

MASTER PLAN
REPORT



THE MARIE BUTLER LEVEN
PRESERVE

EDAW inc.

Prepared for: FCPA
October, 1986

MASTER PLAN REPORT
OF
THE MARIE BUTLER LEVEN PRESERVE
PREPARED FOR
FAIRFAX COUNTY PARK AUTHORITY

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1.0 INTRODUCTION

If I shall still own at my death my property in Fairfax County, Virginia, known as "Anoria" ...I give and devise the same...unto Fairfax County Park Authority, upon the express condition, however, that my property be used, in its entirety, exclusively as an arboretum and nature preserve...and be operated for the benefit of the general public as an educational and demonstration project...

In 1961 Dr. Maurice Leven's aspirations for his land were realized. Upon his death, the property was willed to the Fairfax County Park Authority and renamed the "Marie Butler Leven Preserve," in memory of his wife. In his will, Leven set forth strict parameters concerning the use and development of his property. The most notable stipulation is that the entire property be utilized by the general public as a nature preserve and be maintained arboretum-like in character. Leven also requested that no portion of the Preserve be taken for roads, parking, or active recreational facilities so that the Preserve function in a passive recreational capacity. Future property development is carefully outlined in the will to support the nature preserve concept. It clearly states that planting be continued in an arboretum-like way with circulation limited to unobtrusive foot paths throughout the property.

To secure the conditions stated within the will, Leven requested that The Nature Conservancy be consulted from time to time regarding the maintenance and future development of the property. Also, the will specifically states that if its provisions are violated, property ownership would revert to the Wisconsin Alumni Research Foundation.

1.1 Objectives

This report provides background information and outlines the methodology used in generating the master plan for the Marie Butler Leven Preserve. The graphic master plan and report serve as the basis for recommendations for future site development. The primary focus and intentions of this study are:

- o To develop a master plan that will guide the Fairfax County Park Authority's future physical improvements for the Marie Butler Leven Preserve.
- o To ensure that no future site development will jeopardize Fairfax County Park Authority's ownership of the land for public benefit.
- o To clarify and reinforce Dr. Leven's concepts regarding the protection, use, and development of the property.

1.2 Master Plan Definition

In 1950, the Fairfax County Park Authority (FCPA) was established for the purpose of acquiring, developing maintaining, and operating park facilities. For every park which the Fairfax County Park Authority operates, a Master Plan is established as a guide for development and improvement purposes. The master plan institutes a physical design framework for future site use and development. As a guide, the plan can be changed as future needs arise.

The master planning process involves the arrangement of built form and natural features on the land, predicated upon community needs and the existing site's opportunities and constraints. It develops recommendations based on careful evaluation of the above factors in addition to existing facilities, projected future needs, existing site use and accommodation of differing user types. No individual factor can assume overriding precedence. Each planning component must be carefully considered in synthesizing a master plan that offers utilitarian features within an aesthetically pleasing environment.

Implementation of a master plan is phased over an extended time period. Some master-planned facilities take five, ten or more years to develop depending on the size and capital improvement funds available.

1.3 Park Classification System (FCPA)

The existing and proposed system of Fairfax County parks attempts to provide full opportunity for all residents and visitors to make leisure time constructive through the provision of recreational and cultural programs within safe, accessible and enjoyable parks. Additionally, the park system is the primary public mechanism for the preservation of environmentally sensitive land, water resources, and significant historic and cultural areas. Parklands acquired by the Fairfax County Park Authority are usually classified in one of the following categories: community park, district park, county park, natural/passive park, stream valley park and historical park. However, these park types are not mutually exclusive. Depending on citizen's present and future needs, a combination of park types or ones that differ from all the categories listed above may be required.

1.4 Natural/Passive Park Definition (FCPA)

The Marie Butler Leven Preserve is classified as a natural and passive park. Natural areas can provide educational resources and improve the environmental quality of a community. Typically they are selected for inclusion in the park system because of their unique flora, fauna, anthropological, archaeological or geological features. Some natural/passive parks must be managed to retain the diverse types of flora and fauna currently found within park boundaries. Facility development is generally kept to a minimum, but depending upon specified purposes might include trails, photo blinds, boardwalks, observation platforms, interpretive shelters, and nature/visitor centers. Access and parking may be provided when appropriate.

1.5 Marie Butler Leven Preserve/Guidelines for Development

The Marie Butler Leven Preserve is unique to the definition of a natural and passive park. It was private land willed to the Park Authority with rigorous stipulations governing the

future development of the site. The will outlines conditions under which FCPA could use the property. Lack of compliance jeopardizes FCPA ownership. This Master Plan for the Preserve respects the conditions of the Leven will as follows:

1. The property should be used as a nature preserve, available to the public for educational purposes. As stated in the will: "It (the property) should fill a need for an open, unspoiled but properly maintained space in a populated area where nature classes from neighboring schools may learn about plant and animal life in a natural habitat...."
2. The Preserve should be maintained as a single parcel of land, not divided into smaller parcels.
3. The property should not be used for active recreation such as playing fields, ballfields, etc.
4. The building should be maintained.
5. Public roads should not traverse the property and access should be limited to "unobtrusive footpaths."
6. The present program of arboretum-like planting should be continued with properly cared for groves and open spaces: "Shielded from the road by a natural border of woodland and that additional varieties of trees and shrubs should be extended into the undeveloped areas with due consideration to the natural landscape effect as well as the utility of these plants as arboretum specimens."

1.6 The Master Planning Process (FCPA)

The methodology utilized for the Marie Butler Leven Preserve master plan is outlined as follows:

- o Data collection and review of documents provided by FCPA as a basis for understanding of project conditions.

- o Research and analysis of the on-site and off-site factors influencing the Preserve.

- o Solicitation and evaluation of land use ideas from community organizations within constraints of the will.

- o Formulation of several concept plans proposing development alternatives.

- o Develop one concept plan as the preliminary master plan.

- o Take plan to Park Authority Board to move to public hearing.

- o Present plan to public for review and comment.

- o Review of completed final draft by FCPA attorney.

- o Adoption of master plan by Park Authority Board.

An informal meeting held with community representatives replaced the typical public forum in the master planning process. This type of meeting took place because of strict stipulations outlined in the Leven will. The will precludes most forms of park development and uses that are generally discussed in public forums.

1.7 Funding Available for Planning and Development

Capital Improvement Funds of \$55,472 from the 1982 Bond Referendum are available for planning, design and some implementation of the master plan. These funds have been scheduled as follows: \$2,101 in FY 1985, \$21,250 in FY 1986 and \$32,121 in FY 1987.

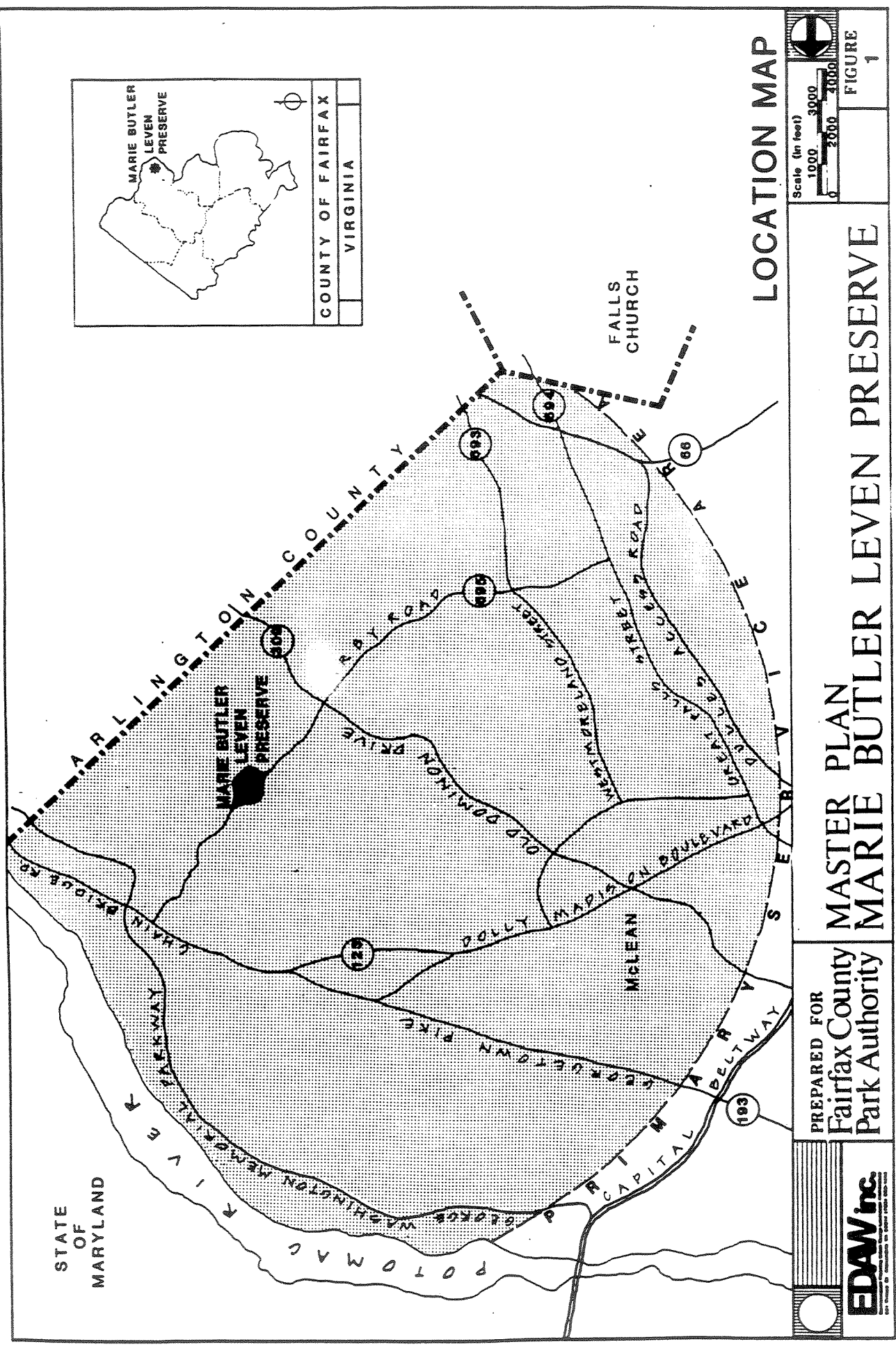
1.8 Location and Description (Figure 1)

The Marie Butler Leven Preserve is a 19.3 acre site located in Fairfax County, Virginia. Vehicular and pedestrian access is via Kirby Road (Route 695). The site is surrounded by three residential developments: Potomac Estates, Potomac Hills and Chesterbrook Woods. All consist of single-family detached homes. No commercial, industrial or multi-family developments are in the immediate vicinity. Figure 1 shows the George Washington Memorial Parkway and Potomac River due north of the site; Arlington County is located south and the City of Falls Church is southwest of the Preserve. The McLean Central Business District is located four miles northwest of the Preserve at the intersection of Old Dominion Drive and Chain Bridge Road. The site is part of the McLean Planning District and the Dranesville Supervisory District.

1.9 Historical Development and Acquisition

The Marie Butler Leven Preserve was once part of a 1,000 acre farm owned by William Nelson. In 1814, as James Madison was fleeing the burning capital, he hid documents at a mill owned by Nelson. The Mill was located at the junction of Pimmit and Little Pimmit Runs, near the present Preserve.

In the 1930's, Dr. Maurice Leven acquired a land parcel of the original Nelson farm. He later named this land "Anoria." His strong interest in nature inspired him to establish an arboretum in 1937. Cultivation and maintenance of his arboretum was carried out over a thirty year period. Extensive plantings of native and exotic plants were installed in the wooded and open areas of the property. A stream dam, spring wall and pond were also built during his ownership.



Dr. Leven believed that the general public might benefit in some way if his property were to serve as a public nature preserve for educational and demonstration projects. Preservation of his arboretum-like property was eventually realized. In his last will and testament, dated May 17, 1961, he bequeathed his property to the Fairfax County Park Authority. Renamed the Marie Bulter Leven Preserve, the land was opened to the public in 1963.

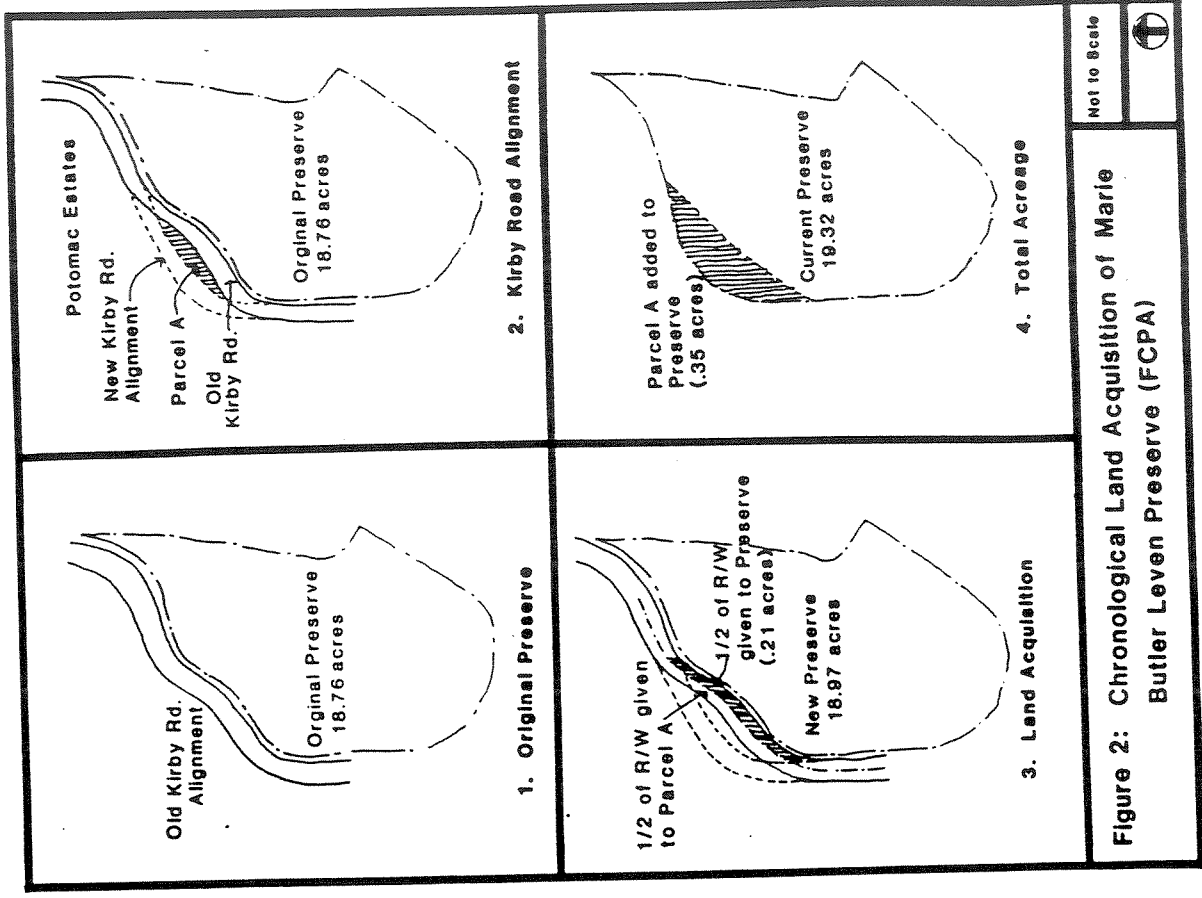
Following FCPA's acquisition of the Preserve the realignment of "old" Kirby Road resulted in an increased total park acreage of 19.3. Figure 2 outlines the chronology of parkland acquisition. The additional land is comprised of "old" Kirby Rd. (half of the old road rights-of-way, .21 acres) and Parcel A (originally part of Potomac Estates, .35 acres). The Kirby Road realignment was completed by the Virginia Department of Highways and Transportation in 1978. Acquisition of parcel A, outside of the original preserve, permitted Park Authority construction of the existing parking area.

Suit was brought against FCPA by the Leven will executor and concerned parties at the time of Kirby Road's realignment. The suit claimed that the property should be forfeited to the Wisconsin Alumni Research Foundation because road realignment violated the intent of the will. The Virginia State Supreme Court of Appeals found for the FCPA, approving road realignment and allowing the Preserve to remain FCPA ownership.

Acquisition of additional land allowed FCPA to build a public parking area adjacent to the original 18.76 acre Preserve. Built in 1979, vehicular access and parking is located along the property's north boundary.

The original Leven house still exists at the Preserve. Until recently the house was rented to tenants who were responsible for grounds maintenance around the house. Currently the house is vacant until a decision is reached concerning its future use after master plan adoption. The Park Authority provides regular maintenance on the

property. Maintenance includes trimming, pruning, occasional planting and mowing of open areas or the property.



2.0 SITE ANALYSIS

OFF-SITE FACTORS

2.1 Service Area (Figure 1)

In formulating a Master Plan for the Marie Butler Leven Preserve, existing conditions within a three-mile radius were analyzed. This area has been designated the primary service area (Figure 1). The study was confined to Fairfax County; thus the Potomac River restricted the area to the east and the Arlington County jurisdiction line defined the south border. It is expected that a significant number of the Preserve's users would come from the primary service area and get to the Preserve by foot or by bicycle. No secondary service area was designated for this Master Plan.

2.2 Fairfax County Comprehensive Plan

The Marie Butler Leven Preserve is located within the Kirby Community Planning Sector M3 and is part of the larger McLean Planning District (Area II). Area II is classified as stable and is defined by the existence of an established land use plan which future development should respect.

Six general policies for stable areas have been identified and are indicated in the comprehensive plan as follows:

- o Protect and enhance existing land uses.
- o Encourage community organizations to identify problems and seek solutions.
- o Divert through-traffic away from neighborhood streets.
- o Improve public facilities (schools, parks) as needed.
- o Develop transit alternatives to the automobile where feasible.

- o Develop programs and facilities that serve the needs of current residents; consider multiple uses of available public facilities which have such potential.
- o Analysis for planning Sector M3 indicates the need for additional new local-serving parks and development of more intense recreational facilities at existing parks.

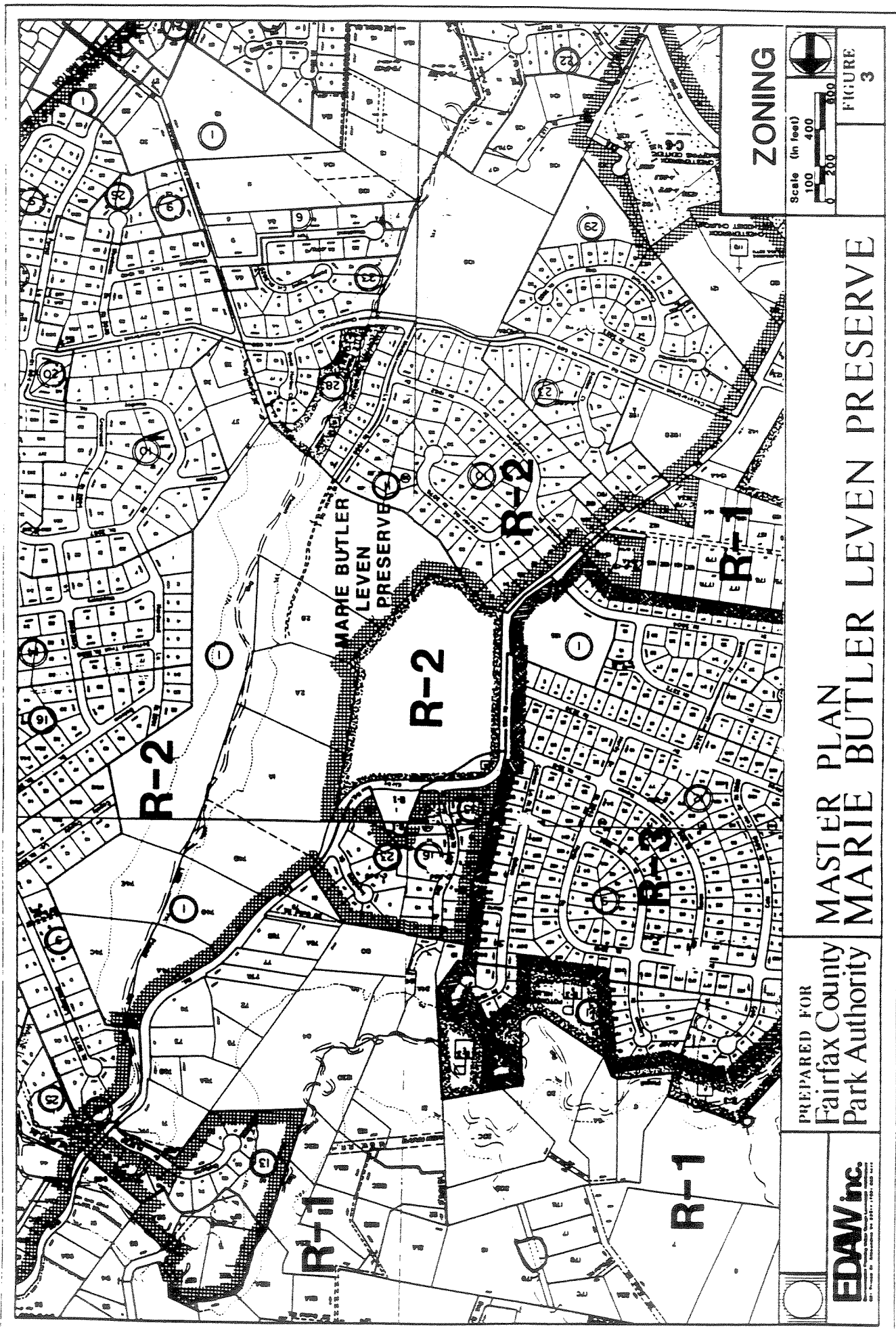
2.3 Existing Zoning (Figure 3)

The Marie Butler Leven Preserve is zoned as an R-2 district. The zoning for allows single-family detached dwellings at a density of two dwelling units per acre and other selected uses which are compatible with the low density residential character of the district. The existing zoning adjacent to the Preserve consists of a mix of residential densities. Potomac Hills, located west of the Preserve, is designated R-3, three dwelling units per acre. Chesterbrook Woods and neighborhoods located north, east and south of the site are zoned R-2. There is a substantial amount of public parkland in the primary service area. Examples include open space along Pimmit Run, Little Pimmit Run and Turkey Run. Portions of these areas comprise the 100-year floodplain and Environmental Quality Corridors.

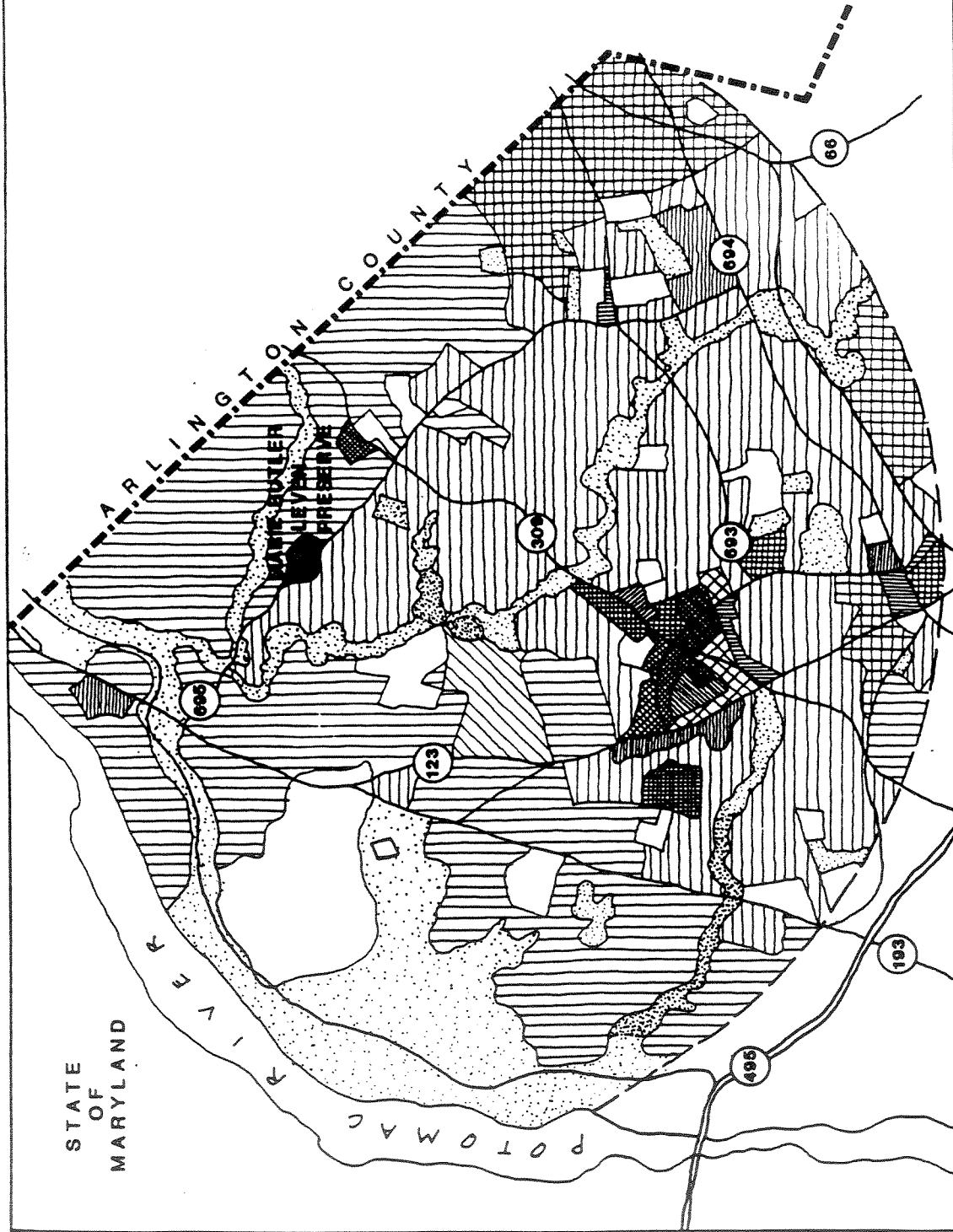
A small commercial/retail development is located at the intersection of Old Dominion and Kirby Road. Also, the McLean Central Business District is zoned to permit a mix of higher residential densities, retail and office uses.

2.4 Proposed Land Use (Figure 4)

In accordance with the Fairfax County Area II Plan (1983 Edition of F.C. Comprehensive Plan) the existing residential nature of the Kirby Community Planning Sector should be preserved. Future development of undeveloped areas near the Preserve should consist of single-family detached units. Also, development should conform with existing residential densities. The small retail/commercial parcel at



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Legend:

- 1 DU/AC
- 2 DU/AC
- 2 DU/AC (2 Dwelling Units per acre)
- 3 DU/AC (3 Dwelling Units per acre)
- 4 DU/AC (4 Dwelling Units per acre)
- 5 DU/AC (5 Dwelling Units per acre)
- 8 DU/AC (8 Dwelling Units per acre)
- 12 DU/AC (12 Dwelling Units per acre)
- 20 DU/AC (20 Dwelling Units per acre)
- Office
- Retail and Other
- Public Facilities, Governmental and Institutional
- Public Parks (This includes portions of the designated 100 year flood plain planned for public use.)
- Private Open Space

LAND USE

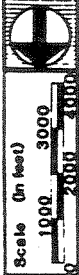


FIGURE
4

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the intersection of Kirby Road and Dolley Madison Boulevard is planned to retain current zoning with expansion restrictions.

2.5 Population Census (Figure 5)

Nine population census tracts fall within the primary service area (Figure 5). The current estimated population within this zone is 30,920. The average population per square mile is 2,750 residents. These numbers were derived from totaling the relative census and subcensus tracts provided by the Fairfax County office of Research and Statistics, Standard Reports, 1984 (Appendix A, Table A).

The Preserve falls between two census tracts, numbers 4703 and 4704. The total population for the two tracts is 6,844 persons with 5490 of the population in the 35 to 64 year old age groups. In terms of population characteristics, the two census tracts are composed primarily of married families with 1.2 children with the median income and educational level above the Fairfax County average.

2.6 Population Projections

The total population in the primary service area is expected to decrease approximately 100 persons per year between 1990 to 2000 (Appendix A, Table B). Estimated population has been forecasted as 29,196 in 1990, 29,128 in 1995, and 28,194 in the year 2000.

The primary assumption by which population forecasts were established is that a marked decrease in average household size will occur. As stated in the Fairfax County Standard Reports (1984); "these factors are based on expected trends in the County, such as a significant decline in the number of five-person-or-more households, a continued increase in the number of one and two person households, and a slower decline in the overall average household size." The forecasted average household size in the McLean Planning District is expected to drop from 2.73 in 1985 to 2.40 persons by the year 2000.

Another factor influencing decrease in population is that census tracts 4703 and 4704 have nearly reached their planned capacity. As noted in Section 2.3, most of the land is zoned for low-density (2-3 DU/AC). Residential development adjacent to the Preserve has been widely realized at this low-density level.

In 1984 there were a total of 2,424 housing units comprised of 2,322 single-family detached units and 102 townhouses. From these projections it is clear that the primary service area is reaching "planned buildout" and is expected to stabilize by the year 2000.

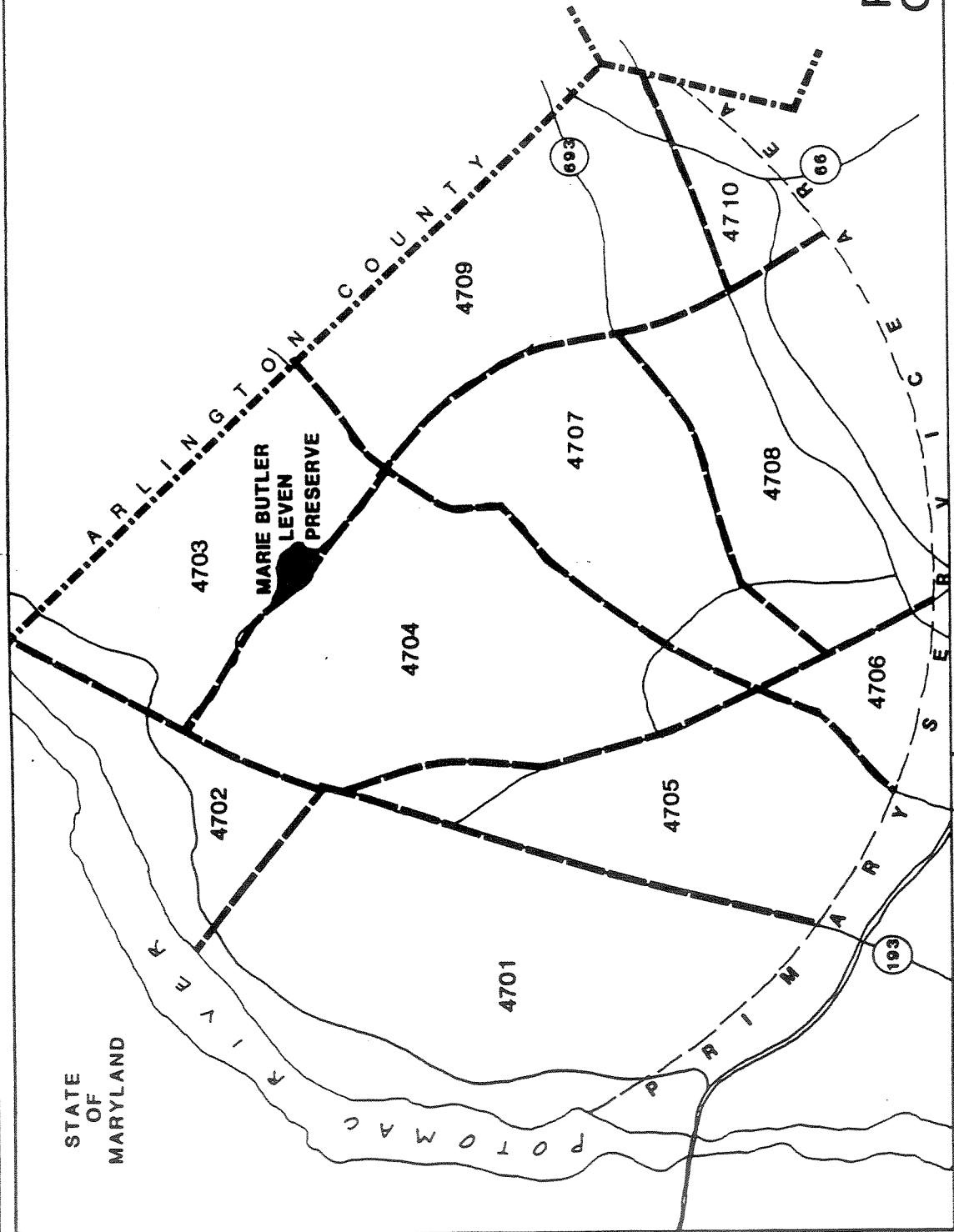
2.7 Nearby Schools and Parks (Figure 6, Table 1)

Within the designated service area of the Marie Butler Leven Preserve, there are nine schools, twenty county parks and three federally-owned parks. Various public recreational facilities are offered by the County Park Authority and these activities are summarized in Table 1.

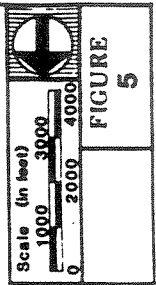
Numerous athletic facilities are provided at elementary, intermediate and high schools. Recreational facilities associated with the schools include baseball, soccer/football, basketball, tennis, playgrounds, totlots, and fitness trails.

The most frequently available resources offered at the county parks include hiking/walking trails and natural areas. There is one planned community center at Lewinsville Park and restroom and shelter facilities provided at Linway Terrace Park.

There is a total public park acreage of 415 acres in the primary service area (Table 1). With an approximate population of 30,920 persons, the study area offers 13.4 acres of park land per 1,000 persons. This exceeds the county standard of 8.5 acres per 1,000 persons.



POPULATION CENSUS TRACTS

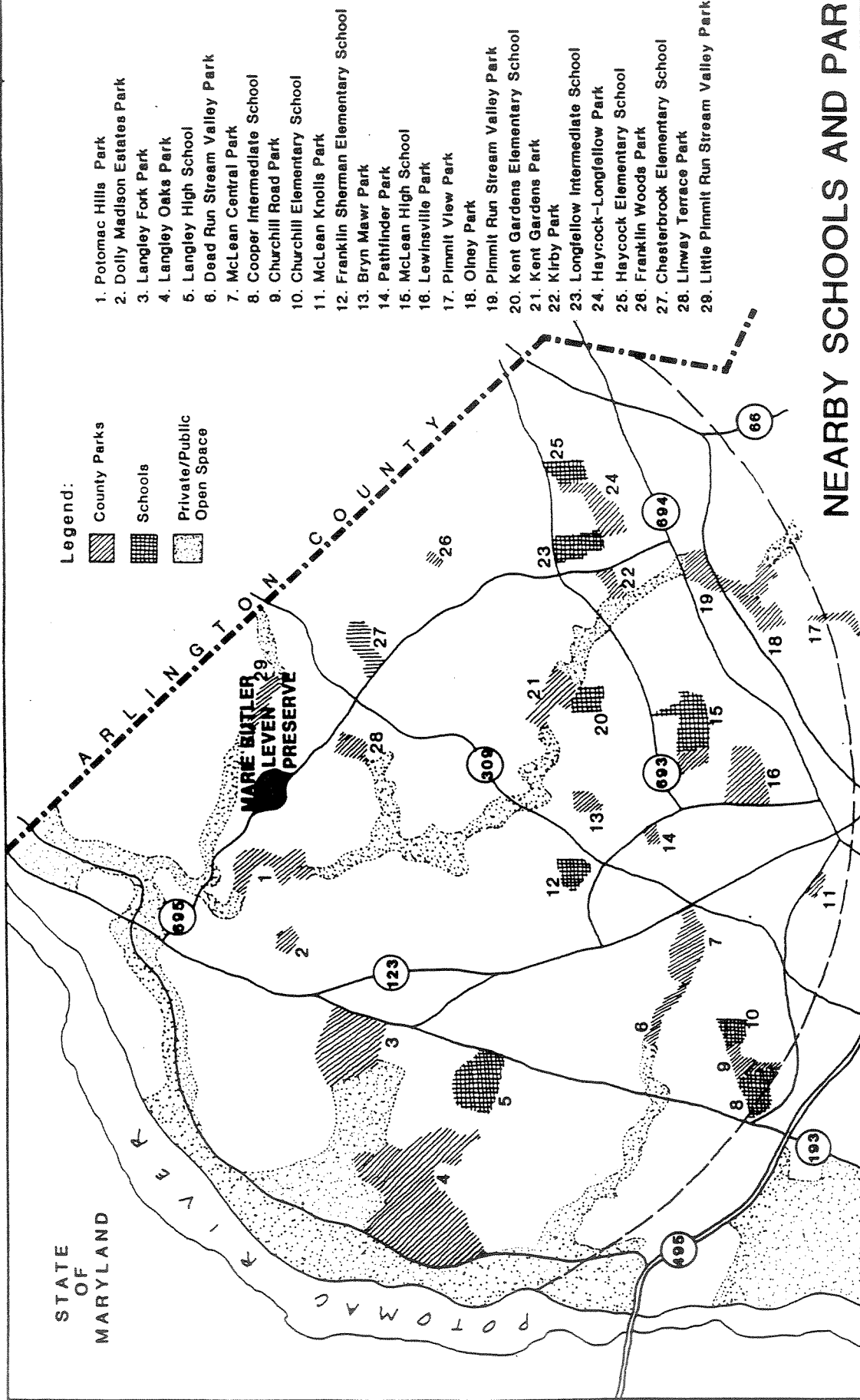


MASTER PLAN Fairfax County Marie Butler Leven Preserve

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Legend:

- County Parks
- Schools
- Private/Public Open Space

1. Potomac Hills Park
2. Dolly Madison Estates Park
3. Langley Fork Park
4. Langley Oaks Park
5. Langley High School
6. Dead Run Stream Valley Park
7. McLean Central Park
8. Cooper Intermediate School
9. Churchill Road Park
10. Churchill Elementary School
11. McLean Knolls Park
12. Franklin Sherman Elementary School
13. Bryn Mawr Park
14. Pathfinder Park
15. McLean High School
16. Lewinsville Park
17. Pimmit View Park
18. Olney Park
19. Pimmit Run Stream Valley Park
20. Kent Gardens Elementary School
21. Kent Gardens Park
22. Kirby Park
23. Longfellow Intermediate School
24. Haycock-Longfellow Park
25. Haycock Elementary School
26. Franklin Woods Park
27. Chesterbrook Elementary School
28. Linway Terrace Park
29. Little Pimmit Run Stream Valley Park

NEARBY SCHOOLS AND PARKS

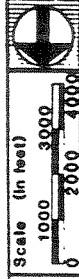


FIGURE
6

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Park	Facilities	Acres	Park Classification	Park next to school	Parking	Baseball/Softball	Soccer/football	Tennis	Restroom/shelter	Community Center	Bicycle	Fitness	Hiking/walking	Basketball	Open Play	Playground	Toilet	Picnic area	Historic site	Natural Area
Potomac Hills Park		9.5				●							●		●					●
Dolley Madison Estates		3.8																		
Langley Park Park		52.8			●		●						●							
Langley Oaks Park		101.6																		
Dead Run Stream Valley		10.5											●							
McLean Central Park		25.9			★			●						★	●	●	●	●		●
Church Road Park		12.3						●												
McLean Knolls Park		3.0																		
Bryn Mawr Park		4.9																		
Pathfinder Park		1.2																●		
Lewineville Park		38.1				●	★	●		●		●	●							
Pimmit View Park		5.0											●							
Olney Park		19.9			●				★				●	●	●	●	●	●		●
Pimmit Run Stream Valley		62.2											●		●				●	●
Kent Gardens Park		26.1											●		●	●	●			●
Haycock-Longfellow Park		23.9		●				●					●	●			●			●
Franklin Woods Park		1.4																		
Linway Terrace Park		10.6			●		●		●			●		●	●	●	●			●
Little Pimmit Run Stream Valley		3.0											●							●

★ - Handicap Access Available

Table 1: Park Facilities within the Service Area

2.8 Comparative Facilities and User Needs Analysis

The Comparative Facilities and User Needs Analysis has clarified whether demand exists for additional community-oriented space in the primary service area of the Marie Butler Leven Preserve. A full description of the Survey may be found in the Appendix. Comparable facilities available for community or group use include school classrooms, gymnasiums, auditoriums and cafeterias; community rooms in libraries; and, church meeting halls. In terms of comparable size, library community rooms and church halls are closest in size to the square footage available in the house at the Preserve.

There is an abundant supply of classroom space available for community use throughout Fairfax County. The School Department reports that auditoriums and gymnasiums are in strong demand, while opportunities for classroom use are abundant simply because of the number of rooms available. Community center use, on the other hand, and in particular, community room in local libraries, is limited both in size and availability. The Fairfax County Library Department reports strong demand for its community rooms. The McLean Community Center is at 97% capacity, although this should be relieved somewhat when expansion is completed in 1986-87. Of those churches responding to the user needs analysis survey, each offers space in church meeting or rectory halls ranging in capacity from 10 to 300. Demand appears to be consistently strong for youth, civic, cultural and religious or educational use in each of these facilities. User fees are minimal; in many cases, donations are requested or utility costs are shared.

The User Needs Analysis Survey and conclusions have bearing on the potential public use of the Marie Butler Leven Preserve house. Adaptation of the house for large-scale community use would probably not provide a greater benefit to the community with the abundance of alternative, competing and free facilities located throughout McLean. Although demand is strong, existing facilities are meeting that demand comfortably.

These conclusions are augmented by further restrictions on possible uses of the house. Stipulations outlined in Leven's will preclude additional parking that is necessary to support large community activities in the house. Poor accessibility and visibility of the house from Kirby Rd. also present physical limitations. Restrictions of R-2 zoning hinder potential use of the house for large community groups.

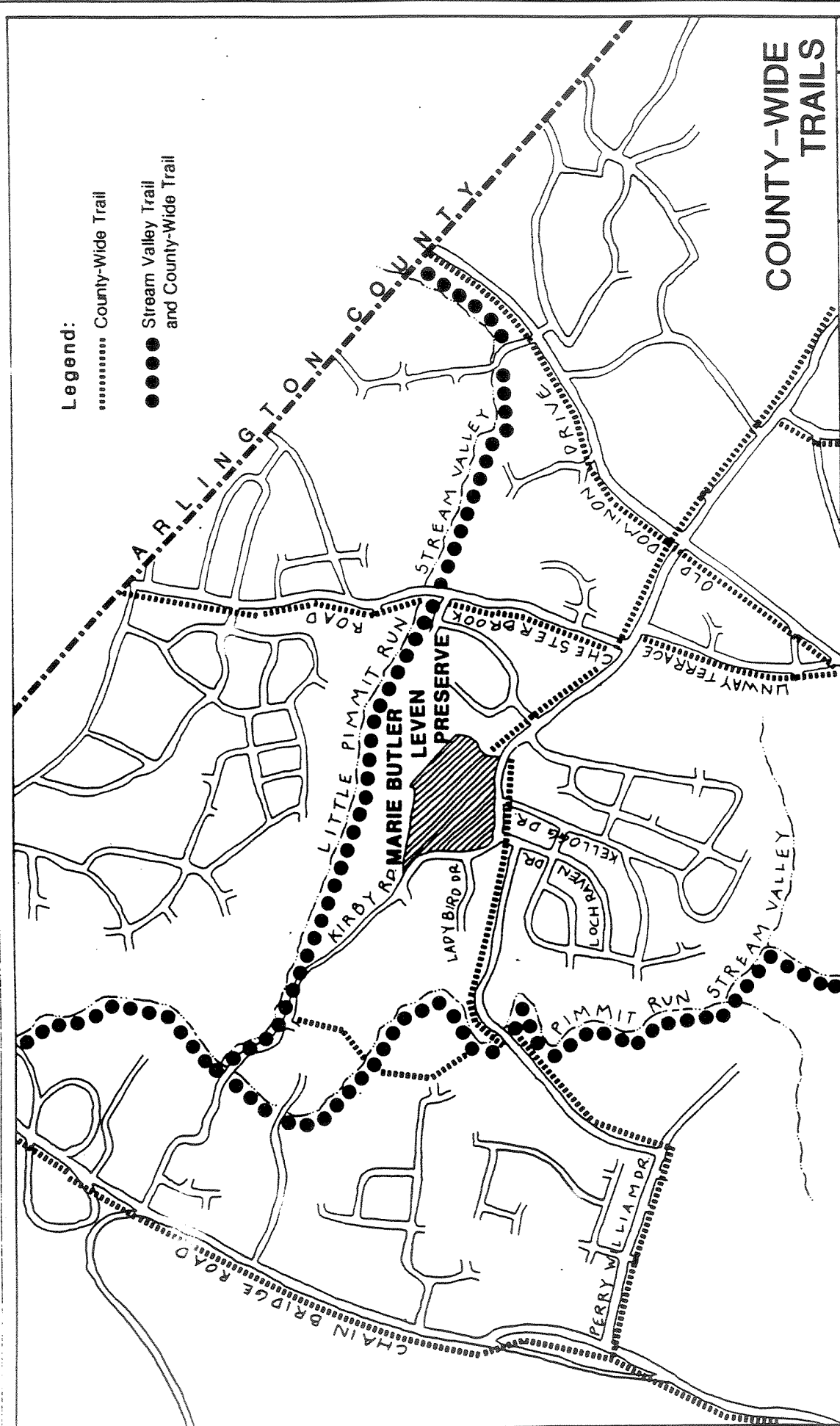
Thus, although expanding the Leven house for public use is possible, the potential for conversion or expansion to accommodate large groups may not be the most appropriate use of the facility. Use of the residence in its present condition, with the possible conversion of one room into an orientation center or nature center, could be considered.

2.9 County-wide Trails Plan (Figure 7)

Since 1976, the County of Fairfax has adopted and refined a county-wide trails system. The system is designed to provide a circulation framework for nonmotorized transportation. Trails are generally located along stream valleys, utility easements and road rights-of-way. They are developed according to the following criteria:

- o To connect with other existing trails and parks.
- o To link trip origins and destinations.
- o To serve the greatest numbers of users.

Within the Preserve's immediate vicinity there is a network of county-wide trails. Figure 7 shows future trails along Little Pimmit Run and the west side of Kirby Road. There is also an existing sidewalk along a portion of Kirby Road. The majority of other county-wide Trails near the Preserve are not anticipated to be constructed in the near future.



Legend:

- County-Wide Trail
- Stream Valley Trail and County-Wide Trail



FIGURE 7

MASTER PLAN MARIE BUTLER LEVEN PRESERVE

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ON-SITE FACTORS

2.10 Access/Circulation (Figure 8)

The Marie Butler Leven Preserve is located at 1477 Kirby Road and can be reached by car, foot or bicycle. A vehicular entrance is located along the northwest portion of the property. The parking spaces are provided including one disabled space and two additional school bus spaces. Pedestrian access is available at the property's northeast side. One can enter the park anywhere along Kirby Road with the most accessible entrance located at the parking area. The vehicular entrance and parking area serves as FCPA maintenance access to the site. Smaller maintenance vehicles use the house driveway.

The county-wide trails system is located southwest of the Preserve along Kirby road. The planned extension of the trail on the west side of Kirby Road between Mori Drive and Kellogg Drive will offer a direct connection to the Preserve entrance.

Pedestrian circulation on the Preserve occurs in open areas and along foot paths. The footpaths are located in wooded areas of the site. Redundant and dead end paths in some areas result in a ill-defined system of pedestrian movement. Some footpaths are badly eroded and blocked by overgrown vegetation and dead trees.

2.11 Utilities and Easements (Figure 9)

Most utilities are available at the site. Water, electricity and telephone service are located along Kirby Road and connect to the house on the Preserve. A septic system currently services the house. Maintenance of this system includes yearly pumping. The house is supplied by a gas furnace (Washington Gas Company). The specific location of the gas main has not been located.

Sanity sewer systems are located in the adjacent neighborhoods of Potomac Hills and Chesterbrook Woods (see Appendix A, Sanity Sewer Study). A 12" storm sewer line connects to an existing grate located in the parking lot area. There is a 20 foot water easement along the vacated portion of Old Kirby Road. This water main is owned, operated, and maintained by the City of Falls Church.

On site, an abandoned water pump and well exist east and south of the house. The abandoned well is capped and obscured by dense vegetation. A small garden pool is located directly east of the house. It is fed by a water line connected to the house.

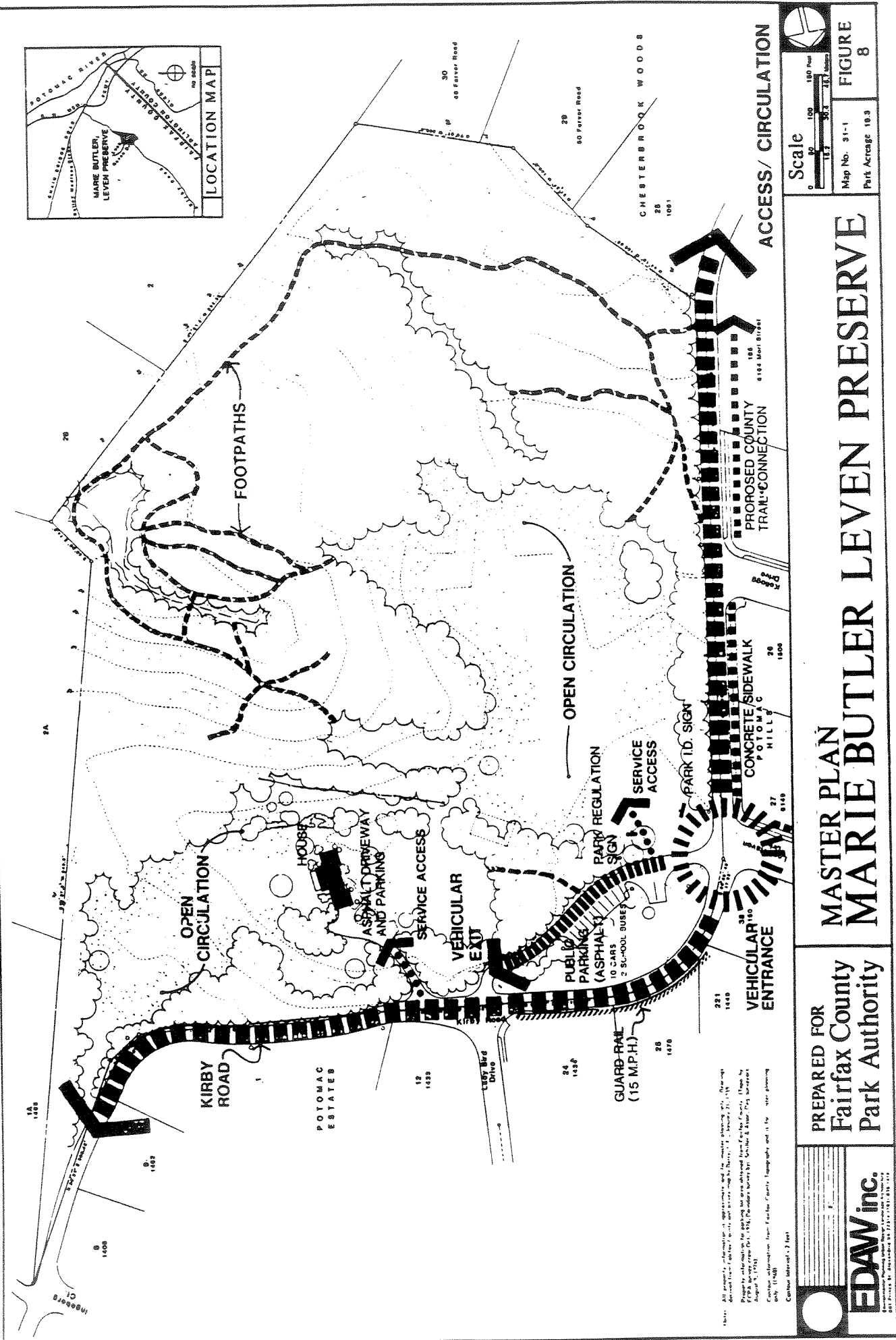
2.12 Hydrology

A small stream generates from a spring located on the southeast portion of the Leven Preserve. The stream feeds into Little Pimmit Run eventually reaching the Potomac River. This small watershed is part of the Environmental Quality Corridor Systems (EQCs) established by Fairfax County. EQCs include streams, their flood plains, wetlands, shoreline areas and steep valley slopes. These land and water forms create a continuous linear network of open space and important ecologically sensitive areas of the County.

A small pond exists at the southeast portion of the property. The pond is seasonal as a result of soil deposits and current configuration of the stream bed. The banks which define the pond are badly eroded. Vegetation and other debris have collected at its base.

2.13 Slopes (Figure 10)

The topography at the Leven Preserve includes level, moderate, and severe slopes. The level and moderately sloping areas (0-5 percent, 5-10 percent) are primarily located in the northern portions of the site. These slopes occupy 50 percent of the total acreage. The remaining terrain is steep and includes 10-15 percent and 15-20



percent slopes. These slopes are generally oriented to the stream and define the stream valley. Other steep slopes occur along Kirby Rd.

The highest point of the park is located along the southeast boundary, close to Kirby Road. The house also sits at a high elevation point. The pond bed is approximately seventy feet lower in elevation than the house.

2.14 Soils (Figure 11)

A soils analysis was conducted by Mr. Larry Johnson, soil scientist, Fairfax County Soil Survey Office on September 17, 1985 (see Appendix B). In his report he states that the site is classified within the Manor (21) soil series. The three types of soils located on the property include: Manor Silt Loam, Undulating phase, Manor Silt Loam, Rolling Phase, and Manor Silt Loam, Hilly Phase. It is noted in Mr. Johnson's report that the soils are ideal for park development, including support of light structures.

2.15 Vegetation (Figure 12)

On August 8th, 1985, a field inspection of the Preserve was conducted by Paul Engman, naturalist with the Fairfax County Park Authority (see Appendix B). A survey of site characteristics is contained in a report which states: "the land is comprised of a mixture of open grassy areas, stream valley, forest and pine plantings." Outstanding specimens occurring along woodland edges and adjacent to the house include: large catalpa, spruce, and fir trees.

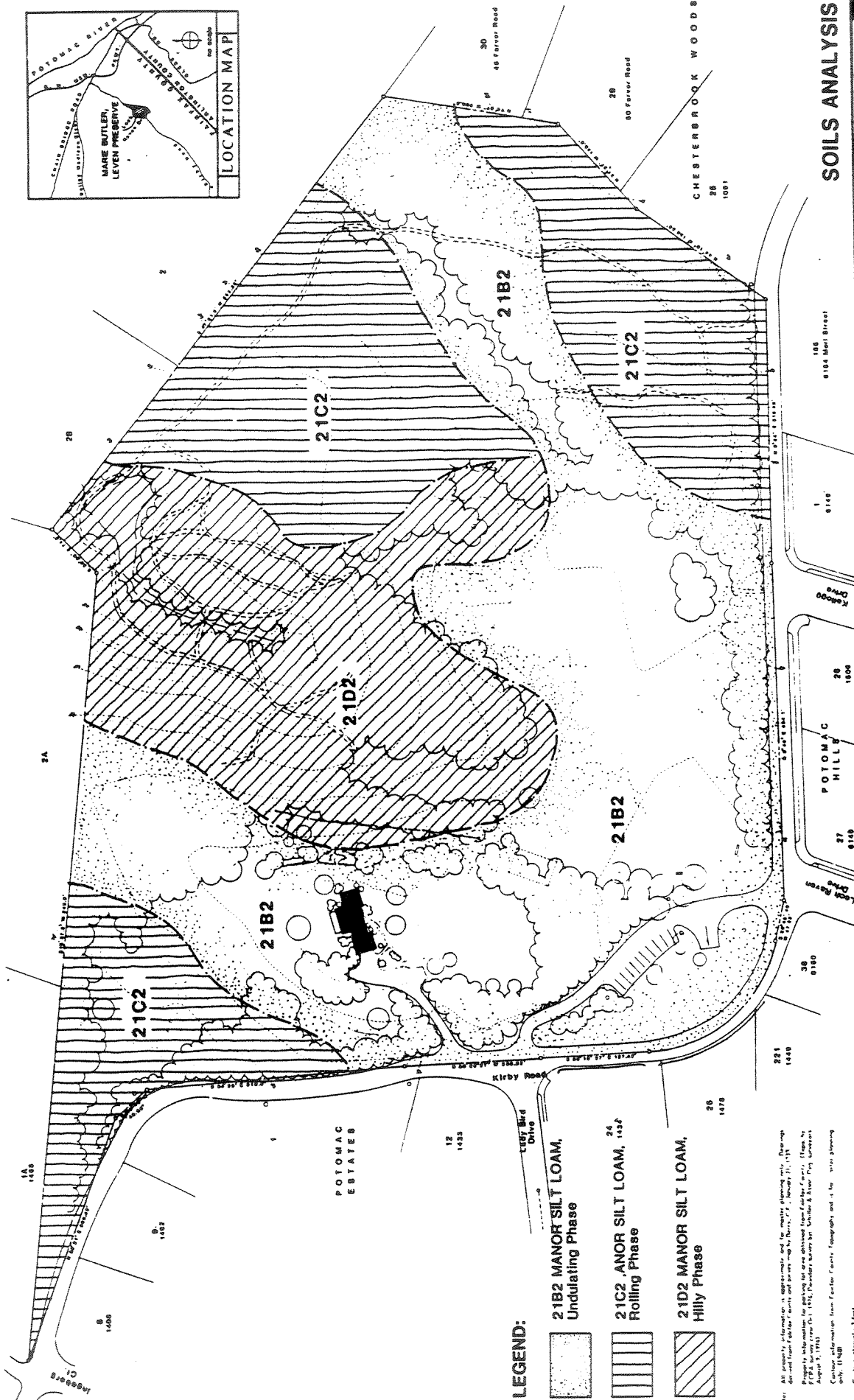
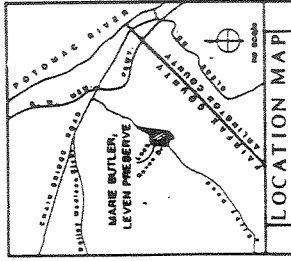
The mature woodlands are deciduous and consist mainly of white and red oaks, hickory, maple, beech, poplar and black locust species. Understory and woodland edge plantings include of huckleberry, pawpaw, spicebush, wildgrape, serviceberry, sumac, sassafras and dogwood.

The Leven Preserve also offers a wide array of exotic and imported plants. Various fruit and nut trees are situated near the house. Smaller ornamental trees and shrubs are

also located here. Ground covers including ivy and periwinkle are well established in portions of the wooded stream valley. A bamboo grove is located in the southwest portion of the property.

There has been active interest in the Marie Butler Leven Preserve by various local garden clubs, such as the Thursday Morning Garden Club and Great Falls Garden Club. Several years ago, monies donated from both clubs were put in a special fund for the tagging of trees. In June 1976, the Park Authority staff tagged approximately fifty trees with tags identifying both the botanical and common name.

Plant maintenance on the site includes mowing of open grass areas by FCPA. The house tenants maintained the grounds adjacent to the house.



LEGEND:

-  21B2 MANOR SILT LOAM, Undulating Phase
-  21C2 MANOR SILT LOAM, Rolling Phase
-  21D2 MANOR SILT LOAM, Hilly Phase

Notes: All property boundaries, easements, and the existing planning unit. Dimensions are shown for all lots and are not to scale. The map is for informational purposes only. For more information, please contact the Fairfax County Park Authority. (Phone: 703-246-1000, Fax: 703-246-1001, Email: info@fairfaxcounty.gov, Website: www.fairfaxcounty.gov/parks) Copyright © 1998, The Fairfax County Park Authority. All rights reserved.

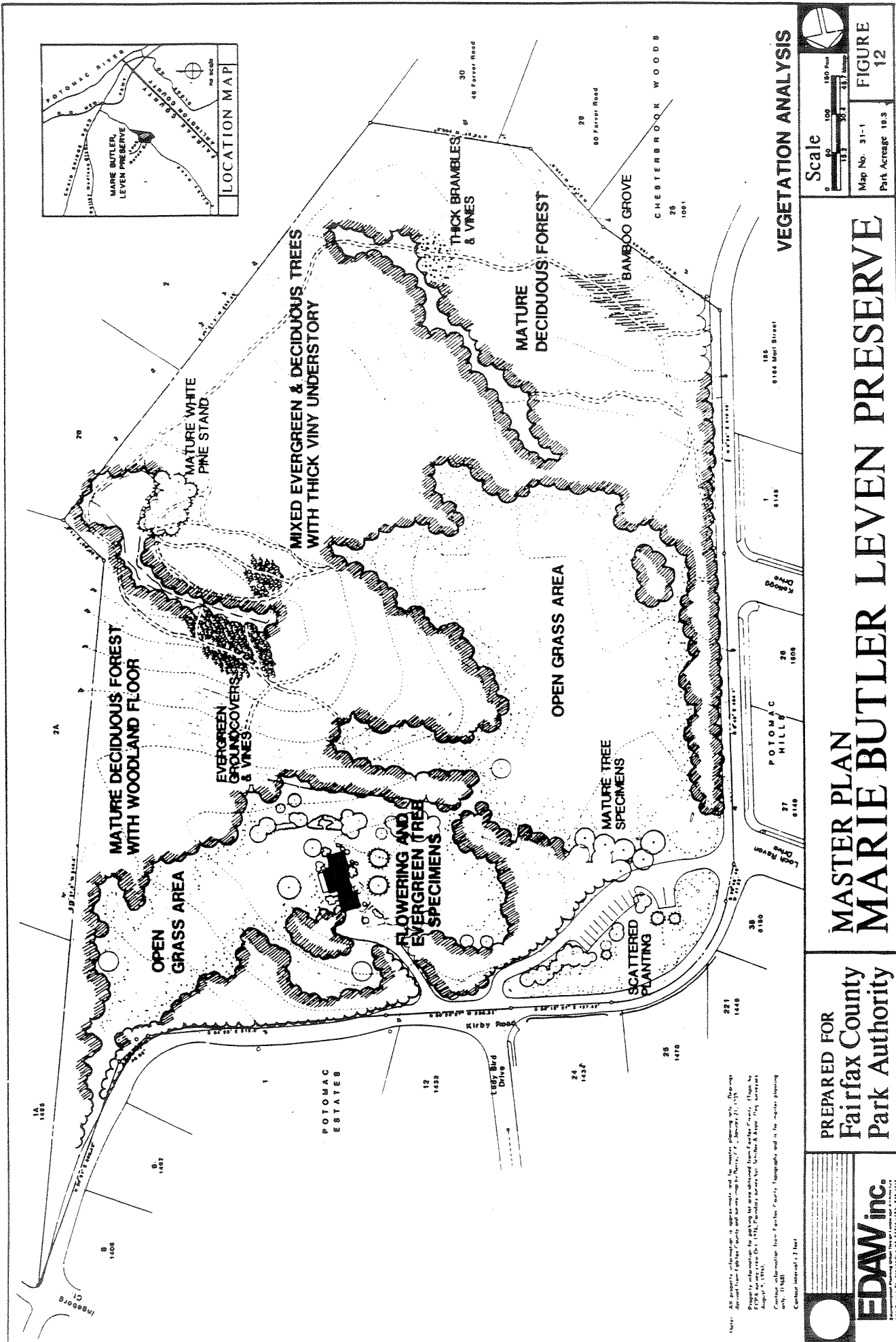
SOILS ANALYSIS

Scale: 0 50 100 150 Feet
 Map No. 31-1
 Park Acreage 10.3
FIGURE 11

**MASTER PLAN
 MARIE BUTLER LEVEN PRESERVE**

PREPARED FOR
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3.0 SUMMARY ANALYSIS

The summary analysis is a synthesis of off site and on-site factors by which conclusions are established. These factors and conclusions are outlined as follows:

Off-Site Factors:

1. A three-mile radius designates the primary service area for the Marie Butler Leven Preserve. The Potomac River and Arlington County jurisdiction line define the primary service areas east and south boundaries.
2. Existing and planned land use within the Preserve's vicinity is primarily residential.
3. The present estimated population within the primary service area is 30,920 people. The population is projected to decrease to 28,194 by the year 2000.
4. A significant number of public parks and school sites are located within the primary service area.
5. There is no need for additional large community meeting space in the primary service area.

On-Site Factors:

1. The Preserve has vehicular and pedestrian access with limited parking. Parking cannot be expanded.
2. Access for maintenance is located at the public vehicular entrance. Future maintenance can utilize this access point.
3. Adaption of the house for large-scale community use is limited.
4. All major utilities, with the exception of a sanitary sewer are available on the site. A septic system currently functions for the house with sanitary sewer systems existing in adjacent neighborhoods.

5. Existing soils allow potential development of passive recreational use.
6. Slopes ranging from 0-15% are suitable for certain kinds of park development.
7. The Preserve contains a broad, diversity of ecological habitats. Vegetation ranges from native forests, woodland edges, open grass areas to an assortment of imported and exotic species.
8. The abandoned water well on the property is a potential hazard for future park users, and needs to be further secured.
9. A photographic inventory was not available and would have been useful for on-site analysis.

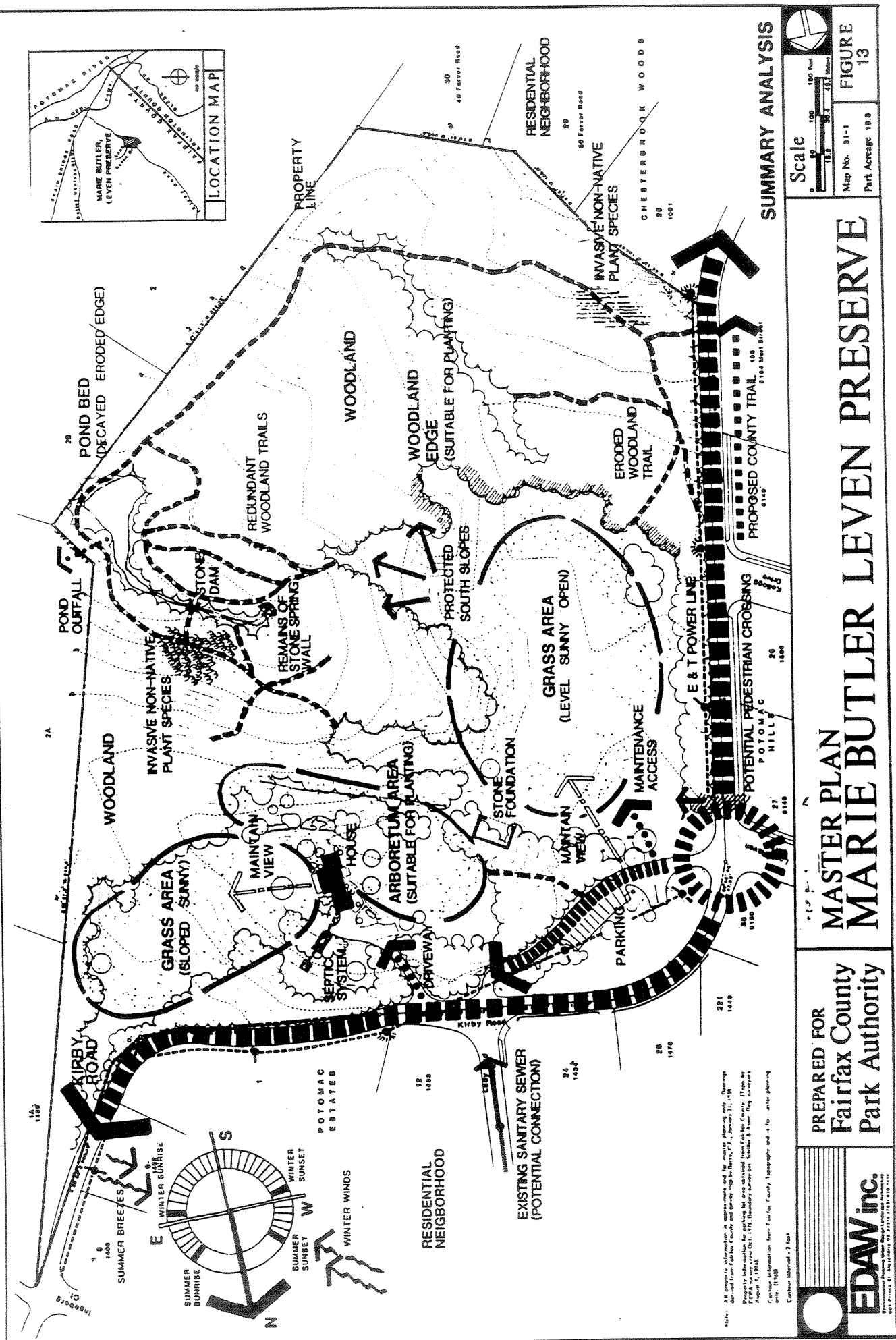
3.1 Summary Analysis Conclusions

Development Constraints:

- o Stipulations contained in Leven's will preclude development of active recreational uses at the Preserve.
- o Any significant requirement for increasing sewer waste handling capacity at the site will require connection into the Fairfax County public sewer system. (Sanitary Sewer Study, Appendix A.)
- o Parking is limited to 10 cars and two school buses. The parking area does not allow for a city bus to safely maneuver turns.
- o Expansion of parking and roads is precluded. Internal circulation is limited to unobtrusive foot-paths.
- o Some slopes are susceptible to erosion if further exposed.

Development Opportunities:

- o The site is unique because of stipulations governing its use as a nature preserve and passive recreational county park.
- o Location of the Preserve within a fully developed primary service area could provide a valuable open space resource.
- o Dr. Leven's concept of the property serving as an arboretum and educational demonstration project could offer a unique resource to the schools and community at a local and regional level.
- o The majority of the site is suitable for natural and passive park development. This might include interpretive trails, nature study areas, a visitor and orientation place, and demonstration plantings. The park could also be preserved in a natural state for conservation and support of a diverse ecological habitat.
- o The Preserve's existing native and exotic plantings could be reestablished, developed and managed. Some open grass areas, woodland edges, and deciduous forests offer favorable conditions for planting and passive recreational use.
- o Pedestrian access to the Preserve could be improved with a direct connection. Better orientation and upgrade of existing trail system could provide a safer, more accessible and educational environment for its visitors.



4.0 PROGRAM DEVELOPMENT

In formulating recommendations for a park program and development plan, many sources of information were gathered. A primary method utilized by the FCPA to gather ideas from the residents within the parks service area is a public forum. The forum allows local residents and citizen groups to become informed about the FCPA master plan process and to voice ideas concerning future plans for the site. Because the Leven Preserve will be so restrictive as to preclude most forms of park development and use, an "Informal Meeting" replaced the more typical public forum. It was held on October 10, 1985 and a complete report about the meeting appears in Appendix B.

4.1 The Marie Butler Leven "Informal Meeting"

Attendance at the October 1985 Informal Meeting included some members of the FCPA Board, FCPA staff, and thirteen representatives of local citizen groups who have direct interest in the Master Plan of the Preserve. These groups included: The Wildflower Preservation Society, Potomac Hills Garden Club, McLean Garden Club, Holly Hills Garden Club, (Potomac Hills) Thursday Morning Garden Club, McLean Hamlet Garden Club, Potomac Hills Citizen Association and the Clearview Manor Citizens Association.

The meeting started with an FCPA presentation of the master plan process and background information about the Preserve. Stipulations stated in the Leven will regarding the Preserve were outlined. Afterwards, discussions took place in three smaller groups and involved a ranking of likes, dislikes, and special concerns associated with the site. The following outline summarizes the results of each group discussion:

Likes (Summarized Priorities):

1. Preserve the naturalized character that exists at the Leven Estate.
2. Develop plantings in different areas of the site that reinforce the arboretum-like quality at the Preserve.
3. Establish a cohesive trail network and upgrade the pond and spring area.
4. Provide safe pedestrian paths in accordance with the will stipulations and define property boundaries.

Dislikes (Summarized Priorities):

1. Enforce security and safety regulations in regard to illegal conduct and general misuse of existing parking lot and park facilities.
2. Improve conditions of trails, remove dead trees, that block pathways, and control spread of invasive ground cover and vines.
3. Prevent change of house use into a highly visible public attraction (museum or clubhouse) that would encourage traffic and parking problems.

Special Concerns (Summarized Priorities):

1. Do not jeopardize the FCPA ownership while working closely with nearby citizens in developing a master plan for the preserve.
2. Secure safety of park by establishing a stronger; police, ranger, tenant, or watchman presence on the property and restrict vehicle access at night.

3. Encourage the educational use of property by the local school system.

4. Preserve arboretum character while upgrading existing vegetation and develop more informal and formalized plantings.

In addition to the comments conveyed at the informal meeting, interested parties were requested to respond in writing during a two week period following the meeting. A summary of the letters received regarding the Marie Butler Leven Preserve are outlined as follows:

- o Preserve diverse ecological habitats, plantings, and the arboretum quality on the site.
- o Develop plantings that attract wildlife and identify existing and proposed plantings.
- o Implement plantings that require low maintenance and insure full FCPA responsibility for property upkeep.
- o Surface all trails, define park boundaries and restore stream & pond area.
- o Do not expand park facilities specifically lighting, parking, drinking fountains, and toilet facilities.
- o Consider program development of educational services and activities on the site to serve local schools and citizens in Northern Fairfax County.
- o Investigate potential of existing house being used for public educational purposes.
- o Preserve existing dwelling as a private residence.

5.0 MASTER PLAN DEVELOPMENT

Based upon consideration of off-site and on-site factors, development constraints and potentials, and the County's informal meeting, three concepts were developed for Marie Butler Leven Preserve.

The primary differences among the three concepts are the intensity to which the existing residence would become a public facility, and the requirement to connect the house's plumbing into the public sewer system. Also, the level of site development increases with each concept plan.

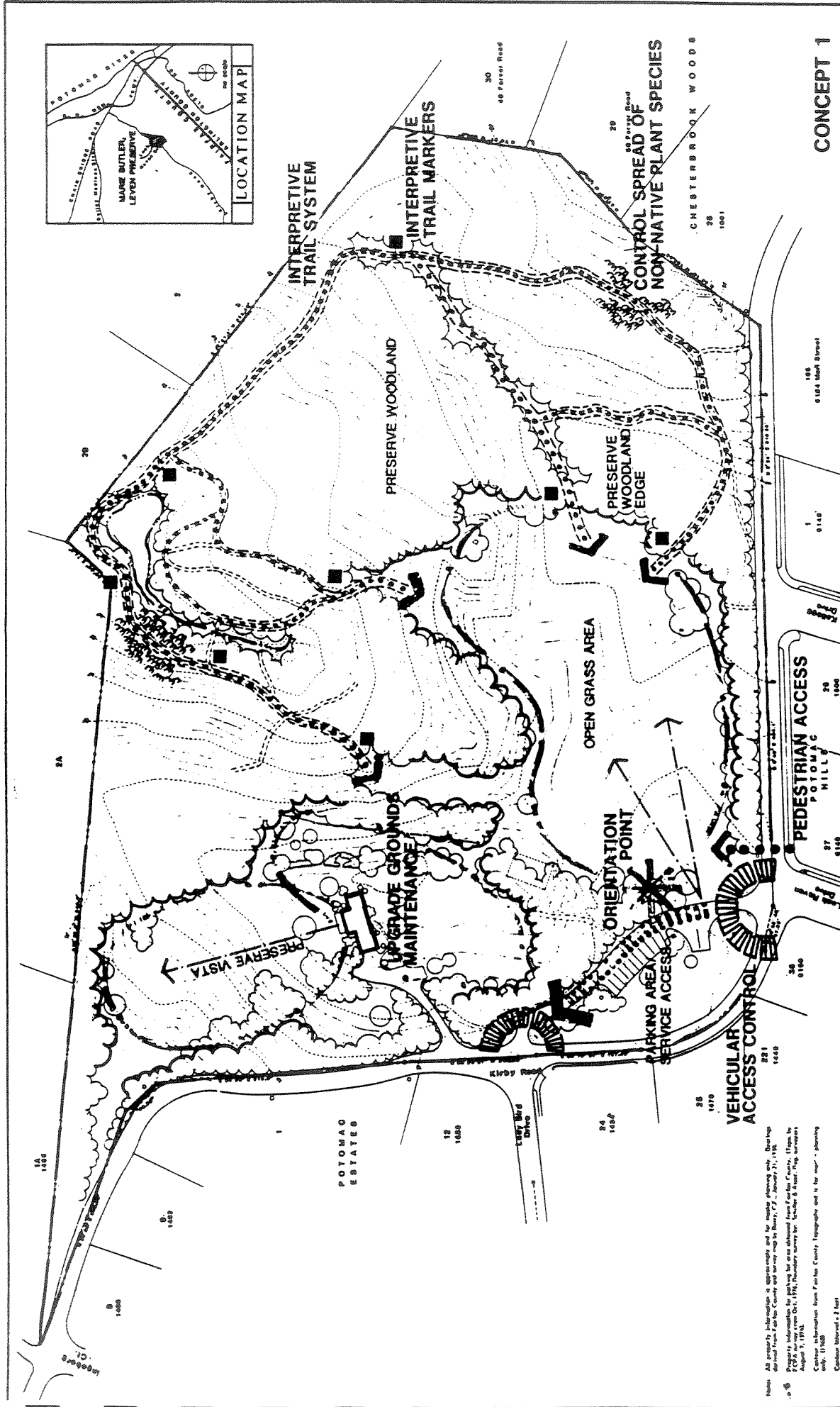
5.1 Concept I (Figure 14)

Concept one proposes the least amount of change to the Preserve. The house would remain as a caretaker's residence. Preservation of the woodland, its edge, and the pond is proposed. Open grass areas and vistas from the house and parking area would also be preserved. Development components of concept one include: direct pedestrian access, vehicular access control, upgraded maintenance, orientation signage and a interpretive trail system.

Direct pedestrian access to the site would be located at the intersection of Kirby Road and Lock Raven Drive. Control of vehicular access at the parking area entrance and exit is intended to prevent solicitation when the park is closed. Disabled access is also provided at the parking area.

An upgraded maintenance program would be focused around the house grounds. It would include mowing, pruning and removal of debris blocking footpaths. Controlling the spread of non-native plant species and clearing of debris along trails would be implemented in the wooded areas.

The orientation point and interpretive trail system is intended to serve as an educational resource for users. Interpretive trail markers would be keyed to the orientation sign with a brochure/guide or map describing ecological habitats and plant species. The upgraded trails would allow clear and safe circulation in the wooded areas.



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Fairfax County
Park Authority

MASTER PLAN
MARIE BUTLER LEVEN PRESERVE

FIGURE 14

CONCEPT 1

Scale
 0 100 200 300 400 500 600 700 800 900 1000 Feet

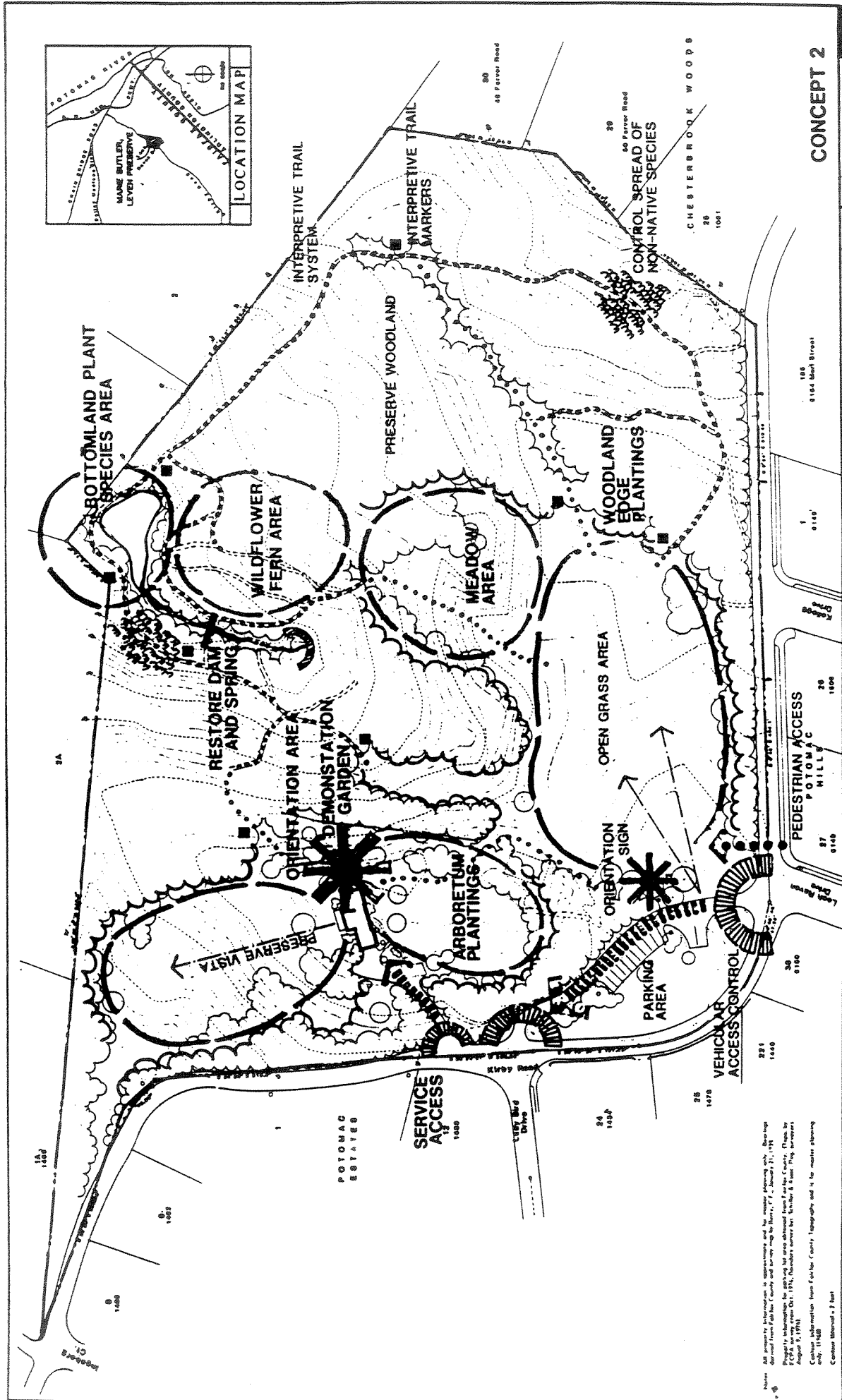
5.2 Concept 2 (Figure 15)

The second concept plan proposes orientation facilities at the house, restoration of the spring wall and more intensive maintenance and development of planting. Upgraded components outlined in concept one are also proposed in this plan. They include: preservation of woodland and vistas, safe vehicular and pedestrian access, and an upgraded interpretative trail system.

Public and disabled access to the site would be located at the parking area. Orientation facilities would include a sign located at the parking lot and a orientation area at the south end of the house. One room in the house would function as an orientation point where visitors could obtain educational and ecological information about the Preserve's natural habitats. The remaining portion of the house would serve as a caretaker's residence. The caretaker (FCPA staff member) would be responsible for upkeep and securing the room's access at prescribed hours. Service to the orientation area would be provided at the house driveway and maintenance access to the remaining site would be located from the parking area.

Restoration of the spring wall and stream dam is also included in concept two. Portions of the stone structures would be repaired and rebuilt. Overgrown vegetation would be cleared from these areas.

Distinct planted areas are proposed on the site. A demonstration garden with identified plant species is located adjacent to the house orientation area. Proposed arboretum plantings would occupy portions of the house grounds in addition to woodland edge planting. Other planted zones include a meadow area, wildflower/fern area, and bottomland plant species area around the pond. This development would offer a pleasant sequence of plant succession area associated with the interpretative trail system.



CONCEPT 2

Scale 0 50 100 150 Feet

Map No. 31-1

FIGURE 15

Part Acreage 193

MASTER PLAN MARIE BUTLER LEVEN PRESERVE

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 Fairfax County
 Park Authority

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Notes: All landscape information is approximate and for master planning only. The map shows the general location of features and does not show exact dimensions. The map is for conceptual planning only and is not to be used for construction. The map is not to be used for any other purpose without the written consent of EDAW Inc. August 1, 1978. Contact information from Fairfax County Topographic and is for master planning only. 11/88. Contact: 11/88.

5.3 Concept 3 (Figure 16)

Concept three proposes the most intensive site development of the concept plans. It includes the facilities outlined in concept two, such as: vehicular, pedestrian and service access, developed planted areas, and an interpretive trail system. In addition, it proposes conversion of the house into a nature center and implementation of a sanitary sewer system. The proposed sanitary sewer system would connect with the existing sewer line at Lady Bird Drive. Also, a controlled water supply would supplement the spring so that the pond could serve as a year-round resource.

The proposed nature center would service small community/school groups who focus on horticultural, environmental and educational activities. An office in the house would provide space for an FCPA representative to oversee the Preserve during operating hours. The sewer system would accommodate plumbing and restroom facilities necessary in serving the nature center activities. A trail leading from the parking area/orientation sign to north side of the house would be implemented. This would provide direct pedestrian access to the nature center entrance.

The pond area would be upgraded with a year-round water supply. It would include restoration of the stream dam and rejuvenation of the spring with an ample water source. Pond edges would be regraded and planted.

The different plant zones would remain in the same locations but would be expanded to overlap one another. A more extensive interpretive trail system would connect these areas with provision of several seating areas. Also, the stone foundation located next to the open grass area would be restored.

5.4 Master Plan (Figure 17)

After careful evaluation of the site analysis, program development and the three concepts a master plan has been developed for the Marie Butler Leven Preserve. This plan will establish a physical design framework for future park development.

This plan fulfills and secures provisions specifically outlined in the Leven will while incorporating concerns of local citizen groups. Master plan recommendations have a preservation orientation. It is intended that the plan preserve the parks unique physical features while accommodating public use. The site will remain as a natural passive park and be maintained as an arboretum-like site as new planting areas are developed. It will function strictly in a passive recreational capacity offering a educational environment for school groups, garden clubs and local citizens. Stabilization and preservation of existing site features is ensured by a interim maintenance plan.

The plan includes most site features proposed in concept 3. An orientation area would occupy one room of the house and a adjacent outdoor area. Here visitors would obtain educational and ecological information about the preserve's natural habitats. The orientation area would be maintained and secured by a FCPA staff member, hired as a caretaker for the Preserve. The caretaker would occupy the rest of the house which would not be open to the public. Installation of a sanitary sewer connection to support restroom facilities in the orientation room would be provided. In addition, a planting program would be implemented. Development of distinct planted areas in conjunction with an interpretive trail system would offer an educational resource for users. A complete description follows.

Access and Parking

The Marie Butler Leven preserve will be reached either by car or by foot. Vehicular access control points would be

located at the entrance and exit of the existing parking area and at existing drive/proposed service access. The control points would be regularly maintained and secured in conjunction with park operating hours. Barricades would prevent unauthorized vehicles from entering the park. Existing parking (10 car spaces, 2 school bus spaces) would be utilized. Disabled accessibility is provided at the orientation sign with a stone dust footpath leading to the orientation area. Maintenance access would be located off the parking area and at the private driveway entrance which leads to the caretakers house. A painted pedestrian crosswalk would be located at the intersection of Kirby Road and Lock Raven Drive. The crosswalk would link the Preserve to the Fairfax Countywide Trails System.

Orientation Area

The orientation area consists of one room in the house and a small outdoor space adjacent to the room. The orientation area will be used as a gathering place for small groups such as school children or local garden clubs visiting the Preserve. It also serves as a starting point for visitors utilizing the interpretive trail system. At this orientation area, one could learn of Mr. Leven's aspirations for the property that he set forth in his will. Here visitors are introduced to the cultural, historical and environmental aspects of the Preserve.

The public room will contain a restroom with two toilets (one disabled) and one sink. Display walls and seating will occupy the remaining portion of the room. A map available in the public room will identify the interpretive trail and describe the different plant habitats. The orientation room would be opened during a portion of the park operating hours.

The outdoor area adjacent to the orientation room will contain a small garden with raised planter beds. Native plants could be propagated and labeled in this garden and

then transplanted to other areas on the property. The garden would serve as an environmental and educational resource for the Preserve. Also, in this area, the existing water pump would be refurbished (restoration as a water supply is not intended) and small sunken pool restored. In addition, a public drinking fountain would be installed at this location.

A sign and brochure dispenser located at the orientation area will be designed as a vandal-proof structure. The brochure dispenser would be regularly maintained by the Park Authority. Access to the orientation area would be made along a six foot-wide stone dust foot path leading from the parking area to the house.

Interpretive Trail System

Establishment of an interpretive trail system will provide a unique educational resource on the Preserve. It will incorporate some existing trails and eliminate redundant paths so that a well defined and logical route is maintained. Sequential trail markers will direct and inform users of the unique physical character of the Preserve.

Natural areas and man-made objects would be featured as part of the interpretive trail system. Vegetation around the existing barn foundation will be cleared; the stone foundation displayed and described in the trail brochure. Also the interpretive trail would include the spring wall and dam as marked points of interest.

Clearing and minor regrading of the existing paths would be expected to establish this trail system. Some trails may have woodchip surfacing over a stabilizing gravel base. Creation of new trails should be only as necessary and very limited.

The designated "stream walk" is an existing trail from the meadow area near the house down to the pond. During Dr. Leven's residence, the area was heavily planted with ornamental trees, exotic perennials and flowering

groundcovers. Much of that evidence remains. This walk should receive first priority treatment during the rehabilitation of the Preserve grounds. It is the primary path for users to get to the pond and offers the most excitement and interest in the shortest length of any trail on the site due to its past glory. As this is developed as an attraction, attention must also be given to containing the users to the trail and to the trail surfacing which minimizes the erosion from sheet runoff.

Stream and Pond Area

The existing stream and pond area would be upgraded to a year-round water feature at the Preserve. Restoration of the spring and dam would involve rebuilding the foundations and restoring the stone structures. The restored spring would function as a gravity class depression spring and feed the stream and pond with a constant water supply. Sediment and debris will be cleared from the stream and pond area. The existing outfall channel will be upgraded and a overflow pipe will be provided in the pond to maintain a constant water level. The pond edges will be cleared of trees, regraded, and planted to reduce erosion and maintenance.

The Park Authority should attempt to obtain an easement from the adjacent property owner to the east to allow for diversion of substantial runoff into the pond. This will also support continual year-round water supply in the pond.

Planting Areas

New planting at the Preserve will create a distinct series of plant habitats. The plant zones will include: open grass areas, arboretum plantings, woodland edges, meadows, wildflower/fern area and a bottomland species area. Plant succession and edge treatment will be emphasized as part of the spatial and environmental sequence. The planting areas will be sensitively developed in accordance with the character of existing plants on the site. New and existing plant material will be identified in conjunction with the

interpretive trail system. Each plant zone will serve as an educational resource in conjunction with the interpretive trail system while enhancing the Preserve.

The existing open lawn areas in the north and west portions of the site will be preserved and maintained. These areas will continue to serve as passive recreational zones. Also, they will continue to offer space for dog walking. Dog walking will be restricted to these areas on the site. Signs designated for this specific use will be posted at the open grass areas.

The arboretum area will be located near the orientation room. It will consist of native and exotic specimen trees and shrubs. A collection of rare and unusual plants could be developed gradually with a few plant specimens implemented annually. Local garden clubs and horticultural organizations could get involved with collecting and acquiring these plants for the arboretum area.

Woodland edge areas will be characterized by small native trees or that offer seasonal interest and serve as a transition between open grass and woodland. The woodland edge planting will define and enhance the open grass areas while screening the park site from Kirby Road. Implementation of shrub masses and tree groups would be the most effective planting program for this area.

The managed meadow area will be located in the center of the Preserve on south facing slopes and at the northeast property boundary. The meadow will be established by mowing the designated areas once a year after killing fall frosts. This mowing management program will deter invasion of woody materials while encouraging native grasses and meadow plant species.

The wildflower/fem area would be developed in the woodland along the west side of the stream. It will include an array of native wildflower ferns. Some wildflowers and ferns already exist in this area and could be propagated and planted for further development of the distinct plant habitat

zone. The wildflower/fern area will offer a unique setting for study and observation of native plant species. Local garden clubs could assist the Park Authority in the development of this area.

The bottomland species area will surround the upgraded pond and lower stream area. This zone completes the sequence of plant habitats along the stream walk. Plants will consist of a variety of trees and shrubs adaptable to the low land and wet conditions near the pond.

The proposed landscaping at the Preserve will require a special planting and maintenance program. An interim maintenance plan has been adopted in effort to guide maintenance practices until the master plan is fully realized. An outline of the interim maintenance plan occurs in Section 6.1. Annual operating and maintenance costs are outlined in Section 6.5 and a maintenance plan appears at Figure 19.

The arboretum area will require mulching, fertilizing and pruning of tree and shrub specimens twice a year. Installation of newly acquired plant material will require additional maintenance when transplanting occurs. The meadow may require removal of undesirable woody plant materials and specialized mowing schedule until it is fully established.

Wildflowers should be cultivated in areas (sunny, shady, open etc.) according to their specific growing requirements. Propagation of native wildflowers can occur in the small garden located at the orientation area. Also, other local serving parks such as Greenspring, could serve as source for obtaining plants to be transplanted into the wildflower/fern area at the Preserve. Trees and shrubs located in the bottomland species area would require transplanting, mulching, pruning. The specialized maintenance in this area should occur biannually to ensure development of the distinct plant habitat.

Implementation of each plant zone should be developed over a number of years as funding becomes available and plant species acquired. Special maintenance programs will be required to ensure preservation of distinct plant zones. The planting program will offer a unique educational resource for local garden clubs and small school groups.

