

OUTLYING PARCELS LAND USE PLANS  
TECHNICAL REPORT

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## **SECTION 4 - MASON FARM PROPERTY**

### **INTRODUCTION**

Most of Mason Farm is already committed to a variety of existing uses. Many of these (Botanical Garden, other arboreta and the Biological Reserve) capitalize on the site's unique natural habitats. Others, primarily the Finley Golf Course, represent significant recreational resources. Both the University and the community place a high value on these open space resources because of their environmental importance, beauty and recreational value. As a result, only a small portion of this 1,356-acre property will be developed in the future: the area surrounding the Friday Center and the Parker Property, located in the southern portion of the site.

#### **Friday Center Area**

In the past 10 years, with the completion of the Friday Continuing Education Center, a new identity and critical mass of activity have been created on the eastern edge of Mason Farm. This area has become an attractive location for support functions that cannot be accommodated on Central Campus. A significant portion of the 128-acre area surrounding the Friday Center has already been developed--Cone Kenfield Tennis Center, UNC Hospitals Administration Building) or committed to specific projects (WUNC radio station, Principal's Executive Program, and Hospital Administration Building expansion). As a result, the emphasis on future planning in the Friday Center area is on infill development strategies that will make the best use of the remaining developable land in a manner that supports the existing continuing education focus and allows for the expansion of administrative/office functions.

#### **Parker Property**

The 130-acre Parker Property is located on the southwest corner of Mason Farm adjacent to the Biological Reserve. Much of the as yet undeveloped parcel will be retained in its natural state as a buffer to the Biological reserve; however approximately 55 acres are suitable for development. This developable area is isolated from the balance of Mason Farm and has very limited vehicular access.

#### **Planning Approach**

Because the situations on the two development areas at Mason Farm are quite different, two different approaches were used in planning for their future. While only a preferred land use was identified for the development acreage on the Parker Property, both a land use concept and a more detailed site plan framework (including open spaces, roadways, parking, building envelopes and building capacities) was formulated for the Friday Center area.

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**SECTION ORGANIZATION**

This section of the Technical Report provides detailed information on existing conditions at Mason Farm and their implications for future development. Potential land uses are identified for the two areas where significant new development can be accommodated, and alternative site planning approaches are presented for the Friday Center development area to crystallize development issues. A recommended site development framework is then presented for the Friday Center area. The section is organized into the following chapters:

- Development Opportunities and Constraints
- Planning Framework
- Development Options
- Recommended Plan

## **DEVELOPMENT OPPORTUNITIES AND CONSTRAINTS**

A thorough inventory and analysis of Mason Farm's site characteristics was the first step in the planning study. The following topics were addressed:

- Current Land Use
- Natural Features
- Adjacent Land Use
- Traffic and Circulation Patterns

### **CURRENT LAND USE**

#### **Natural Resource Areas**

Figure 4-1 illustrates existing land use patterns at the Mason Farm property. A large portion of the site (558 acres) has been committed to biological research and nature study, including the Mason Farm Biological Preserve, North Carolina Botanical Garden, William Lanier Hunt Arboretum and Gray Bluff Garden. The University has made a strong commitment to preserving and protecting these uses.

#### **Recreation**

Approximately 262 acres are dedicated to recreational uses. The Finley Golf Course occupies approximately 239 acres in the central portion of the site, north of Morgan Creek. The Cone Kenfield Indoor Tennis Center occupies approximately 8 acres in the eastern portion of the site. A complex of softball, soccer and other recreation fields occupies approximately 15 acres in the Chapel Creek floodplain, in the western portion of the site. Although owned and operated by the University, the golf course is open to the general public, as are the recreation fields. The University is currently planning the renovation and expansion of the golf course and the relocation of the recreation fields to a location south of the UNC Hospitals Administration Building, north of Morgan Creek.

#### **Developed Areas**

The northeastern portion of the site is the most intensely developed. This area contains the Friday Continuing Education Center, UNC Hospitals Administration Building, Cone Kenfield Indoor Tennis Center and a municipal park-and-ride lot.

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Other uses on the property include the Orange County Water and Sewer Authority (OWASA), which occupies approximately 10 acres; the Ronald McDonald House, and the Faculty Recreation Club (The Farm). Developed lots located along the west side of Finley Golf Course Drive are occupied primarily by panhellenic organizations.

CHYDARU, a radioactive storage-for-decay facility is located on the Finley Golf Course Road extension, south of the UNC Hospitals Administration Building. This facility was opened in 1975 to hold radioactive waste for off-site disposal and was later used for the decay of short-lived radionuclides. Currently, the University transfers short-lived radioactive wastes to CHYDARU for storage until they are no longer considered radioactive, usually 30 days to 4.5 years. No hazardous wastes are buried at this site. Additional information about the CHYDARU facility, developed in an independent assessment of environmentally sensitive operations on the outlying properties, is presented in Appendix A.

### **Parker Property**

The 130-acre Parker Property is located in the southwest corner of Mason Farm. With the exception of the Parker Residence, which will remain, the Parker Property is undeveloped and its future use has not been determined. No roadways link this parcel to the balance of Mason Farm.

## **NATURAL AND CULTURAL FEATURES**

### **Topography and Slope**

The site's topography is predominately flat to moderately sloping. Steep slopes are located in the western portion of the site on the Parker Property and in the area occupied by the Botanical Garden.

### **Drainage and Hydrology**

Morgan Creek, Mason Farm's primary drainage feature, flows west to east across the central portion of the site. Chapel Creek flows into Morgan Creek in the western portion of Mason Farm. These creeks drain the entire site and ultimately flow into the Jordan Reservoir, located less than one-half mile south. Current resource conservation ordinances limit development within 50 feet of the creek floodplains and restrict the amount of impervious surface permitted on the Mason Farm property overall. Because such a large portion of the site will be left undeveloped, this limitation on impervious surface area will not constrain development in the Friday Center area or on the Parker Property.

### **Vegetation**

Approximately 508 acres at Morgan Farm have no significant tree cover. Much of the previously cleared area north of Morgan Creek is part of the golf course and other already developed areas. A large portion of the floodplain south of Morgan Creek was originally cleared for agricultural purposes and is now used for biological research.

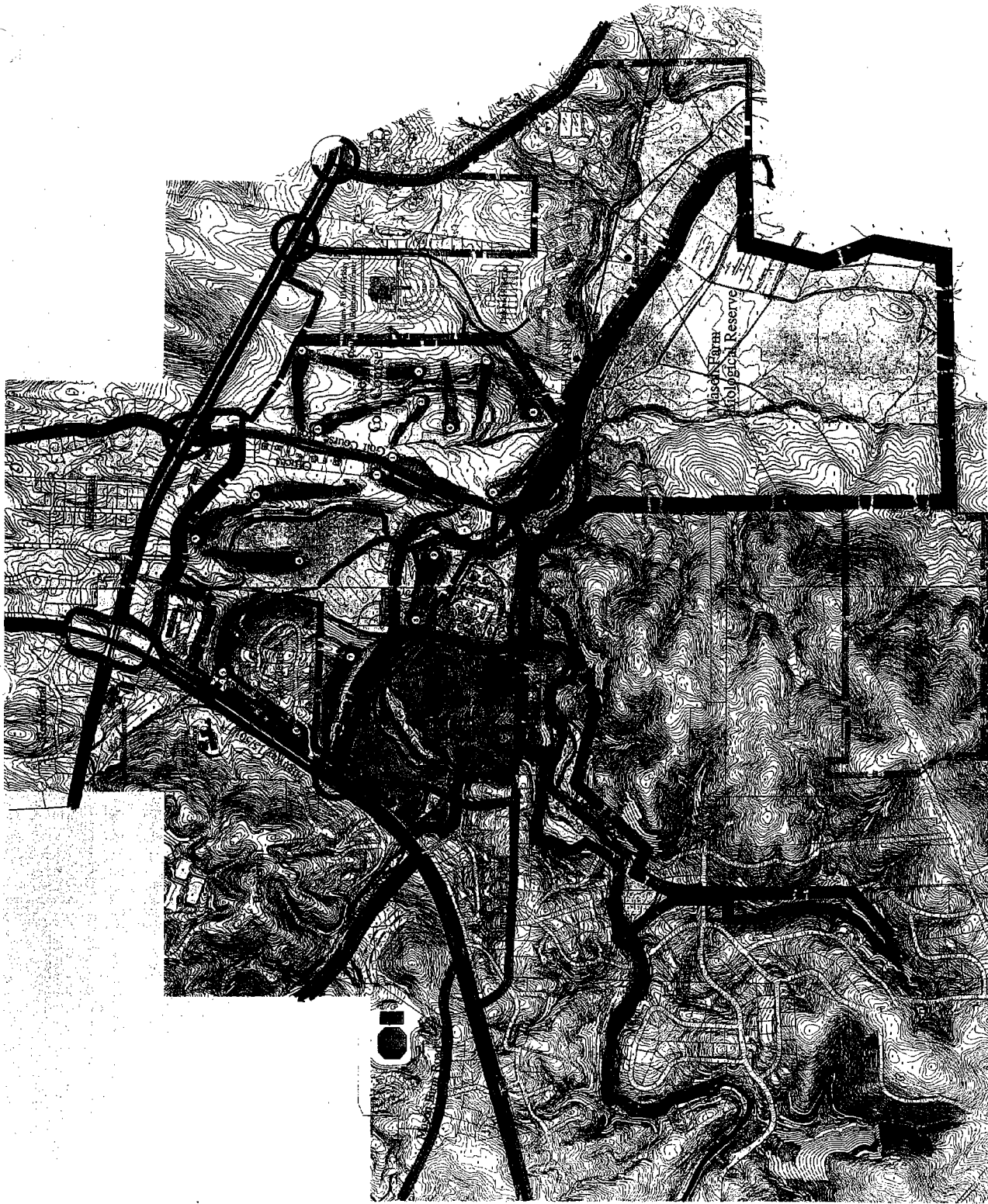


Figure 4-1  
Mason Farm Property  
Analysis  
JJR



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Most of the forested areas on the site are dominated by hardwoods. Upland hardwoods are located on the steep slopes in the western portion of the site and lowland hardwoods are located in the floodplain areas to the south. Coniferous forests are common near the golf course and mixed forests are typical on the hilly slopes in the eastern part of the site, north of the Morgan Creek.

### ADJACENT LAND USE

The Mason Farm property is located in a predominantly residential portion of Chapel Hill. The southwest portion of the site is bounded by rural residential land (1 dwelling unit/2 acres); the western portions of the site are bounded by low density residential land (up to 4 dwelling units/acre) and the southeastern portion of the site is bounded by lands set aside for conservation and open space. A medium density residential development (4-8 dwelling units/acre) is located immediately east of the Friday Center.

The land between Mason Farm's northern boundary and Raleigh Road (NC 54) is occupied by a mix of retail and office uses. A mix of office and retail development is also planned on the parcel immediately north of the Friday Center (and south of Raleigh Road) as part of the larger Meadowmont mixed-use development (which also extends north of Raleigh Road). The opportunity exists for the University to work with Meadowmont's developers to coordinate planning for the Friday Center area and the adjacent parcel to encourage a development pattern that supports transit service on a proposed regional fixed guideway system.

### TRAFFIC AND CIRCULATION

#### Roadways

**Existing Conditions.** The 15-501 Bypass separates the northwest corner of Mason Farm (where the Botanical Gardens are located) from the University's Central Campus, located to the north and west. Although Mason Farm is contiguous to the Central Campus, the Friday Center area, the portion of the site with the greatest potential for future development, is located on the property's eastern edge with the Finley Golf Course, Botanical Garden and 15-501 lying between the two. Raleigh Road (NC 54) is located along the property's northern boundary, although Mason Farm only touches Raleigh Road at two points: Finley Golf Course Road and the entrance to the Friday Center area. As a result, while access to the Mason Farm property from the north and northwest is reasonably good, the visibility of its future development areas is quite limited.

Raleigh Road connects to I-40 to the east and passes through the center of the UNC-Chapel Hill Central Campus (as South Road) to the west. This four- to five-lane roadway is the major access route to downtown Chapel Hill and the University from the east. The 15-501 Bypass is a four-lane divided highway linking Chatham County to the southwest of Chapel Hill to I-40 to the northeast. The 15-501 Bypass crosses Raleigh Road (as a grade separated interchange) near the northwest corner of the Mason Farm property.

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Primary access to the Mason Farm property is provided from the 15-501 Bypass at Mason Farm Road and from Raleigh Road at Finley Golf Course Road and Friday Center Drive. Mason Farm Road, a two-lane on-site roadway, connects the 15-501 Bypass to Finley Golf Course Road. Finley Golf Course Road, also a two-lane road, in turn connects to Raleigh Road (NC 54). A secondary access point from Barbee Chapel Road is located on the eastern edge of the site near the Faculty Recreation Club.

Overall, vehicular access to the Mason Farm property is somewhat limited. Based on 1994 traffic volumes and typical roadway capacities, traffic congestion is currently not a major problem in the vicinity of the site. However, projected traffic volumes indicate that NC 54, and the Bypass in the vicinity of the NC 54, will be congested even without any additional development on the Mason Farm property (see Table 1) and despite planned improvements (see below). Congestion occurs if a roadway is operating at a Level of Service (LOS) worse than D. Traffic conditions worse than LOS D result in delays and interruptions to traffic flow that are generally considered unacceptable in the Triangle area. A Volume-to-Capacity (V/C) ratio of 1.0 in Table 1 represents the lower threshold for LOS D conditions. It should be noted, however, that LOS E is more common and accepted for peak hours in more developed areas.

**Planned Improvements.** Major road improvements planned in the vicinity of the Mason Farm property are limited. North of Raleigh Road, a new north-south connector, the Laurel Hill Drive, is proposed on the Thoroughfare Plan to link Raleigh Road to Farrington Road near I-40. This proposed four-lane roadway was originally planned as part of a southern outer loop that included a new road alignment through the Mason Farm property, continuing west and connecting to Jones Ferry Road southwest of Carrboro. With the exception of the section between Raleigh Road and Farrington Road, this loop has been removed from the Thoroughfare Plan.

The Transportation Improvement Program (TIP) includes the widening of US 15-501 (Pittsboro Road) south of the Bypass to improve access from south Chapel Hill and Chatham County. In addition, the University has future plans to build a south loop road to replace portions of Manning Drive. This major thoroughfare would begin at Mason Farm Road near Columbia Street and connect to existing Manning Drive via Bowles Drive. The portion of Manning Drive between the Hospitals and Bowles Drive would be downgraded, presenting an opportunity to use Manning Drive as a non-vehicular access corridor between the Central Campus and the Mason Farm property.

### Transit

Chapel Hill Transit currently maintains bus routes along Raleigh Road (NC 54) and Manning Drive. A 354-space municipal park-and-ride lot is also located to the south of the Friday Center on Mason Farm. As a result, bus service is already existing and could be expanded with little difficulty.

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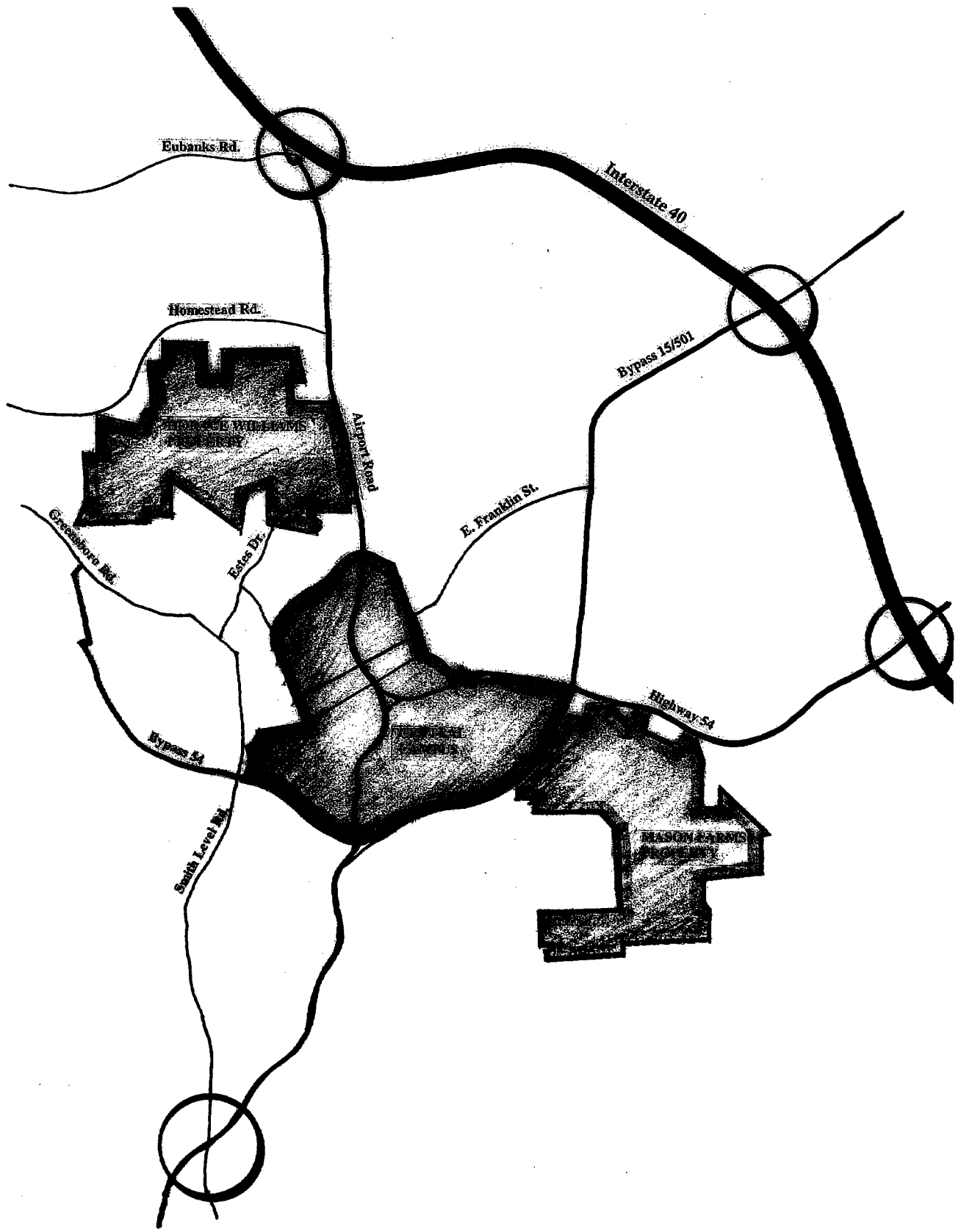
The Triangle Transit Authority (TTA) fixed guideway study also evaluated the feasibility of a transit corridor crossing the Mason Farm Property. At its western end, this conceptual alignment commenced on Columbia Street in the downtown area, traveled along Manning Drive, north alongside the Bypass and then into the Mason Farm site along Mason Farm Road to connect to the Friday Center park-and-ride lot. From this point, the route continued north along Friday Center Drive and through the proposed Meadowmont development to cross I-40 and parallel US 15-501 to South Square shopping mall. The route then followed the US 15-501 Bypass in Durham to Duke University where it connected to the regional link to the Research Park and Raleigh.

This alignment is the favored of two potential corridors which were considered in the TTA study to connect Chapel Hill and Durham. (The other alignment which was considered included the University/Norfolk Southern Railroad corridor through the Horace Williams property.) The preferred US 15-501 corridor alignment is now the subject of more detailed analysis. Under the most current proposal, the alignment may terminate on Manning Drive at UNC Hospitals rather than attempt to enter downtown Chapel Hill. No particular technology (i.e., light rail, diesel-powered rail cars, or buses) is being recommended at this point; this would be decided in subsequent studies. The likelihood and timing of the implementation of a fixed guideway in the Triangle region may be known some time in 1998.

#### **Bicycle Routes**

The Town of Chapel Hill's Bikeway Concept Plan includes future bikeways on South Road, Raleigh Road, Manning Drive and the US 15-501 Bypass. Bicycle and pedestrian linkages between Mason Farm and the Central Campus are very feasible and likely to attract high levels of use because of the proximity of the two areas.





THE UNIVERSITY OF NORTH CAROLINA  
 AT CHAPEL HILL  
 September 1, 1998

Figure 4-2  
 Road Network



JJR/PB

## **PLANNING FRAMEWORK**

Two critical components establish a framework for guiding the future development of the Mason Farm property:

- The definition of development and non-development areas; and
- The definition of proposed uses for the two development areas.

## **DEVELOPMENT AND NON-DEVELOPMENT AREAS**

Seven hundred ninety-seven acres on the Mason Farm site are committed to existing uses that the University will maintain; much of this acreage represents sensitive natural environments. The need to protect important natural resources on 375 additional acres (including floodplains, wetlands and steep slopes) reduce the site's developable acreage. As a result, only two potential major development areas remain: 128 acres at the Friday Center, much of which has already been developed, and 55 acres on the Parker Property.

### **Prior Committed Areas**

The University is committed to the preservation of the Biological Reserve, Botanical Garden, other Arboreta, the Finley Golf Course (although its layout may be somewhat modified) and the OWASA Treatment Plant site. These areas, totaling approximately 797 acres, are considered to be non-development zones.

### **Sensitive Environmental Areas**

The University has also excluded approximately 375 additional acres of floodplains, wetlands and steep slopes from consideration for future development. Included in this total are 75 acres of wooded slopes on the Parker Property that will be preserved as a buffer for the Biological Reserve.

### **Development Area**

Only 183 acres of the 1,356-acre Mason Farm property have been identified as suitable for development including approximately 128 acres located in the vicinity of the Friday Center (some of which is already developed) and approximately 55 acres located in the western portion of the Parker Property.

As part of the renovation and expansion of the Finley Golf Course (currently being planned by the University) approximately 11 acres near the Friday Center will be made available for future development. As a result, even though the total golf course acreage will not decrease, these 11 acres are included in the 128-acre development area total at the Friday Center.

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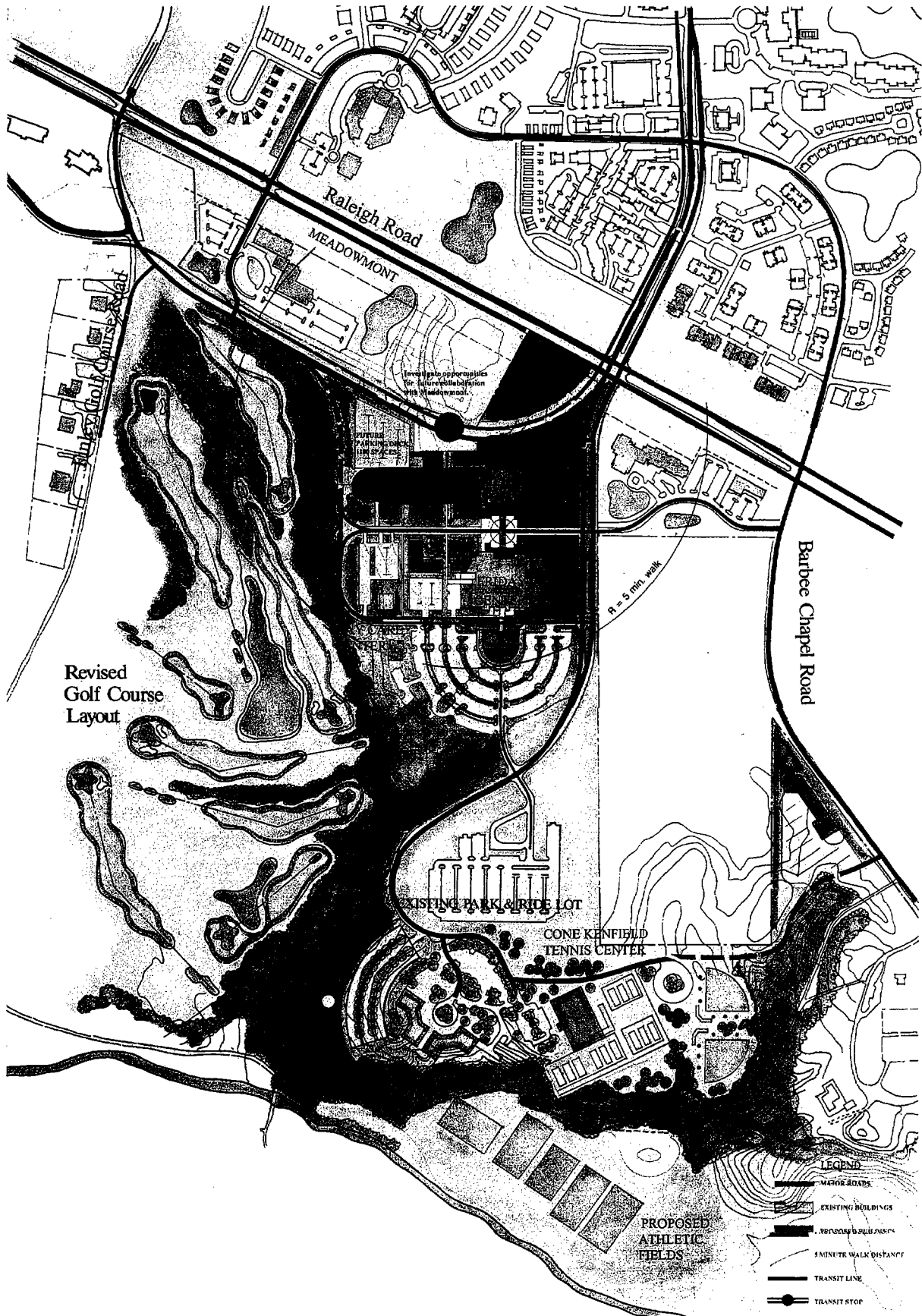
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**PROPOSED USES**

The Faculty Committee formed to assist in long-range planning for the University's outlying properties provided general recommendations that stressed the importance of effective transportation links between Central Campus and Mason Farm, while recognizing that the need for frequent trips between campuses should be minimized through the careful selection of University programs to be located on the outlying properties. In addition, the Faculty Committee suggested preferred uses for the development area adjacent to the Friday Center including Friday Center expansion to provide a public performance space that could also accommodate large conference groups and housing for short-term University visitors (and to support Friday Center programs). Because existing administrative office, recreational and continuing education functions establish a clear focus for future land use in the area surrounding the Friday Center, the Faculty Committee found it significantly easier to define potential uses for Mason Farm than for the Horace Williams property. As a result, an emphasis on continuing education and office space was readily established.

As this planning study began, plans had already been made to locate three new buildings near the Friday Center: the WUNC radio station and tower, the Principal's Executive Program (PEP) building, expansion of the UNC Hospitals Administration Building and a children's day care center. Since planning for these projects was already well underway, it was determined that they should be accommodated in the future development of this portion of the Mason Farm property. Nevertheless, these proposed building projects also highlighted the need to establish a clear functional focus and site plan framework to avoid inefficient, piecemeal development of the limited amount of developable land remaining in the Friday Center area.

The Faculty Committee and other University and community advisory groups also helped to establish an appropriate land use approach for the 55-acre development area on the Parker Property. Because of the residential development context, and the limited access to this site, housing was determined to be the most appropriate future use. Because this development area is isolated from both Mason Farm and Central Campus, it was also determined that it could not be effectively developed for University housing and should be sold to a private developer.

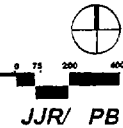


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Outlying Properties Land Use  
September 1, 1998

FINAL  
FRAMEWORK PLAN

Mason Farm Property  
Figure 4-3



JJR/ PB