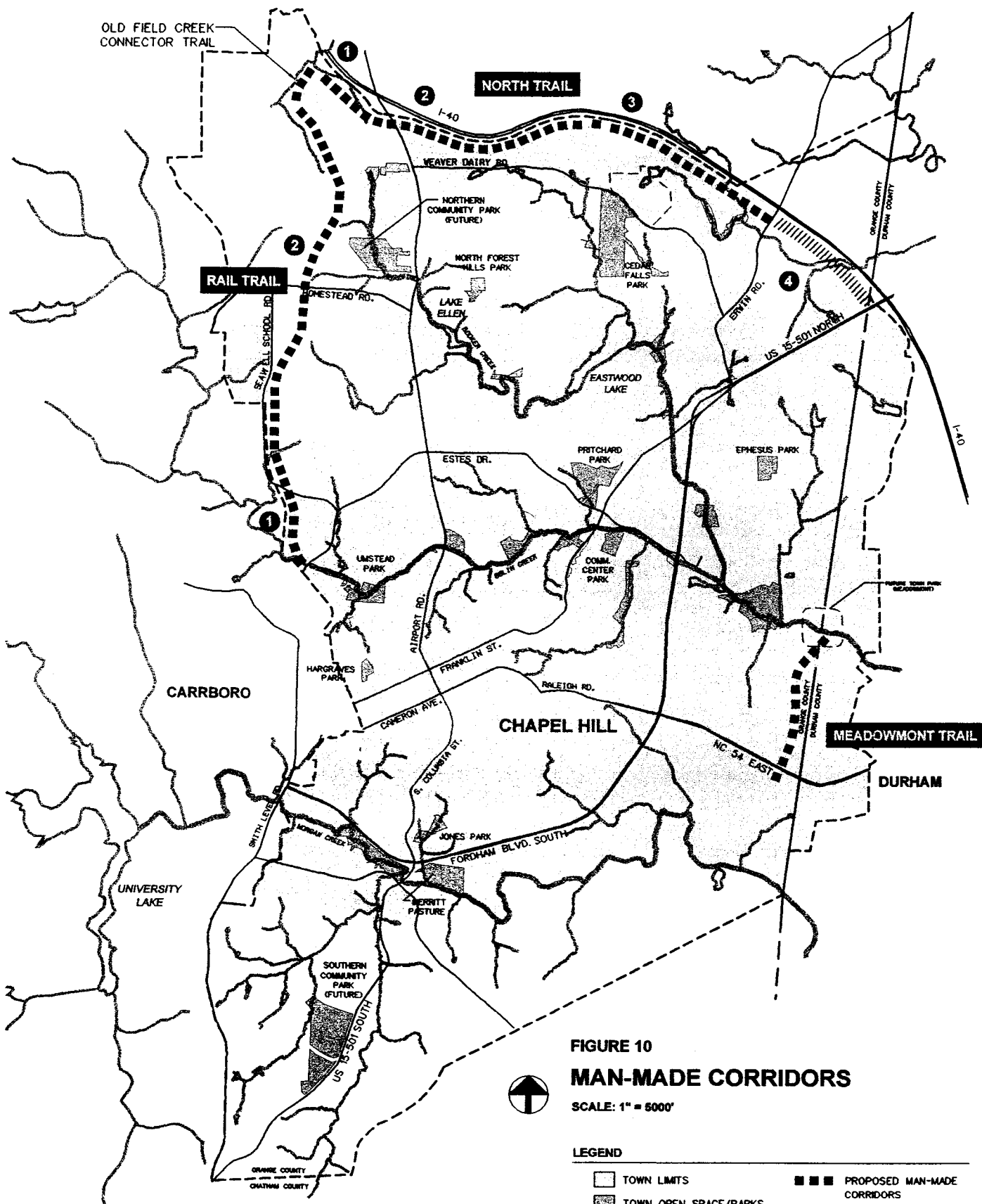


FIGURE 10
MAN-MADE CORRIDORS

SCALE: 1" = 5000'

- LEGEND**
- TOWN LIMITS
 - PROPOSED MAN-MADE CORRIDORS
 - ▨ TOWN OPEN SPACE/PARKS
 - ▩ PRESERVATION AREA (NO TRAILS)
 - - - URBAN PLANNING AREA

Proposed Man-Made Corridors

There are three Man-Made Corridors currently proposed within the Chapel Hill greenways system - the Rail Trail, North Trail and Meadowmont Trail. These trail corridors have the potential to provide significant trail opportunities as well as potential linkage with planned greenways in neighboring municipalities and regional trails.

THE RAIL TRAIL

A spur of the Norfolk Southern Railroad leaves the main rail line near Hillsborough and trends southeast to Chapel Hill. The line serves the needs of the University of North Carolina cogeneration plant and extends over 4.1 miles along this potential greenway.

① RAIL TRAIL:

Estes Drive Extension to Chapel Hill High School

This section of the proposed trail would provide pedestrian and bicycle access for students of Seawell Elementary School and the Chapel Hill High School. The trail would also serve future University facilities within the Horace Williams Tract and future neighborhoods.

Resource Protection

The University currently controls most of the land outside of the railroad right-of-way, and may develop the majority of the 1,013-acre Horace Williams Tract at some future date. The University has recently completed a conceptual master plan for future land uses on this property. Over 1.25 miles of the proposed Rail Trail is within the Horace Williams Tract. See Figure 12.

The legal status of the railroad right-of-way should be watched carefully. If the Norfolk Southern Railroad ever moves to abandon the spur, the Town should be prepared to move quickly to have the easement banked for future rail use. Banked rail easements can be used for trail purposes until such time as they are required for rail purposes.

Potential for Trail Development

The physical limitations of trail development are few, but the legal and ownership problems are many. The trail would most likely be developed on the east side of the tracks either on the railroad right-of-way or on land that is owned predominantly by the University. At one or more points, it would cross the tracks to gain access to Seawell Elementary and Chapel Hill High schools.

Summary of Constraints for Potential Trail Development

1. Over 7,000 feet of land or easement acquisition would be required. Most of the required land is owned by the University.
2. It would likely be necessary to negotiate access with the Norfolk Southern Railroad. Crossings of the tracks might require expensive safety precautions.

Summary of Factors Favorable for Potential Trail Development

1. Except for the area immediately adjacent to Estes Drive Extension, the grade is less than 5%.

Recommendations

1. The Town should work with the University to acquire all necessary easements along the right-of-way.
2. Negotiations with the Norfolk Southern Railroad to acquire rights to develop within the railroad right-of-way should be started when the Town is prepared to develop a trail.
3. In the event that the Norfolk Southern Railroad attempts to abandon the railroad spur, the Town should work to see that it is banked and used for trail purposes until a need for a rail use arises in the future.

② RAIL TRAIL:

Chapel Hill High School to the Chapel Hill Line

This section of the proposed trail enters an area that is relatively undeveloped. The tracks pass over Homestead Road and Eubanks Road until they leave the Town jurisdiction. It is anticipated that these areas will be developed at some future date.

Resource Protection

The Town controls none of the land along the tracks. The Town should be prepared to act swiftly to preserve the corridor in the event that the railroad should abandon the line.

Potential for Trail Development

The physical limitations of trail development in this section are few, but legal and ownership problems abound. Trail development could take place on either side of the tracks once past Homestead Road. An important connection could be made from the Rail Trail to the North Trail in the vicinity of Old Field Creek.

Summary of Constraints for Potential Trail Development

1. All of the required land is in private ownership.
2. It would be necessary to negotiate access with the Norfolk Southern Railroad. Crossings of the tracks might require expensive safety precautions.

Summary of Factors Favorable for Potential Trail Development

1. The land has little topographical relief.

Recommendations

1. The Town should work with developers to acquire all necessary easements along the tracks.
2. The Town should work with the Norfolk Southern Railroad to acquire rights to develop within the railroad right-of-way.
3. In the event that the Norfolk Southern Railroad attempts to abandon the railroad spur, the Town should work to see that it is banked and used for trail purposes until a need for a rail use arises in the future.

NORTH TRAIL (INTERSTATE TRAIL)

The presence of Interstate 40 in the northern portion of Chapel Hill offers a unique opportunity to preserve an approximately five miles long buffer along the Interstate highway

and to construct sections of bicycle and pedestrian-only trails adjacent to the highway right-of way. The greenway corridor is almost entirely free of development at this time, and only one subdivision, Chandler’s Green, has constructed dwelling units within the corridor.

A greenway corridor could be preserved along the entire length of I-40, from the Town limits to the intersection of I-40 and Highway 15-501. It is possible to build a trail from the western Town limits north of Eubanks Road to the junction of Interstate 40 and Erwin Road. The greenway corridor would provide additional buffering between the highway and present and future residents and businesses. This corridor would also preserve the wooded appearance of Interstate 40 and benefit travelers using the highway. The corridor is identified in this report as being a 100-foot or wider strip of land adjacent to the south side of the I-40 right-of-way.

Development of a trail along most of the Interstate would be relatively easy. Much of the land has reasonable topography with few steep or wet areas to contend with. The trail would not be suited for nature study due to the noise level next to the highway. However, portions would be ideally located for a paved trail to provide bicyclists and pedestrians a safe route to travel across the northern portion of Town. The trail would cross only three major roads: Erwin Road, Sunrise Road, and NC 86. In addition, the trail could connect to the trail planned by Durham County as recommended by the New Hope Corridor Master Plan. This trail is discussed in the “Dry Creek” section, page 46. The Durham trail would also be a paved trail accessible by bicycles.

**1 NORTH TRAIL:
Town Limits to NC 86**

This section begins north of Eubanks Road at the point where the Interstate leaves the Town's corporate limits. The corridor would follow the Interstate east to NC 86.



Resource Protection

The Town currently controls none of the corridor. The Town's greatest opportunity for land acquisition will come as the corridor is developed. It would be beneficial to reach an agreement with the North Carolina Department of Transportation (NCDOT) which would allow the trail to occupy the Interstate right-of-way in areas where additional land could not be obtained.

Potential for Trail Development

This section of the trail corridor would present no unusual difficulties to trail development. An opportunity exists to tie the North Trail into the Rail Trail north of Eubanks Road.

Summary of Constraints for Potential Trail Development

1. Over 5,500 feet of land acquisition would be required. All of the required land is in private ownership.
2. It may be difficult to safely merge the trail with NC 86.

Summary of Factors Favorable for Potential Trail Development

1. There are few physical constraints to trail construction.

Recommendations

1. Easements and land should be acquired as opportunities arise.
2. The Town should work with NCDOT to acquire rights to develop within the Interstate right-of-way.
3. Once the land rights are acquired, the Town should build a Class 6 trail.

**② NORTH TRAIL:
NC 86 to Sunrise Road**

This section would stretch from NC 86 at its junction with I-40 to Sunrise Road. There are no current or planned developments within the 100 ft. greenway corridor. This section of greenway is important as a potential transportation route for pedestrians and bicyclists. The proposed trail could provide safe transport to proposed shopping and business facilities along NC 86,

Cedar Falls Park on Weaver Dairy Road, and residential developments that border the corridor. The potential exists for allowing numerous multi-family condominiums and apartment complexes to build private trails that would connect directly into the trail. The Circle-the-Triangle Trail is proposed to connect to Chapel Hill via Sunrise Road, thus providing the North Trail a direct tie-in to a larger regional trail system.

Resource Protection

The Town currently controls only one segment of the corridor, an easement that is 100 feet wide. The easement begins at Sunrise Road and stretches approximately 2,500 feet to the west along the I-40 corridor. The Town's greatest opportunity for additional land and easement acquisition will come as the corridor is developed. It may be possible that the North Carolina Department of Transportation (NCDOT) would allow the trail to occupy the Interstate right-of-way in areas where land could not be obtained.

Potential for Trail Development

This section of the trail corridor would present no unusual trail building difficulties.

Summary of Constraints for Potential Trail Development

1. Over 5,000 feet of land acquisition would be required. All of the required land is in private ownership.
2. It may be difficult to safely merge the trail with NC 86.
3. The trail intersection with Sunrise Road is at a very steep fill slope where Sunrise Road crosses over the Interstate. ADA compliance may be difficult.

Summary of Factors Favorable for Potential Trail Development

1. Few physical limitations to trail construction exist within the corridor.

Recommendations

1. Easements and land should be acquired as opportunities arise.
2. The Town should work with NCDOT to acquire rights to develop within the Interstate

right-of-way.

- 3. Explore potential acquisition of land or easements beyond the 100 ft. corridor on either side of Sunrise Road in order to negotiate fill slope.
- 4. Once the land rights are acquired, the Town should build a Class 6 trail.

**3 NORTH TRAIL:
Sunrise Road to Erwin Road**

The proposed corridor and trail would continue in much the same fashion as those sections further west. From Sunrise Road, the trail would continue over easy ground to Erwin Road. The section has few topographic problems, however one major development has already been built within the 100 ft. greenway corridor. The trail would allow current and future residents and businesses the opportunity to access Cedar Falls Park and the proposed regional, Circle-the-Triangle Trail.

Resource Protection

The Town currently controls little of the corridor. The Town's greatest opportunity for addition land and easement acquisition will come as the corridor is developed. It may be possible that North Carolina Department of Transportation (NCDOT) would allow the trail to occupy the Interstate right-of-way in areas where land could not be obtained.

Potential for Trail Development

No unusual trail-building difficulties for trails up to Class 3, exist within the 100 ft. corridor, although this segment is characterized by a long, rather uniform slope. The Chandler's Green subdivision has built units within the 100 ft. corridor. In order to bypass Chandler's Green, it may be necessary to build the trail within the NCDOT right-of-way. The trail could connect into several other trails including a proposed trail along Dry Creek, Durham's proposed trail along Dry Creek on the north side of Interstate 40, the Circle-the-Triangle Trail, and the Rail Trail.

Summary of Constraints for Potential Trail Development

- 1. Over 7,000 feet of land acquisition would be required. All of the required land is in private ownership.
- 2. It may be difficult to secure a public access along the section controlled by Chandler's Green.
- 3. The long sustained slope may make ADA compliance difficult.
- 4. The trail intersection with Sunrise Road is at a very steep fill slope where Sunrise Road crosses over the Interstate. ADA compliance at this crossing may be difficult.

Summary of Factors Favorable for Potential Trail Development

- 1. There are some physical constraints to trail construction.

Recommendations

- 1. Easements and land should be acquired as opportunities arise.
- 2. The Town should work with North Carolina Department of Transportation (NCDOT) to acquire rights to develop within the Interstate right-of-way.
- 3. Explore potential acquisition of land or easements beyond the 100 ft. corridor on either side of Sunrise Road in order to negotiate fill slope.
- 4. Once the land rights are acquired, the Town should build a Class 3 trail.

**4 NORTH TRAIL:
Erwin Road to Highway 15-501**

The proposed corridor would continue until it merged with Highway 15-501.

Resource Protection

The Town currently controls none of the corridor along this section. The Town's greatest opportunity for addition land and easement acquisition will come as the corridor is developed.

(6)

Potential for Trail Development

The extent of low-lying, flood-prone areas and wetlands will make trail construction in this corridor difficult.

Summary of Constraints for Potential Trail Development

1. Over 4,500 feet of land acquisition would be required. All of the required land is in private ownership.
2. There are extensive physical constraints to trail development.

Recommendations

1. Easements and land should be acquired as opportunities arise.
2. Once the land rights are acquired, the Town should preserve the corridor as an unimproved Class 1 greenway.

MEADOWMONT TRAIL

The proposed Meadowmont Trail alignment does not follow a specific natural feature of the land, but is planned as a man-made corridor. The alignment of the corridor is proposed to be shaped by the urban pattern of roads and lots created within the Meadowmont subdivision plans. It would provide an important transportation and recreational link within Chapel Hill's largest proposed mixed-use business and residential development. The Meadowmont Trail would be constructed by the developer of the project.

Resource Protection

The Chapel Hill Town Council has approved a greenway corridor as part of the master land use plan for Meadowmont. The developer has agreed to dedicate a 22.04-acre middle school site and a 71.9-acre park site. The future Town-owned park would allow for the protection of extensive wetlands and steep slopes.

Potential for Trail Development

The greenway corridor is proposed to extend from the future Town park site near Little Creek, through the future school site, continue southward through the nearly 425-acre planned community and cross NC 54 to access the remainder of the development. The trail crossing at NC 54 would require a tunnel to be constructed. Connections to the proposed Little Creek Trail are also possible.

Proposed bicycle lanes along NC 54 could complete an eastward connection with future Durham trails, including possible links to the New Hope Corridor and the American Tobacco Trail.

Recommendations

1. The Town should continue to work with the developer to assure the trail is constructed to proper Class 6 design standards.
2. The Town should pursue a connection with proposed bicycle routes paralleling both sides of NC 54 and their potential connection with future Durham trail development as it occurs.

CONNECTOR TRAILS

Connector Trails are important components to the Chapel Hill greenway system providing continuity to open space corridors and increasing overall accessibility to Town's trails. Connector Trails may be major trails or minor neighborhood connectors. They may help link the greenway network with other Town recreation areas, public facilities and residential areas.

Major Connectors

CEDAR FALLS TRAIL

Completed, Class 3 natural surface trail located within the 51-acre Cedar Falls Park. The trail totals approximately 1.2 miles and provides important neighborhood connections to the park's recreational facilities as well as passive recreation opportunities.

The main loop trail has some steep slopes and rocky areas and a boardwalk section over a creek tributary. It merges with the park's internal network of unpaved paths and paved accessways. One of these paths is the .6 mile long Jo Peeler Nature Trail. The nature trail was dedicated in 1980 and is jointly maintained by the Town and the Lake Forest Garden Club.

Trail spurs to the main Cedar Falls Trail loop connect the Lake Forest neighborhood at Lakeshore Lane and Cedar Falls neighborhood at Roundtree Road, Cedar Fork Trail and Village Lane. The trail and park offer an open space link northward to the campus of East Chapel Hill High School. (See page 21. Also Figure 2).

OLD FIELD CREEK

Old Field Creek is a small stream, with many branches, which drains a compact area north of Eubanks Road and southwest of Interstate 40. The over one-half mile stream corridor is mostly undeveloped and surrounded by woodland and some agriculture. The creek flows northward, under I-40 into Orange County where it joins the upper reaches of New Hope Creek.

Old Field Creek, with trail development along its

entire length of less than one-half mile, could act as an important connector between the proposed Rail Trail and North Trail. This connection would not only create a vital link between the system's longest Man-Made Corridor trails, but would indirectly connect the Bolin Creek Greenway network with the Booker Creek Corridor. (See pages 51-57. Also Figure 10).

Recommendations

1. Acquire easements and land as opportunities arise.
2. Once the Rail Trail and the North Trail are completed, a connector trail along Old Field Creek should be constructed.
3. The trail should be built as a Class 6 trail.

Minor Connectors

As greenway trails along the primary stream corridors become developed and evolve into a major recreational amenity, it will become increasingly important to ensure pedestrian access to neighboring residential areas. Connector trails along minor tributaries, creeks and other linear features may provide such a means. Effective connecting routes may also be made by utilizing abandoned road rights-of-way, sidewalks, bridges, pedestrian tunnels or designated bicycle routes to complement the greenway trail system. Efforts to preserve, acquire and develop these important connectors should be given high priority.

Future connector trails leading to the major greenway corridors or other Town facilities should be reviewed on the following criteria:

- the desire of neighborhoods to be connected.
- the existence of land or sidewalk facilities available for connection.

As part of the Town's subdivision approval process, all Connector Trail corridors should be required to be on Town-owned property or be controlled by a homeowners association, rather than on easements crossing private residential lots. Recent history has shown that many easement situations have become unworkable over time and inaccessible to the public.

REGIONAL AND LOCAL COODINATION

Linkage with Regional and Local Trail Systems

The proposed Chapel Hill trail network can be extended beyond the borders of the Town by connecting into regional and statewide trail systems being planned by other agencies and organizations. The major trails being planned include:

① CIRCLE-THE-TRIANGLE TRAIL

This regional trail network is being planned, promoted and partially constructed by the Triangle Greenways Council, a private, non-profit, group of Triangle citizens who work on this ambitious project on a volunteer basis. The Council secures land, builds trails, and coordinates its efforts with various greenway agencies.

The Council identifies potential linkages among various built and planned municipal greenways and promotes their regional interconnection. Chapel Hill is an integral part of this future trail network, which is envisioned as being a transportation and recreational link for Chapel Hill, Durham, Raleigh and the Research Triangle Park.

Sunrise Road Connector

A portion of the proposed Circle-the-Triangle Trail is proposed to run from Duke Forest to the Chapel Hill greenways system. At this location, the trail would be sidewalk and bicycle lanes. The Sunrise Road connector would allow hikers to gain access from the Duke Forest section of the Circle-the-Triangle trail to the North Trail and the trails in Cedar Falls Park. Hikers could then walk a short distance on Town streets to gain access to the Booker Creek Trail.

Recommendations

1. Acquire easements for bicycle lanes and sidewalks.
2. Require developers to construct bicycle lanes

and sidewalks as land is developed.

3. Complete the sidewalk and bicycle lanes when resources are available.

② NEW HOPE CORRIDOR

In 1989, the Town of Chapel Hill agreed to share the costs of a study of the New Hope Creek corridor. The intent of the study was to investigate the entire New Hope Creek, Mud Creek and Dry Creek corridors, stretching from Duke Forest north of Chapel Hill and southward along Durham County's western boundary to Jordan Lake.

The study made recommendations to preserve certain key portions of the corridor as open space, including the historic Leigh Farm near the intersection of Interstate 40 and NC 54 as well as recommendations for trail development. Proposed is the acquisition of over 1,800 acres of land and the construction of approximately 20 miles of recreational trails

The only trail connection identified in the New Hope Open Space Master Plan that was directly relevant to Chapel Hill was along Dry Creek, from its juncture with New Hope Creek to its headwaters in Chapel Hill. The Dry Creek Trail Advisory Committee has recently completed conceptual plans for this corridor. A detailed description of the connection is available in the trail descriptions of the North Trail and the Dry Creek Trail. (See pages 46 and 54).

Connection to Durham City-County Urban Trails and Greenways System

Greenway connections linking Chapel Hill's system with the Durham City-County Urban Trails and Greenways System are possible via the New Hope Corridor. Beyond the immediate connections to the proposed New Hope Trail itself, will be intersecting trails leading to the Durham network. These include spurs of the New Hope Trail which lead toward the Korstian Division of Duke Forest and the proposed Hollow Rock Trail access area. The proposed Mud Creek Greenway would provide a connection with Duke Forest and the proposed Erwin- Cornwallis Regional Park.

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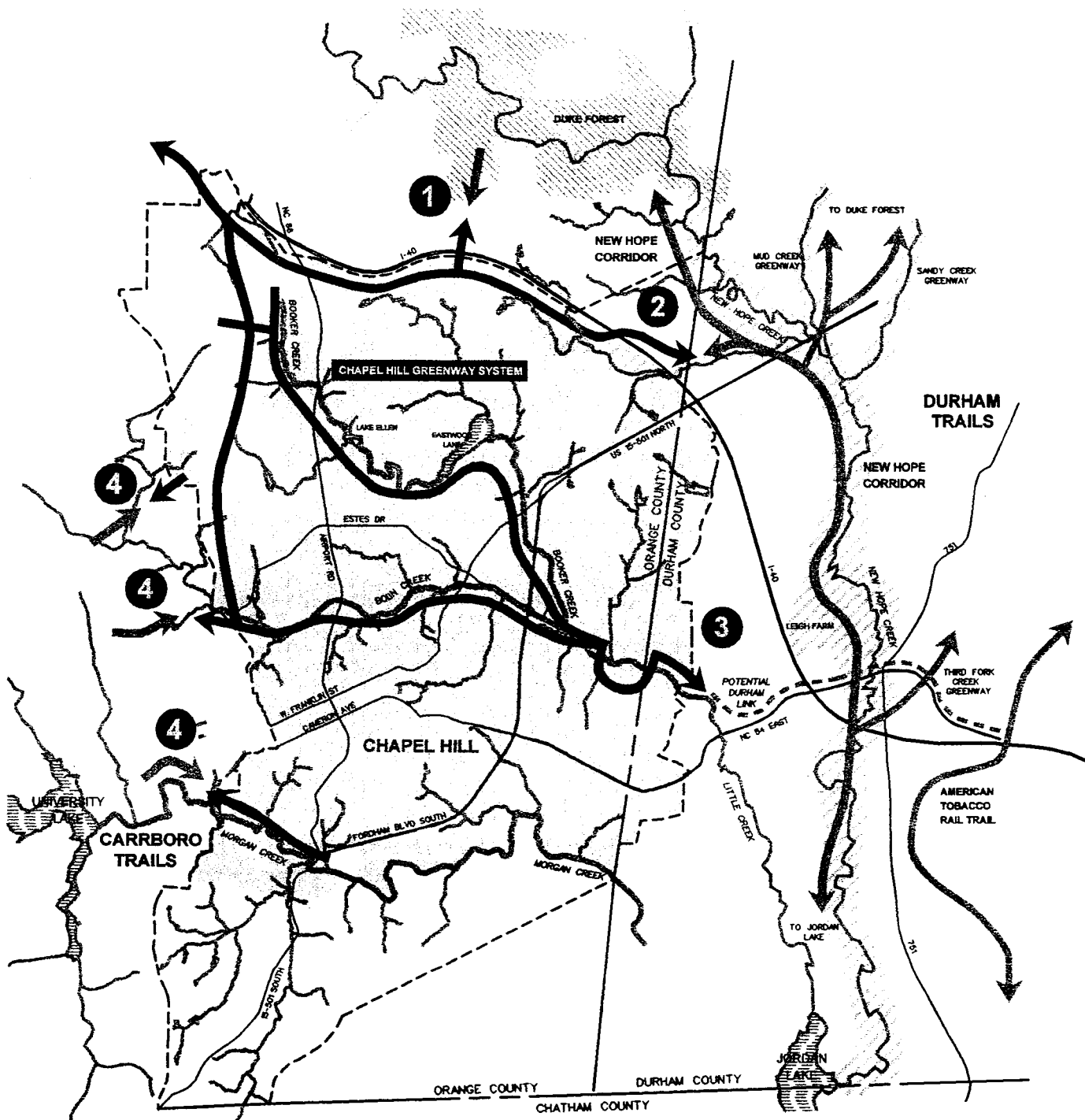


FIGURE 11

**POTENTIAL TRAIL LINKAGE WITH
REGIONAL SYSTEMS AND
NEIGHBORING COMMUNITIES**

SCALE: 1" = 7000'

LEGEND

- TOWN LIMITS
- URBAN PLANNING AREA
- DUKE FOREST
- NEW HOPE CORRIDOR

POTENTIAL CONNECTIONS:

- 1** CIRCLE-THE-TRIANGLE TRAIL
- 2** NEW HOPE CORRIDOR (DURHAM)
- 3** AMERICAN TOBACCO TRAIL (DURHAM)
- 4** TOWN OF CARRBORO GREENWAYS

Sandy Creek Greenway would offer potential connection with the Durham Division of Duke Forest and the Third Fork Greenway, once built, would extend northward to downtown Durham.

③ AMERICAN TOBACCO TRAIL

In 1992, the Triangle Rails-to-Trails Conservancy sponsored a public-private partnership to assemble a master plan to determine the feasibility of the proposed American Tobacco Trail. The American Tobacco Trail is a proposed off-road bicycle trail that would be constructed along the abandoned Norfolk Southern railroad corridor. It would run for approximately 30 miles in a north to south direction connecting downtown Durham (at the Durham Athletic Park) to its terminus at the Chatham County Line. Connections are proposed to various parts of the Durham Urban Trail and Greenways system and the New Hope Corridor Trail.

Subsequent to that study, the Triangle Rails-to-Trails Conservancy has proposed the potential for creating a link with the Chapel Hill greenway system, specifically along Little Creek and Bolin Creek.

④ TOWN OF CARRBORO

The Town of Carrboro, in its 1994 *Recreation and Parks Comprehensive Master Plan*, identifies three potential greenway linkages with the Chapel Hill system.

Carrboro's proposed Morgan Creek Greenway is envisioned to extend approximately 3 miles along the banks of Morgan Creek. The Carrboro trail would connect with Chapel Hill's Morgan Creek Greenway at Smith Level Road and present an opportunity to link University Lake with Merritt Pasture.

Proposed extension of the Bolin Creek Greenway is planned to stretch approximately seven miles through Carrboro, connecting various future park sites. The trail would connect with the Town of Chapel Hill Bolin Creek Greenway at two locations: Seawell Elementary School and at Estes Drive Extension.

OTHER NEIGHBORING JURISDICTIONS

Orange County and Chatham County do not currently have greenways trail programs. However, Chapel Hill should maintain a cooperative approach in case these jurisdictions develop trail programs in the future and provide greenway connections that are mutually beneficial.

Connections with Town Alternative Transportation Plans

As additional land in Chapel Hill is pressured by residential and commercial growth, transportation rights-of-way expanded to accommodate road widenings and extensions, and formerly “leftover” tracts of land within subdivisions become developed, the use of sidewalks, bicycle lanes and dedicated paths as part of the overall greenway system will become increasingly important.

The role of sidewalks and bikeways as interconnecting routes within the greenway system cannot be overstated. Providing useful links of neighborhoods to parks, other neighborhoods, schools and public buildings, these connectors are fundamental to providing pedestrian and bicycle access throughout Town. The acquisition of greenway easements and construction of sidewalk and other connector paths should be closely coordinated among Town departments.

Chapel Hill produced its first Bikeway Plan in 1977 and has since developed roadside bike paths and bike lanes. The first off-road bicycle path in Chapel Hill was built parallel to Fordham Boulevard near the Rainbow Soccer fields. Phase I of the Bolin Creek Greenway, created the first multi-use, combined bicycle and pedestrian greenway in Town. Existing bikeways have been mapped in relationship with the Town’s existing and planned greenways in Figure 3.

In 1993, Chapel Hill, as part of the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization, adopted “The Regional Bicycle Plan for Durham and Orange Counties”. The plan presented options for bicycle connector routes throughout the area, including urban and rural bicycle routes. Connections from Chapel Hill to Durham, Research Triangle Park and Hillsborough were proposed utilizing a combination of roadside bicycle lanes and off-road bicycle paths.

Several major trails within the Chapel Hill

greenways system are planned for pedestrian as well as off-road bicycle use. Potential connections with the planned Booker Creek Greenway as well as the continued development of the Bolin Creek Greenway create the most immediate opportunities for the Town greenway system to link with Town and regional bicycle planning initiatives.

There are several specific linkages which may potentially increase connectivity among the Town’s greenways and bikeways. Future off-road pedestrian/bike paths along NC 54 could provide valuable connections between the proposed Little Creek Greenway and proposed Durham trails. (See pages 36-38. Also Figure 6). Proposed bike paths paralleling Fordham Boulevard may present future opportunities to connect the Morgan Creek and Bolin Creek greenways. Planned bike lanes to be constructed as part of the current NC 86 improvements may link with existing bikeways allowing a north-south connection between the Bolin Creek and Booker Creek greenway systems. Continued development of Town bikeways could present additional alternative transportation options.

Since the publication of the Regional Bicycle Plan, additional Chapel Hill greenways proposed for dual pedestrian and bicycle use, such as the Rail Trail and North Trail, present an increased potential for greenway connections to be made with broader bicycle / alternative transportation plans.

Cooperation with the University of North Carolina

The largest single landowner within the Chapel Hill planning district is the University of North Carolina at Chapel Hill. Because of the tremendous amount of land involved, a complete, town-wide trail system would require cooperation with the University. The University controls significant landholdings along the proposed Rail Trail, Bolin Creek, Booker Creek, Morgan Creek, Chapel Creek, and Meeting of the Waters Creek corridors.

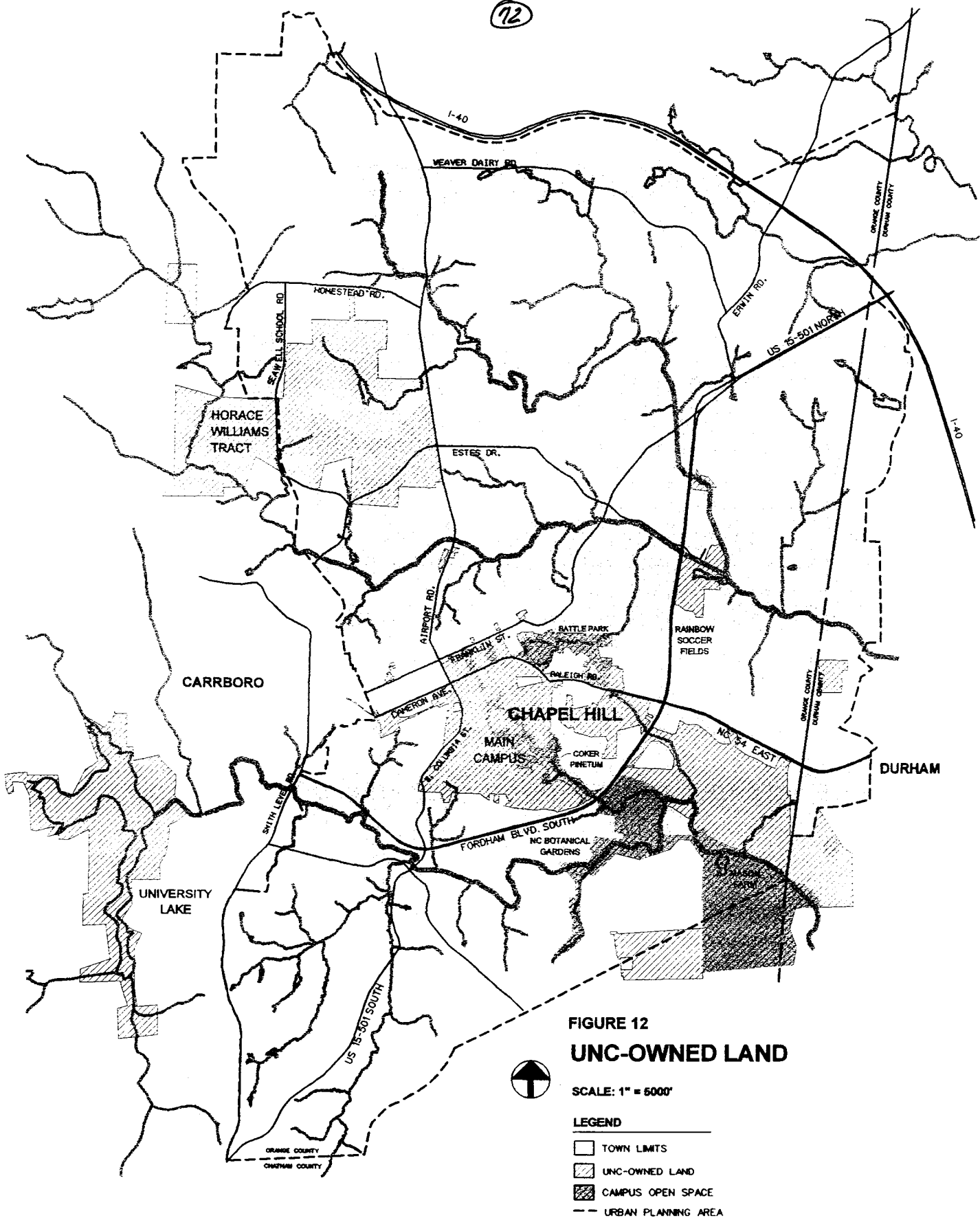


FIGURE 12
UNC-OWNED LAND



SCALE: 1" = 6000'

- LEGEND**
- TOWN LIMITS
 - UNC-OWNED LAND
 - CAMPUS OPEN SPACE
 - URBAN PLANNING AREA

The University has directly cooperated with the Town on one trail project, allowing the Town to construct a bridge and a short boardwalk for the Battle Branch Trail within Battle Park.

The Horace Williams and Mason Farm properties are major undeveloped tracts of University-owned land, which may present opportunities for cooperative University/Town, open space and greenway interests to be pursued.

The Horace Williams Tract is planned for a mix of University academic and support facilities. The Mason Farm property is planned to remain primarily as a biological preserve. As development plans for these satellite campus areas become formulated, the Town is encouraged to take a proactive role in pursuing opportunities for greenway linkages.

The Department of Facilities Planning and Design at the University of North Carolina at Chapel Hill has prepared a document which describes the University's greenway and open space preservation efforts. This report outlines several long-term planning studies and describes campus open spaces and outlying properties whose missions support the objectives of the Town's Greenways Program – that is, to provide quality recreational facilities, preserve open space and offer transportation alternatives to the automobile. The report entitled, "1998 Update to the Greenways Commission", is attached as Appendix C of this Master Plan.

IMPLEMENTATION POLICIES

Meshing of Goals: Land & Trails

The Chapel Hill greenways program has two ambitious goals. First, the program would preserve an extensive network of open spaces. Second, the program would provide walking and bicycling trails within some of these linear open spaces.

The public perception of a greenways program is often that of a trail building effort only. In Chapel Hill, the Town Council appointed the Greenways Commission to work toward achieving the above goals which encompass the preservation of land, water, quality of life, wildlife, and the charm of Chapel Hill as a community that lives well with the natural environment.

Trail building and land acquisition are inherently interrelated. Without adequate land, trails cannot be built. However land that deserves protection of important ecosystems may not be the best land for recreational trails. Trail building is an exciting aspect of the greenways program, and is one that requires coordination with a variety of goals set forth by the Council. Further, the greenways program will find itself in perennial competition for allocation of funds needed for park land, athletic fields and other public purposes.

Land Acquisition Procedures and Policies

A consistent approach to the acquisition of public land and easements is important for the creation and preservation of greenway corridors and connectors and the creation of urban trails. The Town should be prepared to sustain a long-range land acquisition program until the goals of the greenway program have been met.

In its efforts to acquire land and easements for greenways, open space, and trail building, the Town must deal with land availability, high land costs, and competitive bidding with private

developers. Chapel Hill has one of the most expensive real estate markets in North Carolina. Land in Chapel Hill tends to be in high demand for private development, which results in premium real estate prices. These high prices tend to remain elevated even during periods of relative recession.

The Town's ability to compete for land depends on its ability to raise or maintain the cash reserves necessary to purchase key parcels of land as they come on the real estate market. If cash reserves earmarked for the purchase of land are low, the Town may not have the financial means to purchase land at the critical moment that it is available for sale. In such a case, the land may be lost to private development.

Substantial tracts of land and easements are needed to complete the greenways system. While outright purchase is the only practical method for the acquisition of some lands, many other acquisition options exist. It is fortunate that the very types of lands that are important for greenways and trail development are often considered marginal or unusable for private development. Lands needed for the Town's greenways system may be located in the Resource Conservation District (RCD), or on steep slopes. Such lands may on occasion constitute a tax burden to some landowners. The Town may take advantage of this situation by the use of alternate land acquisition methods that could benefit the Town and the private landowner. Several important acquisition methods are listed below:

1. Fee simple Purchase

The outright purchase of property is an important method for acquiring greenway land. When possible, land purchases should be made in advance of development in order to take advantage of lower prices.

2. Mandatory Dedication of Recreation Areas

The Town's Development Ordinance requires developers of major subdivisions, as stipulated in Section 17.9, to dedicate a portion of a project's dry and flat land for active recreation purposes.

Greenways land may be substituted for high and dry land when appropriate. The Town has been very successful in acquiring land and protecting greenways through the provisions of the Development Ordinance. Several creative methods of using the Development Ordinance exist:

A. **Payment-in-Lieu** - The Development Ordinance contains a provision that allows payment of money in-lieu of dedication of land. Under certain conditions the Town may not desire the dedication of land on certain construction sites. In some cases the Town would be better served if money were received in-lieu of land dedication. The money received from payment-in-lieu could be used to buy land or make improvements. The payment-in-lieu option outlined in the Development Ordinance has been used in only a few isolated cases.

B. **Off-Site Dedication** - The Development Ordinance contains a provision that allows developers to dedicate land off-site. With this method the developer would provide land of equal value at another location. In many situations, the developer of a tract may own land that is dry, level, and entirely developable. If the property is near a park; has little or no importance as open space, greenways, or park land; or would be difficult to develop as a park or greenway due to size or configuration constraints, it may be in the best interests of the developer and the Town to consider off-site dedication. The Town greenways program has already benefited from this method by acquiring important parcels along the Dry Creek, Bolin Creek and Tanyard Branch greenways. The Town should encourage off-site dedication when appropriate.

3. Gift

In the past, the Town has benefited greatly from gifts of land or easements. A North Carolina State tax credit is available to persons donating land to governmental agencies. Gifts should be pursued whenever possible. In some cases gifts may come with simple or extensive conditions

for use of the land.

4. Exchange of Land

In some cases, it may be possible to exchange unused Town-owned land for private property or property held by other governmental agencies. In this way, the Town may be able to trade idle land for property, which is desired for open space, greenways, and parks purposes.

5. Purchase or Gift of Easement

Easements are legally recorded rights to use land in a specific way; such as the right to locate sewers, electric power lines, gas lines, roads, and other purposes. Three types of easements are of special concern to the greenways program:

- Conservation easements are usually given by landowners to prevent development.
- Pedestrian, motorized wheelchair, and non-motorized vehicle easements are granted to allow the public to walk or ride wheelchairs and bicycles across private land.
- Construction easements are usually temporary and allow access for construction activities.

It is important to realize that one form of easement does not automatically include another use. For instance, sewer easements cannot legally be used for public pedestrian purposes unless that right is specifically given to the public by the owner of the property.

The donor or seller of an easement retains title to the land, pays taxes on the property, and may use the land for any purpose not inconsistent with the use of the easement. For example, the owner of the property may not build a fence across a public pedestrian easement. Easements may be given for a specific number of years or in perpetuity. A person donating an easement may be eligible for substantial tax benefits from both the state and federal governments.

The Town has acquired many public pedestrian and non-motorized vehicle easements on various greenways segments. By acquiring easements,

the Town can avoid the costly process of buying land. Easements leave the lands in private hands for private purposes, allowing the Town to continue to receive taxes on the property. Some landowners are more receptive to the idea of donating or selling easements rather than selling fee-simple title to land.

6. Reserved Life Estate

Reserved life estates are gifts of land that the donor may use until he or she dies. In most cases, donors continue to live on a tract of land until their death. Reserved life estate agreements are usually structured such that heirs may not inherit or use the property after the donors death. This form of gift has tax benefits, but is generally used only by persons who are absolutely certain they do not wish to pass on property to relatives or friends after their death.

7. Bargain Sale

In this form of sale, the owner of the property sells it at a price below market value. The lost capital gain, which is the appraised value less the sale price, is taken as a tax deduction. Persons interested in aiding the greenways program may do so and benefit from a reduction in taxes.

8. Rent and Leaseback

It may be possible to purchase land well in advance of its need as a park or greenway. In some cases it may be possible to lease or rent the land back to its previous owner, or another

party, for use until it is needed. The activity allowed under the lease should be consistent with its future use as park or greenway. For example, several houses on the Pritchard Park property were rented after purchase by the Town. The Town should take advantage of rent or leaseback opportunities whenever possible.

9. License to Use

The Town may wish to use or protect a property for a short period of time. A license to use may provide a temporary easement until such time as the Town can raise the necessary funds to purchase the land.

10. Condemnation

The Town of Chapel Hill has the right of eminent domain by which it may condemn a piece of property or an easement if all other attempts to acquire the land have failed. This process is adversarial and requires the Town to force the owner of a property to sell against his will. The process requires that both parties submit evidence and allow the judicial system to set the price at which the land will be sold. The nature of the process makes it a difficult, time consuming, and expensive way to purchase land. The use of condemnation should be used only after all other possible solutions have proved unsuccessful.

11. Tax Foreclosures

Occasionally lands useful for open space and greenways may be foreclosed due to failure of the private landowner to pay property taxes. This method may allow the Town to purchase land at a very low price.

FINANCING THE GREENWAYS PROGRAM

The establishment, growth, and maintenance of the Chapel Hill greenways system, its land and facilities, require both capital and operational funding. The extensive program of land acquisition and development of trails proposed in this Master Plan will entail large capital investment. Operation and maintenance will require annual budgeting of additional sums. Because of the magnitude of financial resources required, no single source of funds may be adequate and participation by a variety of entities and funding sources may be required.

Traditionally, financing for greenways property, easements and trails have come from the Town's general Capital Improvement Fund, bond initiatives, grants from various State

agencies and programs as well as from contributions from Town citizens. In addition to these sources, the demands placed by future building programs will require the Town to explore alternative programs and combinations of sources to meet future demands.

Previous and Current Funding for Greenways

From FY 1985-86 until FY 1997-1998 the Chapel Hill Greenways Program has received funding, or commitments for funding in the amount of \$1,804,150. These funds include Town capital improvement funds, general obligation bonds and grants. In November 1996, the voters of Chapel Hill approved the sale of \$3 million in general obligation bonds for the purchase of open space land.

Capital Improvement Funds

Funding Agency	Source	Purpose	Amount
Town of Chapel Hill	Capital Improvements Fund (total since 1985)	General Greenway Development	\$506,000
Metropolitan Planning Organization	Direct Allocation Funds	Booker Creek - Phase II Construction	\$56,000

Bonds

Funding Agency	Source	Purpose	Amount
Town of Chapel Hill	1986 Parks & Open Space Bond*	General Greenway Development	\$100,000
Town of Chapel Hill	1989 Parks & Open Space Bond**	Bolin Creek Trail - Phase II	\$325,000
Town of Chapel Hill	1989 Parks & Open Space Bond**	Upper Booker Creek - Conceptual Plan	\$12,800

Grants

Funding Agency	Source	Purpose	Amount
NC Dept of Transportation	NC Bicycle Program Grant	Bolin Creek Trail - Phase I	\$286,000
NC Dept of Transportation	NC Bicycle Program Grant	Bolin Creek Trail - Phase II	\$240,000
NC Dept of Transportation	NC Bicycle Program Grant	Booker Creek Trail - Phase II	\$260,000
NC State Parks	NC Trails Program***	Battle Branch Trail Maintenance	\$1,000
NC State Parks	NC Trails Program****	Bolin Creek Phase II Construction	\$2,000
Friends of Greenways	Neighborhood Grant	Battle Branch Trail Maintenance	\$350
NC State Parks	NC Trails Grant	Bolin Creek Phase II Construction	\$15,000

* These funds were appropriated from the \$2.5 million 1986 Parks and Open Space bond.

** These funds were appropriated from the \$5 million 1989 Parks and Open Space bond.

*** The organization "Friends of Chapel Hill Parks, Recreation, and Greenways" applied for and received State funding for a maintenance project on the Battle Branch Trail.

**** The Sierra Club applied for and received funding for construction of Phase II of the Bolin Creek Trail.

No-Cost Preservation of Greenway Corridors

The protection of most undeveloped greenways corridors has been accomplished at no cost to the Town because of a variety of existing development regulations. The Town has adopted regulations that limit the development of floodplain areas, steep slopes, entranceway areas, and a corridor along Interstate 40. Although this protection is not perfect, and limited development and clearing may be allowed in these areas, the degree of protection is very high considering that it is achieved at no cost to the public. As long as these regulations remain in force, the majority of the Town's greenways corridors should remain relatively protected.

If the courts, the federal government, or the State legislature take actions that weaken the Town's ability to regulate development, these lands may once again be subject to development pressures. Only a small percentage of the Town's greenways are in Town ownership or direct control. The cost to acquire them in fee simple would likely be beyond the ability of the Town.

The following protection and acquisition methods can maximize preservation of greenway corridors:

- Continue to rely on Town ordinances to protect stream corridors, steep slopes, entranceways, and the Interstate corridor.
- Use the provisions of the Development Ordinance to acquire greenway lands and easements wherever developments occur along identified greenways.
- Use the payment-in-lieu of recreation area provision of the development ordinance where appropriate to raise money for the purchase of greenway land and easements.
- Use of off-site dedication provisions of the Development Ordinance where appropriate.
- Encourage donations of land and easements.
- Trade unneeded Town land for needed easements or property.

No-Cost Trail Construction

The Town's development requirements have also contributed to the number of trails available to local residents. Most of the trails built as requirements of the development process are located on property owned by local homeowners associations. Some of these trails are or will be public. For example, the developers of the 300+ acre Southern Village and the 400+ acre Meadowmont projects agreed to construct and then deed to the Town, paved greenways suitable for bicycle traffic. These trails will enhance and add value to the private developments while simultaneously adding to the public greenway system.

Low-Cost Trail Construction

Short segments of less intensively used unpaved trails and small connector paths have been implemented by volunteer groups in cooperation with the Town. In these efforts by groups such as Boy Scouts of America, the Town's obligation is typically limited to the cost of construction materials only. These initiatives are encouraged by the Town with proper coordination to assure compatibility with the Town's greenway planning goals and construction standards.

Funding Land Acquisition and Trail Construction

Existing development regulations cannot provide for all costs of trail development and land acquisition. In most cases the cost of new trail construction cannot be passed on to land developers. A trail project in an already developed area usually requires funds for land, labor, materials, planning efforts, a citizen input process, and maintenance. At the present time most of these costs have been borne by the Town and by agencies willing to provide construction and maintenance grants.

In order to allow the trail development program to expand, different funding sources must be explored. This is especially true if additional

paved trails such as the Bolin Creek Trail are to be built; but even primitive trails may have high costs associated with the need to build boardwalks or bridges.

Possible sources for trail construction and land acquisition include:

Dedicated Funding Source

The Greenways Commission has recommended that a permanent funding source be located that could be used to fund greenways land acquisition and trail construction. The Commission has recommended that a special tax be levied to fund the program. The Commission has not identified a potential source of the proposed tax.

General Obligation Bonds

The greenways program has received \$550,000 from the 1986 and 1989 Parks & Open Space bonds. Bonds are excellent sources of funding for large capital projects. The 1996 bond issue will provide \$3 million in funding for the purchase of additional open space land.

Capital Reserve

The program has benefited from appropriations from the Capital Improvements budget. These funds are raised through the General Fund. The greenways program must compete for these funds with other Town capital needs including parks, sidewalks, building improvements, capital construction, and purchase of capital equipment.

Grants

The Town's major source of funding for the Bolin Creek project has come from the NC Department of Transportation's Bicycle Program. These funds are requested through the Town's Transportation Improvement Program (TIP) each year. The Town currently has three outstanding TIP project requests: Upper Booker Creek, Lower Booker Creek and Lower Bolin Creek Trails.

The Intermodal Surface Transportation Efficiency Act of 1991, or ISTEA, provides federal-aid funding for bicycle and pedestrian facilities through a number of state and local programs. The NCDOT Bicycle Program has

received moneys from this funding source. However, consistent with recent policies of fiscal restraint at the federal level, ISTEA funding is being closely scrutinized. The Town should monitor the program to see if ISTEA moneys will remain a viable source of funds in the future.

The North Carolina Park and Recreation Trust Fund (PARTF) grant program is available to all counties and municipalities in the state. Annual 50% matching grants up to \$250,000 are possible for land acquisition, park and greenway projects. In 1997, an estimated \$5 million within the PARTF program is available for the entire state.

Construction by Private Developers

The Town has required developers to provide trails within some large planned developments. It would be in the best interest of the Town if greenway trails proposed as part of major private developments were constructed to standards established by the NCDOT Bicycle Program and the American Association of Safety and Highway Traffic Officials (AASHTO). The trails planned for construction within the Meadowmont and Southern Village developments follow this precedent.

It should also be a goal of the Town to require a time commitment for the construction of trails as part of the development plan approval process. This requirement would be similar to the current requirements that require developers to extend sewers and roads to their property lines. This method of financing construction may warrant further exploration by the Council.

Part 5

ACTION PLAN

86

Criteria for Land Acquisition and Trail Construction

The total acreage of easements and land needed to complete the greenway system is significant. In addition, the program projects an eventual trail program that will require construction of over 28 miles of both unpaved and paved trails to be used for recreation and transportation purposes. The needs outlined in this Plan will require a sustained land acquisition and trail construction effort that will spread the costs over many years.

The Town should look at the need to acquire open space and trails in both the developed portions of Town and in areas anticipated to be developed in the future. Acquisition is particularly critical in areas where changes in land use are occurring rapidly which may preempt or make recreation and public use more difficult.

Land Acquisition Priorities

The Town Council partially addressed the issue of setting land acquisition priorities by adopting a plan for the use of the 1989 parks and open space bond. Of the total \$5 million available, \$168,000 was spent for the acquisition of greenways land.

The policy guidelines for use of the \$3 million Open Space bond funds approved in 1996 have not yet been formulated. The Council has directed the Greenways Commission to develop recommendations by June 1998.

Recommended considerations for future land acquisition are listed from highest priority to lowest priority:

1. Critical tracts in danger of immediate development.
2. Land needed to construct trails currently in the planning process.

3. Opportunities to take advantage of low prices or willing sellers.
4. Land that is developable but not in immediate danger.
5. Land in no foreseeable danger of development but needed for the greenway system.

Trail Construction Priorities

Although the Town has acquired significant amounts of property, recreation area dedications, and easement dedications along identified greenway corridors these acquisitions have been spread out over the entire proposed greenways system. Only a few identified projects have enough land under Town control that they can be considered for potential development in the near future, without major land acquisition efforts.

Four new greenway projects are anticipated by the year 2001.

These potential projects include:

Lower Booker Creek, Phase II

(Booker Creek Road to Franklin Street)
Acquisition of one two-acre property and the expansion in the width of an existing easement would allow the Town to complete the Booker Creek Trail. The Town Council authorized the project in September 1997 utilizing \$14,000 from the Town's General Fund, \$56,000 from Metropolitan Planning Organization (MPO) direct allocation funds and \$260,000 from an NCDOT Bicycle Program grant.

Upper Booker Creek

(Weaver Dairy Road to Northern Community Park)
The Town owns the northern and southern properties of this proposed trail corridor and will own the central section as development proceeds. The Greenways Commission anticipates presenting a draft Conceptual Plan to the Town Council in 1998.

Dry Creek, Phase I

(Silver Creek Trail to Perry Creek Drive)
Recommendations of the Dry Creek Trail Advisory Committee for a Conceptual Plan for the greenway corridor were completed and approved by Council in June 1997. Phase I construction of the Dry Creek greenway trail is anticipated to begin in Summer 1998.

Dry Creek, Phase II

(East Chapel High School to Silver Creek Trail)
The Town currently owns or expects to own the majority of the Dry Creek corridor from the new Chapel Hill East High School on Weaver Dairy Road to the Eastowne office development. Phase II trail construction is anticipated to begin in Summer 1998.

Beyond the year 2001, the following greenway trails have been identified as priority projects:

Bolin Creek, Phase III

(Airport Road to Estes Drive Extension)
The Town controls much of the property from Airport Road to Estes Drive Extension. These lands include most of what would be required to build a trail from Village Drive to Pritchard Avenue Extension. Some land acquisition would still be required, especially from Airport Road to Umstead Park.

Morgan Creek

(Smith Level Road to Merritt Pasture)
The Town has acquired about half the land needed to complete this greenway segment. Payment-in-lieu from the development of the Southern Village is anticipated in the year 2001 and will fund the construction of a bridge in this corridor.

Part 6

MAINTENANCE & OPERATIONAL POLICIES

Maintenance

A cornerstone of a successful greenway trails program is the implementation of an effective maintenance program. Patrons expect a safe and aesthetically pleasing trail environment. As trail sections are built, Town residents will be watching the success of the maintenance program to determine if they will welcome trails in their own neighborhoods. Poorly maintained trails may endanger the expansion of the greenways trail system into new areas. Well-used and well-maintained trails, on the other hand, may become their best promoters.

The Parks and Recreation Department works with other Town Departments to ensure that the Town's parks, open spaces, and greenways are maintained in a safe and aesthetically pleasing condition. Maintenance should be performed in a manner that enhances the use of the land, maintains its appearance, and promotes the enjoyment and positive aspects of outdoor recreational activity.

The maintenance program should strive to attain the following goals.

1. Dedicate Personnel for Greenways.

Experience in other communities indicates that a major focus of any greenways trail program must be a sustained maintenance program. There are currently no Public Works maintenance personnel assigned specifically or exclusively to the maintenance of the Town's greenways. Routine maintenance includes litter pickup and grass cutting and requires regularly scheduled personnel. The maintenance and repair of recurring problems are generally handled well under the current system. These tasks include landscape maintenance, repair of erosion problems, repair of boardwalks, replacement of signs and clearing of downed trees and branches. However, as more greenway trails are constructed

the need for routine maintenance and scheduled repairs will become more demanding and difficult without assigned personnel.

When funding levels are adequate, the Town should commit adequate personnel to the Town's greenway and open space program. As the number of miles of dedicated trail increases, workers dedicated to trail maintenance should be added as needed.

2. Maintain Paved Trail Surfaces.

Trail surfaces on paved trails should be kept free of litter and debris. Cracked pavement should be repaired immediately. Paved surfaces should ideally be patrolled daily for litter pickup in order to keep the trail surface safe for bicycles and wheelchairs.

3. Maintain Natural Trail Surfaces.

Maintenance of natural trail surfaces should target removal of dangerous conditions and litter and the prevention of erosion. Ideally, routine maintenance inspections for natural surface trails should occur once a week. Uneven trail surfaces are to be expected on these trails.

4. Keep Trails Litter Free.

Maintenance should include pickup of litter visible within 100 feet of the actual trail.

5. Maintain Trail Amenities.

All trail amenities such as bridges, picnic facilities, signs, steps, benches, and other items should continue to be inspected and repaired on a regular schedule.

6. Practice Preventative Maintenance.

Preventative maintenance should be emphasized in order to prevent future erosion problems, fallen trees, and other foreseeable problems.

7. Solicit Neighborhood Assistance.

Neighborhood adopt-a-park programs should be used whenever possible. Such programs can range from simple reporting of problems to the undertaking of heavy maintenance and repair functions. Recognition of persons involved in adopt-a-park activities should be acknowledged within the framework of the Parks & Recreation Department's volunteer recognition program.

8. Develop Community Support.

Community wide events can be organized for the purpose of large scale cleanups or light construction work. This type of project is especially useful on new trail segments. This type of program has been successfully used on both the Battle Branch and Tanyard Branch Trails.

Neighborhood Trails Program

The Town should construct new trails only at such time as it is able to provide an adequate maintenance program for each addition to the expanding trail system. If residents of a neighborhood ask for construction of a new trail that the Town cannot properly maintain, the use of a formal Adopt-a-Greenway program should be utilized. The Town should work with Homeowners Associations, environmental organizations, Boy and Girl Scouts of America and other groups to utilize the efforts and talents of local residents in the construction and maintenance of trails. These agreements should be formal and clearly describe who is responsible for construction, maintenance schedules, and types of maintenance.

The Engineering Department currently conducts regular citizen stream clean-ups through its Adopt-a Stream program.

Citizen Participation in the Greenways Program

The potential for a successful trail program is likely to be enhanced when citizens can assume a degree of ownership of individual trail projects

through their participation in the planning process. Mechanisms for public participation in recreation planning has long been an integral part of the planning of Chapel Hill parks and greenways projects.

Each aspect of the greenways program demands a different degree and type of citizen input. The following methods of participation should continue to be encouraged:

Greenways Commission

The Commission provides a forum for direct citizen representation on matters of policy. Citizens appointed to the Greenways Commission make recommendations to the Town Council, other Boards and staff on a wide range of issues. Citizens not appointed to the Commission can also use the Commission meetings as a forum to present petitions, ideas and concerns.

Parks & Recreation Commission

This Commission advises the Council, Town manager and Parks & Recreation Department staff on all issues pertaining to community recreation. The Parks & Recreation Commission may work in concert with the Greenways Commission on certain projects.

Public Forum

This form of public input should be used in most trail planning and construction programs. Neighbors and other individuals affected by the presence of the proposed trail should be encouraged to comment in the presence of Town citizens, Greenways Commission members, and staff. Meeting formats should be designed to encourage citizens to participate in the planning process.

In most cases, at least two public meetings should be held during the planning of each proposed greenway trail. Public forums should be publicly advertised in order to attract a range of community interests. The purpose of holding public forums is to provide citizens with information and opportunities for input throughout the planning process.



Neighbors who own property close to the proposed trail could be invited to a series of smaller meetings in order to discuss details of the project. These meetings should cover such topics as landscaping, grading, removal of trees, selection of building materials and other issues pertinent to persons living close to the trail.

Greenway Advisory Committee

Once a decision has been made to develop a particular trail, it may be appropriate to enlist persons affected by the project to help with the planning phase. This type of public involvement can allow proponents and opponents of a trail to actively participate in the decision making process. Possible members of an Advisory Committee could include:

- Greenways Commission
- nearby residents
- property owners
- representatives of utility companies
- Town staff
- representatives of funding agencies

The Special Use Permit process for the phase two of the Bolin Creek Greenway and development of the Conceptual Plan for the Dry Creek Greenway are two recent examples of successful processes utilizing a citizen advisory committee. In these projects, the citizen committee worked directly with the Parks & Recreation Department staff and the greenway design consultant to achieve a plan that met the broad goals of the Town, the technical challenges of the site and the privacy concerns of adjoining neighbors.

Promotion of Greenways

Promote public involvement in the greenway corridors to assure their conservation and to create expanding support for upgrading trail development and public use. Various means might include hiking events, trail clean-up and volunteer work days, Adopt-a Greenway programs and the publication of promotional brochures

Interagency / Regional Cooperation

Neighboring Municipalities

By its nature, the greenways concept cannot be easily contained within the jurisdiction of any single local government. Greenways tend to follow natural features such as waterways or ridges which often continue undistinguished by the political jurisdiction it occupies. In order to fully serve the citizens of Chapel Hill, it will become increasingly necessary for the Town to work closely with neighboring governmental agencies and political bodies to achieve common goals whenever possible.

It is critical for the long-term success of the Chapel Hill Greenways system to be an engaged partner in regional trail and open space initiatives. Currently, Orange County, the City of Durham, Durham County and the Town of Chapel Hill are involved in a cooperative project which may lead to preservation of the New Hope Corridor. The Chapel Hill Town Council has adopted the New Hope Corridor Task Force Report which envisions a cooperative effort among all four jurisdictions. See page 59 for further details.

Other projects may be possible in the future. As other nearby jurisdictions become involved in greenways projects, the Town should work closely with them to ensure that projects can be merged to the benefit of all parties.

Orange Water and Sewer Authority

Land utilized for Orange Water and Sewer Authority (OWASA) sewer easements may sometimes be jointly used for Town greenways. The Town and OWASA have cooperated in both the planning and implementation of trails such as Phase I and II of the Bolin Creek greenway and the Lower Booker Creek greenway. The acquisition of greenway easements allowing public access and trail construction within streamside sewer easements should be closely coordinated whenever such opportunities exist.

Environmental Organizations

The Town should also work closely with other organizations supportive of the greenways

program such as the Sierra Club, Triangle Land Conservancy, NC Botanical Garden, Triangle Rails to Trails Conservancy and the Triangle Greenways Council to identify greenway corridors of mutual interest and to ensure the timely acquisition of these corridors.

Security

Since the inception of the Town's greenway program in 1985, the Chapel Hill Police Department has reported two incidences on dedicated trails, neither of which resulted in loss of property or personal injury. Reported complaints are typically limited to the presence of mountain bicycles on pedestrian trails and vandalism of signs. Experiences in Chapel Hill and in other communities indicate that most security problems related to greenways tend to be infrequent and minor. The public's concern regarding security issues, however, continues to dominate discussions about new trail development in Chapel Hill.

The Town should address greenway security in two ways, through active patrol of trails and by enforcement of trail use ordinances. Regular active patrol of the trail system should enhance a sense of security to users and to citizens with property adjacent to the greenway corridor. The Town of Chapel Hill Code of Ordinances addresses a variety of issues related to security and regulation of the Town's greenway trails.

Citizens attending public meetings have indicated that security of greenways and parks is one of their top concerns. The Greenways Commission has expressed a desire that the Town consider creating a Park Ranger position at some future time. Park Rangers would be hired to provide active patrol of parks, trails, recreation centers, storage areas, and parks vehicles. Unlike police officers who must respond to emergencies all over Town, Park Rangers could concentrate their efforts patrolling parks and trails.

The Chapel Hill Police Chief has indicated that the concept of a Park Ranger program could work

within the Police Department's current organizational framework. It would be desirable to have two full time officers serving as Park Rangers to patrol the Town's parks, greenways and other remote sites such as Park-and Ride lots.

In the early 1990's, the Chapel Hill Police initiated a bicycle patrol program which could be available for use on paved bicycle accessible trails. Bicycle patrols would provide the most efficient method of providing trail security on paved trails for several reasons. The Town's planned and existing trails having a 10' pavement width would be ideal to accommodate bike patrols.

Communication with other greenway communities in North Carolina such as Raleigh, Charlotte, Durham and Cary, indicates that frequent and active use of a trail tends to decrease the number of crimes while causing an increase in relatively minor incidents such as littering, mountain bicycle infractions, and speeding on trails. The effectiveness of this "protection-by-use" approach can be enhanced by including trails in citizens watch programs.

Town maintenance crews can be an important component in the security system. Maintenance crews are frequently assigned to work along various trails, and are the Town employees most likely to view violations of the law. In addition, they are the persons most likely to offer initial assistance to citizens in need.

A well-maintained trail may discourage persons intent upon minor and major infractions of the law, and may give users a sense that the area is well-used and safe.

Part 7

DESIGN STANDARDS & GUIDELINES

The Design Standards and Guidelines section of the Master Plan provides a set of parameters for implementing a consistent physical character for Chapel Hill greenway system. The guidelines address the following design issues:

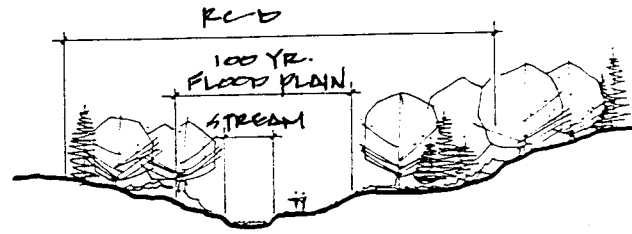
- Corridor Width Guidelines
- Trail Classifications
- Special Trail Needs
- Trail Locations
- Trail Amenities
- Parking Areas
- Accessibility
- Naming Trails
- Signage

Greenway design standards and guidelines can help elected officials, advisory board members, and staff make decisions involving the expenditure of public funds and the enhancement of public safety. Decisions related to amounts of land or easements to be purchased, the types of trails to construct, and the location of trails can be facilitated by incorporating standards and guidelines in the greenways planning and decision-making process.

Corridor Width Guidelines

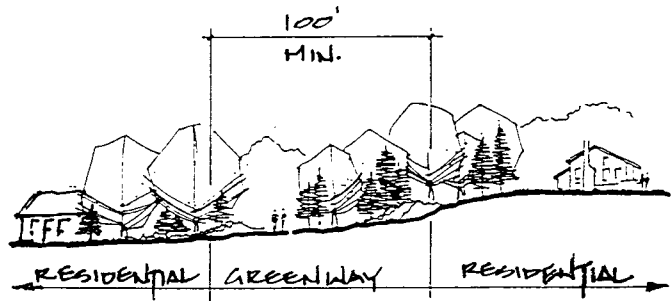
Greenway corridors in Chapel Hill vary in width according to the topography of the area, the amount of existing development, the existence of significant biological areas, and patterns of property ownership. The following guidelines are intended to balance the needs to preserve greenway corridors and connectors, provide enough land for trails when appropriate, and to provide privacy for existing residences.

The Town should make reasonable attempts to protect the following greenway corridors by restricting development, requiring greenway dedications, and purchasing land or easements.



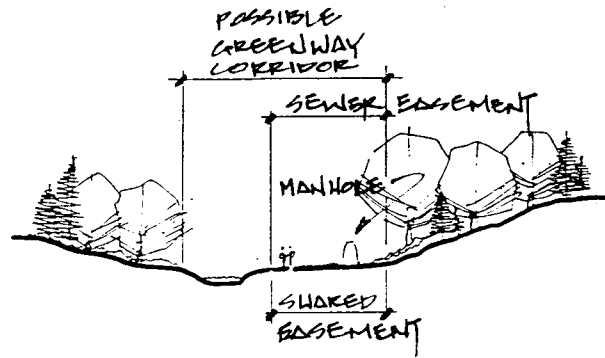
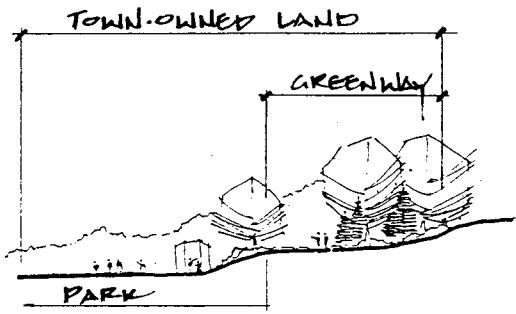
Stream Corridors:

Stream corridors may vary in width depending on the stream and the site specific characteristics of the land itself. Corridor widths should generally be as wide as can be acquired to help assure the privacy of adjacent property owners and the environmental quality of the site. Several factors which often contribute to increased corridor widths of stream-associated greenways include adjacent sanitary sewer easements, 100-year floodplain land and areas within the Town's Resource Conservation District.



Connector Trails:

Greenway connectors not located along streams should be a minimum of 100 feet in width, if possible. This width should allow for sufficient buffering between neighborhoods, placement of trails, and adequate area for the free movement of wildlife. Smaller corridor widths, however, may be necessary in order to create trail connections between lots in subdivisions.



Greenways as Parks:

Wider greenways may be needed if the land is to be developed as a park. Parks require more land than is typically acquired for a linear greenway. Parks and greenways can share the same land, although the needs of the park may require additional lands outside of the greenway corridor.

Developed Areas:

Greenway corridors or connectors should not be used for trails within areas that are currently developed if placement of a greenway trail would severely impact the privacy of existing residences.

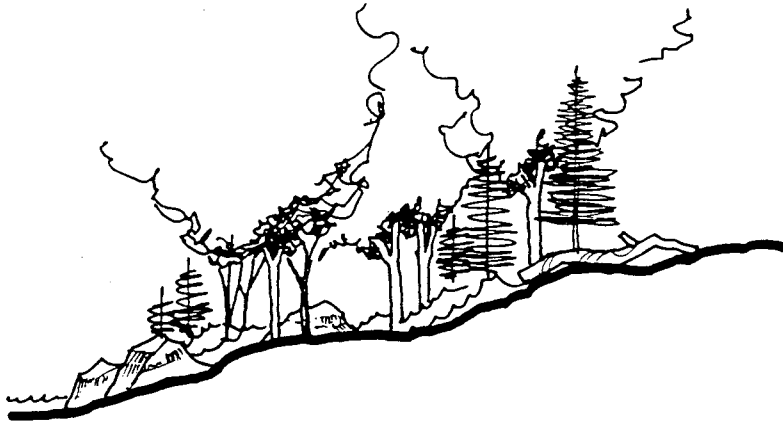
Utility Easements:

Pedestrian and non-motorized vehicle easements should be coupled with utility easements when possible.

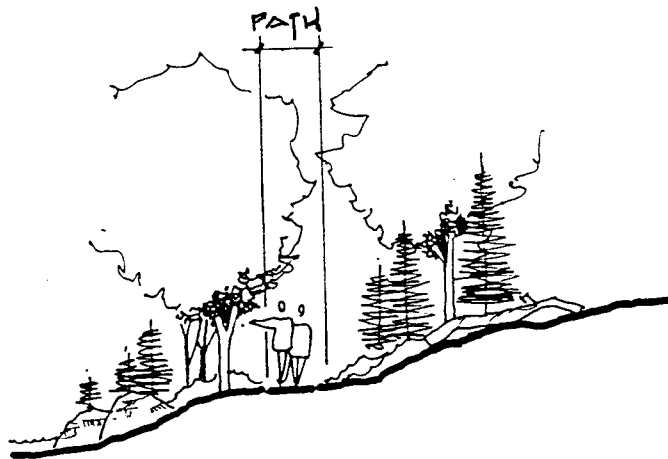
Trail Classifications

Trails proposed within the Chapel Hill Greenway System can range from primitive woodland paths designed for low intensity pedestrian travel to paved bike paths designed for bicycle and wheelchair use.

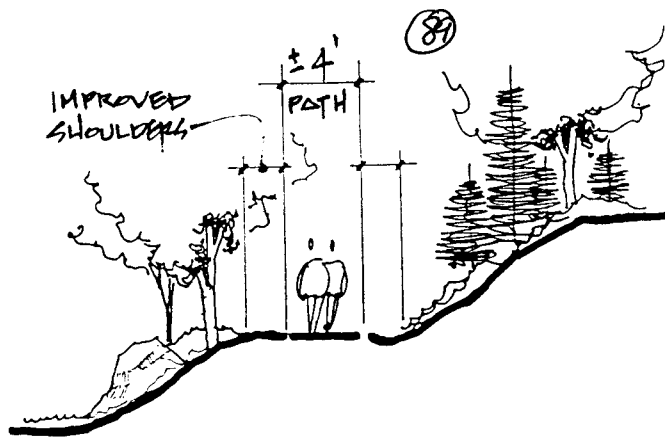
The following class system identifies different levels of trail development that were assigned to greenway segments in Part 4, "Strategic Planning". Essentially, it is a 6-level hierarchy of trail development ranging from unimproved greenways, to soft, natural surface trails, to paved trails of varying widths to accommodate different trail uses and intensity of use.



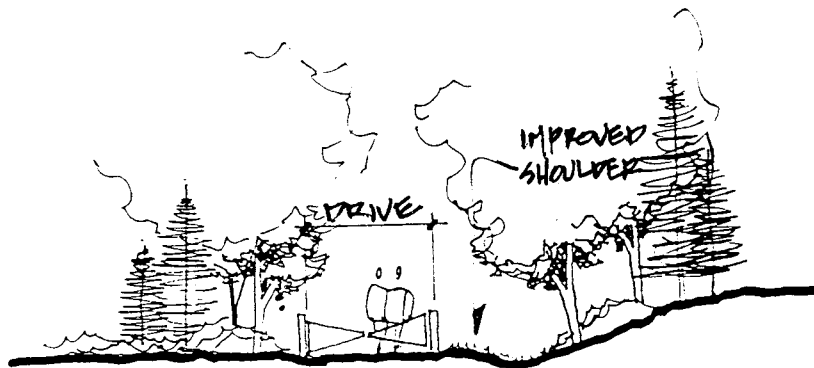
Class 1 Unimproved greenways lacking trails. No maintenance unless problems, such as diseased or dying trees on Town owned greenways, affect neighboring properties.



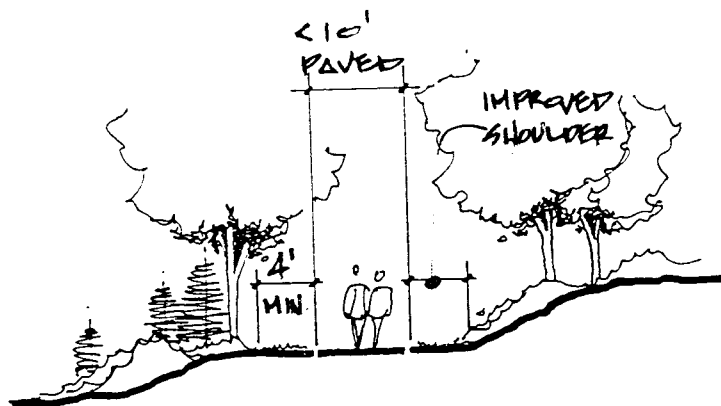
Class 2 Primitive trails, created by wildlife or citizens, not maintained by the Town.



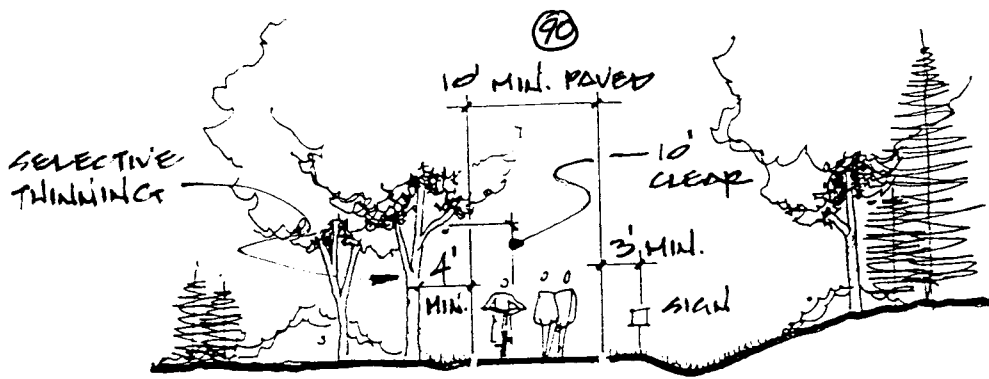
Class 3 Improved woodland trails generally with soft surface and minimal improvements. Surface is typically natural, but may have gravel or boardwalk sections to address erosion problems and wet areas. An important goal of the soft surface trails is to safely accommodate mountain bicycles. Specific trail design should address erosion problems likely to result from mountain bicycle use. Maintenance typically includes removal of litter, removal of fallen tree limbs and trees, repair of erosion damage, and bridging of wet areas.



Class 4 Unpaved access drive with gates or bollards to prevent casual vehicle use. Suitable for pedestrians or mountain bicycle use. This class is usually a road built for other purposes and used as a trail.



Class 5 Paved trail under 10 feet wide. This class of trail can be used to improve short sections of Class 3-4 trail suffering from severe erosion problems. This class can also be used for pedestrian only trails which are signed against bicycle use. However, in situations of difficult terrain, this class of trail can be employed for pedestrian and bicycle use, but only if signage is displayed to warn users of possible conflicts.



Class 6 Paved trail 10 feet in width or wider for mixed bicycle and pedestrian traffic. Short sections may be under 10 feet wide if difficult construction problems exist, however these should be well signed with adequate sight-distance in order to assure the safety of trail users.

The Town's goal for all its paved trails is to be compliant with AASHTO and ADA standards as much as is practicable. All Class 6 trails should be designed and constructed to the standards for off-road bicycle trails as published in the American Association of State Highway and Transportation Officials (AASHTO) "Guide for the Development of Bicycle Facilities" and the North Carolina Department of Transportation's, "Bicycle Facilities Planning and Design Guidelines". The editions of these publications which are current at the time of trail construction should be used by the planning team. These guidelines address design standards for trail alignment, design speeds, paving widths and clearances, slope restrictions, bridge structures and safety railings.

Class 6 trails should be designed also to comply the American with Disabilities Act (ADA) standards, where possible. In attempting to provide access to the greatest extent possible for the greatest number of people, the Town's Class 6 greenways will allow handicap, elderly and very young users to more fully utilize the trails.

Special Trail Needs

There are some special trail needs that may be considered by the Town for various reasons. Some uses such as hiking and mountain bicycling

may not be compatible on the same trail. Specialty trail needs should be addressed if funds, land, and public support are assured. Examples of special trail needs are listed below:

Mountain Bicycle Use

Class 3-4 trails should be designed for the use of mountain bicycles whenever possible. The extent of possible environmental damage by bicycle users should be considered on every project. Mountain bicycle use may have to be curtailed on occasion to allow natural regeneration of heavily eroded trails. Signs should be placed at all Class 3 and 4 trailheads requesting mountain bicycle users to yield to pedestrians and to refrain from using the trails in wet conditions.

Sidewalks and Public Streets

In some cases, trail connections will be on sidewalks and along public streets. In the event that off-street bicycle paths merge onto streets, provide appropriate signage and pavement markings to help safe merging. The provision of designated bicycle lanes is desirable. Where a public street provides a link in a pedestrian path, sidewalks should be provided where possible.

Interpretive Trails

Trails can meet many different needs including education. Many trails can be converted to dual recreational/educational use by placing interpretive signs and stations along the pathway.

Interpretive signage may identify or provide explanations of special natural features, geographic, historic or other points of interest. Interpretive trails should not be built in conjunction with trails that are anticipated to have moderate to heavy bicycle traffic.

Fitness Trails

Fitness trails have stations that are used for various exercises. Users often run from station-to-station in order to work a variety of muscle groups. These features can be incorporated into many existing trails. Fitness trails must be well maintained with pathways that are free of obstacles. The various fitness stations must be placed well off the actual trail. Fitness trails should not be built in conjunction with trails that are anticipated to have moderate to heavy bicycle traffic. It should be noted that public fitness trails, as a recreational amenity, have decreased in popularity over the past several years.

Measured Trails

Many individuals enjoy recreational walking and running. It is possible to measure sections of trails and to mark them for persons wishing to monitor their mileage. This type of activity is suitable on most trails, although, for fitness walking, the path surface should be relatively stable and free of obstacles.

Trail Locations

The location of trails within greenway corridors is of vital importance to greenways planners, trail users, and the citizens who must live and work in the vicinity of these trails. Greenway planners should consider the following trail location guidelines:

1. Trails should generally be located as far from residential structures as is reasonable in order to preserve privacy of nearby residents and the experience of trail users.
2. Trails of Class 5 or higher should be located no closer than 25 feet from any perennial stream bank unless absolutely necessary and no other practical

location for the trail exists. Trails should be located further than 25 feet from streams if there is evidence that stream banks are eroding.

3. Stream crossings should be avoided when possible.
4. Trails should be located to ensure that minimum disruption of the trail would result from the repair or replacement of utilities.
5. Street crossings should be grade separated if possible. At grade, street crossings should be planned so that trail and road users have the greatest sight distance possible.

Trail Amenities

Certain amenities may be planned to provide for the comfort and safety of trail users and area residents. The Town may provide the following amenities within greenway corridors:

Bollards

These devices prevent automobiles from driving on greenway trails. Bollards are commonly used on trails of Class 5 or higher. Bollards should be locked so that emergency vehicles, police cars, and maintenance vehicles have access to the trail.

Keys to bollards should be provided to the Chapel Hill Parks & Recreation Department, the Chapel Hill Police Department, Chapel Hill Fire Department, South Orange Rescue Squad and the Orange Water and Sewer Authority, as appropriate.

Observation Decks

Observation decks can be built overlooking scenic areas. These structures should not be built within floodplains, in places where they may compromise the privacy of nearby residents, or in areas not readily accessible to maintenance vehicles.

Gazebos

These small structures can be provided to allow trail users to enjoy passive recreation activities

such as resting, picnicking, or reading. These structures should not be built within floodplains, in places where they may endanger the privacy of nearby residents, or in areas not readily accessible to maintenance vehicles.

Picnic Tables

Picnic tables can be located along greenway trails, however past experience has found that these amenities should not be placed at random. Picnic tables are more likely to be used when placed in conjunction with some other attraction such as a play area. These structures should not be built in places where they may compromise the privacy of nearby residents, or in areas not readily accessible to maintenance vehicles. Picnic tables should always be accompanied with litter receptacles.

Benches

Many potential users of greenway trails are elderly or physically challenged. Benches should be placed where needed throughout the greenway trail corridor. Special care should be taken to place benches at the top of steep sections of trail.

Parking Areas

Although one of the primary purposes of greenways trails is that of providing non-motorized transportation, many individuals will use the trails for purely recreational purposes. In order to accommodate recreational users, provision of small parking areas should be a goal and should be pursued when possible. In many cases, existing parking lots within Town parks can be used.

Accessibility

The design of greenway facilities and trail amenities should provide accessibility in accordance with the American with Disabilities Act (ADA) standards to the greatest degree practicable. Many trails, however, will not be wheelchair accessible due to the constraints of existing terrain or due to the nature of soft, natural surfacing. The design process for each trail should address the priority of accessibility and

provide the appropriate accommodations.

Naming Trails

Greenway corridors and trails should be named after the most prominent natural, or in some cases, man-made features in the immediate area of the trail. Trails located along streams should be named after those watercourses. In the event that non-contiguous sections of the same trail are developed it may be necessary to adopt temporary names for trail sections. As the links are joined, the temporary names can be abandoned. Procedures set by the Council should be followed prior to naming or dedicating a trail or greenway corridor for an individual.

Signage

A coordinated and consistent signage program is important to the safety and aesthetics of Chapel Hill's greenway system. Signs serve to identify trails, orient the greenway user and assist in wayfinding, but also have a great collective impact on the overall visual quality of the greenway system.

Signage should be used in a consistent, selective and strategic manner so as not to clutter nor dominate the visual character of the greenway. Signs are generally to be small and unobtrusive.

Entrance Signage

Main entrance signs marking points of entry to each greenway should identify the name of the trail and display the Chapel Hill greenways program logo. The main entrance sign should be consistent in color throughout the Town system and should be constructed of a wood relief panel, wall-mounted, or attached to wood or recycled material posts.

Additional signs located at the entrances should inform users of several key facts: where the trail ends, the distance to the end of the trail, and what activities are not permitted while using the trail. Signs marking Town greenways may not be placed on University of North Carolina property.

Informational and Directional Signage

Signs located along the course of the trail should inform users of the locations of side trails, interesting features, proper direction of travel should confusing options occur, and in the case of paved trails, directions for safe trail use.

Informational and directional signs at pedestrian-only trails may be of wood panel construction mounted on wood or recycled material posts. Signs should be located at significant decision points and positioned to provide a clear line-of-sight from the point of desired reading, free from obstructions.

Bicycle Routes

Paved Class 6 trails, designed for multiple use, will generally require more signage than pedestrian-only trails. These signs are used in the same manner as vehicular signage, but should be down-sized to remain in scale with the greenway. These signs are typically constructed of metal panel and placed on wood or recycled material posts.

Adequate signs and markings are essential to alert pedestrians and bicyclists to potential hazards and convey regulatory messages to vehicles at greenway crossings. Signs and pavement markings at Class 6 multi-use trails should follow the guidelines published in the "Manual of Uniform Traffic Control Devices" (MUTCD).

CONCLUSION

Adoption of the Master Plan

The adoption of this Comprehensive Greenways Master Plan completes a process which has provided opportunities for comment and has assimilated input from a variety of sources including citizens, elected officials, professional staff, Advisory Board and Greenways Commission members and the Town Council. Opportunities for citizen participation have been frequent. Several different methods of gauging public sentiment have been used, including informal meetings and formal public hearings.

The adoption of this Plan and its recommendations reflect the broad sense of participation and ownership the Chapel Hill community has with greenway system. This positive endorsement will help ensure the program remains a priority for its continued development and improvement.

Review and Update of the Plan

Implementation of a master plan, by definition, is a long-term process. Over the next several decades and beyond, the Town will experience an almost constant need to adapt to growth and change. Public objectives, local situations and funding opportunities are constantly in flux. In order to accommodate such changes, the Comprehensive Greenways Master Plan should be viewed as a working document. The Town should update it every three to five years to ensure the continued improvement and enhancement of the Chapel Hill Greenway System.

The Comprehensive Greenways Master Plan is a balanced plan that addresses the Town of Chapel Hill's need for outdoor recreation, alternative transportation and the preservation of open space. As a result, these recommendations can help guide the planning, design and development of the Town's greenways, now and in years to come.

APPENDIX A 15

AN ORDINANCE TO ADD AN ARTICLE X TO CHAPTER TWO OF THE CODE OF ORDINANCES TO ESTABLISH A GREENWAYS COMMISSION (85-0-40)

SECTION I

BE IT ORDAINED by the Council of the Town of Chapel Hill that it hereby adds an Article X of Chapter Two of the Code of Ordinances of the Town of Chapel Hill to read as follows:

Article X. Greenways Commission

Sec. 2-150. Created; named.

A Greenways Commission is hereby authorized for the Town of Chapel Hill.

Sec. 2-151. Membership; terms.

The Greenways Commission shall consist of seven (7) members appointed as hereinafter provided. The terms of office shall be three (3) years, or until their successors are appointed and qualified, except that the initial terms of members first appointed shall be as follows: two (2) members shall be appointed for a period of one (1) year, two members shall be appointed for a period of two (2) years, and three (3) members shall be appointed for a period of three (3) years. Members may be reappointed to succeed themselves. The terms of all members shall expire on the 30th day of June following the end of the final year of their terms.

Sec. 2-152. Appointments; vacancies.

The members shall be appointed and vacancies filled as prescribed in Section 11.D-2 of the Council's Procedures Manual.

Sec. 2-153. Meetings; chairperson.

The Greenways Commission shall regularly hold meetings at such time and places as it shall determine. It shall annually elect one member to serve as chairperson and preside over its meetings. It may create and fill such other offices and committees as it may deem necessary.

All meetings of the Commission shall be open to the public, and reasonable notice of the time and place thereof shall be given to the public in accord with Chapter 143, Article 33C of the N. C. General Statutes.

The Commission shall keep a record of its meetings, including attendance of its members; its resolutions, findings, recommendations and actions.

A quorum of the Commission, necessary to take any official action, shall consist of four (4) members. The concurring vote of a simple majority of those members present shall be necessary to take any official action.

Sec. 2-154. Duties; powers.

The Greenways Commission shall have the following powers and duties:

- a. Develop and propose for Council consideration a master Greenways plan, including a proposed timetable for development and listing of potential greenway properties and extensions.
- b. Along with property owners and neighborhood organizations in areas along greenway corridors, identify potential property and easements to accomplish the greenway plan.
- c. Work with neighborhoods to develop specifications for appropriate design, use, and maintenance and security of greenways.
- d. Promote awareness of the greenways program among Town residents. For example, publish maps and trail guides for use of Greenways.
- e. Advise Council regarding the status of needs of the greenway system annually during consideration of the Capital Improvements Program and annual operating budget. Recommend property to be acquired and trails to be constructed.
- f. Work with community groups to encourage the development and maintenance of greenway trails.
- g. Work with regional organizations and Greenway Commissions to coordinate regional greenway plans, encouraging linking of greenway systems when beneficial to Chapel Hill citizens.
- h. Review proposals for subdivision or development of land in the identified greenway corridors, and make recommendations to the Planning Board regarding provision or dedication of property or easements to accomplish the greenway plan.
- i. Recommend and promote alternative funding sources for acquisition and maintenance of greenways.

SECTION II

This ordinance shall be effective upon its final adoption according to law.

This the 8th day of July, 1985.

APPENDIX B

SUMMARY OF EXISTING AND PROPOSED GREENWAY TRAILS

STREAM CORRIDORS

Greenway Segment	Recommended or Existing Classification	Length	Construction Status	Funding Status	Relative Cost	% Land Acquired (approx.)	Significant Constraints	Action Priority
Bolin Creek								
① Estes Drive Extension to Village Drive	Class 3	.4 miles	---	---	Medium	90%	Steep slopes	Medium
② Village Drive to Umstead Park	Class 6	.1 miles	---	---	Medium	100%	Existing development	Medium
③ Umstead Park to Airport Road	Class 5-6	.7 miles	---	---	High	75%	Steep slopes & wetlands	Medium
④ Airport Road to Elizabeth Street	Class 6	.8 miles	Completed	---	---	100%	---	---
⑤ Elizabeth Street to Community Center Park	Class 6	.8 miles	Anticipated completion July 1998	100% Funded	High	100%	Steep slope at road crossing	High
⑥ Community Center Park to Fordham Blvd.	Class 6	.5 miles	---	---	Medium	10%	Existing development	Medium
⑦ Fordham Blvd. to Booker Creek	Class 3-4	.4 miles	---	---	Medium	0%	Extensive wetlands Steam crossing	Medium
Tributaries of Bolin Creek								
Tanyard Branch	Class 3	.4 miles	Completed	---	---	100%	---	---
Battle Branch	Class 3	1.5 miles	Completed	---	---	100%	---	---
Cole Springs Branch	Class 3	.75 miles	---	---	Medium	15%	Existing development	Low

Greenway Segment	Recommended or Existing Classification	Length	Construction Status	Funding Status	Relative Cost	% Land Acquired (approx.)	Significant Constraints	Action Priority
Booker Creek								
① Weaver Dairy Road to Northern Community Park	Class 6	.8 miles	_____	_____	Medium	100%	Possible wetlands	High
② Greene Tract to Booker Creek Trail	Class 6	.4 miles	_____	_____	Medium	10%	Road crossing	Low
③ Airport Road to Eastwood Lake	Class 1 or 2	2.0 miles	Preserve as open space	_____	Low	10%	Existing development	High
④ Eastwood Lake to Franklin Street and the Northeast Branch	Class 6	.9 miles	300' complete. 100% by 1999-2000	50-75% Funded	Medium	50%	Flooding Possible wetlands	High
⑤ Franklin Street to Fordham Blvd.	Class 6	.4 miles	_____	_____	Medium	0%	Existing development	High
⑥ Fordham Blvd. to Little Creek	Class 3	.8 miles	_____	_____	High	20%	Extensive wetlands	Low
Tributaries of Booker Creek								
Cedar Fork	Class 1 or 2	.2 miles	_____	_____	Low	0%	Existing development	Low
Little Creek								
① Confluence to Pinehurst Drive	Class 3	.5 miles	_____	_____	High	90%	Extensive wetlands	Low
② Pinehurst Drive to Chapel Hill Jurisdictional Limits	Class 3	.6 miles	_____	_____	Medium	0%	Existing development Wetlands Steep slopes	Medium

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Greenway Segment	Recommended or Existing Classification	Length	Construction Status	Funding Status	Relative Cost	% Land Acquired (approx.)	Significant Constraints	Action Priority
Morgan Creek								
① Smith Level Road to Culbreth Road	Class 6	1.1 miles	_____	_____	High	50%	Steep slopes Wetlands Stream crossings	High
② Culbreth Road to Merritt Pasture	Class 3	0.1 miles	_____	_____	Low	50%	Steep slopes	High
③ Merritt Pasture to Ashe Place	Class 2	1.3 miles	Preserve as open space	_____	Low	0%	Valuable riparian environment	High
④ Ashe Place to Jordan Lake	Class 2	5.0 miles	Preserve as open space	_____	Low	0%	Extensive privacy issues UNC reserved area	High
Tributaries of Morgan Creek								
Wilson Creek	Class 3	2.8 miles	_____	_____	Low	0%	Flooding	Low
Fan Branch (includes segment through Southern Community Park)	Class 6 and 3	1.9 miles	.3 miles completed. 80% by 1999-2000	Private funding committed	Medium	0%	_____	High
Meeting of the Waters Creek	Class 3	1.1 miles	_____	_____	Low	0%	UNC ownership	Low
Chapel Creek	Class 3	1.1 miles	_____	_____	Low	0%	UNC ownership	Low
Dry Creek								
① East Chapel Hill High School to Silver Creek Trail	Class 3	.4 miles	_____	_____	Low	100%	Steep slopes	High
② Silver Creek Trail to Perry Creek Drive	Class 3	.3 miles	_____	_____	Medium	100%	Extensive wetlands. Flooding	High
③ Perry Creek Drive to Erwin Road	Class 6	.4 miles	_____	_____	High	100%	Extensive wetlands	Medium
④ Erwin Road to Providence Road	Class 3	.6 miles	_____	_____	High	100%	Extensive wetlands	Low
⑤ Erwin Road to Durham County Line	Class 6	.9 miles	_____	_____	Medium	100%	_____	High

MAN-MADE CORRIDORS

Greenway Segment	Recommended or Existing Classification	Length	Construction Status	Funding Status	Relative Cost	% Land Acquired (approx.)	Significant Constraints	Action Priority
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Rail Trail

① Estes Drive Extension to Chapel Hill High School	Class 6	1.3 miles	_____	_____	Medium	0%	Low	Medium
② Chapel Hill High School to Chapel Hill Line	Class 6	2.3 miles	_____	_____	Medium	0%	Low	Medium

North Trail

① Town Limits to NC 86	Class 6	.7 miles	_____	_____	Medium	0%	_____	Medium
② NC 86 to Sunrise Road	Class 6	1.7 miles	_____	_____	Medium	0%	_____	Medium
③ Sunrise Road to Erwin Road	Class 3	1.5 miles	_____	_____	Low	15%	Steep slopes Privacy concerns	Medium
④ Erwin Road to Highway 15-501	Class 1	.9 miles	_____	_____	Medium	0%	_____	High

(100)

Meadowmont Trail

Meadowmont Trail	Class 6	.6 miles	_____	Private funding committed	_____	0%	_____	Medium
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CONNECTOR TRAILS

Greenway Segment	Recommended or Existing Classification	Length	Construction Status	Funding Status	Relative Cost	% Land Acquired (approx.)	Significant Constraints	Action Priority
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Cedar Falls

Cedar Falls	Class 3	1.2 miles	Completed	_____	_____	100%	_____	_____
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Old Field Creek

Old Field Creek	Class 6	.5 miles	_____	_____	Medium	0%	_____	Low
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DEFINITIONS

- 1. Greenway Segment**
A specific portion of greenway corridor identified by its beginning and ending point.
- 2. Recommended or Existing Classification**
Classification of greenway based on Trail Classifications, pages 79-81 of the Master Plan.
- 3. Length**
Approximate length of the greenway segment.
- 4. Construction Status**
Indicates completion of an existing trail or anticipated completion date for a trail in the formal planning stages.
- 5. Funding Status**
Indicates whether or not construction funds are allocated.
- 6. Relative Cost**
Indicates relative cost of trail construction and noting site conditions and construction methods which have significant impact on development cost.
High Requires extra pavement/subbase material due to poor soils or boardwalks in low or steep areas. Bridges required at creek crossings.
Medium Significant grading, slope stabilization or walls.
Low Requires remedial subbase and paving measures or standard stabilization for natural surface trails. Moderate clearing and grading.
Requires standard pavement sections or minimal improvement for natural surface trails. Light clearing and grading.
- 7. % Land Acquired**
Indicates approximate amount of land currently owned by Town, including easement agreements.
- 8. Significant Constraints**
Indicates factors which may significantly impact greenway development including existing natural features, built environment or ownership issues.
- 9. Action Priority**
High Indicates top ranking by Commission as a construction or planning priority within the next five years or a significant preservation priority.
Medium Indicates interest in greenway as a construction or planning priority within a longer time horizon.
Low Indicates interest in greenway as a long-range goal.

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APPENDIX C

The University of North Carolina at Chapel Hill's

**1998 Update to the Greenways Commission
Town of Chapel Hill, North Carolina**

UNC-CH's Long-Range Planning Studies

The University of North Carolina at Chapel Hill recognizes the need for long-term planning to accomplish its mission of education, research and service. Several planning studies have defined the needs of the University and balanced these needs with impacts to the surrounding community.

These studies concur with concerns of the Chapel Hill Town Council and its advisory boards. In the Chapel Hill Greenways Comprehensive Master Plan, three long-term concerns were listed in Chapter 1: 1) Provide quality recreational facilities; 2) Preserve open space; and 3) Support planning efforts to offer transportation alternatives to the automobile.

Certainly these concerns are not the only planning issues that are addressed, but the following studies support the need for quality recreational facilities, open space, and transportation alternatives.

Study of University of North Carolina Outlying Properties, JJR, 1996.

The most recent plan was completed in November 1996. Prepared by Johnson, Johnson, and Roy, Inc. (JJR, Inc.), it dealt with the future of the Horace Williams and Mason Farm Properties.

North Carolina Botanical Gardens Master Plan, Jones and Jones, 1992.

Prior to the JJR study, a portion of the Mason Farm property was studied to address the unique needs of the North Carolina Botanical Gardens. A master plan was funded in 1988 by the Botanical Garden Foundation, Inc. Jones & Jones of Seattle and Hunter Reynolds Jewell of Raleigh were selected for the project. The Trustees of the University of North Carolina at Chapel Hill approved the master plan in 1990. The Master Plan document was completed in 1992 and is called The North Carolina Botanical Garden Master Plan.

The purpose of this plan was to "dedicate the natural lands of the Garden and to recognize that these lands will take on increasing significance for conservation and recreation as regional development continues."

Campus Framework Plan, JJR, 1991.

Development of the main campus has also been based on a long-range study. JJR produced a Summary of the Campus Framework Plan in March of 1991. This plan guides the physical development of the University as it pertains to open space, pedestrian and vehicular circulation, parking, utilities, building and land use.

Based on the open space in the Framework Plan, the Board of Trustees adopted an open space plan for the main campus in 1996, "Central Campus Open space Preservation Policy: The University of North Carolina at Chapel Hill."

Because the planning process is one of constant renewal, at the end of 1997 the University of North Carolina Board of Trustees selected a firm, Ayers Saint Gross, Inc., to re-examine the Campus Framework Plan for the main or central campus. This study is currently underway.

The University has supported and continues to plan for recreational facilities, open space and transportation alternatives that address the shared concerns expressed by the Chapel Hill Greenways Comprehensive Master Plan. Improvements have been implemented to support the University mission and to serve the University community, but the effects have been to serve the entire community. Ways in which the University complements the Plan are discussed below.

Provide quality recreational facilities

The University provides many indoor and outdoor recreational facilities for physical education, intramural sports, sports clubs and athletics. Tennis courts, basketball courts, volleyball courts, tracks and fields are located throughout the campus.

The area known as the Rainbow soccer fields is located on University land. The Finley Golf Course is a public course and was the first public course in Orange County. The University has always worked in cooperation with the High School Athletic Association to host playoffs using University facilities.

University students, faculty, staff and their families may use most physical education and intramural sports facilities during freeplay hours. University recreational facilities are extensively used since they are located near libraries, classrooms, offices and student housing. These facilities relieve pressure on town recreational facilities.

Also, University faculty and staff have the opportunity to join the Farm. The Farm, operated by Faculty Staff Recreation, Inc., offers swimming, tennis and other outdoor activities. The Farm is located on the eastern side of the Mason Farm Property.

The Office of Campus Recreation (formerly Intramural Sports) offers maps of various running trails around the campus. During hours in which Physical Education classes are not held, Campus Recreation schedules round robin play, tournaments and events to maximize use of fields and courts. Sports Clubs and Carolina Adventures provide competition with sports clubs of other institutions and opportunities for other organized recreation.

Preserve Open Space

Large open spaces are maintained by the University for education and research. Additional open spaces remain undeveloped to protect water quality, particularly on the University Lake Property.

The majority of the Main Campus and Mason Farm Property lie within the 5-mile water protected area for Jordan Lake. In order to protect water quality, low-density development is limited to 24% of open space based on land use calculations of 1992.

This means that the University plans to retain at least 76% of the open space calculated in 1992 as open space so that any development remains in the category of low density. (This figure is reviewed through the Town's Zoning Compliance Permit.)

Other open spaces provide an atmosphere of serenity and stateliness to the campus. McCorkle Place, Polk Place, the Kenan Stadium Area, Navy Field and the Coker Pinetum are described as "the central open space spine extending from Franklin Street to the US 15-501 Bypass (Fordham Boulevard)."

As discussed above, the Board of Trustees adopted an Open Space plan for the main campus in 1996. The open space around the Ackland Art Museum, McCorkle Place and Coker Arboretum add to the village atmosphere of downtown Chapel Hill.

The Village Atmosphere

Downtown areas have suffered in many communities, but Chapel Hill has kept a vibrant character. The Town of Chapel Hill and University have benefited from their neighboring location. Convenience of downtown is combined with beautiful open space and historic buildings.

McCorkle Place is a formal open space located across from the Franklin Street Post Office. McCorkle Place is framed by mature trees and by older University buildings. McCorkle Place functions as a "village square" to the downtown area.

Several major attractions for the community are located here. The Morehead Planetarium, Memorial Hall, Ackland Museum and Hill Hall are located within one block of downtown Chapel Hill. They offer exhibits, programs, concerts and recitals for the general public as well as the University. University landmarks such as the Civil War monument, Davie Poplar and the Old Well are in this area.

The Morehead Planetarium is also a visitor's center for the University. At this location on Franklin Street, most visitors are introduced to the University and the Town at the same time. The Sundial and rose garden in front of the Morehead planetarium are landmarks recognized by school children throughout North Carolina.

The Coker Arboretum is just east of McCorkle Place. The Arboretum has a vast collection of plants. A small stream runs through the area and the paths are well planned so that visitors can study a variety of trees, plants and flowers.

Ackland Art Museum is located a short walk west of McCorkle Place. The museum, courtyards and sitting areas are open to the public. Large rocks preserved in this area provide a play area for children. Plans are underway for an outdoor sculpture area between the Ackland Art Museum and the Porthole.

Also within walking distance of the main campus, two small parks are maintained by the University. Located on North Street is an area called, "The Rocks." This small park has geological significance. The paths are landscaped and plaques are displayed to explain the rock formations.

The other is on the northwestern side of campus. This small park is located on West Franklin Street adjacent to 440 West Franklin Street, the University business office. This park has sitting areas and is ideally located along tree lined Franklin Street.

In the most recent calculation, the University Grounds Department maintains approximately 620 acres of land adjacent to the downtown area and within the eastern boundary of Fordham Blvd. Call boxes are conveniently located to increase safety. Another 180 acres in this area remain wooded. The formal open space, historic buildings and wooded areas add significantly to the village atmosphere of Chapel Hill.

Since classes and meetings are held at night, the campus is well lighted. Utility lines are underground and lighting has been chosen to maintain the village character, where possible.

Lighting has been chosen to minimize "light pollution," so that the night sky, the greatest open space of all, can be preserved.

The Open Space Spine

Open space areas have historically organized the physical development on the campus. Classroom, sports activities and clusters of University housing have been organized around open space.

McCorkle Place is a formal open space starting at Franklin Street and extending to Cameron Avenue. Polk Place is another formal open space continuing from Cameron Avenue to South Road. The sidewalks are lined with large old oaks. Outdoor concerts and University activities frequently are held in these areas such as University Day.

Historically, university housing was organized on quadrangles with a central open space. There are four clusters of University housing along Raleigh Road that are united with a central open space. This space is commonly used by residents for organized and freeplay activities.

In the JJR report, one of the strategies and recommendation for campus open space encourages expanding the variety of plantings and "incorporating special features such as sculpture, plaza areas, and outdoor classrooms." As new buildings are planned or as utility or structural Improvements become necessary for existing open areas, these strategies will be implemented.

The Kenan Stadium area, Navy Field area and the Coker Pinetum are linear open spaces, such as those promoted by the Chapel Hill Greenways program. A network of paved paths wind through the woods around Kenan Stadium and Navy Field. The path through the Coker Pinetum runs parallel and north of Meeting of the Waters Creek.

Actually, this path on the northern side of Meeting of the Waters Creek and through the Coker Pinetum is an unofficial footpath called the Garden to Campus Trail. This trail connects the N. C. Botanical Gardens and the Coker Arboretum for pedestrian access. One area of this trail (around the Institute of Government and Law School) is under construction and so official recognition is pending completion of those projects.

Outlying properties

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Four large open space areas belong to the University: Battle Park, Mason Farm, Horace Williams and University Lake. These properties have perennial creeks identified by the Greenways Master Plan for greenway trail potential.

Battle Park:

Battle Park is located off of Country Club Road north of South Road and NC 54. Battle Branch cuts through Battle Park in an east-west direction. The eastern side of Battle Park is adjacent to the Chapel Hill Community Center.

The Battle Branch Trail runs along the banks of Battle Branch through the Park. Recently, sidewalk was added from Franklin Street along the eastern side of Boundary Street. This sidewalk makes Battle Park more accessible to pedestrians.

The Forest Theater is an outdoor theater located on the western side of Battle Park. It is a popular spot for weddings. Also, a few plays are staged here during the year. Several shaded picnic tables attract students and the general public.

Mason Farm:

Finley Golf Course and the North Carolina Botanical Garden are vital University facilities that complement goals of the Chapel Hill Greenways Comprehensive Master Plan. They are both open to the public. Finley Golf Course is a quality recreation facility. The North Carolina Botanical Garden is a well used greenway that also educates visitors about the importance of preserving North Carolina natural areas.

Since Chapel Hill and RTP attract a large number of business and University visitors, a public golf course is an asset to the community. Designs to improve Finley Golf Course by Fazio Golf Course Designers, Inc., located in Hendersonville, North Carolina, are nearing completion.

The North Carolina Botanical Garden provides the most extensively used and well-known series of trails in Chapel Hill. The Garden takes its responsibility very seriously to preserve the vegetation and lands that have been donated to their care. Exhibits and trails show the beauty and diversity of natural areas found in North Carolina. North Carolina Botanical Garden's staff encourage visitors to conserve and preserve these natural areas so they can be enjoyed by generations who follow.

Additional recreational fields, the Indoor Tennis Facility and the Farm are located on the Mason Farm Property. Chapel Creek and Meeting of the Waters merge with Morgan Creek on the Mason Farm Property. The main watercourse and a couple of perennial streams go through the N. C. Botanical Garden and Finley Golf Course.

Even though stream courses are recommended for connecting trails by the Chapel Hill Greenways Plan, vegetation on paths along Morgan Creek is not able to withstand even moderate pedestrian traffic. The University's mission of education and research requires restricting Mason Farm from additional recreational use. The North Carolina Botanical Garden staff controls access.

Mason Farm flood plains, RCD restrictions as required by the Town of Chapel Hill, and US Army Corp of Engineers easements have been mapped by the University. These

maps provide the foundation for University planning studies. This information will be used to protect Morgan Creek and environmentally sensitive land.

Horace Williams:

The Horace Williams Property was selected as the most favorable area for development for the University of North Carolina within the next 25 years. A plan has been presented to the University trustees that encourages development density conducive to public transit, and retains open space along Bolin Creek. This plan also encourages preservation of large stands of hardwood forest.

University Lake:

University Lake contains a few University facilities for research. Currently, the remainder of the property is open space for protection of the University Lake watersupply.

Recreational boating and fishing is permitted and controlled by OWASA.

Support planning efforts to offer transportation alternatives to the automobile

Based on the JJR landuse studies, the limits to growth are dictated by the road capacity serving the University and not the availability of land. The University is very supportive of transportation alternatives to the automobile.

Both pedestrians and bicycles are allowed to use University walkways. UNC-CH Transportation and Parking has worked with the N. C. Department of Transportation to provide adequate bicycle racks to encourage biking as an alternative to automobile travel. The University strives to provide adequate lighting and strategically located call boxes to maximize safety for walking, running and biking. JJR describes pedestrian circulation as the "most important means of access within the campus."

A series of goals are listed under "Pedestrian Circulation," "Vehicular Circulation" and "Parking" to preserve the pedestrian character of the University. One of the goals is to move parking and major roads to the periphery of campus. Another goal is to "develop a program of incentives and disincentives to encourage the use of bicycles and public transit as means of providing access to the campus."

In addition to parking decks and lots for UNC-CH parking, the NC 54 Park and Ride Lot is open to the public and is on University land. For Special Events on Campus, shuttle buses go directly from this lot (as well as several other conveniently located lots) to campus events. Campus traffic and Chapel Hill downtown traffic have been reduced as more people recognize the benefit of perimeter parking.

The University has implemented a number of ideas to help employees during the business day move easily around the main campus and to outlying areas. A shuttle service called "PtoP" allows employees to call and arrange rides to other locations.

Since the northern part of campus has a density of development that allows better pedestrian access, a free bus circulates the campus to reach areas in the southern part of campus. This makes the entire campus more accessible without using a University vehicle or private car.

Last of all, the University through parking fees and bus passes supports funding for the Chapel Hill Transit.

Summary

The University has a mission of education, research and service. To meet this mission, the University maintains facilities that provide at least some answers to concerns listed by the Chapel Hill Greenways Comprehensive Master Plan.

Quality recreation areas are needed for physical education, club sports and athletics. Use of these facilities relieves pressure on town facilities. Finley Golf Course is open to the public. The University also provides a wide range of athletic events open to the public.

Historically, the University has used open space to organize and unify clusters of classrooms and housing. Campus walkways promote the village atmosphere. The Coker Arboretum, Ackland courtyards and McCorkle Place are open to the public and serve as parks. The Morehead Planetarium, Memorial Hall, Ackland Museum and Hill Hall sponsor public exhibits, shows and concerts that draw visitors to the downtown area.

The North Carolina Botanical Garden is open to the public for recreational and educational purposes. The Garden educates the public regarding the importance of preserving our natural areas.

The open space surrounding University Lake Property is preserved to protect water quality. Most open space on the Mason Farm Property is reserved for biological, geological, and environmental research. Approximately 75% of the open space calculated in 1992 on Central Campus and on the Mason Farm Property will remain as open space to protect water quality.

Transportation alternatives are necessary and supported by the University and Town. Streets leading to the University and Towns have met capacity. This need has been recognized by all the studies guiding the future use of University land. The University continues to implement transportation improvements.

Future areas that the University may support Chapel Hill Greenways include:

- Continue long range planning studies for University lands.
- Cooperate with all adjacent jurisdictions in mapping of University resources.
- Support the idea of contiguous open space in conjunction with Duke Forest, Triangle Land Conservancy, Triangle Open Space Network, Triangle Greenway Council, Triangle Rails to Trails, New Hope Creek Corridor Committee, Sierra Club and the Towns of Chapel Hill and Carrboro.
- Encourage NCDOT to provide bike and pedestrian trails so that trails that presently serve the UNC-CH campus can connect the community and can serve citizens not affiliated with the University as well as students, faculty, staff.

- Support the North Carolina Botanical Gardens in its effort to preserve natural areas/greenspace and educate the public regarding preservation and conservation.
- Encourage participation in community programs that clean up and enhance watercourses and natural areas.
- Appoint a liaison to the Chapel Hill Greenways Commission.

18 February 1998

prepared by
Facilities Planning and Design
Facilities Services

